Minnesota Public Utilities Commission

Staff Briefing Papers

Meeting Date: **December 12, 2013** .....*Agenda Item # 7

Companies: Northwestern Wisconsin Electric Company

Docket No. E016/M-13-379

In the Matter of the Northwestern Wisconsin Electric Company (NWEC) 2012 Annual Safety, Reliability, Service Quality Report, and Proposed Annual Reliability Standards for 2013.

Issues: Should the Commission Accept NWEC's Safety, Reliability, service Quality Reports for 2012 and Its Proposed Annual Reliability Standards for 2013?

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Relevant Documents

Commission Order Approving Reports, Setting 2012
Reliability Standards, Docket No. E016/M-12-377.....December 20, 2012

NWEC Initial Filing 2012 Safety, Reliability and
Service Quality Standards Report.....May 7, 2013

Comments of the Minnesota Department of Commerce
Division of Energy Resources. .....July 8, 2013

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Statement of the Issues

Should the Commission accept NWEC's Safety, Reliability, and Service Quality Reports for 2012?

Should the Commission accept NWEC's proposed annual reliability standards for 2013?

Background

Minnesota Statute 216B.029 Standards for Distribution Utilities stipulates that the Commission shall adopt standards for safety, reliability, and service quality for distribution utilities.

Minnesota Rules Chapter 7826 were developed as a means for the Commission to establish safety, reliability, and service quality standards for electric distribution utilities and to monitor the performance of each utility as measured against those standards. There are three main annual reporting requirements setforth in the rule. These are:

1. The annual safety report (Minnesota Rules Part 7826.0400);

2. The annual reliability report (Minnesota Rules Parts 7826.0500, subp.1 and 7826.0600, subp. 1); and

3. The annual service quality report (Minnesota Rules Part 7826.1300).

These rules became effective on January 28, 2003. On April 1, 2013, NWEC filed its annual Electric Safety, Reliability, and Service Quality Performance Report and its request for approval of proposed reliability standards.

Reliability Report

Minnesota Rules part 7826.0500 require NWEC's reliability report to include, among other requirements:

A. the utility's SAIDI for the calendar year, by work center and for its assigned service area as a whole;

B. the utility's SAIFI for the calendar year, by work center and for its assigned service area as a whole;

C. the utility's CAIDI for the calendar year, by work center and for its assigned service area as a whole;

D. an explanation of how the utility normalizes its reliability data to account for major storms; and

E. an action plan for remedying any failure to comply with the reliability standards set forth in part 7826.0600 or an explanation as to why noncompliance was unavoidable under the circumstances.

Recognizing that not all utilities would have the complete information required by the rules available for the first year the reports were due on April 1, 2003, the rules allowed for more limited initial reporting requirements. Utilities were required to file historical data and proposed reliability standards for SAIDI, SAIFI, and CAIDI, and the Commission established performance standards based on those initial reports.

Reliability Definitions:

SAIDI means the System Average Interuption Duration Index and measures the average customer minutes of interruptions per customer. It is derived by dividing the annual sum of customer minutes of interruption by the average number of customers served during the year.

SAIDI = Total Customer Minutes of Sustained Outages ÷ Number of Customers

SAIFI means the System Average Interruption Frequency Index and measures the average number of interuptions per customer per year. It is derived by dividing the total annual number of customer interuptions by the average number of customers served during the year.

SAIFI = Total Number of Sustained Customer Interruptions ÷ Number of Customers

CAIDI means Customer Average Interruption Duration Index and is measured by the average customer minutes of interruption per customer interruption. It approximates the average length of time required to complete service restoration.

CAIDI = Total Customer Minutes of Sustained Outages ÷ Total number of Sustained Customer Interruptions = SAIDI ÷ SAIFI

Interruption means an interruption of electricity service to a customer greater than five minutes in duration.

Major Service Interruption means an interruption of service at the feeder level or above and affecting 500 or more customers for one or more hours.

Storm-normalized data means data that has been adjusted to neutralize the effects of outages due to major storms.

Since 2003, the Commission has adopted measures to make the annual reports more comprehensive and useful for the Commission and the utilities. Staff has been focused especially on measures that will lead to improved service quality and reliability and that will allow improvements to be monitored.

On December 20, 2012, in Docket No. E-015/M-12-308, the Commission ordered, in regard to the reliability report due April 1, 2013, that NWEC shall:

a. Include a description of the policies, procedures, and actions that it has implemented and plans to implement to ensure reliability, including information demonstrating proactive management of the system as a whole, increased reliability, and active contingency planning;

b. Include in its next filing a summary table that allows the reader to more easily assess the overall reliability of the system and identify the main factors that affect reliability.

NWEC'S 2012 ELECTRIC SAFETY, RELIABILITY AND SERVICE QUALITY REPORT AND COMMISSION CONSIDERATION OF PROPOSED RELIABILITY STANDARDS FOR 2013

The Department's July 31, 2013 comments provide a thorough summary and analysis of NWEC's filing, most of which will not be repeated here. Staff will focus primarily on the Reliability portion of NWEC's report.

In its December 20, 2012 Order, the Commission set NWEC's 2012 reliability standards. NWEC's Reliability Report provided the following information in regard to NWEC's 2012 reliability performance in comparison to the 2012 standard:

	SAIDI	**SAIFI**	**CAIDI**
2012 Standard	152.70	1.30	117.46
Actual 2012 Performance	274.40	1.24	221.29

Storm Normalization Methodology

NWEC reported that it did not apply a storm normalization method to its outage data. There were no major storms that affected the Company's Minnesota service area in 2012.

Action Plan to Improve Reliability

NWEC met its SAIFI goal but missed its SAIDI and CAIDI reliability goals for 2012. Given the high level of variability in NWEC's reliability statistics, due in large part to the nature and size of the Company's Minnesota service area, identifying performance trends is very difficult. NWEC has been relatively successful in meeting its performance goals in recent history (NWEC met 77.8% of its goals since 2007), and goals have been trending downward (or becoming harder to

achieve).[1]
An action plan may not be necessary at this time, but the Department will continue to closely monitor NWEC's performance for signs of declining performance.

Commission Consideration of NWEC's Proposed 2013Reliability Standards

NWEC did not propose any changes to its reliability goals for 2013.

	SAIDI	SAIFI	CAIDI
2013 Standard	152.70	1.30	117.46

DOC
The Department recommends that the Commission accept NWEC's filing in fulfillment of the requirements of Minnesota Rules, Chapter 7826 and the Commission's December 20, 2012 Order. The Department also recommends that the Commission set the Company's 2013 reliability goals based on a five-year performance average as follows:

SAIDI = 197.02
SAIFI = 1.22
CAIDI = 162.13

Staff Analysis

The Department examined all the factors required by the rules. Staff believes the Department did an outstanding job in analyzing and reviewing the information contained in the submitted annual reports and will not repeat its efforts here.

NWEC's reliability report shows that the Company met its SAIFI goal but missed its SAIDI and CAIDI goals in the current reporting year. There were no major storms in NWEC service territory during 2012. The Company reports the following 2012 reliability Performance versus the standards:

	SAIDI	SAIFI	CAIDI
2012 Standard	152.70	1.30	117.46
Actual 2012 Performance	274.40	1.24	221.29

1 This compares to 38% for IPL, 58% for OTP, 80% for MP, and 58% for Xcel over similar periods.

Staff believes that NWEC's April 1, 2013 filing complies with the applicable rules and Commission Order. The purpose of the reliability statues is to assure the Commission that reasonable standards of reliability performance are being properly measured and maintained. Further, since the reliability reporting is a relatively new reporting requirement, it is incumbent upon each utility to report the required data in a format that is consistent, from one reporting year to the next. Staff believes significant progress has been made and the overall standard of reliability has improved for NWEC in 2012.

NWEC's proposed and the DOC recommended 2013 standards the Commission adopt the following for 2013 reliability standards:

	SAIDI	**SAIFI**	**CAIDI**
2013 Standard NWEC (Proposed)	152.70	1.30	117.46
2013 Standard DOC (Recommended)	197.02	1.22	162.13

Staff agrees with the DOC's analyses that due to the nature of NWEC's system in Minnesota (two distribution lines serving 100 customers), large variations in reliability performance measures occur depending largely on which line is affected most often. NWEC did not propose any changes to its reliability goals for 2013. Based on NWEC's 2012 performance, the DOC concludes that it is reasonable to set 2013 goals based on a five-year (2008 through 2012) performance average.

These goals are higher (easier to achieve) than the 2012 goals set by the Commission. However, the 2013 goals represent an improvement over the 2012 reliability performance.

The table below depicts NWEC's past standards and performance:

Year	**SAIDI**		**SAIFI**		**CAIDI**	
	Performance	Standard	Performance	Standard	Performance	Standard
2003	64.22	64.22	0.49	0.49	131.29	131.29
2004	**202.92**	64.22	**2.91**	0.49	69.64	131.29
2005	**621.09**	133.57	**4.57**	1.70	**136.05**	78.59
2006	**362.63**	296.08	**2.98**	2.65	**121.75**	111.53
2007	52.79	296.08	1.05	2.40	50.15	111.53
2008	231.70	260.73	1.42	2.59	**163.55**	108.69
2009	148.80	294.23	1.76	2.36	84.53	113.82
2010	261.11	283.40	1.03	1.65	**253.43**	120.34
2011	69.09	211.41	0.63	1.65	110.32	128.28
2012	**274.40**	211.41	1.24	1.30	**221.29**	128.28
2013 Proposed		152.70		1.30		117.46
2008 – 2012 Average		197.02		1.22		162.13

The numbers in bold indicate performance that did not meet the Commission Standard. NWEC met 18 out of 30 performance metrics from 2003 to 2012, which represents a 60% success rate. For 2012, NWEC missed the standard for SAIDI and CAIDI, but met the performance standard for SAIFI.

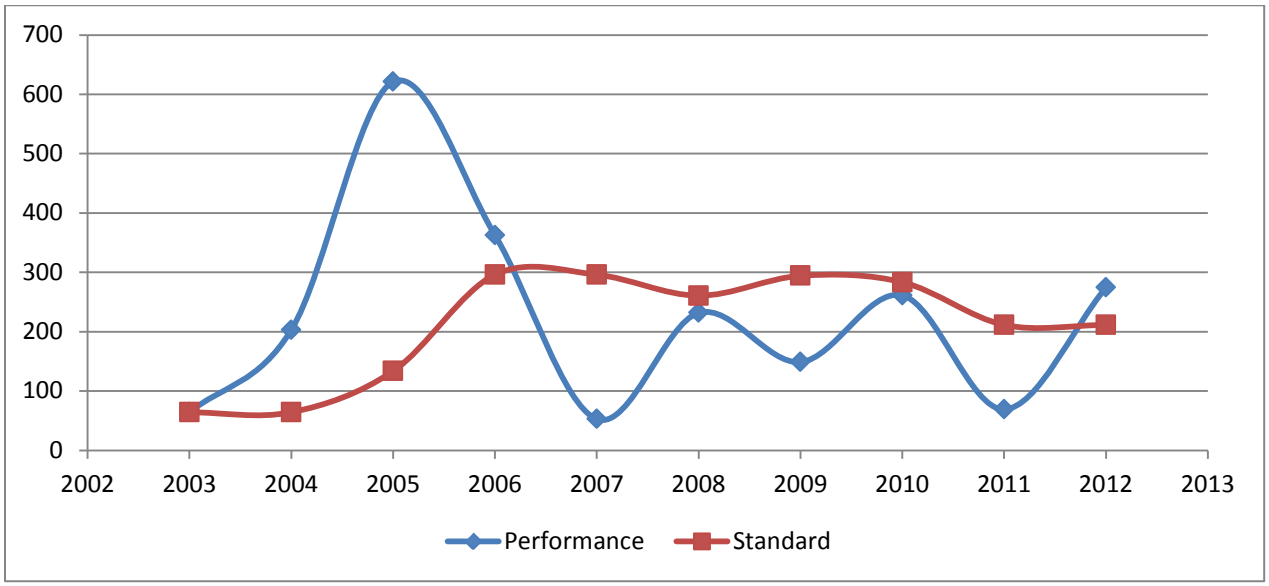
The Commission has set performance standards at the Company's proposed levels since 2004. NWEC calculated its performance targets as an average of the previous five years of actual SAIDI and SAIFI performance.

When Minnesota Rules, Chapter 7826 first went into effect in 2003, the Commission recognized that Utilities would not have complete information to implement performance standards. The Commission required utilities to file historical data in regard to SAIDI, SAIFI, and CAIFI, and the Commission established performance standards based on those initial reports. Staff agrees that using a five year rolling average provided a useful baseline of information for initial reports, and as long as performance standards are coming down or stabilizing each year, may continue to be appropriate for setting the performance standards. However, Staff does not know what constitutes the optimal standard.

Up until 2012, NWEC has consistently met its targets over the past five years. In addition, the last five years of observations have yielded a lower average SAIFI and a SAIFI that is more consistent

with less variation than the SAIFI observations in the first five years of observations. The trends in SAIDI performance and standards can be seen below in the following diagram.

SAIDI Performance and Standard

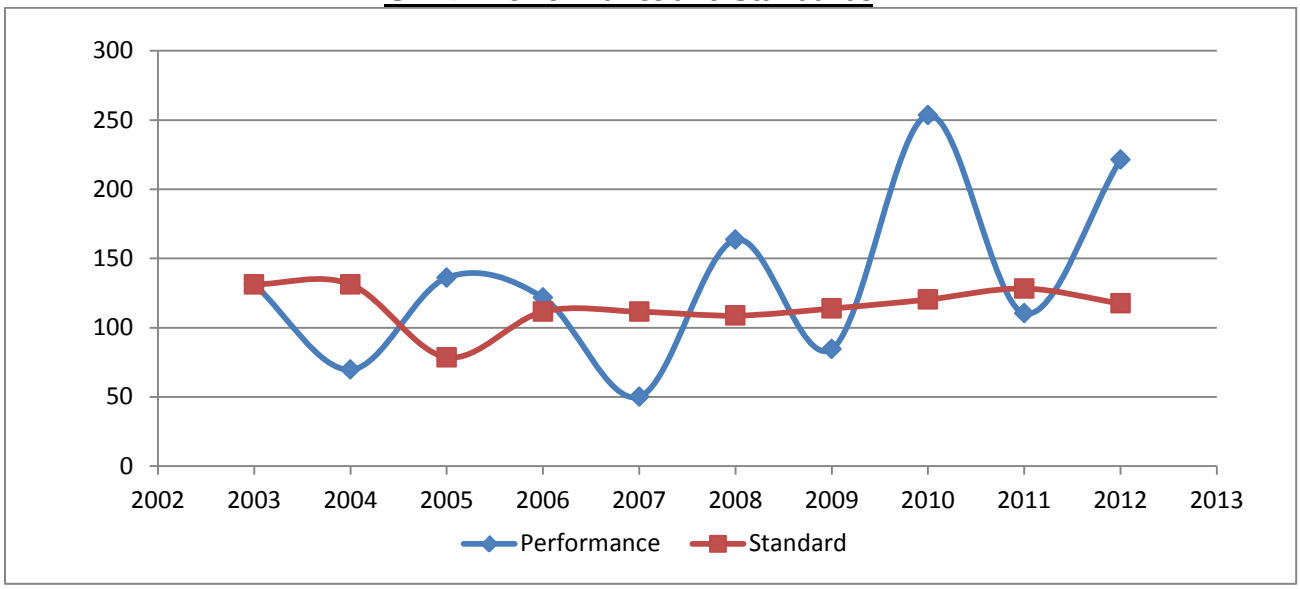


Likewise SAIFI Performance and Standards has shown a similar trend. In most years, NWEC met the SAIFI performance standard set by the Commission. However, the improvement in SAIFI performance and standards has been significant over the ten-year period. The following diagram shows improvement in the number of customer interruption experienced by a typical customer over the ten-year period.

SAIFI Performance and Standards

Also, NWEC has met the performance standard for most years in the same period for CAIDI. The performance standard for CAIDI has remained relatively stable since 2003. During the first ten years of observations, it appears that NWEC met the CAIDI standard in roughly alternating years. The following diagram shows NWEC met the standard in roughly alternating years in the number of customer minutes of outages per outage over the ten-year period.

CAIDI Performance and Standards



NWEC has 99 customers in Minnesota and two small distribution lines in the State. It operates primarily in rural Wisconsin and it is a relatively small electric utility overall. Staff agrees with the Department that NWEC has submitted the required reports in Minnesota. However, the Commission may wish to consider setting NWEC's 2012 reliability standards based upon the previous 5-year average as an incentive for NWEC to maintain reliability performance on a going forward basis as recommended by the DOC.

Considering the relatively small service area and small number of customers, Staff believes NWWEC's narrative adequately complies with the Commission order. However, there are many factors that impact the reliability performance of each utility, which NWEC could be included in its next annual report. Each utility service areas has its own unique characteristics and it is not practical to take a one size fits all approach in evaluating effective next steps on reliability improvement.

Commission Options

I. Whether the Commission should accept NWEC's Reports on 2012 Results?

A. Accept NWEC's May 7, 2013 safety, reliability and service quality reports, as complying with Minn. Rules, Chapter 7826 and relevant Commission orders.

B. Do not accept NWEC's May 7, 2013 safety, reliability and service quality reports, as complying with Minn. Rules, Chapter 7826 and relevant Commission orders.

II. Whether the Commission should Accept NWEC's proposed reliability standards for 2013?

A. Accept the 2013 proposed reliability standards at the levels indicated below as recommended by the DOC:

	SAIDI	**SAIFI**	**CAIDI**
2013 Standard DOC (Recommended)	197.02	1.22	162.13

B. Accept the 2013 proposed reliability standards at the levels indicated below as proposed by the NWEC:

	SAIDI	**SAIFI**	**CAIDI**
2013 Standard NWEC (Proposed)	152.70	1.30	117.46

C. Approve some other reliability standard for 2013.

Recommendation

Staff recommends I A and II A.