April 1, 2014

Dr. Burl Haar, Executive Secretary
Minnesota Public Utilities Commission
121 7th Place East, Suite 350
St. Paul, MN 55101-2147

Subject: ***Dakota Electric Association***
2013 Annual Smart Grid Report
Docket No. E-999/CI-08-948

Dear Dr. Haar:

Dakota Electric Association (Dakota Electric or Cooperative) respectfully submits its annual Smart Grid Report as required in the above-referenced docket.

Dakota Electric provides this annual report to the Minnesota Public Utilities Commission on the automated systems in place to operate the distribution system and control specific consumer end-uses as well as respond to a growing number of distributed generation interconnections. These automated systems bring value to our members through increased service reliability and reduced wholesale power costs. With the continuously changing technologies which could make any existing installed system obsolete, Dakota Electric will continue to monitor new technological developments and implement systems that will provide economic benefit to our members and distribution system.

If you have any questions about the information in this Smart Grid Report, please call me at (651) 463-6258.

Sincerely,

Douglas R. Larson

Vice President of Regulatory Services
Dakota Electric Association
4300 220th Street West
Farmington, MN 55024

BEFORE THE
MINNESOTA PUBLIC UTILITIES COMMISSION

Docket No. E-999/CI-08-948

Dakota Electric Association

2013 Smart Grid Report

April 1, 2014

I. Introduction

A. Regulatory Background

On June 5, 2009, the Minnesota Public Utilities Commission (MPUC or Commission) issued an Order in Docket No. E-999/CI-08-948 requiring that:

> "Beginning on April 1, 2010 and annually thereafter, utilities shall file reports on past, current, and planned smart grid projects, with a description of those projects, including: total costs, cost effectiveness, improved reliability, security, system performance, and societal benefit, with their electric service quality reports."

This Order provides the following working definition of smart grid:

> "Smart grid encompasses information and control technology to improve the reliability, security, and efficiency of the electric grid. A smart grid allows deployment and integration of distributed and renewable resources, "smart" consumer devices, automated systems, and electricity storage and peak-shaving technologies."

On March 4, 2011, the Commission issued a Notice Clarifying Information Sought in Smart Grid Reports (Notice). In this Notice the Commission indicated that it seeks to clarify the type of information sought in the Smart Grid Reports and would appreciate receiving information on the following topics:

- "Smart" functions enabled with existing infrastructure and systems (please also include what percentage of the utility's meters are currently mechanical, Automated Meter Reading (AMR), or Advanced Metering Infrastructure (AMI), and a sentence on the capability of each);
- Planned or completed system improvements which could affect customer service, power quality, or service quality metrics;
- Current customer access to data (such as usage or outage data) and how that data educates customers; any planned additional customer access to data;
- Time-varying rates and demand response; and
- Discuss the general costs of completed or planned projects (including the costs of changes to billing systems, and if applicable, the early retirements of meters or other equipment) compared to the benefits realized or expected to be realized.

B. Dakota Electric Smart Grid Report

Dakota Electric Association (Dakota Electric or Cooperative) provides this annual report to the Commission on the automated systems in place to operate the distribution system and control specific consumer end-uses as well as respond to a growing number of distributed generation interconnections. These automated systems bring value to our members through increased service reliability and reduced wholesale power costs. With the continuously changing

technologies which could make any existing installed system obsolete, Dakota Electric will continue to monitor new technological developments and implement systems that will provide an economic benefit to our members and distribution system.

Smart grid is characterized as a two-way flow of electricity and information between the electric utility and consumer devices. Dakota Electric does not have these two-way system wide capabilities in place between the utility and consumer devices. However, Dakota Electric does have automated systems in place to operate the distribution system and control specific consumer end-uses. While not falling under this "smart grid" definition, Dakota Electric would like to describe these automated systems within the context of this report to provide the Commission with an understanding of the breadth of system and load control in place at Dakota Electric.

Dakota Electric's annual smart grid update has been organized around:

1. Distribution System Technologies,
2. Integration of Distributed Resources, and
3. Rate Design and Load Management.

C. New in this Update

This year's annual Smart Grid Report follows the format used in previous reports which facilitates identification of components as summarized in Staff Briefing Papers from prior years. We have also included new information not included in the previous reports including:

- Advanced Metering Infrastructure (AMI) Study.

II. Distribution System Technologies

A. Distribution Technologies Overview

Dakota Electric has a number of systems and technologies in place that provide benefits envisioned for smart grid. Dakota Electric has no "smart grid" projects in the works other than projects we consider normal in support of our existing automated distribution systems or are preparing us for future smart grid technologies. We are continuing to install electronic metering on our system, install remote monitoring and control on all new substations and other key locations on our distribution system. Our new distribution system equipment, when economically feasible is purchased and designed to support future smart grid projects. Dakota Electric continues to monitor additional opportunities to enhance the intelligence of our electrical system and where economically feasible we will initiate projects. With the continuously changing technologies and solutions and with the concern over newly mandated technical requirements, which could make any existing installed systems prematurely obsolete, Dakota Electric has decided to take a thoughtful approach to future technological enhancements.

In 2004/05 Dakota Electric conducted an internal study on the value of an automated meter reading (AMR) system. The conclusion at that time was that the technology was in the early stages and rapidly changing so the timing was not right for Dakota Electric to implement AMR. The economics also did not justify a large investment in an AMR at that time.

During 2013, Dakota Electric again looked at an ***Advanced Metering Infrastructure (AMI)*** for the electrical system. The process involved the development of a business plan that identified the costs and benefits expected with a fully implemented AMI system. Modern AMI installations, coupled with meter data management (MDM) systems can provide many beneficial benefits for our members, including web presentment of more information about the member's electrical usage and status of their service. Some of the key conclusions of the AMI study included;

- Keeping up with rising member expectations while maintaining cost and affordability;
- Improving member interface experience with DEA, including leveraging technology enabled communications for greater ease and access for members to do business with;
- Ensuring seamless integration and interoperability between multiple technology application systems to realize the full benefits and functionality of the technology systems.
- Investments and replacement of an aging communication infrastructure and obsolete field distributed devices / equipment;
- Migrating to a more dynamic operating system to respond to advancements in solar and other emerging distributed generation technologies;
- Reliance of technology to make faster and quality (right) decision for distribution system response.

The AMI review process resulted in a high level roadmap for implementing AMI and associated processes at Dakota Electric. From this study, Dakota Electric has kicked off projects to replace our Customer Information System (CIS) and to develop a long range communication infrastructure plan for our entire service territory, to support AMI and other future operational requirements.

The AMI team identified numerous desired functional benefits that either require or are benefitted by AMI implementation. This includes:

- Real time access for members to receive load or status data
- Better estimates for time of recovery from an outage
- Improved knowledge base for member interactions
- Time-of-Use or other lifestyle rates
- Prepaid metering
- Mobile interaction
- Outage notification
- Improvements to power quality and system voltage
- Reduced system losses
- Reduced truck rolls

In 2012 we evaluated fiber communication links to most of our substations which serve over 90% of our members. We believe the fiber technology could be more secure, reliable and provide a larger capacity backbone infrastructure for future smart grid technology utilization. We investigated the costs of using existing commercially available fiber links and found them to be cost prohibitive at this time. Extending fiber to the substation from existing routes cost too much. We are working with GRE to get fiber conductor included in new and upgraded transmission line, which should be more cost effective.

Dakota Electric has a substantial amount of automated monitoring and operation of our distribution system in place. Below is a description of Dakota Electric's automated operating systems or features already employed that facilitate efficiency of service and reliability and security.

B. Automation

The following summarizes Dakota Electric's automated operating systems or features already employed that promote efficiency of service:

1. System Control and Data Acquisition – SCADA provides remote control and monitoring for all (100%) of our ***substations***. SCADA operates in a two-way communication manner in a real-time mode. In addition, Dakota Electric uses the SCADA system to monitor and control all member owned ***peak alert generation*** installations and ***key switches on the distribution system***. We have full SCADA monitoring and control (two-way) of the 40-60 MW of dispersed generator capacity. This system, installed in the mid 1990's, allows us to improve reliability and service availability by remotely controlling feeder switches to redirect power from substations and trouble-shoot problems to reduce the time of outages. The SCADA system is again receiving a substantial software and hardware upgrade which began in 2012 to further enhance its capabilities. Interoperable communication, such as multispeak protocol, is being added to allow other systems such as our GIS to integrate and share information across platforms. This upgrade will also position our SCADA system to integrate with future smart grid applications.

2. Capacitance Management. Capacitors – We have all (100%) of our ***distribution system switched capacitors*** operated in an automatic mode with feedback that helps to maintain very tight VAR control. This directly reduces system line losses. Capacitance Management is accomplished through a centralized control system, which maintains our feeder power factor to within 1% of 100% power factor. Typically the system is within 0.5% of 100%. This reduces system losses (which reduces wholesale power costs and associated emissions) and provides a better voltage profile (power quality) to our members.

3. Monitored and Controlled Switches. - DEA has installed nine padmount and nine aerial remotely (two-way) monitored and controlled switches on selected feeders to provide more efficient service. These switches are capable of continuously monitoring power

availability and voltage and reporting that information back to the SCADA system. They can be set to automatically respond to changes in the electrical system or be remotely operated. A new, more cost effective remote switch is being piloted for installation on circuits. The installation of approximately 2-3 additional switches will be budgeted each year. Overall, these switches provide faster feeder reconfiguration which results in increasing reliability for the members.

4. Voltage Regulation Remote Monitoring and Control. - Dakota Electric started a pilot project in 2012 to add remote monitoring and control for voltage regulation that is located on distribution feeders. We already had control and monitoring on the voltage regulation within substations. This new project provided us with better information about the operation of the automatic voltage regulators located on long feeders. The project included 4 sets of regulators located on two separate feeders. The implementation of these in 2012 resulted in better operational real-time awareness of system voltages, enhanced efficiencies and better fault locations, which resulted in faster crew response during outages. The feedback from our operations area was very positive. In 2013, remote monitoring and control was added to two more sets of regulators. It is planned to continue adding this remote monitoring and control to other new and existing main line regulators over the next several years.

5. Protective Relaying. - Dakota Electric has completed the conversion of all existing feeder relays to digital technologies. With the addition of better communication technologies to our substations, we are starting the process of identifying which additional key pieces of information would be worth automatically bringing back into the control center and analyzing. Through our existing SCADA system we presently bring back fault location which allows our dispatcher to better direct the crews to an outage location. We are looking at adding other information from the digital relays that could be used to reduce system losses and speed restoration of service after an event.

C. Reliability and Security

The following summarizes Dakota Electric's automated operating systems or features already employed that promote reliability and security:

1. A majority of the substation switchgear includes intrusion monitors. These monitors improve substation security and reliability by providing alerts if there is an intrusion.

2. All of Dakota Electric's substations had land line telephone systems for crew communication. With the installation of a 700 MHz wireless communication link into each substation by our power supplier, Great River Energy, the ability to use voice/IP phone communication was developed. In 2010 and 2011 all of our substation phones were converted to voice/IP and provide us with a more reliable voice communication path to each substation and a cost savings for our members.

3. The SCADA system described above also improves system reliability. SCADA allows the substations and all distribution feeders to be operationally monitored and controlled. This results in faster restoration time in an outage, which is reflected in our reliability indices.

4. Outage Management System (OMS) is capable of troubleshooting outages to the sub-feeder level. The predictive engine assesses the outage information provided by various sensors along with outage calls from consumers entered into the system. It uses known system configurations to identify the approximate location of the outage. This allows the System controllers to direct crews to the anticipated hotspot which ultimately reduces the amount of time required to trouble-shoot and repair an outage.

5. Work Management System used by designers, locators, field crews and technicians to receive, organize and process their work. It makes project status information readily available to a much broader audience.

6. Geographic Information System (GIS) provides electronic mapping of distribution physical assets. Distribution facility components are electronically located on a base GIS map. This system improves the location accuracy of physical plant and eliminates the need to maintain paper maps which are inherently less accurate and difficult to update. The OMS uses the GIS information as the source for line connectivity and physical location. The OMS data is updated daily with current changes. In some cases, it is managed in a near-real time manner.

7. In 2012 we completed a multi-year project to replace our GIS and OMS systems. This project included the addition of an engineering design system and an intergraded work management system, along with an upgrade of our computerized vegetation management system. The vegetation management program provides better tracking of vegetation efforts, with analysis assistance to ensure that our limited expense dollars are invested where they provide the greatest value.

D. Metering

Dakota Electric presently uses a variety of metering technologies for time-of-day and demand response rates described below. In addition, Dakota Electric installs remote meter reading capabilities at locations that are difficult to access for conventional mechanical meter reading. All told, over 25% of Dakota Electric's meters are read remotely. Dakota Electric uses radio, power line carrier, and telecommunication technologies to transmit this meter information. Following is a summary of common communication technologies used in conjunction with metering technologies.

1. ERT Modules -- An Encoder Reader Transmitter (ERT) is a module that can be inserted in both an electronic and electrical-mechanical meter that registers energy consumption. These are radio modules used on some residential meters. The ERT module transmits the meter reading by a radio signal. As the Meter Reader walks near the meter location with a hand-

held device, it picks up the meter reading. The hand-held device is brought back to the office to download the meter readings.

Many of our urban meters, especially the hard to reach meters, have remote ERT drive by reading technology (over 21% of total system meters) which has been installed for the past 10 years or more. The targeted installation of ERT reduces meter reading costs and significantly reduces the number of estimated bills to members. 2012 marks the completion of a program to install more than 8,000 ERT meters over the past few years.

2. TURTLE TS1 -- A TURTLE can be inserted in both an electronic and electrical-mechanical meter that registers energy and demand consumption. These are power line carrier devices used at some rural customer sites. The TURTLE module transmits the meter reading through the power line to the substation. A collector device at the substation stores the meter readings. The meter readings are retrieved from the collector using dial up telephone.

   Our rural meters have remote meter reading capability using the Hunt Turtle technology, which account for over 4% of total system meters. This technology was originally installed in the early and mid 1990's and continues to be installed as new loads come into the rural areas.

3. Telephone / Cellular -- Meters for Commercial & Industrial Interruptible (Schedule 70 and 71) customers usually consist of a recording energy and demand meter that has capabilities of measuring load profile. There is a telephone or cellular modem in the meter to retrieve data. These meters are installed at C&I Interruptible accounts. The meters are called using a software package that retrieves meter readings and other load profile data. In 2011 we tested the use of cellular communication to replace dial up land line communication to these commercial meters. The successful tests showed the cellular to be more reliable at many locations. In 2012 we started replacing the most unreliable land line connections with cellular communication. We are planning to replace land line communications to our commercial meters with cellular where appropriate.

4. Meter Data Management (MDM) -- In 2011 Great River Energy, along with two of its member cooperatives, received a grant from the DOE to install and test a meter data management system (MDM). All of Great River Energy member cooperatives provided funding for this multi-year pilot installation, with Dakota Electric providing about one-fifth of the funding. The project goal is for GRE to see if there are possible cost savings for all members from a centralized MDM system. These systems are required to obtain the benefits from AMI systems and other smart grid initiatives.

III. Integration of Distributed Resources

The Commission's working definition of smart grid indicates that smart grid allows deployment and integration of distributed and renewable resources. For Dakota Electric, distributed generation takes the form of standby generators that allow consumers to participate in our C&I Interruptible Rate. Renewable resources take the form of PURPA Qualifying Facilities.

A. Distributed Generation

Dakota Electric is able to monitor and control participating member's on-site generation systems under the Cooperative's C&I Interruptible Rate (Schedule 70 and 71). This control facilitates a seamless capability to:

- Manage overall load within generation capacity obligations,
- Respond to transmission constraints,
- Operate this generation as needed by our wholesale power supplier Great River Energy (GRE) to reduce purchases of energy in the wholesale market, and
- Manage load within capabilities of our distribution facilities. The existing distribution facilities are sized according to this managed load. Without this load management capability, significant additional capital investment would be required to add capacity to our distribution system and substations to meet the higher electrical peak load demands.

There are presently over 220 C&I Interruptible accounts on Dakota Electric's distribution system with on-site distributed generation available for operation to reduce system demand by 60 to 80 MW as needed.

B. Renewable Resources

Dakota Electric submits an annual Distributed Generation Report to the Commission each year as required by Minnesota Statute 216B.1611, Section 1, Subdivision 4. The most recent report shows that DEA had 43 renewable distributed generation facilities interconnected to Dakota Electric's distribution system as follows:

9 wind generators	195 kW
34 solar facilities	264 kW

The existing distributed generation interconnection process and requirements, along with distribution system facilities, is adequate to support an increasing number of distributed generation interconnections.

IV. Rate Design and Load Management

The smart grid working definition describes smart grid as allowing deployment and integration of systems at consumer locations including "smart" consumer devices, automated systems, and peak-shaving technologies. While not two-way in nature, Dakota Electric has implemented load management (peak-shaving) for decades that controls a variety of consumer end-uses that result in wholesale power cost savings. We continue to expand our existing load management system with new member loads placed under control. Participating members pay rates for load management service that reflects the wholesale power cost savings associated with controlling these loads including air conditioning, water heating, space heating, and C&I interruptible service. We estimate that our peak summer load would be about 20% higher without our load management system. This would require us to invest significant dollars in additional distribution infrastructure.

Dakota Electric offers several load management rate options to residential and commercial consumers. We control load in coordination with signals from GRE. The members have agreed to let us control their load in response to that signal and share in the savings. Although not real time communications between the member and the utility, it is still pre-arranged communications and buy-in from the member to do demand response. Load management may be categorized into two types of efforts including "interruptible" service and "storage" service. Following is a description of these rate options and how they accomplish many of the goals sought with smart metering.

A. Time-of-Use Service

Dakota Electric's time-based rates were established in the early 1980s in response to the 1978 Public Utility Regulatory Policies Act (PURPA), which encouraged consideration and implementation of time-based rate schedules. Dakota Electric offers the following time-based rate schedules:

Residential and Farm Service Time of Day (Schedule 53)

This rate schedule is available to residential and farm member consumers and includes on-peak and off-peak energy charges by season. Participating customers have the opportunity to move consumption from on-peak to off-peak periods and lower their monthly bill.

General Service Optional Time of Day (Schedule 54)

This rate schedule is available to member-consumers for general service electrical loads. The monthly rate includes peak period demand charges in addition to a flat energy charge. Customers participating in this rate are encouraged to shift their consumption from on-peak to off-peak periods, thereby achieving monthly bill savings through lower peak period demand charges.

Member Energy Exchange Rider

The Member Energy Exchange Program is available to any general service customer with 100 kW minimum demand reduction capability. This rider provides Dakota Electric and its power supplier with the opportunity to pay customers for reducing their energy needs during certain peak periods. Customer participation during each individual exchange period is strictly voluntary. Customers may elect to participate in an individual exchange period or decline without explanation.

B. Interruptible Service

Dakota Electric's interruptible or demand response efforts were initiated in the early to mid-1980s in response to rapidly rising wholesale capacity costs. Demand response (load management) offered a significant opportunity for Dakota Electric to lower its wholesale power costs and pass these savings on to participating members. Dakota Electric offers a number of interruptible or demand response rates including the following:

Residential and Farm Demand Control (Schedule 32)

This rate is available to residential and farm members with at least 5 kW of controlled electric heating units. The monthly rate includes a demand charge in addition to an energy charge. This rate allows members to reduce their demand which lowers their monthly bill.

Irrigation (Schedule 36)

Irrigation service includes an option for customers to interrupt service to irrigation pumps. Such interruption results in a lower monthly demand charge that reflects wholesale power capacity savings.

Controlled Interruptible Service (Schedule 52)

This rate is available to member-consumers taking service concurrently under another rate schedule. This rate is for interruptible service to qualifying loads, such as electric water heating and space heating, which are remotely controlled by Dakota Electric.

Full and Partial Interruptible Service (Schedules 70 and 71)

Interruptible service is available to any member-consumer with a minimum controllable demand of 50 kW. Under the full interruptible control alternative, consumers agree to interrupt their entire electrical energy usage. Consumers may attain this full interruption through curtailment or with the use of on-site generation. During the interruption, the consumer load goes to zero. Under the partial interruptible control alternative, consumers agree to reduce a portion of their electrical energy usage. Consumers may attain this partial interruption through curtailment or with the use of on-site generation.

Controlled Air Conditioning (Schedule 80)

This rate is available to member-consumers taking service concurrently under another rate schedule. This rate is for interruptible service to central air conditioners which are remotely controlled by Dakota Electric.

C. Storage Service

Dakota Electric also offers a storage rate as follows:

Controlled Energy Storage (Schedule 51)

This rate is available to members taking service concurrently under another rate schedule. This rate is for interruptible service to energy storage loads which are remotely controlled by Dakota Electric. Service under this schedule is available for approximately 8 hours per day normally from 11 p.m. to 7 a.m. Typical loads enrolled on this program include water heating and space heating.

D. Time-of-Use and Load Management Participation

In general, Dakota Electric has found that customer participation in time-of-use rates is generally low. For the most part, customers participating in such rates already exhibit consumption patterns that allow them to achieve a lower bill under time-based rates than standard rate schedules. Dakota Electric serves 16 residential consumers on Schedule 53 and 8 commercial consumers on Schedule 54.

By comparison, Dakota Electric has achieved very high participation in our load management or demand response programs. Dakota Electric has approximately 38,500 or 50 percent of residential customers with central air conditioning participating in the Controlled Air Conditioning Program resulting in estimated peak summer demand reduction of about 40 MW. Similarly, participation in Interruptible Irrigation is very high with 97 percent of irrigation customers selecting the controlled option. Dakota Electric has about 7,000 consumers with controlled water heaters and space heating on Schedule 52 and about 1,400 consumers on Schedule 51. Finally, Dakota Electric has about 225 commercial accounts participating in the C&I Interruptible Service, either full or partial, with these customers able to control an estimated 60 to 80 MW of load.

In all, Dakota Electric is able to control about 20 percent (100 MW) of the 500 MW uncontrolled summer peak load and between 15 and 20 percent (60 MW) of the uncontrolled winter peak load of 320 MW. These demand reductions have allowed GRE to defer construction of new generation capacity, while providing significant savings to participating and non-participating Dakota Electric consumers.

E. Conservation Gauge

Dakota Electric implemented a “Conservation Gauge” in 2008. The Conservation Gauge is featured prominently in our Web site and described in our monthly newsletter “Circuits.” While Dakota Electric encourages members to save energy year-round, some days require additional actions to keep electricity use and costs down. Dakota Electric developed the conservation gauge

to inform members of changes in the market price of electricity and the need for additional conservation efforts on high use days. The conservation gauge includes three settings of 1) normal, 2) peak, and 3) critical. Each setting includes descriptions of the kinds of energy savings actions members may consider to lower the consumption of energy.

F. Electric Vehicle Pilot Program

Interest in Electric Vehicles (EV) is increasing as the country improves energy efficiency and explores alternative fuel sources. While EV may improve transportation fuel efficiency and reduce emissions, dramatic increases in EV – especially at electrical peak use times – can have impacts on electric generation and delivery infrastructure requirements. With these emerging market developments in mind, Great River Energy (GRE) has been working with Dakota Electric and other GRE member distribution cooperatives to encourage off-peak charging. The initial effort focused on charging batteries only between the hours of 11 p.m. and 7 a.m. when demand for electricity is at its lowest and the price for wholesale electricity is also at its lowest. In most cases, however, limiting electric supply through load control is inconsistent with electrical requirements of the charging equipment.

With this in mind, Dakota Electric received Commission approval for a rate for residential electric vehicles that uses time-of-use pricing to encourage off-peak charging and discourage on-peak charging. This rate is approved as a pilot program. Dakota Electric anticipates evaluating participation and lessons learned during the first two years of the pilot. We will then propose to modify the rate as an on-going service offering or discontinuing the pilot.

Following are two updated summaries of Dakota Electric rate schedules that were provided by Commission staff in briefing papers last year.

Name	Description	Number of Customers	When started
Residential and Farm TOD Service (Schedule 53)	Includes on-peak and off-peak energy charges by season.	16	Early 1980s
General Service Optional TOD (Schedule 54)	Peak period demand charges and flat energy charge.	8	Early 1980s
Member Energy Exchange Rider	Available to customers with 100 kW minimum demand reduction capability; DEA pays customers for reducing their energy needs during certain peak periods.	N/A Implemented only on an as-needed basis.	2000
Residential and Farm Demand Control (Schedule 32)	Available to members with at least 5 kW of controlled electric heating units. Rate includes demand and energy charge.	14	1992
Irrigation (Schedule 36)	Includes an option to interrupt service to irrigation units.	360 – controlled 9 – firm service (97% of irrigation customers select this option.)	Early 1980s
Controlled Interruptible Service (Schedule 52)	Interruptible service to qualifying loads such as electric water heating and space heating, which are remotely controlled by DEA.	7,064	Early 1980s
Full and Partial Interruptible Service (Schedules 70 & 71)	Available to any member-consumer with a minimum controllable demand of 50 kW. Under full interruption, entire electrical energy usage is interrupted.	225 accounts	1990
Controlled Air Conditioning (Schedule 80)	Interruptible service to air conditioners which are remotely controlled by DEA.	38,488	1991
Controlled Energy Storage (Schedule 51)	Available from 11 pm to 7 am. Typical loads enrolled on this program are water heating and space heating.	1,401 (19 with electric vehicles)	Early 1980s
Residential Electric Vehicle (Schedule EV-1)	Available to residential members for charging licensed electric vehicles.	11	2012

Utility	Offering	Energy Charge (per kWh)	Service Conditions	Times	Other	Tariff Page
Dakota Electric Association	Residential/Farm TOU (Schedule 53)	Peak: June-Aug $0.16 /kWh Sept - May $0.146 /kWh Off-Peak: $0.0825 /kWh	Members required to remain on rate for twelve month minimum	Peak: 4 p.m. – 11 p.m., excluding holidays and weekends Off-Peak: 11 p.m. – 4 p.m.	--	Section V, Sheet 24, Revision 9
Dakota Electric Association	Residential/Farm Demand Control (Schedule 32)	$0.06480 /kWh (Demand charge of $12.90/kW summer, $9.30/kW other months)	Member must have at least 5 kW of controlled electric heating units.	N/A	--	Section V, Sheet 3.5, Revision 7
Dakota Electric Association	Controlled Energy Storage (Schedule 51)	$0.0400 /kWh	Energy storage service for qualifying loads remotely controlled by DEA.	Service under this schedule is available from 11:00 p.m. -- 7:00 a.m.	--	Section V, Sheet 22, Revision 15
Dakota Electric Association	Controlled Interruptible Service (Schedule 52)	$0.0480 /kWh	Interruptible service for qualifying loads remotely controlled by DEA.	N/A	--	Section V, Sheet 23, Revision 15
Dakota Electric Association	Cycled Air Conditioning Service (Schedule 80)	4 Monthly Rate Options: for example, Option 2 is an energy charge credit of $0.03/kWh	Interruptible service to air conditioners remotely controlled by DEA.	N/A	--	Section V, Sheet 36, Revision 5
Dakota Electric Association	Residential Electric Vehicle (Schedule EV-1)	Peak: $0.3785 /kWh Off-Peak: $0.0585 /kWh Other: Sched. 31 energy charges apply	Time of use service for charging residential electric vehicles.	Peak: 4 pm – 9 pm M-F excluding holidays Off-Peak: 9 pm – 8 am all day weekends and holidays Other: 8 am – 4 pm M-F excluding holidays	--	Section V, Sheet 44, Original

Certificate of Service

I, Cherry Jordan, hereby certify that I have this day served copies of the attached document to those on the following service list by e-filing, personal service, or by causing to be placed in the U.S. mail at Farmington, Minnesota.

Docket No. E-999/CI-08-948

Dated this 1st day of April, 2014

/s/

_____

Cherry Jordan

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Burl W.	Haar	burl.haar@state.mn.us	Public Utilities Commission	Suite 350 121 7th Place East St. Paul, MN 551012147	Electronic Service	Yes	OFF_SL_8-948_1
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Eric	Jensen	ejensen@iwla.org	Izaak Walton League of America	Suite 202 1619 Dayton Avenue St. Paul, MN 55104	Electronic Service	No	OFF_SL_8-948_1
Paula N.	Johnson	PaulaJohnson@alliantenergy.com	Interstate Power and Light Company	200 First Street SE PO Box 351 Cedar Rapids, IA 524060351	Electronic Service	No	OFF_SL_8-948_1
Larry	Johnston	lw.johnston@smmpa.org	SMMPA	500 1st Ave SW Rochester, MN 55902-3303	Paper Service	No	OFF_SL_8-948_1

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Heidi	Konynenbelt	hkonynenbelt@otpco.com	Otter Tail Power Company	215 S. Cascade Street, PO Box 496 Fergus Falls, MN 565380496	Electronic Service	No	OFF_SL_8-948_1
Matthew	Lacey	Mlacey@grenergy.com	Great River Energy	12300 Elm Creek Boulevard Maple Grove, MN 553694718	Electronic Service	No	OFF_SL_8-948_1
Douglas	Larson	dlarson@dakotaelectric.com	Dakota Electric Association	4300 220th St W Farmington, MN 55024	Electronic Service	No	OFF_SL_8-948_1
John	Lindell	agorud.ecf@ag.state.mn.us	Office of the Attorney General-RUD	1400 BRM Tower 445 Minnesota St St. Paul, MN 551012130	Electronic Service	Yes	OFF_SL_8-948_1
Carl	Nelson	cnelson@mncee.org	Center for Energy and Environment	212 3rd Ave N Ste 560 Minneapolis, MN 55401	Electronic Service	No	OFF_SL_8-948_1
Andy	Pomroy	andy.pomroy@house.mn		570 State Office Building 100 Rev Martin Luther King Jr Blvd St. Paul, MN 55155-1206	Electronic Service	No	OFF_SL_8-948_1
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First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
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William	Seuffert	Will.Seuffert@state.mn.us		75 Rev Martin Luther King Jr Blvd 130 State Capitol St. Paul, MN 55155	Electronic Service	No	OFF_SL_8-948_1
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