

May 31, 2018

**VIA ELECTRONIC FILING**

Ms. Kimberly D. Bose  
Secretary  
Federal Energy Regulatory Commission  
888 First Street, N.E.  
Washington, DC 20426

**Re: NERC Full Notice of Penalty regarding Minnkota Power Cooperative, Inc.,  
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 Minnkota Power Cooperative, Inc. (MPC), NERC Registry ID# NCR01013,<sup>2</sup> with information and details regarding the nature and resolution of the violation<sup>3</sup> 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's Rules of Procedure including Appendix 4C (NERC Compliance Monitoring and Enforcement Program (CMEP)).<sup>4</sup>

NERC is filing this Notice of Penalty with the Commission because Midwest Reliability Organization (MRO) issued an NOCV to resolve all outstanding issues arising from MRO's determination and findings

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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 (2018). *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> MPC was included on the NERC Compliance Registry as a Distribution Provider, Generator Owner, Generator Operator, Resource Planner, Transmission Owner (TO), Transmission Operator, Transmission Planner, and Transmission Service Provider on May 30, 2007.

<sup>3</sup> For purposes of this document, the violation at issue is described as a "violation," regardless of its procedural posture and whether it is a possible, alleged, or confirmed violation.

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

**3353 Peachtree Road NE  
Suite 600, North Tower  
Atlanta, GA 30326  
404-446-2560 | [www.nerc.com](http://www.nerc.com)**

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of a violation of FAC-003-4 R2. MPC admits to the violation and agrees to the penalty of one hundred forty-four thousand dollars (\$144,000).

### Statement of Findings Underlying the Violation

This Notice of Penalty incorporates the findings and justifications set forth in the NOCV issued on April 4, 2018, 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 (2018), NERC provides the following summary table identifying each violation of a Reliability Standard resolved by the NOCV. Further information on the subject violation is set forth in the NOCV and herein.

* 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*	Violation Start-End Date	Risk	Penalty Amount
MRO2017017989	FAC-003-4	R2	High/ High	TO	SR 7/20/2017	7/17/2017	Serious	\$144,000

MPC is a regional generation and transmission cooperative serving 11 member-owned distribution cooperatives and a group of 12 municipals called the Northern Municipal Power Agency (NMPA). Midcontinent Independent System Operator, Inc. (MISO) serves as MPC's Balancing Authority, Planning Coordinator, and Reliability Coordinator. The MPC/NMPA joint system currently serves more than 147,000 residential, industrial, and commercial customers, with a service area of 34,500 square miles in eastern North Dakota and northwestern Minnesota. MPC has over 1,100 miles of transmission lines operated at 115 kV and above.

### FAC-003-4 R2 - OVERVIEW

On July 20, 2017, MPC submitted a Self-Report to MRO stating it was in violation of FAC-003-4. On July 17, 2017, MPC's Maple River-Winger 230 kV line experienced an encroachment into the Minimum Vegetation Clearing Distance (MVCD), resulting in vegetation contacts and outages of the line

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throughout the afternoon.<sup>5</sup> The Maple River-Winger 230 kV line has a 350 MVA rating and, when the incident occurred, had approximately 60 MVA of load on the line. MRO determined that the violation did not cause a Sustained Outage as defined in the NERC Glossary of Terms.<sup>6</sup>

On June 26, 2017 (21 days before the vegetation contact event), a fixed-wing patrol (an additional aerial patrol under the registered entity's Transmission Vegetation Management Program (TVMP)) reported that vegetation should be checked by ground or during the annual helicopter patrols at river crossings north of Fargo-Moorhead. The report was forwarded to the Area Line Worker (ALW) for follow-up, but did not identify an imminent threat. MPC did not schedule a subsequent inspection for that section of the line.

The violation had two distinct causes. The first cause was that the MPC TVMP did not adequately specify appropriate observation criteria for the inspection of any potential vegetation contact issues. The criterion for vegetation inspections was based on a visual observation of the distance between the conductor and the vegetation. The results of this method vary greatly depending on the personnel performing the inspection and the line sag condition when the inspection occurs. The second cause was that the fixed-wing patrol that occurred on June 26, 2017, either failed to recognize the vegetation constituted an imminent threat or the pilot failed to report the condition as an imminent threat, as required by MPC's TVMP.

This violation posed a serious and substantial risk to the reliability of the bulk power system (BPS). The risk of this violation was elevated due to the importance of MPC's transmission facilities to the reliability of the BPS. MPC's system contains transmission lines that are part of important flowgates, including an Interconnection Reliability Operating Limit (IROL) flowgate. MPC also operates over 900 miles of transmission lines operated at 230 kV or 345 kV.

Further, MRO could not regard the violation as being isolated to this particular segment of transmission line because broad issues in MPC's vegetation management practices, specifically, the criteria for performing inspections and reporting findings from inspections, contributed to the violation.

The violation did not result in a loss of customer load.

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<sup>5</sup> After the vegetation contact, the relays did not initiate an automatic reclosing sequence as designed due to problematic settings. The initial outage lasted for two hours until MPC could correct the problematic relay settings. There were two additional instances where the line tripped and automatically reclosed.

<sup>6</sup> MRO consulted with NERC regarding whether the outage was a Sustained Outage. On October 17, 2017, NERC and MRO agreed that a Sustained Outage had not occurred and MPC did not have to include the outage in a FAC-003-4 Periodic Data Submittal.

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Attachment A includes additional facts regarding the violation that MRO considered in its risk assessment.

MPC submitted its Mitigation Plan with an anticipated completion date of July 2, 2018 to address the referenced violation.

To identify the scope of the violation, MPC reviewed all aerial patrols for the previous two years and performed an extent of condition review by patrolling all 200+ kV lines for vegetation issues. To mitigate this violation, MPC removed the tree and trimmed other nearby trees. To prevent recurrence of this violation, MPC is performing the following activities:

1. improving its criteria related to measuring vegetation and training relevant personnel on the new vegetation inspection approach;
2. enhancing recordkeeping and reporting through work tracking processes, tools, documentation, and supervisory oversight;
3. enhancing ongoing training requirements for applicable vegetation personnel; and
4. developing its 2018 vegetation removal work plan based on updated data from its 2017 helicopter patrols.

Attachment A includes a detailed description of the mitigation activities MPC is taking to address this violation. A copy of the Mitigation Plan is included as Attachment A, Exhibit 2.

#### Regional Entity's Basis for Penalty

According to the NOCV, MRO has assessed a penalty of one hundred forty-four thousand dollars (\$144,000) for the referenced violation. In reaching this determination, MRO considered the following factors:

1. MPC admitted to, and accepted responsibility for, the violation;
2. the instant violation constitutes MPC's first occurrence of violation of the subject NERC Reliability Standard;
3. MPC had an internal compliance program at the time of the violation, which MRO treated as a neutral factor in determining the penalty, as discussed in Attachment A;
4. MPC self-reported the violation;

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5. MPC was cooperative in a manner that exceeded MRO's expectations of a similarly situated registered entity throughout the compliance enforcement process;
6. there was no evidence of any attempt to conceal a violation nor evidence of intent to do so;
7. the violation posed a serious and substantial risk to the reliability of the BPS, as discussed in Attachment A; and
8. there were no other mitigating or aggravating factors or extenuating circumstances that would affect the assessed penalty.

After consideration of the above factors, MRO determined that, in this instance, the penalty amount of one hundred forty-four thousand dollars (\$144,000) is appropriate and bears a reasonable relation to the seriousness and duration of the violation.

#### **Statement Describing the Assessed Penalty, Sanction or Enforcement Action Imposed<sup>7</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>8</sup> the NERC BOTCC reviewed the violation on May 8, 2018, and approved the terms of the NOCV. In approving the resolution, the NERC BOTCC reviewed the applicable requirements of the Commission-approved Reliability Standards and the underlying facts and circumstances of the violation at issue.

For the foregoing reasons, the NERC BOTCC approved the resolution and believes that the assessed penalty of one hundred forty-four thousand dollars (\$144,000) is appropriate for the violation and circumstances at issue, and is consistent with NERC's goal to promote and ensure reliability of the BPS.

Pursuant to 18 C.F.R. § 39.7(e), the penalty will be effective upon expiration of the 30-day period following the filing of this Notice of Penalty with FERC, or, if FERC decides to review the penalty, upon final determination by FERC.

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<sup>7</sup> See 18 C.F.R. § 39.7(d)(4).

<sup>8</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:

1. The NOCV issued by MRO on April 7, 2018, included as Attachment A;
  - a. MPC's Self-Report for FAC-003-4 R2 dated July 20, 2017, included as Exhibit 1 to Attachment A;
  - b. MPC's Mitigation Plan designated as MROMIT013625 for FAC-003-4 R2, submitted February 28, 2018, included as Exhibit 2 to Attachment A; and
  - c. MPC's Response to the Notice of Alleged Violation and Proposed Penalty or Sanction, submitted on April 3, 2018, included as Exhibit 3 to Attachment A.

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

<p>Sara E. Patrick*</p> <p>Interim President Midwest Reliability Organization 380 St. Peter Street, Suite 800 Saint Paul, MN 55102 (651) 855-1708 se.patrick@midwestreliability.org</p> <p>Valerie Agnew*</p> <p>Vice President of Regulatory Affairs and Enforcement Midwest Reliability Organization 380 St. Peter Street, Suite 800 Saint Paul, MN 55102 (651) 855-1745 vl.agnew@midwestreliability.org</p> <p>Gerad Paul*</p> <p>General Counsel Vice President of Legal Affairs Minnkota Power Cooperative, Inc. 5301 32nd Avenue South Grand Forks, ND 58201 (701) 795-4209 gpaul@minnkota.com</p> <p>Theresa Allard*</p> <p>Compliance Manager Minnkota Power Cooperative, Inc. 5301 32nd Avenue South Grand Forks, ND 58201 (701) 795-4343 tallard@minnkota.com</p>	<p>Sonia C. Mendonça*</p> <p>Vice President, Deputy General Counsel, and Director of Enforcement North American Electric Reliability Corporation 1325 G Street N.W. Suite 600 Washington, DC 20005 (202) 400-3000 (202) 644-8099 – facsimile sonia.mendonca@nerc.net</p> <p>Edwin G. Kichline*</p> <p>Senior Counsel and Director of Enforcement Oversight North American Electric Reliability Corporation 1325 G Street N.W. Suite 600 Washington, DC 20005 (202) 400-3000 (202) 644-8099 – facsimile edwin.kichline@nerc.net</p> <p>Leigh Anne Faugust*</p> <p>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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<p>*Persons to be included on the Commission's service list are indicated with an asterisk. NERC requests waiver of the Commission's rules and regulations to permit the inclusion of more than two people on the service list.</p>	
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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/ Leigh Anne Faugust

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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sonia.mendonca@nerc.net  
edwin.kichline@nerc.net  
leigh.faugust@nerc.net

cc: Minnkota Power Cooperative, Inc.  
Midwest Reliability Organization

Attachments

## **Attachment A**

### **Notice of Confirmed Violation issued by MRO on April 7, 2018**



April 4, 2018

Mr. Gerad Paul  
VP Legal Affairs and Regulatory Compliance  
Minnkota Power Cooperative, Inc.  
5301 32<sup>nd</sup> Avenue South  
Grand Forks, ND 58201

**Re: Notice of Confirmed Violation**

<u>Registry ID</u>	<u>NERC Tracking ID</u>	<u>Standard</u>	<u>Requirement</u>
NCR01013	MRO2017017989	FAC-003-4	2

Dear Mr. Paul:

Midwest Reliability Organization (MRO) hereby provides this Notice of Confirmed Violation to Minnkota Power Cooperative, Inc. (MPC), in accordance with the Federal Energy Regulatory Commission's (Commission or FERC) rules, regulations and orders,<sup>1</sup> and the NERC Rules of Procedure including Appendix 4C (NERC Compliance Monitoring and Enforcement Program (CMEP)).<sup>2</sup>

MRO is issuing this Notice of Confirmed Violation because MPC has accepted<sup>3</sup> the proposed penalty or sanction set forth in the Notice of Alleged Violation and Proposed Penalty or Sanction issued by MRO on March 5, 2018. Accordingly, the violation identified by the above NERC Tracking Number is a Confirmed Violation, as that term is defined in the NERC Rules of Procedure and the CMEP. The facts and circumstances of the Confirmed Violation are provided in Attachment A, Violation Detail.

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

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

<sup>2</sup> <https://www.nerc.com/AboutNERC/Pages/Rules-of-Procedure.aspx>

<sup>3</sup> See Exhibit 3 of Violation Detail Attachment.



NERC will publicly post each report of a Confirmed Violation, together with any statement submitted by MPC, no sooner than five business days after the report is provided by MRO to NERC and MPC. NERC will include, with the Notice of Penalty filed with FERC, the statement provided by MPC. MRO anticipates that this Confirmed Violation 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 Violation 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 MPC 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 30 day period following the acceptance and the filing of the Notice of Penalty with FERC by NERC, or, if FERC decides to review the proposed penalty, or sanction, upon final determination by FERC.

### **The Record of the Proceeding<sup>4</sup>**

The record of the proceeding will include this Notice of Confirmed Violation and any MPC statement or response thereto, as well as the Notice of Alleged Violation and Proposed Penalty or Sanction and associated exhibits. 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 Violation.

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<sup>4</sup> See 18 C.F.R § 39.7(d)(5).





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## **Conclusion**

Please contact me if you have any questions in response to this Notice of Confirmed Violation, and refer to NERC Tracking Id MRO2017017989.

Sincerely,

Jackson Evans  
Enforcement Attorney

Cc: Theresa Allard, MPC  
Sonia Mendonca, NERC  
Edwin Kichline, NERC  
Valerie Agnew, MRO



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## **Attachment A**

### **Minnkota Power Cooperative, Inc. (MPC) Violation Detail**

**Violation Identification Number: MRO2017017989**



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## **DISPOSITION OF VIOLATIONS<sup>5</sup>** **April 4, 2018**

NERC TRACKING NO. **MRO2017017989**  
REGIONAL ENTITY TRACKING NO. **MRO2017017989**

REGISTERED ENTITY  
**Minnesota Power Cooperative, Inc. (MPC)**

NERC REGISTRY ID  
**NCR01013**

REGIONAL ENTITY

**Midwest Reliability Organization (MRO)**

### **I. REGISTRATION INFORMATION**

ENTITY IS REGISTERED FOR THE FOLLOWING FUNCTIONS (BOTTOM ROW INDICATES REGISTRATION DATE):

BA	DP	GO	GOP	IA	LSE	PA	PSE	RC	RP	RSG	TO	TOP	TP	TSP
											X			
	5/30/2007	5/30/2007	5/30/2007						5/30/2007		5/30/2007	5/30/2007	5/30/2007	5/30/2007

\* VIOLATIONS APPLY TO SHADED FUNCTIONS

#### DESCRIPTION OF THE REGISTERED ENTITY

MPC is currently registered as a Distribution Provider, Generator Operator, Generator Owner, Resource Planner, Transmission Operator, Transmission Owner, Transmission Planner, and Transmission Service Provider. MPC is a regional generation and transmission cooperative

<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.



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serving 11 member-owned distribution cooperatives, and a group of 12 municipals called the Northern Municipal Power Agency (NMPA). Midcontinent Independent System Operator, Inc. (MISO) serves as MPC's Balancing Authority, Planning Coordinator, and Reliability Coordinator.

The MPC/NMPA's joint system currently serves more than 147,000 residential, industrial, and commercial customers, with a service area of 34,500 square miles in eastern North Dakota and northwestern Minnesota.

MPC's transmission system is comprised of the following: 41.6 kV, 69 kV, 115 kV, 230 kV, and 345 kV. MPC has over 1,100 miles of transmission lines operated at 115 kV and above.

MPC has a company-owned generation portfolio of approximately 1,100 MW. The generation portfolio is primarily constituted of coal fired generation units that are located in North Dakota. MPC also purchases generation from multiple wind farms that are connected to MPC's transmission system.

## **II. VIOLATION INFORMATION**

TRACKING ID	RELIABILITY STANDARD	REQUIRE-MENT(S)	SUB-REQUIRE-MENT(S)	VRF(S)	VSL(S)	FUNCTIONS
MRO2017017989	FAC-003-4	R2	R2.1	High	High	TO

### **FAC-003-4 R2 (MRO2017017989)**

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

**The purpose statement of FAC-003-4 provides:** To maintain a reliable electric transmission system by using a defense-in-depth strategy to manage vegetation located on transmission rights of way (ROW) and minimize encroachments from vegetation located adjacent to the ROW, thus preventing the risk of those vegetation- related outages that could lead to Cascading.

**FAC-003-4 R2 provides, in pertinent part:**

R2. Each applicable Transmission Owner and applicable Generator Owner shall manage vegetation to prevent encroachments into the MVCD [Minimum Vegetation Clearing





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Distances] of its applicable line(s) which are not either an element of an IROL, or an element of a Major WECC Transfer Path; operating within its Rating and all Rated Electrical Operating Conditions of the types shown below *[footnote omitted]*:

R2.1. An encroachment into the MVCD, observed in Real-time, absent a Sustained Outage,<sup>6</sup>

## VIOLATION DESCRIPTION

On July 20, 2017, Minnkota Power Cooperative (MPC) submitted a Self-Report stating that as a Transmission Owner, it had a violation of FAC-003-4 R2. MPC has a Transmission Vegetation Management Program (TVMP) that describes MPC's vegetation inspection process.<sup>7</sup> Under the TVMP, vegetation inspections of all rights-of-way (ROW) are performed via helicopter annually (typically in the fall). The TVMP requires at least one aerial patrol per year and, under the program, MPC may conduct additional patrols that are intended to supplement the annual helicopter patrols to identify possible areas of concern so that ongoing vegetation maintenance strategies can be applied. Pursuant to its TVMP, MPC determines possible areas of concerns by having the inspectors judge the distance between the conductor and the vegetation.

The TVMP contains an imminent threat procedure.<sup>8</sup> The imminent threat procedure is to be used when appropriate staff have confirmed that the vegetation condition poses an increased risk to the reliable operation of a Transmission circuit. The procedure requires that the Control Center be notified and that the vegetation condition be mitigated as soon as possible, typically within 24 hours.

On June 26, 2017 (twenty-one days prior to the vegetation contact event), a fixed-wing patrol (an additional aerial patrol under the TVMP) reported that vegetation should be checked by ground or during the annual helicopter patrols at river crossings north of Fargo-Moorhead. The report was forwarded to the Area Line Worker (ALW) for follow up but did not identify an imminent threat, and no subsequent inspection was scheduled for that section of the line.

On July 17, 2017, MPC's Maple River-Winger 230 kV line experienced an encroachment into the MVCD resulting in multiple outages of the line throughout the afternoon. The Maple River-Winger 230 kV line has a 350 MVA rating and, at the time of the incident, had approximately 60

<sup>6</sup> (Footnote 5 from the FAC-003-4 relating to R2.1) If a later confirmation of a Fault by the applicable Transmission Owner or applicable Generator Owner shows that a vegetation encroachment within the MVCD has occurred from vegetation within the ROW, this shall be considered the equivalent of a Real-time observation.

<sup>7</sup> Section 5 of MPC's TVMP.

<sup>8</sup> Section 4 of MPC's TVMP addresses imminent threats.



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MVA of load on the line. The following timeline describes these outages and the immediate response from MPC.

At 12:14 p.m. the Maple River–Winger 230 kV line tripped. The line trip was caused by a Fault that occurred approximately seven and three-quarter miles from the Maple River end of the line (a location near the river crossings north of Fargo-Moorhead). A Misoperation (due to problematic relay settings) caused an unnecessary operation of a breaker failure scheme in response to the line trip and prevented the automatic reclosing sequence from being initiated. The suspected cause of the line trip was a Fault due to a small thunderstorm near the Maple River substation. At 2:14 p.m. the Maple River-Winger 230 kV line was returned to service after the problematic relay settings were corrected.

MRO determined that the two-hour outage of the Maple River-Winger 230 kV line was not a Sustained Outage. The NERC Glossary of Terms defines a Sustained Outage as:

The deenergized condition of a transmission line resulting from a fault or disturbance following an unsuccessful automatic reclosing sequence and/or unsuccessful manual reclosing procedure.

In this case there was no unsuccessful automatic reclosing sequence as the Misoperation prevented the automatic reclosing sequence from being initiated and there was no unsuccessful manual reclosing procedure as the eventual manual reclosing was successful.<sup>9</sup>

At 2:56 p.m., the Maple River-Winger 230 kV line tripped and automatically reclosed as designed (second operation on this line on this day).

At 3:10 p.m., the Maple River-Winger 230 kV line tripped and automatically reclosed as designed again (third operation on this line on this day). MPC manually took the line out of service so that it could be inspected further. An MPC crew was sent to the area to visually inspect the line. The crew determined that a tree contacted the line between structures 54 and 55. The crew reported that a Russian Olive Tree was three to four feet from the conductor.<sup>10</sup> The crew trimmed the tree that entered the MVCD as well as other trees surrounding structures 54 and 55 during this outage. At 4:52 p.m. the Maple River-Winger 230 kV line was returned to service after the tree trimming work was completed.

<sup>9</sup> MPC promptly self-reported the noncompliance, but did not report the outage under the FAC-003-4 Periodic Data Submittal for the reasons stated above. MRO and NERC discussed whether this outage had to be included in the Periodic Data Submittal. On October 17, 2017, NERC and MRO agreed that a Sustained Outage had not occurred and MPC did not have to include the outage in a FAC-003-4 Periodic Data Submittal.

<sup>10</sup> The MVCD for the line was 4.1 feet. Based on the crew's visual observation, the tree was in the MVCD at the time of the inspection by between one to 14 inches. A Russian Olive Tree is generally regarded as a fast growing tree.



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The noncompliance had two distinct causes. The first cause was that the MPC TVMP did not adequately specify appropriate observation criteria for the inspection of any potential vegetation contact issues. The criterion for vegetation inspections was based on a visual observation of the distance between the conductor and the vegetation. The results of this method vary greatly depending on the personnel performing the inspection and the line sag condition at the time of the inspection. The second cause is that the fixed-wing patrol that occurred on June 26, 2017 either failed to recognize the vegetation constituted an imminent threat or the pilot failed to appropriately report the condition as an imminent threat as required by MPC's TVMP.

#### RELIABILITY IMPACT STATEMENT- POTENTIAL AND ACTUAL

MRO determined that this noncompliance posed a serious or substantial risk to the reliability of the bulk power system (BPS). Tree contact with transmission lines threatens the reliability of the BPS as it has been identified as a common cause of outages and has initiated cascading outages. A tree contact was identified as one the causes of the 2003 blackout.

The potential risk of this noncompliance is elevated due to the importance of MPC's Transmission Facilities to the reliability of the BPS. MPC's system contains Transmission Lines that are part of important flowgates, including an Interconnection Reliability Operating Limit (IROL) flowgate. MPC also operates over 900 miles of Transmission Lines that are operated at 230 kV or 345 kV.

Further, the noncompliance cannot be regarded as being isolated to this particular segment of Transmission Line because the cause of the noncompliance was related to broad issues in MPC's vegetation management practices, specifically the criteria to be applied in performing inspections as described above, or reporting findings from inspections.

#### DURATION DATE

This violation began on July 17, 2017 when there was a tree contact with the line, and ended later on July 17, 2017, when MPC trimmed the tree to remove it from the MVCD.<sup>11</sup>

IS THERE A SETTLEMENT AGREEMENT YES ☐ NO ☒

#### WITH RESPECT TO THE VIOLATION(S), REGISTERED ENTITY

NEITHER ADMITS NOR DENIES IT (SETTLEMENT ONLY)	YES	<input type="checkbox"/>
ADMITS TO IT	YES	<input checked="" type="checkbox"/>
DOES NOT CONTEST IT (INCLUDING WITHIN 30 DAYS)	YES	<input type="checkbox"/>

<sup>11</sup> The date that the tree first entered the MVCD cannot be determined based on the available evidence.



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

### III. DISCOVERY INFORMATION

#### METHOD OF DISCOVERY

SELF-REPORT	<input checked="" type="checkbox"/>
SELF-CERTIFICATION	<input type="checkbox"/>
COMPLIANCE AUDIT	<input type="checkbox"/>
COMPLIANCE VIOLATION INVESTIGATION	<input type="checkbox"/>
SPOT CHECK	<input type="checkbox"/>
COMPLAINT	<input type="checkbox"/>
PERIODIC DATA SUBMITTAL	<input type="checkbox"/>
EXCEPTION REPORTING	<input type="checkbox"/>

### IV. MITIGATION INFORMATION

#### FAC-003-4 R2 (MRO2017017989)

#### FOR FINAL ACCEPTED MITIGATION PLAN:

MITIGATION PLAN NO.	<b>MROMIT013625</b>
DATE SUBMITTED TO REGIONAL ENTITY	<b>February 28, 2018</b>
DATE ACCEPTED BY REGIONAL ENTITY	<b>February 28, 2018</b>
DATE APPROVED BY NERC	<b>March 2, 2018</b>
DATE PROVIDED TO FERC	<b>March 2, 2018</b>

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

MITIGATION PLAN COMPLETED YES ☐ NO ☒

EXPECTED COMPLETION DATE	<b>July 2, 2018</b>
EXTENSIONS GRANTED	<b>N/A</b>
ACTUAL COMPLETION DATE	<b>TBD</b>

DATE OF CERTIFICATION LETTER	<b>TBD</b>
CERTIFIED COMPLETE BY REGISTERED ENTITY AS OF	<b>TBD</b>

VERIFIED COMPLETE BY REGIONAL ENTITY ON	<b>TBD</b>
VERIFIED COMPLETE BY REGIONAL ENTITY AS OF	<b>TBD</b>



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## ACTIONS TAKEN TO MITIGATE THE ISSUE AND PREVENT RECURRENCE

1. MPC resolved the noncompliance on July 17, 2017 by removing the tree that violated the MVCD and trimming other nearby trees.
2. MPC reviewed all fixed wing and helicopter patrols for the past two years to ensure that all potential threats had been assessed and mitigated, if necessary. MPC also conducted an extent of condition analysis by patrolling its 200 KV and above lines for vegetation issues.
3. Provided initial training on new approach to vegetation inspections to ALWs. The new approach is to measure the tree height from the ground as opposed to the distance between the vegetation and the conductor. Measuring the vegetation using the height from the ground is more accurate criterion than measuring the distance of the vegetation from the conductor. By making these improvements to the criteria, MPC addressed the first cause of the noncompliance.
4. In Fall 2017, MPC patrolled 200 kV and above lines for vegetation issues to determine the extent of the condition, to verify all tree sites were accounted for, and to verify any additional Imminent Threats. MPC addressed the second cause of the noncompliance during this milestone by having individuals who participated in the training in Milestone Three conduct the patrols.
5. MPC enhanced recordkeeping and reporting improvements in Oracle by:
  - a. Developing a more reliable process to track the additional work that is discovered throughout the year;
  - b. Developing ALW tools, through a more robust form for the ALWs to use in the field to provide better consistency in reporting of work needing to be performed, work modifications, and work completion; and
  - c. Strengthening overall documentation of vegetation sites to create more supervisory oversight through better reporting on inspections, Transmission Lines that have vegetation, and Transmission Lines that have the potential for vegetation contact.
6. MPC will develop the 2018 work plan (for vegetation removal) based on data from the 2017 Helicopter Patrols.
7. MPC will enhance ongoing training requirements for applicable vegetation personnel including:



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- a. Fixed-wing pilot training;
  - b. ALW training; and
  - c. Landowner training.
8. MPC will ensure that all augmentations to its Vegetation Management Program during this Mitigation Plan have been documented, including how inspections will be performed and the specific inspection criteria that will be used during inspections.

**LIST OF EVIDENCE REVIEWED BY REGIONAL ENTITY TO EVALUATE COMPLETION OF MITIGATION PLAN (FOR CASES IN WHICH MITIGATION IS NOT YET COMPLETED, LIST EVIDENCE REVIEWED FOR COMPLETED MILESTONES)**

1. 1\_Structure 54-55 after (1).jpg
2. 1\_Structure 54-55 after (2).jpg
3. 1\_Structure 54-55 before.jpg
4. 2\_Fixed Wing audit – August 2017.xlsx
5. 2\_Fixed Wing Patrol Audit Description.docx
6. 2\_June262017MapleRiverLines.docx
7. 3\_8-22-17 ALW meeting.pdf
8. 3\_2017 Helicopter Patrol.msg
9. 3\_No Vegetation Zone Update to Appendix A.msg
10. Milestone 3 summary.docx
11. Milestone 4.docx
12. Milestone 4-Appendix.pdf
13. Milestone 5.docx
14. 5-Figure 1 Pre-July New Site Sheet.docx
15. 5-Figure 2 Post-July New Site Sheet.docx
16. 5-Figures 3-4 FWP Old Process.docx
17. 5-Figures 5-7 FWP New Process.docx
18. 5-Figure 8 Inspection Key.docx
19. 5-Figure 9 Pre-July Evaluation.docx
20. 5-Figure 10 Post-July Inspection.docx
21. 5-Figure 11 – Pre-July Inspection.docx
22. 5-Figure 12 – Post-July Verification.docx
23. 5-Figure 13 – Verification Key.docx
24. 5-Figure 14 – 2017 Patrols Audit.pdf
25. 5-Figure 15 – Patrols ALW.docx
26. 5-Figures 11^16 – NWN.docx





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- 27. 5-Figure 17 – History by Year.docx
- 28. 5-Figure 18 – Verification Warn.docx
- 29. 5-Figure 19 – Work Plan – Unfiltered.docx
- 30. 5-Figure 20 – Work Plan Audit.docx
- 31. 5-Figure 21 – Verification Audit.docx
- 32. 5-Table 1 – Codes Changed.docx
- 33. 5-TVMP – July 2017.docx
- 34. 5-TVMP- March – 2018.docx
- 35. 5-TVMP – October-2017.docx

## **V. PENALTY INFORMATION**

TOTAL ASSESSED PENALTY OR SANCTION OF **\$144,000** FOR A VIOLATION OF FAC-003-4 R2.

MRO is committed to using the penalty process to promote strong compliance programs and encourage the development of robust internal controls. In this case, the noncompliance was caused by broad issues in the TVMP. The reliability of the BPS was threatened by the vegetation contact and an appropriate penalty should be assessed in recognition of the serious or substation risk that it imposed.

### **(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 Spreadsheet Notice of Penalty for a violation of FAC-009-1 R1 was filed with the Commission on March 29, 2018 in Docket No. NP18-9-000.



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### ADDITIONAL COMMENTS

(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 ☒ NO ☐

MPC was cooperative in a manner that exceeded MRO's expectations of a similarly situated registered entity. The contact occurred on July 17, 2017, and MPC quickly self-reported the noncompliance on July 20, 2017. MPC similarly provided prompt and complete responses to MRO's requests for information. Overall, MPC staff were exceptionally professional and cooperative with MRO staff. This cooperation resulted in the processing time of this noncompliance being reduced. MRO considered MPC's cooperation to be a mitigating factor in the penalty assessment.

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

IS THERE A DOCUMENTED COMPLIANCE PROGRAM  
YES ☒ NO ☐ UNDETERMINED ☐  
EXPLAIN

MPC has a documented FERC/NERC Compliance Program. The primary vehicle for implementing MPC's Compliance Program is through the Compliance Team. The Compliance Team includes the Compliance Officer, the Compliance Manager, other compliance staff and subject-matter experts (SMEs) that are supervisors or technical leads from throughout the organization. The Compliance Team implements operating procedures to maintain reliability and maintain evidence that the procedures are executed.

MPC has a Compliance Training Program. The Compliance Department provides training on an as-needed basis to its employees. Employees in NERC Compliance roles are often given specialized training, such as Cyber Security Training or Protective System Maintenance Training. Additionally, SMEs are expected to provide knowledge to their respective business units based on violations found on the NERC website and NERC's lessons learned. This information is shared through regular Compliance Team Meetings. MPC also leverages third parties to train employees through the use of Mock Audits and consultants. MPC also has a Compliance Awareness Program that is directed at all MPC personnel, which primarily consists of articles on MPC's website, notices in





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common areas, and discussions at meetings. The Compliance Manager and Compliance Coordinator may send email through the Compliance Awareness Program.

Additionally, MPC has sought to operationalize its program by designating an operations employee to be the standard owner for ensuring compliance with a NERC Reliability Standard, and assigning another employee to assist the standard owner. In the event that there is a potential noncompliance, MPC requires that compliance staff and the standard owner work together on all Self-Reports, as well as the development and implementation of any mitigating activities.

While MPC has an appropriate architecture for its compliance program, the internal controls, practices, and procedures that were specific to the implementation of the TVMP were deficient. Therefore, MRO is treating MPC's Compliance Program as a neutral factor in determining the penalty.

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.

MPC's Senior Management takes an active role in MPC's Compliance Program. The program is overseen by the Compliance Officer. The Compliance Officer reports directly to the CEO and has independent access to MPC's Board of Directors. The Compliance Officer ensures that resources and funding are available for the successful implementation of the program. The Compliance Officer regularly meets with the Compliance Manager (who leads the Compliance Department), participates in the Compliance Team meetings, and participates in audits, self-audits, and other compliance related functions. Additionally, the Compliance Manager is also given the authority to access the Board of Directors and CEO if the Compliance Manager has concerns regarding the compliance-related decisions of the Compliance Officer.

(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



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(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

MRO reduced the penalty because MPC expedited the resolution of this issue by accepting responsibility for the noncompliance.

(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. Self-Report submitted July 20, 2017.
2. MROMIT013625 for MRO2017017989 (FAC-003-4 R2), submitted on February 28, 2018.
3. MPC's Response to the Notice of Alleged Violation and Proposed Penalty or Sanction, submitted on April 3, 2018.

**OTHER RELEVANT INFORMATION:**

NOTICE OF ALLEGED VIOLATION AND PROPOSED PENALTY OR SANCTION  
ISSUED

DATE: March 5, 2018 OR N/A ☐

SETTLEMENT DISCUSSIONS COMMENCED

DATE: OR N/A ☒

NOTICE OF CONFIRMED VIOLATION ISSUED

DATE: April 4, 2018 OR N/A ☐

REGISTERED ENTITY RESPONSE CONTESTED

FINDINGS ☐ PENALTY ☐ BOTH ☐ DID NOT CONTEST ☒

HEARING REQUESTED

YES ☐ NO ☒

DATE

OUTCOME

APPEAL REQUESTED

## **Exhibit 1**

**MPC's Self-Report for FAC-003-4 R2 dated  
July 20, 2017**

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July 20, 2017

**Self Report**

Entity Name: Minnkota Power Cooperative, Inc. (MPC)

NERC ID: NCR01013

Standard: FAC-003-4

Requirement: FAC-003-4 R2.

Date Submitted: July 20, 2017

Has this violation previously  
been reported or discovered?: No

**Entity Information:**

Joint Registration  
Organization (JRO) ID:

Coordinated Functional  
Registration (CFR) ID:

Contact Name: Theresa Allard

Contact Phone: 7017954343

Contact Email: tallard@minnkota.com

**Violation:**

Violation Start Date: July 17, 2017

End/Expected End Date: July 17, 2017

Reliability Functions: Generator Owner (GO)  
Transmission Owner (TO)

Is Possible Violation still No  
occurring?:

Number of Instances: 1

Has this Possible Violation No  
been reported to other  
Regions?:

Which Regions:

Date Reported to Regions:

Detailed Description and Description of PV:

Cause of Possible Violation: This event occurred on 7/17/17. On this day, the weather in the impacted area was very warm, humid, and calm. (System Map of Area.jpg)

On 7/17/17 at 12:14 p.m., Maple River - Winger tripped and caused a Misoperation. It was suspected to be due to a small thunderstorm near Maple River sub. The Fault was known to have been between Structures 54-56, but the cause was not identified at that time. The line was out of service for approximately 2 hours while the settings were corrected. (back in service at 2:14 p.m.)

Note: it was determined that, although this outage could be categorized as a Sustained Outage, that the tree did not cause it. It is likely that the tree caused the Fault on the line; however, the incorrect breaker failure setting caused the Misoperation and outage. The line was out of service in order to fix the setting. It was out of order for as long as it was because technicians had to physically reset the lockouts, so travel time was involved.

At 2:56 p.m., Maple River - Winger tripped and reclosed as designed. This was the second operation on this line on this day.

At 3:10 p.m., Maple River - Winger experienced its third operation of the day. The line reclosed properly but was then taken out of service manually to be inspected further. A flashover was found to have occurred between the conductor and a tree between structures 54 and 55 - burn marks were



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### Self Report

discovered on the tree. The vegetation at the time of discovery was reported to be 3-4' from the conductor. Line was out of service for approximately 1 hour and 42 minutes. Trees surrounding structures 54 and 55 were trimmed during that time. Line was back in service at 4:52 p.m. (Structure 54-55 before.jpg, Structure 54-55 after1.jpg, and Structure 54-55 after2.jpg).

#### Cause of PV:

As stated in Section 3 of the MPC TVMP.pdf, MPC's goal is to trim to the maximum allowed in the Right of Way easement. The minimum MPC standard is to trim any vegetation approaching the Minimum Vegetation Clearance Distance (MVCD). Routine fixed-wing aircraft patrols are intended to identify possible areas of concern so that ongoing maintenance strategies can be applied.

On June 26, Gebhardt Air Service, LLC reported that vegetation should be checked by ground or during helicopter patrols at river crossings north of Fargo-Moorhead. Despite the issue being reported, an encroachment within the MVCD occurred from vegetation within the ROW, causing several blink outages on 7/17/17. No customers experienced any loss of service due to any of the outages. It is currently unclear what lead to encroachment into the MVCD.

### Mitigating Activities:

Description of Mitigating Activities and Preventative Measure: The tree was immediately removed and the Right of Way cleared to mitigate any more potential issues with this particular span.

However, this event has identified a few shortcomings that will need to be addressed.

Date Mitigating Activities Completed:

### Impact and Risk Assessment:

Potential Impact to BPS: Moderate

Actual Impact to BPS: Minimal

Description of Potential and Actual Impact to BPS:

Potential Impact: The reliability objective of FAC-003 R2 is the management of vegetation such that there are no vegetation encroachments within a minimum distance of transmission lines. R2 states that if inadequate vegetation management allows vegetation to encroach within the MVCD distances as shown in FAC-003 Table 2, it is a violation of the standard.

Evidence of failures to adequately manage vegetation include real-time observation of a vegetation encroachment into the MVCD (absent a Sustained Outage). From page 5 of the standard (footnote 5) and page 21 (Guidelines and Technical Basis): Faults which do not cause a Sustained outage and which are confirmed to have been caused by vegetation encroachment into the MVCD are considered the equivalent of a Real-time observation for VSLs.

In summary, MPC believes itself to have an otherwise sound program despite this isolated event. Nevertheless, this was a failure by MPC to manage vegetation to meet the objective of "preventing the risk of those vegetation related outages that could lead to Cascading".

#### Actual Impact:

No loss of power was experienced by anybody at any time. There was no actual impact to the BPS.



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**Self Report**

Risk Assessment of Impact to See above.  
BPS:

Additional Entity Comments:

Additional Comments		
From	Comment	User Name
No Comments		

Additional Documents			
From	Document Name	Description	Size in Bytes
No Documents			

## **Exhibit 2**

**MPC's Mitigation Plan designated as  
MROMIT013625 for FAC-003-4 R2,  
submitted February 28, 2018**

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## Mitigation Plan

### Mitigation Plan Summary

Registered Entity: Minnkota Power Cooperative, Inc.

Mitigation Plan Code: MROMIT013625

Mitigation Plan Version: 1

NERC Violation ID	Requirement	Violation Validated On
MRO2017017989	FAC-003-4 R2.	07/25/2017

Mitigation Plan Submitted On: February 28, 2018

Mitigation Plan Accepted On: February 28, 2018

Mitigation Plan Proposed Completion Date: July 02, 2018

Actual Completion Date of Mitigation Plan:

Mitigation Plan Certified Complete by MPC On:

Mitigation Plan Completion Verified by MRO On:

Mitigation Plan Completed? (Yes/No): No



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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: Minnkota Power Cooperative, Inc.

NERC Compliance Registry ID: NCR01013

Address: 5301 32nd Avenue South  
Grand Forks ND 58201

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: Theresa Allard  
Title: Compliance Manager  
Email: tallard@minnkota.com  
Phone: 701-795-4343



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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		
MRO2017017989	07/17/2017	FAC-003-4 R2.
Each applicable Transmission Owner and applicable Generator Owner shall manage vegetation to prevent encroachments into the MVCD of its applicable line(s) which are not either an element of an IROL, or an element of a Major WECC Transfer Path; operating within its Rating and all Rated Electrical Operating Conditions of the types shown below:		

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

Mechanism for identification:

On 7/17/17, the Maple River - Winger 230 kV line experienced three blink outages. It was discovered that a tree in close proximity to the line, with evidence of flashover, was responsible for the outages.

Cause of violation (what failed in the process to cause the failure?)

MPC attempted to account for the movement of the line conductors as well as the inter-relationships between vegetation and growth rates, vegetation control methods, and inspection frequency by instructing their inspection personnel to document and report vegetation matter that is 15' or less from the conductor. It was determined that this instruction resulted in inadequate estimates as it relates to the potential for vegetation to encroach into the MVCD area.

In addition, the June 2017 fixed-wing patrol report that ultimately recognized the MVCD encroachment potential did not suggest that there was an imminent threat. It was determined that the reporting tools and expectations that the fixed-wing patrol pilot was provided were inadequate.

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

Background information:

Section 5 of the MPC TVMP describes Minnkota's vegetation inspection process. Complete vegetation inspections of all Right of Ways occur once per calendar year, normally in the fall. These inspections are performed via helicopter. These ultimately identify the work that will be included in the following year's work plan. In addition, fixed-wing aircraft patrols are also performed throughout the growing season (spring/summer months) and are intended to supplement the annual helicopter patrols, with the purpose being to identify possible areas of concern so that ongoing vegetation maintenance strategies can be applied. Fixed-wing patrols are not considered to satisfy the annual inspection requirement (R6); rather, they are used as a supplemental inspection as part of a defense-in-depth approach to vegetation inspections.

On June 26, 2017, a fixed-wing patrol reported that vegetation should be checked by ground or during helicopter patrols at river crossings north of Fargo-Moorhead. The report was forwarded to the Area Line Worker for follow up. Access to this portion of the Right of Way is difficult during the summer months due to crops. Despite the issue being reported, an encroachment within the MVCD occurred from vegetation within the ROW. No customers experienced any loss of service due to any of the outages.

Note: Minnkota does have an Imminent Threat procedure (TVMP, Section 4), but Minnkota had no indications that such a condition was presenting itself.

The tree at issue in this violation was a Russian Olive tree, which has a fast rate of growth. The tree was located under the conductor and was roughly 22' tall. The approximate elevation of the tree was 900 feet above sea level so the MVCD for a 230 kV line at this elevation is 4.1 feet. The vegetation at the time of discovery was reported to be 3-4' from the conductor.

The line that flashed over was a 230 kV line with a 350 MVA rating. At the time of the incident, there was



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approximately 60 MVA of load on the 230 kV line. A separate investigation was initiated to determine whether there were any clearance issues on this line, but none were identified.

#### 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:

1. Remove the tree that violated the MVCD in the Maple River - Winger line ROW.
2. Review all fixed wing and ground patrols for the past two years to ensure that all potential threats have been assessed, and mitigate if necessary.
3. Provide initial training on new approach to vegetation inspections to Area Line Workers (ALWs).
4. Patrol 200 kV and above lines for vegetation issues to determine the extent of the condition/verify all tree sites are accounted for and to identify any additional Imminent Threats.
5. Oracle recordkeeping and reporting improvements.
6. Develop the 2018 work plan based on data from September 2017 Helicopter Patrols (#4 above)
7. Enhance ongoing training requirements for applicable vegetation personnel
8. Vegetation Management Program documentation updates to better describe Minnkota's overall vegetation management program. Specific inspection criteria and descriptions of how the inspections are performed will be added to the TVMP.

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: July 02, 2018

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
1	Remove the tree that violated the MVCD in the Maple River - Winger line ROW	07/17/2017	07/17/2017	Evidence is located on EFT3: 1_Structure 54-55 before.jpg, 1_Structure 54-55 after (1).jpg, 1_Structure 54-44 after (2).jpg	No
2	Review all fixed wing and ground patrols for the past two years to ensure that all potential threats have been assessed, and mitigated if necessary. A description of the process can be found in "2_Fixed Wing	08/24/2017	08/24/2017	Evidence is located on EFT3: 2_Fixed Wing audit - August 2017.xlsx" and "2_Fixed Wing Patrol Audit Description.docx". Photos and emails, where available, can be provided if necessary. See also 2_June262017MapleRiverLi	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
	Patrol Audit Description.docx".			nes.docx for initial report from fixed wing aircraft that identified the tree. His report format has been improved since then (see Milestone 5)	
3	Provide initial training on new approach to vegetation inspections to Area Line Workers (ALWs).	09/08/2017	09/08/2017	Evidence is located on EFT3: Milestone 3 Summary.docx describes the milestone activities. 3_8-22-17 ALW meeting.jpg, 3_2017 Helicopter Patrol.eml, and 3_No Vegetation Zone Update to Appendix A.eml are all referenced within the Word doc.	No
4	Patrol 200 kV and above lines for vegetation issues to determine the extent of the condition/verify all tree sites are accounted for and to identify any additional Imminent Threats.	11/24/2017	11/24/2017	Supporting documents have been updated to EFT3: Milestone 4.docx describes the work performed. Milestone 4-Appendix.pdf is referenced within the Word document and provides additional detail.	No
5	Oracle recordkeeping and reporting improvements, including: 5a: Work added: Develop a more reliable process to track the additional work that is discovered throughout the year (by ground and aerial patrols) to ensure it is followed through. 5b: ALW tools: Develop a more robust form for the	02/23/2018	02/23/2018	All evidence of completion has been uploaded to EFT3.	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
	ALWs to use in the field, to provide better consistency in reporting of work needing to be performed, work modifications, and work completion. 5c: Supervisory Oversight: Strengthen overall documentation of vegetation sites. Create better reporting to show 100% inspection of all applicable lines. Create better reporting to show that all spans that have vegetation, and thus the potential for vegetation contact with overhead conductors, are properly recorded.				
6	Develop the 2018 work plan based on data from September 2017 Helicopter Patrols	04/15/2018			No
7	Enhance ongoing training requirements for applicable vegetation personnel, including: 7a: Fixed-wing pilot training: Better training/communication tools for the fixed-wing pilot. 7b: Area Line Worker training: TVMP Training, Imminent Threat Training, Recordkeeping	06/01/2018			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
	Training, and field guide. 7c: Landowner training: Develop and execute a means of communicating and educating landowners about the importance of utility rights-of-way vegetation maintenance and its relationship to safety and electric reliability.				
8	Vegetation Management Program documentation updates to better describe Minnkota's overall vegetation management program. Specific inspection criteria and descriptions of how the inspections are performed will be added to the TVMP.	07/01/2018			No

Additional Relevant Information

Risk Assessment:

MPC's failure to properly manage vegetation along a transmission ROW resulted in vegetation encroaching a line's MVCD. The risk of the violation was enhanced by the presence of a fast-growing tree species in the ROW and MPC personnel's failure to identify the tree as an encroachment risk during annual inspections of the line by aerial patrol in fall 2016. The clearance violation was remediated on the day of discovery. The Area Line Worker cleared a number of trees from the area of concern, including the scorched tree.

The risk of the violation was reduced by MPC's vegetation management program. MPC practices include preventive controls to prevent vegetation from growing into the minimum clearance area. Specifically, MPC inspects ROW at regular intervals to check vegetation growth, so if the vegetation is anticipated to affect the minimum clearance, MPC updates its plan to trim the trees. MPC's practice had been to assess the distance from the tree to the conductor, and if the distance was greater than 15', it was determined to be an adequate distance that accounted for conductor motion and expected tree growth for the upcoming growing season. Minnkota has since taken a new approach to evaluating future vegetation maintenance, and now looks for the height of the tree from the ground, and not the distance from the tree to the conductor.





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Although MPC's visual inspection method for checking growth proved to be inadequate, MPC still had a process for inspecting the growth at regular intervals. MPC conducted aerial inspections of the line on October 24, 2016 via helicopter and March 30, 2017 via fixed wing aircraft and June 26, 2017 via fixed wing aircraft. MPC did not identify any concerns with line clearances during these inspections.

Finally MPC had corrective controls in place. MPC has a SCADA system and System Operators who monitor the status of the line. If there is a fault on the line due to vegetation issues, the line will trip and MPC System Operators will detect the fault using to MPC's SCADA and monitoring. Additionally, MPC has processes in place to ensure its ALW and Transmission Line Superintendent are informed about faults, including vegetation-related faults. They are positioned to initiate corrective action.



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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.

MPC asserts that there is minimal risk during the implementation of the mitigation plan. Therefore, there are no plans to take any additional actions. The basis for this assertion is as follows:  
An extent of condition review was performed during the September 2017 helicopter patrols and no instances of Imminent Threat were discovered. As for the July 17, 2017 incident, MPC's contingency analysis program did not indicate any adverse conditions to the BPS for the loss of the Maple River - Winger 230 kV line. Had there been any adverse impact resulting from the loss of a transmission line, MPC's operational planning practices include planning for contingencies, so System Operators are always prepared to take actions to effectively mitigate them.

#### 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

Successful completion of this Mitigation Plan will minimize the probability that MPC incurs further violations of FAC-003 by enhancing the specifications for annual ROW inspections, thus ensuring a thorough and accurate inspection of all ROWs

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

MPC is implementing GIS for aerial patrols. Use of GIS is limited at this point, but it allows the patrol personnel to easily see structure numbers via the GIS system, which enables them to concentrate on the patrols rather than counting poles.



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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.

Minnkota Power Cooperative, Inc. Agrees to be bound by, and comply with, this Mitigation 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: Theresa Allard

Title: Compliance Manager

Authorized On: February 28, 2018

## **Exhibit 3**

**MPC's Response to the Notice of Alleged  
Violation and Proposed Penalty or Sanction,  
submitted on April 3, 2018**

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5301 32<sup>nd</sup> Ave. South  
Grand Forks, ND 58201  
Phone 701.795.4000  
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April 3, 2018

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

**Re: Response to Notice of Alleged Violation and Proposed Penalty or Sanction**

<u>Registry ID</u>	<u>NERC Tracking ID</u>	<u>Standard</u>	<u>Requirement</u>
NCR01013	MRO2017017989	FAC-003-4	R2

Dear Mr. Evans:

Please let this letter serve as Minnkota's notice to the MRO that Minnkota accepts the MRO's *Notice of Alleged Violation and Proposed Penalty or Sanction*, dated March 5, 2018. Minnkota has submitted its Mitigation Plan and is committed to completing Mitigating Activities to correct the Violation and its underlying causes. We appreciate the past and future assistance of the MRO in this regard.

Should you have any questions or concerns, please do not hesitate to reach out to Minnkota's PCC, Theresa Allard, or myself. We look forward to formally resolving this in the days ahead.

Respectfully,

Gerard Paul  
General Counsel and Vice President for Legal Affairs