

Rural Electric Cooperative Corporation

A Touchstone Energy® Cooperative 

RECEIVED

June 7, 2016

JUN - 8 2016

Public Service
Commission

EXECUTIVE DIRECTOR
PUBLIC SERVICE COMMISSION
PO BOX 615
FRANKFORT KY 40602

Dear Executive Director:

Enclosed is Nolin RECC's response to the Commission Order in Case Number 2012-00428 in the matter of consideration of the implementation of Smart Grid and Smart Meter technologies.

As always, if the Commission has additional questions we stand prepared to respond and answer any questions.

Sincerely,

A handwritten signature in black ink that reads "Michael L. Miller".

Michael L. Miller
President & CEO

enclosures

Commonwealth of Kentucky

Before the Attorney General

Case No. 2012-00428

VERIFICATION

I verify, state and affirm that the testimony filed with this response and for which I am listed as a witness is true and correct to the best of my knowledge, information and belief formed after a reasonable inquiry.



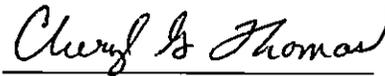
David Cox, Information Technology Manager – Nolin RECC



Jason Mattingly, Meter & Power Use Controller – Nolin RECC



Rick Ryan, Vice President Member Services – Nolin RECC



Cheryl Thomas, Vice President Office Services – Nolin RECC

State of Kentucky

County of Hardin

The foregoing was signed, acknowledged and sworn to before me, this 7th day of June, 2016.

Notary Public

My Commission Expires: _____

Nolin Rural Electric Cooperative Corporation

Initial Request for Information – Case No. 2012-00428

Commission Staff's First Request for Information Dated April 13, 2016

- **Question 2:**

The Joint Utilities shall develop policies and procedures that provide customers access to historical information regarding their energy use and tariff rate and shall endeavor to provide this information to customers in as close to real-time as practical. Furthermore, the Joint Utilities shall provide aggregated information to CAC upon its reasonable request.

Response:

Refer to Exhibit 1.

Responding Witness: Cheryl Thomas, Vice President Office Services
Nolin Rural Electric Cooperative Corporation

- **Question 4:**

Within 60 days of the date of this Order, the Joint Utilities shall fine with the Commission their internal procedures governing customer privacy and customer education.

Response:

Refer to Exhibit 2. Members also have access to Nolin RECC's privacy procedures on our website at www.nolinrecc.com.

Responding Witness: Rick Ryan, Vice President Member Services
Nolin Rural Electric Cooperative Corporation

Nolin Rural Electric Cooperative Corporation

Initial Request for Information – Case No. 2012-00428

Commission Staff's First Request for Information Dated April 13, 2016

- **Question 5:**

Within 60 days of the date of this Order, the Joint Utilities shall certify to the Commission that they have developed internal cybersecurity procedures.

Response:

Refer to Exhibit 3. On a date and time selected by the Commission, Nolin RECC will make a presentation describing our cyber security procedures.

Responding Witness: David Cox, Information Technology Manager
Nolin Rural Electric Cooperative Corporation

- **Question 10:**

Within 60 days of the date of this Order, the jurisdictional electric utilities shall file with the Commission their internal procedures regarding Smart Grid investments.

Response:

Refer to Exhibit 4.

Responding Witness: Jason Mattingly, Meter & Power Use Controller
Nolin Rural Electric Cooperative Corporation

Access to Usage Information

This document addresses aspects of members' access to account information with respect to usage.

How is information accessible?

Nolin Rural Electric Cooperative Corporation (Nolin RECC) provides members access to their account information through National Information Solutions Cooperative's (NISC) SmartHub application. SmartHub is available through Nolin RECC's website as well as a free app for Android and IOS users. This website/app allows members to review their account information 24/7.

What usage information is accessible?

Members have multiple options to view their usage. Options include hourly usage, daily usage, weekly usage, monthly usage, and annual usage. Members may also compare usage for different periods of time such as comparing March 2016 usage to March 2015 usage. In addition to the kWh usage, temperature data is provided for the member to assist the member in understanding the correlation of weather and usage.

Since usage data is uploaded daily to NISC shortly after midnight, members have access to their current usage up to midnight of the prior day. Historical usage data is also available for prior years or date member connected the account, whichever is more recent.

What are other features of SmartHub?

Members have access to numerous communications, information, and publications through SmartHub. A few of the items include:

- *Image of past bills which shows the tariffed rate schedule for the account
- *Payment history for the account
- *Map of Nolin RECC office locations (available on Android and IOS apps)
- *Outage information for the service territory
- *Messages from Nolin RECC to members
- *Monthly magazine, *Kentucky Living*
- *Monthly issue of *Nolin News*
- *Monthly Nolin RECC newsletter, *An Energy Update From Nolin RECC*
- *Members' preferences for SmartHub communications such as text alerts and e-mails
- *How to contact Nolin RECC to report an outage, to request tree trimming, for information on programs such as budget billing, rebates, and energy audits, just to name a few
- *Enrollment in automatic credit card payment draft
- *Payment processing

Who can access SmartHub?

SmartHub is available to members via the internet or by downloading the free Android or IOS app. Members may create an account through SmartHub by providing their account number, e-mail address and answering security questions. Members are also required to select and enter a password for their account.

What options are available if I don't have access to internet or smart phone?

Members may visit one of Nolin RECC's two offices to discuss their account, obtain their usage information, report an outage, or enroll in programs. Members may also contact Nolin RECC by telephone if they choose.

Member Education

In order to keep our members informed about the use and benefits of Smart Meters, we have placed educational articles in the Nolin News section of our Kentucky Living Magazine. The first article ran in April 2015 prior to the initial meter deployment. The second article ran in March 2016. We also presently have a "Smart Meter/AMI FAQ" available on our website at www.nolinrecc.com to provide answers to common questions asked by our members.

Going forward, Nolin will continue to keep our members informed on the advantages of the Smart Meters for both the member and Nolin RECC through the use of the Kentucky Living Magazine/Nolin News, our bill inserts and website.

AVAILABLE TO MEMBERS AT WWW.NOLINRECC.COM AND AS A HANDOUT AT NOLIN OFFICES

SMART METER/AMI FAQ

What are “smart meters”?

“Smart meters” are solid state electrical meters that utilities install to collect and transmit metering information back to its office. These replace the analog type meters which were limited to just displaying the total usage and required the utility to visit each meter monthly to manually read the meter.

Advanced Metering Infrastructure (AMI) ... What is it?

The name sounds complicated, but Nolin RECC’s new AMI meter is very similar to your previous meter. The new metering system allows faster communication from the meter to the Nolin RECC office. It also provides a variety of benefits, including better customer service, improved reliability and greater operational efficiency.

How does my automated meter work?

With AMI meters, Nolin can read the meter remotely from our central office. Information from the meter is transmitted back to the co-op. Transmitting this information electronically means that a meter reader no longer visits your home to manually read the meter monthly.

What data is collected by the meter?

The meter records the following information:

- Total kWh usage.
- KW values for each hour.
- Minimum and maximum voltage levels.
- Blink counts.

How secure is the meter data?

Nolin considers member information security a top priority. The data transmitted through the AMI system to and from the meter is encrypted using a special proprietary technique. We continue to monitor and test for security threats.

Are “smart meters” accurate?

These meters follow multiple accuracy standards testing both by the manufacturers and the utilities. In addition, the Kentucky Public Service Commission requires sample testing each year on a defined amount of the installed meters.

What are the specific benefits of AMI?

Here are just a few of the benefits made available through AMI technology:

- Improves electric service reliability and power quality – fewer outages and blinks.
- Allows more respect for member privacy and property access – With this new system, the only time Nolin will need to physically be at your meter is if there is an electric service problem or when we perform the annual inspection of your electric service.

- Improves outage notification and management process by more quickly pinpointing the exact location of outages, meaning a faster response time.
- Provides additional metering data to better assist members with billing and service questions.
- Gives capability to provide members with valuable usage information such as consumption patterns, outage and blink count history and voltage information.
- Reduces losses by identifying power theft.
- Gain efficiencies by eliminating the labor and transportation costs of in-person meter reading.
- Ensures better overall safety for Nolin employees.
- Promotes energy efficiency by enabling real-time customer feedback.

Can obstacles be constructed that may make the meter inaccessible?

No. Reasonable access to equipment still must be maintained. This allows for Cooperative personnel to either read or maintain the meter if necessary at reasonable times. Routine inspections of all meters and services will continue in order to look for safety hazards, theft or other problems.

Will the new meter notify the co-op when the power goes out?

Yes, however, we ask that members contact the Cooperative at 270-765-6153 to ensure the ability to pinpoint outage locations and verify service restoration.

Can you monitor the activity within my home with my meter?

No, Nolin's meter has no surveillance capability. The meter simply measures electric energy usage as the previous meter did. Individual devices within the home cannot be monitored with the meter.

If you have additional questions, feel free to contact Nolin RECC at 270-765-6153 or 1-888-637-4247.

New Programs, Services



Nolin is excited to introduce some new programs and services that will benefit our members!

BillingInsights allows you to take a good look at your home's actual energy use by completing an online energy audit. This new tool gives you the ability to view energy use and costs by using your billing history, actual weather data, and some information about your home. **BillingInsights** will show you how you can lower your energy costs and become more energy efficient.

You can access **BillingInsights** by visiting www.nolinrecc.com and clicking on the **BillingInsights** logo (lower left side of page). Another way to access **BillingInsights** is through the SmartHub app on your mobile device. Look for the "My Usage" tab and then click on "Usage Management" to access **BillingInsights**.

Receive a FREE Philips Slimstyle LED bulb in the mail after completing your online energy audit through **BillingInsights**!

NEW PROGRAMS PUT MONEY IN YOUR POCKET

The **ENERGY STAR Appliance Rebate Program** provides rebates to members who purchase and install ENERGY STAR-certified appliances. Rebates range from \$50 to \$300.



ENERGY STAR Appliances	Rebate
Refrigerator	\$100
Freezer	\$50
Dishwasher	\$50
Clothes Washer	\$75
Heat Pump Water Heater.....	\$300
Heat Pump	\$300
Central Air Conditioning.....	\$300

Visit Nolin's Web site and click on "Rebates" for more information on this great new program.

Our new **Appliance Recycling Program** offers you a chance to recycle that old refrigerator or freezer you have sitting in your garage or basement. Your reward for getting rid of your inefficient, working appliance is \$50!

- *Qualifying refrigerators and freezers must be between 7.75 – 30 cubic feet and in working condition.*
- *They must be plugged in and the compressor must be running at the scheduled pick-up time.*
- *Refrigerators/freezers must be empty, defrosted, and water lines disconnected.*

Visit our Web site and click on "Rebates" to make sure your unit will qualify for this program. Call 1-844-HAUL4ME to schedule your pick-up.



Contact the Nolin RECC Member Services Department at (270) 765-6153 ext. 3357 or visit www.nolinrecc.com for more information on new and existing member incentive programs.

SMART METERS BENEFIT MEMBERS AND NOLIN

As our automated meter information system becomes worn and outdated, Nolin is replacing the equipment with one of the newest products on the market – smart meters!

With our existing equipment it typically takes two days to receive readings from the meter – the new smart meters will relay information to Nolin hourly.

Smart meters will allow members to track their energy usage hourly through SmartHub instead of daily. Working as a part of the smart grid, smart meters improve power outage detection and notification. Smart meters electronically report the location of outages before you ever have to call Nolin.

We're keeping up with technology and empowering our members in every way possible. Smart metering will benefit Nolin members and the co-op!

2931000504

Look for your New Meter

As our automated meter information system becomes worn and outdated, Nolin is replacing the equipment with one of the newest products on the market—smart meters!

With our existing equipment it typically takes two days to receive readings from the meter—the new smart meters will relay information to Nolin hourly.

Smart meters will allow members to track their energy usage hourly, instead of daily, through SmartHub. Working as a part of the smart grid, smart meters improve power outage detection and notification. Smart meters report the location of outages before you ever have to call Nolin.

We're keeping up with technology and empowering our members in every way possible. Smart metering will benefit Nolin members and the co-op!

Nolin RECC is currently installing smart meters. If your meter has not been changed already, look for a Nolin service technician in the near future!



JUPITERIMAGES/THINKSTOCK

Online payments

Access your Nolin RECC account through our Web site at www.nolinrecc.com. Click on "YourAccount" to check your consumption history and make payments by debit card, Visa, or MasterCard. To apply for budget billing and automatic draft online, click on "Residential Bill Payment."



New Member Credits

All members signing up for new service with Nolin receive a short survey. Members who return the completed survey to Nolin are automatically eligible to win a \$30 credit on their electric bill. Each month, one name is drawn and a lucky Nolin member receives a bill credit on their next statement. Congratulations to our latest winner, **Kenneth Perkins, of Elizabethtown.**

We've Got Your Number! \$25 WIN \$25 Worth of FREE Electricity

Nolin News features a contest called "We've Got Your Number." Hidden inside this issue are two randomly selected member account numbers. If you spot your account number, contact the Member Services Department at (270) 765-6153, and **win a \$25 CREDIT on your electric bill.** You must identify your number and call by the 15th day of the month's issue containing your number. Account numbers could be anywhere in your *Nolin News!*

HOW TO REACH NOLIN RECC

ELIZABETHTOWN OFFICE

411 Ring Road, Elizabethtown, KY 42701-6767
8:00 a.m.-5:00 p.m., Mon-Fri • (270) 765-6153

RADCLIFF OFFICE

101 West Lincoln Trail Blvd., Radcliff, KY 40160
8:00 a.m.-5:00 p.m., Mon-Fri • (270) 351-2199
(Office closed from 12:30-1:30 daily)

TOLL-FREE BUSINESS CALLS — 1-888-637-4247
PAY DIRECT BY PHONE TOLL FREE — 1-855-356-6359
FOR EMERGENCIES — (270) 765-6153

Web site: www.nolinrecc.com
e-mail: comments@nolinrecc.com

BOARD OF DIRECTORS

David P. Brown
Gene Straney
A.L. "Buddy" Rosenberger
Lawrence Ireland
R.E. "Rick" Thomas
Linda Grimes

ATTORNEY

John J. Scott

President & CEO

Michael L. Miller



NOLIN RURAL ELECTRIC COOPERATIVE CORPORATION

BOARD POLICY NO. 409.0

SUBJECT: MEMBER PRIVACY AND CONFIDENTIALITY

I. PURPOSE:

The purpose of this policy is to establish the basis on which Nolin Rural Electric Cooperative Corporation (Nolin RECC) collects, uses, protects and shares information provided by members.

II. POLICY:

Nolin RECC respects the privacy and confidentiality of member information. This policy describes the information that Nolin RECC collects from its members as a routine part of its operations and how it uses, protects and shares that information.

III. PROVISIONS:

A. CATEGORIES OF INFORMATION COLLECTED

1. Contact information, including a member's name, address, telephone number and e-mail address. Nolin RECC may also collect a user name and password for online access.
2. Billing information, including Social Security number, credit information, financial account information and payment history.
3. Electric usage data gathered by Nolin RECC's metering systems, a member's service history and information maintained for meter reading purposes (e.g. warning about a dog in the yard).
4. Capital and patronage account information for members and former members as well as contract information for former members resulting from membership and governance activities.
5. Responses to member survey(s) conducted by Nolin RECC to identify needs or improve service.
6. Additional information about a member or a member's property, appliances and activities obtained through services offered by Nolin RECC or its affiliates (such as home improvement or critical account status).

B. PURPOSES FOR COLLECTION, ACCESS AND CORRECTION

1. Nolin RECC collects and maintains information about members for purposes that are suitable to its operations and management. Information is collected only through lawful and fair means and for appropriate purposes.
2. Nolin RECC is committed to maintaining accurate, complete, timely, relevant and appropriate information about members as necessary for the purpose for which the information is to be used. Nolin RECC generally permits its members to access and seek correction of records about themselves that are maintained and used by Nolin RECC to provide service, for billing and to manage capital accounts. Any requests for, or disputes relating to access, correction or other matters should be directed to:

Nolin Rural Electric Cooperative Corporation
ATTN: Office Services Department
411 Ring Road
Elizabethtown, KY 42701
270-765-6153
www.nolinrecc.com/contact.asp

3. Nolin RECC may provide usage data to members who have access to electric usage data through an interface, such as a website.

C. WHEN NOLIN RECC COLLECTS MEMBER INFORMATION

1. When members create an account and interact with Nolin RECC regarding their account, utility service or participation in Nolin RECC programs.
2. When members use electricity service and metering systems, including smart meters.
3. When members interact with Nolin RECC through its website.
4. When Nolin RECC interacts with third parties, such as credit agencies.

D. USE AND RETENTION OF MEMBER INFORMATION

1. Nolin RECC uses information about members in defined and responsible ways in order to manage, provide and improve its products, services and operations.
2. Data about members' electric usage may be compiled in aggregate form and such data may be used by Nolin RECC to improve system operations, efficiency and overall customer service.
3. Nolin RECC retains member information, including energy usage data, in such amounts and for such periods of time as required by law or regulation or as reasonably necessary to provide services.

Board Policy No. 409.0, page 3

E. SECURITY

1. Nolin RECC maintains member information with reasonable and appropriate technical, administrative, physical and cyber safeguards to protect against loss, unauthorized access, destruction, misuse, modification and improper disclosure of member information. However, no system can ever be fully protected against every possible hazard.
2. Nolin RECC requires its employees, affiliates and contractors who have access to member information to comply with this privacy and confidentiality policy.
3. Member information that members may access through Nolin RECC's online account system is protected using cyber security protocols designed to prevent unauthorized third parties from accessing such information.

F. DISCLOSURE TO THIRD PARTIES

1. Nolin RECC does not share member information (e.g., a member's electric usage data and information that can reasonably be used to identify an individual) with a third party, except at the member's request, with the member's consent or as described below. Members who wish to authorize Nolin RECC to disclose their information to a third party may do so by contacting Nolin RECC as described under Section B, #2.
2. Information may be disclosed to affiliates or contractors hired by Nolin RECC to assist in carrying out operations, such as service, maintenance, billing and management functions including legal, audit and collection services. Information may also be shared with other utilities under shared service agreements or to meet operational requirements. Information will only be disclosed to such persons to the extent necessary to render the services, and only to those who agree to maintain the confidentiality and security of the information.
3. Nolin RECC may disclose to and share information with commercial and consumer credit reporting agencies for credit-related activities (e.g., the reporting of bad debts).
4. Sufficiently aggregated information may be disclosed to third parties where necessary or beneficial for Nolin RECC's operations (for example, to improve efficiency and overall customer service).
5. Information may be disclosed when authorized or required by law, including in response to a search warrant, subpoena or court or law enforcement order. For example, Nolin RECC may use and disclose records for investigations into employee misconduct or for law enforcement investigations related to its business. Disclosures may also be made when appropriate to protect Nolin RECC's legal rights or in situations involving an imminent threat to life or property. Nolin RECC will take reasonable steps to limit the scope and consequences of any of these disclosures.

Board Policy No. 409.0, page 4

F. DISCLOSURE TO THIRD PARTIES, continued

6. In addition, information may be shared with affiliates and partners of Nolin RECC to communicate or promote services and/or information of interest to members. Members may request that their information not be shared with affiliates or partners for the offering of new products and services by contacting Office Services as described in Section B, #2. Nolin RECC does not sell, rent, loan, exchange or otherwise release member information to non-affiliated third parties or partners for their marketing purposes without a member's prior consent.
7. Nolin RECC may make information regarding third party products and services available to members through its website.

IV. RESPONSIBILITY:

The President/CEO.

This policy supersedes any existing policy which may be in conflict with the provisions of this policy.

Adopted: 05/18/16

CYBER SECURITY

Nolin RECC is currently in the process of developing and has implemented part of a Cyber Security plan. Initial policies are being developed based on the findings of the Guernsey Report. Currently Nolin has ten board approved cyber security policies with about six more pending board approval. Nolin realizes that these initial cyber security policies are just a beginning and our cyber security plan will always be evolving to meet the challenges and demands of a secure infrastructure.

Smart Grid Investments

This document addresses aspects of smart grid investments.

System Description

Nolin Rural Electric Cooperative Corporation (Nolin RECC) is a rural electric cooperative headquartered at 411 Ring Road in Elizabethtown, Kentucky. Nolin RECC serves members in Breckinridge, Bullitt, Grayson, Green, Hardin, Hart, LaRue, Meade, and Taylor counties. Nolin RECC has approximately 3,008 miles of electric distribution lines which operate at 7,200/12,470 volts.

As of May 24, 2016, Nolin RECC serves 27,425 members. The member base is approximately 94% residential and approximately 6% commercial and industrial.

The service area is a combination of flat terrain and hills.

Nolin RECC has utilized an AMR system since 2004. Due to the end-of-life for the AMR system, Nolin RECC began installing AMI in 2015 with Commission approval in Case Number 2014-00436, and the installation is over 95% complete. The AMI system utilizes radio frequency communication with the meters and interfaces with the current National Information Solutions Cooperative (NISC) system.

Nolin RECC has been offering PrePay metering to the membership since the approval of the PrePay pilot program tariff in Case Number 2011-00141. Due to the success of the pilot program, Nolin RECC requested the pilot be eliminated and the PrePay program be permanent in Case Number 2013-00037 which was approved by the Commission. As of May 26, 2016, there are over 1,350 active PrePay accounts.

With the installation of the AMI system, Nolin RECC is utilizing a Meter Data Management System (MDMS) with NISC that enables members to view and compare their electric usage via a member portal. The data from the AMI system is uploaded to the MDMS and provides members timely information. Information is available to members daily instead of once a month and members may access their usage information via Nolin RECC's SmartHub website, Android app, or IOS app. Members have 24/7 access to their information.

Authorized employees of Nolin RECC have the ability to communicate with the meters without leaving the office. The communications include connections, disconnections, and status checks.

Nolin RECC utilizes the NISC Outage Management System (OMS) for identifying and tracking outage information.

The AMI system provides notification of meters with no signal. Often the lack of signal is due to a meter tampering. With the quick notification of the AMI system, Nolin RECC is able to

identify, investigate and address the tampering issue immediately thus aiding in curtailing lost revenue due to theft of electricity.

Nolin RECC currently utilizes an Advanced Control Systems (ACS) PRISM SCADA system for monitoring 23 distribution substations. All substations communicate with the SCADA system via Distributed Network Protocol (DNP3) over ICP/IP.

Planning Goals

Nolin RECC evaluates the cost of smart grid technology, the benefit to the membership, and the necessity of programs, devices, or projects. As technology is ever evolving, Nolin RECC will continue to stay abreast of developments in the smart grid technology area.

At the present time, Nolin RECC has no immediate plans for additional investments in smart grid technology.

Long term plans for the AMI project include integrating the system with SCADA and engineering analysis applications. The integration of the AMI and SCADA systems will allow for real-time closed-loop feedback and will enhance the performance of our demand reduction strategies. Utilizing the AMI data in engineering analysis applications will allow for more accurate system modeling and long-term planning.

Nolin is currently evaluating other SCADA system vendors for the potential replacement of our current ACS system. We are evaluating some of the advanced distribution applications that will allow us to maximize member reliability and improve power system efficiency. As part of this effort, we are currently upgrading many of our downline distribution devices and plan to eventually expand the scope of our SCADA system to include such devices. Additionally, we are considering fiber optic applications to enhance and improve the reliability and performance of remote communications to our substations and downline devices.

How Smart Grid Investments Will Be Considered

Nolin RECC will evaluate and determine if investments in new smart grid technology are justifiable and beneficial for the membership and the cooperative. The integration with existing systems, the usability, the cost, and reliability of the new technology are just a few of the key factors in evaluating investments.

Any future major smart grid investment will be included in a Construction Work Plan.

RECEIVED

Nolin Rural Electric Cooperative Corporation

Initial Request for Information – Case No. 2012-00428

Commission Staff's First Request for Information Dated April 13, 2016

JUN - 8 2016

Public Service
Commission

- **Question 2:**

The Joint Utilities shall develop policies and procedures that provide customers access to historical information regarding their energy use and tariff rate and shall endeavor to provide this information to customers in as close to real-time as practical. Furthermore, the Joint Utilities shall provide aggregated information to CAC upon its reasonable request.

Response:

Refer to Exhibit 1.

Responding Witness: Cheryl Thomas, Vice President Office Services
Nolin Rural Electric Cooperative Corporation

- **Question 4:**

Within 60 days of the date of this Order, the Joint Utilities shall fine with the Commission their internal procedures governing customer privacy and customer education.

Response:

Refer to Exhibit 2. Members also have access to Nolin RECC's privacy procedures on our website at www.nolinrecc.com.

Responding Witness: Rick Ryan, Vice President Member Services
Nolin Rural Electric Cooperative Corporation

Nolin Rural Electric Cooperative Corporation

Initial Request for Information – Case No. 2012-00428

Commission Staff's First Request for Information Dated April 13, 2016

- **Question 5:**
Within 60 days of the date of this Order, the Joint Utilities shall certify to the Commission that they have developed internal cybersecurity procedures.

Response:

Refer to Exhibit 3. On a date and time selected by the Commission, Nolin RECC will make a presentation describing our cyber security procedures.

Responding Witness: David Cox, Information Technology Manager
Nolin Rural Electric Cooperative Corporation

- **Question 10:**
Within 60 days of the date of this Order, the jurisdictional electric utilities shall file with the Commission their internal procedures regarding Smart Grid investments.

Response:

Refer to Exhibit 4.

Responding Witness: Jason Mattingly, Meter & Power Use Controller
Nolin Rural Electric Cooperative Corporation

Access to Usage Information

This document addresses aspects of members' access to account information with respect to usage.

How is information accessible?

Nolin Rural Electric Cooperative Corporation (Nolin RECC) provides members access to their account information through National Information Solutions Cooperative's (NISC) SmartHub application. SmartHub is available through Nolin RECC's website as well as a free app for Android and IOS users. This website/app allows members to review their account information 24/7.

What usage information is accessible?

Members have multiple options to view their usage. Options include hourly usage, daily usage, weekly usage, monthly usage, and annual usage. Members may also compare usage for different periods of time such as comparing March 2016 usage to March 2015 usage. In addition to the kWh usage, temperature data is provided for the member to assist the member in understanding the correlation of weather and usage.

Since usage data is uploaded daily to NISC shortly after midnight, members have access to their current usage up to midnight of the prior day. Historical usage data is also available for prior years or date member connected the account, whichever is more recent.

What are other features of SmartHub?

Members have access to numerous communications, information, and publications through SmartHub. A few of the items include:

- *Image of past bills which shows the tariffed rate schedule for the account
- *Payment history for the account
- *Map of Nolin RECC office locations (available on Android and IOS apps)
- *Outage information for the service territory
- *Messages from Nolin RECC to members
- *Monthly magazine, *Kentucky Living*
- *Monthly issue of *Nolin News*
- *Monthly Nolin RECC newsletter, *An Energy Update From Nolin RECC*
- *Members' preferences for SmartHub communications such as text alerts and e-mails
- *How to contact Nolin RECC to report an outage, to request tree trimming, for information on programs such as budget billing, rebates, and energy audits, just to name a few
- *Enrollment in automatic credit card payment draft
- *Payment processing

Who can access SmartHub?

SmartHub is available to members via the internet or by downloading the free Android or IOS app. Members may create an account through SmartHub by providing their account number, e-mail address and answering security questions. Members are also required to select and enter a password for their account.

What options are available if I don't have access to internet or smart phone?

Members may visit one of Nolin RECC's two offices to discuss their account, obtain their usage information, report an outage, or enroll in programs. Members may also contact Nolin RECC by telephone if they choose.

Member Education

In order to keep our members informed about the use and benefits of Smart Meters, we have placed educational articles in the Nolin News section of our Kentucky Living Magazine. The first article ran in April 2015 prior to the initial meter deployment. The second article ran in March 2016. We also presently have a “Smart Meter/AMI FAQ” available on our website at www.nolinrecc.com to provide answers to common questions asked by our members. Going forward, Nolin will continue to keep our members informed on the advantages of the Smart Meters for both the member and Nolin RECC through the use of the Kentucky Living Magazine/Nolin News, our bill inserts and website.

AVAILABLE TO MEMBERS AT WWW.NOLINRECC.COM AND AS A HANDOUT AT NOLIN OFFICES

SMART METER/AMI FAQ

What are “smart meters”?

“Smart meters” are solid state electrical meters that utilities install to collect and transmit metering information back to its office. These replace the analog type meters which were limited to just displaying the total usage and required the utility to visit each meter monthly to manually read the meter.

Advanced Metering Infrastructure (AMI) ... What is it?

The name sounds complicated, but Nolin RECC’s new AMI meter is very similar to your previous meter. The new metering system allows faster communication from the meter to the Nolin RECC office. It also provides a variety of benefits, including better customer service, improved reliability and greater operational efficiency.

How does my automated meter work?

With AMI meters, Nolin can read the meter remotely from our central office. Information from the meter is transmitted back to the co-op. Transmitting this information electronically means that a meter reader no longer visits your home to manually read the meter monthly.

What data is collected by the meter?

The meter records the following information:

- Total kWh usage.
- KW values for each hour.
- Minimum and maximum voltage levels.
- Blink counts.

How secure is the meter data?

Nolin considers member information security a top priority. The data transmitted through the AMI system to and from the meter is encrypted using a special proprietary technique. We continue to monitor and test for security threats.

Are “smart meters” accurate?

These meters follow multiple accuracy standards testing both by the manufacturers and the utilities. In addition, the Kentucky Public Service Commission requires sample testing each year on a defined amount of the installed meters.

What are the specific benefits of AMI?

Here are just a few of the benefits made available through AMI technology:

- Improves electric service reliability and power quality – fewer outages and blinks.
- Allows more respect for member privacy and property access – With this new system, the only time Nolin will need to physically be at your meter is if there is an electric service problem or when we perform the annual inspection of your electric service.

- Improves outage notification and management process by more quickly pinpointing the exact location of outages, meaning a faster response time.
- Provides additional metering data to better assist members with billing and service questions.
- Gives capability to provide members with valuable usage information such as consumption patterns, outage and blink count history and voltage information.
- Reduces losses by identifying power theft.
- Gain efficiencies by eliminating the labor and transportation costs of in-person meter reading.
- Ensures better overall safety for Nolin employees.
- Promotes energy efficiency by enabling real-time customer feedback.

Can obstacles be constructed that may make the meter inaccessible?

No. Reasonable access to equipment still must be maintained. This allows for Cooperative personnel to either read or maintain the meter if necessary at reasonable times. Routine inspections of all meters and services will continue in order to look for safety hazards, theft or other problems.

Will the new meter notify the co-op when the power goes out?

Yes, however, we ask that members contact the Cooperative at 270-765-6153 to ensure the ability to pinpoint outage locations and verify service restoration.

Can you monitor the activity within my home with my meter?

No, Nolin's meter has no surveillance capability. The meter simply measures electric energy usage as the previous meter did. Individual devices within the home cannot be monitored with the meter.

If you have additional questions, feel free to contact Nolin RECC at 270-765-6153 or 1-888-637-4247.

New Programs, Services

Nolin is excited to introduce some new programs and services that will benefit our members!



BillingInsights allows you to take a good look at your home's actual energy use by completing an online energy audit. This new tool gives you the ability to view energy use and costs by using your billing history, actual weather data, and some information about your home. **BillingInsights** will show you how you can lower your energy costs and become more energy efficient.

You can access **BillingInsights** by visiting www.nolinrecc.com and clicking on the **BillingInsights** logo (lower left side of page). Another way to access **BillingInsights** is through the SmartHub app on your mobile device. Look for the "My Usage" tab and then click on "Usage Management" to access **BillingInsights**.

Receive a FREE Philips Slimstyle LED bulb in the mail after completing your online energy audit through **BillingInsights**!

NEW PROGRAMS PUT MONEY IN YOUR POCKET

The **ENERGY STAR Appliance Rebate Program** provides rebates to members who purchase and install ENERGY STAR-certified appliances. Rebates range from \$50 to \$300.



ENERGY STAR Appliances	Rebate
Refrigerator	\$100
Freezer	\$50
Dishwasher	\$50
Clothes Washer	\$75
Heat Pump Water Heater	\$300
Heat Pump	\$300
Central Air Conditioning.....	\$300

Visit Nolin's Web site and click on "Rebates" for more information on this great new program.

Our new **Appliance Recycling Program** offers you a chance to recycle that old refrigerator or freezer you have sitting in your garage or basement. Your reward for getting rid of your inefficient, working appliance is \$50!

- *Qualifying refrigerators and freezers must be between 7.75 – 30 cubic feet and in working condition.*
- *They must be plugged in and the compressor must be running at the scheduled pick-up time.*
- *Refrigerators/freezers must be empty, defrosted, and water lines disconnected.*

Visit our Web site and click on "Rebates" to make sure your unit will qualify for this program. Call 1-844-HAUL4ME to schedule your pick-up.



Contact the Nolin RECC Member Services Department at (270) 765-6153 ext. 3357 or visit www.nolinrecc.com for more information on new and existing member incentive programs.

SMART METERS BENEFIT MEMBERS AND NOLIN

As our automated meter information system becomes worn and outdated, Nolin is replacing the equipment with one of the newest products on the market – smart meters!

With our existing equipment it typically takes two days to receive readings from the meter – the new smart meters will relay information to Nolin hourly.

Smart meters will allow members to track their energy usage hourly through SmartHub instead of daily. Working as a part of the smart grid, smart meters improve power outage detection and notification. Smart meters electronically report the location of outages before you ever have to call Nolin.

We're keeping up with technology and empowering our members in every way possible. Smart metering will benefit Nolin members and the co-op!

2931000504

Look for your New Meter

As our automated meter information system becomes worn and outdated, Nolin is replacing the equipment with one of the newest products on the market—smart meters!

With our existing equipment it typically takes two days to receive readings from the meter—the new smart meters will relay information to Nolin hourly.

Smart meters will allow members to track their energy usage hourly, instead of daily, through SmartHub. Working as a part of the smart grid, smart meters improve power outage detection and notification. Smart meters report the location of outages before you ever have to call Nolin.

We're keeping up with technology and empowering our members in every way possible. Smart metering will benefit Nolin members and the co-op!

Nolin RECC is currently installing smart meters. If your meter has not been changed already, look for a Nolin service technician in the near future!



JUPITERIMAGES/THINKSTOCK

Online payments

Access your Nolin RECC account through our Web site at www.nolinrecc.com. Click on "YourAccount" to check your consumption history and make payments by debit card, Visa, or MasterCard. To apply for budget billing and automatic draft online, click on "Residential Bill Payment."



New Member Credits

All members signing up for new service with Nolin receive a short survey. Members who return the completed survey to Nolin are automatically eligible to win a \$30 credit on their electric bill. Each month, one name is drawn and a lucky Nolin member receives a bill credit on their next statement. Congratulations to our latest winner, **Kenneth Perkins, of Elizabethtown.**

We've Got Your Number! \$25

WIN \$25 Worth of FREE Electricity

Nolin News features a contest called "We've Got Your Number." Hidden inside this issue are two randomly selected member account numbers. If you spot your account number, contact the Member Services Department at (270) 765-6153, and **win a \$25 CREDIT on your electric bill.** You must identify your number and call by the 15th day of the month's issue containing your number. Account numbers could be anywhere in your *Nolin News*!

HOW TO REACH NOLIN RECC

ELIZABETHTOWN OFFICE

411 Ring Road, Elizabethtown, KY 42701-6767
8:00 a.m.-5:00 p.m., Mon-Fri • (270) 765-6153

RADCLIFF OFFICE

101 West Lincoln Trail Blvd., Radcliff, KY 40160
8:00 a.m.-5:00 p.m., Mon-Fri • (270) 351-2199
(Office closed from 12:30-1:30 daily)

TOLL-FREE BUSINESS CALLS — 1-888-637-4247

PAY DIRECT BY PHONE TOLL FREE — 1-855-356-6359

FOR EMERGENCIES — (270) 765-6153

Web site: www.nolinrecc.com
e-mail: comments@nolinrecc.com

BOARD OF DIRECTORS

David P. Brown
Gene Straney
A.L. "Buddy" Rosenberger
Lawrence Ireland
R.E. "Rick" Thomas
Linda Grimes

ATTORNEY

John J. Scott

President & CEO
Michael L. Miller

NOLIN
RURAL ELECTRIC COOPERATIVE CORPORATION

NOLIN RURAL ELECTRIC COOPERATIVE CORPORATION

BOARD POLICY NO. 409.0

SUBJECT: MEMBER PRIVACY AND CONFIDENTIALITY

I. PURPOSE:

The purpose of this policy is to establish the basis on which Nolin Rural Electric Cooperative Corporation (Nolin RECC) collects, uses, protects and shares information provided by members.

II. POLICY:

Nolin RECC respects the privacy and confidentiality of member information. This policy describes the information that Nolin RECC collects from its members as a routine part of its operations and how it uses, protects and shares that information.

III. PROVISIONS:

A. CATEGORIES OF INFORMATION COLLECTED

1. Contact information, including a member's name, address, telephone number and e-mail address. Nolin RECC may also collect a user name and password for online access.
2. Billing information, including Social Security number, credit information, financial account information and payment history.
3. Electric usage data gathered by Nolin RECC's metering systems, a member's service history and information maintained for meter reading purposes (e.g. warning about a dog in the yard).
4. Capital and patronage account information for members and former members as well as contract information for former members resulting from membership and governance activities.
5. Responses to member survey(s) conducted by Nolin RECC to identify needs or improve service.
6. Additional information about a member or a member's property, appliances and activities obtained through services offered by Nolin RECC or its affiliates (such as home improvement or critical account status).

B. PURPOSES FOR COLLECTION, ACCESS AND CORRECTION

1. Nolin RECC collects and maintains information about members for purposes that are suitable to its operations and management. Information is collected only through lawful and fair means and for appropriate purposes.
2. Nolin RECC is committed to maintaining accurate, complete, timely, relevant and appropriate information about members as necessary for the purpose for which the information is to be used. Nolin RECC generally permits its members to access and seek correction of records about themselves that are maintained and used by Nolin RECC to provide service, for billing and to manage capital accounts. Any requests for, or disputes relating to access, correction or other matters should be directed to:

Nolin Rural Electric Cooperative Corporation
ATTN: Office Services Department
411 Ring Road
Elizabethtown, KY 42701
270-765-6153
www.nolinrecc.com/contact.asp

3. Nolin RECC may provide usage data to members who have access to electric usage data through an interface, such as a website.

C. WHEN NOLIN RECC COLLECTS MEMBER INFORMATION

1. When members create an account and interact with Nolin RECC regarding their account, utility service or participation in Nolin RECC programs.
2. When members use electricity service and metering systems, including smart meters.
3. When members interact with Nolin RECC through its website.
4. When Nolin RECC interacts with third parties, such as credit agencies.

D. USE AND RETENTION OF MEMBER INFORMATION

1. Nolin RECC uses information about members in defined and responsible ways in order to manage, provide and improve its products, services and operations.
2. Data about members' electric usage may be compiled in aggregate form and such data may be used by Nolin RECC to improve system operations, efficiency and overall customer service.
3. Nolin RECC retains member information, including energy usage data, in such amounts and for such periods of time as required by law or regulation or as reasonably necessary to provide services.

E. SECURITY

1. Nolin RECC maintains member information with reasonable and appropriate technical, administrative, physical and cyber safeguards to protect against loss, unauthorized access, destruction, misuse, modification and improper disclosure of member information. However, no system can ever be fully protected against every possible hazard.
2. Nolin RECC requires its employees, affiliates and contractors who have access to member information to comply with this privacy and confidentiality policy.
3. Member information that members may access through Nolin RECC's online account system is protected using cyber security protocols designed to prevent unauthorized third parties from accessing such information.

F. DISCLOSURE TO THIRD PARTIES

1. Nolin RECC does not share member information (e.g., a member's electric usage data and information that can reasonably be used to identify an individual) with a third party, except at the member's request, with the member's consent or as described below. Members who wish to authorize Nolin RECC to disclose their information to a third party may do so by contacting Nolin RECC as described under Section B, #2.
2. Information may be disclosed to affiliates or contractors hired by Nolin RECC to assist in carrying out operations, such as service, maintenance, billing and management functions including legal, audit and collection services. Information may also be shared with other utilities under shared service agreements or to meet operational requirements. Information will only be disclosed to such persons to the extent necessary to render the services, and only to those who agree to maintain the confidentiality and security of the information.
3. Nolin RECC may disclose to and share information with commercial and consumer credit reporting agencies for credit-related activities (e.g., the reporting of bad debts).
4. Sufficiently aggregated information may be disclosed to third parties where necessary or beneficial for Nolin RECC's operations (for example, to improve efficiency and overall customer service).
5. Information may be disclosed when authorized or required by law, including in response to a search warrant, subpoena or court or law enforcement order. For example, Nolin RECC may use and disclose records for investigations into employee misconduct or for law enforcement investigations related to its business. Disclosures may also be made when appropriate to protect Nolin RECC's legal rights or in situations involving an imminent threat to life or property. Nolin RECC will take reasonable steps to limit the scope and consequences of any of these disclosures.

Board Policy No. 409.0, page 4

F. DISCLOSURE TO THIRD PARTIES, continued

6. In addition, information may be shared with affiliates and partners of Nolin RECC to communicate or promote services and/or information of interest to members. Members may request that their information not be shared with affiliates or partners for the offering of new products and services by contacting Office Services as described in Section B, #2. Nolin RECC does not sell, rent, loan, exchange or otherwise release member information to non-affiliated third parties or partners for their marketing purposes without a member's prior consent.
7. Nolin RECC may make information regarding third party products and services available to members through its website.

IV. RESPONSIBILITY:

The President/CEO.

This policy supersedes any existing policy which may be in conflict with the provisions of this policy.

Adopted: 05/18/16

CYBER SECURITY

Nolin RECC is currently in the process of developing and has implemented part of a Cyber Security plan. Initial policies are being developed based on the findings of the Guernsey Report. Currently Nolin has ten board approved cyber security policies with about six more pending board approval. Nolin realizes that these initial cyber security policies are just a beginning and our cyber security plan will always be evolving to meet the challenges and demands of a secure infrastructure.

Smart Grid Investments

This document addresses aspects of smart grid investments.

System Description

Nolin Rural Electric Cooperative Corporation (Nolin RECC) is a rural electric cooperative headquartered at 411 Ring Road in Elizabethtown, Kentucky. Nolin RECC serves members in Breckinridge, Bullitt, Grayson, Green, Hardin, Hart, LaRue, Meade, and Taylor counties. Nolin RECC has approximately 3,008 miles of electric distribution lines which operate at 7,200/12,470 volts.

As of May 24, 2016, Nolin RECC serves 27,425 members. The member base is approximately 94% residential and approximately 6% commercial and industrial.

The service area is a combination of flat terrain and hills.

Nolin RECC has utilized an AMR system since 2004. Due to the end-of-life for the AMR system, Nolin RECC began installing AMI in 2015 with Commission approval in Case Number 2014-00436, and the installation is over 95% complete. The AMI system utilizes radio frequency communication with the meters and interfaces with the current National Information Solutions Cooperative (NISC) system.

Nolin RECC has been offering PrePay metering to the membership since the approval of the PrePay pilot program tariff in Case Number 2011-00141. Due to the success of the pilot program, Nolin RECC requested the pilot be eliminated and the PrePay program be permanent in Case Number 2013-00037 which was approved by the Commission. As of May 26, 2016, there are over 1,350 active PrePay accounts.

With the installation of the AMI system, Nolin RECC is utilizing a Meter Data Management System (MDMS) with NISC that enables members to view and compare their electric usage via a member portal. The data from the AMI system is uploaded to the MDMS and provides members timely information. Information is available to members daily instead of once a month and members may access their usage information via Nolin RECC's SmartHub website, Android app, or IOS app. Members have 24/7 access to their information.

Authorized employees of Nolin RECC have the ability to communicate with the meters without leaving the office. The communications include connections, disconnections, and status checks.

Nolin RECC utilizes the NISC Outage Management System (OMS) for identifying and tracking outage information.

The AMI system provides notification of meters with no signal. Often the lack of signal is due to a meter tampering. With the quick notification of the AMI system, Nolin RECC is able to

identify, investigate and address the tampering issue immediately thus aiding in curtailing lost revenue due to theft of electricity.

Nolin RECC currently utilizes an Advanced Control Systems (ACS) PRISM SCADA system for monitoring 23 distribution substations. All substations communicate with the SCADA system via Distributed Network Protocol (DNP3) over ICP/IP.

Planning Goals

Nolin RECC evaluates the cost of smart grid technology, the benefit to the membership, and the necessity of programs, devices, or projects. As technology is ever evolving, Nolin RECC will continue to stay abreast of developments in the smart grid technology area.

At the present time, Nolin RECC has no immediate plans for additional investments in smart grid technology.

Long term plans for the AMI project include integrating the system with SCADA and engineering analysis applications. The integration of the AMI and SCADA systems will allow for real-time closed-loop feedback and will enhance the performance of our demand reduction strategies. Utilizing the AMI data in engineering analysis applications will allow for more accurate system modeling and long-term planning.

Nolin is currently evaluating other SCADA system vendors for the potential replacement of our current ACS system. We are evaluating some of the advanced distribution applications that will allow us to maximize member reliability and improve power system efficiency. As part of this effort, we are currently upgrading many of our downline distribution devices and plan to eventually expand the scope of our SCADA system to include such devices. Additionally, we are considering fiber optic applications to enhance and improve the reliability and performance of remote communications to our substations and downline devices.

How Smart Grid Investments Will Be Considered

Nolin RECC will evaluate and determine if investments in new smart grid technology are justifiable and beneficial for the membership and the cooperative. The integration with existing systems, the usability, the cost, and reliability of the new technology are just a few of the key factors in evaluating investments.

Any future major smart grid investment will be included in a Construction Work Plan.