

STANDARDS FOR ELECTRIC DISTRIBUTION UTILITIES

**SUBMITTED TO THE
MINNESOTA LEGISLATURE**

BY

THE MINNESOTA DEPARTMENT OF COMMERCE



JANUARY 31, 2003

January 31, 2003

Dear Representatives, Senators and Interested Parties:

Pursuant to Minnesota Session Law 2001, Chapter 212, Article 6, please find enclosed a report by the Department of Commerce (Commerce) evaluating the costs and benefits of the provisions of Minn. Stat. § 216B.81 (Standards for Distribution Utilities).

If you have any questions concerning this report, please direct them to Kate O'Connell at 651-296-7132 or Marya White at 651-297-1773.

Sincerely,

EDWARD GARVEY
DEPUTY COMMISSIONER

EG/ja
Enclosure

REPORT TO THE MINNESOTA LEGISLATURE DISTRIBUTION RELIABILITY RULES FOR ELECTRIC UTILITIES

January 31, 2003

I. LEGISLATIVE DIRECTION TO THE COMMISSIONER OF COMMERCE

During the Minnesota Legislature's 2001 session, a statute¹ was enacted requiring the Minnesota Public Utilities Commission (Commission) to adopt safety, reliability, and service quality standards for those electric distribution utilities that are not cooperative or municipal utilities (in other words, for investor-owned utilities). The statute requires cooperative and municipal utilities to adopt their own standards subsequently, which are to be as consistent as possible with the Commission's standards.

Minnesota Session Law 2001, Chapter 212, Article 6, Section 2 directed the Commissioner of Commerce to conduct an evaluation of the distribution reliability rules required in Section 1 of the same Article:

Section 2. [COST BENEFIT ANALYSIS.]

The commissioner of commerce shall provide an analysis of the costs and benefits to consumers and utilities of the provisions of section 216B.81, including any recommended changes to those provisions, to the chairs of the house of representatives and senate policy and finance committees with jurisdiction over electric utility issues by February 1, 2003.

Appendices to this report include Minnesota Laws 2001, Chapter 212, Article 6 (Appendix A); Minnesota Rules Chapter 7826 (Appendix B); the associated Statement of Need and Reasonableness (Appendix C); and definitions of the reliability indices referred to in the Law and Rule (Appendix D).

II. PROCESS

A. OVERVIEW

In November, 2001 the Commission initiated the rulemaking process required by law to adopt standards for safety, reliability and service quality for investor-owned distribution electric utilities. The process has involved both written comments and a series of meetings with interested parties. This process helped parties identify concerns and develop alternatives to mitigate or address issues.

¹ Minnesota Laws 2001, Chapter 212 (codified in scattered sections of Minn. Stat. Chapter 216B); Minn. Stat. § 216B.81.

At this point, the rules are new (effective January 28, 2003), so utilities have not been able to implement the changes. As such, specific costs incurred due to the law are not quantifiable at this time. Nonetheless, as noted above, many attempts were made to address cost concerns raised by utilities. Thus, the Department of Commerce's approach to assessing the law's costs and benefits is two-fold. First, we note any stakeholder objection or concern raised during the rulemaking process relating to the law and subsequent rule development. We discuss how and to what extent the objection or concern has been mitigated. Second, we weigh, on a qualitative basis, any objection or concern not fully mitigated by adjustments during the rulemaking process against the perceived benefits of the law.

B. ACTIVITIES UNDERTAKEN SINCE ENACTMENT

As a result of the new law, the Commission convened an advisory committee to assist in developing rules (Chapter 7826) as a means of establishing safety, reliability, and service quality standards for Minnesota's investor-owned utilities. The Advisory Committee was made up of the following organizations:

- Department of Commerce
- Residential and Small Business Utilities Division of the Office of the Attorney General (RUD-OAG)
- Xcel Energy
- Minnesota Power
- Otter Tail Power Company
- Interstate Power Company
- Dakota Electric
- Legal Services Advocacy Project
- EnergyCENTS Coalition
- International Brotherhood of Electrical Workers
- Minnesota Rural Electric Association (MREA)
- Minnesota Municipal Utilities Association (MMUA)

The Advisory Committee included representatives from all stakeholders. All four of the investor-owned electric utilities directly subject to the new statute and rules were on the Committee. Municipal and cooperative utilities that must ultimately develop distribution standards "as consistent as possible" with those developed by the Commission were also represented through the MREA and MMUA. The International Brotherhood of Electrical Workers represented the lineworkers, meter-readers and other workers who maintain the utilities' daily operations. Utility customers were represented by the Department of Commerce (all classes of customers) and the RUD-OAG (residential and small business customers). Broad representation was essential in furthering the Commission's goal of assuring that the rules developed to implement the statute would fulfill its intent without being unduly burdensome.

The following sections discuss what the rules enabled by Minn. Stat. § 216B.81 require of investor-owned utilities in terms of each of the three major topics – safety, reliability, and service quality. Following the summary of the rule requirements is a discussion of stakeholder concerns and the extent to which the rules mitigate those concerns. The discussion of stakeholder

concerns does not include all points raised throughout the rulemaking proceeding but only those with a direct bearing on the costs and benefits of the new law. Many concerns were resolved by clarifying terms and/or by the Advisory Committee members offering information to each other to dispel controversies. Other comments not reflected in this report were raised in the interest of ensuring that the information the proposed rule required utilities to provide to the Commission would reflect a complete and accurate picture of the utilities' safety, reliability and service quality performance.

III. FINDINGS

A. SAFETY

1. Provision

As stated in the Statement of Need and Reasonableness:

The Commission's main goals in the safety section (7826.0300) are to comply with statutory expectations without (1) duplicating the functions of other agencies; (2) burdening the utilities with redundant filings; or (3) mis-allocating Commission resources by requiring it to develop expertise in an area adequately regulated by other bodies.

With these goals in mind, the safety section affirmatively requires utilities to comply with existing safety mandates, encourages compliance with specific safety practices recommended by industry experts by making that compliance prima facie evidence of reasonableness, and relies on reporting to reveal any need for direct Commission intervention on safety issues.

The rules require utilities to file an annual safety report that includes, for the previous calendar year:

- A. summaries of all reports filed with the United States Occupational Safety and Health Administration and the Occupational Safety and Health Division of the Minnesota Department of Labor and Industry; and
- B. a description of all incidents in which an injury requiring medical attention or property damage resulting in compensation occurred as a result of downed wires or other electrical system failures and all remedial action taken as a result of any injuries or property damage described.

2. Stakeholder concerns

Utilities did not want rule language requiring them to comply with the most recent edition of the National Electric Safety Code (NESC) when refurbishing or maintaining facilities (7826.0300, subpart 1). The rest of the Advisory Committee agreed to delete the reference to the “most recent edition” of the NESC since the Code itself grandfathers certain non-complying installations that complied at the time of installation. Consistent with this approach, the Committee also agreed to change “constructing, installing, refurbishing, or maintaining facilities” to “constructing new facilities or reinvesting capital in existing facilities” in this subpart.

Utilities were also concerned that the proposed rules would require them to adopt the recommended practices of the Institute for Electric and Electronics Engineers (IEEE) and the American National Standards Institute (ANSI). Utilities pointed out that “recommended practices” were much different than “accepted standards.” The rest of the Advisory Committee agreed to change the wording so that utilities were *encouraged* to comply with recommended practices and *required* to comply with accepted standards.

B. RELIABILITY

1. Provision

The statute requires the Commission to base the reliability standards in the rules on three system reliability measures: the System Average Interruption Duration Index (SAIDI), the System Average Interruption Frequency Index (SAIFI), and the Customer Average Interruption Duration Index (CAIDI). It also requires that performance standards “treat similarly situated distribution systems similarly” and “recognize differing characteristics of system design and hardware.” (Minn. Stat. § 216B.81, subd. 1 (c).)

In light of those provisions, the rules require the Commission to set reliability standards for each “work center” of each utility in the form of numerical values for SAIDI, SAIFI, and CAIDI. To preserve the flexibility necessary to address changing conditions, these values are to be set annually, as part of an overall reliability review. (Minnesota Rule 7826.0500 .)

To allow for assessment of each utility’s performance in providing safe, adequate and reliable electric service to its customers, the rules require utilities to file an annual reliability report that includes, for the previous calendar year:

- A. the utility’s SAIDI by work center and for its assigned service area as a whole;
- B. the utility’s SAIFI by work center and for its assigned service area as a whole;
- C. the utility’s CAIDI 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;

- E. an action plan for remedying any failure to comply with the reliability standards or an explanation as to why noncompliance was unavoidable under the circumstances;
- F. to the extent feasible, a report on each interruption of a bulk power supply facility including the reasons for interruption, duration of interruption, and any remedial steps that have been taken or will be taken to prevent future interruption;
- G. a copy of each major service interruption report (filed under 7826.0700)
- H. to the extent technically feasible, circuit interruption data, including identifying the worst performing circuit in each work center, stating the criteria the utility used to identify the worst performing circuit, stating the circuit's SAIDI, SAIFI, and CAIDI, explaining the reasons that the circuit's performance is in last place, and describing any operational changes the utility has made, is considering, or intends to make to improve its performance;
- I. data on all known instances in which nominal electric service voltages on the utility's side of the meter did not meet the standards of the American National Standards Institute for nominal system voltages greater or less than voltage range B;
- J. data on staffing levels at each work center, including the number of full-time equivalent positions held by field employees responsible for responding to trouble and for the operation and maintenance of distribution lines; and
- K. any other information the utility considers relevant in evaluating its reliability performance.

Utilities are also required to report major service interruptions. Citizens often call the Public Utilities Commission when there is an outage in their area. Thus, to ensure that consistent information can be given to consumers by the Commission and utility companies, utilities are required to inform the Commission's Consumer Affairs Office promptly of any major service interruption to report, to the extent known:

- A. the location and cause of the interruption;
- B. the number of customers affected;
- C. the expected duration of the interruption; and
- D. the utility's best estimate of when service will be restored, by geographical area.

A modified definition of a major service interruption is used for the utilities' written reporting requirements. Within 30 days of a major service interruption lasting 24 hours or more, the utility must report the steps it took to restore service and any operational changes the utility has made, is considering, or intends to make to prevent similar interruptions in the future or restore service more quickly in the future.

2. *Stakeholder concerns*

SAIDI, SAIFI, and CAIDI are not new concepts to investor-owned utilities. Most electric utilities already record and track reliability performance using these indicators. One concern the utilities had was the effect of major storms on SAIDI, SAIFI and CAIDI. The rules take this issue into account by requiring the utilities to report “storm normalized” data and explain the method each utility uses to normalize its data for storms. The rules also define “storm-normalized data” and include the term in its definition of SAIDI, SAIFI and CAIDI.

To begin the process with adequate information, the utilities are to make initial filings containing five years of historical reliability data (SAIDI, SAIFI and CAIDI), both by service area and work center (7826.0400). Some utilities on the Advisory Committee anticipated that it may be difficult for them to provide consistent data, as the recent implementation of improved outage tracking and reporting systems results in improved reporting accuracy and thus higher indices. Higher indices imply reduced reliability when, in actuality, the total number of affected customers may be the same. The rules provide an opportunity for utilities to explain such circumstances in their initial report.

Utilities were concerned that the rules would be overly prescriptive in reporting requirements (e.g. mandating a system to code outage causes). The rules allow each utility to devise its own method of gathering and reporting data. The utility must explain its methods in order to make the data the utility provides meaningful and useful.

There was concern that reporting interruptions on the bulk power supply system would become difficult should vertically integrated utilities divest transmission assets. The rule takes this issue into consideration by inserting the phrase “to the extent feasible” in the sentence requiring reporting on bulk power supply interruptions. Further, the definition of bulk power supply system was amended to clarify that it includes outages wherein the associated distribution feeders do not have service restoration interconnections with alternate sources.

The definitions of “major storm” and “major service interruption” were discussed extensively. Initially, a major storm was defined as a period of adverse weather during which service interruptions affect at least 10% of the customers within one or more work centers. Major service interruption meant an interruption of service to 500 or more customers for one or more hours. Utilities wanted more flexibility in these definitions because, for example, a major storm could include weather-related conditions affecting a smaller number of customers and a major service interruption could involve fewer people from a small utility’s perspective or more people from a large utility’s perspective.

Ultimately, the rules require each utility to explain how it normalizes its reliability data to account for major storms in their annual report. This approach allows each utility to determine a meaningful definition of a major storm while preserving the Commission’s ability to assess the utility’s reliability. The rule now defines “major service interruption” as an interruption of service at the feeder level or above **and** affecting 500 or more customers for one or more hours. Further, only service interruptions that affect 10% of a utility’s Minnesota customers for 24 hours or more are to be included in the written report required to be submitted within 30 days of the major service interruption. This approach eliminates potentially excessive outage reporting.

C. SERVICE QUALITY

1. Provision

The rules set a meter reading performance standard of 90 percent of meters read during the months of April through November and 80 percent of meters read during the months of December through March. Utilities are required to offer evening and weekend meter reading for those customers whose meters are inaccessible and whose work or other schedule would make meter reading during regular business hours a hardship. Utilities are also required to replace a malfunctioning meter within ten calendar days of learning of the malfunction.

The rules require utilities to answer 80 percent of calls made to the business office during regular business hours and 80 percent of the calls directed to the telephone number for reporting service interruptions within 20 seconds.

Where it seemed impractical to set a performance standard, reporting requirements were substituted. The annual service quality report must include information on:

- A. meter-reading performance,
- B. involuntary disconnections of service,
- C. service extension request response times,
- D. call center response times,
- E. emergency medical accounts,
- F. customer deposits, and
- G. customer complaints.

The annual service quality report is due on the same day as the annual reliability report and the annual safety report.

2. *Stakeholder Concerns*

Utilities were concerned that the average call center response time not be distorted by the understandably lengthier response times occurring during major outages caused by storms. The rules took major storms into consideration by including in the definition of an answered call, calls answered by a recording giving the following information:

- A. the number of customers affected by the interruption;
- B. the cause of the interruption;
- C. the location of the interruption; and
- D. the utility's best estimate of when service will be restored.

Some utilities were concerned that reporting requirements on evening and weekend meter-reading would force them to incur significant new computer programming costs. As a result, the rules only require reporting on:

- A. the number and percentage of customer meters read by utility personnel;
- B. the number and percentage of customer meters self-read by customers;
- C. the number and percentage of customer meters that have not been read by utility personnel for periods of 6 to 12 months and for periods of longer than 12 months, and an explanation as to why they have not been read; and
- D. data on monthly meter-reading staffing levels.

Another concern by utilities regarding meter reading was the requirement that utilities read meters during the evening or on weekends for customers who request meter reading at those times. The Advisory Committee agreed that utilities are not required to offer evening and weekend meter reading unless the customer's meter is inaccessible and whose work or other schedule makes meter reading during regular business hours a hardship (see Minn. Statute § 216B.075). The rules were changed to reflect this understanding.

In response to comments by Advisory Committee members, complaint categories were expanded to include "high bills" and "service restoration intervals." Utilities did not oppose this approach.

Since complaints must already be categorized in utilities' annual report, adding categories simply clarifies what sorts of complaints are of most interest to the Commission.

Utilities preferred a "best efforts" standard for notice to customers of planned service interruptions. Consumer advocates preferred more definitive standards. The final rule tracks the service quality rules for telephone companies by requiring that electric utilities schedule planned outages for times that will minimize inconvenience to customers. The rule requires utilities to:

. . . give customers the most effective actual notice possible of any planned service interruption expected to last longer than 20 minutes. For any planned interruption expected to exceed four hours, the utility shall provide, if feasible, mailed notice one week in advance and notice by telephone or door-to-door household visits 12 to 72 hours before the interruption. (Minnesota Rule 7826.0800)

The rules include "if feasible" language to provide the utilities with some flexibility in urgent situations. As such, the rule requirements are specific yet do not require unreasonable efforts by utilities to notify customers of planned outages.

Utilities wanted to eliminate having to report the duration of each involuntary disconnection. Some utilities stated that they did not track disconnection durations. The Commission's Consumer Affairs Office reported that disconnections lasting more than 24 hours are tracked by utilities during the heating season under the Cold Weather Rule. The Advisory Committee concluded that extending that tracking system throughout the year did not appear to be overly burdensome. Reporting the total number of involuntary disconnections as well as those involuntarily disconnected customers restored to service within 24 hours was retained in the final rule.

D. CONCERNS NOT MITIGATED

1. Emergency medical accounts

Utilities suggested eliminating reporting requirements on emergency medical accounts. Since emergency medical accounts are a new legislative service quality initiative, enacted in the same session as the service quality rules mandate, the Advisory Committee concluded that the reporting requirements should remain.

Minn. Statute § 216B.098 requires utilities to reconnect or continue service to a customer's residence where a medical emergency exists or where medical equipment requiring electricity necessary to sustain life is in use, provided that the utility receives certification from a medical doctor that failure to reconnect or continue service will impair or threaten the health or safety of a resident of the customer's household. This statute is not the statute for which the Department of Commerce is conducting this cost benefit analysis. Only the costs and benefits of the reporting requirement contained in MN Rules 7826.1800 are considered.

The rule developed by the Advisory Committee requires utilities to include in their annual service quality report the number of customers who requested emergency medical account status, the number whose applications were granted, and the number whose applications were denied including the reasons for each denial. The costs of this reporting requirement should be minimal once the utility has the required system in place for processing these applications. The most time intensive portion of the requirement may be reporting the reasons applications were denied. However, it is expected that there will be a limited number of reasons for application denial so even this requirement does not appear to be overly burdensome.

Reporting requirements on a new statutory directive help ensure regulators and the public that the industry is complying with that directive. The idea of electricity as a necessity of life is never more true than in cases of medical necessity. Including the reporting requirement in the rules underscores the importance of maintaining service to that subset of customers by requiring utilities to report their activities in that area.

2. Complaints

Utilities proposed that only those customer complaints that are not resolved by first-line customer service staff be tracked and included in the report. The Advisory Committee recognized that the majority of complaints are handled in a single phone call by first-line staff. The Committee concluded that any meaningful overview of the issues prompting complaints and how those complaints are normally resolved requires information about the large number of complaints resolved by first-line customer service staff.

The costs of tracking all customer complaint calls rather than just those that are not immediately resolved may involve employee training and computer reprogramming costs. Since utilities have not been required to submit annual data on complaints in the past, these types of costs will be incurred to some extent whether the utility must report all complaints or only certain complaints.

Allowing for only partial complaint reporting would be essentially without value. The following example may help explain this issue. In this example, there are two utilities, and each received 100 complaints in one year. Utility Y resolved all but 5 by its first-line customer service staff and Utility Z resolved only 5. If the utilities were only required to report the subject and number of complaints not resolved by first-line customer service staff, Utility Z would appear to require further scrutiny when in actuality each utility's ability to deliver electricity in a safe, reliable and efficient manner may be nearly identical. The expense of setting up a process to track complaints would be wasted without sufficiently complete information.

3. *Staffing Levels*

The rules require reporting on work center staffing levels. Several utilities objected to this requirement. They maintained that staffing levels are not a direct measure of reliability and therefore should not be a reporting requirement. The Advisory Committee agreed to eliminate the reporting requirement on contract labor but retained the broader requirements to report on monthly meter-reading staffing levels and staffing levels at each work center, including the number of full-time equivalent positions held by field employees responsible for responding to trouble and for the operation and maintenance of distribution lines.

Commission Staff pointed out that the Commission saw a correlation between staffing levels and service quality in the telecommunications field. Due to the changing electric industry, it is important for regulators to be aware of changes in staffing levels within the context of customer service quality reports. Utilities are encouraged to include any explanations or justifications in their service quality reports that will aid the Commission in understanding the relationship between a particular utility's staffing levels and its service quality data.

Reporting on work center staffing levels is not likely to increase a utility's costs materially.

IV. CONCLUSION

As the Statement of Need and Reasonableness notes, "[i]n the end, most of the policy judgments embedded in the final rules draft reflect stakeholder consensus. The few that do not represent consensus represent Commission policy choices which stakeholders advocating other policies found reasonable and workable considering the rules as a whole."

Another factor in support of the rules as a whole is that Cooperative and municipal utilities are unlikely to adopt standards for safety, reliability and service quality that cost more than they are worth. These utilities also recognize the value in maintaining adequate standards – especially when contemplating or anticipating the evolving electric industry. For example, the Minnesota Municipal Utilities Association (MMUA) has distributed reliability software developed by the Municipal Electric Systems of Oklahoma to Minnesota municipal utilities. The MMUA is not responsible for supporting or upgrading this software. Nonetheless, it is a useful tool for smaller utilities to use to maintain historical data about system outages. The MMUA reports that several of its members have been testing the software, with positive results.

The purpose of Minn. Stat. § 216B.81 and accompanying Minn. Rules Chapter 7826 is to ensure that the public receives an acceptable level of electrical service while giving the Commission the kind of broad overview necessary to spot and address safety, reliability and customer service weaknesses before they materialize, as well as to recognize opportunities to improve service within a utility's service area. Utilities are likely to use the information provided in annual safety, reliability and customer service reports to improve overall service.

The Department of Commerce does not recommend any changes to the statute or rule at this time. As Minnesota Rules Chapter 7826, which took effect January 28, 2003, are implemented, the Department will continue to monitor its costs and benefits and will work with utilities and the Commission as needed to address any significant concerns raised about costs of implementing the rules.

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Appendix A
Minnesota Session Law 2001, Chapter 212
Article 6

ARTICLE 6
DISTRIBUTION RELIABILITY

Section 1. [216B.81] [STANDARDS FOR DISTRIBUTION UTILITIES.]

Subdivision 1. [STANDARDS.]

- (a) The commission and each cooperative electric association and municipal utility shall adopt standards for safety, reliability, and service quality for distribution utilities. Standards for cooperative electric associations and municipal utilities should be as consistent as possible with the commission standards.
- (b) Reliability standards must be based on the system average interruption frequency index, system average interruption duration index, and customer average interruption duration index measurement indices. Service quality standards must specify, if technically and administratively feasible:
 - (1) average call center response time;
 - (2) customer disconnection rate;
 - (3) meter-reading frequency;
 - (4) complaint resolution response time;
 - (5) service extension request response time;
 - (6) recording of service and circuit interrupter data;
 - (7) summary reporting;
 - (8) historical reliability performance reporting;
 - (9) notices of interruptions of bulk power supply facilities and other interruptions of power; and (10) customer complaints.
- (c) Minimum performance standards developed under this section must treat similarly situated distribution systems similarly and recognize differing characteristics of system design and hardware.
- (d) Electric distribution utilities shall comply with all applicable governmental and industry standards required for the safety, design, construction, and operation of electric distribution facilities, including section 326.243.

Subd. 2. [DEFINITIONS.] For the purpose of this section, the terms defined in this subdivision have the meanings given them.

- (a) The "system average interruption frequency index" is the average number of interruptions per customer per year. It is determined by dividing the total annual number of customer interruptions by the average number of customers served during the year.
- (b) The "system average interruption duration index" is the average customer-minutes of interruption per customer. It is determined by dividing the annual sum of

customer-minutes of interruption by the average number of customers served during the year.

- (c) The "customer average interruption duration index" is the average customer-minutes of interruption per customer interruption. It approximates the average length of time required to complete service restoration. It is determined by dividing the annual sum of all customer-minutes of interruption durations by the annual number of customer interruptions.

Sec. 2. [COST BENEFIT ANALYSIS.] The commissioner of commerce shall provide an analysis of the costs and benefits to consumers and utilities of the provisions of section 216B.81, including any recommended changes to those provisions, to the chairs of the house of representatives and senate policy and finance committees with jurisdiction over electric utility issues by February 1, 2003.

Sec. 3. [EFFECTIVE DATE.] Section 1 is effective July 1, 2001. Section 2 is effective the day following final enactment.

Appendix B
Minnesota Rules Chapter 7826

Public Utilities Commission Proposed Permanent Rules Relating to Safety, Reliability, and Service Quality Standards for Electric Utilities

7826.0100 APPLICABILITY. This chapter applies to all persons, corporations, or other legal entities engaged in the retail distribution of electric service to the public, with the following exceptions:

- A. cooperative electric associations;
- B. municipal utilities;
- C. persons distributing electricity only to tenants or cooperative or condominium owners in buildings owned, leased, or operated by those persons;
- D. persons distributing electricity only to occupants of a manufactured home or trailer park owned, leased, or operated by those persons; and
- E. persons distributing electricity to fewer than 25 persons.

7826.0200 DEFINITIONS.

Subpart 1. **Scope.** The terms used in this chapter have the meanings given them in this part.

Subp. 2. **Bulk power supply facility.** "Bulk power supply facility" means the interconnected system that encompasses the electric generation resource, transmission lines, transmission substations, and associated equipment that, upon a total, simultaneous, and sustained interruption, disrupts service to all distribution feeders exiting that substation when those distribution feeders do not have service restoration interconnections with alternate sources.

Subp. 3. **Cold weather rule.** "Cold weather rule" means the set of protections against disconnection during the heating season set forth in parts 7820.1500 to 7820.2300.

Subp. 4. **Customer average interruption duration index or CAIDI.** "Customer average interruption duration index" or "CAIDI" means the average customer-minutes of interruption per customer interruption. It approximates the average length of time required to complete service restoration. It is determined by dividing the annual sum of all customer-minutes of interruption durations by the annual number of customer interruptions, using storm-normalized data.

Subp. 5. **Customer complaint.** "Customer complaint" means any call center communication by a utility customer in which the customer states a grievance related to the utility's provision of service to that customer.

Subp. 6. **Interruption.** "Interruption" means an interruption of service to a customer with a duration greater than five minutes.

Subp. 7. **Major service interruption.** "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.

Subp. 8. **Resolved.** "Resolved," used in regard to customer complaints, means that the utility has examined the complainant's claims, conducted any necessary investigation, and done one of the following:

- A. taken the action the customer requests;
- B. taken an action the customer and the utility agree is an acceptable compromise;
- C. provided the customer with information that demonstrates that the situation complained of is not reasonably within the control of the utility; or
- D. refused to take the action the customer requested and communicated that refusal to the customer.

Subp. 9. **Storm-normalized data.** "Storm-normalized data" means data that has been adjusted to neutralize the effects of outages due to major storms.

Subp. 10. **System average interruption duration index or SAIDI.** "System average interruption duration index" or "SAIDI" means the average customer-minutes of interruption per customer. It is determined by dividing the annual sum of customer-minutes of interruption by the average number of customers served during the year, using storm-normalized data.

Subp. 11. **System average interruption frequency index or SAIFI.** "System average interruption frequency index" or "SAIFI" means the average number of interruptions per customer per year. It is determined by dividing the total annual number of customer interruptions by the average number of customers served during the year, using storm-normalized data.

Subp. 12. **Utility.** "Utility" means any person, corporation, or other legal entity engaged in the retail distribution of electric service to the public, with the following exceptions:

- A. cooperative electric associations;
- B. municipal utilities;
- C. persons distributing electricity only to tenants or cooperative or condominium owners in buildings owned, leased, or operated by those persons;
- D. persons distributing electricity only to occupants of a manufactured home or trailer park owned, leased, or operated by those persons; and
- E. persons distributing electricity to fewer than 25 persons.

Subp. 13. **Work center.** "Work center" means a portion of a utility's assigned service area that it treats as an administrative subdivision for purposes of maintaining and repairing its distribution system.

7826.0300 SAFETY STANDARDS.

Subpart 1. **National Electrical Safety Code.** When constructing new facilities or reinvesting capital in existing facilities, utilities shall comply with the requirements stated at the time the work is done in the then most recently published edition of the National Electrical Safety Code, as published by the Institute of Electrical and Electronics Engineers, Inc. and approved by the American National Standards Institute. This code is incorporated by reference, is not subject to frequent change, and is conveniently available to the public through the statewide interlibrary loan system.

Subp. 2. **Standards and recommended practices of the Institute of Electrical and Electronics Engineers, Inc. and the American National Standards Institute.** Utilities are encouraged to follow the recommended practices of the Institute of Electrical and Electronics Engineers, Inc. and the American National Standards Institute on electricity metering and standard voltage ratings for electric power systems and equipment. Utility compliance with these recommended practices creates a rebuttable presumption that a practice is reasonable.

Subp. 3. **Occupational Safety and Health Administration rules.** When constructing, installing, refurbishing, or maintaining facilities, utilities shall comply with all regulations promulgated by the United States Occupational Safety and Health Administration and by the Occupational Safety and Health Division of the Minnesota Department of Labor and Industry.

7826.0400 ANNUAL SAFETY REPORT.

On or before April 1 of each year, each utility shall file a report on its safety performance during the last calendar year. This report shall include at least the following information:

- A. summaries of all reports filed with the United States Occupational Safety and Health Administration and the Occupational Safety and Health Division of the Minnesota Department of Labor and Industry during the calendar year; and
- B. a description of all incidents during the calendar year in which an injury requiring medical attention or property damage resulting in compensation occurred as a result of downed wires or other electrical system failures and all remedial action taken as a result of any injuries or property damage described.

7826.0500 RELIABILITY REPORTING REQUIREMENTS.

Subpart 1. **Annual reporting requirements.** On or before April 1 of each year, each utility shall file a report on its reliability performance during the last calendar year. This report shall include at least the following information:

- 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;
- 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;
- F. to the extent feasible, a report on each interruption of a bulk power supply facility during the calendar year, including the reasons for interruption, duration of interruption, and any remedial steps that have been taken or will be taken to prevent future interruption;
- G. a copy of each report filed under part 7826.0700;
- H. to the extent technically feasible, circuit interruption data, including identifying the worst performing circuit in each work center, stating the criteria the utility used to identify the worst performing circuit, stating the circuit's SAIDI, SAIFI, and CAIDI, explaining the reasons that the circuit's performance is in last place, and describing any operational changes the utility has made, is considering, or intends to make to improve its performance;
- I. data on all known instances in which nominal electric service voltages on the utility's side of the meter did not meet the standards of the American National Standards Institute for nominal system voltages greater or less than voltage range B;
- J. data on staffing levels at each work center, including the number of full-time equivalent positions held by field employees responsible for responding to trouble and for the operation and maintenance of distribution lines; and
- K. any other information the utility considers relevant in evaluating its reliability performance over the calendar year.

Subp. 2. **Initial reporting requirements.** Within 60 days of the effective date of parts 7826.0100 to 7826.2000, each utility shall file its SAIDI, SAIFI, and CAIDI for each of the past five calendar years, by work center and for its assigned service area as a whole. If this information is not available, the utility shall file an explanation of how it has been tracking reliability for the past five years, together with reliability data for that period of time. If the utility has implemented a new reliability tracking system that makes comparisons between historical data and current data unreliable, the utility shall explain this situation in its filing.

7826.0600 RELIABILITY STANDARDS.

Subpart 1. **Annually proposed individual reliability standards.** On or before April 1 of each year, each utility shall file proposed reliability performance standards in the form of proposed numerical values for the SAIDI, SAIFI, and CAIDI for each of its work centers. These filings shall be treated as "miscellaneous tariff filings" under the commission's rules of practice and procedure, part 7829.0100,

subpart 11.

Subp. 2. **Annually set, utility-specific, reliability standards.** The commission shall set reliability performance standards annually for each utility in the form of numerical values for the SAIDI, SAIFI, and CAIDI for each of its work centers. These standards remain in effect until the commission takes final action on a filing proposing new standards or changes them in another proceeding.

7826.0700 REPORTING MAJOR SERVICE INTERRUPTIONS.

Subpart 1. **Contemporaneous reporting.** A utility shall promptly inform the commission's Consumer Affairs Office of any major service interruption. At that time, the utility shall provide the following information, to the extent known:

- A. the location and cause of the interruption;
- B. the number of customers affected;
- C. the expected duration of the interruption; and
- D. the utility's best estimate of when service will be restored, by geographical area.

Subp. 2. **Written report.** Within 30 days, a utility shall file a written report on any major service interruption in which ten percent or more of its Minnesota customers were out of service for 24 hours or more. This report must include at least a description of:

- A. the steps the utility took to restore service; and
- B. any operational changes the utility has made, is considering, or intends to make, to prevent similar interruptions in the future or to restore service more quickly in the future.

7826.0800 CUSTOMER NOTICE OF PLANNED SERVICE INTERRUPTIONS.

Utilities shall give customers the most effective actual notice possible of any planned service interruption expected to last longer than 20 minutes. For any planned interruption expected to exceed four hours, the utility shall provide, if feasible, mailed notice one week in advance and notice by telephone or door-to-door household visits 12 to 72 hours before the interruption. Planned service interruptions must be scheduled at times to minimize the inconvenience to customers. When planned service interruptions exceeding four hours are canceled, utilities shall notify, if feasible, the customers who received notice that service would be interrupted.

7826.0900 METER READING FREQUENCY; CUSTOMER ACCOMMODATION.

Subpart 1. **Meter reading performance standard.** Utilities shall attempt to read all meters on a monthly basis unless otherwise authorized by the commission. Utilities are assumed to be in compliance with this standard if they read at least 90 percent of all meters during the months of April through November and at least 80 percent of all meters during the months of December through March.

Utilities shall contact any customer whose bill has been estimated for two consecutive months and attempt to schedule a meter reading.

Subp. 2. **Evening and weekend meter reading.** Utilities shall read meters during the evening or on Saturday or Sunday for customers whose meters are inaccessible and whose work or other schedule makes meter reading during regular business hours a hardship. When a utility contacts a customer on an individual basis to schedule a meter reading, the utility shall inform the customer of the available alternatives that the utility provides, such as the customer's option to provide a self-read. If alternative arrangements are not acceptable to the customer, the utility shall inform the customer that the utility provides evening and weekend meter reading for customers whose work schedule or other schedule makes meter reading during regular business hours a hardship.

7826.1000 REPLACING MALFUNCTIONING METERS.

Utilities shall replace a malfunctioning meter within ten calendar days of receiving a report from a customer questioning its accuracy or within ten calendar days of learning in some other way that it may be inaccurate.

7826.1100 KEEPING SERVICE CALLS.

Utilities shall keep service call appointments and shall provide as much notice as possible when an appointment cannot be kept. A service call appointment is kept if the worker arrives within a four-hour period set by the utility and clearly communicated to the customer.

7826.1200 CALL CENTER RESPONSE TIME.

Subpart 1. **Calls to business office.** On an annual basis, utilities shall answer 80 percent of calls made to the business office during regular business hours within 20 seconds. "Answer" means that an operator or representative is ready to render assistance or accept the information to handle the call. Acknowledging that the customer is waiting on the line and will be served in turn is not an answer. If the utility uses an automated call-processing system, the 20-second period begins when the customer has selected a menu option to speak to a live operator or representative. Utilities using automatic call-processing systems must provide that option, and they must not delay connecting the caller to a live operator or representative for purposes of playing promotional announcements.

Subp. 2. **Calls regarding service interruptions.** On an annual basis, utilities shall answer 80 percent of calls directed to the telephone number for reporting service interruptions within 20 seconds.

"Answer" may mean connecting the caller to a recording providing, to the extent practicable, at least the following information:

- A. the number of customers affected by the interruption;
- B. the cause of the interruption;
- C. the location of the interruption; and
- D. the utility's best estimate of when service will be restored, by geographical area.

7826.1300 ANNUAL SERVICE QUALITY REPORT FILING.

On or before April 1 of each year, each utility shall file a report on its service quality performance during the last calendar year. These filings must be treated as "miscellaneous tariff filings" under the commission's rules of practice and procedure, part 7829.0100, subpart 11. This report must include at least the information set forth in parts 7826.1400 to 7826.2000.

7826.1400 REPORTING METER-READING PERFORMANCE.

The annual service quality report must include a detailed report on the utility's meter-reading performance, including, for each customer class and for each calendar month:

- A. the number and percentage of customer meters read by utility personnel;
- B. the number and percentage of customer meters self-read by customers;
- C. the number and percentage of customer meters that have not been read by utility personnel for periods of six to 12 months and for periods of longer than 12 months, and an explanation as to why they have not been read; and
- D. data on monthly meter-reading staffing levels, by work center or geographical area.

7826.1500 REPORTING INVOLUNTARY DISCONNECTIONS.

The annual service quality report must include a detailed report on involuntary disconnections of service, including, for each customer class and each calendar month:

- A. the number of customers who received disconnection notices;
- B. the number of customers who sought cold weather rule protection under chapter 7820 and the number who were granted cold weather rule protection;
- C. the total number of customers whose service was disconnected involuntarily and the number of these customers restored to service within 24 hours; and
- D. the number of disconnected customers restored to service by entering into a payment plan.

7826.1600 REPORTING SERVICE EXTENSION REQUEST RESPONSE TIMES.

The annual service quality report must include a report on service extension request response times, including, for each customer class and each calendar month:

- A. the number of customers requesting service to a location not previously served by the utility and the intervals between the date service was installed and the later of the in-service date requested by the customer or the date the premises were ready for service; and
- B. the number of customers requesting service to a location previously served by the utility, but

not served at the time of the request, and the intervals between the date service was installed and the later of the in-service date requested by the customer or the date the premises were ready for service.

7826.1700 REPORTING CALL CENTER RESPONSE TIMES.

The annual service quality report must include a detailed report on call center response times, including calls to the business office and calls regarding service interruptions. The report must include a month-by-month breakdown of this information.

7826.1800 REPORTING EMERGENCY MEDICAL ACCOUNT STATUS.

The annual service quality report must include the number of customers who requested emergency medical account status under Minnesota Statutes, section 216B.098, subdivision 5, the number whose applications were granted, and the number whose applications were denied and the reasons for each denial.

7826.1900 REPORTING CUSTOMER DEPOSITS.

The annual service quality report must include the number of customers who were required to make a deposit as a condition of receiving service.

7826.2000 REPORTING CUSTOMER COMPLAINTS.

The annual service quality report must include a detailed report on complaints by customer class and calendar month, including at least the following information:

- A. the number of complaints received;
- B. the number and percentage of complaints alleging billing errors, inaccurate metering, wrongful disconnection, high bills, inadequate service, and the number involving service-extension intervals, service-restoration intervals, and any other identifiable subject matter involved in five percent or more of customer complaints;
- C. the number and percentage of complaints resolved upon initial inquiry, within ten days, and longer than ten days;
- D. the number and percentage of all complaints resolved by taking any of the following actions:
 - (1) taking the action the customer requested;
 - (2) taking an action the customer and the utility agree is an acceptable compromise;
 - (3) providing the customer with information that demonstrates that the situation complained of is not reasonably within the control of the utility; or
 - (4) refusing to take the action the customer requested; and

E. the number of complaints forwarded to the utility by the commission's Consumer Affairs Office for further investigation and action.

Appendix C
Statement of Need and Reasonableness

BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

In the Matter of a Rulemaking to Implement
Minnesota Statutes § 216B.81, Subd. 1

ISSUE DATE: August 26, 2002

DOCKET NO. E-999/R-01-1671

STATEMENT OF NEED AND
REASONABLENESS

I. INTRODUCTION

During the 2001 session the Minnesota Legislature enacted a statute requiring the Commission to adopt safety, reliability, and service quality standards for electric distribution utilities, other than cooperative and municipal utilities. It requires cooperative and municipal utilities to adopt their own standards, which are to be as consistent as possible with the Commission standards. Minn. Stat. § 216B.81. It also requires the Department of Commerce to report to the Legislature on the costs and benefits of the new law by February 2003.¹

The Commission determined that a rulemaking was the best way to establish the required standards. The agency therefore published a request for comments in the State Register, followed by a mass mailing requesting comments from the 346 people on the agency's general electricity mailing list, energy rulemaking list, and general rulemaking list. The mass mailing also requested nominations for an advisory committee to help the Commission develop the new rules.

In February 2002 the Commission convened a rulemaking advisory committee, both to tap into stakeholder expertise on safety, reliability, and service quality, and to make sure the rules ultimately adopted responded to stakeholder concerns. The advisory committee was made up of the organizations listed below and included everyone who volunteered or was nominated to serve:

- Department of Commerce
- Residential and Small Business Utilities Division of the Office of the Attorney General
- Xcel Energy
- Minnesota Power
- Otter Tail Power Company
- Interstate Power Company

¹ Laws 2001, c. 212, art. 6, § 2.

- Dakota Electric
- Legal Services Advocacy Project
- EnergyCENTS Coalition
- International Brotherhood of Electrical Workers
- Minnesota Rural Electric Association
- Minnesota Municipal Utilities Association

The advisory committee met four times over the following months. Between meetings committee members produced and circulated data, proposals, and feedback on others' proposals, and provided technical assistance to the Commission's rulemaking staff. Their participation was critical to producing workable rules; the rule's three subject areas – safety, reliability, and service quality – are so substantive and so diverse that the staff needed to draw upon the expertise of every member of the committee at some point.

On July 11, 2002 the Commission voted to formally propose for adoption the rules draft submitted by its rulemaking staff, which was supported by all members of the advisory committee.

II. THIS MATERIAL AVAILABLE IN ALTERNATIVE FORMAT

This document can be made available in alternative formats (i.e., large print or audio tape) by calling (651) 297-4596 (voice), (651) 297-1200 (TTY), or 1-800-627-3529 (TTY relay service).

III. STATEMENT OF STATUTORY AUTHORITY

The Commission's statutory authority to adopt these rules is set forth at Minn. Stat. § 216B.81, subd. 1, which provides as follows:

(a) The commission and each cooperative electric association and municipal utility shall adopt standards for safety, reliability, and service quality for distribution utilities. Standards for cooperative electric associations and municipal utilities should be as consistent as possible with the commission standards.

(b) Reliability standards must be based on the system average interruption frequency index, system average interruption duration index, and customer average interruption duration index measurement indices. Service quality standards must specify, if technically and administratively feasible:

- (1) average call center response time;
- (2) customer disconnection rate;
- (3) meter-reading frequency;

- (4) complaint resolution response time;
- (5) service extension request response time;
- (6) recording of service and circuit interrupter data;
- (7) summary reporting;
- (8) historical reliability performance reporting;
- (9) notices of interruptions of bulk power supply facilities and other interruptions of power; and
- (10) customer complaints.

(c) Minimum performance standards developed under this section must treat similarly situated distribution systems similarly and recognize differing characteristics of system design and hardware.

(d) Electric distribution utilities shall comply with all applicable governmental and industry standards required for the safety, design, construction, and operation of electric distribution facilities, including section 326.243.

The effective date of this statute was July 1, 2001.

The Commission's general rulemaking authority in energy matters is found at Minn. Stat. §§ 216A.05, 216B.08, and 216B.09.

IV. STATEMENT OF NEED

Minnesota's Administrative Procedure Act, Minn. Stat. Ch. 14, requires the Commission to establish the need for the proposed rules by an affirmative presentation of facts. Minn. Stat. §§ 14.14, subd. 2 and 14.23.

In this case, the Legislature has determined the need for rules governing the safety, reliability, and service quality of Minnesota's investor-owned electric distribution utilities by directing the Commission to adopt safety, reliability, and service quality standards for these utilities. Minn. Stat. § 216B.81, subd. 1.

V. STATEMENT OF REASONABLENESS

The Administrative Procedure Act also requires the Commission to establish that the proposed rules are a reasonable solution to the problems they are intended to address, that the Commission relied on evidence in choosing the approach adopted in the rules, and that the evidence relied upon rationally relates to the approach the Commission chose to adopt. Minn. Stat. §§ 14.14, subd. 2 and 14.23. Minn. Rules, part 1400.2070, subp. 1.

A. The Process Used to Develop the Rules Facilitated Informed Decision-making and Helped Ensure Reasonable Rules

The proposed rules are a reasonable means of establishing safety, reliability, and service quality standards for investor-owned utilities. They were drafted with the active participation of all Minnesota's investor-owned utilities; the trade associations representing Minnesota's cooperative and municipal utilities; the International Brotherhood of Electrical Workers, representing lineworkers, meter-readers, and other workers who maintain the utilities' daily operations; two organizations representing low-income consumers – the EnergyCents Coalition and the Legal Services Advocacy Project; the Energy Division of the Minnesota Department of Commerce; and the Residential and Small Business Utilities Division of the Office of the Minnesota Attorney General.

As these stakeholders met and exchanged comments and proposals, it became clear that factual evidence would play a much smaller role in developing these rules than policy considerations. There were few factual disputes, and the factual disputes that did arise invariably disappeared as the engineers, accountants, lawyers, consumer advocates, and customer service representatives making up the committee defined their terms and began to understand one another's vocabulary.

The policy issues, of course, did not recede in the same way, although the explanatory power and give-and-take of group discussions did enable stakeholders to find common ground where there had been none and to cede some points upon recognizing their importance to others. In the end, most of the policy judgments embedded in the final rules draft reflect stakeholder consensus. The few that do not represent consensus represent Commission policy choices which stakeholders advocating other policies found reasonable and workable considering the rules as a whole.

Of course, broad-based stakeholder representation and stakeholder consensus do not establish reasonableness; the Commission did instruct its staff that the advisory committee was in fact advisory, that stakeholder consensus was secondary to good public policy, and that the Commission retained ultimate responsibility for its rules. That being said, the Commission submits that the process used to develop these rules is clear evidence that they are well-informed, carefully conceived, and responsive to the needs of diverse stakeholders.

B. The Rules' Approach to Each of the Three Major Topics is Reasonable

The rules take a reasonable approach to each of the three major areas in which the Legislature directed the Commission to establish standards – safety, reliability, and service quality. The rules' general approach to each area is discussed below; the reasonableness of each rule provision is taken up following that discussion.

1. Safety

The Commission's main goals in the safety section (7826.0300) are to comply with statutory expectations without (1) duplicating the functions of other agencies; (2) burdening the utilities with redundant filings; or (3) mis-allocating Commission resources by requiring it to develop expertise in an area adequately regulated by other bodies.

With these goals in mind, the safety section affirmatively requires utilities to comply with existing safety mandates, encourages compliance with specific safety practices recommended by industry experts by making that compliance prima facie evidence of reasonableness, and relies on reporting to reveal any need for direct Commission intervention on safety issues.

This is a reasonable approach to a substantive area in which other agencies² have greater expertise and more far-reaching responsibilities than the Commission. It helps ensure compliance with existing safety regulations by adding the Commission to the list of agencies with enforcement authority. It does not divert attention or resources from the agencies with primary enforcement responsibility. And it establishes a fail-safe – the annual safety filing – to alert the Commission to any safety problems requiring direct intervention by the Commission.

2. Reliability

a. Reliability Standards

The statute requires the Commission both to adopt reliability performance standards and to establish reliability reporting requirements. The Commission's main goals in the reliability sections (7826.0400 - 7826.0600) are to set meaningful reliability standards, to establish reporting requirements that will automatically alert the Commission to reliability deficits, and to give the Commission the flexibility to deal with reliability deficits in light of the unique characteristics of each utility's distribution system and service area.

The statute requires the Commission to base the rules' reliability standards on three system reliability measures: the System Average Interruption Duration Index (SAIDI), the System Average Interruption Frequency Index (SAIFI), and the Customer Average Interruption Duration Index (CAIDI).

There was unanimous agreement among all the technical experts on the advisory committee that SAIDIs, SAIFIs, and CAIDIs legitimately vary not only between utilities – based on geography, topography, population density, and other factors – but between areas within each utility's assigned service area. The

² Those agencies would include state and federal OSHA agencies, the Department of Commerce, the Department of Public Safety, the Board of Electricity, and – for cooperatives, whose standards must be as consistent as possible with Commission rules – the United States Rural Utilities Service.

statute recognizes these differences by requiring that performance standards “treat similarly situated distribution systems similarly” and “recognize differing characteristics of system design and hardware.” Minn. Stat. § 216B.81, subd. 1 (c).

It quickly became clear that meaningful standards would have to be utility-specific and that truly useful standards would have to be specific to individual, homogeneous areas within utilities’ service areas. The engineers agreed that the best proxy for these individual, homogeneous areas would be the “work center,” the basic administrative unit utilities use to maintain and repair their distribution systems.

The rules therefore require the Commission to set reliability standards for each work center of each utility in the form of numerical values for SAIDI, SAIFI, and CAIDI. To preserve the flexibility necessary to address changing conditions, these values will be set annually, as part of an overall reliability review. 7826.0500.

Each utility will make an annual reliability filing, providing extensive information on its reliability performance over the past year and proposing specific SAIDIs, SAIFIs, and CAIDIs for each work center for the coming year. To begin the process with adequate information, the utilities will make initial filings containing five years of historical reliability data, both by service area and work center. 7826.0400.

This is a reasonable approach to setting reliability standards. It honors the statutory directive to take into account differences in distribution systems, without sacrificing meaningful regulation of reliability.

b. Reliability Reporting Requirements

The reliability reporting requirements are designed to permit the Commission to monitor the reliability of each utility’s distribution system over time and across its assigned service area. The baseline data are each work center’s SAIDI, SAIFI, and CAIDI, currently and for each of the past five years, with each utility normalizing its data to exclude outages caused by major storms.

Other items that must be reported include staffing levels at the work centers, voltage anomalies exceeding standards set by the American National Standards Institute, the circumstances surrounding interruptions of bulk power supply facilities, circuit interruption data, operational changes undertaken or planned to improve reliability, and reports on major service interruptions, including any steps taken or planned to prevent their recurrence.

The purpose of these requirements is to give the Commission the kind of broad overview necessary to detect and address reliability threats before they materialize, as well as to recognize opportunities to improve reliability within a utility’s service area. This is a reasonable approach to reliability reporting requirements. It avoids reporting for the sake of reporting, while giving the Commission the tools necessary to monitor, protect, and maintain reliability.

3. Service Quality

The statute requires the Commission to adopt service quality standards generally and lists ten specific topics that should be addressed if technically and administratively feasible. Of these ten specific topics, six relate to customer service or consumer protection: average call center response time, customer disconnection rate, meter-reading frequency, complaint resolution response time, service extension request response time, and customer complaints. (The remainder relate to reliability and are dealt with in the reliability section of the rules.)

The rules address each of these and related topics. Where it is impractical to set a performance standard, the rules substitute reporting requirements designed to alert the Commission to any customer service or consumer protection issue that might merit action under its general authority to require safe, adequate, efficient, and reasonable service. Minn. Stat. § 216B.04.

This is a reasonable approach to promoting high levels of customer service. It requires specific behavior where it is clear that that behavior is integral to good customer service across the board, and it gives the Commission the information and flexibility necessary to identify utility-specific customer service deficits and deal with them effectively.

VI. ANALYSIS OF INDIVIDUAL RULES

The rules contain twelve parts, most further divided into multiple subparts. The rule parts are as follows:

- 7826.0100 – Applicability
- 7826.0200 – Definitions
- 7826.0300 – Safety Standards and Reporting Requirements
- 7826.0400 – Reliability Reporting Requirements
- 7826.0500 – Reliability Standards
- 7826.0600 – Reporting Major Service Interruptions
- 7826.0700 – Customer Notice of Planned Service Interruptions
- 7826.0800 – Meter-reading Frequency; Customer Accommodation
- 7826.0900 – Replacing Malfunctioning Meters
- 7826.1000 – Keeping Service Calls
- 7826.1100 – Call Center Response Time
- 7826.1200 – Annual Service Quality Reporting Requirements

7826.0100 APPLICABILITY

The applicability section is necessary to establish and clarify who is subject to the rules. The applicability

section is reasonable because it limits the rules' applicability to the entities covered by the statute – electric distribution utilities other than municipals and cooperatives. It does this by (1) incorporating the Public Utilities Act's definition of an electric utility³ and (2) excluding municipal and cooperative utilities, which the statute exempts from the distribution standards it requires the Commission to adopt.

7826.0200 DEFINITIONS

Subp. 1. Scope.

This subpart establishes that the terms used in this chapter have the meanings set forth in the definition section. This is necessary and reasonable to establish a frame of reference for this rule.

Subp. 2. Bulk power supply facility.

This definition is necessary because the term appears in the rule and has a meaning not commonly understood outside the context of electric distribution system engineering. The definition is reasonable because it clearly and adequately describes what is meant by the term and because it was developed by the advisory committee, which relied on the professional judgment of engineers employed by the utilities and the Commission.

Subp. 3. Cold Weather Rule.

This definition is necessary because the term appears in the rule and has a meaning not commonly understood outside the context of utility regulation. The definition is reasonable because it clearly and adequately describes what is meant by the term.

Subp. 4. Customer Average Interruption Duration Index or CAIDI.

This definition is necessary because the term appears in the rule and has a meaning not commonly understood outside the context of electric distribution system engineering. The definition is reasonable because it clearly and adequately describes what is meant by the term and because it incorporates the statutory definition of the term, adding the "using storm-normalized data" portion of the definition to reflect standard industry practice and to ensure meaningful data.

Subp. 5. Customer complaint.

This definition is necessary because the term appears in the rule, is inherently ambiguous, and must be defined to apprise stakeholders of what kinds of communications fall within the rule's complaint

³ 216B.02, subd. 4.

provisions. The definition is reasonable because it clearly and adequately describes what is meant by the term.

Defining “customer complaint” was one of the most difficult issues in this rulemaking, because all available options seemed to be either over-inclusive or under-inclusive. On the one hand, the utilities initially supported limiting the term to complaints filed with the Commission or, at the most expansive, to complaints not resolved by first-line call center staff.

They pointed out that treating all customer-to-utility communications stating grievances as “complaints” would (1) force first-line customer service staff to make judgments about when a communication crossed the line between inquiries and complaints, leading to discrepancies between how different utilities defined and reported on complaints; and (2) classify as complaints many communications expressing grievances the utility was powerless to remedy, such as high wholesale gas prices or statutorily-mandated subsidization of conservation programs.

On the other hand, the consumer advocates on the advisory committee pointed out that the overwhelming majority of consumer complaints are handled in a single phone call by first-line staff. Also, the Commission’s Consumer Affairs staff stated that one of the most common complaints made to their office is that the utility’s first-line staff refused to transfer the customer to a supervisor or that first-line staff promised a return call from a supervisor that never occurred; they believed that any meaningful data about the subject matter and resolution of complaints would have to come from that initial contact.

Ultimately, the Commission concluded that the statute’s heavy emphasis on consumer protection and customer service obligated the agency to collect as much information on consumer complaints as possible and that an expansive definition was more likely than a narrow one to yield the kind of information that would be helpful – which issues are prompting complaints, how often complaints are resolved in the customer’s or the utility’s favor, how often complaints are resolved through compromise, and how long it takes to resolve complaints.

Ultimately, the utility stakeholders on the advisory committee were comfortable with this, having been assured that classifying a communication as a complaint was not an admission of wrongdoing, that the Commission understood that many complaints would deal with issues beyond the utilities’ control, and that there was nothing unprecedented about relying on the good faith and judgment of customer service staff in reporting data.

Finally, the definition reasonably limits complaints to communications with a utility’s call center. The stakeholders agreed that lineworkers, meter-readers, and other technical staff have no expertise in customer service issues, should refer complaining customers to the utility’s call center, and should not be responsible for reporting on complaints as well as maintaining the distribution system. The Commission concurs in this judgment.

Subp. 6. Interruption.

This definition is necessary because the term appears in the rule and has a meaning not commonly understood outside the context of electric distribution system engineering. The definition is reasonable because it clearly and adequately describes what is meant by the term, because it adopts the industry’s standard definition of interruption, and because it avoids applying the reporting requirements of the rules to service outages of extremely short duration.

Subp. 7. Major service interruption.

This definition is necessary because the term appears in the rule, triggering reporting requirements, and is inherently ambiguous. The definition is reasonable because it clearly and adequately describes what is meant by the term and because it limits reporting to service outages of sufficient breadth and duration to merit imposing reporting requirements.

Subp. 8. Resolved.

This definition is necessary because the term appears in the rule and is inherently ambiguous. The definition is reasonable because it clearly and adequately describes what is meant by the term.

Subp. 9. Storm-normalized data.

This definition is necessary because the term appears in the rule and has a meaning not commonly understood outside the context of electric distribution system engineering. The definition is reasonable because it clearly and adequately describes what is meant by the term.

Subp. 10. System Average Interruption Duration Index or SAIDI.

This definition is necessary because the term appears in the rule and has a meaning not commonly understood outside the context of electric distribution system engineering. The definition is reasonable because it clearly and adequately describes what is meant by the term and because it incorporates the statutory definition of the term, adding the “using storm-normalized data” portion of the definition to reflect standard industry practice and to ensure meaningful data.

Subp. 11. System Average Interruption Frequency Index or SAIFI.

This definition is necessary because the term appears in the rule and has a meaning not commonly understood outside the context of electric distribution system engineering. The definition is reasonable because it clearly and adequately describes what is meant by the term and because it incorporates the statutory definition of the term, adding the “using storm-normalized data” portion of the definition to reflect standard industry practice and to ensure meaningful data.

Subp. 12. Utility.

This definition is necessary because the term appears in the rule and is inherently ambiguous. The definition is reasonable because it clearly and adequately describes what is meant by the term and because it limits the reach of the rules to the entities covered by the statute – electric distribution utilities other than municipals and cooperatives. It does this by (1) incorporating the Public Utilities Act’s

definition of an electric utility⁴ and (2) excluding municipal and cooperative utilities, which the statute exempts from the distribution standards it requires the Commission to adopt.

Subp. 13. Work center.

This definition is necessary because the term appears in the rule and has a meaning not commonly understood outside the context of electric distribution system engineering and maintenance. The definition is reasonable because it clearly and adequately describes what is meant by the term and because it was developed by the advisory committee, which relied on the professional judgment of engineers employed by the utilities and the Commission.

7826.0300 SAFETY STANDARDS AND REPORTING REQUIREMENTS

Subp. 1. National Electrical Safety Code.

This subpart requires utilities constructing new facilities or performing capital re-investment in existing facilities to comply with the National Electrical Safety Code provisions in effect at the time the work is done. This subpart is necessary to ensure that the rules conform with the safety requirements of the statute – those requirements include compliance with Minn. Stat. § 326.243, which requires compliance with the National Electrical Safety Code. The subpart is reasonable because it prevents the confusion that would occur if the safety standards in the new rules omitted one with which utilities are required by law to comply.

Subp. 2. Standards and recommended practices of the Institute of Electrical and Electronics Engineers, Inc. and the American National Standards Institute.

This subpart encourages utilities to comply with the recommended practices of the Institute of Electrical and Electronics Engineers and the American National Standards Institute in regard to electricity metering and standard voltage ratings. These professional organizations are the premier American authorities on electrical engineering safety issues, and the two standards listed are the only two recommended practices specifically relating to electric utilities. Instead of requiring compliance with recommended practices, the subpart encourages compliance by providing that compliance creates a rebuttable presumption of reasonableness.

The subpart is necessary to discharge the Commission's statutory obligation to set safety standards. The IEEE and ANSI recommended practices are baseline safety standards; if the rule omitted them it would lack both credibility and efficacy. For these reasons, the subpart is reasonable as well as necessary.

⁴ 216B.02, subd. 4.

At the same time, it is necessary and reasonable to encourage rather than require compliance with these standards. Every electrical distribution system is unique, because it has been engineered to meet the needs of a particular combination of customers in a particular geographic area. As a result, some distribution systems have unique engineering characteristics that require the use of non-standard configurations. It is therefore necessary, reasonable, and important for the rules to permit utilities to deviate from the IEEE and ANSI recommended practices when necessary to meet the needs of their service areas.

Subp. 3. Occupational Safety and Health Administration rules.

This subpart requires utilities to comply with all state and federal Occupational Safety and Health Administration regulations. The subpart is reasonable and necessary to discharge the Commission's statutory obligation to set safety standards. OSHA rules are baseline safety standards; if the rule omitted them it would lack both credibility and efficacy.

Subp. 4. Annual safety report.

This subpart requires each utility to file an annual report on its safety performance over the last calendar year. The report must include summaries of all state and federal OSHA reports filed that year and descriptions of all incidents in which an injury requiring medical attention or property damage resulting in compensation occurred as a result of downed wires or other electrical system failures. It must also report on remedial action taken as a result of any reported incidents.

The subpart is necessary to establish a mechanism to alert the Commission to any safety problems requiring direct intervention by the Commission. The subpart is a reasonable means of accomplishing this goal, since serious safety deficits would manifest themselves in the items that must be included in the annual report.

7826.0400 RELIABILITY REPORTING REQUIREMENTS

Subp. 1. Annual reporting requirements.

This subpart requires affected utilities to file annual reports on their reliability performance over the past calendar year. The subpart is necessary for the Commission to fulfill its responsibilities to monitor, protect, and maintain reliability and to set reliability performance standards.

The items required in the filing are reasonably designed to alert the Commission to any reliability deficits, to ensure that utilities are complying with reliability standards set for the calendar year on which they are reporting, and to provide the information necessary to set reasonable reliability standards for the next calendar year. The need for and reasonableness of each filing requirement is set forth below.

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

This filing requirement is reasonable and necessary, since the statute requires reliability standards to be based on three reliability indexes, one of which is the SAIDI index. The requirement to provide the SAIDI for each work center is reasonable and necessary because under the rules the Commission will set reliability standards on a work center basis. The requirement to provide the SAIDI for the assigned service area as a whole is reasonable and necessary because it will give the Commission a system-wide reliability measure.

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

This filing requirement is reasonable and necessary, since the statute requires reliability standards to be based on three reliability indexes, one of which is the SAIFI index. The requirement to provide the SAIFI for each work center is reasonable and necessary because under the rules the Commission will set reliability standards on a work center basis. The requirement to provide the SAIFI for the assigned service area as a whole is reasonable and necessary because it will give the Commission a system-wide reliability measure.

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

This filing requirement is reasonable and necessary, since the statute requires reliability standards to be based on three reliability indexes, one of which is the CAIDI index. The requirement to provide the CAIDI for each work center is reasonable and necessary because under the rules the Commission will set reliability standards on a work center basis. The requirement to provide the CAIDI for the assigned service area as a whole is reasonable and necessary because it will give the Commission a system-wide reliability measure.

- D. *An explanation of how the utility normalizes its reliability data to account for major storms –*

The purpose of the reliability indexes is to measure reliability under normal operating conditions. If utilities did not adjust their SAIDIs, SAIFIs, and CAIDIs to exclude outages caused by severe weather, the indexes would not yield meaningful data about how reliable the system is under conditions other than crisis conditions. All utilities therefore storm-normalize their reliability data, and they all use slightly different formulas and procedures to do this, depending upon their distribution system design and computer capabilities.

This filing requirement is necessary to ensure accountability in normalizing reliability data for severe

weather. It is reasonable in that it effectively accomplishes that objective at minimal cost and with minimal intrusiveness.

- E. An action plan for remedying any failure to comply with reliability standards set forth at 7826.0500 or an explanation as to why non-compliance was unavoidable under the circumstances –*

This filing requirement is necessary to ensure that the reasons for and circumstances surrounding reliability deficits are addressed in the annual reliability filings. The requirement is reasonable in that it makes efficient use of utilities' knowledge and expertise and enlists their cooperation by requiring them to open the process of remedying reliability deficiencies by offering their own action plan.

- F. To the extent feasible, a report on each interruption of a bulk power supply facility during the calendar year, including the reasons for interruption, duration of interruption, and any remedial steps that have been taken or will be taken to prevent future interruption –*

This subpart is necessary because the statute requires the Commission to adopt standards requiring "notices of interruptions of bulk power supply facilities," "if technically and administratively feasible." The subpart is reasonable because it requires such reporting to the extent feasible; the stakeholders on the advisory committee reported that some utilities would be unable to provide full information about some interruptions, due to computer software limitations.

- G. A copy of each report filed under 7826.0600 –*

This subpart requires utilities to include in their annual reliability filings copies of reports filed earlier that year on major service interruptions. This is necessary to ensure that the annual reliability review takes into account major service interruptions and utilities' responses to them. While most major service interruptions are beyond utilities' control – most are due to severe weather – utilities are responsible for ensuring rapid restoration of service and for planning and building systems to minimize their vulnerability to severe weather.

The subpart is reasonable in that it effectively accomplishes its objective at minimal cost and with minimal redundancy, building upon filings made at the time of the major service interruption.

- H. To the extent technically feasible, circuit interruption data, including identifying the worst-performing circuit in each work center, stating the criteria the utility used to identify the worst-performing circuit, stating the circuit's SAIDI, SAIFI, and CAIDI, explaining the reason(s) that the circuit's performance is in last place, and describing any operational changes the utility has made, is considering, or intends to make to improve its performance –*

This subpart is necessary because it fulfills the statutory requirement that the rules require “recording of service and circuit interrupter data.” It is reasonable because it gets to the heart of reliability by requiring the utility to compare the reliability performance of different parts of its distribution system. This should alert utilities (and other stakeholders and the Commission) to any disparities in service quality within a utility’s service area and any need to upgrade the infrastructure in particular parts of a service area.

- I. Data on all known instances in which nominal electric service voltages on the utility’s side of the meter did not meet the standards of the American National Standards Institute for nominal system voltages greater or less than voltage range B –*

This subpart is necessary and reasonable because it codifies a basic service quality measure used by all utilities and approved by the Institute of Electrical and Electronics Engineers, Inc. and the American National Standards Institute.

- J. Data on staffing levels at each work center, including the number of full-time equivalent positions held by field employees responsible for responding to trouble and for the operation and maintenance of distribution lines –*

In the telecom area the Commission and other state regulatory agencies have found clear links between staffing levels and service quality/reliability. For example, one of the conditions placed on the U S WEST/Qwest merger was a requirement that Qwest hire an additional 180 customer service representatives, 150 network technicians, and 150 contractors for the purpose of improving service quality in Minnesota.⁵

Reliability and service quality are even more important for electric utilities, and the Legislature has directed the Commission to take a more active role in protecting them. Monitoring staffing levels is one tool among many that the Commission needs at its disposal to fulfill this legislative directive. For these reasons, this subpart is necessary and reasonable.

- K. Any other information the utility considers relevant in evaluating its reliability performance over the calendar year –*

This subpart is necessary and reasonable to ensure that utilities include in their annual reliability filings any information not otherwise required that would be useful in examining reliability issues.

⁵ In the Matter of the Merger of the Parent Corporations of Qwest Communications Corporation, LCI International Telecom Corp., USLD Communications, Inc., Phoenix Network, Inc., and U S WEST Communications, Inc., Docket No. P-3009, 3052, 5096, 421, 3017/PA-99-1192, ORDER ACCEPTING SETTLEMENT AGREEMENTS AND APPROVING MERGER SUBJECT TO CONDITIONS (June 28, 2000).

Subp. 2. Initial reporting requirements.

This subpart requires each utility to make an initial filing within 60 days of the effective date of the rules giving its SAIDI, SAIFI, and CAIDI for each work center and for its service area as a whole for each of the past five years. If this information is not available, the utility is to file an explanation of how it has been tracking reliability during that period, together with reliability data for that period. If the utility has implemented a new reliability tracking system that makes comparisons between historical data and current data unreliable, it is to explain that situation.

This subpart is necessary and reasonable to fulfill the statutory mandate to require “historical reliability performance reporting,” to give the Commission the information necessary to detect any recent degradation in reliability, and to give the Commission the information necessary to place future variations in reliability in context.

7826.0500 RELIABILITY STANDARDS

Subp. 1. Utilities to propose individual reliability performance standards annually.

This subpart requires utilities to make an annual filing proposing reliability standards for the coming year, in the form of specific SAIDIs, SAIFIs, and CAIDIs for all work centers in their service areas. The subpart also provides that these filings will be treated as miscellaneous tariff filings under the Commission’s rules of practice and procedure.

The subpart is necessary to fulfill the Commission’s statutory obligation to adopt reliability standards for affected utilities. The subpart is reasonable because it is an efficient way to begin the process of setting reliability standards. Utilities obviously have a wealth of reliability data at their disposal and a right to be heard before standards are set. Opening with their proposals expedites the standard-setting process.

Similarly, it is reasonable to clarify that the procedures applicable to miscellaneous tariff filings apply to these utility proposals. “Miscellaneous tariff filing” is the procedural rules’ catch-all term for filings that do not fall within another category and do not require determination of a utility’s revenue requirement. Minn. Rules 7829.0100, subp. 11. These filings would be treated as miscellaneous tariff filings whether or not the new rules contained this clarifying provision. It is reasonable to include the provision, however, as an aid to stakeholders who do not regularly participate in Commission proceedings.

Subp. 2. Utility-specific reliability performance standards to be set annually.

This subpart requires the Commission to set reliability performance standards for each utility annually, in the form of a SAIDI, SAIFI, and CAIDI for each of its work centers. These standards are to remain in effect until the Commission changes them in the next annual reliability review or in the course of another

proceeding.

This subpart is necessary to fulfill the Commission's statutory obligation to adopt reliability standards for affected utilities. It is reasonable because it will result in meaningful, enforceable standards that ensure the provision of high-quality service to the public.

In the course of this rulemaking it quickly became clear that meaningful reliability standards would have to be utility-specific and that truly useful reliability standards would have to be specific to individual, homogeneous areas within utilities' service areas. There was unanimous agreement among the technical experts on the advisory committee that SAIDIs, SAIFIs, and CAIDIs legitimately vary not only between utilities – based on geography, topography, population density, and other factors – but between areas within each utility's assigned service area. These experts also agreed that the best proxy for individual, homogeneous areas would be the “work center,” the basic administrative unit utilities use to maintain and repair their distribution systems.

The rules therefore require the Commission to set reliability standards for each work center of each utility. This ensures the meaningful standards the statute anticipates. The rules also require new standards to be set annually, building in the flexibility necessary to respond to changing conditions.

7826.0600 REPORTING MAJOR SERVICE INTERRUPTIONS

Subp. 1. Contemporaneous reporting.

This subpart requires utilities to promptly inform the Commission's Consumer Affairs Office of any major service interruption, defined at 7826.0200, subp. 7 as an interruption at the feeder level or above and affecting 500 or more customers for at least one hour. The subpart also requires the utility to tell Consumer Affairs, to the extent known, the location and cause of the interruption, the number of customers affected, the expected duration of the interruption, and the utility's best estimate of when service will be restored.

The subpart is necessary and reasonable because it enables the Consumer Affairs Office to respond helpfully to inquiries about major outages from customers, other members of the public, local government officials, and legislators. The Commission has a duty to be responsive to stakeholders in these situations, because major power outages affect the public so deeply and in so many ways.

Subp. 2. Written report.

This subpart requires a written report within 30 days of any major service interruption in which 10% of the utility's Minnesota customers are out of service for 24 hours or more. The report is to include an account of how service was restored and a description of any operational changes taken or under consideration to prevent similar interruptions in the future or to restore service more quickly in the future.

The subpart is necessary and reasonable to ensure that any systemic problems that manifest themselves in the course of a major outage – with reliability, service restoration, or customer communications – are addressed.

7826.0700 CUSTOMER NOTICE OF PLANNED SERVICE INTERRUPTIONS

This subpart requires utilities to give customers notice of planned service interruptions and to schedule planned interruptions to minimize inconvenience to customers. The notice requirements are as follows:

- for all interruptions expected to last longer than 20 minutes, the most effective notice possible;
- for interruptions expected to last more than four hours, mailed notice a week in advance followed by telephone or in-person notice 12 to 72 hours in advance, if feasible.

This subpart is necessary and reasonable to minimize the adverse consequences of planned service outages. Power outages are disruptive at best and a hardship at worst; it is important to give customers an opportunity to prepare for them if possible. The notice provisions of this rule are designed to provide adequate preparation time whenever possible.

The general standard of “the most effective notice possible” for all outages lasting longer than 20 minutes is necessary and reasonable. Clearly, it is not always possible to provide significant advance notice of an intentional interruption. Advisory committee members reported that line crews in the field often need to cut power to customers for short periods of time to perform necessary repairs and that they often don’t know of this need until they arrive at the scene.

Requiring advance notice in these cases would not only waste the time and resources already invested in dispatching the crew, but in many cases would also prolong another customer’s power outage. It is reasonable and necessary in these cases to permit the crew to give the most effective notice possible (usually a knock on the door and a quick explanation) and make the repair.

It is also reasonable, when lengthy interruptions are foreseeable, to require the one-week mailed notice followed by a personal contact or telephone contact 12 to 72 hours in advance. The dual notice requirement is reasonably designed to increase the likelihood that word of the coming power outage will reach every member of the household or every official of the business that will be out of service.

7826.0800 METER-READING FREQUENCY, CUSTOMER ACCOMMODATION

Subp. 1. Meter-reading performance standard.

This subpart requires utilities to aspire to read every meter every month unless otherwise authorized by the Commission. It treats them as in compliance if they read 90% of all meters from April to November and 80% of all meters from December through March. And it requires them to contact any customer whose bill has been estimated for two consecutive months and attempt to schedule a meter-reading. These provisions are necessary and reasonable for the reasons explained below.

First, while all stakeholders agree that utilities should aspire to monthly meter-reading, they also recognize

that in reality utilities will not read every meter every month due to severe weather, inaccessible meters, and other factors. The rules therefore adopt an achievable standard – 80% of meters read monthly during the winter, 90% read monthly the rest of the year – and treat achieving that standard as compliance.

This is necessary because the 100% standard is an impossible standard, and it is reasonable because it both provides effective ratepayer protection and sets realistic, enforceable expectations for utilities. The Commission adopted the 80%/90% standard for Xcel in the Order permitting the NSP/New Century merger creating that company.⁶ It has proved workable in practice, and it had the support of the entire advisory committee.

The meter-reading requirements include the phrase from the existing customer service rules, “unless otherwise authorized by the Commission.” This is reasonable and necessary because it avoids disturbing rule variances granted to Otter Tail and Minnesota Power permitting them to read fewer meters during the severe weather months and because it builds in the flexibility necessary to respond to changing or unique conditions.

The rules also require utilities to contact any customer whose bill has been estimated for two consecutive months and attempt to schedule a reading. This is a necessary and reasonable measure to protect consumers against the large, unpredictable true-ups that often follow a series of estimated bills.

Subp. 2. Evening and weekend meter-reading.

This subpart codifies the statutory requirement that utilities offer weekend and evening meter-reading to customers whose schedules make reading during regular business hours a hardship.⁷ It requires utilities to inform customers of this option when the utility calls a customer to schedule a meter-reading and all other options, including self-reading, are unacceptable to the customer.

This provision is necessary to effectuate statutory meter-reading requirements and to meet the needs of consumers for whom regular meter-reading, remote meter-reading, and self-meter-reading are not options. It is reasonable in that it limits evening and weekend meter-reading, which is extremely expensive, to cases of true hardship.

7826.0900 REPLACING MALFUNCTIONING METERS

This section requires utilities to replace malfunctioning meters within ten calendar days of learning that they

⁶ In the Matter of the Application of Northern States Power Company for Approval to Merge with New Century Energies, Inc., Docket No. E,G-002/PA-99-1031, ORDER APPROVING MERGER, AS CONDITIONED (June 12, 2000).

⁷ Minn. Stat. § 216B.075.

may be inaccurate, through customer reporting or other means. This is necessary to protect customers and utilities from inaccurate billings and to maintain public confidence in utilities.

7826.1000 KEEPING SERVICE CALLS

This section requires utilities to keep service calls within a four-hour window set by the utility and clearly communicated to the customer. It also requires as much notice as possible when a service call appointment cannot be kept.

The section is necessary to protect consumers from lengthy, open-ended appointment times. The section is reasonable because it gives utilities the four-hour window typically accorded repair and delivery persons, because it recognizes that line crews will occasionally have to be redirected after an appointment is set, and because it requires as much notice to the customer as possible when that happens.

7826.1100 CALL CENTER RESPONSE TIME

Subp. 1. Calls to business office.

This subpart requires utilities to answer 80% of calls to the business office within 20 seconds on an annual basis. Calls to the business office are not “answered” until a live person able to handle the call comes on the line, but the 20 seconds does not begin until the customer has made his or her way through any automated menu and chosen the option (which must be offered) of talking with a customer service representative. Utilities are also prohibited from delaying connection with a live person for purposes of playing promotional announcements.

These provisions are necessary because the statute requires that the rules address “average call center response time” and because the public interest requires that utilities be held to a high standard in their dealings with the public. The provisions are reasonable for the reasons set forth below.

The 80% figure was based in large part on the Xcel merger stipulation, discussed earlier, which holds Xcel to an answering time of 78% within 20 seconds.⁸ Both Xcel and the consumer advocates on the advisory committee have found the standard workable, and of course, the Commission found it reasonable when it placed it in the merger Order. Xcel’s positive experience with the standard convinced the other utilities that it was workable.

The rules reasonably provide that having a machine pick up a call and tell the caller that his or her call will be answered in turn does not constitute an “answer”; if it did, consumers could still be subject to long delays in getting effective customer assistance by phone. For the same reasons, it is reasonable to

⁸ In the Matter of the Application of Northern States Power Company for Approval to Merge with New Century Energies, Inc., Docket No. E,G-002/PA-99-1031.

prohibit delaying connecting callers with customer service representatives for purposes of playing promotional announcements.

The rules reasonably permit the use of automated answering systems and do not begin the 20 second answering period until the customer has made his or her way through the automated menu and chosen the option of speaking with a customer service representative. This not only permits utilities to deploy their call center staff more efficiently, but it gives consumers speedier access to a utility representative with the expertise and authority to respond to their specific concerns.

Subp. 2. Calls regarding service interruptions.

This subpart applies the 80%/20 second answering standard to calls reporting service outages, but provides that those calls are considered “answered” when the caller is connected to a recording providing information about the outage (or, of course, to a live customer service representative). The recording must provide the best information available about the outage, including its cause, its location, the number of customers affected, and the utility’s best estimate of when service will be restored, by geographical area.

It is necessary and reasonable to permit recordings in these cases because during major outages, utilities are inundated with calls reporting service interruptions. Requiring them to meet the 80/20 standard with a live service representative for these calls would be astronomically expensive.

7826.1200 ANNUAL SERVICE QUALITY REPORTING REQUIREMENTS

The statute requires that the rules set performance standards for customer service, including, if technically and administratively feasible, standards on these six issues: average call center response time, meter-reading frequency, customer disconnection rate, complaint resolution response time, service extension request response time, and customer complaints. Of these six, the Commission found it feasible to set substantive performance standards for only the first two, call center response times and meter-reading frequency. The other four, while equally important to good customer service, do not lend themselves to objective, quantifiable performance standards.

The Commission determined that the most effective way to address the other four issues would be to establish annual reporting requirements designed to provide an overview of utility practices in these and related areas and to alert the Commission to any need for direct intervention. Direct intervention is always an option, since the Commission has the authority to remedy any customer service deficits that might be revealed through this reporting under its general authority to require safe, adequate, efficient, and reasonable service. Minn. Stat. § 216B.04.

This is a reasonable response to the statutory directive to set standards in these areas if technically and administratively feasible. Specific annual reporting requirements are discussed below.

Subp. 1. Meter-reading performance.

This subpart requires utilities to provide the following information by calendar month and customer class:

- A. the number and percentage of customer meters read by utility personnel;
- B. the number and percentage of customer meters self-read by customers;
- C. the number and percentage of customer meters that have not been read by utility personnel for periods of six to twelve months and for periods of longer than twelve months, and an explanation as to why they have not been read;
- D. data on monthly meter-reading staffing levels, by work center or geographical area.

Filing requirement A is necessary and reasonable because it permits the Commission to monitor compliance with the meter-reading standards established in part 7826.0800 and because it gives the Commission the information necessary to begin an analysis of any meter-reading deficiencies by grouping data by month and customer class.

Filing requirement B is necessary and reasonable because it tracks self-reading, a tool that both customers and utilities find convenient, but which can result in misreadings and difficult true-ups. Over-reliance on self-reading can harm consumers, and it is therefore necessary and reasonable to track the amount of self-reading utilities are permitting.

Filing requirement C is necessary and reasonable because it focuses on a core issue – how many customers have not had their meters professionally read for six to twelve months and why this is so. These are the cases most likely to cause hardship to consumers and losses to utilities, and it is important that they be carefully monitored to ensure that utilities are taking all reasonable steps to secure accurate, professional readings of these meters.

Filing requirement D is necessary and reasonable because meter-reading staffing levels directly affect how many meters are read in any given month. Further, in the telecom area the Commission and other state regulatory agencies have found clear links between staffing levels and service quality/reliability. For example, one of the conditions placed on the U S WEST/Qwest merger was a requirement that Qwest hire an additional 180 customer service representatives, 150 network technicians, and 150 contractors for the purpose of improving service quality in Minnesota.⁹

Reliability and service quality are even more important for electric utilities, and the Legislature has directed

⁹ In the Matter of the Merger of the Parent Corporations of Qwest Communications Corporation, LCI International Telecom Corp., USLD Communications, Inc., Phoenix Network, Inc., and U S WEST Communications, Inc., Docket No. P-3009, 3052, 5096, 421, 3017/PA-99-1192, ORDER ACCEPTING SETTLEMENT AGREEMENTS AND APPROVING MERGER SUBJECT TO CONDITIONS (June 28, 2000).

the Commission to take a more active role in protecting them. Monitoring staffing levels is one tool among many that the Commission needs at its disposal to fulfill this legislative directive. For these reasons, this subpart is necessary and reasonable.

Subp. 2. Involuntary disconnections.

This subpart requires utilities to provide the following information by calendar month and customer class:

- A. the number of customers who received disconnection notices;
- B. the number of customers who sought Cold Weather Rule protection and the number who were granted Cold Weather Rule protection;
- C. the total number of customers whose service was disconnected involuntarily and the number of these customers restored to service within 24 hours;
- D. the number of disconnected customers restored to service by entering into a payment plan.

Filing requirement A is necessary and reasonable because it gives the Commission basic data about disconnection practices. The filing requirement focuses on how many customers receive disconnection notices, as opposed to how many customers are actually disconnected. This will permit the Commission to track how many customers with significant arrearages are able to avoid disconnection, providing some indication of a utility's willingness to work with customers facing economic adversity. And it will provide the kind of baseline data on overall levels of consumer welfare that the Legislature often requests of the Commission.

Filing requirement B is necessary and reasonable because it will permit the Commission to monitor utilities' administration of, and customers' use of, the Cold Weather Rule, the set of protections against winter disconnection enacted by the Commission in response to legislative directive. The Cold Weather Rule is a central feature of Minnesota energy policy; the Commission has a duty to track its administration, not just to ensure adequate Commission oversight but to maintain the ability to respond helpfully to frequent legislative requests for information on the program.

Filing requirement C is necessary and reasonable because it requires data on customer disconnection rates, one of the six service quality areas in which the statute directs the Commission to establish performance standards if feasible. While it is not feasible at this point to set substantive standards on disconnection rates, it is feasible (and important) to obtain accurate information on how many customers are disconnected throughout the course of the year by each utility. It is also important to refine those numbers to determine how many customers remain disconnected for more than a few hours, often the difference between inconvenience and hardship. This information will enable the Commission to better evaluate the effects of current disconnection procedures and the effectiveness of current energy assistance programs.

Filing requirement D is necessary and reasonable because it provides key information on a utility's

responsiveness to the needs of disconnected customers, as reflected in its success in reaching mutually agreeable payment arrangements. Unusually low numbers in this category could alert the Commission to a need for investigation or intervention.

Subp. 3. Service extension request response times.

This subpart requires utilities to provide the following information by calendar month and customer class:

- A. the number of customers requesting service to a location not previously served by the utility and the intervals between the date service was installed and the later of the in-service date requested by the customer or the date the premises were ready for service;
- B. the number of customers requesting service to a location previously served by the utility, but not served at the time of the request, and the intervals between the date service was installed and the later of the in-service date requested by the customer or the date the premises were ready for service.

This subpart is necessary and reasonable because it permits the Commission to monitor service extension request response times, one of the six service quality areas in which the statute directs the Commission to establish performance standards if technically and administratively feasible. At this point it is not feasible to set standards on service extension response times. Service extension intervals reasonably vary with terrain, time of year, and existing distribution facilities, and the Commission does not have industry-wide or utility-specific data on service extension intervals at its disposal. It is therefore reasonable to establish and rely on the reporting requirements set forth above, both to build a database on the issue and to alert the Commission to any need for active intervention on service extension intervals.

It is also reasonable to count the service extension interval from the date of the customer's request to the later of the in-service date requested by the customer or the date the premises were ready for service. Construction delays often make it impossible to start service on the date the customer originally requests; meaningful data on service extension intervals therefore depends upon recognizing the date on which the site was first ready to accept service.

Finally, it is reasonable to distinguish, as the subpart does, between how long it takes to install service to locations that have never been served and how long it takes to install service to locations previously served but not currently receiving service. It is much easier to install service to locations previously served, and including those installations with totally new installations would severely compromise the usefulness of data on service extension intervals.

Subp. 4. Call center response times.

This subpart requires an annual filing detailing month-by-month call center answering times. The subpart is necessary and reasonable because it permits the Commission to monitor compliance with the 80/20 call answering standard established in part 7826.1100.

Subp. 5. Emergency medical accounts.

This subpart requires annual reporting on how many customers apply for this new account status, how many applications are granted, and the reasons for each denial. This subpart is necessary and reasonable because it permits the Commission to monitor the implementation of a new legislative service quality initiative enacted in the same session as the statute mandating these rules.¹⁰ It is reasonable to include utilities' implementation of the emergency medical account program as one of the markers of service quality measured annually.

Subp. 6. Customer deposits.

This subpart requires utilities to report annually on the number of customers who were required to make a deposit as a condition of receiving service. This subpart is necessary and reasonable to monitor utilities' compliance with existing customer service rules that severely limit the use of deposits.¹¹

Subp. 7. Customer complaints.

This subpart requires utilities to provide the following information by calendar month and customer class:

- A. the number of complaints received;
- B. the number and percentage of complaints alleging billing errors, inaccurate metering, wrongful disconnection, high bills, inadequate service, and the number involving service extension intervals, service restoration intervals, and any other identifiable subject matter involved in 5% or more of customer complaints;
- C. the number and percentage of complaints resolved upon initial inquiry, within 10 days, and longer than 10 days;
- D. the number and percentage of complaints resolved by (a) taking the action the customer requested; (b) taking an action the customer and the utility agree is an acceptable compromise, (c) providing the customer with information that demonstrates that the situation complained of is not reasonably within the control of the utility; (d) refusing to take the action the customer requested;

¹⁰ Minn. Stat. § 216B.098, subd. 5.

¹¹ Minn. Rules 7820.4700.

- E. the number of complaints forwarded to the utility by the Commission's Consumer Affairs Office for further investigation and action.

Filing requirement A, which requires utilities to report by month and customer class the total number of customer complaints received, is necessary and reasonable because it provides basic information on a topic the statute requires the Commission to address, customer complaints. The number of complaints received from customers in each customer class during each month of the calendar year is a reasonable starting point for examining utilities' handling of customer complaints.

Filing requirement B, which requires utilities to report complaints by subject matter, is necessary and reasonable because it will apprise the Commission of which issues are prompting complaints, important information for an agency seeking to monitor service quality. The filing requirement reasonably lists both issues that traditionally prompt complaints (high bills, billing errors, inaccurate metering) and issues that the Legislature has highlighted for closer Commission attention in the statute requiring these rules (disconnections, inadequate service, service extension intervals). Finally, the filing requirement reasonably requires utilities to identify any unlisted subject involved in 5% or more of customer complaints; this will ensure that emerging areas of concern to consumers are identified and monitored in the future.

Filing requirement C, which requires utilities to report how many complaints were resolved upon initial inquiry, within 10 days, and after longer than 10 days, is necessary and reasonable because it will apprise the Commission of how promptly utilities are dealing with customer complaints, a key customer service performance measure.

Filing requirement D, which requires utilities to report the number and percentage of customer complaints resolved in different ways, is necessary and reasonable because the information it yields will help the Commission explore how effective a utility's complaint resolution procedures are, how willing the utility is to compromise with customers, and how often the utility must respond to consumer complaints on matters over which the utility has no control. It will also help the Commission gain a better understanding of the kinds of complaints utilities face and how they deal with them.

Filing requirement E, which requires utilities to report the number of complaints forwarded to the utility by the Commission's Consumer Affairs Office for further investigation and action, is necessary and reasonable because the information it requires is relevant in evaluating the effectiveness of utilities' complaint resolution procedures. Since customers usually complain to their utility before calling Consumer Affairs, high numbers in this category may indicate a need for better communication between utilities and customers.

VII. REGULATORY ANALYSIS

The Administrative Procedure Act requires the Statement of Need and Reasonableness to address the regulatory issues set forth and addressed below.

- A. A description of the classes of persons who will probably be affected by the proposed rule, including classes that will bear the costs of the proposed rule and classes that will benefit from the proposed rule – Minn. Stat. § 14.131 (1).**

The following persons will probably be affected by the proposed rule:

- Investor-owned electric distribution utilities, which must comply with the rule.
- Customers of investor-owned electric distribution utilities, whose service quality will reflect the standards established in the rule.
- Cooperative and municipal utilities, which must adopt standards as consistent as possible with those in the rule.
- Customers of cooperative and municipal utilities, whose service quality will reflect the standards adopted in response to those in the rule.
- Government agencies with regulatory responsibilities in regard to electric distribution utilities, who must monitor compliance with the rule and enforce it.

The following persons will probably bear the costs of the proposed rule:

- Investor-owned electric distribution utilities, which must comply with the rule.
- Customers of investor-owned electric distribution utilities, whose rates will eventually include the costs of utility compliance and regulatory enforcement.
- Cooperative and municipal utilities, which must adopt standards as consistent as possible with those in the rule.
- Customers of cooperative and municipal utilities, whose rates will eventually include the costs of utility compliance and regulatory enforcement.
- Government agencies with regulatory responsibilities in regard to electric distribution utilities, who must use their resources to monitor compliance with the rule and enforce it.

The following persons will probably benefit from the proposed rule:

- Investor-owned electric distribution utilities, which will maintain or improve current levels of safety, reliability, and service quality.
- Customers of investor-owned electric distribution utilities, who will enjoy consistently high levels of safety, reliability, and service quality.
- Cooperative and municipal utilities, which will maintain or improve current levels of safety, reliability, and service quality.

- Customers of cooperative and municipal utilities, who will enjoy consistently high levels of safety, reliability, and service quality.
- Government agencies with regulatory responsibilities in regard to electric distribution utilities, whose mission will be advanced by the achievement and maintenance of consistently high levels of safety, reliability, and service quality by electric distribution utilities.

B. The probable costs to the agency and to any other agency of the implementation and enforcement of the proposed rule and any anticipated effect on state revenues – Minn. Stat. § 14.131 (2).

The proposed rule will make claims on the resources of the three agencies that regulate electric utilities – the Commission, the Department of Commerce, and the Residential and Small Business Utilities Division of the Office of the Attorney General. These resource demands, though, will be the sort the agencies routinely encounter in their daily work. The rules will result in each of the four investor-owned utilities making one additional annual filing, which will be analyzed and acted upon in the course of the agencies’ regular duties.

An appendix to the June 16, 1999 edition of the *Minnesota Rulemaking Manual* (David Orren, editor/compiler) estimates the one-time cost to promulgate a “Medium Rule” at \$86,893.¹² This rule, which seems unlikely to go to hearing, fits that category more closely than the “major,” “small,” or “non-controversial procedural” rule categories.

Finally, the Commission does not expect this rule to have any effect on state revenues.

C. A determination of whether there are less costly methods or less intrusive methods for achieving the purpose of the proposed rule – Minn. Stat. § 14.131 (3).

The Commission concluded that the legislative directive to “adopt standards for safety, reliability, and service quality for distribution utilities” required a rule and precluded exploring less costly or intrusive (and arguably less effective) approaches to these three subjects.

D. A description of any alternative methods for achieving the purpose of the proposed rule that were seriously considered by the agency and the reasons why they were rejected in favor of the proposed rule – Minn. Stat. § 14.131 (4).

The Commission concluded that the legislative directive to “adopt standards for safety, reliability, and service quality for distribution utilities” required a rule and precluded exploring less costly or intrusive (and arguably less effective) approaches to these three subjects.

¹² The manual may be found on the World Wide Web at <http://www.health.state.mn.us>.

E. The probable costs of complying with the proposed rule – Minn. Stat. § 14.131 (5).

While the utilities who will be complying with the proposed rule are in the best position to quantify the cost of compliance, it seems clear that they do not expect the cost of compliance to reach significant levels. None of them opposed the rules on cost grounds or stated that compliance costs would jeopardize other goals. Also, the proposed rules merely codify in some detail utilities' existing obligations to provide safe, adequate, efficient, and reasonable service. Minn. Stat. § 216B.04.

F. An assessment of any differences between the proposed rule and existing federal regulations and a specific analysis of the need for and reasonableness of each difference – Minn. Stat. § 14.131 (6).

The Commission is not aware of any differences between the proposed rules and any federal regulations. In fact, by exempting cooperative utilities from these rules and requiring them to instead develop standards “as consistent as possible” with the proposed rules, the Legislature avoided potential conflicts, since the cooperatives are subject to safety, reliability, and service quality standards in regulations promulgated by the United States Rural Utilities Service.

VIII. CONSIDERATION OF PERFORMANCE-BASED REGULATORY SYSTEMS

Minn. Stat. § 14.002 requires agencies to develop rules and regulatory programs that emphasize superior achievement in meeting regulatory goals while retaining maximum flexibility for agencies and regulated parties in meeting those goals. Minn. Stat. § 14.131 requires agencies to explain in their Statements of Need and Reasonableness how they have taken this legislative policy into account.

The Commission was guided by performance-based regulatory principles as it developed these rules. The reliability rules follow the performance-based paradigm particularly closely, setting individual performance standards for each utility and giving utilities nearly unlimited flexibility in choosing which means they will use to meet those performance standards. (Reliability issues are almost uniquely well-suited to performance-based regulation. Each utility's distribution system is unique and poses unique engineering issues. Here effective regulation requires giving utilities the freedom to devise their own solutions to reliability challenges.)

The safety rules, too, are performance-based, setting the goal (compliance with the safety statutes and codes identified in the statute) and leaving to the utilities the choice of means to meet the goal. (Of course, the rules include a fail-safe, an annual filing designed to alert the Commission to any safety deficits requiring active intervention.)

The service quality rules are probably the most prescriptive of the three, since the statute requires performance standards, if technically and administratively feasible, on at least two subjects – meter-reading frequency and call center response times – that are clearly susceptible to quantification. These rules, too, however, grant the utilities much flexibility in determining how to optimize their performance in areas such as handling consumer complaints, avoiding customer disconnections, and responding promptly to requests for new service.

IX. PLAN FOR ADDITIONAL NOTICE

Minn. Stat. § 14.14, subd. 1a requires agencies, in addition to complying with the notice requirements of the Administrative Procedure Act, to make reasonable efforts to notify persons who might be significantly affected by proposed rules through the use of newsletters, newspapers, other publications, or other means of communications. Minn. Stat. § 14.131 requires agencies to describe these efforts in their Statements of Need and Reasonableness.

Besides complying with the notice requirements of the Administrative Procedure Act, the Commission plans to take the following steps to notify potentially affected persons of its intention to adopt these rules:

- publish notice of the proposed rules in its Weekly Calendar, which is both mailed to subscribing stakeholders and posted on the Commission’s website, <http://www.puc.state.mn.us>.
- issue a press release to all newspapers of general circulation throughout the state.
- post on its website its dual notices of intent to adopt these rules, the text of the proposed rules, and this Statement of Need and Reasonableness.

X. CONCLUSION

For all the reasons set forth above, the Commission respectfully submits that the proposed rules are both needed and reasonable.

Burl W. Haar
Executive Secretary

(S E A L)

This document can be made available in alternative formats (i.e., large print or audio tape) by calling

(651) 297-4596 (voice), (651) 297-1200 (TTY), or 1-800-627-3529 (TTY relay service).

Appendix D
Reliability Indices

Reliability Indices

Customer Average Interruption Duration Index (CAIDI) is the average amount of time a customer can expect to be without power when they do lose power. It is calculated by dividing the annual sum of all customer interruption durations by the total number of customers interrupted.

$$\text{CAIDI} = \frac{\text{Sum of all Customer Interruption Durations}}{\text{Total Number of Customers Interrupted}}$$

System Average Interruption Duration Index (SAIDI) is the average amount of time a customer on the utility's system spent without power. It is calculated by dividing the sum of the customer interruption durations by the total number of customers served during the period.

$$\text{SAIDI} = \frac{\text{Sum of all Customer Interruption Durations}}{\text{Total Number of Customers Served}}$$

System Average Interruption Frequency Index (SAIFI) is the average number of interruptions per customer during the period. It is calculated by dividing the total annual number of customer interruptions by the total number of customers served during the period.

$$\text{SAIFI} = \frac{\text{Total Number of Customer Interruptions}}{\text{Total Number of Customers Served}}$$