

October 31, 2017

**VIA ELECTRONIC FILING**

Ms. Kimberly Bose  
Secretary  
Federal Energy Regulatory Commission  
888 First Street, NE  
Washington, D.C. 20426

**Re: NERC Notice of Penalty regarding Western Area Power Administration – Upper Great Plains East (WAPA), FERC Docket No. NP18- \_\_\_\_ - 000**

Dear Ms. Bose:

The North American Electric Reliability Corporation (NERC) hereby provides this Notice of Penalty<sup>1</sup> regarding Western Area Power Administration – Upper Great Plains East (WAPA),<sup>2</sup> NERC Compliance Registry ID# NCR01036,<sup>3</sup> with information and details regarding the nature and resolution of the violation discussed in detail in the Notice of Confirmed Violation (NOCV) attached hereto (Attachment A), in accordance with the Federal Energy Regulatory Commission’s (Commission or FERC) rules, regulations and orders, as well as NERC Rules of Procedure including Appendix 4C (NERC Compliance Monitoring and Enforcement Program (CMEP)).<sup>4</sup>

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<sup>1</sup> *Rules Concerning Certification of the Electric Reliability Organization; and Procedures for the Establishment, Approval, and Enforcement of Electric Reliability Standards* (Order No. 672), III FERC Stats. & Regs. ¶ 31,204 (2006); *Notice of New Docket Prefix “NP” for Notices of Penalty Filed by the North American Electric Reliability Corporation*, Docket No. RM05-30-000 (February 7, 2008). See also 18 C.F.R. Part 39 (2010). *Mandatory Reliability Standards for the Bulk-Power System*, FERC Stats. & Regs. ¶ 31,242 (2007) (Order No. 693), *reh’g denied*, 120 FERC ¶ 61,053 (2007) (Order No. 693-A). See 18 C.F.R. § 39.7(c)(2).

<sup>2</sup> WAPA and Western Area Power Administration – Upper Great Plains West participate in the Coordinated Oversight of Multi-Region Registered Entities (MRRE) Program. They joined the MRRE Program on August 28, 2015. Midwest Reliability Organization (MRO) is the Lead Regional Entity, and Western Electricity Coordinating Council (WECC) is the Affected Regional Entity. MRO and WECC coordinate Compliance Monitoring and Enforcement Program activities for these two registered entities. The violations addressed in the NOCV occurred in the MRO Region.

<sup>3</sup> WAPA was included on the NERC Compliance Registry as a Balancing Authority (BA), Resource Planner (RP), Transmission Owner (TO), Transmission Operator, and Transmission Service Provider (TSP) on May 30, 2007, and as a Transmission Planner (TP) on April 22, 2008.

<sup>4</sup> See 18 C.F.R. § 39.7(c)(2).

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NERC is filing this Notice of Penalty with the Commission because the MRO issued an NOCV to WAPA to resolve all outstanding issues arising from MRO's determination and findings of the nine violations covering the Protection and Control (PRC), Transmission Operations (TOP), Transmission Planning (TPL), and Voltage and Reactive (VAR) NERC Reliability Standards.

NERC is filing this Notice of Penalty with the Commission because, based on information from MRO, WAPA does not contest the violations.

On August 22, 2014, in *Southwestern Power Administration (SWPA) v. FERC*,<sup>5</sup> the United States Court of Appeals for the District of Columbia Circuit ruled that FERC, and by extension NERC and the Regional Entities it oversees, could not impose monetary penalties against federal government entities. WAPA is a federal nonprofit agency that is a federal government entity, and MRO and NERC are bound to follow *SWPA v. FERC* in resolution of this matter.

### **Statement of Findings Underlying the Violations**

This Notice of Penalty incorporates the findings and justifications set forth in the NOCV issued on May 26, 2017, by MRO. The details of the findings and basis for the penalty are set forth in the NOCV and herein. This Notice of Penalty filing contains the basis for approval of the NOCV by the NERC Board of Trustees Compliance Committee (NERC BOTCC).

In accordance with Section 39.7 of the Commission's regulations, 18 C.F.R. § 39.7 (2017), NERC provides the following summary table identifying each violation of a Reliability Standard resolved by the NOCV. Further information on the subject violations are set forth in the NOCV.

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<sup>5</sup> *SWPA v. FERC*, 763 F.3d 27 (D.C. Cir. 2014).

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Violation(s) Determined and Discovery Method								
*SR = Self-Report / SC = Self-Certification / CA = Compliance Audit / SPC = Spot Check / CI = Compliance Investigation								
NERC Violation ID	Standard	Req.	VRF/VSL	Applicable Function(s)	Discovery Method* Date	Violation Start-End Date	Risk	Penalty Amount
MRO2016015732	PRC-001-1	R3.2	High/Lower	TOP	CI 4/27/2012	9/10/2009-12/28/2016	Minimal	No Penalty
MRO2016015733	TOP-002-2	R6	Medium/Severe	TOP		6/18/2007-3/23/2017	Moderate	
MRO2016015734	TOP-002-2	R11	Medium/Severe	TOP		6/18/2007-3/1/2017	Serious	
MRO2016015736	TOP-004-2	R1	High/Severe	TOP		8/29/2009-3/23/2017	Serious	
MRO2016015737	TOP-006-1	R5	Medium/Severe	TOP		6/18/2007-3/23/2017	Serious	
MRO2016015738	TOP-008-1	R1	High/Severe	TOP		8/29/2009-3/23/2017	Serious	
MRO2016015739	TOP-008-1	R3	High/Severe	TOP		8/29/2009-3/23/2017	Moderate	
MRO2016015740	TPL-002-0	R2	Medium/High	TP		5/1/2009-12/31/2014	Serious	
MRO2016015741	VAR-001-1	R8	Medium/Severe	TOP		8/29/2009-3/23/2017	Moderate	

Background to the Violations

The Western Area Power Administration - Upper Great Plains Region (East and West) owns and operates nearly 4,000 miles of 230 kV transmission line and approximately 450 miles of 345 kV transmission line. It is the primary Transmission Operator in the Dakotas, and many registered entities depend on blackstart resources interconnected to its system for cranking power during restoration after system events.

On August 29, 2009, an event occurred in the WAPA footprint (August event). The August event began when the Oahe-Sully Buttes 230 kV line relayed out of service due to a faulty wave trap connector at the Oahe Generating Station, operated by another federal registered entity. When operators attempted to re-close the Oahe-Sully Buttes 230 kV line manually, the fault was re-established and was slow to clear. This eventually resulted in a cascading outage of several 230 kV and 115 kV lines, the de-energization of 14 substations with over 60 MW of customer load, the loss of two AC-DC-AC ties to the Western Interconnection, and the separation of two 115 kV ties to a neighboring registered entity in the WAPA footprint within MRO. Additional information and background on the August event are available in Attachments A and B.

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On September 8, 2009, NERC initiated a CI into the August event, with FERC staff participating as observers. The CI team completed its report in April 2012 and delegated the enforcement of identified noncompliance to MRO.

As of October 2015, WAPA is part of the Southwest Power Pool Regional Transmission Organization (SPP RTO) and operates under SPP RTO requirements. This has resulted in WAPA's operations substantially changing since the August event.

While the violations resolved in this NOCV did not cause the August event or the loss of load resulting from the August event, the violations did extend the duration of the August event, after load had been restored, by delaying the restoration of the system to its normal operating condition. The violations at issue, with one exception,<sup>6</sup> involved planning failures prior to the event or conduct that occurred during the August event.

MRO2016015732 PRC-001-1 R3.2 – OVERVIEW

MRO determined that WAPA failed to coordinate all new protective systems and changes. Specifically, on September 10, 2009, WAPA issued new load encroachment settings for a device at the New Underwood Substation on the 230 kV jointly-owned line between the New Underwood Substation and a neighboring registered entity's substation. WAPA implemented the new relay settings on October 28, 2009, but did not communicate those settings to the neighboring registered entity until November 16, 2009.

The cause of the violation was a lack of understanding or awareness of the requirements of the standard--specifically, WAPA's compliance responsibility for coordinating when relay setting errors are found on jointly-owned lines.

MRO determined that this violation posed a minimal and not a serious or substantial risk to the reliability of the bulk power system (BPS). At WAPA, the Protection System modification that occurred had been coordinated with the neighboring registered entity on June 1, 2007, almost two years prior to the implementation of the modification. The neighboring registered entity was likely operating under the false impression that the setting was as previously coordinated and had already been made by WAPA. The duration of the noncompliance was 67 days. This violation was discovered during the CI, but was not otherwise associated with the event.

Attachment B includes a description of the mitigation activities WAPA took to address the violation. A copy of the Mitigation Plan is included as Exhibit 1.

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<sup>6</sup> The NERC Compliance Investigation (CI) Team discovered the violation of PRC-001-1 R3.2 during the CI, but the violation was not otherwise associated with the event.



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WAPA certified that it had completed all mitigation activities. MRO verified on April 12, 2017, that WAPA had completed all mitigation activities on December 28, 2016. Attachment B provides specific information on MRO's verification of WAPA's completion of the activities.

MRO2016015733 TOP-002-2 R6 – OVERVIEW

MRO determined that WAPA failed to plan to meet unscheduled changes in system configuration and generation dispatch (at a minimum N-1 contingency planning) in accordance with local reliability requirements. Specifically, WAPA did not have an operating plan to address the high-voltage condition at Sully Buttes for the N-1 contingency loss of the Oahe to Sully Buttes 230 kV line.

The cause of this violation was inadequacy of the next-day and current-day studies and an absence of real-time contingency analysis tools.

MRO determined that this violation posed a moderate and not a serious or substantial risk to the reliability of the BPS. The high voltage experienced during this event put the system at risk of equipment damage and/or a flashover. The absence of an operating plan to address the high-voltage condition at Sully Buttes for loss of the Oahe to Sully Buttes 230 kV line aggravated ongoing risk during the event. Specifically, the absence of an operating plan may have led to the high-voltage situation lasting over nine hours, when WAPA's internal guidance is that operating above a System Operating Limit (SOL) should last no longer than 30 minutes. Nevertheless, the risk was not serious or substantial because the Sully Buttes Substation was radial during the duration of the violation. In addition, high voltage issues are less likely to be associated with cascading outages as compared to other SOL violations such as transient stability, low voltage, or thermal overloads. Finally, WAPA and the affected electric cooperative stated they knew of the possibility of high voltage for an outage of Oahe to Sully Buttes 230 kV line.

Attachment B includes a description of the mitigation activities WAPA took to address the violation. A copy of the Mitigation Plan is included as Exhibit 2.

WAPA certified that it had completed all mitigation activities. MRO verified on April 12, 2017, that WAPA had completed all mitigation activities on March 23, 2017. Attachment B provides specific information on MRO's verification of WAPA's completion of the activities.

MRO2016015734 TOP-002-2 R11 – OVERVIEW

MRO determined that WAPA failed to perform next-day and current-day Bulk Electric System (BES) studies to determine SOLs on August 29, 2009. The contract between WAPA and its Reliability Coordinator does not displace WAPA's Transmission Operator responsibility to perform next-day or current-day BES studies to determine SOLs.

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The cause of the violation was WAPA's reliance on its Reliability Coordinator's current-day and next-day studies and mistakenly believing that these studies satisfied WAPA's compliance obligations under TOP-002-2 R11.

MRO determined that this violation posed a serious and substantial risk to the reliability of the BPS. Failure to perform next-day and current-day studies was likely a contributing factor to the failure of the operator to take action by initiating the Laramie River Station Unit No. 1 (LRS) operating guide or responding to the Sully Buttes high-voltage condition during the August event. Further, the SOL violations posed additional risks to the BPS because two SOL violations occurred simultaneously, and the SOL violations occurred while WAPA was in the process of restoring the system from an islanded condition. Additionally, the noncompliance had a duration of over four-and-a-half years. Finally, the studies from WAPA's Reliability Coordinator did not identify the voltage issue even though evidence indicates that the issue should have been expected, bringing into question the sufficiency of the Reliability Coordinator's studies.

Attachment B includes a description of the mitigation activities WAPA took to address the violation. A copy of the Mitigation Plan is included as Exhibit 3.

WAPA certified that it had completed all mitigation activities. MRO verified on April 12, 2017, that WAPA had completed all mitigation activities on March 1, 2017. Attachment B provides specific information on MRO's verification of WAPA's completion of the activities.

MRO2016015736 TOP-004-2 R1 – OVERVIEW

MRO determined WAPA failed to operate within the SOLs at the LRS. The LRS SOL of 390 MW was exceeded for 180 minutes, 150 minutes longer than permitted. After the August event occurred, WAPA self-reported four additional instances where the SOL was exceeded and WAPA failed to implement the LRS operating guide. Specifically, the LRS SOL of 390 MW was exceeded for more than 30 minutes on September 7, 2015, for 3 hours and 23 minutes; September 8, 2015 for 5 hours and 37 minutes; April 19, 2016, for 1 hour; and June 1, 2016, for 61 minutes. Additionally, during the August event, WAPA did not operate the Sully Buttes Substation within its SOL, and a high-voltage condition was allowed to exist for approximately nine hours. WAPA did not take any actions to correct the high-voltage situation at the Sully Buttes Substation.

The causes of this violation were inadequate situational awareness and a lack of training regarding the operating guide and procedures.

MRO determined that this violation posed a serious and substantial risk to the reliability of the BPS. The duration of the SOL violations was significant. The Sully Buttes Substation operated above its SOL for over nine hours, 18 times longer than guidance allows, and the LRS operated above its SOL for over 180 minutes, six times longer than the guidance allows. Operating above the SOLs at these high voltages

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put the BPS at risk of equipment damage and flashover. Further, WAPA did not follow the applicable procedure or operating guide, which is a fundamental obligation of a Transmission Operator. Additionally, operating above the SOL while WAPA was in the process of restoring the system from an islanded condition heightened the risk of the violation. Finally, WAPA operated above the LRS SOL on four subsequent occasions, demonstrating that the violation was not an isolated event.

Attachment B includes a description of the mitigation activities WAPA took to address the violation. A copy of the Mitigation Plan is included as Exhibit 4.

WAPA certified that it had completed all mitigation activities. MRO verified on April 12, 2017, that WAPA had completed all mitigation activities on March 23, 2017. Attachment B provides specific information on MRO's verification of WAPA's completion of the activities.

MRO2016015737 TOP-006-1 R5 – OVERVIEW

MRO determined that WAPA's monitoring equipment used in the Control Center did not alert the operators of important deviations in operating conditions at Oahe. WAPA's control room did not have a display for Oahe's frequency readings, nor did the control room map adequately display the change in breaker status and frequency in the Oahe area during the islanding condition.

The cause of this violation is that WAPA did not install displays or alerts for Oahe's frequency readings. Further, the control room map breaker icons were too small for operators to see when an open line occurred.

MRO determined that this violation posed a serious and substantial risk to the reliability of the BPS. Limited situational awareness presents a high risk to the BPS and has been the cause of prior system interruptions. The limited situational awareness prevented WAPA's operators from recognizing and responding to the islanding condition until approximately 34 minutes into the event, delaying the full restoration of the system. Further, the duration of the violation was over eight years, as WAPA had an inadequate control room monitoring system at the beginning of mandatory compliance.

Attachment B includes a description of the mitigation activities WAPA took to address the violation. A copy of the Mitigation Plan is included as Exhibit 5.

WAPA certified on May 18, 2017, that it had completed all mitigation activities. MRO verified on April 12, 2017, that WAPA had completed all mitigation activities on March 23, 2017. Attachment B provides specific information on MRO's verification of WAPA's completion of the activities.

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MRO2016015738 TOP-008-1 R1 – OVERVIEW

MRO determined that WAPA failed to take immediate steps to relieve an SOL violation at the LRS. The LRS exceeded its 390 MW SOL for 180 minutes, which is 150 minutes longer than the 30 minutes it is permitted to exceed its SOL. There is no evidence that WAPA took any action to relieve the SOL violation for 92 minutes after it began. Additionally, WAPA did not take immediate steps to relieve an SOL violation at the Sully Buttes Substation after the loss of the Oahe to Sully Buttes 230 kV line.

The causes of the violation were: 1) WAPA's limited situational awareness of the system, which resulted in a delay in recognizing the islanding condition; and 2) WAPA system operators' failure to follow WAPA's procedures and implement WAPA's operating guide, which may have been caused by a lack of training and inadequate situational awareness.

MRO determined that this violation posed a serious and substantial risk to the reliability of the BPS. SOL violations pose a danger to the BPS as they can cause damage to BES equipment and lead to further system interruption. The actual risk was elevated by the fact that the LRS and the Sully Buttes Substation violated their SOLs for much longer than allowed by WAPA's operating guide. The WAPA operating guide requires that the LRS and the Sully Buttes Substation SOL violations be remediated within 30 minutes. The LRS exceeded its SOL for 180 minutes, and the Sully Buttes Substation violated its SOL for over nine hours. These SOL violations brought increased risk to the BPS because they occurred when WAPA was attempting to restore the system from an islanded condition. Finally, simultaneous SOL violations increase the risk to the BPS.

Attachment B includes a description of the mitigation activities WAPA took to address the violation. A copy of the Mitigation Plan is included as Exhibit 6.

WAPA certified that it had completed all mitigation activities. MRO verified on April 12, 2017, that WAPA had completed all mitigation activities on March 23, 2017. Attachment B provides specific information on MRO's verification of WAPA's completion of the activities.

MRO2016015739 TOP-008-1 R3 – OVERVIEW

MRO determined WAPA failed to take immediate steps to relieve a 230 kV high-voltage SOL violation at the Sully Buttes Substation due to the loss of the Oahe to Sully Buttes 230 kV line.

The causes of this violation are: 1) inadequate situational awareness; and 2) inadequate training regarding the operating guide and procedures.

MRO determined that this violation posed a moderate and not a serious or substantial risk to the reliability of the BPS. The mitigation of the high-voltage violation at the Sully Buttes Substation took over nine hours. Further, WAPA did not utilize the applicable procedure to mitigate the SOL violation at

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the Sully Buttes Substation. Further, the simultaneous SOL violations at two BES facilities placed the BPS at additional risk. The risk was not severe because the affected electric cooperative was aware of the possibility of high voltage at the Sully Buttes Substation if there were an outage of the Sully Buttes-Oahe 230 kV line. Further, high-voltage issues are less likely to be associated with cascading outages as compared to other SOL violations such as transient stability, low voltage, or thermal overloads.

Attachment B includes a description of the mitigation activities WAPA took to address the violation. A copy of the Mitigation Plan is included as Exhibit 7.

WAPA certified that it had completed all mitigation activities. MRO verified on April 12, 2017, that WAPA had completed all mitigation activities on March 23, 2017. Attachment B provides specific information on MRO's verification of WAPA's completion of the activities.

MRO2016015740 TPL-002-0 R2 – OVERVIEW

MRO determined that WAPA did not prepare an adequate written summary of its plans to address the off-peak 230 kV high-voltage condition at the Sully Buttes Substation for a loss of the Oahe to Sully Buttes 230 kV line. Prior to the event, WAPA had identified that the loss of the Oahe to Sully Buttes 230 kV line would lead to a chronic off-peak high-voltage condition at the Sully Buttes Substation and a Corrective Action Plan called for the installation of shunt reactors at the Sully Buttes and Glenham Substations. The implementation of the installation was delayed past the need dates in the Corrective Action Plan, and the Corrective Action Plan was incomplete as it did not consider lead times necessary to implement the project. The Corrective Action Plan also did not include required plans such as operating guides or procedures to ensure adequate system performance throughout the planning horizon prior to the installation of the project.

The causes of this violation are: 1) a general misunderstanding of the requirements pertaining to Corrective Action Plans; and 2) inadequate and incomplete monitoring of WAPA's own Corrective Action Plans.

MRO determined that this violation posed a serious and substantial risk to the reliability of the BPS. The failure to install facilities identified in the Corrective Action Plan by the "need date" was a contributing cause of the high-voltage condition at the Sully Buttes Substation and the subsequent violations of TOP-002-2 R6 (MRO2016015733), TOP-004-2 R1 (MRO2016015734), TOP-008-1 R1 (MRO2016015738), TOP-008-1 R3 (MRO2016015739), and VAR-001-1 R8 (MRO2016015741). Further, the failure to develop an operating guide between the "need date" and the in-service date put the BPS at additional risk.

Attachment B includes a description of the mitigation activities WAPA took to address the violation. A copy of the Mitigation Plan is included as Exhibit 8.

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WAPA certified that it had completed all mitigation activities. MRO verified on April 12, 2017, that WAPA had completed all mitigation activities on December 31, 2014. Attachment B provides specific information on MRO's verification of WAPA's completion of the activities.

MRO2016015741 VAR-001-1 R8 – OVERVIEW

MRO determined that WAPA failed to operate or direct operations of capacitive and inductive reactive resources, including transmission line switching, to maintain system voltages within established limits at the Sully Buttes Substation.

The causes of this violation are: 1) inadequate situational awareness; and 2) a lack of training regarding the operating guide and procedures.

MRO determined that this violation posed a moderate and not a serious or substantial risk to the reliability of the BPS. The mitigation of the high-voltage condition at the Sully Buttes Substation took over nine hours. Further, WAPA did not utilize the applicable procedure or operating guide to mitigate the SOL violation at the Sully Buttes Substation. Additionally, the risk of this violation was greater due to the compromised condition of the BPS, specifically, there was an additional SOL violation at a generation facility and the system was in the process of being restored from an islanded condition. Nevertheless, the risk was not severe because the affected electric cooperative was aware of the possibility of a high voltage condition at the Sully Buttes Substation if there were an outage of the Sully Buttes-Oahe 230 kV line. Also, high voltage issues are less likely to be associated with cascading outages as compared to other SOL violations such as transient stability, low voltage, or thermal overload.

Attachment B includes a description of the mitigation activities WAPA took to address the violation. A copy of the Mitigation Plan is included as Exhibit 9.

WAPA certified that it had completed all mitigation activities. MRO verified on April 12, 2017, that WAPA had completed all mitigation activities on March 23, 2017. Attachment B provides specific information on MRO's verification of WAPA's completion of the activities.

Regional Entity's Basis for Disposition

According to the NOCV, MRO has assessed no penalty for the nine referenced violations. In reaching this determination, MRO considered the following factors:

1. WAPA is a federal nonprofit agency that is a federal government entity, and MRO and NERC are bound to follow *SWPA v. FERC* in resolution of this matter;

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2. The instant violations constitute WAPA's first occurrence of violations of the subject NERC Reliability Standards;<sup>7</sup>
3. WAPA's decision to procure a commercial vendor-provided State Estimation Tool and associated PSS/ODMS software was considered a mitigating factor in MRO's penalty determination. The tool allowed WAPA to meet the Real-Time Assessments requirements of TOP-001-3 R13 approximately one month prior to the enforcement date of the Reliability Standard and requirement and constituted a significant expenditure in terms of dollars and human capital. Additional information is available in Attachments A and B;
4. There was no evidence indicating any attempt to conceal a violation or evidence of intent to do so;
5. Five of the violations posed a serious risk, three posed a moderate risk, and one posed a minimal risk to the reliability of the BPS, as explained above and in Attachment B;
6. The violations were discovered through a CI, as explained above and in Attachments A and B;
7. The violations did not cause or extend a loss of load; and
8. There were no other mitigating or aggravating factors or extenuating circumstances that would affect the disposition method.

After consideration of the above factors, MRO determined that, in these instances, it would issue no penalty, in accordance with *SWPA v. FERC*.

**Statement Describing the Assessed Penalty, Sanction or Enforcement Action Imposed<sup>8</sup>**

**Basis for Determination**

Taking into consideration the Commission's direction in Order No. 693, the NERC Sanction Guidelines and the Commission's July 3, 2008, October 26, 2009, and August 27, 2010 Guidance Orders,<sup>9</sup> the NERC BOTCC reviewed the NOCV and supporting documentation on August 8, 2017, and approved the NOCV. In approving the NOCV, the NERC BOTCC reviewed the applicable requirements of the Commission-approved Reliability Standards and the underlying facts and circumstances of the violations at issue.

For the foregoing reasons, the NERC BOTCC approved the NOCV.

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<sup>7</sup> MRO did not consider violations at other Western Area Power Administration Regional Offices because each Regional Office is separately operated under distinct Regional Office leadership and management practices.

<sup>8</sup> See 18 C.F.R. § 39.7(d)(4).

<sup>9</sup> *North American Electric Reliability Corporation*, "Guidance Order on Reliability Notices of Penalty," 124 FERC ¶ 61,015 (2008); *North American Electric Reliability Corporation*, "Further Guidance Order on Reliability Notices of Penalty," 129 FERC ¶ 61,069 (2009); *North American Electric Reliability Corporation*, "Notice of No Further Review and Guidance Order," 132 FERC ¶ 61,182 (2010).



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**Attachments to be Included as Part of this Notice of Penalty**

The attachments to be included as part of this Notice of Penalty are the following documents:

- a) NOCV issued by MRO on May 26, 2017, included as Attachment A;
  1. Western Area Power Administration – Upper Great Plains East NAVAPS Response, included as Attachment A to the NOCV;
  2. Disposition Documents for all violations, included as Attachment B to the NOCV;
    - i. MROMIT012231 for MRO2016015732 (PRC-001-1 R3), submitted on August 19, 2016 and Certification of the Mitigation Plan Completion, included as Exhibit 1;
    - ii. MROMIT012232 for MRO2016015733 (TOP-002-2 R6), submitted on August 19, 2016 and Certification of the Mitigation Plan Completion, included as Exhibit 2;
    - iii. MROMIT012233 for MRO2016015734 (TOP-002-2 R11), submitted on August 19, 2016 and Certification of the Mitigation Plan Completion, included as Exhibit 3;
    - iv. MROMIT012234 for MRO2016015736 (TOP-004-2 R1), submitted on August 19, 2016 and Certification of the Mitigation Plan Completion, included as Exhibit 4;
    - v. MROMIT012235 for MRO2016015737 (TOP-006-1 R5), submitted on August 19, 2016 and Certification of the Mitigation Plan Completion, included as Exhibit 5;
    - vi. MROMIT012236 for MRO2016015738 (TOP-008-1 R1), submitted on August 19, 2016 and Certification of the Mitigation Plan Completion, included as Exhibit 6;
    - vii. MROMIT012237 for MRO2016015739 (TOP-008-1 R3), submitted on August 19, 2016 and Certification of the Mitigation Plan Completion, included as Exhibit 7;
    - viii. MROMIT012238 for MRO2016015740 (TPL-002-0 R2), submitted on August 19, 2016 and Certification of the Mitigation Plan Completion, included as Exhibit 8;
    - ix. MROMIT012239 for MRO2016015741 (VAR-001-1 R8), submitted on August 19, 2016 and Certification of the Mitigation Plan Completion, included as Exhibit 9; and
    - x. WAPA Mitigation Plan Verifications Overview, dated April 20, 2017, included as Exhibit 10.

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**Notices and Communications:** Notices and communications with respect to this filing may be addressed to the following:

<p>Daniel P. Skaar*          President          Midwest Reliability Organization          380 St. Peter Street, Suite 800          Saint Paul, MN 55102          (651) 855-1731          dp.skaar@midwestreliability.org</p> <p>Valerie Agnew*          Vice President, Enforcement          Midwest Reliability Organization          380 St. Peter Street, Suite 800          Saint Paul, MN 55102          (651) 855-1745          vl.agnew@midwestreliability.org</p> <p>Robert Harris*          Senior Vice President and Upper Great Plains          Regional Manager          Western Area Power Administration-Upper Great          Plains          2900 Fourth Ave. North          Sixth Floor          Billings, MT 59101          (406) 255-2800          rharris@wapa.gov</p> <p>Doug Brown*          Reliability Compliance Manager          Western Area Power Administration-Upper Great          Plains          2900 Fourth Ave. North          Sixth Floor          Billings, MT 59101          (605) 882-7476          dbrown@wapa.gov</p>	<p>Sonia C. Mendonça          Vice President, Deputy General Counsel, and          Director of Enforcement          North American Electric Reliability          Corporation          1325 G Street N.W., Suite 600          Washington, D.C. 20005          (202) 400-3000          (202) 644-8099 – facsimile          sonia.mendonca@nerc.net</p> <p>Edwin C. Kichline*          Senior Counsel and Director of Enforcement          Oversight          North American Electric Reliability          Corporation          1325 G Street, N.W., Suite 600          Washington, D.C. 20005          (202) 400-3000          (202) 644-8099 – facsimile          edwin.kichline@nerc.net</p> <p>Leigh Anne Faugust*          Counsel          North American Electric Reliability Corporation          1325 G Street N.W., Suite 600          Washington, DC 20005          (202) 400-3000          (202) 644-8099 – facsimile          leigh.faugust@nerc.net</p>
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NERC Notice of Penalty

Western Area Power Administration – Upper Great Plains East

October 31, 2017

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**Conclusion**

NERC respectfully requests that the Commission accept this Notice of Penalty as compliant with its rules, regulations, and orders.

Respectfully submitted,

/s/ Edwin G. Kichline

Sonia C. Mendonça

Vice President, Deputy General Counsel,  
and Director of Enforcement

Edwin G. Kichline

Senior Counsel and Director of Enforcement  
Oversight

Leigh Anne Faugust

Counsel

North American Electric Reliability  
Corporation

1325 G Street N.W.

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(202) 400-3000

(202) 644-8099 – facsimile

sonia.mendonca@nerc.net

edwin.kichline@nerc.net

leigh.faugust@nerc.net

cc: Western Area Power Administration – Upper Great Plains East  
Midwest Reliability Organization

Attachments

## **Attachment A**

**NOCV issued by MRO on May 26, 2017**

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May 26, 2017

Mr. Robert Harris  
Vice President  
Western Area Power Administration – Upper Great Plains  
2900 Fourth Ave. North, Sixth Floor  
Billings, MT 59101

**Re: Notice of Confirmed Violations**

NERC Tracking IDs: MRO2016015732 (PRC-001-1 R3)  
MRO2016015733 (TOP-002-2 R6)  
MRO2016015734 (TOP-002-2 R11)  
MRO2016015736 (TOP-004-2 R1)  
MRO2016015737 (TOP-006-1 R5)  
MRO2016015738 (TOP-008-1 R1)  
MRO2016015739 (TOP-008-1 R3)  
MRO2016015740 (TPL-002-0 R2)  
MRO2016015741 (VAR-001-1 R8)

Dear Mr. Harris:

Midwest Reliability Organization (MRO) hereby provides this Notice of Confirmed Violations to Western Area Power Administration – Upper Great Plains East (WAPA), NERC Compliance Registry NCR01036, and Western Area Power Administration – Upper Great Plains West (WAPA), NERC Compliance Registry NCR05467, (collectively WAPA), in accordance with the Federal Energy Regulatory Commission’s (Commission or FERC) rules, regulations and orders, and the NERC Rules of Procedure including Appendix 4C (NERC Compliance Monitoring and Enforcement Program (CMEP)).<sup>1</sup>

MRO is issuing this Notice of Confirmed Violations because WAPA does not contest<sup>2</sup> the violations or the proposed penalty or sanction set forth in the Notice of Alleged Violations and Proposed Penalty or Sanction issued by MRO on April 26, 2017. Accordingly, the violations identified by the above NERC Tracking IDs are Confirmed Violations, as that term is defined in the NERC Rules of Procedure and the CMEP.

<sup>1</sup> See 18 C.F.R § 39.7(c)(2).

<sup>2</sup> See Attachment A.



Notice of Confirmed Violations

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### **Statement Provided by the Registered Entity as set forth in CMEP Sections 5.4 and 8.0**

In accordance with CMEP Sections 5.4 and 8.0, MRO must report to NERC and WAPA all Confirmed Violations of Reliability Standards including all penalties, sanctions, Mitigation Plans and schedules, and settlements. MRO hereby provides notice that WAPA may provide a statement to NERC, with a copy to MRO, within five (5) business days after the date of this Notice of Confirmed Violation, to accompany the report when posted by NERC. WAPA's statement must be on WAPA's company letterhead and must include the name, title, and signature of an officer, employee, attorney or other authorized representative of WAPA.

Upon NERC filing this Notice of Confirmed Violations with FERC, NERC will publicly post Confirmed Violations, together with any statement submitted by WAPA. NERC will include, with the Notice of Penalty filed with FERC, the statement provided by WAPA. MRO anticipates that these Confirmed Violations will be included in a Notice of Penalty filing upon acceptance by the NERC Board of Trustees Compliance Committee.

### **NERC Process**

MRO is providing a copy of this Notice of Confirmed Violations to NERC for its review and consideration. Upon acceptance by the NERC Board of Trustees Compliance Committee, in its current form or as modified, NERC will provide the Notice of Penalty to FERC or any other Applicable Governmental Authority, with a copy to WAPA and MRO. Following NERC action, FERC and any other Applicable Governmental Authority may act to accept, reject or modify the findings and/or penalties or sanctions set forth herein.

The proposed penalty or sanction will be effective upon expiration of the thirty (30) day period following the acceptance by FERC or any applicable governmental authority, or if FERC or the applicable governmental authority decides to review the proposed penalty or sanction, upon final determination by FERC.

### **The Record of the Proceeding<sup>3</sup>**

The record of the proceeding will include this Notice of Confirmed Violations and any WAPA statement or response thereto, as well as the Notice of Alleged Violations and Proposed Penalty or Sanction and associated exhibits.<sup>4</sup>

<sup>3</sup> See 18 C.F.R § 39.7(d)(5).

<sup>4</sup> See Attachment B



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Record attachments must be divided into separate volumes of CEII, Privileged/Confidential information and/or Public information as applicable. These must be divided and marked in accordance with the FERC regulations and guidance posted on the FERC website. Any comments on these confidential and non-public volumes must be submitted by the registered entity to the Regional Entity and NERC within five (5) business days after the date of this Notice of Confirmed Violations.

**Conclusion**

If you have any questions, please do not hesitate to contact me at 651-855-1758 or [jj.evans@midwestreliability.org](mailto:jj.evans@midwestreliability.org).

Sincerely,

Jackson Evans  
Enforcement Attorney

Cc: Doug Brown, WAPA  
Sonia Mendonca, NERC  
Edwin Kichline, NERC  
Heather Laws, WECC  
Kim Israelsson, WECC  
Valerie Agnew, MRO

Enclosures: Attachments A and B  
JJE; jva





Notice of Confirmed Violations

Western Area Power Administration – Upper Great Plains East

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## **Attachment A**

Western Area Power Administration – Upper Great Plains East  
NAVAPS Response



Notice of Confirmed Violations

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**Department of Energy**  
Western Area Power Administration  
Upper Great Plains Customer Service Region  
P.O. Box 35800  
Billings, MT 59107-5800

**MAY 18 2017**

Mr. Jackson Evans  
Enforcement Attorney  
Midwest Reliability Organization  
380 St. Peter Street, Ste. 800  
Saint Paul, MN 55102

Dear Mr. Evans:

WAPA agrees with the penalties and sanctions associated with the below Alleged Violations contained in your April 26, 2017 letter and understands that all mitigation plans have been certified complete.

NERC Tracking IDs:

- MRO2016015732 (PRC-001-1 R3)
- MRO2016015733 (TOP-002-2 R6)
- MRO2016015734 (TOP-002-2 R11)
- MRO2016015736 (TOP-004-2 R1)
- MRO2016015737 (TOP-006-1 R5)
- MRO2016015738 (TOP-008-1 R1)
- MRO2016015739 (TOP-008-1 R3)
- MRO2016015740 (TPL-002-0 R2)
- MRO2016015741 (VAR-001-1 R8)

Sincerely,

Robert J. Harris  
Senior Vice President and  
Upper Great Plains Regional Manager



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## **Attachment B**

### Western Area Power Administration – Upper Great Plains East Disposition Document



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## **DISPOSITION OF VIOLATIONS<sup>5</sup>**

**May 26, 2017**

NERC TRACKING NO.	REGIONAL ENTITY TRACKING NO.
<b>MRO2016015732</b>	<b>MRO2016015732</b>
<b>MRO2016015733</b>	<b>MRO2016015733</b>
<b>MRO2016015734</b>	<b>MRO2016015734</b>
<b>MRO2016015736</b>	<b>MRO2016015736</b>
<b>MRO2016015737</b>	<b>MRO2016015737</b>
<b>MRO2016015738</b>	<b>MRO2016015738</b>
<b>MRO2016015739</b>	<b>MRO2016015739</b>
<b>MRO2016015740</b>	<b>MRO2016015740</b>
<b>MRO2016015741</b>	<b>MRO2016015741</b>

REGISTERED ENTITIES – MRRE<sup>6</sup>  
**Western Area Power Administration –  
Upper Great Plains East (WAPA)**

NERC REGISTRY ID  
**NCR01036 (MRO)**

**Western Area Power Administration –  
Upper Great Plains West (WAPA)**

**NCR05467 (WECC)**

REGIONAL ENTITIES

**Midwest Reliability Organization (MRO)**

**Western Electricity Coordinating Council (WECC)**

<sup>5</sup> For purposes of this document and attachments hereto, each violation at issue is described as a “violation,” regardless of its procedural posture and whether it was a possible, alleged or confirmed violation.

<sup>6</sup> Western Area Power Administration – Upper Great Plains East and Western Area Power Administration – Upper Great Plains West participate in the Multi-Region Registered Entity (MRRE) Program. They joined the MRRE Program on August 28, 2015. MRO is the Lead Regional Entity and WECC is the Affected Regional Entity. MRO and WECC coordinate Compliance Monitoring and Enforcement Program activities for these two registered entities. The violations addressed in this Disposition Document occurred in the MRO Region.



Notice of Confirmed Violations

Western Area Power Administration – Upper Great Plains East

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**I. REGISTRATION INFORMATION**

ENTITY IS REGISTERED FOR THE FOLLOWING FUNCTIONS (BOTTOM ROW

INDICATES REGISTRATION DATE†):

BA <sup>††</sup>	DP	GO	GOP	PA	RC	RP <sup>+</sup>	RSG	TO	TOP	TP	TSP <sup>†† ++</sup>
X						X		X	X	X	X
5/30/2007						6/17/2007		5/30/2007	5/30/2007	4/22/2008	5/30/2007

\* VIOLATIONS APPLY TO SHADED FUNCTIONS

† All of WAPA’s registrations in the WECC Region occurred on June 17, 2007.

†† WAPA no longer performs the BA and TSP function in the MRO Region effective October 1, 2015. The deregistration will occur in the MRO Region at the completion of this enforcement action.

+ WAPA is only registered in the WECC Region for the RP function.

++ WAPA is only registered in the MRO Region for the TSP function.

**DESCRIPTION OF THE REGISTERED ENTITY<sup>7</sup>**

The Western Area Power Administration was created in 1977 to provide transmission for power generated at United States Army Corps of Engineers and United States Bureau of Reclamation hydroelectric power plants and is overseen by the United States Department of Energy. The Western Area Power Administration consists of four regions with six registered entities in the MRO and WECC Regions.

The Western Area Power Administration Upper Great Plains Region (East and West) (hereafter referred to collectively as WAPA) is headquartered in Billings, Montana. In addition to the Operations Office in Watertown, South Dakota, WAPA has state maintenance offices in Fort Peck, Montana; Bismarck, North Dakota; and Huron, South Dakota. WAPA operates as a Balancing Authority in the Western Interconnected Electrical Systems, in the WECC Region.

<sup>7</sup> This is a description of WAPA’s current operations.



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WAPA owns and/or operates nearly 9,000 miles of transmission line and over 200 substations in Montana, North Dakota, South Dakota, Nebraska, western Minnesota, western Iowa, and northern Missouri encompassing approximately 320,000 square miles of service territory. WAPA owns and/or operates nearly 4,000 miles of 230 kV transmission line and approximately 450 miles of 345 kV transmission line. WAPA plays an important role in the operation of the bulk power system (BPS) as it is the primary Transmission Operator in the Dakotas and because many registered entities depend on blackstart resources interconnected to WAPA's system for cranking power during restoration. As of October 2015, Western Area Power Administration – Upper Great Plains East is part of Southwest Power Pool Regional Transmission Organization (SPP RTO) and operates pursuant to SPP RTO requirements. This has resulted in WAPA – Upper Great Plains East's operations substantially changing since the event.

#### DESCRIPTION OF THE RELATED EVENT

An event occurred on August 29, 2009, in the WAPA footprint within the MRO Region. The violations at issue primarily involve planning failures prior to this event or conduct that occurred during the event.<sup>8</sup> The violations did not cause the event. Nor did these violations cause the loss of load resulting from the event or extend the duration of the load loss. The violations did extend the duration of the event, after load was restored, by delaying the restoration of the system to its normal operating condition.

The event began when the Oahe-Sully Buttes 230 kV line relayed out of service due to a faulty wave trap connector at the Oahe Generating Station that is operated by another registered federal entity. When operators attempted to manually re-close the Oahe-Sully Buttes 230 kV line, the fault was re-established but was slow to clear at Oahe which eventually resulted in a cascading outage of several 230 kV and 115 kV lines, the de-energization of 14 substations with over 60 MW of customer load, the loss of two AC-DC-AC ties to the Western Interconnection, and the separation of two 115kV ties to a neighboring registered entity. The Oahe Generating Station, initially loaded to 630 MW became islanded. The islanded condition also included seven substations with approximately 34 MW of load. In addition, a portion of a neighboring registered entity's system experienced severe voltage oscillations that resulted in approximately 89 MW of load loss in its area. In addition, WAPA experienced an exceedance of its voltage System Operating Limit (SOL) at the Sully Buttes Substation and an exceedance of the thermal SOL caused by the Laramie River Station Unit No. 1 (LRS) operating beyond what is allowed by its operations guide. The LRS had an operations guide that required it to be ramped down in this situation in preparation for a subsequent outage that was not followed by WAPA.

<sup>8</sup> The PRC-001-1 R3.2 violation was discovered during the Compliance Investigation, but was not related to the event.



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Western Area Power Administration – Upper Great Plains East

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**DESCRIPTION OF THE COMPLIANCE INVESTIGATION**

On September 8, 2009, NERC initiated a Compliance Investigation (CI) into the August 29, 2009 event. The investigation was conducted by the NERC-lead CI team.<sup>9</sup> FERC staff participated as observers on the CI team. The CI team completed its report in April 2012 and delegated the enforcement of potential noncompliance to MRO.

Mitigation plans were not formally submitted until August 19, 2016, but WAPA promptly and voluntarily began initiating mitigating activities shortly after the event occurred. These mitigating activities were later incorporated into the formal mitigation plans.

**II. VIOLATION INFORMATION**

TRACKING ID	RELIABILITY STANDARD	REQUIREMENT(S)	VRF(S)	VSL(S)	FUNCTIONS	RISK	PAGE NUMBER
MRO2016015732	PRC-001-1	R3.2	High	Lower	TOP	Minimal	11
MRO2016015733	TOP-002-2	R6	Medium	Severe	TOP	Moderate	12
MRO2016015734	TOP-002-2	R11	Medium	Severe	TOP	Serious	13
MRO2016015736	TOP-004-2	R1	High	Severe	TOP	Serious	14
MRO2016015737	TOP-006-1	R5	Medium	Severe	TOP	Serious	16
MRO2016015738	TOP-008-1	R1	High	Severe	TOP	Serious	17
MRO2016015739	TOP-008-1	R3	High	Severe	TOP	Moderate	18
MRO2016015740	TPL-002-0	R2	Medium	High	TP	Serious	19
MRO2016015741	VAR-001-1	R8	Medium	Severe	TOP	Moderate	21

<sup>9</sup> The NERC-lead CI team was made up of eight NERC staff members, six FERC staff members, one MRO staff member, and one consultant.





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### **PRC-001-1 R3 (MRO2016015732)**

#### **PURPOSE OF THE RELIABILITY STANDARD AND TEXT OF RELIABILITY STANDARD AND REQUIREMENT(S)/SUB-REQUIREMENT(S)**

**The purpose statement of PRC-001-1 R3 provides:** To ensure system protection is coordinated among operating entities.

#### **PRC-001-1 R3 provides:**

R3. A Generator Operator or Transmission Operator shall coordinate new protective systems and changes as follows.

R3.1. Each Generator Operator shall coordinate all new protective systems and all protective system changes with its Transmission Operator and Host Balancing Authority.

R3.2. Each Transmission Operator shall coordinate all new protective systems and all protective system changes with neighboring Transmission Operators and Balancing Authorities.

#### **VIOLATION DESCRIPTION**

Following a CI conducted from September 8, 2009 through April 27, 2012, MRO determined that WAPA, as a Transmission Operator, violated PRC-001-1 R3. Specifically, on September 10, 2009, WAPA issued new load encroachment settings for a device at the New Underwood Substation on the 230 kV jointly-owned line between the New Underwood Substation and a neighboring registered entity's substation. WAPA implemented the new relay settings on October 28, 2009, but did not communicate those settings to the neighboring registered entity until November 16, 2009.

The cause of the violation was a lack of understanding or awareness with the requirements of the standard, specifically; WAPA's compliance responsibility for coordinating when relay setting errors are found on jointly owned lines.

#### **RELIABILITY IMPACT STATEMENT- POTENTIAL AND ACTUAL**

The issue posed a minimal risk and did not pose a serious or substantial risk to the reliability of the BPS. Per WAPA, the protection system modification that occurred had been coordinated with the neighboring registered entity on June 1, 2007, almost two years prior to the implementation of the modification. The neighboring registered entity was likely operating under the false impression



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that the setting was as previously coordinated and had already been made by WAPA. The duration of the noncompliance was 67 days. This violation was discovered during the CI, but was not otherwise associated with the event.

#### DURATION DATE

The issue began on September 10, 2009, when WAPA issued new load encroachment settings and did not inform the neighboring registered entity, and ended on November 16, 2009, when WAPA informed the neighboring registered entity about the new load encroachment settings.

#### **TOP-002-2 R6 (MRO2016015733)**

#### PURPOSE OF THE RELIABILITY STANDARD AND TEXT OF RELIABILITY STANDARD AND REQUIREMENT(S)/SUB-REQUIREMENT(S)

**The purpose statement of TOP-002-2 provides:** Current operations plans and procedures are essential to being prepared for reliable operations, including response for unplanned events.

#### **TOP-002-2 R6 provides:**

R2. Each Balancing Authority and Transmission Operator shall ensure its operating personnel participate in the system planning and design study processes, so that these studies contain the operating personnel perspective and system operating personnel are aware of the planning purpose.

#### VIOLATION DESCRIPTION

Following the CI conducted from September 8, 2009 through April 27, 2012, MRO determined that WAPA, as a Transmission Operator, violated TOP-002-2 R6. WAPA violated TOP-002-2 R6 by not planning to meet unscheduled changes in system configuration and generation dispatch (at a minimum N-1 contingency planning) in accordance with local reliability requirements. Specifically, WAPA did not have an operating plan to address the high voltage condition at Sully Buttes for the N-1 contingency loss of the Oahe to Sully Buttes 230 kV line.

The cause of this violation was inadequacy of the next-day and current-day studies and an absence of real-time contingency analysis (RTCA) tools.



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## RELIABILITY IMPACT STATEMENT- POTENTIAL AND ACTUAL

The issue posed a moderate risk and did not pose a serious or substantial risk to the reliability of the BPS. The high voltage experienced during this event put the system at risk of equipment damage and/or a flashover. The absence of an operating plan to address the high-voltage condition at Sully Buttes for loss of the Oahe to Sully Buttes 230 kV line was an aggravating factor on the risk of the event. Specifically, the absence of an operating plan may have led to the high voltage situation lasting over nine hours, when WAPA's internal guidance is that operating above SOL should last no longer than 30 minutes. However, the risk was not serious or substantial because WAPA and the impacted electric cooperative agreed to the risk of high voltage for outage of Oahe to Sully Buttes 230 kV line.

Further, while SOL violations can cause a facility outage, such violations are not inherently associated with cascading outages.

### DURATION DATE

The violation started on June 18, 2007, when the Reliability Standard and Requirement became mandatory, and ended on March 23, 2012, when WAPA began reviewing its next day studies.

### **TOP-002-2 R11 (MRO2016015734)**

#### PURPOSE OF THE RELIABILITY STANDARD AND TEXT OF RELIABILITY STANDARD AND REQUIREMENT(S)/SUB-REQUIREMENT(S)

**The purpose statement of TOP-002-2 provides:** Current operations plans and procedures are essential to being prepared for reliable operations, including response for unplanned events.

#### **TOP-002-2 R11 provides:**

R11. The Transmission Operator shall perform seasonal, next-day, and current-day Bulk Electric System studies to determine SOLs. Neighboring Transmission Operators shall utilize identical SOLs for common facilities. The Transmission Operator shall update these Bulk Electric System studies as necessary to reflect current system conditions; and shall make the results of Bulk Electric System studies available to the Transmission Operators, Balancing Authorities (subject to confidentiality requirements), and to its Reliability Coordinator.



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## VIOLATION DESCRIPTION

Following a CI conducted from September 8, 2009 through April 27, 2012, MRO determined that WAPA, as a Transmission Operator, violated TOP-002-2 R11. WAPA violated TOP-002-2 R11 by not performing next-day and current-day BES studies to determine SOLs on August 29, 2009. The contract between WAPA and its Reliability Coordinator does not displace WAPA's TOP responsibility to perform next-day or current-day BES studies to determine SOLs.

The cause of the violation was WAPA's reliance on its Reliability Coordinator's current-day and next-day studies and mistakenly believing that these studies satisfied WAPA's compliance obligations under TOP-002-2 R11.

## RELIABILITY IMPACT STATEMENT- POTENTIAL AND ACTUAL

The issue posed a serious or substantial risk to the reliability of the BPS. Failure to perform next-day and current-day studies was likely a contributing factor to the failure of the operator to take action by initiating the LRS operating guide or responding to the Sully Buttes high voltage condition during the August 29, 2009 event. Further, the SOL violations posed additional risks to the BPS because two SOL violations occurred simultaneously, and the SOL violations occurred while WAPA was in the process of restoring the system from an islanded condition. Additionally, the noncompliance had a duration of over four and a half years. Finally, the studies from WAPA's Reliability Coordinator did not identify the voltage issue even though evidence indicates that the issue should have been expected, bringing into question the sufficiency of the Reliability Coordinator's studies.

## DURATION DATE

The violation started on June 18, 2007, when the Reliability Standard and Requirement became enforceable upon WAPA, and ended on March 23, 2012, when WAPA started performing the next day studies.

## TOP-004-2 R1 (MRO2016015736)

### PURPOSE OF THE RELIABILITY STANDARD AND TEXT OF RELIABILITY STANDARD AND REQUIREMENT(S)/SUB-REQUIREMENT(S)

**The purpose statement of TOP-004-2 provides:** To ensure that the transmission system is operated so that instability, uncontrolled separation, or cascading outages will not occur as a result of the most severe single Contingency and specified multiple Contingencies.



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**TOP-004-2 R1 provides:**

R1. Each Transmission Operator shall operate within the Interconnection Reliability Operating Limits (IROLs) and System Operating Limits (SOLs).

**VIOLATION DESCRIPTION**

Following a CI conducted from September 8, 2009 through April 27, 2012, MRO determined that WAPA, as a Transmission Operator, violated TOP-004-2 R1. WAPA did not operate within the SOLs at the LRS. The LRS SOL of 390 MW was exceeded for 180 minutes, 150 minutes longer than permitted. After the event occurred, WAPA self-reported four additional instances where the SOL was exceeded and WAPA failed to implement the LRS operating guide. Specifically, the LRS SOL of 390 MW was exceeded for more than thirty minutes on September 7, 2015 for 3 hours and 23 minutes; September 8, 2015 for 5 hours and 37 minutes; April 19, 2016 for 1 hour; and June 1, 2016 for 61 minutes. Additionally, during the event, WAPA did not operate the Sully Buttes Substation within its SOL, and a high voltage condition was allowed to exist for approximately nine hours. WAPA did not take any actions to correct the high voltage situation at the Sully Buttes Substation.

The cause of this violation is inadequate situational awareness and a lack of training regarding the operating guide and procedures.

**RELIABILITY IMPACT STATEMENT- POTENTIAL AND ACTUAL**

The issue posed a serious or substantial risk to the reliability of the BPS. The duration of the SOL violations was significant. The Sully Buttes Substation operated above its SOL for over nine hours, eighteen times longer than guidance allows, and the LRS operated above its SOL for over 180 minutes, six times longer than the guidance allows. Operating above the SOLs at these high voltages put the BPS at risk of equipment damage and flashover. Further, WAPA did not follow the applicable procedure or operating guide, which is a fundamental obligation of a Transmission Operator. Additionally, operating above the SOL while WAPA was in the process of restoring the system from an islanded condition heightened the risk of the violation. Finally, WAPA operated above the LRS SOL on four subsequent occasions demonstrating that the violation was not an isolated event.

**DURATION DATE**

The violation started on August 29, 2009, when the LRS and the Sully Buttes Substation exceeded their SOLs, and ended on June 1, 2016, at the conclusion of the fourth self-reported instance, when the LRS returned to operating within its SOL.



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Western Area Power Administration – Upper Great Plains East

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## **TOP-006-1 R5 (MRO2016015737)**

### **PURPOSE OF THE RELIABILITY STANDARD AND TEXT OF RELIABILITY STANDARD AND REQUIREMENT(S)/SUB-REQUIREMENT(S)**

**The purpose statement of TOP-006-1 provides:** To ensure critical reliability parameters are monitored in real-time.

### **TOP-006-1 R5 provides:**

R5. Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall use monitoring equipment to bring to the attention of operating personnel important deviations in operating conditions and to indicate, if appropriate, the need for corrective action.

### **VIOLATION DESCRIPTION**

Following a CI conducted from September 8, 2009 through April 27, 2012, MRO determined that WAPA, as a Transmission Operator, violated TOP-006-2 R5. Specifically, the monitoring equipment used in the Control Center did not alert the operators of important deviations in operating conditions at Oahe. WAPA's control room did not have a display for Oahe's frequency readings, nor did the control room map adequately display the change in breaker status and frequency in the Oahe area during the islanding condition.

The cause of this violation is that WAPA did not install displays or alerts for Oahe's frequency readings, and that the control room map breaker icons were too small for operators to see when an open line occurred.

### **RELIABILITY IMPACT STATEMENT- POTENTIAL AND ACTUAL**

The issue posed a serious or substantial risk to the reliability of the BPS. Limited situational awareness presents a high risk to the BPS and has been the cause of prior system interruptions. The limited situational awareness prevented WAPA's operators from recognizing and responding

to the islanding condition until approximately 34 minutes into the event, delaying the full restoration of the system. Further, the duration of the violation was over eight years, as WAPA had an inadequate control room monitoring system at the beginning of mandatory compliance.





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## DURATION DATE

The issue began on June 18, 2007, when the Standard and Requirement became mandatory and enforceable on WAPA, and ended on August 31, 2015, when WAPA augmented its tools to enhance its situational awareness.

## TOP-008-1 R1 (MRO2016015738)

### PURPOSE OF THE RELIABILITY STANDARD AND TEXT OF RELIABILITY STANDARD AND REQUIREMENT(S)/SUB-REQUIREMENT(S)

**The purpose statement of TOP-008-1 provides:** To ensure Transmission Operators take actions to mitigate SOL and IROL violations.

### TOP-008-1 R1 provides:

R1. The Transmission Operator experiencing or contributing to an IROL or SOL violation shall take immediate steps to relieve the condition, which may include shedding firm load.

## VIOLATION DESCRIPTION

Following a CI conducted from September 8, 2009 through April 27, 2012, MRO determined that WAPA, as a Transmission Operator, violated TOP-008-1 R1. Specifically, WAPA did not take immediate steps to relieve an SOL violation at the LRS. The LRS exceeded its 390 MW SOL for 180 minutes, which is 150 minutes longer than the 30 minutes it is permitted to exceed its SOL. There is no evidence that WAPA took any action to relieve the SOL violation for 92 minutes after it began. Additionally, WAPA did not take immediate steps to relieve a SOL violation at the Sully Buttes Substation after the loss of the Oahe to Sully Buttes 230-kV line.

The issue was caused by WAPA's limited situational awareness of the system, which resulted in a delay in recognizing the islanding condition, and WAPA's system operators failing to follow its procedures and implement its operating guide, which may have been caused by a lack of training and inadequate situational awareness.

## RELIABILITY IMPACT STATEMENT- POTENTIAL AND ACTUAL

The violation posed a serious or substantial risk to the BPS. SOL violations pose a danger to the BPS as they can cause damage to BES equipment and lead to further system interruption. The actual risk was elevated by the fact that the LRS and the Sully Buttes Substation violated their





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SOLs for much longer than they are allowed to in WAPA's operating guide. The WAPA operating guide requires that the LRS and the Sully Buttes Substation SOL violations be remediated within 30 minutes. The LRS exceeded its SOL for 180 minutes, and the Sully Buttes Substation violated its SOL for over nine hours. These SOL violations brought increased risk to the BPS because they occurred when WAPA was attempting to restore the system from an islanded condition. Finally, simultaneous SOL violations increase the risk to the BPS.

#### DURATION DATE

The violation began on August 29, 2009, when the islanding condition caused the LRS and the Sully Buttes Substation to exceed the time that they were allowed to violate their SOLs, and ended later on August 29, 2009, when WAPA brought the LRS and the Sully Buttes Substation back within their SOLs.

#### **TOP-008-1 R3 (MRO2016015739)**

#### PURPOSE OF THE RELIABILITY STANDARD AND TEXT OF RELIABILITY STANDARD AND REQUIREMENT(S)/SUB-REQUIREMENT(S)

**The purpose statement of TOP-008-1 provides:** To ensure Transmission Operators take actions to mitigate SOL and IROL violations.

#### **TOP-008-1 R3 provides:**

R3. The Transmission Operator shall disconnect the affected facility if the overload on a transmission facility or abnormal voltage or reactive condition persists and equipment is endangered. In doing so, the Transmission Operator shall notify its Reliability Coordinator and all neighboring Transmission Operators impacted by the disconnection prior to switching, if time permits, otherwise, immediately thereafter.

#### VIOLATION DESCRIPTION

Following a CI conducted from September 8, 2009 through April 27, 2012, MRO determined that WAPA, as a Transmission Operator, violated TOP-008-1 R3. Specifically, WAPA failed to take Immediate steps to relieve a 230 kV high voltage SOL violation at the Sully Buttes Substation due to the loss of the Oahe to Sully Buttes 230 kV line. The cause of this violation is inadequate situational awareness and a lack of training regarding the operating guide and procedures.



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## RELIABILITY IMPACT STATEMENT- POTENTIAL AND ACTUAL

The violation posed a moderate risk to the BPS. The mitigation of the high voltage at the Sully Buttes Substation took over nine hours. Further, WAPA did not utilize the applicable procedure to mitigate the SOL violation at the Sully Buttes Substation. Further, the simultaneous SOL violations at two BES facilities placed the BPS at additional risk. The risk was not severe because the affected electric cooperative was aware of the possibility of high voltage at the Sully Buttes Substation if there was an outage of the Sully Buttes-Oahe 230 kV line, and high voltage issues are less likely to be associated with cascading outages as compared to other SOL violations such as transient stability, low voltage, or thermal overloads.

## DURATION DATE

The violation began on August 29, 2009, when the islanding condition caused the Sully Buttes Substation to exceed the time that it was allowed to violate its SOL, and ended later on August 29, 2009, when WAPA brought the Sully Buttes Substation back within its SOL.

## TPL-002-0 R2 (MRO2016015740)

### PURPOSE OF THE RELIABILITY STANDARD AND TEXT OF RELIABILITY STANDARD AND REQUIREMENT(S)/SUB-REQUIREMENT(S)

**The purpose statement of TPL-002-0 provides:** System simulations and associated assessments are needed periodically to ensure that reliable systems are developed that meet specified performance requirements with sufficient lead time, and continue to be modified or upgraded as necessary to meet present and future system needs.

### TPL-002-0 R2 provides:

R2. When System simulations indicate an inability of the systems to respond as prescribed in Reliability Standard TPL-002-0\_R1, the Planning Authority and Transmission Planner shall each:

R2.1. Provide a written summary of its plans to achieve the required system performance as described above throughout the planning horizon:

R2.1.1. Including a schedule for implementation.

R2.1.2. Including a discussion of expected required in-service dates of facilities.

R2.1.3. Consider lead times necessary to implement plans.



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## VIOLATION DESCRIPTION

Following the CI conducted from September 8, 2009 through April 27, 2012, MRO determined that WAPA, as a Transmission Planner, violated TPL-002-0 R2. Specifically, WAPA did not prepare an adequate written summary of its plans to address the off-peak 230 kV high-voltage condition at the Sully Buttes Substation for a loss of the Oahe to Sully Buttes 230 kV line. Prior to the event, WAPA had identified that the loss of the Oahe to Sully Buttes 230 kV line would lead to a chronic off-peak high voltage condition at the Sully Buttes Substation and a Corrective Action Plan called for the installation of shunt reactors at the Sully Buttes and Glenham Substations. The implementation of the installation was delayed past the need dates in the Corrective Action Plan, and the Corrective Action Plan was incomplete as it did not consider lead times necessary to implement the project. The Corrective Action Plan also did not include required plans such as operating guides or procedures to ensure system performance was maintained throughout the planning horizon prior to the installation of the project.

The cause of this violation is a general misunderstanding of the requirements pertaining to Corrective Action Plans and inadequate, incomplete monitoring of its own Corrective Action Plans.

## RELIABILITY IMPACT STATEMENT- POTENTIAL AND ACTUAL

The violation posed a serious or substantial risk to the BPS. The failure to install facilities identified in the corrective action plan by the “need date” was a contributing cause of the high-voltage condition at the Sully Buttes Substation and the subsequent violations of TOP-002-2 R6 (MRO2016015733), TOP-004-2 R1 (MRO2016015734), TOP-008-1 R1 (MRO2016015738), TOP-008-1 R3 (MRO2016015739), and VAR-001-1 R8 (MRO2016015741). Further, the failure to develop an operating guide between the “need date” and the in-service date put the BPS at additional risk.

## DURATION DATE

The violation began on May 1, 2009, when WAPA failed to install reactors or have an operating guide by the need date in its Corrective Action Plan, and ended later on September 30, 2011, when reactors were installed at the Sully Buttes and Glenham Substations.



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## **VAR-001-1 R8 (MRO2016015741)**

### **PURPOSE OF THE RELIABILITY STANDARD AND TEXT OF RELIABILITY STANDARD AND REQUIREMENT(S)/SUB-REQUIREMENT(S)**

**The purpose statement of VAR-008-1 provides:** To ensure that voltage levels, reactive flows, and reactive resources are monitored, controlled, and maintained within limits in real time to protect equipment and the reliable operation of the Interconnection.

### **VAR-001-1 R8 provides:**

R8. Each Transmission Operator shall operate or direct the operation of capacitive and inductive reactive resources within its area – including reactive generation scheduling; transmission line and reactive resource switching; and, if necessary, load shedding – to maintain system and Interconnection voltages within established limits.

### **VIOLATION DESCRIPTION**

Following a CI conducted from September 8, 2009 through April 27, 2012, MRO determined that WAPA, as a Transmission Operator, violated VAR-001-1 R8. Specifically, WAPA did not operate or direct operations of capacitive and inductive reactive resources, including transmission line switching, to maintain system voltages within established limits at the Sully Buttes Substation.

The cause of this violation is inadequate situational awareness and a lack of training regarding the operating guide and procedures.

### **RELIABILITY IMPACT STATEMENT- POTENTIAL AND ACTUAL**

The violation posed a moderate risk to the BPS. The mitigation of the high voltage condition at the Sully Buttes Substation took over nine hours. Further, WAPA did not utilize the applicable procedure or operating guide to mitigate the SOL violation at the Sully Buttes Substation. Further, the risk of this violation was greater due to the compromised condition of the BPS, specifically, there was an additional SOL violation at a generation facility and the system was in the process of being restored from an islanded condition. However, the risk was not severe because the affected electric cooperative was aware of the possibility of a high voltage condition at the Sully Buttes Substation if there was an outage of the Sully Buttes-Oahe 230 kV line, and high voltage issues are less likely to be associated with cascading outages as compared to other SOL violations such as transient stability, low voltage, or thermal overload.



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DURATION DATE

The violation began on August 29, 2009, when the islanding condition caused the Sully Buttes Substation to exceed the time that it was allowed to violate its SOL, and ended later on August 29, 2009, when WAPA brought the Sully Buttes Substation back within its SOL.

IS THERE A SETTLEMENT AGREEMENT YES [ ] NO [x]

WITH RESPECT TO THE VIOLATION(S), REGISTERED ENTITY
NEITHER ADMITS NOR DENIES IT (SETTLEMENT ONLY) YES [ ]
ADMITS TO IT YES [ ]
DOES NOT CONTEST IT (INCLUDING WITHIN 30 DAYS) YES [x]

WITH RESPECT TO THE ASSESSED PENALTY OR SANCTION, REGISTERED ENTITY
ACCEPTS IT/ DOES NOT CONTEST IT YES [x]

III. DISCOVERY INFORMATION

METHOD OF DISCOVERY

- SELF-REPORT [ ]
SELF-CERTIFICATION [ ]
COMPLIANCE AUDIT [ ]
COMPLIANCE INVESTIGATION [x]
SPOT CHECK [ ]
COMPLAINT [ ]
PERIODIC DATA SUBMITTAL [ ]

IV. MITIGATION INFORMATION

PRC-001-1 R3 (MRO2016015732)

FOR FINAL ACCEPTED MITIGATION PLAN:

MITIGATION PLAN NO. MROMIT012231
DATE SUBMITTED TO REGIONAL ENTITY August 19, 2016
DATE ACCEPTED BY REGIONAL ENTITY September 9, 2016
DATE APPROVED BY NERC September 27, 2016
DATE PROVIDED TO FERC September 28, 2016



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IDENTIFY AND EXPLAIN ALL PRIOR VERSIONS THAT WERE ACCEPTED OR REJECTED, IF APPLICABLE

MITIGATION PLAN COMPLETED YES  NO

EXPECTED COMPLETION DATE **December 30, 2016**

EXTENSIONS GRANTED **N/A**

ACTUAL COMPLETION DATE **December 28, 2016**

DATE OF CERTIFICATION LETTER **April 12, 2017**

CERTIFIED COMPLETE BY REGISTERED ENTITY AS OF **March 29, 2017**

VERIFIED COMPLETE BY REGIONAL ENTITY ON **April 12, 2017**

VERIFIED COMPLETE BY REGIONAL ENTITY AS OF **December 28, 2016**

**ACTIONS TAKEN TO MITIGATE THE ISSUE AND PREVENT RECURRENCE**

1. train applicable personal on the requirements of PRC-001-1.1(ii) and the importance of coordinating protection system changes before they are put placed in service; and
2. develop a documented process for coordinating system protection changes with neighboring entities; distribute this documented process to applicable staff.

**LIST OF EVIDENCE REVIEWED BY REGIONAL ENTITY TO VERIFY COMPLETION OF THE MITIGATION PLAN**

1. WAPA-UGPR System Protection Coordination Process 12-28-16 email.msg
2. UGP System Protection Coordination 1.02.docx

**TOP-002-2 R6 (MRO2016015733)**

**FOR FINAL ACCEPTED MITIGATION PLAN:**

MITIGATION PLAN NO.	<b>MROMIT012232</b>
DATE SUBMITTED TO REGIONAL ENTITY	<b>August 19, 2016</b>
DATE ACCEPTED BY REGIONAL ENTITY	<b>September 9, 2016</b>
DATE APPROVED BY NERC	<b>September 27, 2016</b>
DATE PROVIDED TO FERC	<b>September 28, 2016</b>

IDENTIFY AND EXPLAIN ALL PRIOR VERSIONS THAT WERE ACCEPTED OR REJECTED, IF APPLICABLE





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MITIGATION PLAN COMPLETED YES  NO

EXPECTED COMPLETION DATE **April 1, 2017**

EXTENSIONS GRANTED **N/A**

ACTUAL COMPLETION DATE **March 23, 2017**

DATE OF CERTIFICATION LETTER **April 12, 2017**

CERTIFIED COMPLETE BY REGISTERED ENTITY AS OF **March 29, 2017**

VERIFIED COMPLETE BY REGIONAL ENTITY ON **April 12, 2017**

VERIFIED COMPLETE BY REGIONAL ENTITY AS OF **March 23, 2017**

**ACTIONS TAKEN TO MITIGATE THE ISSUE AND PREVENT RECURRENCE**

1. install a 20 MVAR reactor at the Sully Buttes Substation and two 20 MVAR reactors at the Glenham Substation;
2. perform seasonal, next-day, and current-day studies to determine SOLs; and
3. implement RTCA for its System Operators to ensure Real-time Assessments are performed at least once every 30 minutes and to mitigate SOL exceedances that are identified as part of WAPA’s Real-times Assessment or Real-time monitoring.

**LIST OF EVIDENCE REVIEWED BY REGIONAL ENTITY TO VERIFY COMPLETION OF THE MITIGATION PLAN**

1. WAPA Mitigation Plan Milestone Completion Summary.docx
2. Key Concepts for Using ODMS.pptx
3. ODMS Setup for System Operator.pptx
4. Using ODMS to Support RTA.pptx
5. ODMS Training Week 1.pdf
6. ODMS Training Week 2.pdf
7. ODMS Training Week 3.pdf
8. ODMS Screenshot 1.bmp
9. ODMS Screenshot 2 - Havre Single Line.bmp
10. ODMS Screenshot 3 - AVS Single Line.bmp
11. ODMS Screenshot 4 - Contingency Analysis.bmp
12. WAPA-UGPR State Estimation Tool.docx





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**TOP-002-2 R11 (MRO2016015734)**

**FOR FINAL ACCEPTED MITIGATION PLAN:**

MITIGATION PLAN NO.	<b>MROMIT012233</b>
DATE SUBMITTED TO REGIONAL ENTITY	<b>August 19, 2016</b>
DATE ACCEPTED BY REGIONAL ENTITY	<b>September 9, 2016</b>
DATE APPROVED BY NERC	<b>September 27, 2016</b>
DATE PROVIDED TO FERC	<b>September 28, 2016</b>

IDENTIFY AND EXPLAIN ALL PRIOR VERSIONS THAT WERE ACCEPTED OR REJECTED, IF APPLICABLE

MITIGATION PLAN COMPLETED YES  NO

EXPECTED COMPLETION DATE	<b>April 1, 2017</b>
EXTENSIONS GRANTED	<b>N/A</b>
ACTUAL COMPLETION DATE	<b>March 1, 2017</b>
DATE OF CERTIFICATION LETTER	<b>April 12, 2017</b>
CERTIFIED COMPLETE BY REGISTERED ENTITY AS OF	<b>March 29, 2017</b>
VERIFIED COMPLETE BY REGIONAL ENTITY ON	<b>April 12, 2017</b>
VERIFIED COMPLETE BY REGIONAL ENTITY AS OF	<b>March 1, 2017</b>

**ACTIONS TAKEN TO MITIGATE THE ISSUE AND PREVENT RECURRENCE**

1. perform seasonal, next-day, and current-day studies to determine SOLs; and
2. implement RTCA for its System Operators to ensure Real-time Assessments are performed at least once every 30 minutes and to mitigate SOL exceedances that are identified as part of WAPA’s Real-time Assessments or Real-time monitoring.

**LIST OF EVIDENCE REVIEWED BY REGIONAL ENTITY TO VERIFY COMPLETION OF THE MITIGATION PLAN**

1. WAPA Mitigation Plan Milestone Completion Summary.docx
2. ODMS Screenshot 1.bmp
3. ODMS Screenshot 2 - Havre Single Line.bmp
4. ODMS Screenshot 3 - AVS Single Line.bmp
5. ODMS Screenshot 4 - Contingency Analysis.bmp



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- 6. Key Concepts for Using ODMS.pptx
- 7. ODMS Setup for System Operator.pptx
- 8. Using ODMS to Support RTA.pptx
- 9. ODMS Training Week 1.pdf
- 10. ODMS Training Week 2.pdf
- 11. ODMS Training Week 3.pdf
- 12. WAPA-UGPR State Estimation Tool.docx

**TOP-004-2 R1 (MRO2016015736)**

FOR FINAL ACCEPTED MITIGATION PLAN:

MITIGATION PLAN NO.	<b>MROMIT012234</b>
DATE SUBMITTED TO REGIONAL ENTITY	<b>August 19, 2016</b>
DATE ACCEPTED BY REGIONAL ENTITY	<b>September 9, 2016</b>
DATE APPROVED BY NERC	<b>September 27, 2016</b>
DATE PROVIDED TO FERC	<b>September 28, 2016</b>

IDENTIFY AND EXPLAIN ALL PRIOR VERSIONS THAT WERE ACCEPTED OR REJECTED, IF APPLICABLE

MITIGATION PLAN COMPLETED YES  NO

EXPECTED COMPLETION DATE	<b>April 1, 2017</b>
EXTENSIONS GRANTED	<b>N/A</b>
ACTUAL COMPLETION DATE	<b>March 23, 2017</b>

DATE OF CERTIFICATION LETTER	<b>April 12, 2017</b>
CERTIFIED COMPLETE BY REGISTERED ENTITY AS OF	<b>March 29, 2017</b>

VERIFIED COMPLETE BY REGIONAL ENTITY ON	<b>April 12, 2017</b>
VERIFIED COMPLETE BY REGIONAL ENTITY AS OF	<b>March 23, 2017</b>

ACTIONS TAKEN TO MITIGATE THE ISSUE AND PREVENT RECURRENCE

- 1. install a 20 MVAR reactor at the Sully Buttes Substation and two 20 MVAR reactors at the Glenham Substation;
- 2. install extra analog and alarm points to monitor LRS generation limits per the operating guide;



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3. obtain additional telemetry from WAPA – Rocky Mountain Region to provide WAPA System Operators with increased visibility into Bulk Electric System facilities outside of its TOP footprint which could affect LRS Unit #1;
4. implement RTCA for its System Operators to ensure Real-time Assessments are performed at least once every 30 minutes and to mitigate SOL exceedances that are identified as part of WAPA’s Real-time Assessments or Real-time monitoring;
5. train its System Operators on the Requirements of the TOP-001-3 Reliability Standard, with emphasis on R7, R10, R13, R14, R15, and R18.

**LIST OF EVIDENCE REVIEWED BY REGIONAL ENTITY TO VERIFY COMPLETION OF THE MITIGATION PLAN**

1. WAPA Mitigation Plan Milestone Completion Summary.docx
2. Key Concepts for Using ODMS.pptx
3. ODMS Setup for System Operator.pptx
4. ODMS Training Week 1.pdf
5. ODMS Training Week 2.pdf
6. ODMS Training Week 3.pdf
7. Using ODMS to Support RTA.pptx
8. ODMS Screenshot 1.bmp
9. ODMS Screenshot 2 - Havre Single Line.bmp
10. ODMS Screenshot 3 - AVS Single Line.bmp
11. ODMS Screenshot 4 - Contingency Analysis.bmp
12. 2017 Spring Dispatcher Training.pptx
13. NERC Compliance Week 1.pdf
14. NERC Compliance Week 2.pdf
15. NERC Compliance Week 3.pdf
16. TOP VAR Training Record 3-23-17.pdf
17. TOP VAR Training 3-23-17.pptx
18. WAPA-UGPR State Estimation Tool.docx

**TOP-006-1 R5 (MRO2016015737)**

**FOR FINAL ACCEPTED MITIGATION PLAN:**

MITIGATION PLAN NO.  
DATE SUBMITTED TO REGIONAL ENTITY  
DATE ACCEPTED BY REGIONAL ENTITY  
DATE APPROVED BY NERC  
DATE PROVIDED TO FERC

**MROMIT012235**  
**August 19, 2016**  
**September 9, 2016**  
**September 27, 2016**  
**September 28, 2016**



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IDENTIFY AND EXPLAIN ALL PRIOR VERSIONS THAT WERE ACCEPTED OR REJECTED, IF APPLICABLE

MITIGATION PLAN COMPLETED YES [X] NO [ ]

EXPECTED COMPLETION DATE April 1, 2017

EXTENSIONS GRANTED N/A

ACTUAL COMPLETION DATE March 23, 2017

DATE OF CERTIFICATION LETTER April 12, 2017

CERTIFIED COMPLETE BY REGISTERED ENTITY AS OF March 29, 2017

VERIFIED COMPLETE BY REGIONAL ENTITY ON April 12, 2017

VERIFIED COMPLETE BY REGIONAL ENTITY AS OF March 23, 2017

ACTIONS TAKEN TO MITIGATE THE ISSUE AND PREVENT RECURRENCE

- 1. train its System Operators on the Requirements of the TOP-001-3 Reliability Standard, with emphasis on R7, R10, R13, R14, R15, and R18;
2. update the frequency source displays in the Control Room, which includes obtaining system frequency readings from 15 locations within its operating area that are designed to alert its System Operators of frequency deviations;
3. implement RTCA for its System Operators to ensure Real-time Assessments are performed at least once every 30 minutes and to mitigate SOL exceedances that are identified as part of WAPA's Real-time Assessments or Real-time monitoring.

LIST OF EVIDENCE REVIEWED BY REGIONAL ENTITY TO VERIFY COMPLETION OF THE MITIGATION PLAN

- 1. WAPA Mitigation Plan Milestone Completion Summary.docx
2. WAPA Mitigation Plan Milestone Completion Summary.docx
3. ODMS Screenshot 1.bmp
4. ODMS Screenshot 2 - Havre Single Line.bmp
5. ODMS Screenshot 3 - AVS Single Line.bmp
6. ODMS Screenshot 4 - Contingency Analysis.bmp
7. Key Concepts for Using ODMS.pptx
8. ODMS Setup for System Operator.pptx
9. ODMS Training Week 1.pdf
10. ODMS Training Week 2.pdf





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VERIFIED COMPLETE BY REGIONAL ENTITY ON  
VERIFIED COMPLETE BY REGIONAL ENTITY AS OF

**April 12, 2017**  
**March 23, 2017**

**ACTIONS TAKEN TO MITIGATE THE ISSUE AND PREVENT RECURRENCE**

1. install a 20 MVAR reactor at the Sully Buttes Substation and two 20 MVAR reactors at the Glenham Substation;
2. install extra analog and alarm points to monitor LRS generation limits per the operating guide;
3. obtain additional telemetry from WAPA-Rocky Mountain Region to provide WAPA System Operators with increased visibility into Bulk Electric System facilities outside of its TOP footprint which could affect LRS Unit #1;
4. train its System Operators on the Requirements of the TOP-001-3 Reliability Standard, with emphasis on R7, R10, R13, R14, R15, and R18;
5. implement RTCA for its System Operators to ensure Real-time Assessments are performed at least once every 30 minutes and to mitigate SOL exceedances that are identified as part of WAPA's Real-time Assessments or Real-time monitoring.

**LIST OF EVIDENCE REVIEWED BY REGIONAL ENTITY TO VERIFY COMPLETION OF THE MITIGATION PLAN**

1. WAPA Mitigation Plan Milestone Completion Summary.docx
2. 2017 Spring Dispatcher Training.pptx
3. NERC Compliance Week 1.pdf
4. NERC Compliance Week 2.pdf
5. NERC Compliance Week 3.pdf
6. TOP VAR Training 3-23-17.pptx
7. TOP VAR Training Record 3-23-17.pdf
8. Key Concepts for Using ODMS.pptx
9. ODMS Setup for System Operator.pptx
10. ODMS Training Week 1.pdf
11. ODMS Training Week 2.pdf
12. ODMS Training Week 3.pdf
13. Using ODMS to Support RTA.pptx
14. ODMS Screenshot 1.bmp
15. ODMS Screenshot 2 - Havre Single Line.bmp
16. ODMS Screenshot 3 - AVS Single Line.bmp
17. ODMS Screenshot 4 - Contingency Analysis.bmp
18. WAPA-UGPR State Estimation Tool.docx





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**TOP-008-1 R3 (MRO2016015739)**

FOR FINAL ACCEPTED MITIGATION PLAN:

MITIGATION PLAN NO.	<b>MROMIT012237</b>
DATE SUBMITTED TO REGIONAL ENTITY	<b>August 19, 2016</b>
DATE ACCEPTED BY REGIONAL ENTITY	<b>September 9, 2016</b>
DATE APPROVED BY NERC	<b>September 27, 2016</b>
DATE PROVIDED TO FERC	<b>September 28, 2016</b>

IDENTIFY AND EXPLAIN ALL PRIOR VERSIONS THAT WERE ACCEPTED OR REJECTED, IF APPLICABLE

MITIGATION PLAN COMPLETED YES  NO

EXPECTED COMPLETION DATE	<b>April 1, 2017</b>
EXTENSIONS GRANTED	<b>N/A</b>
ACTUAL COMPLETION DATE	<b>March 23, 2017</b>

DATE OF CERTIFICATION LETTER	<b>April 12, 2017</b>
CERTIFIED COMPLETE BY REGISTERED ENTITY AS OF	<b>March 29, 2017</b>

VERIFIED COMPLETE BY REGIONAL ENTITY ON	<b>April 12, 2017</b>
VERIFIED COMPLETE BY REGIONAL ENTITY AS OF	<b>March 23, 2017</b>

**ACTIONS TAKEN TO MITIGATE THE ISSUE AND PREVENT RECURRENCE**

1. install a 20 MVAR reactor at the Sully Buttes Substation and two 20 MVAR reactors at the Glenham Substation;
2. implement RTCA for its System Operators to ensure Real-time Assessments are performed at least once every 30 minutes and to mitigate SOL exceedances that are identified as part of WAPA’s Real-time Assessments or Real-time monitoring; and
3. train its System Operators on the Requirements of the TOP-001-3 Reliability Standard, with emphasis on R7, R10, R13, R14, R15, and R18.





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**LIST OF EVIDENCE REVIEWED BY REGIONAL ENTITY TO VERIFY  
COMPLETION OF THE MITIGATION PLAN**

1. WAPA Mitigation Plan Milestone Completion Summary.docx
2. 2017 Spring Dispatcher Training.pptx
3. NERC Compliance Week 1.pdf
4. NERC Compliance Week 2.pdf
5. NERC Compliance Week 3.pdf
6. TOP VAR Training 3-23-17.pptx
7. TOP VAR Training Record 3-23-17.pdf
8. Key Concepts for Using ODMS.pptx
9. ODMS Setup for System Operator.pptx
10. ODMS Training Week 1.pdf
11. ODMS Training Week 2.pdf
12. ODMS Training Week 3.pdf
13. Using ODMS to Support RTA.pptx
14. ODMS Screenshot 1.bmp
15. ODMS Screenshot 2 - Havre Single Line.bmp
16. ODMS Screenshot 3 - AVS Single Line.bmp
17. ODMS Screenshot 4 - Contingency Analysis.bmp
18. WAPA-UGPR State Estimation Tool.docx

**TPL-002-0 R2 (MRO2016015740)**

FOR FINAL ACCEPTED MITIGATION PLAN:

MITIGATION PLAN NO.	<b>MROMIT012238</b>
DATE SUBMITTED TO REGIONAL ENTITY	<b>August 19, 2016</b>
DATE ACCEPTED BY REGIONAL ENTITY	<b>September 9, 2016</b>
DATE APPROVED BY NERC	<b>September 27, 2016</b>
DATE PROVIDED TO FERC	<b>September 28, 2016</b>

IDENTIFY AND EXPLAIN ALL PRIOR VERSIONS THAT WERE ACCEPTED OR REJECTED, IF APPLICABLE

MITIGATION PLAN COMPLETED YES  NO

EXPECTED COMPLETION DATE	<b>October 31, 2016</b>
EXTENSIONS GRANTED	<b>N/A</b>
ACTUAL COMPLETION DATE	<b>December 31, 2014</b>



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DATE OF CERTIFICATION LETTER **November 30, 2016**  
CERTIFIED COMPLETE BY REGISTERED ENTITY AS OF **October 31, 2016**

VERIFIED COMPLETE BY REGIONAL ENTITY ON **April 12, 2017**  
VERIFIED COMPLETE BY REGIONAL ENTITY AS OF **December 31, 2014**

**ACTIONS TAKEN TO MITIGATE THE ISSUE AND PREVENT RECURRENCE**

1. install a 20 MVAR reactor at the Sully Buttes Substation and two 20 MVAR reactors at the Glenham Substation; and
2. modify its TPL Planning Assessment Process to address gaps between in-service dates and the need to develop an operating guide.

**LIST OF EVIDENCE REVIEWED BY REGIONAL ENTITY TO VERIFY COMPLETION OF THE MITIGATION PLAN**

1. RE Monitoring TPL Need By Dates.msg
2. 2014 WAUE TPL Assessment Report\_123014.pdf

**VAR-001-1 R8 (MRO2016015741)**

**FOR FINAL ACCEPTED MITIGATION PLAN:**

MITIGATION PLAN NO.	<b>MROMIT012239</b>
DATE SUBMITTED TO REGIONAL ENTITY	<b>August 19, 2016</b>
DATE ACCEPTED BY REGIONAL ENTITY	<b>September 9, 2016</b>
DATE APPROVED BY NERC	<b>September 27, 2016</b>
DATE PROVIDED TO FERC	<b>September 28, 2016</b>

**IDENTIFY AND EXPLAIN ALL PRIOR VERSIONS THAT WERE ACCEPTED OR REJECTED, IF APPLICABLE**

MITIGATION PLAN COMPLETED YES  NO

EXPECTED COMPLETION DATE	<b>April 1, 2017</b>
EXTENSIONS GRANTED	<b>N/A</b>
ACTUAL COMPLETION DATE	<b>March 23, 2017</b>

DATE OF CERTIFICATION LETTER **April 12, 2017**  
CERTIFIED COMPLETE BY REGISTERED ENTITY AS OF **March 29, 2017**



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VERIFIED COMPLETE BY REGIONAL ENTITY ON **April 12, 2017**  
VERIFIED COMPLETE BY REGIONAL ENTITY AS OF **March 23, 2017**

**ACTIONS TAKEN TO MITIGATE THE ISSUE AND PREVENT RECURRENCE**

1. install a 20 MVAR reactor at the Sully Buttes Substation and two 20 MVAR reactors at the Glenham Substation;
2. provide training to System Operators on VAR-001-4.1 with specific emphasis on Requirements R2 and R3; and
3. implement RTCA for its System Operators to ensure Real-time Assessments are performed at least once every 30 minutes and to the mitigate SOL exceedances that are identified as part of WAPA's Real-time Assessments or Real-time monitoring.

**LIST OF EVIDENCE REVIEWED BY REGIONAL ENTITY TO VERIFY COMPLETION OF THE MITIGATION PLAN**

1. Key Concepts for Using ODMS.pptx
2. ODMS Setup for System Operator.pptx
3. Using ODMS to Support RTA.pptx
4. ODMS Training Week 1.pdf
5. ODMS Training Week 2.pdf
6. ODMS Training Week 3.pdf
7. ODMS Screenshot 1.bmp
8. ODMS Screenshot 2 - Havre Single Line.bmp
9. ODMS Screenshot 3 - AVS Single Line.bmp
10. ODMS Screenshot 4 - Contingency Analysis.bmp
11. 2017 Spring Dispatcher Training.pptx
12. NERC Compliance Week 1.pdf
13. NERC Compliance Week 2.pdf
14. NERC Compliance Week 3.pdf
15. TOP VAR Training 3-23-17.pptx
16. TOP VAR Training Record 3-23-17.pdf
17. WAPA Mitigation Plan Milestone Completion Summary.docx
18. WAPA-UGPR State Estimation Tool.docx



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## V. PENALTY INFORMATION

### TOTAL ASSESSED PENALTY OR SANCTION OF NO PENALTY FOR NINE VIOLATIONS OF RELIABILITY STANDARDS.

On August 22, 2014, in *Southwestern Power Administration (SWPA) v. Federal Energy Regulatory Commission (FERC)*, Case No. 13-1033,<sup>10</sup> the United States Court of Appeals for the District of Columbia Circuit unanimously ruled that FERC, and by extension, NERC and the Regional Entities it oversees, such as MRO, could not impose monetary penalties against federal governmental entities such as SWPA. The Court vacated an Order issued by FERC that upheld the assessment of a monetary penalty against SWPA for Alleged Violations of Reliability Standards. The Court ruled that to authorize a monetary penalty against a federal governmental entity, the statute in question must unequivocally subject the government to monetary liability. The Court held that Section 215 of the Federal Power Act did not unequivocally waive the federal government's sovereign immunity from monetary penalties.

WAPA is a federal governmental entity and MRO is bound to follow *SWPA v. FERC* in the resolution of this matter. Therefore, MRO proposes no monetary penalty for the above-captioned Alleged Violations of the Reliability Standards.

If a financial penalty had been imposed, MRO would consider WAPA's decision to procure a commercial vendor provided State Estimation Tool prior to the requirement to submit formal mitigation plans as a mitigating factor in the penalty assessment. In 2012, WAPA purchased a State Estimation Tool and associated PSS/ODMS software from a commercial vendor. WAPA went through a comprehensive process to implement the tool to its production model, which was completed in January 2016. The tool allowed WAPA to transition from a conditioned off-line model to a conditioned state-estimated model, based upon real-time information, for the purpose of its next-day studies. This tool strengthened WAPA's compliance objectives for multiple TOP and TPL NERC Standards and Requirements. Additionally, the tool allowed WAPA to meet the Real-Time Assessments (RTA) requirements of TOP-001-3 R13 approximately six months prior to the enforceability of the Standard and Requirement (April 1, 2017). The tool allows WAPA to meet its RTA responsibilities without the assistance of a third party. Performing its own RTA through the use of this tool, as opposed to contracting RTA out to a third party, such as its Reliability Coordinator, enhances the reliability of the BPS through improved situational awareness. The procurement of this tool and associated software constituted a significant

<sup>10</sup> *Southwestern Power Administration, et al., v. FERC*, No.13-1033, slip op. (D.C. Cir. Aug. 22, 2014).



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expenditure in terms of dollars and internal human capital. While much of the investment was necessary to mitigate the Alleged Violations, MRO would have considered the extensive mitigation efforts and WAPA’s decision to procure the commercial tools and move forward with implementation prior to the formal Mitigation Plan process as a mitigating factor in the penalty assessment.

(1) REGISTERED ENTITY’S COMPLIANCE HISTORY

PREVIOUSLY FILED VIOLATIONS OF ANY OF THE INSTANT RELIABILITY STANDARD(S) OR REQUIREMENT(S) THEREUNDER

YES  NO

LIST VIOLATIONS AND STATUS

ADDITIONAL COMMENTS

PREVIOUSLY FILED VIOLATIONS OF OTHER RELIABILITY STANDARD(S) OR REQUIREMENTS THEREUNDER

YES  NO

LIST VIOLATIONS AND STATUS

A Notice of Penalty for violations of PRC-001-1 R2; PRC-005-1 R1; PRC-005-1 R2; PRC-008-0 R1; and PRC-017-0 R1; was filed with the Commission on December 19, 2013, in Docket No. NP14-33-000. The Commission issued an Order on March 28, 2014, that it would not further review the Notice of Penalty.



A Find Fix Track and Report (FFT) for violation of EOP-005-1 R4 was included in NERC’s filings with the Commission on February 27, 2014. The 60-day review period passed on April 27, 2014.

ADDITIONAL COMMENTS

MRO did not consider violations at other Western Area Power Administration Regional Offices because each Regional Office is separately operated under distinct Regional Office leadership and management practices.



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(2) THE DEGREE AND QUALITY OF COOPERATION BY THE REGISTERED ENTITY (IF THE RESPONSE TO FULL COOPERATION IS “NO,” THE ABBREVIATED NOP FORM MAY NOT BE USED.)

FULL COOPERATION IF NO, EXPLAIN YES [X] NO [ ]

MRO determined that WAPA’s cooperation with MRO was of a nature and quality that it expects from a registered entity undergoing a CI. MRO determined that WAPA’s cooperation aided in the CI, but did not rise to the level where WAPA went above and beyond behavior that is routinely displayed by other registered entities. MRO determined that WAPA’s cooperation would be a neutral factor in determining the penalty if a penalty would be applied.

(3) THE PRESENCE AND QUALITY OF THE REGISTERED ENTITY’S COMPLIANCE PROGRAM

IS THERE A DOCUMENTED COMPLIANCE PROGRAM YES [X] NO [ ] UNDETERMINED [ ] EXPLAIN

WAPA implemented a NERC Reliability Standards Compliance Program in June 2007. The program contained provisions for annual review, training, compliance monitoring (including internal and external assessment), a reporting mechanism, investigating reports of noncompliance, development of corrective action and mitigation plans, disciplinary actions, and program revisions. At the time of the event, WAPA had an individual dedicated to implementing its compliance program who had access to the Regional Manager (chief executive) and independence with respect from departments responsible for performance with the NERC Reliability Standards. MRO would have considered WAPA’s compliance program to be a neutral factor in the penalty determination if a penalty would be applied.

EXPLAIN SENIOR MANAGEMENT’S ROLE AND INVOLVEMENT WITH RESPECT TO THE REGISTERED ENTITY’S COMPLIANCE PROGRAM, INCLUDING WHETHER SENIOR MANAGEMENT TAKES ACTIONS THAT SUPPORT THE COMPLIANCE PROGRAM, SUCH AS TRAINING, COMPLIANCE AS A FACTOR IN EMPLOYEE EVALUATIONS, OR OTHERWISE.

WAPA through its Upper Great Plains’ senior management demonstrates a commitment to and support of NERC and MRO’s reliability and security work.





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(4) ANY ATTEMPT BY THE REGISTERED ENTITY TO CONCEAL THE VIOLATION(S) OR INFORMATION NEEDED TO REVIEW, EVALUATE OR INVESTIGATE THE VIOLATION.

YES  NO   
IF YES, EXPLAIN

(5) ANY EVIDENCE THE VIOLATION(S) WERE INTENTIONAL (IF THE RESPONSE IS “YES,” THE ABBREVIATED NOP FORM MAY NOT BE USED.)

YES  NO   
IF YES, EXPLAIN

(6) ANY OTHER MITIGATING FACTORS FOR CONSIDERATION

YES  NO   
IF YES, EXPLAIN

(7) ANY OTHER AGGRAVATING FACTORS FOR CONSIDERATION

YES  NO   
IF YES, EXPLAIN

(8) ANY OTHER EXTENUATING CIRCUMSTANCES

YES  NO   
IF YES, EXPLAIN





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**EXHIBITS:**

1. MROMIT012231 for MRO2016015732 (PRC-001-1 R3), submitted on August 19, 2016.
  - Certification of the Mitigation Plan Completion
2. MROMIT012232 for MRO2016015733 (TOP-002-2 R6), submitted on August 19, 2016
  - Certification of the Mitigation Plan Completion
3. MROMIT012233 for MRO2016015734 (TOP-002-2 R11), submitted on August 19, 2016
  - Certification of the Mitigation Plan Completion
4. MROMIT012234 for MRO2016015736 (TOP-004-2 R1), submitted on August 19, 2016
  - Certification of the Mitigation Plan Completion
5. MROMIT012235 for MRO2016015737 (TOP-006-1 R5), submitted on August 19, 2016
  - Certification of the Mitigation Plan Completion
6. MROMIT012236 for MRO2016015738 (TOP-008-1 R1), submitted on August 19, 2016
  - Certification of the Mitigation Plan Completion
7. MROMIT012237 for MRO2016015739 (TOP-008-1 R3), submitted on August 19, 2016
  - Certification of the Mitigation Plan Completion
8. MROMIT012238 for MRO2016015740 (TPL-002-0 R2), submitted on August 19, 2016
  - Certification of the Mitigation Plan Completion
9. MROMIT012239 for MRO2016015741 (VAR-001-1 R8), submitted on August 19, 2016
  - Certification of the Mitigation Plan Completion
10. WAPA Mitigation Plan Verifications Overview, dated April 20, 2017



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**OTHER RELEVANT INFORMATION:**

**NOTICE OF ALLEGED VIOLATION AND PROPOSED PENALTY OR SANCTION  
ISSUED**

**DATE: April 26, 2017 OR N/A**

**SETTLEMENT DISCUSSIONS COMMENCED**

**DATE:** OR N/A

**NOTICE OF CONFIRMED VIOLATION ISSUED**

**DATE: May 26, 2017 OR N/A**

**REGISTERED ENTITY RESPONSE CONTESTED**

**FINDINGS**  **PENALTY**  **BOTH**  **DID NOT CONTEST**

**HEARING REQUESTED**

**YES**  **NO**

**DATE**

**OUTCOME**

**APPEAL REQUESTED**



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**Mitigation Plan**

Mitigation Plan Summary

Registered Entity: Western Area Power Administration - Upper Great Plains East

Mitigation Plan Code: MROMIT012231  
Mitigation Plan Version: 1

NERC Violation ID	Requirement	Violation Validated On
MRO2016015732	PRC-001-1 R3.	05/26/2016

Mitigation Plan Submitted On: August 19, 2016  
Mitigation Plan Accepted On: September 09, 2016  
Mitigation Plan Proposed Completion Date: December 30, 2016  
Actual Completion Date of Mitigation Plan: December 28, 2016  
Mitigation Plan Certified Complete by WAPA On: April 12, 2017  
Mitigation Plan Completion Verified by MRO On: April 12, 2017  
Mitigation Plan Completed? (Yes/No): Yes

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### Compliance Notices

Section 6.2 of the NERC CMEP sets forth the information that must be included in a Mitigation Plan. The Mitigation Plan must include:

- (1) The Registered Entity's point of contact for the Mitigation Plan, who shall be a person (i) responsible for filing the Mitigation Plan, (ii) technically knowledgeable regarding the Mitigation Plan, and (iii) authorized and competent to respond to questions regarding the status of the Mitigation Plan. This person may be the Registered Entity's point of contact described in Section B.
  - (2) The Alleged or Confirmed Violation(s) of Reliability Standard(s) the Mitigation Plan will correct.
  - (3) The cause of the Alleged or Confirmed Violation(s).
  - (4) The Registered Entity's action plan to correct the Alleged or Confirmed Violation(s).
  - (5) The Registered Entity's action plan to prevent recurrence of the Alleged or Confirmed violation(s).
  - (6) The anticipated impact of the Mitigation Plan on the bulk power system reliability and an action plan to mitigate any increased risk to the reliability of the bulk power-system while the Mitigation Plan is being implemented.
  - (7) A timetable for completion of the Mitigation Plan including the completion date by which the Mitigation Plan will be fully implemented and the Alleged or Confirmed Violation(s) corrected.
  - (8) Implementation milestones no more than three (3) months apart for Mitigation Plans with expected completion dates more than three (3) months from the date of submission. Additional violations could be determined or recommended to the applicable governmental authorities for not completing work associated with accepted milestones.
  - (9) Any other information deemed necessary or appropriate.
  - (10) The Mitigation Plan shall be signed by an officer, employee, attorney or other authorized representative of the Registered Entity, which if applicable, shall be the person that signed the Self Certification or Self Reporting submittals.
  - (11) This submittal form may be used to provide a required Mitigation Plan for review and approval by regional entity(ies) and NERC.
- The Mitigation Plan shall be submitted to the regional entity(ies) and NERC as confidential information in accordance with Section 1500 of the NERC Rules of Procedure.
  - This Mitigation Plan form may be used to address one or more related alleged or confirmed violations of one Reliability Standard. A separate mitigation plan is required to address alleged or confirmed violations with respect to each additional Reliability Standard, as applicable.
  - If the Mitigation Plan is accepted by regional entity(ies) and approved by NERC, a copy of this Mitigation Plan will be provided to the Federal Energy Regulatory Commission or filed with the applicable governmental authorities for approval in Canada.
  - Regional Entity(ies) or NERC may reject Mitigation Plans that they determine to be incomplete or inadequate.
  - Remedial action directives also may be issued as necessary to ensure reliability of the bulk power system.
  - The user has read and accepts the conditions set forth in these Compliance Notices.



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**Entity Information**

Identify your organization:

Entity Name: Western Area Power Administration - Upper Great Plains East

NERC Compliance Registry ID: NCR01036

Address: 2900 Fourth Ave North  
Sixth Floor  
Billings MT 59101

Identify the individual in your organization who will serve as the Contact to the Regional Entity regarding this Mitigation Plan. This person shall be technically knowledgeable regarding this Mitigation Plan and authorized to respond to Regional Entity regarding this Mitigation Plan:

Name: Mark E. Buchholz  
Title: Compliance Manager  
Email: buchholz@wapa.gov  
Phone: 605-882-7550

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Violation(s)

This Mitigation Plan is associated with the following violation(s) of the reliability standard listed below:

Violation ID	Date of Violation	Requirement
Requirement Description		
MRO2016015732	09/10/2009	PRC-001-1 R3.

A Generator Operator or Transmission Operator shall coordinate new protective systems and changes as follows.

Brief summary including the cause of the violation(s) and mechanism in which it was identified:

Western Area Power Administration - Upper Great Plains East (WAUE) was found in potential noncompliance with PRC-001-1, R3, as stated in the June 11, 2012 Notice of Preliminary Findings and Analysis, Non-Public Compliance Investigation - NERC0012CI performed by the North American Electric Reliability Corporation (NERC) relating to the August 29, 2009 system disturbance (Event), in that "WAUE, as a Transmission Operator (TOP), did not coordinate a protective system change with a neighboring TOP. WAUE made a relay change on its end of a jointly operated transmission line but did not communicate the relay change for a period of three (3) weeks to the neighboring TOP at the opposite end of the transmission line.

Relevant information regarding the identification of the violation(s):

PRC-001-1 R3.2 requires the TOP to coordinate protection system changes with neighboring TOPs. On September 10, 2009 WAUE issued new load encroachment settings for device 21-6a at New Underwood Substation on the 230-kV line between WAUE's New Underwood substation and NPPD's Wayside substation. These new relay settings were implemented on October 28, 2009 but were not communicated to the neighboring TOP NPPD until November 16, 2009. The CI Team concluded that WAUE failed to communicate relay setting changes appropriately. Although there is no specific time period stated in the Requirement for coordinating protection system changes such as new settings, it is expected that new settings would be communicated to a neighboring TOP prior to a change taking place so protection systems can be coordinated. This reduces the likelihood of a relay mis-operation. If the new settings are not communicated in a timely manner to neighboring TOPs, there can be no effective coordination, as required under the standard.

WAUE was found in potential noncompliance with PRC-001-1, R3.2 because WAUE did not coordinate a protective system change with a neighboring TOP. WAPA-UGPE made a relay change on its end of a jointly operated transmission line but did not communicate the relay change for a period of three (3) weeks to the neighboring TOP at the opposite end of the transmission line.





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Plan Details

Identify and describe the action plan, including specific tasks and actions that your organization is proposing to undertake, or which it undertook if this Mitigation Plan has been completed, to correct the violation(s) identified above in Section C.1 of this form:

WAUE to reiterate to protection system staff the requirements of PRC-001-1.1 and the importance of coordinating protection system changes with neighboring entities before they are placed in service.

WAUE to develop a documented process for coordinating system protection changes with neighboring entities.

Provide the timetable for completion of the Mitigation Plan, including the completion date by which the Mitigation Plan will be fully implemented and the violations associated with this Mitigation Plan are corrected:

Proposed Completion date of Mitigation Plan: December 30, 2016

Milestone Activities, with completion dates, that your organization is proposing for this Mitigation Plan:

Table with 6 columns: Milestone Activity, Description, \*Proposed Completion Date, Actual Completion Date, Entity Comment on Milestone Completion, Extension Request Pending. It contains two rows of milestone activities.





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					April 12, 2017
Milestone Activity	Description	*Proposed Completion Date (Shall not be greater than 3 months apart)	Actual Completion Date	Entity Comment on Milestone Completion	Extension Request Pending
Personnel the Requirements of PRC-001-1(ii)	Personnel the Requirements of PRC-001-1.1(ii) and the importance of coordinating protection system changes before they are place in service.			attached to this mitigation plan.	
WAUE to develop a documented process for System Protection Coordination	WAUE to develop a documented process for coordinating system protection changes with neighboring entities. The documented process will be distributed to all WAUE protection system staff.	12/30/2016	12/21/2016	Completed. The documented process for WAPA-UGPR System Protection Coordination is attached as part of this mitigation plan.	No
Additional Relevant Information					



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Reliability Risk

Reliability Risk

While the Mitigation Plan is being implemented, the reliability of the bulk Power System may remain at higher Risk or be otherwise negatively impacted until the plan is successfully completed. To the extent they are known or anticipated : (i) Identify any such risks or impacts, and; (ii) discuss any actions planned or proposed to address these risks or impacts.

WAUE believes the potential violation posed a minimal risk and did not pose a serious or substantial risk to the BES. Although there is no specific time period stated in the Requirement for coordinating protection system changes such as new settings, it is expected that new settings would be communicated to a neighboring entity prior to a change taking place so protection systems can be coordinated. This reduces the likelihood of a relay mis-operation.

WAUE did communicate the change 3 weeks after the change was made the neighboring TOP (NPPD) at the opposite end of the transmission line.

Prevention

Describe how successful completion of this plan will prevent or minimize the probability further violations of the same or similar reliability standards requirements will occur

A documented process for protection system coordination and training of system protection personnel on the requirements of PRC-001-1.1 will provide increased awareness of the importance of protection system coordination and will enforce the expectation that relay setting changes will be coordinated before being placed in service.

Describe any action that may be taken or planned beyond that listed in the mitigation plan, to prevent or minimize the probability of incurring further violations of the same or similar standards requirements

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**Authorization**

An authorized individual must sign and date the signature page. By doing so, this individual, on behalf of your organization:

- \* Submits the Mitigation Plan, as presented, to the regional entity for acceptance and approval by NERC, and
- \* if applicable, certifies that the Mitigation Plan, as presented, was completed as specified.

Acknowledges:

1. I am qualified to sign this mitigation plan on behalf of my organization.
2. I have read and understand the obligations to comply with the mitigation plan requirements and ERO remedial action directives as well as ERO documents, including but not limited to, the NERC rules of procedure and the application NERC CMEP.
3. I have read and am familiar with the contents of the foregoing Mitigation Plan.

Western Area Power Administration - Upper Great Plains East Agrees to be bound by, and comply with, Plan, including the timetable completion date, as accepted by the Regional Entity, NERC, and if required, the applicable governmental authority.

Authorized Individual Signature: \_\_\_\_\_  
(Electronic signature was received by the Regional Office via CDMS. For Electronic Signature Policy see CMEP.)

**Authorized Individual**

Name: Mark E. Buchholz  
Title: Compliance Manager  
Authorized On: August 19, 2016

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Certification of Mitigation Plan Completion

Submittal of a Certification of Mitigation Plan Completion shall include data or information sufficient for the Regional Entity to verify completion of the Mitigation Plan. The Regional Entity may request additional data or information and conduct follow-up assessments, on-site or other Spot Checking, or Compliance Audits as it deems necessary to verify that all required actions in the Mitigation Plan have been completed and the Registered Entity is in compliance with the subject Reliability Standard. (CMEP Section 6.6)

Registered Entity Name: Western Area Power Administration - Upper Great Plains East

NERC Registry ID: NCR01036

NERC Violation ID(s): MRO2016015732

Mitigated Standard Requirement(s): PRC-001-1 R3.

Scheduled Completion as per Accepted Mitigation Plan: December 30, 2016

Date Mitigation Plan completed: March 29, 2017

MRO Notified of Completion on Date: April 12, 2017

Entity Comment:

**Additional Documents**

From	Document Name	Description	Size in Bytes
Entity	WAPA-UGPR System Protection Coordination Process 12-28-16 email.msg		736,256
Entity	UGP System Protection Coordination 1.02.docx		596,251

I certify that the Mitigation Plan for the above named violation(s) has been completed on the date shown above and that all submitted information is complete and correct to the best of my knowledge.

Name: Mark E. Buchholz  
Title: Compliance Manager  
Email: buchholz@wapa.gov  
Phone: 1 (605) 882-7550

Authorized Signature \_\_\_\_\_ Date \_\_\_\_\_

(Electronic signature was received by the Regional Office via CDMS. For Electronic Signature Policy see CMEP.)

[Redacted]



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### Mitigation Plan

Mitigation Plan Summary

Registered Entity: Western Area Power Administration - Upper Great Plains East

Mitigation Plan Code: MROMIT012232  
Mitigation Plan Version: 1

NERC Violation ID	Requirement	Violation Validated On
MRO2016015733	TOP-002-2 R6.	05/11/2016

Mitigation Plan Submitted On: August 19, 2016  
Mitigation Plan Accepted On: September 09, 2016  
Mitigation Plan Proposed Completion Date: April 01, 2017  
Actual Completion Date of Mitigation Plan: March 23, 2017  
Mitigation Plan Certified Complete by WAPA On: April 12, 2017  
Mitigation Plan Completion Verified by MRO On: April 12, 2017  
Mitigation Plan Completed? (Yes/No): Yes

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**Compliance Notices**

Section 6.2 of the NERC CMEP sets forth the information that must be included in a Mitigation Plan. The Mitigation Plan must include:

- (1) The Registered Entity's point of contact for the Mitigation Plan, who shall be a person (i) responsible for filing the Mitigation Plan, (ii) technically knowledgeable regarding the Mitigation Plan, and (iii) authorized and competent to respond to questions regarding the status of the Mitigation Plan. This person may be the Registered Entity's point of contact described in Section B.
  - (2) The Alleged or Confirmed Violation(s) of Reliability Standard(s) the Mitigation Plan will correct.
  - (3) The cause of the Alleged or Confirmed Violation(s).
  - (4) The Registered Entity's action plan to correct the Alleged or Confirmed Violation(s).
  - (5) The Registered Entity's action plan to prevent recurrence of the Alleged or Confirmed violation(s).
  - (6) The anticipated impact of the Mitigation Plan on the bulk power system reliability and an action plan to mitigate any increased risk to the reliability of the bulk power-system while the Mitigation Plan is being implemented.
  - (7) A timetable for completion of the Mitigation Plan including the completion date by which the Mitigation Plan will be fully implemented and the Alleged or Confirmed Violation(s) corrected.
  - (8) Implementation milestones no more than three (3) months apart for Mitigation Plans with expected completion dates more than three (3) months from the date of submission. Additional violations could be determined or recommended to the applicable governmental authorities for not completing work associated with accepted milestones.
  - (9) Any other information deemed necessary or appropriate.
  - (10) The Mitigation Plan shall be signed by an officer, employee, attorney or other authorized representative of the Registered Entity, which if applicable, shall be the person that signed the Self Certification or Self Reporting submittals.
  - (11) This submittal form may be used to provide a required Mitigation Plan for review and approval by regional entity(ies) and NERC.
- The Mitigation Plan shall be submitted to the regional entity(ies) and NERC as confidential information in accordance with Section 1500 of the NERC Rules of Procedure.
  - This Mitigation Plan form may be used to address one or more related alleged or confirmed violations of one Reliability Standard. A separate mitigation plan is required to address alleged or confirmed violations with respect to each additional Reliability Standard, as applicable.
  - If the Mitigation Plan is accepted by regional entity(ies) and approved by NERC, a copy of this Mitigation Plan will be provided to the Federal Energy Regulatory Commission or filed with the applicable governmental authorities for approval in Canada.
  - Regional Entity(ies) or NERC may reject Mitigation Plans that they determine to be incomplete or inadequate.
  - Remedial action directives also may be issued as necessary to ensure reliability of the bulk power system.
  - The user has read and accepts the conditions set forth in these Compliance Notices.





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**Entity Information**

Identify your organization:

Entity Name: Western Area Power Administration - Upper Great Plains East

NERC Compliance Registry ID: NCR01036

Address: 2900 Fourth Ave North  
Sixth Floor  
Billings MT 59101

Identify the individual in your organization who will serve as the Contact to the Regional Entity regarding this Mitigation Plan. This person shall be technically knowledgeable regarding this Mitigation Plan and authorized to respond to Regional Entity regarding this Mitigation Plan:

Name: Mark E. Buchholz  
Title: Compliance Manager  
Email: buchholz@wapa.gov  
Phone: 605-885-7550

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Violation(s)

This Mitigation Plan is associated with the following violation(s) of the reliability standard listed below:

Violation ID	Date of Violation	Requirement
Requirement Description		
MRO2016015733	06/18/2007	TOP-002-2 R6.

Each Balancing Authority and Transmission Operator shall plan to meet unscheduled changes in system configuration and generation dispatch (at a minimum N-1 Contingency planning) in accordance with NERC, Regional Reliability Organization, subregional, and local reliability requirements.

Brief summary including the cause of the violation(s) and mechanism in which it was identified:

Western Area Power Administration - Upper Great Plains East (WAUE) was found in potential noncompliance with TOP-002-2 R6, as stated in the June 11, 2012 Notice of Preliminary Findings and Analysis, Non-Public Compliance Investigation - NERC0012CI performed by the North American Electric Reliability Corporation (NERC) relating to the August 29, 2009 system disturbance (Event), and the June 6, 2016 MRO Notice of Possible Violation in that WAUE did not perform seasonal, next-day, and current-day BES studies to determine SOLs. WAUE did not perform required next-day or current-day BES studies for August 29, 2009.

Relevant information regarding the identification of the violation(s):

TOP-002-2 requires WAUE to develop plans to meet unscheduled changes in system configuration such as the sudden or unplanned removal of service of a generator or a transmission line due to a fault, failure or some other reason. At a minimum, the plan must address "N-1 Contingency planning" which generally means the plans must consider the sudden loss of a single element such as a generator or transmission line and ensure that those N-1 events do not result in a violation of reliability criteria such as local reliability requirements.

During the Event, the loss of the Oahe-Sully Buttes 230-kV line resulted in a severe and prolonged high voltage violation at the Sully Buttes Substation. Even though multiple additional facilities also experienced unplanned outages in the Oahe area, the system voltage at Sully Buttes was not affected by the loss of these additional facilities due to the system topology in the Sully Buttes area. In effect, the loss of the Oahe to Sully Buttes line represented an unscheduled change in system configuration and an N-1 contingency. This high voltage condition was familiar to WAUE as transmission studies had identified the problems as early as 2006 and described the issue as a "chronic high voltage problem".

After the loss of the Oahe to Sully Buttes line on August 29, 2009, the high voltage condition was approximately 113% at Sully Buttes for over nine (9) hours. The high voltage condition persisted for about six (6) six hours after the majority of the outaged facilities in the Oahe area had been restored. This high voltage condition was a violation of local reliability requirements for post-contingency conditions which only allow for voltages up to 110%.

The CI Team concluded that WAUE did not plan to meet unscheduled changes in system configuration (at a minimum N-1 contingency planning) in accordance with local reliability requirements during the Event because WAUE did not have an operating plan to address the high voltage condition at Sully Buttes for loss of Oahe-Sully Buttes 230-kV Line. WAUE should have planned for this contingency which had been recognized in prior WAPA-UGPE transmission studies. The fact that WAUE did not have a plan to address this contingency is further evidenced by the fact that the high voltage condition persisted for about 6 hours after the system in the Oahe area had been restored in violation of local voltage reliability requirements.



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Plan Details

Identify and describe the action plan, including specific tasks and actions that your organization is proposing to undertake, or which it undertook if this Mitigation Plan has been completed, to correct the violation(s) identified above in Section C.1 of this form:

WAUE to perform seasonal, next-day, and current-day BES studies to determine SOLs. WAUE has been performing its own seasonal assessments since March 2011. WAUE has been performing its own current and next day studies since March 2012.

Installation of 20 MVAR reactor at the Sully Buttes substation by East River Electric Power Cooperative. Completed in March 2011.

Installation of (2) 20 MVAR reactors at the Glenham substation by Montana Dakota Utilities (MDU). Completed in September 2011.

WAUE will implement a Real Time Contingency Analysis Tool (RTCA) for its System Operators to ensure that a Real-time Assessment is performed at least once every 30 minutes and to mitigate SOL exceedances identified as part of WAUE's real time monitoring or real time assessment. Implementation of a Real Time Contingency Analysis Tool will assist WAUE System Operators in identifying and mitigating SOL exceedances before they become a BES Reliability and NERC compliance issue.

Provide the timetable for completion of the Mitigation Plan, including the completion date by which the Mitigation Plan will be fully implemented and the violations associated with this Mitigation Plan are corrected:

Proposed Completion date of Mitigation Plan: April 01, 2017

Milestone Activities, with completion dates, that your organization is proposing for this Mitigation Plan:

Milestone Activity	Description	*Proposed Completion Date (Shall not be greater than 3 months apart)	Actual Completion Date	Entity Comment on Milestone Completion	Extension Request Pending
WAPA UGPR to update MRO RAM Team on Mitigation Plan Completion Status #1	WAPA UGPR to update MRO RAM Team on Mitigation Plan Completion Status for TOP-002-2 R6	11/11/2016	11/10/2016	Please refer to attached WAPA-UGPR State Estimation Tool document.	No
WAPA UGPR to update MRO RAM Team on Mitigation Plan Completion Status #2	WAPA UGPR to update MRO RAM Team on Mitigation Plan Completion Status for TOP-002-2 R6.	02/10/2017	02/09/2017	WAPA-UGP will be providing training on RTAs and utilization of its RTCA tool in March 2017 as part of the WAPA-UGP Spring Training for System Operators.	No
Reactor Installations, Performance of Studies to determine SOLs, and	Installation of 20 MVAR reactor at the Sully Buttes Substation by East	04/01/2017	03/29/2017	Attached evidence provided by WAPA demonstrates a State Estimation Tool has been implemented for Real	No



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					April 12, 2017
Milestone Activity	Description	*Proposed Completion Date (Shall not be greater than 3 months apart)	Actual Completion Date	Entity Comment on Milestone Completion	Extension Request Pending
Implementation of RTCA for WAPA UGPR System Operators	<p>River Electric Power Cooperative in March 2011 and (2) 20 MVAR Reactors at the Glenham Substation by Montana Dakota Utilities (MDU) in September 2011.</p> <p>WAUE to perform seasonal, next-day, and current-day BES studies to determine SOLs. WAUE has been performing its own seasonal assessments since March 2011. WAUE has been performing its own current and next day studies since March 2012.</p> <p>WAUE will implement a Real Time Contingency Analysis Tool (RTCA) for its System Operators to ensure that a Real-time Assessment is performed at least once every 30 minutes and to mitigate SOL exceedances identified as part of WAUE's real time monitoring or real time assessment.</p> <p>Implementation of a Real Time Contingency Analysis Tool will assist WAUE System Operators in</p>			Time Contingency Analysis.	



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Milestone Activity	Description	*Proposed Completion Date (Shall not be greater than 3 months apart)	Actual Completion Date	Entity Comment on Milestone Completion	Extension Request Pending
	identifying and mitigating SOL exceedances before they become a BES Reliability and NERC compliance issue.				

**Additional Relevant Information**

WAUE maintained that at the time of the August 29, 2009 event, next day and current day studies were performed by WAUE through coordination with the Midwest Independent System Operator (MISO).

The MISO RC, in collaboration with the Transmission Operators within its footprint, had developed a coordinated process for performing normal operations planning studies as required by NERC Reliability Standard TOP-002-2.

Through this process, the Transmission Operators updated their respective bulk electric system to reflect current system conditions by reporting to MISO any scheduled and forced outages using verbal and entries in the MISO Outage Scheduling System. These processes ensure that SOLs identified for common facilities, are utilized and monitored by both the MISO Reliability Coordinator and the Transmission Operators within the MISO footprint. The MISO Reliability Coordinator provided Transmission Operators reliability assessments through the performance of studies on behalf of the Transmission Operators within the MISO footprint.

Evidence was provided to the MRO Review Team documentation of the SOL for the high voltage conditions associated with the loss of the Oahe-Sully Buttes 230-kV Line.

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Reliability Risk

**Reliability Risk**

While the Mitigation Plan is being implemented, the reliability of the bulk Power System may remain at higher Risk or be otherwise negatively impacted until the plan is successfully completed. To the extent they are known or anticipated : (i) Identify any such risks or impacts, and; (ii) discuss any actions planned or proposed to address these risks or impacts.

As WAUE has performed seasonal studies since March 2011 and next-day and current-day BES studies since March 2012, reliability of the BES is not at an increased risk or otherwise negatively impacted with regard to this mitigation plan. With the installation of the additional reactive capability at Sully Buttes and Glenham, the chronic high voltage condition in the area has been mitigated.

**Prevention**

Describe how successful completion of this plan will prevent or minimize the probability further violations of the same or similar reliability standards requirements will occur

Performance of seasonal, next-day, and current-day BES studies by WAUE will eliminate the need to rely on a coordinated study process with the Reliability Coordinator and will allow WAUE to better respond to unscheduled changes in system configuration and ensure that N-1 events do not result in a violation of reliability criteria such as local reliability requirements.

Implementation of a Real Time Contingency Analysis Tool will assist WAUE System Operators in identifying and mitigating SOL exceedances before they become a BES Reliability and NERC compliance issue.

Describe any action that may be taken or planned beyond that listed in the mitigation plan, to prevent or minimize the probability of incurring further violations of the same or similar standards requirements

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Authorization

An authorized individual must sign and date the signature page. By doing so, this individual, on behalf of your organization:

- \* Submits the Mitigation Plan, as presented, to the regional entity for acceptance and approval by NERC, and
- \* if applicable, certifies that the Mitigation Plan, as presented, was completed as specified.

Acknowledges:

1. I am qualified to sign this mitigation plan on behalf of my organization.
2. I have read and understand the obligations to comply with the mitigation plan requirements and ERO remedial action directives as well as ERO documents, including but not limited to, the NERC rules of procedure and the application NERC CMEP.
3. I have read and am familiar with the contents of the foregoing Mitigation Plan.

Western Area Power Administration - Upper Great Plains East Agrees to be bound by, and comply with, Plan, including the timetable completion date, as accepted by the Regional Entity, NERC, and if required, the applicable governmental authority.

Authorized Individual Signature: \_\_\_\_\_  
(Electronic signature was received by the Regional Office via CDMS. For Electronic Signature Policy see CMEP.)

**Authorized Individual**

Name: Mark E. Buchholz  
Title: Compliance Manager  
Authorized On: August 19, 2016

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Certification of Mitigation Plan Completion

Submittal of a Certification of Mitigation Plan Completion shall include data or information sufficient for the Regional Entity to verify completion of the Mitigation Plan. The Regional Entity may request additional data or information and conduct follow-up assessments, on-site or other Spot Checking, or Compliance Audits as it deems necessary to verify that all required actions in the Mitigation Plan have been completed and the Registered Entity is in compliance with the subject Reliability Standard. (CMEP Section 6.6)

Registered Entity Name: Western Area Power Administration - Upper Great Plains East

NERC Registry ID: NCR01036

NERC Violation ID(s): MRO2016015733

Mitigated Standard Requirement(s): TOP-002-2 R6.

Scheduled Completion as per Accepted Mitigation Plan: April 01, 2017

Date Mitigation Plan completed: March 29, 2017

MRO Notified of Completion on Date: April 12, 2017

Entity Comment:

**Additional Documents**

From	Document Name	Description	Size in Bytes
Entity	WAPA-UGPR State Estimation Tool.docx		12,355
Entity	WAPA Mitigation Plan Milestone Completion Summary.docx		12,386
Entity	Key Concepts for Using ODMS.pptx		8,899,541
Entity	ODMS Setup for System Operator.pptx		5,767,757
Entity	Using ODMS to Support RTA.pptx		5,731,734
Entity	ODMS Training Week 1.pdf		119,934
Entity	ODMS Training Week 2.pdf		102,663
Entity	ODMS Training Week 3.pdf		119,800
Entity	ODMS Screenshot 1.bmp		4,608,618
Entity	ODMS Screenshot 2 - Havre Single Line.bmp		5,104,746
Entity	ODMS Screenshot 3 - AVS Single Line.bmp		5,104,746
Entity	ODMS Screenshot 4 - Contingency Analysis.bmp		5,104,746



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[Redacted]

April 12, 2017

I certify that the Mitigation Plan for the above named violation(s) has been completed on the date shown above and that all submitted information is complete and correct to the best of my knowledge.

Name: Mark E. Buchholz  
Title: Compliance Manager  
Email: buchholz@wapa.gov  
Phone: (605) 882-7550

Authorized Signature \_\_\_\_\_ Date \_\_\_\_\_  
(Electronic signature was received by the Regional Office via CDMS. For Electronic Signature Policy see CMEP.)

[Redacted]



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**Mitigation Plan**

Mitigation Plan Summary

Registered Entity: Western Area Power Administration - Upper Great Plains East

Mitigation Plan Code: MROMIT012233  
Mitigation Plan Version: 1

NERC Violation ID	Requirement	Violation Validated On
MRO2016015734	TOP-002-2 R11.	05/11/2016

Mitigation Plan Submitted On: August 19, 2016  
Mitigation Plan Accepted On: September 09, 2016  
Mitigation Plan Proposed Completion Date: April 01, 2017  
Actual Completion Date of Mitigation Plan: March 01, 2017  
Mitigation Plan Certified Complete by WAPA On: April 12, 2017  
Mitigation Plan Completion Verified by MRO On: April 12, 2017  
Mitigation Plan Completed? (Yes/No): Yes

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Compliance Notices

Section 6.2 of the NERC CMEP sets forth the information that must be included in a Mitigation Plan. The Mitigation Plan must include:

- (1) The Registered Entity's point of contact for the Mitigation Plan, who shall be a person (i) responsible for filing the Mitigation Plan, (ii) technically knowledgeable regarding the Mitigation Plan, and (iii) authorized and competent to respond to questions regarding the status of the Mitigation Plan. This person may be the Registered Entity's point of contact described in Section B.
  - (2) The Alleged or Confirmed Violation(s) of Reliability Standard(s) the Mitigation Plan will correct.
  - (3) The cause of the Alleged or Confirmed Violation(s).
  - (4) The Registered Entity's action plan to correct the Alleged or Confirmed Violation(s).
  - (5) The Registered Entity's action plan to prevent recurrence of the Alleged or Confirmed violation(s).
  - (6) The anticipated impact of the Mitigation Plan on the bulk power system reliability and an action plan to mitigate any increased risk to the reliability of the bulk power-system while the Mitigation Plan is being implemented.
  - (7) A timetable for completion of the Mitigation Plan including the completion date by which the Mitigation Plan will be fully implemented and the Alleged or Confirmed Violation(s) corrected.
  - (8) Implementation milestones no more than three (3) months apart for Mitigation Plans with expected completion dates more than three (3) months from the date of submission. Additional violations could be determined or recommended to the applicable governmental authorities for not completing work associated with accepted milestones.
  - (9) Any other information deemed necessary or appropriate.
  - (10) The Mitigation Plan shall be signed by an officer, employee, attorney or other authorized representative of the Registered Entity, which if applicable, shall be the person that signed the Self Certification or Self Reporting submittals.
  - (11) This submittal form may be used to provide a required Mitigation Plan for review and approval by regional entity(ies) and NERC.
- The Mitigation Plan shall be submitted to the regional entity(ies) and NERC as confidential information in accordance with Section 1500 of the NERC Rules of Procedure.
  - This Mitigation Plan form may be used to address one or more related alleged or confirmed violations of one Reliability Standard. A separate mitigation plan is required to address alleged or confirmed violations with respect to each additional Reliability Standard, as applicable.
  - If the Mitigation Plan is accepted by regional entity(ies) and approved by NERC, a copy of this Mitigation Plan will be provided to the Federal Energy Regulatory Commission or filed with the applicable governmental authorities for approval in Canada.
  - Regional Entity(ies) or NERC may reject Mitigation Plans that they determine to be incomplete or inadequate.
  - Remedial action directives also may be issued as necessary to ensure reliability of the bulk power system.
  - The user has read and accepts the conditions set forth in these Compliance Notices.



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**Entity Information**

Identify your organization:

Entity Name: Western Area Power Administration - Upper Great Plains East

NERC Compliance Registry ID: NCR01036

Address: 2900 Fourth Ave North  
Sixth Floor  
Billings MT 59101

Identify the individual in your organization who will serve as the Contact to the Regional Entity regarding this Mitigation Plan. This person shall be technically knowledgeable regarding this Mitigation Plan and authorized to respond to Regional Entity regarding this Mitigation Plan:

Name: Mark E. Buchholz  
Title: Compliance Manager  
Email: buchholz@wapa.gov  
Phone: 605-882-7550

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Violation(s)

This Mitigation Plan is associated with the following violation(s) of the reliability standard listed below:

Violation ID	Date of Violation	Requirement
Requirement Description		
MRO2016015734	06/18/2007	TOP-002-2 R11.
The Transmission Operator shall perform seasonal, next-day, and current-day Bulk Electric System studies to determine SOLs. Neighboring Transmission Operators shall utilize identical SOLs for common facilities. The Transmission Operator shall update these Bulk Electric System studies as necessary to reflect current system conditions; and shall make the results of Bulk Electric System studies available to the Transmission Operators, Balancing Authorities (subject to confidentiality requirements), and to its Reliability Coordinator.		

Brief summary including the cause of the violation(s) and mechanism in which it was identified:

Western Area Power Administration - Upper Great Plains East (WAUE) was found in potential noncompliance with TOP-002-2 R11, as stated in the June 11, 2012 Notice of Preliminary Findings and Analysis, Non-Public Compliance Investigation - NERC0012CI performed by the North American Electric Reliability Corporation (NERC) relating to the August 29, 2009 system disturbance (Event), and the June 6, 2016 MRO Notice of Possible Violation in that WAUE did not perform seasonal, next-day, and current-day BES studies to determine SOLs. WAUE did not perform required next-day or current-day BES studies for August 29, 2009.

Relevant information regarding the identification of the violation(s):

TOP-002-2 R11 requires WAUE, as the TOP, to perform next-day and current-day BES studies to determine SOLs. WAUE did not perform these studies for August 29, 2009 because WAUE believed it had a contract with the Midwest ISO to perform the studies. However, the contract WAUE has with Midwest ISO is for Reliability Coordinator (RC) services and it does not contain any provisions for registered TOP functions for WAUE, such as performing the studies required by TOP-002-2 R11.



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April 12, 2017

Plan Details

Identify and describe the action plan, including specific tasks and actions that your organization is proposing to undertake, or which it undertook if this Mitigation Plan has been completed, to correct the violation(s) identified above in Section C.1 of this form:

WAUE as a TOP, to perform seasonal, next-day, and current-day BES studies to determine SOLs. WAUE has been performing seasonal assessments since March 2011. WAUE has been performing current-day and next-day studies since March 2012.

WAUE will implement a Real Time Contingency Analysis Tool (RTCA) for its System Operators to ensure that a Real-time Assessment is performed at least once every 30 minutes and to mitigate SOL exceedances identified as part of WAUE's real time monitoring or real time assessment.

Provide the timetable for completion of the Mitigation Plan, including the completion date by which the Mitigation Plan will be fully implemented and the violations associated with this Mitigation Plan are corrected:

Proposed Completion date of Mitigation Plan: April 01, 2017

Milestone Activities, with completion dates, that your organization is proposing for this Mitigation Plan:

Milestone Activity	Description	*Proposed Completion Date (Shall not be greater than 3 months apart)	Actual Completion Date	Entity Comment on Milestone Completion	Extension Request Pending
WAPA UGPR to update MRO RAM Team on Mitigation Plan Completion Status #1	WAPA UGPR to update MRO RAM Team on Mitigation Plan Completion Status for TOP-002-2 R11.	11/11/2016	11/10/2016	Please refer to attached WAPA-UGPR State Estimation Tool document.	No
WAPA UGPR to update MRO RAM Team on Mitigation Plan Completion Status #2	WAPA UGPR to update MRO RAM Team on Mitigation Plan Completion Status for TOP-002-2 R11.	02/10/2017	02/09/2017	WAPA-UGP will be providing training on RTAs and utilization of its RTCA tool in March 2017 as part of the WAPA-UGP Spring Training for System Operators.	No
WAUE to perform seasonal, next-day, and current-day BES studies. WAUE will implement RTCA for its System Operators.	WAUE as a TOP, to perform seasonal, next-day, and current-day BES studies to determine SOLs. WAUE has been performing seasonal assessments since March 2011. WAUE has been performing current-day and next-day studies since	04/01/2017	03/29/2017	Attached evidence provided by WAPA demonstrates a State Estimation Tool has been implemented for Real Time Contingency Analysis.	No



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Midwest Reliability Organization					
					April 12, 2017
Milestone Activity	Description	*Proposed Completion Date (Shall not be greater than 3 months apart)	Actual Completion Date	Entity Comment on Milestone Completion	Extension Request Pending
	<p>March 2012.</p> <p>Additionally, WAUE will implement a Real Time Contingency Analysis Tool (RTCA) for its System Operators to ensure that a Real-time Assessment is performed at least once every 30 minutes and to mitigate SOL exceedances identified as part of WAUE's real time monitoring or real time assessment.</p>				
<p>Additional Relevant Information</p> <p>WAUE believed that at the time of the August 29, 2009 event, next day and current day studies were performed by WAUE through coordination with the Midwest Independent System Operator (MISO).</p> <p>The MISO RC, in collaboration with the Transmission Operators within its footprint, have developed a coordinated process for performing normal operations planning studies as required by NERC Reliability Standard TOP-002-2. Through this process, the Transmission Operators update their respective bulk electric system to reflect current system conditions by reporting to MISO any scheduled and forced outages using verbal and entries in the MISO Outage Scheduling System. These processes ensure that SOLs identified for common facilities, are utilized and monitored by both the MISO Reliability Coordinator and the Transmission Operators within the MISO footprint. The MISO Reliability Coordinator provides Transmission Operators reliability assessments through the performance of studies on behalf of the Transmission Operators within the MISO footprint.</p>					



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Reliability Risk

Reliability Risk

While the Mitigation Plan is being implemented, the reliability of the bulk Power System may remain at higher Risk or be otherwise negatively impacted until the plan is successfully completed. To the extent they are known or anticipated : (i) Identify any such risks or impacts, and; (ii) discuss any actions planned or proposed to address these risks or impacts.

As WAUE has performed seasonal studies since March 2011 and current-day and next-day studies since March 2012, the reliability of the BES is not currently at an increased risk or otherwise negatively impacted.

Prevention

Describe how successful completion of this plan will prevent or minimize the probability further violations of the same or similar reliability standards requirements will occur

Performance of seasonal, next-day, and current-day BES studies by WAUE will eliminate the need to rely on a coordinated study process with the Reliability Coordinator and will allow WAUE to better to determine and respond to SOLs.

Implementation of a Real Time Contingency Analysis Tool will assist WAUE System Operators in identifying and mitigating SOL exceedances before they become a BES Reliability and NERC compliance issue.

Describe any action that may be taken or planned beyond that listed in the mitigation plan, to prevent or minimize the probability of incurring further violations of the same or similar standards requirements

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Authorization

An authorized individual must sign and date the signature page. By doing so, this individual, on behalf of your organization:

- \* Submits the Mitigation Plan, as presented, to the regional entity for acceptance and approval by NERC, and
- \* if applicable, certifies that the Mitigation Plan, as presented, was completed as specified.

Acknowledges:

1. I am qualified to sign this mitigation plan on behalf of my organization.
2. I have read and understand the obligations to comply with the mitigation plan requirements and ERO remedial action directives as well as ERO documents, including but not limited to, the NERC rules of procedure and the application NERC CMEP.
3. I have read and am familiar with the contents of the foregoing Mitigation Plan.

Western Area Power Administration - Upper Great Plains East Agrees to be bound by, and comply with, Plan, including the timetable completion date, as accepted by the Regional Entity, NERC, and if required, the applicable governmental authority.

Authorized Individual Signature: \_\_\_\_\_  
(Electronic signature was received by the Regional Office via CDMS. For Electronic Signature Policy see CMEP.)

**Authorized Individual**

Name: Mark E. Buchholz  
Title: Compliance Manager  
Authorized On: August 19, 2016

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Certification of Mitigation Plan Completion

Submittal of a Certification of Mitigation Plan Completion shall include data or information sufficient for the Regional Entity to verify completion of the Mitigation Plan. The Regional Entity may request additional data or information and conduct follow-up assessments, on-site or other Spot Checking, or Compliance Audits as it deems necessary to verify that all required actions in the Mitigation Plan have been completed and the Registered Entity is in compliance with the subject Reliability Standard. (CMEP Section 6.6)

Registered Entity Name: Western Area Power Administration - Upper Great Plains East

NERC Registry ID: NCR01036

NERC Violation ID(s): MRO2016015734

Mitigated Standard Requirement(s): TOP-002-2 R11.

Scheduled Completion as per Accepted Mitigation Plan: April 01, 2017

Date Mitigation Plan completed: March 29, 2017

MRO Notified of Completion on Date: April 12, 2017

Entity Comment:

**Additional Documents**

From	Document Name	Description	Size in Bytes
Entity	WAPA-UGPR State Estimation Tool.docx		12,355
Entity	WAPA Mitigation Plan Milestone Completion Summary.docx		12,386
Entity	ODMS Screenshot 1.bmp		4,608,618
Entity	ODMS Screenshot 2 - Havre Single Line.bmp		5,104,746
Entity	ODMS Screenshot 3 - AVS Single Line.bmp		5,104,746
Entity	ODMS Screenshot 4 - Contingency Analysis.bmp		5,104,746
Entity	Key Concepts for Using ODMS.pptx		8,899,541
Entity	ODMS Setup for System Operator.pptx		5,767,757
Entity	Using ODMS to Support RTA.pptx		5,731,734
Entity	ODMS Training Week 1.pdf		119,934
Entity	ODMS Training Week 2.pdf		102,663
Entity	ODMS Training Week 3.pdf		119,800





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April 12, 2017

I certify that the Mitigation Plan for the above named violation(s) has been completed on the date shown above and that all submitted information is complete and correct to the best of my knowledge.

Name: Mak E. Buchholz  
Title: Compliance Manager  
Email: buchholz@wapa.gov  
Phone: (605) 882-7550

Authorized Signature \_\_\_\_\_ Date \_\_\_\_\_  
(Electronic signature was received by the Regional Office via CDMS. For Electronic Signature Policy see CMEP.)





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**Mitigation Plan**

Mitigation Plan Summary

Registered Entity: Western Area Power Administration - Upper Great Plains East

Mitigation Plan Code: MROMIT012234  
Mitigation Plan Version: 1

NERC Violation ID	Requirement	Violation Validated On
MRO2016015736	TOP-004-2 R1.	05/11/2016

Mitigation Plan Submitted On: August 19, 2016  
Mitigation Plan Accepted On: September 09, 2016  
Mitigation Plan Proposed Completion Date: April 01, 2017  
Actual Completion Date of Mitigation Plan: March 23, 2017  
Mitigation Plan Certified Complete by WAPA On: April 12, 2017  
Mitigation Plan Completion Verified by MRO On: April 12, 2017  
Mitigation Plan Completed? (Yes/No): Yes

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**Compliance Notices**

Section 6.2 of the NERC CMEP sets forth the information that must be included in a Mitigation Plan. The Mitigation Plan must include:

- (1) The Registered Entity's point of contact for the Mitigation Plan, who shall be a person (i) responsible for filing the Mitigation Plan, (ii) technically knowledgeable regarding the Mitigation Plan, and (iii) authorized and competent to respond to questions regarding the status of the Mitigation Plan. This person may be the Registered Entity's point of contact described in Section B.
  - (2) The Alleged or Confirmed Violation(s) of Reliability Standard(s) the Mitigation Plan will correct.
  - (3) The cause of the Alleged or Confirmed Violation(s).
  - (4) The Registered Entity's action plan to correct the Alleged or Confirmed Violation(s).
  - (5) The Registered Entity's action plan to prevent recurrence of the Alleged or Confirmed violation(s).
  - (6) The anticipated impact of the Mitigation Plan on the bulk power system reliability and an action plan to mitigate any increased risk to the reliability of the bulk power-system while the Mitigation Plan is being implemented.
  - (7) A timetable for completion of the Mitigation Plan including the completion date by which the Mitigation Plan will be fully implemented and the Alleged or Confirmed Violation(s) corrected.
  - (8) Implementation milestones no more than three (3) months apart for Mitigation Plans with expected completion dates more than three (3) months from the date of submission. Additional violations could be determined or recommended to the applicable governmental authorities for not completing work associated with accepted milestones.
  - (9) Any other information deemed necessary or appropriate.
  - (10) The Mitigation Plan shall be signed by an officer, employee, attorney or other authorized representative of the Registered Entity, which if applicable, shall be the person that signed the Self Certification or Self Reporting submittals.
  - (11) This submittal form may be used to provide a required Mitigation Plan for review and approval by regional entity(ies) and NERC.
- The Mitigation Plan shall be submitted to the regional entity(ies) and NERC as confidential information in accordance with Section 1500 of the NERC Rules of Procedure.
  - This Mitigation Plan form may be used to address one or more related alleged or confirmed violations of one Reliability Standard. A separate mitigation plan is required to address alleged or confirmed violations with respect to each additional Reliability Standard, as applicable.
  - If the Mitigation Plan is accepted by regional entity(ies) and approved by NERC, a copy of this Mitigation Plan will be provided to the Federal Energy Regulatory Commission or filed with the applicable governmental authorities for approval in Canada.
  - Regional Entity(ies) or NERC may reject Mitigation Plans that they determine to be incomplete or inadequate.
  - Remedial action directives also may be issued as necessary to ensure reliability of the bulk power system.
  - The user has read and accepts the conditions set forth in these Compliance Notices.



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[Redacted] April 12, 2017

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Entity Information

Identify your organization:

Entity Name: Western Area Power Administration - Upper Great Plains East

NERC Compliance Registry ID: NCR01036

Address: 2900 Fourth Ave North  
Sixth Floor  
Billings MT 59101

Identify the individual in your organization who will serve as the Contact to the Regional Entity regarding this Mitigation Plan. This person shall be technically knowledgeable regarding this Mitigation Plan and authorized to respond to Regional Entity regarding this Mitigation Plan:

Name: Mark E. Buchholz  
Title: Compliance Manager  
Email: buchholz@wapa.gov  
Phone: 605-882-7550

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Violation(s)

This Mitigation Plan is associated with the following violation(s) of the reliability standard listed below:

Table with 3 columns: Violation ID, Date of Violation, Requirement. Row 1: MRO2016015736, 08/29/2009, TOP-004-2 R1. Includes text: Each Transmission Operator shall operate within the Interconnection Reliability Operating Limits (IROLs) and System Operating Limits (SOLs).

Brief summary including the cause of the violation(s) and mechanism in which it was identified:

Western Area Power Administration - Upper Great Plains East (WAUE) was found in potential noncompliance with TOP-004-2 R1, as stated in the June 11, 2012 Notice of Preliminary Findings and Analysis, Non-Public Compliance Investigation - NERC0012CI performed by the North American Electric Reliability Corporation (NERC) relating to the August 29, 2009 system disturbance (Event), and the June 6, 2016 MRO Notice of Possible Violation in that WAUE did not take immediate steps to relieve a SOL violation at LRS. WAUE was experiencing a SOL exceedance at LRS during the Event but did not initiate steps to relieve the 390 MW SOL violation for 92 minutes. The SOL exceedance was not relieved for 180 minutes, which was 150 minutes greater than permitted.

WAUE was also found in potential noncompliance with TOP-004-2, R1 as stated in the preliminary findings, in that WAUE did not operate within SOLs at Sully Buttes Substation. A high voltage condition at Sully Buttes Substation persisted for approximately nine (9) hours. WAUE did not take any steps to relieve the SOL violation.

On September 25, 2015, WAUE self-reported a potential violation to TOP-004-2 R1 for failing to operate within System Operating Limits (SOL) as the Transmission Operator as required by the Laramie River Standing Operating Guide. The System Operating Limit (SOL) for Laramie River Unit #1 was exceeded by 15 MW on September 7, 2015 from 16:39 to 20:02 CST (3 hours, 23 minutes) and on September 8, 2015 from 11:18 to 16:55 CST (5 hours, 37 minutes).

Relevant information regarding the identification of the violation(s):

Laramie River Station (LRS) is a coal fired power plant located in the WAUE TOP area. The plant is operated under the guidance of the Laramie River Station Unit No. 1, Stegall DC Tie and Sidney DC Tie Operating Limit Guide. The LRS operating guide contains the SOLs for the safe operation of LRS under various pre-defined operating conditions. During the Event there was an outage to the Stegall 345/230 kV transformer and both AC-DC-AC ties at Stegall and Sidney. This condition is a pre-defined state in the LRS SOL guide which corresponds to an SOL of 390 MW.

WAUE did not reduce the output of LRS to the 390 MW SOL within 30 minutes as required in the operating guide. At 10:59 CDT when the Event occurred, LRS Unit #1 was operating at approximately 475 MW. WAUE did not take any action to reduce the LRS output until 12:31 CDT, 92 minutes later. The SOL was not mitigated until 88 minutes later at 13:59 CDT when the SOL was increased to 560 MW. The LRS output was never reduced to 390 MW during the Event. The SOL was only mitigated when the Stegall 345/230-kV transformer was returned to service which allowed for the "system intact" SOL of 560 MW to become effective.

During the same event, the loss of the Oahe-Sully Buttes 230-kV line resulted in a severe and prolonged high voltage violation at the Sully Buttes Substation. Evidence indicates that the overvoltage condition was approximately 113% and persisted at Sully Buttes for approximately nine (9) hours (11:00 to 20:00 CDT) on August 29, 2009. This high voltage condition was an SOL violation according to WAUE's voltage control procedure which only allows for high voltages up to 110% for post-contingency emergency conditions. WAUE's voltage control procedure indicates that action must be taken to correct an SOL violation due to deficient reactive resources, such as an overvoltage condition, "as soon as possible, but no longer than 30 minutes". WAUE did not take immediate steps to relieve the high voltage SOL violation at Sully Buttes Substation.





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On September 25, 2015, WAUE WAPA-UGP self-reported a potential violation to TOP-004-2 R1 for failing to operate within System Operating Limits (SOL) as the Transmission Operator as required by the Laramie River Standing Operating Guide. The System Operating Limit (SOL) for Laramie River Unit #1 was exceeded by 15 MW on September 7, 2015 from 16:39 to 20:02 CST (3 hours, 23 minutes) and on September 8, 2015 from 11:18 to 16:55 CST (5 hours, 37 minutes). The root cause of this SOL violation was the lack of notification provided to WAPA-UGP System Operators in regard to an event outside their TOP area which required generation to be reduced on Laramie River Unit #1 in accordance with the Laramie River Standing Operating Guide.

**Plan Details**

Identify and describe the action plan, including specific tasks and actions that your organization is proposing to undertake, or which it undertook if this Mitigation Plan has been completed, to correct the violation(s) identified above in Section C.1 of this form:

**Update Laramie River Operating Guide**

WAUE will communicate to entities identified in the Laramie River Station Unit #1 Operating Guide the importance of timely notification to WAUE in regard to system events outside their control area which could affect generation output of LRS Unit #1.

WAUE will obtain additional telemetry from WAPA-RMR to provide increased visibility to the WAUE System Operator for those BES facilities which could affect LRS Unit #1.

Installation of a 20 MVAR reactor at the Sully Buttes Substation - Completed March 2011.

Installation of (2) 20 MVR reactors at the Glenham Substation - Completed September 2011.

WAUE will train its System Operators in regard to the Requirements of the TOP-001-3 Reliability Standard with emphasis on those Requirements R7, R10, R13, R14, R15, and R18.

WAUE will implement a Real Time Contingency Analysis Tool (RTCA) for its System Operators to ensure that a Real-time Assessment is performed at least once every 30 minutes and to mitigate SOL exceedances identified as part of WAUE's real time monitoring or real time assessment.

Provide the timetable for completion of the Mitigation Plan, including the completion date by which the Mitigation Plan will be fully implemented and the violations associated with this Mitigation Plan are corrected:

Proposed Completion date of Mitigation Plan: April 01, 2017

Milestone Activities, with completion dates, that your organization is proposing for this Mitigation Plan:

Milestone Activity	Description	*Proposed Completion Date (Shall not be greater than 3 months apart)	Actual Completion Date	Entity Comment on Milestone Completion	Extension Request Pending
WAPA UGPR to update MRO RAM Team on Mitigation Plan Completion Status #1	WAPA UGPR to update MRO RAM Team on Mitigation Plan Completion Status for TOP-004-2 R1.	11/11/2016	11/10/2016	WAPA-UGPR Planning Staff continue to work on an update to the Laramie River Operating Guide. Anticipated completion date is January 2017.	No





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					April 12, 2017
Milestone Activity	Description	*Proposed Completion Date (Shall not be greater than 3 months apart)	Actual Completion Date	Entity Comment on Milestone Completion	Extension Request Pending
				Please refer to the attached document WAPA-UGPR State Estimation Tool in regard to status.	
WAPA UGPR to update MRO RAM Team on Mitigation Plan Completion Status #2	WAPA UGPR to update MRO RAM Team on Mitigation Plan Completion Status for TOP-004-2 R1.	02/10/2017	02/09/2017	WAPA-UGP is in the process of developing the training for the Requirements of TOP-001-3. We anticipate that this training will be completed by April 1, 2017  WAPA-UGP will be providing training on RTAs and utilization of its RTCA tool in March 2017 as part of the WAPA-UGP Spring Training for System Operators.	No
20 MVAR reactor installations at the Sully Buttes & Glenham Substations. Implementation of RTCA for WAPA UGPR System Operators	Installation of 20 MVAR reactor at the Sully Buttes Substation by East River Electric Power Cooperative in March 2011 and (2) 20 MVAR Reactors at the Glenham Substation by Montana Dakota Utilities (MDU) in September 2011.  WAUE will install extra analog and alarm points to monitor LRS generation limits per the Operating Guide. Completed June 2016.  WAUE will obtain additional telemetry	04/01/2017	03/29/2017	Attached evidence provided by WAPA demonstrates a State Estimation Tool has been implemented for Real Time Contingency Analysis.	No



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					April 12, 2017
Milestone Activity	Description	*Proposed Completion Date (Shall not be greater than 3 months apart)	Actual Completion Date	Entity Comment on Milestone Completion	Extension Request Pending
	<p>from WAPA-RMR to provide increased visibility to the WAUE System Operator for those BES facilities outside the WAUE TOP footprint which could affect LRS Unit #1. Completed July 2016.</p> <p>WAUE will implement a Real Time Contingency Analysis Tool (RTCA) for its System Operators to ensure that a Real-time Assessment is performed at least once every 30 minutes and to mitigate SOL exceedances identified as part of WAUE's real time monitoring or real time assessment.</p>				
WAUE will train its System Operators in regard to the Requirements of the TOP-001-3 Reliability Standard	WAUE will train its System Operators in regard to the Requirements of the TOP-001-3 Reliability Standard with emphasis on those Requirements R7, R10, R13, R14, R15, and R18.	04/01/2017	03/29/2017	Attached evidence provided by WAPA demonstrates training has been provided to System Operators in regard to TOP-001-3 and VAR-001-4. All training was completed by March 23, 2017.	No
Additional Relevant Information					



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Midwest Reliability Organization  
[Redacted] April 12, 2017

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Reliability Risk

Reliability Risk

While the Mitigation Plan is being implemented, the reliability of the bulk Power System may remain at higher Risk or be otherwise negatively impacted until the plan is successfully completed. To the extent they are known or anticipated : (i) Identify any such risks or impacts, and; (ii) discuss any actions planned or proposed to address these risks or impacts.

With the installation of the additional reactive capability at Sully Buttes and Glenham, the chronic high voltage condition in the area has been mitigated.

Prevention

Describe how successful completion of this plan will prevent or minimize the probability further violations of the same or similar reliability standards requirements will occur

Installation of additional reactive capability at Sully Buttes and Glenham has address the chronic high voltage condition in this area of the WAUE TOP footprint and has reduced the likelihood of future SOL exceedances.

Additional telemetry and alarm points will provide for increased visibility to the WAUE System Operator in regard to LRS will allow System Operators to address SOL exceedances before they become compliance issues.

Implementation of a Real Time Contingency Analysis Tool will assist WAUE System Operators in identifying and mitigating SOL exceedances before they become a BES Reliability and NERC compliance issue.

Describe any action that may be taken or planned beyond that listed in the mitigation plan, to prevent or minimize the probability of incurring further violations of the same or similar standards requirements

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Authorization

An authorized individual must sign and date the signature page. By doing so, this individual, on behalf of your organization:

- \* Submits the Mitigation Plan, as presented, to the regional entity for acceptance and approval by NERC, and
- \* if applicable, certifies that the Mitigation Plan, as presented, was completed as specified.

Acknowledges:

1. I am qualified to sign this mitigation plan on behalf of my organization.
2. I have read and understand the obligations to comply with the mitigation plan requirements and ERO remedial action directives as well as ERO documents, including but not limited to, the NERC rules of procedure and the application NERC CMEP.
3. I have read and am familiar with the contents of the foregoing Mitigation Plan.

Western Area Power Administration - Upper Great Plains East Agrees to be bound by, and comply with, Plan, including the timetable completion date, as accepted by the Regional Entity, NERC, and if required, the applicable governmental authority.

Authorized Individual Signature: \_\_\_\_\_  
(Electronic signature was received by the Regional Office via CDMS. For Electronic Signature Policy see CMEP.)

**Authorized Individual**

Name: Mark E. Buchholz  
Title: Compliance Manager  
Authorized On: August 19, 2016

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April 12, 2017

Certification of Mitigation Plan Completion

Submittal of a Certification of Mitigation Plan Completion shall include data or information sufficient for the Regional Entity to verify completion of the Mitigation Plan. The Regional Entity may request additional data or information and conduct follow-up assessments, on-site or other Spot Checking, or Compliance Audits as it deems necessary to verify that all required actions in the Mitigation Plan have been completed and the Registered Entity is in compliance with the subject Reliability Standard. (CMEP Section 6.6)

Registered Entity Name: Western Area Power Administration - Upper Great Plains East

NERC Registry ID: NCR01036

NERC Violation ID(s): MRO2016015736

Mitigated Standard Requirement(s): TOP-004-2 R1.

Scheduled Completion as per Accepted Mitigation Plan: April 01, 2017

Date Mitigation Plan completed: March 29, 2017

MRO Notified of Completion on Date: April 12, 2017

Entity Comment:

**Additional Documents**

From	Document Name	Description	Size in Bytes
Entity	WAPA-UGPR State Estimation Tool.docx		12,355
Entity	WAPA Mitigation Plan Milestone Completion Summary.docx		12,386
Entity	Key Concepts for Using ODMS.pptx		8,899,541
Entity	ODMS Setup for System Operator.pptx		5,767,757
Entity	ODMS Training Week 1.pdf		119,934
Entity	ODMS Training Week 2.pdf		102,663
Entity	ODMS Training Week 3.pdf		119,800
Entity	Using ODMS to Support RTA.pptx		5,731,734
Entity	ODMS Screenshot 1.bmp		4,608,618
Entity	ODMS Screenshot 2 - Havre Single Line.bmp		5,104,746
Entity	ODMS Screenshot 3 - AVS Single Line.bmp		5,104,746
Entity	ODMS Screenshot 4 - Contingency Analysis.bmp		5,104,746
Entity	2017 Spring Dispatcher Training.pptx		15,628,286



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Additional Documents			
From	Document Name	Description	Size in Bytes
Entity	NERC Compliance Week 1.pdf		119,753
Entity	NERC Compliance Week 2.pdf		119,889
Entity	NERC Compliance Week 3.pdf		120,350
Entity	TOP VAR Training Record 3-23-17.pdf		106,559
Entity	TOP VAR Training 3-23-17.pptx		359,903

I certify that the Mitigation Plan for the above named violation(s) has been completed on the date shown above and that all submitted information is complete and correct to the best of my knowledge.

Name: Mark E. Buchholz  
Title: Compliance Manager  
Email: buchholz@wapa.gov  
Phone: (605) 882-7550

Authorized Signature \_\_\_\_\_ Date \_\_\_\_\_  
(Electronic signature was received by the Regional Office via CDMS. For Electronic Signature Policy see CMEP.)







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**Mitigation Plan**

Mitigation Plan Summary

Registered Entity: Western Area Power Administration - Upper Great Plains East

Mitigation Plan Code: MROMIT012235  
Mitigation Plan Version: 1

NERC Violation ID	Requirement	Violation Validated On
MRO2016015737	TOP-006-1 R5.	05/11/2016

Mitigation Plan Submitted On: August 19, 2016  
Mitigation Plan Accepted On: September 09, 2016  
Mitigation Plan Proposed Completion Date: April 01, 2017  
Actual Completion Date of Mitigation Plan: March 23, 2017  
Mitigation Plan Certified Complete by WAPA On: April 12, 2017  
Mitigation Plan Completion Verified by MRO On: April 12, 2017  
Mitigation Plan Completed? (Yes/No): Yes

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Compliance Notices

Section 6.2 of the NERC CMEP sets forth the information that must be included in a Mitigation Plan. The Mitigation Plan must include:

- (1) The Registered Entity's point of contact for the Mitigation Plan, who shall be a person (i) responsible for filing the Mitigation Plan, (ii) technically knowledgeable regarding the Mitigation Plan, and (iii) authorized and competent to respond to questions regarding the status of the Mitigation Plan. This person may be the Registered Entity's point of contact described in Section B.
  - (2) The Alleged or Confirmed Violation(s) of Reliability Standard(s) the Mitigation Plan will correct.
  - (3) The cause of the Alleged or Confirmed Violation(s).
  - (4) The Registered Entity's action plan to correct the Alleged or Confirmed Violation(s).
  - (5) The Registered Entity's action plan to prevent recurrence of the Alleged or Confirmed violation(s).
  - (6) The anticipated impact of the Mitigation Plan on the bulk power system reliability and an action plan to mitigate any increased risk to the reliability of the bulk power-system while the Mitigation Plan is being implemented.
  - (7) A timetable for completion of the Mitigation Plan including the completion date by which the Mitigation Plan will be fully implemented and the Alleged or Confirmed Violation(s) corrected.
  - (8) Implementation milestones no more than three (3) months apart for Mitigation Plans with expected completion dates more than three (3) months from the date of submission. Additional violations could be determined or recommended to the applicable governmental authorities for not completing work associated with accepted milestones.
  - (9) Any other information deemed necessary or appropriate.
  - (10) The Mitigation Plan shall be signed by an officer, employee, attorney or other authorized representative of the Registered Entity, which if applicable, shall be the person that signed the Self Certification or Self Reporting submittals.
  - (11) This submittal form may be used to provide a required Mitigation Plan for review and approval by regional entity(ies) and NERC.
- The Mitigation Plan shall be submitted to the regional entity(ies) and NERC as confidential information in accordance with Section 1500 of the NERC Rules of Procedure.
  - This Mitigation Plan form may be used to address one or more related alleged or confirmed violations of one Reliability Standard. A separate mitigation plan is required to address alleged or confirmed violations with respect to each additional Reliability Standard, as applicable.
  - If the Mitigation Plan is accepted by regional entity(ies) and approved by NERC, a copy of this Mitigation Plan will be provided to the Federal Energy Regulatory Commission or filed with the applicable governmental authorities for approval in Canada.
  - Regional Entity(ies) or NERC may reject Mitigation Plans that they determine to be incomplete or inadequate.
  - Remedial action directives also may be issued as necessary to ensure reliability of the bulk power system.
  - The user has read and accepts the conditions set forth in these Compliance Notices.



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**Entity Information**

Identify your organization:

Entity Name: Western Area Power Administration - Upper Great Plains East

NERC Compliance Registry ID: NCR01036

Address: 2900 Fourth Ave North  
Sixth Floor  
Billings MT 59101

Identify the individual in your organization who will serve as the Contact to the Regional Entity regarding this Mitigation Plan. This person shall be technically knowledgeable regarding this Mitigation Plan and authorized to respond to Regional Entity regarding this Mitigation Plan:

Name: Mark E. Buchholz  
Title: Compliance Manager  
Email: buchholz@wapa.gov  
Phone: 605-882-7550

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Violation(s)

This Mitigation Plan is associated with the following violation(s) of the reliability standard listed below:

Violation ID	Date of Violation	Requirement
Requirement Description		
MRO2016015737	06/18/2007	TOP-006-1 R5.

Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall use monitoring equipment to bring to the attention of operating personnel important deviations in operating conditions and to indicate, if appropriate, the need for corrective action.

Brief summary including the cause of the violation(s) and mechanism in which it was identified:

Western Area Power Administration - Upper Great Plains East (WAUE) was found in potential noncompliance with TOP-006-1, R5 as stated in the June 11, 2012 Notice of Preliminary Findings and Analysis, Non-Public Compliance Investigation - NERC0012CI performed by the North American Electric Reliability Corporation (NERC) relating to the August 29, 2009 system disturbance (Event) and June 6, 2016 MRO Notice of Possible Violation, in that "the monitoring equipment used in the WAUE Control Center did not bring important deviations in operating conditions at the Oahe Power Plant to the attention of operating personnel. The WAUE control room map board did not adequately show the change in breaker status and frequency in the Oahe area during the Event which prevented the monitoring equipment from bringing to the attention of WAUE operators that an islanding condition had occurred at Oahe."

Relevant information regarding the identification of the violation(s):

During the Event, several 230-kV and 115- kV lines at Oahe Station open-ended at the remote terminals but stayed energized at the Oahe bus. A small island was formed with the Oahe generation and about 34 MW of load. Also, the system frequency in the Oahe island went very high. The WAUE System Operators did not recognize that the Oahe island had formed or that that Oahe island frequency had gone very high until the Oahe generator operator called the WAUE System Operators to inform them of the situation.



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Plan Details

Identify and describe the action plan, including specific tasks and actions that your organization is proposing to undertake, or which it undertook if this Mitigation Plan has been completed, to correct the violation(s) identified above in Section C.1 of this form:

WAUE has updated the frequency source displays with the WAUE Control Room. This update includes obtaining system frequency readings from 15 locations (sources) throughout the Upper Great Plains Region, including the Oahe Power Plant. These frequency sources have been designed to alert the WAUE System Operator via the Map Board of instances when frequencies deviations of plus or minus ½ Hertz occur. This enhancement to the frequency source display was completed in 2010.

WAUE will implement a Real Time Contingency Analysis Tool (RTCA) for its System Operators to ensure that a Real-time Assessment is performed at least once every 30 minutes and to mitigate SOL exceedances identified as part of WAUE's real time monitoring or real time assessment.

WAUE will train its System Operators in regard to the Requirements of the TOP-001-3 Reliability Standard with emphasis on those Requirements R7, R10, R13, R14, R15, and R18.

Provide the timetable for completion of the Mitigation Plan, including the completion date by which the Mitigation Plan will be fully implemented and the violations associated with this Mitigation Plan are corrected:

Proposed Completion date of Mitigation Plan: April 01, 2017

Milestone Activities, with completion dates, that your organization is proposing for this Mitigation Plan:

Milestone Activity	Description	*Proposed Completion Date (Shall not be greater than 3 months apart)	Actual Completion Date	Entity Comment on Milestone Completion	Extension Request Pending
WAPA UGPR to update MRO RAM Team on Mitigation Plan Completion Status #1	WAPA UGPR to update MRO RAM Team on Mitigation Plan Completion Status for TOP-006-1 R5.	11/11/2016	11/10/2016	Please refer to the attached WAPA-UGPR State Estimation Tool document.	No
WAPA UGPR to update MRO RAM Team on Mitigation Plan Completion Status #2	WAPA UGPR to update MRO RAM Team on Mitigation Plan Completion Status for TOP-006-1 R5	02/10/2017	02/09/2017	WAPA-UGP is in the process of developing the training for the Requirements of TOP-001-3. We anticipate that this training will be completed by April 1, 2017  WAPA-UGP will be providing training on RTAs and utilization of its RTCA tool in March 2017 as part of the WAPA-UGP Spring Training for System Operators.	No





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					April 12, 2017
Milestone Activity	Description	*Proposed Completion Date (Shall not be greater than 3 months apart)	Actual Completion Date	Entity Comment on Milestone Completion	Extension Request Pending
WAUE will train its System Operators in regard to the Requirements of the TOP-001-3 Reliability Standard.	WAUE will train its System Operators in regard to the Requirements of the TOP-001-3 Reliability Standard with emphasis on those Requirements R7, R10, R13, R14, R15, and R18.	04/01/2017	03/29/2017	Attached evidence provided by WAPA demonstrates training has been provided to System Operators in regard to TOP-001-3 and VAR-001-4. All training was completed by March 23, 2017.	No
WAUE will update Frequency Source Displays in their Control Centers. WAUE will implement a Real Time Contingency Analysis Tool.	WAUE will update the frequency source displays with the WAUE Control Room. This update includes obtaining system frequency readings from 15 locations (sources) throughout the Upper Great Plains Region, including the Oahe Power Plant. These frequency sources are designed to alert the WAUE System Operator via the Map Board of instances when frequencies deviations of plus or minus ½ Hertz occur. This enhancement to the frequency source display was completed in 2010.  Additionally, WAUE will implement a Real Time Contingency Analysis Tool (RTCA) for its System Operators to ensure that a Real-time Assessment is performed at least once every 30 minutes and to	04/01/2017	03/29/2017	Attached evidence provided by WAPA demonstrates a State Estimation Tool has been implemented for Real Time Contingency Analysis.	No





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Milestone Activity	Description	*Proposed Completion Date (Shall not be greater than 3 months apart)	Actual Completion Date	Entity Comment on Milestone Completion	Extension Request Pending
	mitigate SOL exceedances identified as part of WAUE's real time monitoring or real time assessment.				

**Additional Relevant Information**

In addition to the updated frequency source displays, screenshots and description of updates made to the WAUE System Operator tools since the event were provided to the MRO CVI validation team on August 19, 2015.

With the exception of the SCADA Overview with Enhanced Terminal Display which was completed in August 2015, all other SCADA enhancements documented below had been completed by August 2013.

WAUE cooperated fully in the NERC investigation and subsequent follow-up with the MRO.

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Reliability Risk

**Reliability Risk**

While the Mitigation Plan is being implemented, the reliability of the bulk Power System may remain at higher Risk or be otherwise negatively impacted until the plan is successfully completed. To the extent they are known or anticipated : (i) Identify any such risks or impacts, and; (ii) discuss any actions planned or proposed to address these risks or impacts.

WAUE believes the potential violation posed a moderate risk to the BES in that important deviations in operating conditions at the Oahe Power Plant were not brought to the attention of the System Operators by the monitoring equipment used in the WAUE Control Center .

**Prevention**

Describe how successful completion of this plan will prevent or minimize the probability further violations of the same or similar reliability standards requirements will occur

The WAUE updated frequency source displays, eDNA view capability, SCADA Enhanced Frequency Overview Displays, SCADA Voltage Overview Displays, Manual Load Shed Displays, SCADA Priority Alarms Displays, and System Protection Alarms made since the event has provided increased monitoring capability for the WAUE System Operators which will aid in bringing attention to important deviations in system operating conditions.

Implementation of a Real Time Contingency Analysis Tool will assist WAUE System Operators in identifying and mitigating BES Reliability Issues before they become a NERC compliance issue.

Describe any action that may be taken or planned beyond that listed in the mitigation plan, to prevent or minimize the probability of incurring further violations of the same or similar standards requirements

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Authorization

An authorized individual must sign and date the signature page. By doing so, this individual, on behalf of your organization:

- \* Submits the Mitigation Plan, as presented, to the regional entity for acceptance and approval by NERC, and
- \* if applicable, certifies that the Mitigation Plan, as presented, was completed as specified.

Acknowledges:

1. I am qualified to sign this mitigation plan on behalf of my organization.
2. I have read and understand the obligations to comply with the mitigation plan requirements and ERO remedial action directives as well as ERO documents, including but not limited to, the NERC rules of procedure and the application NERC CMEP.
3. I have read and am familiar with the contents of the foregoing Mitigation Plan.

Western Area Power Administration - Upper Great Plains East Agrees to be bound by, and comply with, Plan, including the timetable completion date, as accepted by the Regional Entity, NERC, and if required, the applicable governmental authority.

Authorized Individual Signature: \_\_\_\_\_  
 (Electronic signature was received by the Regional Office via CDMS. For Electronic Signature Policy see CMEP.)

**Authorized Individual**

Name: Mark E. Buchholz  
 Title: Compliance Manager  
 Authorized On: August 19, 2016

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Certification of Mitigation Plan Completion

Submittal of a Certification of Mitigation Plan Completion shall include data or information sufficient for the Regional Entity to verify completion of the Mitigation Plan. The Regional Entity may request additional data or information and conduct follow-up assessments, on-site or other Spot Checking, or Compliance Audits as it deems necessary to verify that all required actions in the Mitigation Plan have been completed and the Registered Entity is in compliance with the subject Reliability Standard. (CMEP Section 6.6)

Registered Entity Name: Western Area Power Administration - Upper Great Plains East

NERC Registry ID: NCR01036

NERC Violation ID(s): MRO2016015737

Mitigated Standard Requirement(s): TOP-006-1 R5.

Scheduled Completion as per Accepted Mitigation Plan: April 01, 2017

Date Mitigation Plan completed: March 29, 2017

MRO Notified of Completion on Date: April 12, 2017

Entity Comment:

**Additional Documents**

From	Document Name	Description	Size in Bytes
Entity	MRO RAM DR 001 ReadMeFirst.docx		23,664
Entity	AGC Frequency Sources.pdf		69,152
Entity	eDNA View Capability.pdf		99,181
Entity	Enhanced Frequency Display.pdf		138,749
Entity	Manual Load Shed Display.pdf		148,236
Entity	SCADA Frequency Overview.pdf		170,178
Entity	SCADA Overview with Enhanced Terminal Display.pdf		84,280
Entity	SCADA Priority Alarm Indicator Display.pdf		375,916
Entity	System Protection Failure Alarms.pdf		89,002
Entity	WAPA-UGPR State Estimation Tool.docx		12,355
Entity	WAPA Mitigation Plan Milestone Completion Summary.docx		12,386
Entity	WAPA Mitigation Plan Milestone Completion		12,386



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Additional Documents			
From	Document Name	Description	Size in Bytes
Entity	Summary.docx		12,386
Entity	ODMS Screenshot 1.bmp		4,608,618
Entity	ODMS Screenshot 2 - Havre Single Line.bmp		5,104,746
Entity	ODMS Screenshot 3 - AVS Single Line.bmp		5,104,746
Entity	ODMS Screenshot 4 - Contingency Analysis.bmp		5,104,746
Entity	Key Concepts for Using ODMS.pptx		8,899,541
Entity	ODMS Setup for System Operator.pptx		5,767,757
Entity	ODMS Training Week 1.pdf		119,934
Entity	ODMS Training Week 2.pdf		102,663
Entity	ODMS Training Week 3.pdf		119,800
Entity	Using ODMS to Support RTA.pptx		5,731,734
Entity	2017 Spring Dispatcher Training.pptx		15,628,286
Entity	NERC Compliance Week 1.pdf		119,753
Entity	NERC Compliance Week 2.pdf		119,889
Entity	NERC Compliance Week 3.pdf		120,350
Entity	TOP VAR Training 3-23-17.pptx		359,903
Entity	TOP VAR Training Record 3-23-17.pdf		106,559

I certify that the Mitigation Plan for the above named violation(s) has been completed on the date shown above and that all submitted information is complete and correct to the best of my knowledge.

Name: Mark E. Buchholz  
Title: Compliance Manager  
Email: buchholz@wapa.gov  
Phone: (605) 882-7550

Authorized Signature \_\_\_\_\_ Date \_\_\_\_\_  
(Electronic signature was received by the Regional Office via CDMS. For Electronic Signature Policy see CMEP.)

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**Mitigation Plan**

Mitigation Plan Summary

Registered Entity: Western Area Power Administration - Upper Great Plains East

Mitigation Plan Code: MROMIT012236  
Mitigation Plan Version: 1

NERC Violation ID	Requirement	Violation Validated On
MRO2016015738	TOP-008-1 R1.	05/11/2016

Mitigation Plan Submitted On: August 19, 2016  
Mitigation Plan Accepted On: September 09, 2016  
Mitigation Plan Proposed Completion Date: April 01, 2017  
Actual Completion Date of Mitigation Plan: March 23, 2017  
Mitigation Plan Certified Complete by WAPA On: April 12, 2017  
Mitigation Plan Completion Verified by MRO On: April 12, 2017  
Mitigation Plan Completed? (Yes/No): Yes

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### Compliance Notices

Section 6.2 of the NERC CMEP sets forth the information that must be included in a Mitigation Plan. The Mitigation Plan must include:

- (1) The Registered Entity's point of contact for the Mitigation Plan, who shall be a person (i) responsible for filing the Mitigation Plan, (ii) technically knowledgeable regarding the Mitigation Plan, and (iii) authorized and competent to respond to questions regarding the status of the Mitigation Plan. This person may be the Registered Entity's point of contact described in Section B.
  - (2) The Alleged or Confirmed Violation(s) of Reliability Standard(s) the Mitigation Plan will correct.
  - (3) The cause of the Alleged or Confirmed Violation(s).
  - (4) The Registered Entity's action plan to correct the Alleged or Confirmed Violation(s).
  - (5) The Registered Entity's action plan to prevent recurrence of the Alleged or Confirmed violation(s).
  - (6) The anticipated impact of the Mitigation Plan on the bulk power system reliability and an action plan to mitigate any increased risk to the reliability of the bulk power-system while the Mitigation Plan is being implemented.
  - (7) A timetable for completion of the Mitigation Plan including the completion date by which the Mitigation Plan will be fully implemented and the Alleged or Confirmed Violation(s) corrected.
  - (8) Implementation milestones no more than three (3) months apart for Mitigation Plans with expected completion dates more than three (3) months from the date of submission. Additional violations could be determined or recommended to the applicable governmental authorities for not completing work associated with accepted milestones.
  - (9) Any other information deemed necessary or appropriate.
  - (10) The Mitigation Plan shall be signed by an officer, employee, attorney or other authorized representative of the Registered Entity, which if applicable, shall be the person that signed the Self Certification or Self Reporting submittals.
  - (11) This submittal form may be used to provide a required Mitigation Plan for review and approval by regional entity(ies) and NERC.
- The Mitigation Plan shall be submitted to the regional entity(ies) and NERC as confidential information in accordance with Section 1500 of the NERC Rules of Procedure.
  - This Mitigation Plan form may be used to address one or more related alleged or confirmed violations of one Reliability Standard. A separate mitigation plan is required to address alleged or confirmed violations with respect to each additional Reliability Standard, as applicable.
  - If the Mitigation Plan is accepted by regional entity(ies) and approved by NERC, a copy of this Mitigation Plan will be provided to the Federal Energy Regulatory Commission or filed with the applicable governmental authorities for approval in Canada.
  - Regional Entity(ies) or NERC may reject Mitigation Plans that they determine to be incomplete or inadequate.
  - Remedial action directives also may be issued as necessary to ensure reliability of the bulk power system.
  - The user has read and accepts the conditions set forth in these Compliance Notices.



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**Entity Information**

Identify your organization:

Entity Name: Western Area Power Administration - Upper Great Plains East

NERC Compliance Registry ID: NCR01036

Address: 2900 Fourth Ave North  
Sixth Floor  
Billings MT 59101

Identify the individual in your organization who will serve as the Contact to the Regional Entity regarding this Mitigation Plan. This person shall be technically knowledgeable regarding this Mitigation Plan and authorized to respond to Regional Entity regarding this Mitigation Plan:

Name: Mark E. Buchholz  
Title: Compliance Manager  
Email: buchholz@wapa.gov  
Phone: 605-882-7550

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Violation(s)

This Mitigation Plan is associated with the following violation(s) of the reliability standard listed below:

Violation ID	Date of Violation	Requirement
Requirement Description		
MRO2016015738	08/29/2009	TOP-008-1 R1.
The Transmission Operator experiencing or contributing to an IROL or SOL violation shall take immediate steps to relieve the condition, which may include shedding firm load.		

Brief summary including the cause of the violation(s) and mechanism in which it was identified:

Western Area Power Administration - Upper Great Plains East (WAUE) was found in potential noncompliance with TOP-008-1 R1, as stated in the June 11, 2012 Notice of Preliminary Findings and Analysis, Non-Public Compliance Investigation - NERC0012CI performed by the North American Electric Reliability Corporation (NERC) relating to the August 29, 2009 system disturbance (Event), and the June 6, 2016 MRO Notice of Possible Violation in that WAUE did not take immediate steps to relieve a SOL violation at LRS. WAUE was experiencing a SOL exceedance at LRS during the Event but did not initiate steps to relieve the 390 MW SOL violation for 92 minutes. The SOL exceedance was not relieved for 180 minutes, which was 150 minutes greater than permitted.

WAUE did not take immediate steps to relieve a 230-kV high voltage SOL violation at Sully Buttes Substation due to loss of the Oahe to Sully Buttes 230-kV Line. WAUE did not take any steps to relieve the SOL violation.

Relevant information regarding the identification of the violation(s):

WAUE was found in potential noncompliance with TOP-008-1, R1 because it did not take immediate steps to relieve a SOL violation at LRS. WAUE was experiencing a SOL exceedance at LRS during the Event but did not initiate steps to relieve the 390 MW SOL violation for 92 minutes. The SOL exceedance was not relieved for 180 minutes, which was 150 minutes greater than permitted.

WAUE was found in potential noncompliance with TOP-008-1, R1 because it did not take immediate steps to relieve a 230 kV high voltage SOL violation at Sully Buttes Substation due to loss of the Oahe to Sully Buttes 230 kV Line. WAUE did not take any steps to relieve the SOL violation.



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Plan Details

Identify and describe the action plan, including specific tasks and actions that your organization is proposing to undertake, or which it undertook if this Mitigation Plan has been completed, to correct the violation(s) identified above in Section C.1 of this form:

Installation of a 20 MVAR reactor at the Sully Buttes Substation by East River Electric Power Cooperative which was completed in March 2011

Installation of (2) 20 MVAR reactors at the Glenham Substation by Montana Dakota Utilities which was completed in September 2011.

WAUE will train its System Operators in regard to the Requirements of the TOP-001-3 Reliability Standard with emphasis on those Requirements R7, R10, R13, R14, R15, and R18.

WAUE will implement a Real Time Contingency Analysis Tool (RTCA) for its System Operators to ensure that a Real-time Assessment is performed at least once every 30 minutes and to mitigate SOL exceedances identified as part of WAUE's real time monitoring or real time assessment.

Provide the timetable for completion of the Mitigation Plan, including the completion date by which the Mitigation Plan will be fully implemented and the violations associated with this Mitigation Plan are corrected:

Proposed Completion date of Mitigation Plan: April 01, 2017

Milestone Activities, with completion dates, that your organization is proposing for this Mitigation Plan:

Table with 6 columns: Milestone Activity, Description, \*Proposed Completion Date, Actual Completion Date, Entity Comment on Milestone Completion, Extension Request Pending. It lists activities like WAPA UGPR to update MRO RAM Team on Mitigation Plan Completion Status #1 and #2, and 20 MVAR reactor installation.



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Milestone Activity	Description	*Proposed Completion Date (Shall not be greater than 3 months apart)	Actual Completion Date	Entity Comment on Milestone Completion	Extension Request Pending
installations at the Sully Buttes & Glenham Substations. Implementation of RTCA for WAPA UGPR System Operators	<p>MVAR reactor at the Sully Buttes Substation by East River Electric Power Cooperative in March 2011 and (2) 20 MVAR Reactors at the Glenham Substation by Montana Dakota Utilities (MDU) in September 2011.</p> <p>WAUE will install extra analog and alarm points to monitor LRS generation limits per the Operating Guide. Completed June 2016.</p> <p>WAUE will obtain additional telemetry from WAPA-RMR to provide increased visibility to the WAUE System Operator for those BES facilities outside the WAUE TOP footprint which could affect LRS Unit #1. Completed July 2016.</p> <p>WAUE will implement a Real Time Contingency Analysis Tool (RTCA) for its System Operators to ensure that a Real-time Assessment is performed at least once every 30 minutes and to mitigate SOL</p>			WAPA demonstrates a State Estimation Tool has been implemented for Real Time Contingency Analysis.	





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Table with 6 columns: Milestone Activity, Description, \*Proposed Completion Date, Actual Completion Date, Entity Comment on Milestone Completion, Extension Request Pending. Row 1: WAUE will train its System Operators in regard to the Requirements of the TOP-001-3 Reliability Standard.

Additional Relevant Information

WAUE System Operators have the responsibility and authority to determine whether or not equipment should remain in service based upon their analysis of system conditions at any given time.

High voltage conditions in the Sully Buttes area had been a local concern. WAUE concurs that this condition was familiar to WAUE and neighboring Transmission Operators, Transmission Owners, and Distribution Providers.

WAUE would submit that the steps to address the high voltage condition was the coordinated process which was in place for scheduled outages on, or to address a loss of the Oahe-Sully Buttes 230-kV Line with the Reliability Coordinator, local Transmission Owner, and Distribution Providers until additional reactive capability could be placed in service.



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Reliability Risk

Reliability Risk

While the Mitigation Plan is being implemented, the reliability of the bulk Power System may remain at higher Risk or be otherwise negatively impacted until the plan is successfully completed. To the extent they are known or anticipated : (i) Identify any such risks or impacts, and; (ii) discuss any actions planned or proposed to address these risks or impacts.

With the installation of the additional reactive capability at the Sully Buttes and Glenham substations in 2011, the chronic high voltage condition in that area has been mitigated.

Prevention

Describe how successful completion of this plan will prevent or minimize the probability further violations of the same or similar reliability standards requirements will occur

Installation of additional reactive capability at Sully Buttes and Glenham has address the chronic high voltage condition in this area of the WAUE TOP footprint and has reduced the likelihood of future SOL exceedances.

Additional telemetry provided for increased visibility to the WAUE System Operator in regard to LRS will allow System Operators to address SOL exceedances before they become compliance issues.

Implementation of a Real Time Contingency Analysis Tool will assist WAUE System Operators in identifying and mitigating SOL exceedances before they become a BES Reliability and NERC compliance issue.

Describe any action that may be taken or planned beyond that listed in the mitigation plan, to prevent or minimize the probability of incurring further violations of the same or similar standards requirements

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Authorization

An authorized individual must sign and date the signature page. By doing so, this individual, on behalf of your organization:

- \* Submits the Mitigation Plan, as presented, to the regional entity for acceptance and approval by NERC, and
- \* if applicable, certifies that the Mitigation Plan, as presented, was completed as specified.

Acknowledges:

1. I am qualified to sign this mitigation plan on behalf of my organization.
2. I have read and understand the obligations to comply with the mitigation plan requirements and ERO remedial action directives as well as ERO documents, including but not limited to, the NERC rules of procedure and the application NERC CMEP.
3. I have read and am familiar with the contents of the foregoing Mitigation Plan.

Western Area Power Administration - Upper Great Plains East Agrees to be bound by, and comply with, Plan, including the timetable completion date, as accepted by the Regional Entity, NERC, and if required, the applicable governmental authority.

Authorized Individual Signature: \_\_\_\_\_  
(Electronic signature was received by the Regional Office via CDMS. For Electronic Signature Policy see CMEP.)

**Authorized Individual**

Name: Mark E. Buchholz  
Title: Compliance Manager  
Authorized On: August 19, 2016

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Certification of Mitigation Plan Completion

Submittal of a Certification of Mitigation Plan Completion shall include data or information sufficient for the Regional Entity to verify completion of the Mitigation Plan. The Regional Entity may request additional data or information and conduct follow-up assessments, on-site or other Spot Checking, or Compliance Audits as it deems necessary to verify that all required actions in the Mitigation Plan have been completed and the Registered Entity is in compliance with the subject Reliability Standard. (CMEP Section 6.6)

Registered Entity Name: Western Area Power Administration - Upper Great Plains East

NERC Registry ID: NCR01036

NERC Violation ID(s): MRO2016015738

Mitigated Standard Requirement(s): TOP-008-1 R1.

Scheduled Completion as per Accepted Mitigation Plan: April 01, 2017

Date Mitigation Plan completed: March 29, 2017

MRO Notified of Completion on Date: April 12, 2017

Entity Comment:

**Additional Documents**

From	Document Name	Description	Size in Bytes
Entity	WAPA-UGPR State Estimation Tool.docx		12,355
Entity	WAPA Mitigation Plan Milestone Completion Summary.docx		12,386
Entity	2017 Spring Dispatcher Training.pptx		15,628,286
Entity	NERC Compliance Week 1.pdf		119,753
Entity	NERC Compliance Week 2.pdf		119,889
Entity	NERC Compliance Week 3.pdf		120,350
Entity	TOP VAR Training 3-23-17.pptx		359,903
Entity	TOP VAR Training Record 3-23-17.pdf		106,559
Entity	Key Concepts for Using ODMS.pptx		8,899,541
Entity	ODMS Setup for System Operator.pptx		5,767,757
Entity	ODMS Training Week 1.pdf		119,934
Entity	ODMS Training Week 2.pdf		102,663



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Additional Documents			
From	Document Name	Description	Size in Bytes
Entity	ODMS Training Week 3.pdf		119,800
Entity	Using ODMS to Support RTA.pptx		5,731,734
Entity	ODMS Screenshot 1.bmp		4,608,618
Entity	ODMS Screenshot 2 - Havre Single Line.bmp		5,104,746
Entity	ODMS Screenshot 3 - AVS Single Line.bmp		5,104,746
Entity	ODMS Screenshot 4 - Contingency Analysis.bmp		5,104,746

I certify that the Mitigation Plan for the above named violation(s) has been completed on the date shown above and that all submitted information is complete and correct to the best of my knowledge.

Name: Mark E. Buchholz  
Title: Compliance Manager  
Email: buchholz@wapa.gov  
Phone: (605) 882-7550

Authorized Signature \_\_\_\_\_ Date \_\_\_\_\_  
(Electronic signature was received by the Regional Office via CDMS. For Electronic Signature Policy see CMEP.)



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### Mitigation Plan

Mitigation Plan Summary

Registered Entity: Western Area Power Administration - Upper Great Plains East

Mitigation Plan Code: MROMIT012237  
Mitigation Plan Version: 1

NERC Violation ID	Requirement	Violation Validated On
MRO2016015739	TOP-008-1 R3.	05/11/2016

Mitigation Plan Submitted On: August 19, 2016  
Mitigation Plan Accepted On: September 09, 2016  
Mitigation Plan Proposed Completion Date: April 01, 2017  
Actual Completion Date of Mitigation Plan: March 23, 2017  
Mitigation Plan Certified Complete by WAPA On: April 12, 2017  
Mitigation Plan Completion Verified by MRO On: April 12, 2017  
Mitigation Plan Completed? (Yes/No): Yes

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### Compliance Notices

Section 6.2 of the NERC CMEP sets forth the information that must be included in a Mitigation Plan. The Mitigation Plan must include:

- (1) The Registered Entity's point of contact for the Mitigation Plan, who shall be a person (i) responsible for filing the Mitigation Plan, (ii) technically knowledgeable regarding the Mitigation Plan, and (iii) authorized and competent to respond to questions regarding the status of the Mitigation Plan. This person may be the Registered Entity's point of contact described in Section B.
  - (2) The Alleged or Confirmed Violation(s) of Reliability Standard(s) the Mitigation Plan will correct.
  - (3) The cause of the Alleged or Confirmed Violation(s).
  - (4) The Registered Entity's action plan to correct the Alleged or Confirmed Violation(s).
  - (5) The Registered Entity's action plan to prevent recurrence of the Alleged or Confirmed violation(s).
  - (6) The anticipated impact of the Mitigation Plan on the bulk power system reliability and an action plan to mitigate any increased risk to the reliability of the bulk power-system while the Mitigation Plan is being implemented.
  - (7) A timetable for completion of the Mitigation Plan including the completion date by which the Mitigation Plan will be fully implemented and the Alleged or Confirmed Violation(s) corrected.
  - (8) Implementation milestones no more than three (3) months apart for Mitigation Plans with expected completion dates more than three (3) months from the date of submission. Additional violations could be determined or recommended to the applicable governmental authorities for not completing work associated with accepted milestones.
  - (9) Any other information deemed necessary or appropriate.
  - (10) The Mitigation Plan shall be signed by an officer, employee, attorney or other authorized representative of the Registered Entity, which if applicable, shall be the person that signed the Self Certification or Self Reporting submittals.
  - (11) This submittal form may be used to provide a required Mitigation Plan for review and approval by regional entity(ies) and NERC.
- The Mitigation Plan shall be submitted to the regional entity(ies) and NERC as confidential information in accordance with Section 1500 of the NERC Rules of Procedure.
  - This Mitigation Plan form may be used to address one or more related alleged or confirmed violations of one Reliability Standard. A separate mitigation plan is required to address alleged or confirmed violations with respect to each additional Reliability Standard, as applicable.
  - If the Mitigation Plan is accepted by regional entity(ies) and approved by NERC, a copy of this Mitigation Plan will be provided to the Federal Energy Regulatory Commission or filed with the applicable governmental authorities for approval in Canada.
  - Regional Entity(ies) or NERC may reject Mitigation Plans that they determine to be incomplete or inadequate.
  - Remedial action directives also may be issued as necessary to ensure reliability of the bulk power system.
  - The user has read and accepts the conditions set forth in these Compliance Notices.



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**Entity Information**

Identify your organization:

Entity Name: Western Area Power Administration - Upper Great Plains East

NERC Compliance Registry ID: NCR01036

Address: 2900 Fourth Ave North  
Sixth Floor  
Billings MT 59101

Identify the individual in your organization who will serve as the Contact to the Regional Entity regarding this Mitigation Plan. This person shall be technically knowledgeable regarding this Mitigation Plan and authorized to respond to Regional Entity regarding this Mitigation Plan:

Name: Mark E. Buchholz  
Title: Compliance Manager  
Email: buchholz@wapa.gov  
Phone: 605-882-7550

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Violation(s)

This Mitigation Plan is associated with the following violation(s) of the reliability standard listed below:

Violation ID	Date of Violation	Requirement
Requirement Description		
MRO2016015739	08/29/2009	TOP-008-1 R3.

The Transmission Operator shall disconnect the affected facility if the overload on a transmission facility or abnormal voltage or reactive condition persists and equipment is endangered. In doing so, the Transmission Operator shall notify its Reliability Coordinator and all neighboring Transmission Operators impacted by the disconnection prior to switching, if time permits, otherwise, immediately thereafter.

Brief summary including the cause of the violation(s) and mechanism in which it was identified:

Western Area Power Administration - Upper Great Plains East (WAUE) was found in potential noncompliance with TOP-008-1 R3, as stated in the June 11, 2012 Notice of Preliminary Findings and Analysis, Non-Public Compliance Investigation - NERC0012CI performed by the North American Electric Reliability Corporation (NERC) relating to the August 29, 2009 system disturbance (Event), and the June 6, 2016 MRO Notice of Possible Violation in that WAUE did not disconnect the affected transmission facilities when an abnormal voltage condition persisted and equipment was endangered at Sully Buttes Substation. WAUE did not disconnect the affected facilities at Sully Buttes.

Relevant information regarding the identification of the violation(s):

TOP-008-1 R3 requires the TOP to disconnect the affected facility when an abnormal voltage condition persists and equipment is endangered. During the Event, an abnormally high 230-kV voltage condition of 113% persisted at Sully Buttes for approximately nine (9) hours after loss of the Oahe-Sully Buttes 230-kV Line. WAUE was required to disconnect the affected facilities at Sully Buttes which could have been accomplished by removing the remaining transmission source at Sully Buttes from service, which was the 230-kV line between Sully Buttes and Bismarck, North Dakota. WAUE did not remove this remaining 230 kV transmission source from service and therefore did not disconnect the effected facilities at Sully Buttes. An acceptable deviation from the nominal voltage level is +/- 10% during emergency conditions.



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**Plan Details**

Identify and describe the action plan, including specific tasks and actions that your organization is proposing to undertake, or which it undertook if this Mitigation Plan has been completed, to correct the violation(s) identified above in Section C.1 of this form:

Installation of a 20 MVAR reactor at the Sully Buttes Substation by East River Electric Power Cooperative which was completed in March 2011

Installation of (2) 20 MVAR reactors at the Glenham Substation by Montana Dakota Utilities which was completed in September 2011.

WAUE will train its System Operators in regard to the Requirements of the TOP-001-3 Reliability Standard with emphasis on those Requirements R7, R10, R13, R14, R15, and R18 on, or before April 1, 2017.

WAUE will implement a Real Time Contingency Analysis Tool (RTCA) for its Transmission System Operators on, or before April 1, 2017.

Provide the timetable for completion of the Mitigation Plan, including the completion date by which the Mitigation Plan will be fully implemented and the violations associated with this Mitigation Plan are corrected:

Proposed Completion date of Mitigation Plan: April 01, 2017

Milestone Activities, with completion dates, that your organization is proposing for this Mitigation Plan:

Milestone Activity	Description	*Proposed Completion Date (Shall not be greater than 3 months apart)	Actual Completion Date	Entity Comment on Milestone Completion	Extension Request Pending
WAPA UGPR to update MRO RAM Team on Mitigation Plan Completion Status #1	WAPA UGPR to update MRO RAM Team on Mitigation Plan Completion Status for TOP-008-1 R3	11/11/2016	11/10/2016	Please refer to the attached WAPA-UGPR State Estimation Tool document.	No
WAPA UGPR to update MRO RAM Team on Mitigation Plan Completion Status #2	WAPA UGPR to update MRO RAM Team on Mitigation Plan Completion Status for TOP-008-1 R3.	02/10/2017	02/09/2017	WAPA-UGP is in the process of developing the training for the Requirements of TOP-001-3. We anticipate that this training will be completed by April 1, 2017  WAPA-UGP will be providing training on RTAs and utilization of its RTCA tool in March 2017 as part of the WAPA-UGP Spring Training for System Operators.	No
20 MVAR reactor installations at the	Installation of 20 MVAR reactor at the	04/01/2017	03/29/2017	Attached evidence provided by WAPA demonstrates a	No

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					April 12, 2017
Milestone Activity	Description	*Proposed Completion Date (Shall not be greater than 3 months apart)	Actual Completion Date	Entity Comment on Milestone Completion	Extension Request Pending
Sully Buttes & Glenham Substations. Implementation of RTCA for WAPA UGPR System Operators	Sully Buttes Substation by East River Electric Power Cooperative in March 2011 and (2) 20 MVAR Reactors at the Glenham Substation by Montana Dakota Utilities (MDU) in September 2011.  WAUE will implement a Real Time Contingency Analysis Tool (RTCA) for its System Operators to ensure that a Real-time Assessment is performed at least once every 30 minutes and to mitigate SOL exceedances identified as part of WAUE's real time monitoring or real time assessment.			State Estimation Tool has been implemented for Real Time Contingency Analysis.	
WAUE will provide training to its TOP System Operators on the Requirements of TOP-001-3	WAUE will train its System Operators in regard to the Requirements of the TOP-001-3 Reliability Standard with emphasis on those Requirements R7, R10, R13, R14, R15, and R18.	04/01/2017	03/29/2017	WAPA-UGP is in the process of developing the training for the Requirements of TOP-001-3. We anticipate that this training will be completed by April 1, 2017  Evidence provided by WAPA demonstrates training has been provided to System Operators in regard to TOP-001-3 and VAR-001-4. All training was completed by March 23, 2017.	No
Additional Relevant Information					





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WAUE believes the issue in question for this potential finding is that the Transmission Operator shall disconnect the affected facility if the overload on a transmission facility or abnormal voltage or reactive condition persists and equipment is endangered.

WAUE System Operators have the responsibility and authority to determine whether or not a transmission line should remain in service based upon their analysis of system conditions at any given time.

High voltage conditions in the Sully Buttes area have been a local concern. WAUE concurs that this condition was familiar to WAUE and neighboring Transmission Operators, Transmission Owners, and Distribution Providers. WAUE recognizes that this condition has been described as a "chronic high voltage problem." WAUE as the Transmission Operator has vigorously pursued the installation of additional reactive capability in this area since 2006; however the delays associated with the installation of additional reactive equipment were beyond the control of WAUE. With the installation of a 20 MVAR reactor at the Sully Buttes Substation in March 2011 and two 20 MVAR reactors at the Glenham Substation in September 2011, the high voltage conditions associated with the loss of the Oahe-Sully Buttes 230-kV Line have been mitigated. This high voltage issue did not create a reliability concern, but rather was associated with issues relating to expected service life of the electrical equipment.

Local Transmission Owners and Distribution Providers had been aware of the potential for high voltages associated with an outage or loss of the Oahe-Sully Buttes 230-kV Line. While WAUE as the Transmission Operator may not have had a written procedure in place to address the chronic high voltage problem that could potentially arise for this line outage, WAUE did have a longstanding operating process that dealt with this issue. This process included working closely with local Transmission Owners and Distribution Providers whenever this line was removed from service, whether it was for a scheduled or unscheduled outage.

Transmission Owners and Distribution Providers were given the option to move their load to an alternate source or to remain connected to the local area source knowing that the voltage levels would be higher than normal at their facilities. Historically, the Transmission Owners have elected to keep the Sully Buttes substation energized and the Distribution Providers have elected to remain connected to the Sully Buttes delivery sources as was the case during this event.


WAUE believes that, based upon the coordinated process with neighboring Transmission Owners and Distribution Providers regarding the high voltage conditions in the Sully Buttes area, that electrical equipment in this area was not necessarily endangered and that conscious decisions were made by all involved to keep the Oahe-Sully Buttes 230-kV Line in service in these instances. WAUE System Operators would keep neighboring Transmission Operators and Distribution Providers current with any changes in voltage in the Sully Buttes area and what point Transmission Owners and Distribution Providers would need to make a decision whether or not loads should be moved to other sources.

[Redacted]





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Midwest Reliability Organization  
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Reliability Risk

Reliability Risk

While the Mitigation Plan is being implemented, the reliability of the bulk Power System may remain at higher Risk or be otherwise negatively impacted until the plan is successfully completed. To the extent they are known or anticipated : (i) Identify any such risks or impacts, and; (ii) discuss any actions planned or proposed to address these risks or impacts.

WAUE believes the potential violation did not cause serious or substantial risk to the BES. It is recognized that allowing high voltage conditions to persist for long periods of time can cause degradation of the equipment. Transmission Owners and Distribution Providers were given the option to move their load to an alternate source or to remain connected to the local area source knowing that the voltage levels would be higher than normal at their facilities. Historically, the Transmission Owners have elected to keep the Sully Buttes substation energized and the Distribution Providers have elected to remain connected to the Sully Buttes delivery sources.

Prevention


Describe how successful completion of this plan will prevent or minimize the probability further violations of the same or similar reliability standards requirements will occur

Installation of the 20 MVAR reactors at the Sully Buttes and Glenham substations in 2011 has addressed the chronic high voltage problem in the area allowing the Oahe-Sully Buttes 230-kV Line to operate at nominal voltage.

Implementation of a Real Time Contingency Analysis Tool will assist WAUE System Operators in identifying and mitigating SOL exceedances before they become a BES Reliability and NERC compliance issue.

Describe any action that may be taken or planned beyond that listed in the mitigation plan, to prevent or minimize the probability of incurring further violations of the same or similar standards requirements

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[Redacted] April 12, 2017

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Authorization

An authorized individual must sign and date the signature page. By doing so, this individual, on behalf of your organization:

- \* Submits the Mitigation Plan, as presented, to the regional entity for acceptance and approval by NERC, and
- \* if applicable, certifies that the Mitigation Plan, as presented, was completed as specified.

Acknowledges:

1. I am qualified to sign this mitigation plan on behalf of my organization.
2. I have read and understand the obligations to comply with the mitigation plan requirements and ERO remedial action directives as well as ERO documents, including but not limited to, the NERC rules of procedure and the application NERC CMEP.
3. I have read and am familiar with the contents of the foregoing Mitigation Plan.

Western Area Power Administration - Upper Great Plains East Agrees to be bound by, and comply with, Plan, including the timetable completion date, as accepted by the Regional Entity, NERC, and if required, the applicable governmental authority.

Authorized Individual Signature: \_\_\_\_\_  
(Electronic signature was received by the Regional Office via CDMS. For Electronic Signature Policy see CMEP.)

**Authorized Individual**

Name: Mark E. Buchholz  
Title: Compliance Manager  
Authorized On: August 19, 2016

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Notice of Confirmed Violations  
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April 12, 2017

Certification of Mitigation Plan Completion

Submittal of a Certification of Mitigation Plan Completion shall include data or information sufficient for the Regional Entity to verify completion of the Mitigation Plan. The Regional Entity may request additional data or information and conduct follow-up assessments, on-site or other Spot Checking, or Compliance Audits as it deems necessary to verify that all required actions in the Mitigation Plan have been completed and the Registered Entity is in compliance with the subject Reliability Standard. (CMEP Section 6.6)

Registered Entity Name: Western Area Power Administration - Upper Great Plains East

NERC Registry ID: NCR01036

NERC Violation ID(s): MRO2016015739

Mitigated Standard Requirement(s): TOP-008-1 R3.

Scheduled Completion as per Accepted Mitigation Plan: April 01, 2017

Date Mitigation Plan completed: March 29, 2017

MRO Notified of Completion on Date: April 12, 2017

Entity Comment:

**Additional Documents**

From	Document Name	Description	Size in Bytes
Entity	WAPA-UGPR State Estimation Tool.docx		12,355
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Entity	ODMS Screenshot 1.bmp		4,608,618
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Additional Documents			
From	Document Name	Description	Size in Bytes
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Entity	NERC Compliance Week 3.pdf		120,350
Entity	TOP VAR Training 3-23-17.pptx		359,903
Entity	TOP VAR Training Record 3-23-17.pdf		106,559

I certify that the Mitigation Plan for the above named violation(s) has been completed on the date shown above and that all submitted information is complete and correct to the best of my knowledge.

Name: Mark E. Buchholz  
Title: Compliance Manager  
Email: buchholz@wapa.gov  
Phone: (605) 882-7550

Authorized Signature \_\_\_\_\_ Date \_\_\_\_\_  
(Electronic signature was received by the Regional Office via CDMS. For Electronic Signature Policy see CMEP.)

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**Mitigation Plan**

Mitigation Plan Summary

Registered Entity: Western Area Power Administration - Upper Great Plains East

Mitigation Plan Code: MROMIT012238  
Mitigation Plan Version: 1

NERC Violation ID	Requirement	Violation Validated On
MRO2016015740	TPL-002-0 R2.	05/11/2016

Mitigation Plan Submitted On: August 19, 2016  
Mitigation Plan Accepted On: September 09, 2016  
Mitigation Plan Proposed Completion Date: October 31, 2016  
Actual Completion Date of Mitigation Plan: December 31, 2014  
Mitigation Plan Certified Complete by WAPA On: November 30, 2016  
Mitigation Plan Completion Verified by MRO On: April 12, 2017  
Mitigation Plan Completed? (Yes/No): Yes

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- (1) The Registered Entity's point of contact for the Mitigation Plan, who shall be a person (i) responsible for filing the Mitigation Plan, (ii) technically knowledgeable regarding the Mitigation Plan, and (iii) authorized and competent to respond to questions regarding the status of the Mitigation Plan. This person may be the Registered Entity's point of contact described in Section B.
  - (2) The Alleged or Confirmed Violation(s) of Reliability Standard(s) the Mitigation Plan will correct.
  - (3) The cause of the Alleged or Confirmed Violation(s).
  - (4) The Registered Entity's action plan to correct the Alleged or Confirmed Violation(s).
  - (5) The Registered Entity's action plan to prevent recurrence of the Alleged or Confirmed violation(s).
  - (6) The anticipated impact of the Mitigation Plan on the bulk power system reliability and an action plan to mitigate any increased risk to the reliability of the bulk power-system while the Mitigation Plan is being implemented.
  - (7) A timetable for completion of the Mitigation Plan including the completion date by which the Mitigation Plan will be fully implemented and the Alleged or Confirmed Violation(s) corrected.
  - (8) Implementation milestones no more than three (3) months apart for Mitigation Plans with expected completion dates more than three (3) months from the date of submission. Additional violations could be determined or recommended to the applicable governmental authorities for not completing work associated with accepted milestones.
  - (9) Any other information deemed necessary or appropriate.
  - (10) The Mitigation Plan shall be signed by an officer, employee, attorney or other authorized representative of the Registered Entity, which if applicable, shall be the person that signed the Self Certification or Self Reporting submittals.
  - (11) This submittal form may be used to provide a required Mitigation Plan for review and approval by regional entity(ies) and NERC.
- The Mitigation Plan shall be submitted to the regional entity(ies) and NERC as confidential information in accordance with Section 1500 of the NERC Rules of Procedure.
  - This Mitigation Plan form may be used to address one or more related alleged or confirmed violations of one Reliability Standard. A separate mitigation plan is required to address alleged or confirmed violations with respect to each additional Reliability Standard, as applicable.
  - If the Mitigation Plan is accepted by regional entity(ies) and approved by NERC, a copy of this Mitigation Plan will be provided to the Federal Energy Regulatory Commission or filed with the applicable governmental authorities for approval in Canada.
  - Regional Entity(ies) or NERC may reject Mitigation Plans that they determine to be incomplete or inadequate.
  - Remedial action directives also may be issued as necessary to ensure reliability of the bulk power system.
  - The user has read and accepts the conditions set forth in these Compliance Notices.





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**Entity Information**

Identify your organization:

Entity Name: Western Area Power Administration - Upper Great Plains East

NERC Compliance Registry ID: NCR01036

Address: 2900 Fourth Ave North  
Sixth Floor  
Billings MT 59101

Identify the individual in your organization who will serve as the Contact to the Regional Entity regarding this Mitigation Plan. This person shall be technically knowledgeable regarding this Mitigation Plan and authorized to respond to Regional Entity regarding this Mitigation Plan:

Name: Mark E. Buchholz  
Title: Compliance Manager  
Email: buchholz@wapa.gov  
Phone: 605-882-7550

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Violation(s)

This Mitigation Plan is associated with the following violation(s) of the reliability standard listed below:

Violation ID	Date of Violation	Requirement
Requirement Description		
MRO2016015740	05/01/2009	TPL-002-0 R2.

When System simulations indicate an inability of the systems to respond as prescribed in Reliability Standard TPL-002-0\_R1, the Planning Authority and Transmission Planner shall each:

Brief summary including the cause of the violation(s) and mechanism in which it was identified:

Western Area Power Administration - Upper Great Plains East (WAUE) was found in potential noncompliance with TPL-002-0 R2.1, as stated in the June 11, 2012 Notice of Preliminary Findings and Analysis, Non-Public Compliance Investigation - NERC0012CI performed by the North American Electric Reliability Corporation (NERC) relating to the August 29, 2009 system disturbance (Event), and the June 6, 2016 MRO Notice of Possible Violation in that "WAUE did not prepare a written summary of its plans to achieve required system performance throughout the planning horizon (Category B) to address the off-peak 230-kV high voltage condition at the Sully Buttes Substation for loss of the Oahe-Sully Buttes 230-kV line. WAUE's plan did not consider lead times necessary to implement the project such as the time to procure and install equipment or the significant time lapse due to project delays. WAUE's plan did not include required mitigation plans such as operating guides or procedures to ensure system performance was maintained throughout the planning horizon prior to the installation of the project.

Relevant information regarding the identification of the violation(s):

Potential non-compliance was determined from a NERC Compliance Violation Investigation relating to the August 29, 2009 System Disturbance.

WAUE cooperated fully in the NERC investigation and subsequent follow-up conducted by the MRO.

High voltage conditions in the Sully Buttes area had been local concern. WAUE admits that this condition was familiar to WAUE and neighboring Transmission Operators, Transmission Owners, and Distribution Providers. WAUE as the Transmission Planner developed and documented through the planning process a plan to achieve the desired system performance as noted in NERC's preliminary findings. The plan was updated to document the change in reactor sizing plans which include the installation of a 20 MVAR reactor at the Sully Buttes Substation and two 20 MVAR reactors at the Glenham Substation with requested in services date of 2009 and 2010, respectively. WAUE explained that if the equipment was not installed in time to resolve the issue, operating guides would be a viable option in addressing project delays.



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Plan Details

Identify and describe the action plan, including specific tasks and actions that your organization is proposing to undertake, or which it undertook if this Mitigation Plan has been completed, to correct the violation(s) identified above in Section C.1 of this form:

Installation of 20 MVAR reactor at the Sully Buttes Substation - Completed in March 2011.

Installation of (2) 20 MVAR reactors at the Glenham Substation - Completed in September 2011.

To prevent recurrence of this potential violation, WAUE will modify its TPL Planning Assessment Process to address gaps between in-service dates and the need to develop and Op Guide. - Completed in December 2014

Provide the timetable for completion of the Mitigation Plan, including the completion date by which the Mitigation Plan will be fully implemented and the violations associated with this Mitigation Plan are corrected:

Proposed Completion date of Mitigation Plan: October 31, 2016

Milestone Activities, with completion dates, that your organization is proposing for this Mitigation Plan:

Milestone Activity	Description	*Proposed Completion Date (Shall not be greater than 3 months apart)	Actual Completion Date	Entity Comment on Milestone Completion	Extension Request Pending
WAUE will modify its TPL Planning Assessment Process to address gaps between in-service dates & the need to develop and Op Guide	In addition to the installation of 20 MVAR reactor at the Sully Buttes Substation by East River Electric Power Cooperative in March 2011 and (2) 20 MVAR Reactors at the Glenham Substation by Montana Dakota Utilities (MDU) in September 2011, WAUE will modify its TPL Planning Assessment Process to address gaps between in-service dates and the need to develop and Op Guide. Modifications will provide additional detail to the Corrective Action Plans for identified Areas of Concern	10/31/2016	10/31/2016	Please refer to attached email and documentation regarding TPL-002-0. The updated Planning Assessment process was completed in December 2014.	No



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Milestone Activity	Description	*Proposed Completion Date (Shall not be greater than 3 months apart)	Actual Completion Date	Entity Comment on Milestone Completion	Extension Request Pending
	within the annual TPL assessment. Within the Corrective Action Plan, the reason for the corrective action, the in-service date, the need by date, and the lead time are identified for Operating Guide and Equipment Replacements. The will provide WAUE the information needed to monitor any gaps between in-service dates of projects and the need to develop an op guide. - Completed December 2014				
Additional Relevant Information					



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Reliability Risk

Reliability Risk

While the Mitigation Plan is being implemented, the reliability of the bulk Power System may remain at higher Risk or be otherwise negatively impacted until the plan is successfully completed. To the extent they are known or anticipated : (i) Identify any such risks or impacts, and; (ii) discuss any actions planned or proposed to address these risks or impacts.

WAUE believes the potential violation did not pose a serious or substantial risk to the BES in that WAUE as the Transmission Planner developed and documented through the planning process a plan to achieve the desired system performance as noted in NERC's preliminary findings. The plan was updated to document the change in reactor sizing plans which include the installation of a 20 MVAR reactor at the Sully Buttes Substation and two 20 MVAR reactors at the Glenham Substation with requested in services date of 2009 and 2010, respectively. WAUE explained that if the equipment was not installed in time to resolve the issue, operating guides would be a viable option in addressing project delays. As long as the Transmission Planners recognized and noted the high voltage condition, an operating guide could be established as a possible solution for the operating horizon.

While WAUE as the Transmission Planner may not have had a written procedure in place to address the chronic high voltage problem due to delays in implementation, WAUE did have a written summary of its plans to achieve the required system performance throughout the planning horizon and a longstanding, agreed upon process to achieve this system performance in the operating horizon. This process included close coordination with these entities whenever this line was removed from service, whether it is for a scheduled or unscheduled outage. Transmission Owners and Distribution Providers were given the option to move their load to an alternate source or to remain connected to the local area source knowing that the voltage levels would be higher than normal at their facilities.

WAUE as the Transmission Planner developed and documented through the planning horizon a plan to achieve the desired system performance as noted in NERC's preliminary findings and asserts that a coordinated process was in place for scheduled outages on, or to address a loss of the Oahe-Sully Buttes 230-kV Line with the Reliability Coordinator, neighboring Transmission Owners and Distribution Providers. Those parties utilized and accepted a higher voltage criteria to apply in those cases, until additional reactive capability could be placed in service within this area and this coordination constituted a procedure to ensure acceptable system performance was maintained throughout the planning and operating horizons prior to the installation of the reactive devices.

Prevention

Describe how successful completion of this plan will prevent or minimize the probability further violations of the same or similar reliability standards requirements will occur

Installation of the 20 MVAR reactors at the Sully Buttes and Glenham Substations has mitigated the high voltage condition within this area of the WAUE TOP footprint. This additional reactive capability which has been installed to mitigate high voltage conditions associated with the loss of the Oahe-Sully Buttes 230-kV Line, eliminates the need for an operating procedure and the acceptance of higher voltage criteria other than WAUE's standard 110% post-contingent voltage criteria, for the N-1 contingency loss of the line.

Modification of WAUE's TPL Planning Assessment Process will address gaps between in-service dates and the need to develop and Op Guide. Modifications will provide additional detail to the Corrective Action Plans for identified Areas of Concern within the annual TPL assessment. Within the Corrective Action Plan, the reason for the corrective action, the in-service date, the need by date, and the lead time are identified for Operating Guide and Equipment Replacements. The will provide WAUE the information needed to monitor any gaps between in-service dates of projects and the need to develop an op guide.



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Describe any action that may be taken or planned beyond that listed in the mitigation plan, to prevent or minimize the probability of incurring further violations of the same or similar standards requirements	
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Authorization

An authorized individual must sign and date the signature page. By doing so, this individual, on behalf of your organization:

- \* Submits the Mitigation Plan, as presented, to the regional entity for acceptance and approval by NERC, and
- \* if applicable, certifies that the Mitigation Plan, as presented, was completed as specified.

Acknowledges:

1. I am qualified to sign this mitigation plan on behalf of my organization.
2. I have read and understand the obligations to comply with the mitigation plan requirements and ERO remedial action directives as well as ERO documents, including but not limited to, the NERC rules of procedure and the application NERC CMEP.
3. I have read and am familiar with the contents of the foregoing Mitigation Plan.

Western Area Power Administration - Upper Great Plains East Agrees to be bound by, and comply with, Plan, including the timetable completion date, as accepted by the Regional Entity, NERC, and if required, the applicable governmental authority.

Authorized Individual Signature: \_\_\_\_\_  
(Electronic signature was received by the Regional Office via CDMS. For Electronic Signature Policy see CMEP.)

**Authorized Individual**

Name: Mark E. Buchholz  
Title: Compliance Manager  
Authorized On: August 19, 2016

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Certification of Mitigation Plan Completion

Submittal of a Certification of Mitigation Plan Completion shall include data or information sufficient for the Regional Entity to verify completion of the Mitigation Plan. The Regional Entity may request additional data or information and conduct follow-up assessments, on-site or other Spot Checking, or Compliance Audits as it deems necessary to verify that all required actions in the Mitigation Plan have been completed and the Registered Entity is in compliance with the subject Reliability Standard. (CMEP Section 6.6)

Registered Entity Name: Western Area Power Administration - Upper Great Plains East

NERC Registry ID: NCR01036

NERC Violation ID(s): MRO2016015740

Mitigated Standard Requirement(s): TPL-002-0 R2.

Scheduled Completion as per Accepted Mitigation Plan: October 31, 2016

Date Mitigation Plan completed: October 31, 2016

MRO Notified of Completion on Date: November 30, 2016

Entity Comment:

Additional Documents			
From	Document Name	Description	Size in Bytes
Entity	2014 WAUE TPL Assessment Report_123014.pdf		469,635
Entity	RE Monitoring TPL Need By Dates.msg		557,056

I certify that the Mitigation Plan for the above named violation(s) has been completed on the date shown above and that all submitted information is complete and correct to the best of my knowledge.

Name: Mark E. Buchholz  
Title: Compliance Manager  
Email: buchholz@wapa.gov  
Phone: 1 (605) 882-7550

Authorized Signature \_\_\_\_\_ Date \_\_\_\_\_

(Electronic signature was received by the Regional Office via CDMS. For Electronic Signature Policy see CMEP.)

[Redacted]



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**Mitigation Plan**

Mitigation Plan Summary

Registered Entity: Western Area Power Administration - Upper Great Plains East

Mitigation Plan Code: MROMIT012239  
Mitigation Plan Version: 1

NERC Violation ID	Requirement	Violation Validated On
MRO2016015741	VAR-001-1 R8.	05/11/2016

Mitigation Plan Submitted On: August 19, 2016  
Mitigation Plan Accepted On: September 09, 2016  
Mitigation Plan Proposed Completion Date: April 01, 2017  
Actual Completion Date of Mitigation Plan: March 23, 2017  
Mitigation Plan Certified Complete by WAPA On: April 12, 2017  
Mitigation Plan Completion Verified by MRO On: April 12, 2017  
Mitigation Plan Completed? (Yes/No): Yes

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### Compliance Notices

Section 6.2 of the NERC CMEP sets forth the information that must be included in a Mitigation Plan. The Mitigation Plan must include:

- (1) The Registered Entity's point of contact for the Mitigation Plan, who shall be a person (i) responsible for filing the Mitigation Plan, (ii) technically knowledgeable regarding the Mitigation Plan, and (iii) authorized and competent to respond to questions regarding the status of the Mitigation Plan. This person may be the Registered Entity's point of contact described in Section B.
  - (2) The Alleged or Confirmed Violation(s) of Reliability Standard(s) the Mitigation Plan will correct.
  - (3) The cause of the Alleged or Confirmed Violation(s).
  - (4) The Registered Entity's action plan to correct the Alleged or Confirmed Violation(s).
  - (5) The Registered Entity's action plan to prevent recurrence of the Alleged or Confirmed violation(s).
  - (6) The anticipated impact of the Mitigation Plan on the bulk power system reliability and an action plan to mitigate any increased risk to the reliability of the bulk power-system while the Mitigation Plan is being implemented.
  - (7) A timetable for completion of the Mitigation Plan including the completion date by which the Mitigation Plan will be fully implemented and the Alleged or Confirmed Violation(s) corrected.
  - (8) Implementation milestones no more than three (3) months apart for Mitigation Plans with expected completion dates more than three (3) months from the date of submission. Additional violations could be determined or recommended to the applicable governmental authorities for not completing work associated with accepted milestones.
  - (9) Any other information deemed necessary or appropriate.
  - (10) The Mitigation Plan shall be signed by an officer, employee, attorney or other authorized representative of the Registered Entity, which if applicable, shall be the person that signed the Self Certification or Self Reporting submittals.
  - (11) This submittal form may be used to provide a required Mitigation Plan for review and approval by regional entity(ies) and NERC.
- The Mitigation Plan shall be submitted to the regional entity(ies) and NERC as confidential information in accordance with Section 1500 of the NERC Rules of Procedure.
  - This Mitigation Plan form may be used to address one or more related alleged or confirmed violations of one Reliability Standard. A separate mitigation plan is required to address alleged or confirmed violations with respect to each additional Reliability Standard, as applicable.
  - If the Mitigation Plan is accepted by regional entity(ies) and approved by NERC, a copy of this Mitigation Plan will be provided to the Federal Energy Regulatory Commission or filed with the applicable governmental authorities for approval in Canada.
  - Regional Entity(ies) or NERC may reject Mitigation Plans that they determine to be incomplete or inadequate.
  - Remedial action directives also may be issued as necessary to ensure reliability of the bulk power system.
  - The user has read and accepts the conditions set forth in these Compliance Notices.



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Entity Information

Identify your organization:

Entity Name: Western Area Power Administration - Upper Great Plains East

NERC Compliance Registry ID: NCR01036

Address: 2900 Fourth Ave North  
Sixth Floor  
Billings MT 59101

Identify the individual in your organization who will serve as the Contact to the Regional Entity regarding this Mitigation Plan. This person shall be technically knowledgeable regarding this Mitigation Plan and authorized to respond to Regional Entity regarding this Mitigation Plan:

Name: Mark E. Buchholz  
Title: Compliance Manager  
Email: buchholz@wapa.gov  
Phone: 605-882-7550

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Violation(s)

This Mitigation Plan is associated with the following violation(s) of the reliability standard listed below:

Violation ID	Date of Violation	Requirement
Requirement Description		
MRO2016015741	08/29/2009	VAR-001-1 R8.

Each Transmission Operator shall operate or direct the operation of capacitive and inductive reactive resources within its area - including reactive generation scheduling; transmission line and reactive resource switching; and, if necessary, load shedding - to maintain system and Interconnection voltages within established limits.

Brief summary including the cause of the violation(s) and mechanism in which it was identified:

Western Area Power Administration - Upper Great Plains East (WAUE) was found in potential noncompliance with VAR-001-1 R8, as stated in the June 11, 2012 Notice of Preliminary Findings and Analysis, Non-Public Compliance Investigation - NERC0012CI performed by the North American Electric Reliability Corporation (NERC) relating to the August 29, 2009 system disturbance (Event), and the June 6, 2016 MRO Notice of Possible Violation in that "WAUE, as a Transmission Operator (TOP), did not operate or direct operations of capacitive and inductive reactive resources, including transmission line switching, to maintain system voltages within established limits at Sully Buttes Substation.

Relevant information regarding the identification of the violation(s):

Potential Non-compliance was determined from a NERC Compliance Violation Investigation relating to the August 29, 2009 System Disturbance.

WAUE cooperated fully in the NERC investigation and subsequent follow up with MRO staff.





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Plan Details

Identify and describe the action plan, including specific tasks and actions that your organization is proposing to undertake, or which it undertook if this Mitigation Plan has been completed, to correct the violation(s) identified above in Section C.1 of this form:

- Installation of 20 MVAR reactor at the Sully Buttes Substation which was completed in March 2011.
- Installation of (2) 20 MVAR reactors at the Glenham Substation which was completed in September 2011.
- WAPA UGPR to provide training to System Operators on VAR-001-4.1 with specific emphasis on Requirements R2 and R3 before April 1, 2017.
- WAUE will implement a Real Time Contingency Analysis Tool (RTCA) for its Transmission System Operators on, or before April 1, 2017.

Provide the timetable for completion of the Mitigation Plan, including the completion date by which the Mitigation Plan will be fully implemented and the violations associated with this Mitigation Plan are corrected:

Proposed Completion date of Mitigation Plan: April 01, 2017

Milestone Activities, with completion dates, that your organization is proposing for this Mitigation Plan:

Milestone Activity	Description	*Proposed Completion Date (Shall not be greater than 3 months apart)	Actual Completion Date	Entity Comment on Milestone Completion	Extension Request Pending
WAPA UGPR to update MRO RAM Team on Mitigation Plan Completion Status #1	WAPA UGPR to update MRO RAM Team on Mitigation Plan Completion Status for VAR-001-1 R8	11/11/2016	11/10/2016	Please refer to the attached WAPA-UGPR State Estimation Tool document.	No
WAPA UGPR to update MRO RAM Team on Mitigation Plan Completion Status #2	WAPA UGPR to update MRO RAM Team on Mitigation Plan Completion Status for VAR-001-1 R8.	02/10/2017	02/09/2017	WAPA-UGP is in the process of developing the training for VAR-001-4 R2 and R3. We anticipate that this training will be completed by April 1, 2017  WAPA-UGP will be providing training on RTAs and utilization of its RTCA tool in March 2017 as part of the WAPA-UGP Spring Training for System Operators.	No
20 MVAR reactor installations at the Sully Buttes & Glenham Substations.	Installation of 20 MVAR reactor at the Sully Buttes Substation by East River Electric Power	04/01/2017	03/29/2017	Attached evidence provided by WAPA demonstrates a State Estimation Tool has been implemented for Real Time Contingency Analysis.	No



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Milestone Activity	Description	*Proposed Completion Date (Shall not be greater than 3 months apart)	Actual Completion Date	Entity Comment on Milestone Completion	Extension Request Pending
Implementation of RTCA for WAPA UGPR System Operators	Cooperative in March 2011 and (2) 20 MVAR Reactors at the Glenham Substation by Montana Dakota Utilities (MDU) in September 2011.  WAUE will implement a Real Time Contingency Analysis Tool (RTCA) for its System Operators to ensure that a Real-time Assessment is performed at least once every 30 minutes and to mitigate SOL exceedances identified as part of WAUE's real time monitoring or real time assessment.			Attached evidence provided by WAPA demonstrates training has been provided to System Operators in regard to TOP-001-3 and VAR-001-4. All training was completed by March 23, 2017.	
WAPA UGPR to provide training to System Operators on VAR-001-4.1	WAPA UGPR to provide training to System Operators on VAR-001-4.1 with specific emphasis on Requirements R2 and R3.	04/01/2017	03/29/2017	Attached evidence provided by WAPA demonstrates training has been provided to System Operators in regard to TOP-001-3 and VAR-001-4. All training was completed by March 23, 2017.	No
Additional Relevant Information					



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Reliability Risk

Reliability Risk

While the Mitigation Plan is being implemented, the reliability of the bulk Power System may remain at higher Risk or be otherwise negatively impacted until the plan is successfully completed. To the extent they are known or anticipated : (i) Identify any such risks or impacts, and; (ii) discuss any actions planned or proposed to address these risks or impacts.

WAUE believes the potential violation did not pose a serious or substantial risk to the BES in that WAUE was monitoring the voltage condition at Sully Buttes and Glenham during the event. WAUE believed this high voltage issue did not create a reliability concern, but rather was associated with issues relating to expected service life of the electrical equipment.

Prevention

Describe how successful completion of this plan will prevent or minimize the probability further violations of the same or similar reliability standards requirements will occur

Installation of the 20 MVAR reactors at Sully Buttes and Glenham has mitigated the high voltage condition within this area of the WAUE TOP footprint.

Implementation of a Real Time Contingency Analysis Tool will assist WAUE System Operators in identifying and mitigating SOL exceedances before they become a BES reliability or NERC compliance issue.

Describe any action that may be taken or planned beyond that listed in the mitigation plan, to prevent or minimize the probability of incurring further violations of the same or similar standards requirements

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Authorization

An authorized individual must sign and date the signature page. By doing so, this individual, on behalf of your organization:

- \* Submits the Mitigation Plan, as presented, to the regional entity for acceptance and approval by NERC, and
- \* if applicable, certifies that the Mitigation Plan, as presented, was completed as specified.

Acknowledges:

1. I am qualified to sign this mitigation plan on behalf of my organization.
2. I have read and understand the obligations to comply with the mitigation plan requirements and ERO remedial action directives as well as ERO documents, including but not limited to, the NERC rules of procedure and the application NERC CMEP.
3. I have read and am familiar with the contents of the foregoing Mitigation Plan.

Western Area Power Administration - Upper Great Plains East Agrees to be bound by, and comply with, Plan, including the timetable completion date, as accepted by the Regional Entity, NERC, and if required, the applicable governmental authority.

Authorized Individual Signature: \_\_\_\_\_  
(Electronic signature was received by the Regional Office via CDMS. For Electronic Signature Policy see CMEP.)

**Authorized Individual**

Name: Mark E. Buchholz  
Title: Compliance Manager  
Authorized On: August 19, 2016

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Certification of Mitigation Plan Completion

Submittal of a Certification of Mitigation Plan Completion shall include data or information sufficient for the Regional Entity to verify completion of the Mitigation Plan. The Regional Entity may request additional data or information and conduct follow-up assessments, on-site or other Spot Checking, or Compliance Audits as it deems necessary to verify that all required actions in the Mitigation Plan have been completed and the Registered Entity is in compliance with the subject Reliability Standard. (CMEP Section 6.6)

Registered Entity Name: Western Area Power Administration - Upper Great Plains East

NERC Registry ID: NCR01036

NERC Violation ID(s): MRO2016015741

Mitigated Standard Requirement(s): VAR-001-1 R8.

Scheduled Completion as per Accepted Mitigation Plan: April 01, 2017

Date Mitigation Plan completed: March 29, 2017

MRO Notified of Completion on Date: April 12, 2017

Entity Comment:

Additional Comments		
From	Comment	User Name
Entity	<p>WAUE System Operators have the responsibility and authority to determine whether or not a transmission line should remain in service based upon their analysis of system conditions at any given time.</p> <p>High voltage conditions in the Sully Buttes area were a local concern prior to the event. WAUE concurs that this condition was familiar to WAUE and neighboring Transmission Operators, Transmission Owners, and Distribution Providers. WAUE recognized that this condition had been described as a "chronic high voltage problem."</p> <p>WAUE as the Transmission Operator had vigorously pursued the installation of additional reactive capability in this area since 2006; however the delays associated with the installation of additional reactive equipment were beyond the control of WAUE. With the installation of a 20 MVAR reactor at the Sully Buttes Substation in March 2011 and two 20 MVAR reactors at the Glenham Substation in September 2011, the high voltage conditions associated with the loss of the Oahe-Sully Buttes 230-kV Line have been mitigated.</p> <p>WAUE believed this high voltage issue did not create a reliability concern, but rather was associated with issues relating to expected service life of the electrical equipment.</p> <p>Local Transmission Owners and Distribution Providers had been aware of the potential for high voltages associated with an outage or loss of the Oahe-Sully Buttes 230-kV Line.</p> <p>While WAUE as the Transmission Operator may not have had a written procedure in place to address the chronic high voltage problem that could</p>	Mark Buchholz





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Additional Comments		
From	Comment	User Name
Entity	<p>potentially arise for this line outage, WAUE did have a longstanding operating process that dealt with this issue. This process included working closely with local Transmission Owners and Distribution Providers whenever this line was removed from service, whether it was for a scheduled or unscheduled outage.</p> <p>Transmission Owners and Distribution Providers were given the option to move their load to an alternate source or to remain connected to the local area source knowing that the voltage levels would be higher than normal at their facilities. Historically, the Transmission Owners have elected to keep the Sully Buttes substation energized and the Distribution Providers have elected to remain connected to the Sully Buttes delivery sources as was the case during this event.</p> <p>WAUE believes that, based upon its long standing process of coordinating with local Transmission Owners, and Distribution Providers, regarding the high voltage conditions in the Sully Buttes area, conscious decisions could be, and were made on whether or not to keep the Oahe-Sully Buttes 230-kV Line in service. WAUE System Operators would keep neighboring Transmission Operators and Distribution Providers current of any changes in voltage in the Sully Buttes area and to provide the necessary information to assist Transmission Owners and Distribution Providers in determining at what point a decision would need to be made on whether or not loads should be moved to other sources.</p>	Mark Buchholz

Additional Documents			
From	Document Name	Description	Size in Bytes
Entity	WAPA-UGPR State Estimation Tool.docx		12,355
Entity	Key Concepts for Using ODMS.pptx		8,899,541
Entity	ODMS Setup for System Operator.pptx		5,767,757
Entity	Using ODMS to Support RTA.pptx		5,731,734
Entity	ODMS Training Week 1.pdf		119,934
Entity	ODMS Training Week 2.pdf		102,663
Entity	ODMS Training Week 3.pdf		119,800
Entity	ODMS Screenshot 1.bmp		4,608,618
Entity	ODMS Screenshot 2 - Havre Single Line.bmp		5,104,746
Entity	ODMS Screenshot 3 - AVS Single Line.bmp		5,104,746





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Midwest Reliability Organization  
[Redacted] April 13, 2017

Additional Documents			
From	Document Name	Description	Size in Bytes
Entity	ODMS Screenshot 4 - Contingency Analysis.bmp		5,104,746
Entity	2017 Spring Dispatcher Training.pptx		15,628,286
Entity	NERC Compliance Week 1.pdf		119,753
Entity	NERC Compliance Week 2.pdf		119,889
Entity	NERC Compliance Week 3.pdf		120,350
Entity	TOP VAR Training 3-23-17.pptx		359,903
Entity	TOP VAR Training Record 3-23-17.pdf		106,559
Entity	WAPA Mitigation Plan Milestone Completion Summary.docx		12,386

I certify that the Mitigation Plan for the above named violation(s) has been completed on the date shown above and that all submitted information is complete and correct to the best of my knowledge.

Name: Mark E. Buchholz  
Title: Compliance Manager  
Email: buchholz@wapa.gov  
Phone: (605) 882-7550

Authorized Signature \_\_\_\_\_ Date \_\_\_\_\_  
(Electronic signature was received by the Regional Office via CDMS. For Electronic Signature Policy see CMEP.)

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[Redacted] Page 3 of 3 04/13/2017



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April 20, 2017

Mr. Robert Harris  
Vice President  
Western Area Power Administration – Upper Great Plains East  
2900 Fourth Ave. North, Sixth Floor  
Billings, MT 59101

**RE: Mitigation Plan Verification Completions Overview**

<u>Registry ID</u>	<u>NERC Tracking ID</u>	<u>Standard</u>	<u>Requirement</u>
NCR01036	MRO2016015732	PRC-001-1	3
	MRO2016015733	TOP-002-2	6
	MRO2016015734	TOP-002-2	11
	MRO2016015736	TOP-004-2	1
	MRO2016015737	TOP-006-1	5
	MRO2016015738	TOP-008-1	1
	MRO2016015739	TOP-008-1	3
	MRO2016015740	TPL-002-0	2
	MRO2016015741	VAR-001-1	8

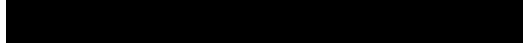
Dear Mr. Harris:

Midwest Reliability Organization (MRO) hereby provides notice to Western Area Power Administration – Upper Great Plains East (WAPA) that it reviewed evidence submitted with WAPA’s certifications of completion for the mitigation plans associated with the above referenced NERC Tracking IDs and verified the following completion dates.

MRO verified the mitigation plan for TPL-002-0 R2 (MRO2016015740) was completed as of December 31, 2014. MRO verified the mitigation plan for PRC-001-1 R3 (MRO2016015732) was completed as of December 28, 2016. MRO verified the mitigation plan for TOP-002-2 R11 (MRO2016015734) was completed as of March 1, 2017. MRO verified that the mitigation plans for TOP-002-2 R6 (MRO2016015733), TOP-004-2 R1 (MRO2016015736), TOP-006-1 R5 (MRO2016015737), TOP-008-1 R1 (MRO2016015738), TOP-008-1 R3 (MRO2016015739), and VAR-001-1 R8 (MRO2016015741) were completed as of March 23, 2017.



**MIDWEST  
RELIABILITY  
ORGANIZATION**



**Attachment B  
Exhibit 10**

380 St. Peter Street, Ste. 800, Saint Paul, MN 55102

MidwestReliability.org

P.651.855.1760

F.651.855.1712

Notice of Confirmed Violations

Western Area Power Administration – Upper Great Plains East

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**MIDWEST  
RELIABILITY  
ORGANIZATION**



380 St. Peter Street, Ste. 800, Saint Paul, MN 55102

MidwestReliability.org

P.651.855.1760

F.651.855.1712

Western Area Power Administration – Upper Great Plains East

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April 20, 2017

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If you have any questions, please do not hesitate to contact me at 651-855-1758 or [jj.evans@midwestreliability.org](mailto:jj.evans@midwestreliability.org)

Sincerely,

Jackson Evans  
Enforcement Attorney

Cc: Doug Brown, WAPA  
Sonia Mendonca, NERC  
Ed Kichline, NERC  
Heather Laws, WECC  
Kim Israelsson, WECC  
Miggie Cramblit, MRO

JJE: jva

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