Phone (715) 463-5371 FAX (715) 463-2765

August 4, 2014

104 South Pine Street • P.O. Box 9 • Grantsburg, WI 54840-0009

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-14-

Dear Dr. Haar:

As required by Minnesota Statutes 2002,216B.81, Northwestern Wisconsin Electric Company (NWEC) files the following report for 2014.

7826.0400 ANNUAL SAFETY REPORT

- A. NWEC did not file any reports with US OSHA or Occupational Safety and Health Division of Minnesota DLI during 2013.
- 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 2013

Subpart 1.

- A. SAIDI = 309.36
- B. SAIFI = 2.95
- C. CAIDI = 104.85
- D. There were no major storms in NWEC's Service Territory that affected Minnesota.
- E. NWEC serves 101 customers in Minnesota.

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 Saint 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 source to end of line when patrolling. This adds unavoidable time to 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. NWEC reviewed the sizing of the breaker/fusing and lightning protection appears to be adequately sized and correctly placed in the line. 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.

NWEC is committed to providing the best possible service to our customers, while still maintaining reasonable rates. A recent three (3) year study indicated that downed trees and limbs on our power lines cause the majority of our outages. Downed trees on power lines provide a serious forest fire danger, are very costly to repair and usually cause lengthy outages for our customers. In order to insure the safety of our employees and to provide uninterrupted service to our customers, NWEC needs to keep our power lines pruned and cut to proper clearance.

Tree limbs falling on power lines cause most storm-related outages. NWEC'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.

Each tree species grow differently. We must prune more from fast-growing tress to obtain proper clearance than we do from slow-growing trees. We might have to remove trees that are weak, brittle, damaged or diseased to avoid the risk of their falling on power lines. Fast growing trees, such as silver maple and willow, often are troublesome and should be removed.

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. Tree cutting and pruning is expensive for NWEC and its customers. The Company prefers to remove trees that require frequent pruning and pose particular hazards to power lines. Fast-growing, tall trees, directly under primary wires are an example. They quickly grow back into the wires and can cause repeated outages. Poplars, Willows, Box Elders, Jack Pine and Silver Maples are some fast-growing trees that need frequent pruning near power lines. These trees should be removed rather than pruned.

An NWEC employee will make a reasonable effort to contact, in person or by certified mail, each property owner, a minimum of 24 hours before starting work.

Generally, we recommend that nothing be planted directly beneath the lines. Certain tress that conflict with overhead lines, as they grow, are not only dangerous, but reguire regular pruning or even removal. Avoid problems by planting low growing tree species, at least 35 feet from overhead Utility lines. NWEC can recommend appropriate tree species for various locations. In general, plant small trees 30 feet apart, medium trees 40 feet apart, and large trees 50 feet apart.

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.

A downed power line is extremely dangerous. If you encounter a downed wire, stay back and make sure that children, other adults and pets stay away. Call you local NWEC office immediately. Remember that electric, gas, telephone, cable and water lines might be underground, so before you dig, call Gopher State ONE CALL (1.800.252.1166) for the exact location of the electric service buried underground

- F. There were no major Bulk Power Supply Interruptions that affected NWEC's Minnesota and Wisconsin customers in 2013.
- G. No Reports filed on 7826.0700
- H. NWEC 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 2013:

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\begin{array}{ll} SAIDI & = 344.44 \\ SAIFI & = 3.40 \end{array}
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CAIDI = 101.46

2. Saint Croix State Park Circuit in 2013:

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SAIDI = 167.25
SAIFI = 1.15
CAIDI = 145.44
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- I. There were no instances in which nominal electric service voltages on NWEC's side of meter did not meet ANSI Standards
- J. Danbury, Wisconsin 1 Foreman and 3 Linemen Frederic, Wisconsin 2 Foreman and 6 Linemen Grantsburg, Wisconsin 3 Foreman and 9 Linemen

7826.0600 RELIABILITY STANDARDS

Subpart 1. PROPOSED RELIABILITY STANDARDS FOR 2013 MPUC ordered in Docket E-016/M-13-379

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SAIDI = 197.02
SAIFI = 1.22
CAIDI = 162.13
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7826.1400 METER READING PERFORMANCE

- A. 81 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. Thirty-two (32) customers received disconnection notices
- B. No customers sought cold weather rule protection
- C. No customer was disconnected involuntarily
- D. No disconnected customers entered into a payment plan

7826.1600 SERVICE EXTENSION REQUEST RESPONSE TIME

A. One (1) customer requested service to a location not previously served.

Requested Date:

Hook Up Date:

07/17/13 G

Gerald Lynch

08/06/13

B. No customers requested service at an existing location.

7826.1700 CALL CENTER RESPONSE TIME

NWEC does not have a call center. NWEC 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. NWEC 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

NWEC has one (1) Minnesota customers 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 2013
- B. N/A
- C. N/A
- D. N/A

STATE OF WISCONSIN)	
)	SS
COUNTY OF BURNETT)	

AFFIDAVIT OF SERVICE

I, David M. Dahlberg, on the 5th day of August, 2014, served the attached Northwestern Wisconsin Electric Company Distribution Reliability Report – Chapter 7826.

Docket Number:

E016/M-12-

By Electronic Filing, Grantsburg, Wisconsin, a true and correct copy thereof.

To all persons at the addresses indicated below:

Dr. Burl W. Haar, Exec. Sec. Minnesota Public Utility Com. 121 7th Place East, Ste. 350 Saint Paul, Minnesota 55101-2147 John Lindell RUD/OAG 900 Bremer Tower 445 Minnesota Street Saint Paul, Minnesota 55101-2130

Julia Anderson DOC/Assistance Attorney General 1400 Bremer Tower 445 Minnesota Street Saint Paul, Minnesota 55101-2131

Sharon Ferguson (4) Department of Commerce 85 7th Place East, Suite 500 Saint Paul, Minnesota 55101-2198

David M. Dahlberg, President

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Average # of Customers in St Croix State Park

20

CAIDI 145.435 Total Customer Minutes*/.Total Customers Affected SAIDI 167.250 Total Customer Minutes*/.Total Minnesota Customers SAIFI 1.150 Total Customer Affected*/.Total Minnesota Customers

Calculation check: CAIDI X SAIFI = SAIDI

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	DATE	4/26/2013	5/31/2013	5/31/2013	6/21/2013	6/23/2013	6/30/2013	8/3/2013	8/26/2013	11/19/2013			
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Average # of Customers in MINNESOTA

101

104.849 Total Customer Minutes*/. Total Customers Affected 309.356 Total Customer Minutes*/. Total Minnesota Customers 2.950 Total Customer Affected*/. Total Minnesota Customers CAIDI SAIDI SAIFI

309,356 Calculation check: CAIDLX SAIFI = SAIDI

TRANSMISSION LINES NORTHWESTERN WISCONSIN ELECTRIC CO

