

April 1, 2015

Dr. Burl W. Haar
Executive Secretary
Minnesota Department of Commerce
121 7th Place East, Suite 350
Saint Paul, Minnesota 55101-2147

Subject: Minnesota Electric Distribution Reliability Report – Chapter 7826
Docket No. E016/M-15-

Dear Dr. Haar:

As required by Minnesota Statutes 2002.216B.81, Northwestern Wisconsin Electric Company (NWE) files the following report for 2014.

7826.0400 ANNUAL SAFETY REPORT

- A. NWE did not file any reports with US OSHA or Occupational Safety and Health Division of Minnesota DLI during 2014.
- B. There were no injuries in Minnesota requiring medical attention or property damage resulting in compensation as a result of downed wires or electrical system failures.

7826.500 RELIABILITY REPORTING FOR 2014

Subpart 1.

- A. SAIDI = 123.14
- B. SAIFI = 0.9216
- C. CAIDI = 133.617
- D. There were no major storms in NWE's Minnesota Service Territory. There were several smaller storms causing damage in the NWE territory.
- E. NWE serves 102 Minnesota customers from two single phase 7.2KV distribution lines. One 7.2KV line runs from Clam River Dam, Wisconsin through Governor Knowles State Forest (no roads, only trails) for approximately one (1) mile, then crosses the St. Croix River and continues 4 ½ miles into St. Croix State Park (Minnesota) – few roads. This line services 20 customers in the park. It takes approximately an hour to drive, in the summer time, around on roads from the source to the end of line when patrolling. This adds unavoidable time to the duration time of each outage. All overhead lines in Union Township were cleared to 20 foot clearance in 2007. All the lines in Crosby (St. Croix State Park) after crossing the St. Croix River are underground.
All the 9KV lightning Arresters were inspected on March 8, 2010. They all were of the MCOV Type (latest design). The OCR at the Clam Dam Substation was replaced with a 35A Amp Oil Circuit Recloser on February 15, 2012.

The second 7.2KV line comes out from the Tower Road Substation (2½ miles east of Danbury, WI.), and goes along country roads for 12 miles to the Wisconsin-Minnesota border. It then enters Minnesota on Highway 25 and Township Roads, serving 81 customers in Arna Township. The overhead lines in Arna, Blaine and Swiss Townships were cleared to 20 foot clearance in 2007. Almost all of the line was rebuilt with new poles.

Tree limbs falling on power lines cause most storm-related outages. NWECC's maintenance program includes pruning and removing trees under and near power lines on a six-to-seven year pruning cycle in urban areas and an eight-to-ten year cycle in rural areas.

The amount of clearance depends on the voltage in the lines and tree re-growth after cutting and pruning. The recommended minimum clearance for Distribution primary lines (measured at top of the pole) that serve many customers, is 10 feet on all sides in urban areas and 20 feet in rural areas. We also remove tree branches that overhang the lines. Recommended clearance for wires serving individual homes (secondary) is three (3) feet.

Studies and our experience have shown what minimum clearance we need to maintain a reliable service on a six-to-seven year trimming cycle. Such clearance should minimize outages and prevent trees from burning when they touch primary lines.

An NWECC employee will make a reasonable effort to contact, in person or by certified mail, each property owner, a minimum of 1 week before starting clearing work.

All pole lines are inspected yearly. Five (5) – seven (7) % of all poles are tested for strength each year. Poles that fail test are replaced in the year they are identified.

- F. There were no major Bulk Power Supply Interruptions that affected NWECC's Minnesota and Wisconsin customers in 2014.
- G. No Reports were filed under part 7826.0700.
- H. NWECC has two (2) single phase 7.2KV Distribution Lines going from Wisconsin to Minnesota, one serves St. Croix State Park (20 customers) and the other serves the community of Markville and surrounding area (81 customers).

1. The Arna Township-Markville Circuit in 2014:

SAIDI = 15.37
SAIFI = 0.1707
CAIDI = 90.00

2. St. Croix State Park Circuit in 2014:

SAIDI = 565.00
SAIFI = 4.00
CAIDI = 141.25

The worst performing circuit was the St. Croix State Park circuit. The length of outages on this circuit is more severe for the reasons described in subpart 1.E. above. In the 6/29/2015 and 8/16/2015 outages we had a substation transformer serving this circuit fail. These have been replaced and a spare made available at the substation. We are also in the process of

rebuilding the Clam Dam substation which serves this circuit. This should increase reliability as well.

- I. There were no instances in which nominal electric service voltages on NVEC's side of meter did not meet ANSI Standards
- J. Danbury, Wisconsin 1 Foreman and 3 Linemen
Frederic, Wisconsin 1 Foreman and 4 Linemen
Grantsburg, Wisconsin 1 Foreman, 4 Linemen, 2 Brushing Crew, 1 Line Supt, and 1 Asst Line Supt

7826.0600 RELIABILITY STANDARDS

Subpart 1. PROPOSED RELIABILITY STANDARDS FOR 2014
MPUC ordered in Docket E-016/M-14-666

SAIDI = 212.55
SAIFI = 1.52
CAIDI = 154.88

7826.1400 METER READING PERFORMANCE

- A. 82 Meters – 80% by Utility
- B. 20 Meters – 20% self-read
- C. None
- D. One meter reader reads all of Arna

7826.1500 INVOLUNTARY DISCONNECTIONS

- A. Seven (7) customers received disconnection notices
- B. No customers sought cold weather rule protection
- C. One customer was disconnected involuntarily
- D. No disconnected customers entered into a payment plan

7826.1600 SERVICE EXTENSION REQUEST RESPONSE TIME

- A. No customer requested service to a location not previously served.
- B. One customer requested service at an existing location.

7826.1700 CALL CENTER RESPONSE TIME

NVEC does not have a call center. NVEC uses a call answering service for after hours calls of outage trouble, billing questions, etc. Customers are always able to talk to a live person. NVEC received a variance to setting up a call center in Docket #E-016M-04-510. The call answering service has been working very well with no complaints from any customer.

7826.1800 EMERGENCY MEDICAL ACCOUNT STATUS

NVEC has one (1) Minnesota customer on Emergency Medical Account Status.

7826.1900 CUSTOMER DEPOSITS

No customer was required to make deposit as a condition of receiving service.

7826.2000 CUSTOMER COMPLAINTS

- A. No Complaints received in 2014
- B. N/A
- C. N/A
- D. N/A

