

**WELCOME**

*your member  
handbook*



Your Touchstone Energy® Partner  
*The power of human connections*



# **North Central Electric Cooperative, Inc.**

**Attica, OH**



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# MISSION STATEMENT

“We are a customer driven Cooperative that is accessible, responsive and flexible in serving our members and communities.”

“We will apply knowledge, innovation and technology to deliver quality, reliable and affordable products and services to our members and customers.”

Contact your electric cooperative by mail,  
telephone, fax or e-mail:

**North Central Electric Cooperative**

**13978 East Country Road 56**

**P.O. Box 475**

**Attica, Ohio 44807-0475**

**419-426-3072**

**1-800-426-3072**

**Fax: 419-426-3072**

**E-Mail: [nce@fesco-oh.org](mailto:nce@fesco-oh.org)**

**Website: [www.ncelec.org](http://www.ncelec.org)**

Dear Member:

On behalf of the Board of Trustees, staff and employees, I want to extend a sincere welcome to you as a member-owner of North Central Electric Cooperative, Inc. We are committed to providing you with the best possible service at the lowest possible cost.

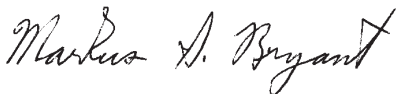
North Central has been serving the counties of Seneca, Crawford, Wyandot, Sandusky, Wood, Hancock, Richland and Huron counties since 1936. Back then, privately owned power companies said serving rural areas would be too costly because the houses were too far apart and farmers would not use much electricity. The farmers wanted electricity like their neighbors in the city. Using FDR's Rural Electrification Act as a catalyst, farmers banded together to form electric cooperatives, including North Central Electric.

Originally most of our service territory was strictly rural. Since then, the Cooperative has grown and its membership has become quite diverse. The Cooperative serves about 9,750 consumers including several large commercial loads in the Village of New Washington and the Fostoria community. The Cooperative maintains about 1,750 miles of underground and overhead lines. It serves nearly six consumers per mile.

Your Cooperative is a not-for-profit enterprise owned and operated by the same members it serves. Its sole purpose is to provide quality, reliable and affordable products and services to you, the member-owner. By operating on a not-for-profit basis, any excess funds over operating expenses are allocated back to the members in the form of patronage capital credits. These credits are eventually paid back as long as the Board of Trustees determines that the Cooperative is financially able to do so. Our operating policies and rates are set by the Board of Trustees, which is elected by the members from among the membership.

Your Cooperative is a unique but effective organization. We hope this member handbook will be a valuable resource tool that will help you take advantage of the services your Cooperative has to offer.

Sincerely,

A handwritten signature in cursive script that reads "Markus I. Bryant". The signature is written in black ink and is positioned above the printed name and title.

Markus I. Bryant  
General Manager

## The Cooperative Way

What is a cooperative? This question is asked by many new members as they join the cooperative.

We are owned by the members we serve. You are a member. You are an owner. This is an organization that operates on a not-for-profit basis. As a Cooperative, we are guided by seven principles that date back more than 150 years to the formation of the first successful modern cooperative in Rochdale, England. These principles are what set cooperatives apart from all other service providers.

**1. Voluntary and open membership:** Cooperatives are voluntary organizations, open to all persons able to use their services and willing to accept the responsibilities of membership without gender, social, racial, political or religious discrimination.

**2. Democratic member control:** Cooperatives are democratic organizations controlled by their members, who actively participate in setting their policies and making decisions. Men and women serving as elected representatives are accountable to the membership. Members have equal voting rights — one member, one vote.

**3. Members' economic participation:** Members contribute equally to and democratically control the capital of the cooperative. The cooperative must maintain minimal margins each year to provide the internal equity financing necessary to maintain and improve the system. Any net savings achieved by the cooperative are assigned to members on the basis of their patronage. This money is eventually returned to the members in the form of patronage capital credits.

**4. Autonomy and independence:** Cooperatives are autonomous, self-help organizations controlled by their members. If we enter into agreements with other organizations or raise capital from external sources, we do so on terms that ensure democratic control by the members and maintain our cooperative autonomy.

**5. Education, training and information:** Cooperatives provide education and training for their members, elected representatives, managers and employees so they can contribute effectively to the cooperative's development.

**6. Cooperation among cooperatives:** Cooperatives serve members most effectively and strengthen the cooperative movement by working together through local, national, regional and even international structures.

**7. Concern for community:** While focusing on member needs, cooperatives work for the sustainable development of their communities through policies accepted by their members.

## **Annual Meeting**

Since 1936, members have gathered to discuss the business of the Cooperative. Each year at the annual meeting, members elect three district candidates to the Board of Trustees. Periodically, members attending the annual meeting also may be asked to consider amendments to the Cooperative's Code of Regulations or to the Articles of Incorporation. Members must attend the annual meeting in order to vote for trustee candidates and amendments.

Not only is it important for members to attend the Annual Meeting and participate in the election of trustees and other business, it is also a great opportunity to hear reports from management staff and the Board of Trustees.

One highlight for the members during the business meeting is their opportunity to engage the board and General Manager in a question and answer session regarding the business of the Cooperative.

The annual meeting is usually scheduled on the second Tuesday of June at the Seneca County Fairgrounds in Tiffin. A dinner, entertainment, special displays and a health fair have routinely been offered. Consult your monthly edition of *Country Living* or the Cooperative's website ([www.ncelec.org](http://www.ncelec.org)) for up-to-date information.

## **Board of Trustees**

The North Central service area is divided into seven board districts, each with a member-elected representative who sits on the Cooperative's Board of Trustees. In Crawford and Wyandot counties, two board members are elected to serve the membership. Board members are elected to three-year terms at the annual meeting. As representatives of the Cooperative, they communicate the interest and needs of the membership.

Candidates for the board are selected by a nominating committee. A maximum of two candidates per district can appear on the annual meeting ballot. The entire membership votes on candidates at the annual meeting.

The board meets monthly. It is responsible for setting policies, rates and contracts and regularly reviews the Cooperative's operating performance.

## **Code of Ethics**

One of the Cooperative's most valuable assets is its reputation for integrity. The Cooperative's board values this trust from the members and the general public. In order to protect the Cooperative and its members, the Board of Trustees, management team and employees of the Cooperative operate under a strict set of ethical standards and business practices. The board's policy on "Ethical Standards and Business Practices" can be found on the Cooperative's website, [www.ncelec.org](http://www.ncelec.org).






## Member Publications

Each month members receive a magazine from the Cooperative called *Country Living*. This award-winning publication is distributed statewide to members of the 24 Ohio electric cooperatives and is filled with interesting and informative articles. The center local pages are devoted to North Central Electric and its members. We encourage members to review these center local pages because any announcements made to Cooperative members are included in this section of the magazine. All notices that we are required to publish are included in this magazine.

## Websites

The Cooperative also communicates with the membership through its website, [www.ncelec.org](http://www.ncelec.org). Members can access up-to-date information on specific marketing programs and activities, including the North Central Electric People Fund.

There are also sections on our history, Cooperative principles and an explanation of patronage capital credits. Current board members are listed on the website. There are also special sections on electric safety and energy efficiency, including a residential



# North Central

## ELECTRIC COOPERATIVE, INC.

Your TechnoSmart Partner

13078 East County Road  
P.O. Box 475  
Arlow, Ohio 44807  
Phone: 419-426-3972  
nce@ncelec.org

- E-BILL
- About Us
- Contact Us
- Country Living
- Member Information
- People Fund
- Products & Services
- Watt's New
- Home

### Who are we?

North Central Electric Cooperative, Inc. is a member-owned, member-controlled non-profit electric distribution utility located in North Central Ohio. NCEC is one of 24 electric Co-ops in Ohio.

## Hey Kids!

and parents, too...

### Check out our NEW Kids Corner page

Click the link below and login again.

### Co-op News

**Co-op Offers Internet Satellite Service**

North Central Electric Cooperative now offers satellite-delivered broadband Internet access as a distributor of Westell service. North Central is able to provide this service through an arrangement with North Western Electric Cooperative in Bryan, OH.

"This is a service we have wanted to bring to North Central members for some time," said Laura Williams, director of Marketing and Member Services.

A survey conducted in 2008 by North Central showed that 62 percent of Cooperative members have Internet access at home. Of that number, approximately 65 percent are using dial-up service.

Williams said many choose to have the slower dial-up service for price considerations, but there are others who want high-speed Internet service at home and are unable to get DSL or cable service.

With access speeds comparable to DSL and cable modem services, Westell allows users to retrieve information and access rich content that is not available through dial-up modems. It provides an always-on connection, so subscribers don't tie up phone lines, and the faster speeds save users time and businesses money.

Read more...


### Watt's New


**At Annual Meeting, Raiche focuses on line rebuilds...**


Mid-summer heat wave sets peak of record (Read more...)


Do you know anyone on the Money may be waiting (Read more...)


### Co-op Related Sites

















energy calculator, lighting calculator and appliance calculator. An interactive Kids Korner designed to teach children about electricity is also on the website. Members can also review and pay their bill through the Cooperative’s secure E-bill website.

## ShopNCE.com

Another service offered by the Cooperative is the business-to-business website, designed to promote North Central businesses. The Cooperative encourages members to conduct business with the Cooperative’s business members. At **ShopNCE.com** you can view a lengthy list of North Central businesses and learn what services a particular Cooperative business offers.

One of the guiding principles of electric cooperatives like North Central is “Commitment to Community.” As a Touchstone Energy® Partner, North Central is committed to helping residential and business customers.

At North Central, we want to give our member-owners a quick and easy reference link to locate businesses served by North Central — their fellow Cooperative members. We also want to give our business community an inexpensive yet informative method to promote the products and services they provide. Cooperative members helping Cooperative members. That’s the reason our “ShopNCE” website was developed.

We encourage you to refer to this listing often and to support these businesses whenever possible! To view businesses in this listing, go to the website, **www.ShopNCE.com**, and click on the “View by Category” or “View by Name” buttons on the left.

## Annual Report

Each year prior to the annual meeting, the Cooperative publishes an annual report that is inserted into the *Country Living* magazine. It contains the previous year’s financial report, a management report, annual departmental summaries and an outline of the Cooperative’s future goals.

The screenshot shows the ShopNCE.com website. At the top left is the North Central Electric Cooperative logo. The main header features the text "ShopNCE.com" in a large, bold font, with "A service of North Central Electric Cooperative, Inc." underneath. To the right of the header is the Touchstone Energy Partner logo. Below the header is a navigation menu with buttons for "View by Category", "View by Name", "ShopNCE Home", "NCELOGO", "ShopNCE.com", and "View All Ohio Counties". The main content area contains a welcome message: "Welcome to the North Central Electric Cooperative Commercial, Industrial and Retail business listings website!" followed by a paragraph about the cooperative's commitment to community. Below this is a section titled "At North Central, we want to give our member-owners a quick and easy reference link to locate businesses served by North Central - their fellow Cooperative members. We also want to give our business community an inexpensive yet informative method to promote the products and services they provide. Cooperative members helping Cooperative members. That's the reason our 'ShopNCE' website was developed." To the right of this text is a photograph of a group of people, including children and adults, gathered around a table. Below the photograph is a paragraph encouraging users to refer to the listing often and to support these businesses whenever possible. At the bottom of the page, there is contact information for North Central Electric Cooperative, including the address "13878 East County Road 56 • P.O. Box 475, Alliance, Ohio 44607" and the phone number "419-435-3077 • noc@nce-co.oh.gov".

## **Patronage Capital Credits**

The return of patronage capital credits sets electric cooperatives apart from other utilities. One of the seven cooperative principles is to operate on a not-for-profit basis by returning any net savings to members on the basis of their patronage.

Revenue generated from members' electric bills and other sources is used to cover the Cooperative's cost of power, construction loans, building new services, maintaining existing lines and other costs associated with distributing power and maintaining services. Any money left over at the end of the year is considered margins. These margins are called patronage capital credits when they are allocated and credited to each member based upon their purchases, or patronage, with the Cooperative.

The Cooperative must maintain a minimal level of margins each year to provide the internal financing necessary to maintain and improve the system. As a not-for-profit Cooperative, North Central distributes its margins to members in the form of patronage capital credits, which are eventually repaid to the members, provided the Cooperative is financially able to do so.

Usually, the Board of Trustees authorizes the refunding of patronage capital credits at its November meeting. If a refund is authorized, then checks are issued to current and former eligible member-owners in late November or early December of each year.

## **Scholarships**

Every year, North Central Electric Cooperative awards academic scholarships to area high school seniors. The scholarships are renewable for two or four years. Two of the local winners are eligible to compete for additional scholarships at the statewide competition in Columbus. The Cooperative begins the scholarship application process in January of each year. For information, contact the Members Services Department, or consult the *Country Living* magazine or the Cooperative website.

The Cooperative also offers a Touchstone Energy® Scholarship for a high school senior who is active in community and school activities. This scholarship is offered separately from the academic scholarship. The parents or guardians of all scholarship applicants must be a member of North Central.

## **Youth Tour**

Each summer two high school sophomores or juniors are eligible for an all-expense-paid trip to Washington, D.C., with students selected from Ohio's 24 other electric cooperatives. This is a once in a lifetime opportunity for students to learn about our nation's government as well as see many fascinating

sights. Announcements pertaining to the Youth Tour are generally made in *Country Living* and on the website in February of each year. The parents or guardians of Youth Tour applicants must be a North Central member.

### **Power Plant Tour**

The Cooperative is owned by the members. North Central Electric and the 24 other Ohio electric cooperatives that make up Buckeye Power own Units 2 and 3 of the Cardinal Generating Station. In turn, that means North Central members are also part owners of the power plant, located in Brilliant, OH, along the Ohio River, just south of Steubenville.

Most every year, the Cooperative charts a bus and takes members to the Cardinal Generating Station for a tour. This is a free tour open to members. The tour usually occurs in September or October with reservations solicited through *Country Living* magazine starting in August.



# Rates

The Board of Trustees is responsible for setting the rates. The Cooperative has several rate schedules that are determined by the size of the electric service required to serve the member-owner. The Cooperative conducts regular cost of service studies to ensure that each rate classification covers their cost of electric service. Copies of rate schedules are available to members and the general public upon request. The following is a typical North Central residential bill.



**NORTH CENTRAL ELECTRIC COOPERATIVE, INC.**  
 13978 E County Rd 56  
 PO Box 475  
 ATTICA OH 44807-0475  
 1-419-426-3072  
 1-800-426-3072  
 www.ncelec.org

Fax: 1-419-426-1245  
 Email: nce@fesco-oh.org  
 www.shopnce.com

<b>ACCOUNT NUMBER</b>
0123456789
<b>BILLING DATE</b>
10/1/06
<b>DUE DATE</b>
10/15/06

**WILLIE WIREDHAND**  
 13978 E COUNTY RD 56  
 PO BOX 475  
 ATTICA OH 44807-0475

|||||

PLEASE MAKE CHECKS PAYABLE TO:  
 NORTH CENTRAL ELECTRIC COOPERATIVE

TO AVOID ADDITIONAL EXPENSE - YOUR  
 METER READING AND PAYMENT MUST BE  
 IN THE COOPERATIVE OFFICE BY THE 15TH  
 OF THE MONTH.

<b>FOR SERVICE AT</b>
13978 E COUNTY RD 56
<b>IMPORTANT MESSAGE</b>
See how you can control your energy costs. Check out our Residential Energy Calculator on our website, www.ncelec.org

<b>STATEMENT IS FOR MONTH ENDING</b>				
0/15/06				
<b>PREVIOUS READING</b>	<b>PRESENT READING</b>	<b>KWH MULTIPLIER</b>	<b>KWH USED</b>	<b>AMOUNT</b>
7553	7639	10	860	81.74
SECURITY LIGHT				7.00
LM DISCOUNT				1.50CR
NCE PEOPLE FUND				0.76
<b>METER NUMBER</b>	<b>RATE</b>	<b>WHOLESALE POWER COST ADJ</b>	<b>AMOUNT OF BILL</b>	
98765	RES03	0.0067000	\$	88.00
<b>BILL IS DELINQUENT AND LATE CHARGE APPLIES IF NOT RECEIVED BY:</b>			<b>DUE DATE</b>	<b>BILL WITH LATE CHARGE</b>
			10/15/06	\$ 92.36

**TYPE OF BILL**  
 Regular Bill

Under state law, the amount you are being billed includes kilowatt hour taxes that have been in effect since 2001 and are currently at: for the first 67 kWh-\$0.0465 per kWh, for the next 68 - 500 kWh-\$0.0419 per kWh, for 501 and above-\$0.0363 per kWh.  
**KEEP THIS PORTION FOR YOUR RECORDS**

PLEASE RETURN THIS PORTION WITH PAYMENT  
 PLEASE DO NOT STAPLE, FOLD OR ATTACH ANYTHING TO THIS PORTION

98765432101  
 METER #: 98765

Remit To:  
**NORTH CENTRAL ELECTRIC COOPERATIVE, INC.**  
 PO Box 475  
 ATTICA OH 44807-0475  
 1-419-426-3072  
 1-800-426-3072

0123456789 88.00

**WILLIE WIREDHAND**  
 13978 E COUNTY RD 56  
 PO BOX 475  
 ATTICA OH 44807-0475

**WILLIE WIREDHAND**  
 13978 E COUNTY RD 56  
 PO BOX 475  
 ATTICA OH 44807-0475

**DATE METER READ** \_\_\_\_\_  
**PLEASE READ METER AND ENTER READING HERE**

<b>BILLING</b>	<b>PREVIOUS READING</b>	<b>B C</b>
10/1/06	7639	R
<b>ACCOUNT NUMBER</b>	<b>BILL WITH LATE CHARGE</b>	<b>AMOUNT OF BILL</b>
0123456789	\$ 92.36	\$ 88.00

987654321098765432109876543

## **Bill Payment Options**

Your monthly electric bill is due by the 15th of each month. Paying your electric bill can be done in several different ways:

**By mail:** A return envelope is provided with each monthly bill for those who choose to pay by mail.

**In person:** Payments can be made at our office during regular office hours, Monday through Friday, excluding holidays.

**Co-op AutoPay:** The Cooperative offers members an opportunity to have their monthly electric bill payment automatically made from their checking or savings account, or debit or credit card. The member still receives a monthly bill stating the amount to be deducted from the checking or savings account, or debit or credit card.

**E-Bill:** Members can view and pay their monthly electric bills over the Internet. The Cooperative was among the first cooperatives in the country utilizing this payment option. By using the Internet payment option, consumers can access their individual billing information by going to the Cooperative's website at [www.ncelec.org](http://www.ncelec.org). By simply clicking on the e-bill option, member-owners can review their monthly bill and see their 12-month electric use history in a graph. Payments can be made through the consumer's checking account or by credit card.

**Variable budget billing:** The Cooperative offers a variable budget billing program. This method gives you a convenient way to plan your budget by permitting you to average your payments each month. This is an ideal program for consumers with an all-electric home and winter heating bills that are two to three times higher than their spring and summer electric bills. The monthly budget amount is based on a rolling 12-month average of consumption history. The budget amount could vary from month to month depending on your electric use. If consumption increases, the average budget amount could increase; if consumption decreases, the average budget amount could decrease. With the variable budget, there is NOT a catch-up month. To be eligible for this program, you must have 12 months of consumption history and not have an outstanding balance. Eligible members can enroll any time of the year. Failure to make a budget payment will automatically take you off the budget billing program.

**Credit card:** Consumers also can pay with a credit card by calling the office and supplying the office personnel with the necessary information.

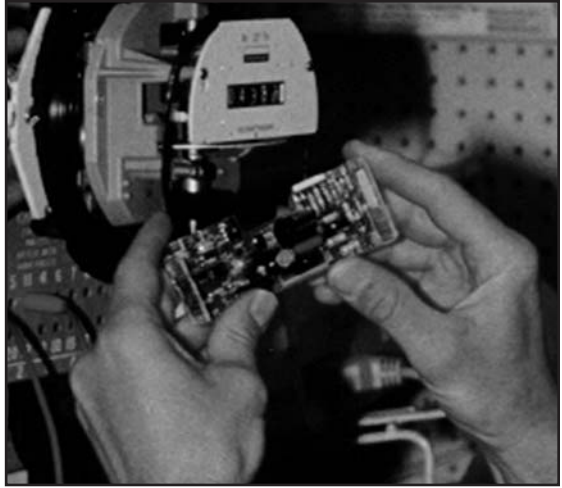
## **Meter Readings**

As a cost-savings to you, the member, you are required to read your meter each month and record that meter reading on your payment stub. It is suggested that you read your meter the same day each month to ensure a 30-day use billing each month.

## **Turtles for Automatic Meter Reading**

The Cooperative offers an optional automatic meter reading device that

records your daily electric use. This meter reading device, called a “turtle” meter, downloads the consumer’s monthly electric use information directly to the Cooperative’s office over the electric wires. The “turtle” gives our busy consumers a convenient, cost-effective method to automatically submit their monthly meter readings without having to worry whether they remembered to read their meter. Although



there is no installation charge for this service, a \$2 per month per meter charge is added to your electric bill. For those consumers who have four estimated meter readings in one year, the Cooperative will install the “turtle” meter and assess the \$2 per month charge.

# Load Management

## Peak Alerts

North Central Electric members should be alert for Peak Alert messages when the weather turns extremely cold in the winter or extremely hot in the summer.

December, January and February are considered winter peak demand months for North Central and Ohio's 24 other electric Cooperatives. Peak electricity use usually occurs between

<p><b>Listen for Peak Alerts</b> <b>BUCYRUS</b> WBCO 1540 AM.....WQEL 92.7 FM <b>FOSTORIA</b> WFOB 1430 AM.....WBVI 96.7 FM <b>TIFFIN/FINDLAY</b> WTTF 1600 AM.....WCKY 103.7 FM <b>BELLEVEUE</b> WOHF.....92.1FM</p>
---

7 and 9 a.m. or 6 and 9 p.m. We also experience summer peak demand periods in June, July and August at about the same time of day.

When situations warrant, North Central will issue Peak Alerts to its members on radio stations and post messages on its website.

A Peak Alert simply asks members to delay use of large appliances, such as washers, dryers and dishwashers, until after the peak. If a December Peak Alert is issued, it would be helpful to turn off or reduce the amount of holiday lighting.

A Peak Alert does not mean Buckeye Power, the power supplier to North Central, is unable to meet the power needs of its 25-member electric Cooperatives.

However, it is a significant cost-control method that helps keep rates as low as possible. Power costs are based on the total consumption of the Cooperative at the time Buckeye Power establishes a peak. Averting a peak, or managing how high the peak goes are significant factors in controlling power costs.

In addition to issuing Peak Alerts, North Central uses Load Control Switches (LCS) on electric water heaters, dual fuel systems, geothermal systems and electric thermal storage units to help control peak power demand.

## Cool Returns

Buckeye Power and its member electric cooperatives used to be winter peaking utilities. We have seen a dramatic increase in air conditioning over the past 20 years and now the Buckeye member cooperatives also set peaks in the summer during hot, muggy days.





The Cooperative installs air conditioning load control switches on geothermal systems, heat pumps and central air conditioners. Participating members receive a credit on their June, July, August and September bills.

This switch, when activated, will automatically cycle the air conditioning compressor off during peak demand summer times, usually 4 to 10 p.m. on extremely hot days during June, July, August and September. The switch will cycle the compressor off during a peak demand period for 8 to 12 minutes out of every 30 minutes. The switch does not affect the performance of the air conditioner. It causes no “wear and tear” to the control unit because the switch works like a thermostat. The switch is programmed so that the compressor will never be off more than 12 minutes continuously each half hour. During these cycles, the air handler continues to run and air is circulated throughout the home. Your home will remain in a relatively cool state, while saving on peak demand power costs.

## **Dual Fuel**

The Cooperative’s Dual Fuel program requires installation of a WarmFlo electric plenum heater. It fits into the plenum of your existing propane, natural gas or fuel oil, forced-air furnace. The WarmFlo is most efficient when used with an add-on heat pump because it helps capture the full efficiency of the heat pump down to zero degrees.

The heat pump has proven to be an excellent method to heat homes, in light of wild price swings seen with propane, natural gas and fuel oil the past several years. In the summer, a heat pump provides you with comfortable air conditioning by taking the heat inside your home and pumping it outside. In the winter, it pumps outdoor heat into the house to warm it. You may be surprised, but even at zero degrees, the air still has about 80 percent of the heat as it does at 100 degrees. Because the heat pump must work harder to extract the heat at cooler outdoor temperatures, many are used with existing fossil fuel furnaces.

Members can save on annual heating costs by installing a WarmFlo over an efficient propane furnace. Our Energy Services Advisor or one of our participating HVAC dealers can help estimate the annual cost savings for you.

An air source heat pump is a very efficient heating system (up to 300 percent), but because it uses outside air it has limits on room air delivery temperature. For example, at 45 degrees outside the room register warm air may be 100 degrees but typically at 30 degrees the warm air temperature may be below 90 degrees. Air that is moving past your skin at below body temperature can feel uncomfortable.

In some cases a Dual Fuel arrangement of a heat pump combined with a gas furnace is used at the point where the warm air delivery temperature is uncomfortable, the heat pump is turned off and the gas furnace is used for all heating below this outside temperature preset point.

This is not a very efficient combination because the high efficiency heat pump (200 percent and above) is no longer used and is of no value if it is turned off.

The Electro-Mate/WarmFlo addition to this combination allows the heat pump to produce its high efficient energy down to zero to minus 10 degrees outside. The WarmFlo controller has temperature sensors and control logic to always deliver comfortable warm air (selected by the user) and adds only the minimum amount of 100 percent efficient electric heat to “make up” the energy difference. The WarmFlo smooths out and carefully controls the 100 percent electric resistance portion to make sure the room register warm air is comfortable but not necessarily overheated so the more efficient heat pump can run longer and provide its best economic performance.

The Cooperative offers a rebate and rate discount when installing a WarmFlo plenum heater. The Dual Fuel program is part of the Cooperative’s load management program. In the winter, if the Cooperative is in a peak demand situation, then a load control switch will shut off the heat pump and WarmFlo and switch the heating system to the fossil-fuel back-up heating system.

## **Geothermal**

Geothermal heating and cooling is the most energy efficient system on the market today.

A geothermal system can provide constant, consistent heating and cooling for your home as well as heat much of the water your family uses, all with no compromise in comfort. Best of all, a geothermal system can save you up to 50 percent or more on your home’s annual energy bills.

Efficiency is not dependent upon outside air temperatures or water sources. Water and an environmentally friendly alcohol solution circulates through a series of plastic pipes called a loop, that is placed in the ground or submerged into a pond. Heat is absorbed and carried to the geothermal unit, which extracts the heat, compresses it to higher temperatures and distributes it through the home. A conventional well can also provide the heat source.

One flip of a switch on your geothermal system’s thermostat and the process is reversed, providing very comfortable air conditioning. The geothermal unit draws heat from the home and carries it by the way of the loop back into the earth.

A geothermal system is environmentally friendly, quiet, safe, has a long life, heats your elec-



**Vertical loop**



**Horizontal loop**



**Pondloop**

tric hot water tank, is very low maintenance, has a comfortable heat, and is very economical.

The Cooperative issues a rate discount for the geothermal system's electric use to qualified member-owners.

### **Electric Thermal Storage**

The Cooperative offers a load management program for its most loyal consumers, those who heat their homes using all electric systems, such as base-board, cove heat, or ceiling cable systems. It's called Electric Thermal Storage, or ETS.

The ETS unit is a heating unit placed in an occupied location of the home, designated as the "warm room" area. Using high-density ceramic bricks, the ETS unit's specially designed interior stores heat, which is emitted during peak demand hours.

During a peak demand period, the main heat to the home is de-energized and the stored heat in the ETS unit provides warm air to the room. The unit is equipped with a fan, and can supply heat anytime, not just during peak demand periods.



Another option is to apply the "Warm Room" concept to more rooms in the house. The Cooperative refers to this as the "multi-room" ETS program.

Because the ETS program can have a significant impact on the Cooperative's peak load, the Cooperative is offering the unit at a special price to the all-electric member. A rate discount is offered to members participating in this program. The Cooperative will have a certified electrician install the unit and even offers financing to qualified members.

The Cooperative also offers a "whole house" ETS furnace with special rate incentives. This is a forced-air ducted central heating system that can also be used with a heat pump. The "whole house" ETS furnace is installed by participating heating and cooling contractors. Financing is available to qualifying members.

## **Water Heater**

If you are building a new home or replacing an old water heater with a new one, you will definitely want to look at the Cooperative's electric water heater program.

One of the Cooperative's contracted installers will install a new Marathon electric water heater and haul away your old water heater. The Marathon tank features a polyethylene outer jacket that will never rust and a fiberglass tank, surrounded by three-inches of foam insulation, guaranteed not to leak for as long as you own your home.

Because the Cooperative uses electric water heaters in its load management program, it is able to offer a water heater program that is hard to beat. In addition to a rebate for a large capacity, energy efficient electric water heater, the Cooperative has special incentives for consumers building new homes or converting from a natural gas, propane or fuel oil water heater to an electric water heater. Check with the Cooperative to get up-to-date information.

When a consumer signs a service agreement stating that they will use the water heater as their sole source of hot water for a 10-year period, the Cooperative also agrees to provide 10 years of free maintenance service on the water heater.

With the installation of each water heater, a load control switch is installed at no additional charge. These switches are activated during peak demand periods. When the Cooperative's power supplier is experiencing high electric loads, the switch is activated to cut power to the water heater. When the Cooperative's high peak demand load begins to subside, power is restored to the water heater.



## Additional Services

### Energy Efficiency

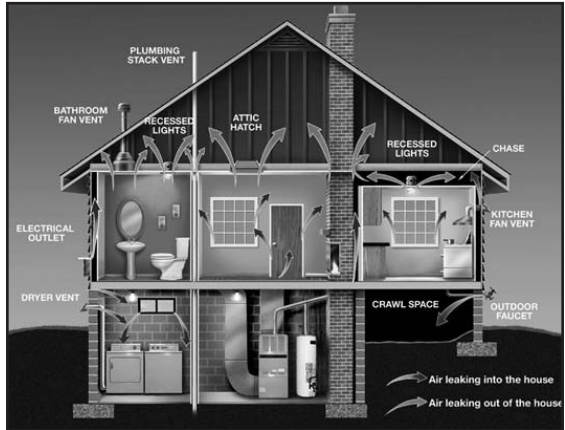
The Cooperative places a strong emphasis on energy efficiency. For example, the Cooperative recommends the use of geothermal heating and cooling systems and heat pumps, and a lifetime warranty, electric water heater encased with three-inches of foam insulation along the top, sides and even the bottom. Purchasing energy efficient appliances bearing the Energy Star label also helps reduce energy costs.

The Cooperative also strongly recommends methods to “tighten the building envelope” and make your home more energy efficient. Air sealing is simply closing holes, cracks and gaps where air can pass into or out of your home. On hot and cold days, you pay money to run an air conditioner or a furnace to maintain your home at a comfortable temperature. A house that leaks air costs more to heat and or cool because your system must work longer to “condition the air.” The biggest holes are found most often in the attic and the basement. Inexpensive products such as caulk, spray foam and weatherstripping are the most common seals used for air sealing and provide a quick payback in energy cost savings.

The Cooperative has energy efficiency videos or DVDs available for members to purchase or borrow for existing homes and new construction. The videos feature energy efficiency expert Doug Rye, an Arkansas architect who has been working with homeowners for more than 30 years reducing air infiltration and saving on energy costs.

### Long Distance Telephone Service

North Central offers a long distance calling service that offers you a national program for long distance, 800 service, and calling cards for both home and business. Our long distance service is available to any customer in



the domestic United States. These services can reduce your long distance call charges to a flat per minute fee for all calls made in or out of Ohio. Calls are billed in six-second increments, 18-second minimum. There are no restricted days or times and no special numbers to dial.

Cellular phone service is also available through this same national program. There are no contracts, unlimited nights and weekends, nationwide coverage, choice of phones, and easy-to-read detailed billing with the long distance phone bill and cellular phone bill appearing on just one bill.

You can sign-up easily on-line, by mail, telephone or fax with a sign-up form that can be downloaded from our website, [www.ncelec.org](http://www.ncelec.org). Friends and family can sign-up too.



### **Electrician's Service**

North Central offers electrician services to Cooperative members. The Electrician's Department handles farm and residential service upgrades and electric wiring service and repairs. The department also installs standby generators equipped with automatic and/or manual transfer switches.

Our electrician holds an Ohio contractor's license and is available to provide free estimates on any electrical projects around your home or small business. The Cooperative has installed several standby generators with automatic or manual transfer switches and emergency panels. Larger generators are also available for commercial applications that can provide emergency power for freezers, lighting, heat, and critical data processing systems.

### **GenerLink**

When consumers operate portable or standby-generators it is critical that electricity does not backfeed onto the power lines, endangering linemen attempting to restore power. A meter collar device called GenerLink serves as a transfer switch and makes connecting a portable generator safe and easy. It detects when a generator is operating and automatically disconnects from the utility grid, eliminating dangerous backfeed.

A Cooperative meter technician installs GenerLink behind the member's electric meter and requires no rewiring of the customer's electric system. During a power outage, the member simply plugs their generator into the GenerLink. Since GenerLink uses the existing breaker panel, members can operate any 120-volt appliance and most 240-volt appliances. The well pump, water heater, sump pump,

electric range and clothes dryer are just some of the appliances that can be operated with GenerLink, up to the generator's capacity – just not all at the same time. Free installation is offered. Interest-free financing is available to qualified members.

### **Security Lighting**

The Cooperative can provide dusk-to-dawn security lighting for homes, farms and businesses. Security lights are one of the safest, smartest and most affordable forms of home and property protection available and the Cooperative maintenance-free plans makes it very easy to join the program.

The Cooperative will install a 175-watt mercury vapor security light at no charge, as long as the light is placed on an existing utility pole owned by North Central. Members must agree to keep the security light for at least a year.

A monthly energy fee is placed on the member's electric bill for each security light. The Cooperative provides full maintenance on the light.

There is a fee for each additional security light pole that has to be set. New security light poles must be in a serviceable area, meaning it must be within 20 feet of a drive.

### **High Voltage Tabletop Safety Demonstration**

North Central Electric Cooperative has earned safety accreditation from the National Rural Electric Cooperative Association six consecutive times, dating back to 1989. The Cooperative works hard to provide a safe working environment for its employees and member-owners.

One of the Cooperative's most popular programs is the high voltage tabletop safety demonstration. Civic groups, fire departments, EMS, police, youth organizations and schools have taken advantage of this safety education program.

Call the Cooperative to schedule a group or classroom demonstration.



### **Compact Fluorescent Lights**

Compact Fluorescent Light (CFL) bulbs are a great way to save energy in your home. Designed to directly replace incandescent lamps, compact fluorescent lights cost a little more to buy, but they quickly return that money through lower monthly utility bills.

Compact fluorescents have the following three advantages over incandescent light bulbs when used properly:

- They last up to 10 times longer,
- They use one-fourth to one-third the energy, and
- They produce about 80 percent less heat, while producing more light.

The ten times longer life means you won't have to change the lamp nearly as often as an incandescent. So while you may pay more for the lamp, you only buy one in 5 to 10 years, and avoid the inconvenience of shopping for replacements and making the changes as lamps burn out.

North Central Electric sells CFLs at the office and often brings them to special shows.

## **Convectair Room Heaters**

The Cooperative offers Convectair room heaters, a quality product that is just perfect for that cold spot in the home. The heater comes with a 2-year warranty against all material and manufacturing defects and a 5-year warranty on heating elements,

The Convectair heaters easily mount to wall surfaces, including the 120-volt models that plug directly into a home's outlet. This keeps them where they can function safely and cleanly, without concern that they might get knocked over like typical spot heaters — otherwise known as kick-over heaters — purchased at the local discount store. The quick-mount surface installation only requires four screws that don't even have to be mounted to wall studs.



Convectair understands their heaters are a part of the room décor and have designed them accordingly. From low profile units, to corner units, to using flat electric plugs with side entry cable, all Convectair units are designed to fit quietly into each room.

Convectair heaters use ultra-sensitive, built-in electronic thermostats that are accurate to 1/5°F, eliminating wild temperature swings. Typical “kick-over” heaters and baseboard heaters use mechanical thermostats that can leave you over-heated or ice-cold as they can have temperature swings from nine to 13 degrees.

## **EnviroWatts®**

Members can show their support for renewable energy by enrolling in a program called EnviroWatts®. With each 100-kilowatt hour block of EnviroWatts



you purchase, you can be assured that 100-kilowatt hours of electricity were produced from renewable energy sources. In addition, a portion of your purchase goes toward a renewable energy fund for research and development of future green energy sources right here in Ohio.

The renewable energy for the EnviroWatts program comes from methane gas produced from a landfill in northern Kentucky. As organic waste decays, it produces methane gas. Rather than release this gas into the atmosphere, the gas is collected and used to generate electricity. This not only helps improve the environment, but it also decreases dependence on fossil fuels, such as coal, natural gas or foreign oil.

EnviroWatts is sold in 100-kilowatt hour blocks for just \$2 per block. You select the number of blocks you would like. Your EnviroWatts commitment will appear as a separate line item on your bill each month.

In order to keep administrative costs to a minimum, the Cooperative would like a one-year commitment from the member, but there are no extra fees if members need to discontinue their membership. What is most important is that you are helping support renewable energy, for whatever length of time you can.

And every block helps. Buying just one block of EnviroWatts each month for a year has the environmental impact of not driving your car for three months or not using two barrels of oil.

## **WildBlue®**

North Central Electric Cooperative offers satellite-delivered broadband Internet access using the WildBlue® service. North Central is able to provide this service through an arrangement with North Western Electric Cooperative in Bryan, OH.

With access speeds comparable to DSL and cable modem service, WildBlue allows users to retrieve information and access rich content that is not available through dial-up modems. It provides an always-on connection, so subscribers do not tie up phone lines, and the faster speeds save users time and businesses money. WildBlue is an excellent option for those who want high-speed Internet service at home and are unable to get DSL or cable service.

WildBlue uses a 28-inch satellite minidish for two-way satellite connectivity to the Internet. WildBlue does not require cable or phone lines. It is accessible to virtually every home and small business in the continental United States.

WildBlue Communications, Inc. is based in Denver, Co. It was established to accelerate consumer broadband access to the Internet in smaller cities and throughout rural America. WildBlue's service are designed to deliver a fast, affordable, always-on two-way technology for wireless Internet access.

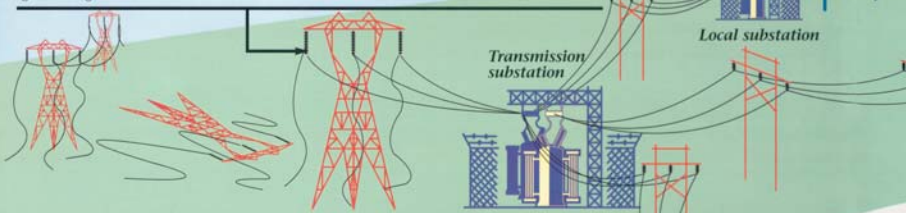
## **Napkins**

For the past several years, North Central Electric Cooperative has supplied napkins to civic organizations, churches, fire departments, school groups, etc. Generally, the napkins are donated to non-profit groups conducting a fund-

# The steps to restoring power

Illustration by Katherine Fowler

**Step 1.** Transmission towers and lines supply power to one or more transmission substations. These lines seldom fail, but they can be damaged by a hurricane or tornado. Tens of thousands of people could be served by one high-voltage transmission line, so if there is damage here it gets attention first.



**Step 2.** A co-op may have several local distribution substations, each serving thousands of consumers. When a major outage occurs, the local distribution substations are checked first. A problem here could be caused by failure in the transmission system supplying the substation. If the problem can be corrected at the substation level, power may be restored to a large number of people.

**Step 3.** Main distribution supply lines are checked next if the problem cannot be isolated at the substation. These supply lines carry electricity away from the substation to a group of consumers, such as a town or housing development. When power is restored at this stage, all consumers served by this supply line could see the lights come on, as long as there is no problem farther down the line.



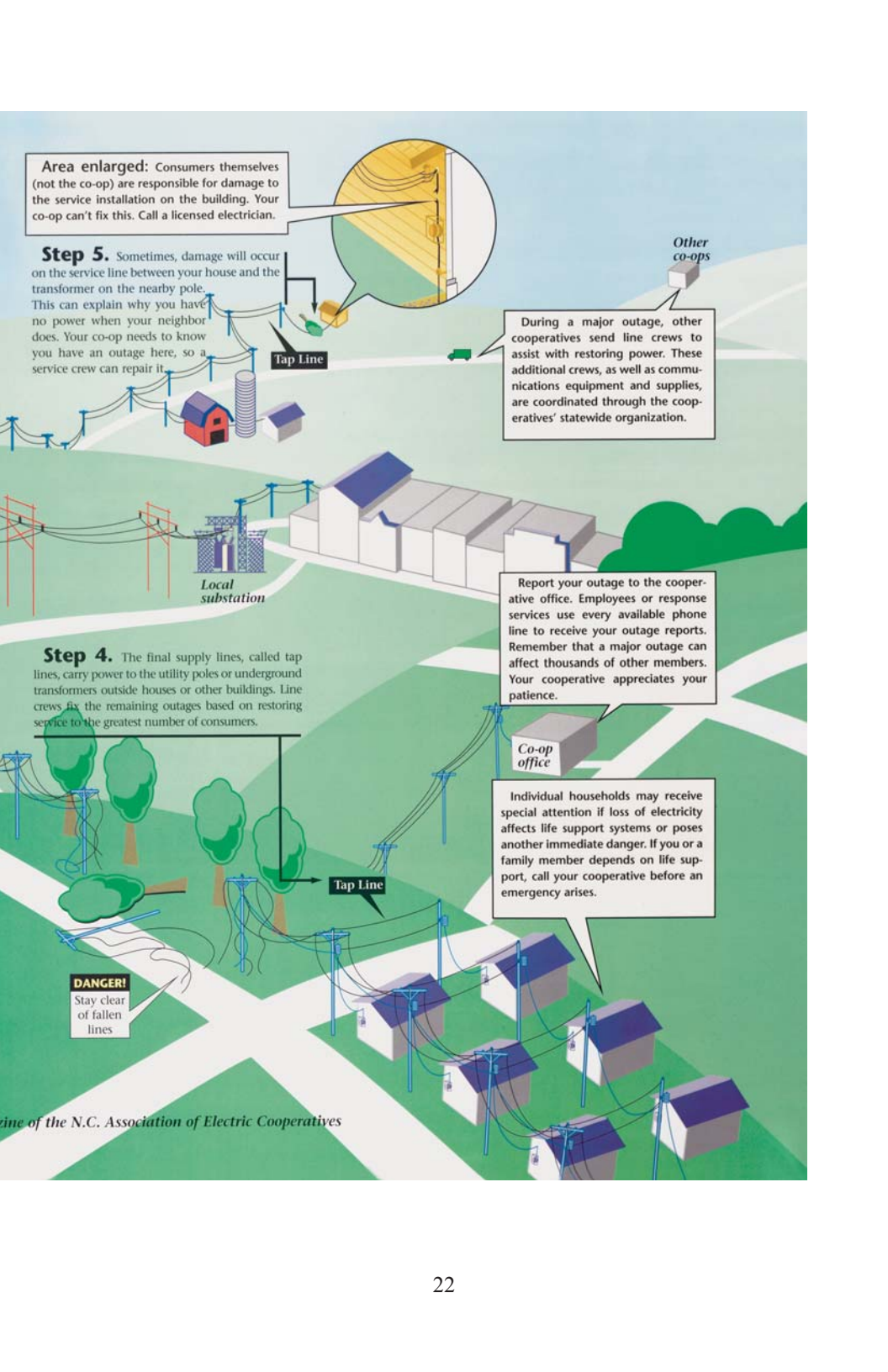
**H**igh winds and ice storms. Tornadoes and blizzards. Electric Cooperative members have seen them all. And with such severe weather comes power outages. Restoring power after a major outage is a big job that involves much more than simply throwing a switch or removing a tree from a line.

The main goal is to restore power safely to the greatest number of members in the shortest time possible.

The major cause of outages is damage caused by fallen trees. That's why your electric Cooperative has an ongoing right-of-way maintenance program.

This illustration explains how power typically is restored after a major disaster.

Reprinted from *Carolina Country*, the maga



**Area enlarged:** Consumers themselves (not the co-op) are responsible for damage to the service installation on the building. Your co-op can't fix this. Call a licensed electrician.

### Step 5.

Sometimes, damage will occur on the service line between your house and the transformer on the nearby pole. This can explain why you have no power when your neighbor does. Your co-op needs to know you have an outage here, so a service crew can repair it.

During a major outage, other cooperatives send line crews to assist with restoring power. These additional crews, as well as communications equipment and supplies, are coordinated through the cooperatives' statewide organization.

### Step 4.

The final supply lines, called tap lines, carry power to the utility poles or underground transformers outside houses or other buildings. Line crews fix the remaining outages based on restoring service to the greatest number of consumers.

Report your outage to the cooperative office. Employees or response services use every available phone line to receive your outage reports. Remember that a major outage can affect thousands of other members. Your cooperative appreciates your patience.

Individual households may receive special attention if loss of electricity affects life support systems or poses another immediate danger. If you or a family member depends on life support, call your cooperative before an emergency arises.

**DANGER!**  
Stay clear of fallen lines

raiser. The napkins, featuring our logo and mascot “Willie Wiredhand,” are used at local fairs by civic organizations and community fund-raising events that benefit North Central members. Contact the Cooperative to see if your group can secure napkins.

## **Outages**

The Cooperative has a 24-hour service line to report power outages. Once notified of an outage, our linemen will determine the source of the trouble and restore service as soon as possible. How do you report an outage?

**a.** First, check for blown fuses or tripped circuit breakers (located in a fuse or breaker panel inside your home, building, garage). If you live in a mobile home, check to see that the main breaker in your home is in the **on** position. Also, check the breaker panel outside on your service pole beneath your electric meter. It is important to check if the outage is a problem with



your own equipment, since the Cooperative does charge the member for an outage call, **if** the problem is found to be with the member’s service.

**b.** Then, check with your neighbors to see if their electricity is off, too.

**c.** Finally, call (419) 426-3072 or (800) 426-3072 to report the outage. Be sure to give us your name, service location and phone number.

Some Cooperative members may use essential life-sustaining medical equipment prescribed by a physician. This equipment is so vital that an interruption of electricity could pose an immediate threat to life.

If you or a member of your household requires such equipment, please contact the office so we can send you the proper paperwork to fill out so we can note your account as priority when an outage occurs. It is the responsibility of the member to acquire a back-up power supply (batteries, generator, etc.) if the nature of the medical equipment makes this a necessity.

## **After-hours Dispatch Service**

During after-hours and weekend periods you will reach a dispatch center that North Central Electric and approximately 150 electric co-ops own and operate together. The center is based in Austin, MN and has a second center in Dunlap, TN that provides backup and overflow capabilities during high call volume events. This dispatch center has much greater call-handling ability than North Central has during after-hours and weekend periods, and uses advanced telecommunications technology to quickly process calls and dispatch our line crews.



When you reach our dispatch center, you will hear an initial recorded greeting and possibly an announcement of geographic areas where we are currently aware of power outages. Then, in most cases you will be transferred to a customer service representative. If all representatives are on other calls, you will be forwarded to an automated power outage notification system. In the automated system, you will hear a series of recordings directing you to press certain numbers on your telephone keypad to complete your outage call automatically or report an emergency life-threatening situation to a service representative.

If the telephone number for your account is not listed in our member database, we will not be able to record an outage call for your account in the automated system. At that point, you will either wait to speak with the next available representative, be forwarded to the automated voice response unit, or in extreme high call volume situations you may be asked to call back later because of extended hold times.

If your telephone number has changed recently or if you are a new member and didn't have a telephone number at the time you signed up for service, please contact North Central with your new or updated telephone number.

## **Life-Sustaining Medical Equipment and Special Needs**

Some North Central Electric Cooperative members use essential life-sustaining medical equipment prescribed by a physician. This equipment is so vital that an interruption of electricity could pose a threat to life.

If a member requires such equipment, they should contact the office. It is very important to keep our records updated concerning these special needs for priority in outage restoration.

There are also Cooperative businesses who have critical and sensitive computer equipment for which a sudden shutdown of equipment could cause the loss of important data. The Cooperative also will include their name on this outage list.

Consumers who have their names placed on this list will be notified in the event of a scheduled outage for maintenance and repairs of the Cooperative's electric lines.

It should be noted that uninterrupted electric service cannot be guaranteed. It is the responsibility of the member to acquire a back-up power supply, such as batteries or uninterruptible power supply (UPS) units, a standby generator with an automatic transfer switch, if the nature of the medical or computer equipment makes this a necessity.

The Cooperative does sell UPS equipment and also sells and installs stand-by generators, transfer switches, etc.

### **Employee and Contractor Identification**

The security of our members is very important to the Cooperative. North Central employees wear uniforms that have the Cooperative logo, carry identification, and use company vehicles with North Central decals. Also, our contractors carry identification and a letter of authorization with them. When in doubt, ask for the employee's identification, and if still in doubt, call the office at 1-800-426-3072 or 440-419-3072 for verification.

### **Clear Access to Cooperative Equipment**

In order to provide each member with quality service, North Central Electric must be able to perform repairs or maintenance to our equipment. This means the Cooperative's equipment must be readily accessible. The Cooperative needs clear access to the electric meter, overhead lines, underground cable, pole, or transformer. If you add a fence, shrubbery or other landscaping, it should not prevent a Cooperative employee from being able to service the Cooperative's equipment.

### **Report Problems on the Lines**

You can assist your Cooperative in providing high quality service by reporting any conditions along Cooperative lines that need attention. Call our office if you see broken or badly leaning poles, wires sagging too low, trees growing into lines, broken insulators, sparks coming from a main line or transformer, kids playing around energized equipment, damaged or unlocked pad-mounted transformers, meter tampering or theft of electricity.

## **Whose Responsibility Is It?**

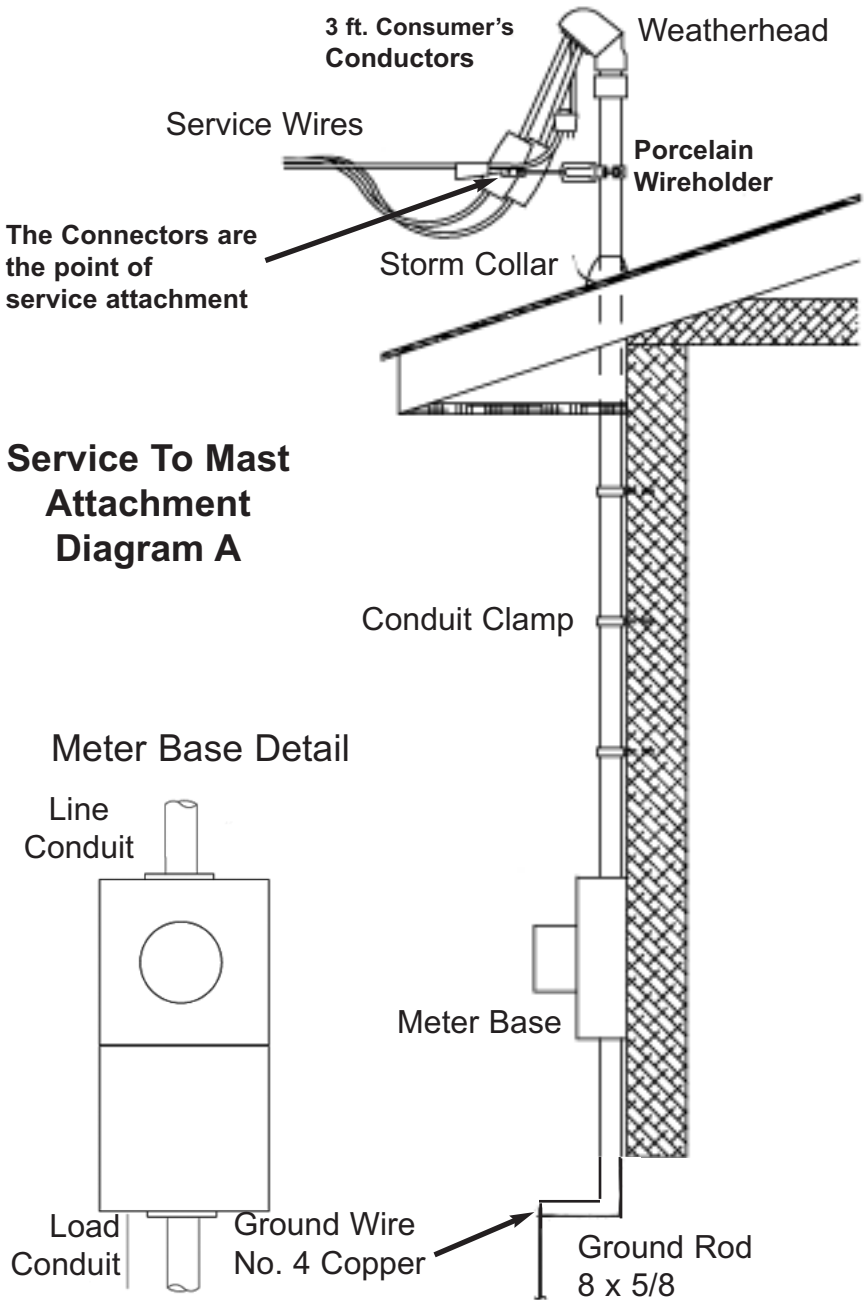
Many Cooperative members may think the responsibility for electrical service rests entirely upon the Cooperative. The Cooperative is responsible for all the material and wires up to your point of attachment or delivery point — this is where the wire or wires attach to your home, building, or pole. The Cooperative is also responsible for your service meter.

Anything beyond the point of service attachment is the member's responsibility. This includes wires, service entrance cable, meter base, and the wiring in your home or building. The Cooperative's responsibility for installation and/or maintenance of service facilities does not extend beyond the point of attachment to the consumer's building, central distribution point or the electric power consumption measuring device. The diagrams and descriptions on the following pages illustrates the proper service attachment in the most common situations.

All line equipment supplied and installed by the Cooperative has a definite capacity. Therefore, it is the member's responsibility to notify the Cooperative before any changes are made to the service. Please notify us if you plan to install appliances or equipment which require heavy power use. If a notice is not given, then the member is held responsible for any damage to Cooperative equipment caused by the unreported additional load.

## **Call Before You Dig**

For your safety as well as ours, please call the Cooperative office before you do any digging. It is possible that there may be an underground cable you are not aware of in the area. Members can also call the Ohio Underground Protection Service at 1-800-362-2764.



*(This drawing is for reference only. Please check with your local and county office for latest codes and requirements.)*



## **Meter Base**

The Cooperative provides 100, 200 or 320-amp meter bases. The meter base shall be mounted by the consumer at a location specified by the Cooperative to a height of 60-inches above the final grade to the center of the meter base. **(See Diagram A on facing page).**

The consumer shall run a minimum of 4/0 aluminum wire (or 3/0 copper wire for 200-amp meter base) from the top terminals inside the meter base extending 36-inches past the weatherhead. (Minimum 1/0 aluminum for a 100-amp meterbase.)

The consumer shall also run a minimum of 4/0 aluminum wire (or 3/0 copper wire for 200-amp meter base) from the bottom terminals in the meterbase to the breakerbox (minimum 1/0 aluminum for a 100-amp meter base.)

The consumer shall use insulated bushings inside of meter base where metal conduit is used.

## **Service Mast**

The consumer shall be responsible to install the service mast and the load conduit to the specifications listed below.

The service mast shall extend a minimum of 24-inches above the roof line (not to exceed 36-inches unguyed).

The service drop shall not pass over more than four feet of roof overhang.

The service mast conduit shall be a minimum of 2-inches rigid galvanized steel conduit.

The consumer shall install a weatherhead on top of the service mast. The consumer's wires shall extend a minimum of 36-inches past the weatherhead.

North Central shall furnish and install the porcelain wireholder and clamp onto the service mast that attaches the Cooperative's service wires.

North Central shall make all necessary connections of the consumer's wires to the service wires.

The consumer shall use conduit clamps to help anchor with a maximum spacing of 2-feet.

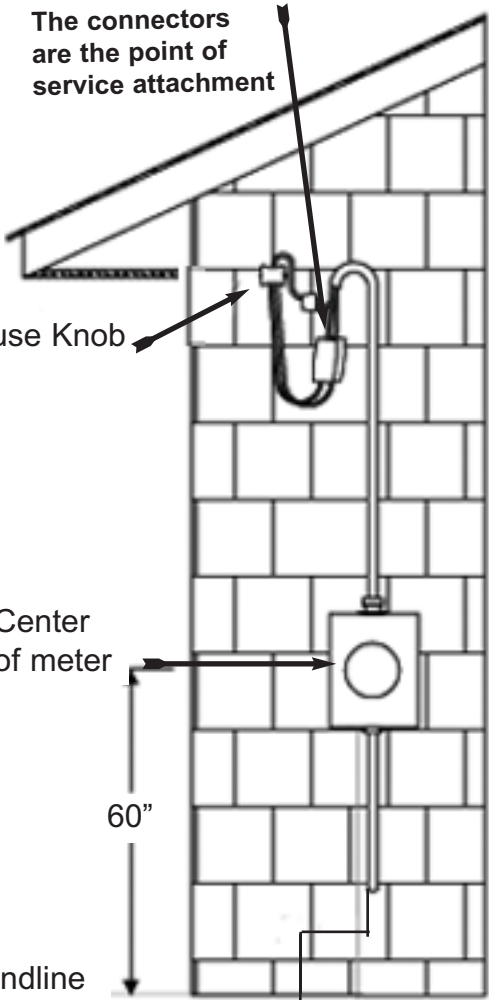
A maximum clearance of 15-feet shall be maintained between the service wires and final grade for areas only accessible to pedestrians and/or residential driveways. A minimum clearance of 18-feet shall be maintained in areas accessible to trucks and farm equipment.

## **Ground**

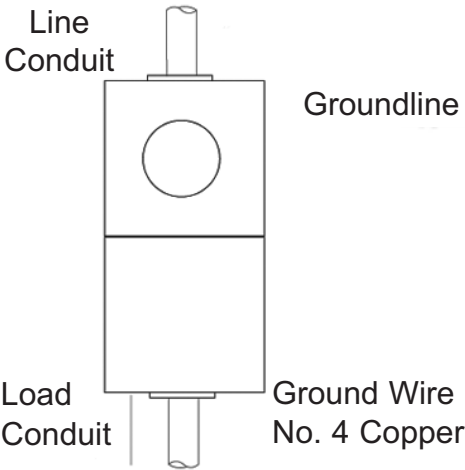
North Central requires grounding in the meter base. There is a separate ground terminal for this connection.

The consumer shall install an 8-foot by 5/8-inch ground rod located 12-inches below groundline and 24-inches away from the foundation. A minimum No. 4 copper wire shall be used to connect the ground terminal inside the meter base to the ground rod. The consumer also needs to have a separate ground from breaker panel to the ground rod.

# Service to Building Attachment Diagram B



## Meter Base Detail



Ground Rod 8' x 5/8"  
No. 4 Copper

*(This drawing is for reference only. Please check with your local and county office for latest codes and requirements.)*

## **Meter Base**

The meter base, furnished by North Central, shall be mounted by the consumer at a location specified by the Cooperative to a height of 60-inches above the final grade to the center of the meter base. (See **Diagram B on facing page**).

## **Service Cable**

For a 200-amp entrance, the consumer shall run a minimum size of 4/0 aluminum entrance cable or 3/0 copper entrance cable.

For a 100-amp entrance, the consumer shall run a minimum size of 1/0 aluminum entrance cable or No. 2 copper entrance cable.

The consumer shall locate the gooseneck (drip loop) to a height determined by North Central that allows for the minimum clearance to be maintained. (See Clearance)

The consumer shall extend the conductors a minimum of 36-inches beyond the gooseneck so that the connections can be made to the incoming service wires. North Central will make these connections.

The Cooperative shall install a house knob in close proximity to the gooseneck; this is used to fasten the service wires to the structure.

The consumer shall use clamps to help anchor with a maximum spacing of 2-feet.

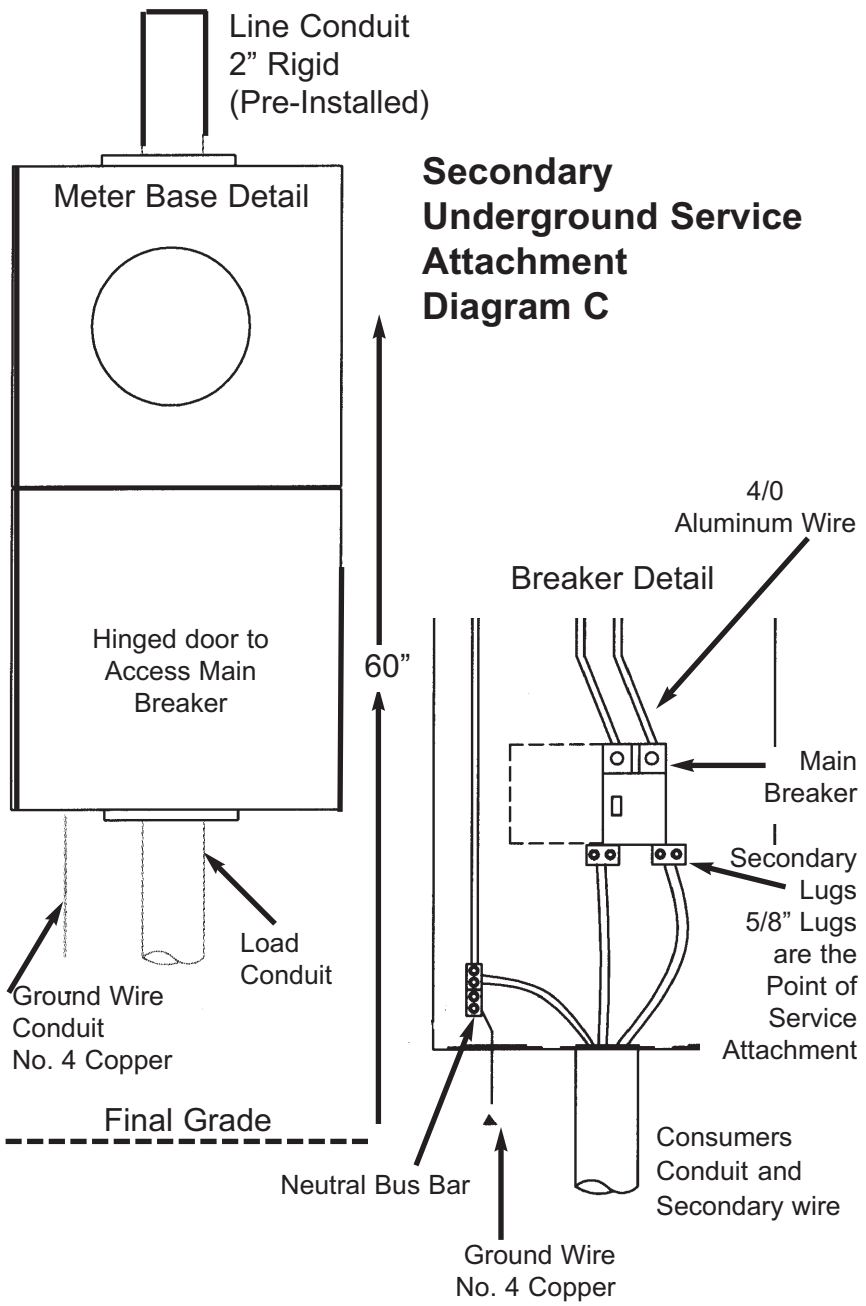
## **Clearance**

A minimum clearance of 15-feet shall be maintained between the service wires and the final grade for areas only accessible to pedestrians and/or residential driveways. A minimum clearance of 18-feet shall be maintained in areas accessible to trucks and farm equipment.

## **Ground**

North Central requires grounding in the meter base. There is a separate ground terminal for this connection.

The consumer shall install an 8-foot by 5/8-inch ground rod located 12-inches below groundline and 24-inches away from the foundation. A minimum size No. 4 copper wire shall be used to connect the ground terminal inside the meter base to the ground rod. The consumer also needs to have a separate ground from breaker panel to the ground rod.



*(This drawing is for reference only. Please check with your local and county office for latest codes and requirements.)*

## **Meter base**

The meter base is owned, furnished and set by North Central. It is mounted on a pole at a location specified by North Central at a height of 60-inches above the final grade to the center of the meter. **(See Diagram C on facing page).**

North Central shall run 1/0 aluminum wire for 100-amp service and 4/0 aluminum wire for 200-amp aluminum ground wire from the transformer of the service pole to the top terminals above the main breaker inside the meter base.

For an 100-amp underground unit the consumer shall run a minimum of 1/0 aluminum wire or No. 2 copper wire from the bottom terminals, below the main breaker of the meter base to the breakerbox.

For a 200-amp underground unit the consumer shall run a minimum 4/0 aluminum wire or 3/0 copper wire from the bottom terminals, below the main breaker of the meter base to the breakerbox.

## **Cost**

There is an aid-to-construction charge for the unit. Check with the Cooperative's Operations Department for current prices.

## **Conduit**

The consumer shall be responsible for installing the load conduit. North Central pre-installs the conduit (2-inch PVC) onto the meter base. Insulated bushings are required inside of the meter base as well as the slip joint. Load conduit shall be galvanized rigid steel or rigid non-metallic (PVC) minimum schedule 40. The load conduit shall run the entire length to the house. The load conduit shall extend a minimum of 36-inches below groundline.

## **Ground**

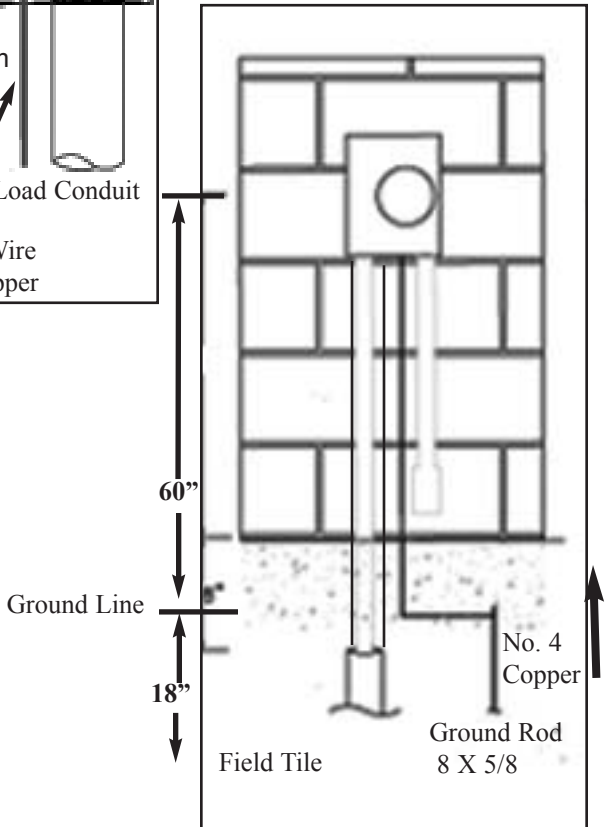
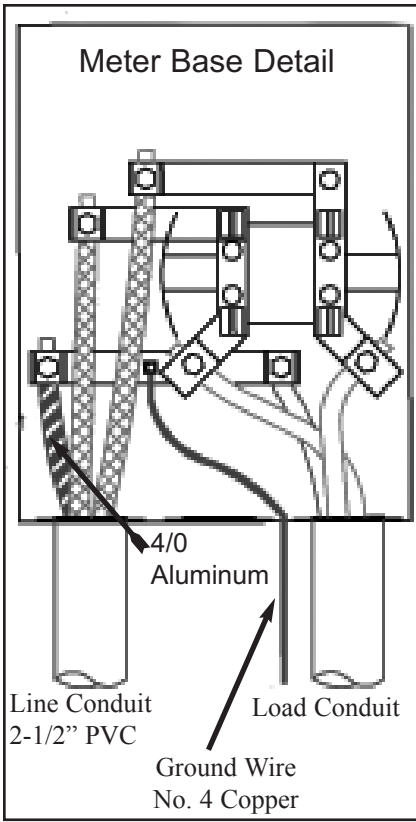
North Central requires grounding in the meter base. There is a separate ground terminal for this connection. North Central will install an 8-foot by 5/8-inch ground rod located 12-inches below the ground line and 24-inches away from the pole. No. 4 copper wire shall be used to connect the ground terminal inside the meter base to the ground rod.

## **Trench**

The consumer is responsible for digging and backfilling the trench for the consumer's underground service wires. **The consumer must check with the Ohio Utilities Protection Service (1-800-362-2764) before trenching.**

The consumer shall maintain a minimum clearance of 12-inches to other underground utilities (Example: telephone service wires).

# Secondary Underground Service Attachment Diagram D



*(This drawing is for reference only. Please check with your local and county office for latest codes and requirements.)*

## **Meter Base**

The meter base, furnished by North Central, shall be mounted by the consumer at a location specified by North Central at a height of 60-inches above the final grade to the center of the meter of the meter base. (See **Diagram D on facing page**).

The consumer shall run a minimum of 4/0 aluminum wire or 3/0 copper wire from the bottom terminals of the meter base to the breakerbox.

North Central shall run 1/0 aluminum wire for 100-amp service and 4/0 aluminum wire for 200-amp ground wire from the transformer or the service pole to the top terminals inside the meter base.

The Cooperative shall run 4/0 aluminum underground wire from the transformer or the service pole to the top terminals inside the meter base.

## **Cost**

There may be an aid-to-construction charge for the underground secondary meter base unit, depending on the length of the run. At the consumer's request, the Cooperative will dig and backfill the trench for a set fee per foot. If applicable, a minimum trip fee charge will be assessed. The Cooperative will not install equipment where rock is located.

## **Conduit**

The consumer is responsible for installing the load conduit. The load conduit shall be galvanized rigid steel or rigid non-metallic (PVC) minimum schedule 40.

The Cooperative shall supply and install the line conduit (2-1/2-inch PVC). Insulated bushings are required inside of the meter base. The line conduit shall extend 18-inches below the groundline.

Concrete shall not be poured directly against the conduit. Six-inches minimum clearance must be left between the conduit and concrete.

## **Ground**

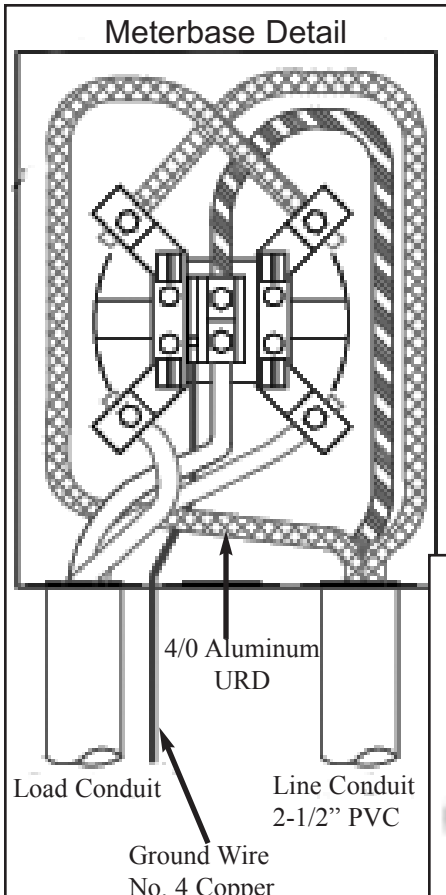
North Central requires the meter base be grounded. This connection needs a separate ground terminal. The consumer shall install an 8-foot by 5/8-inch ground rod located 12-inches below groundline and 24-inches away from the foundation. A minimum of No. 4 copper wire shall be used to connect the ground terminal inside the meter base to the ground rod.

## **Trench**

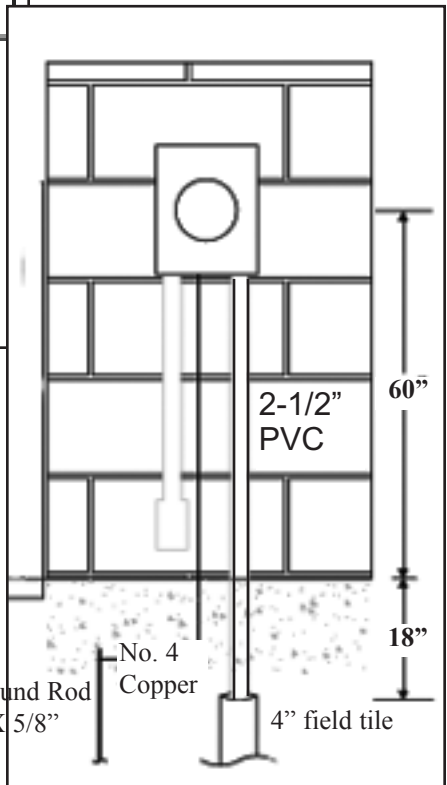
If the consumer digs their own trench, it shall remain open until the wire is installed. If the trench is not properly dug, a minimum return trip fee will be assessed for each additional visit to the site to install the permanent service. The route of the trench will be specified by Cooperative personnel. The trench shall be at a depth of 36-inches with a minimum width of 6-inches, no sharp turns and level at the bottom of the trench.

The consumer shall furnish 4-inches rigid steel conduit or schedule 40 PVC for under all driveways and patios. A nylon string shall be placed inside of this conduit. This requirement may be waived depending on the soil conditions, backfilling and depth of the trench. The consumer shall maintain a minimum of 12-inches to underground utilities, such as telephone wires, gas lines or water lines.

The Cooperative will run their service wires inside 4-inches field tile at all locations that do not require rigid conduit. **The consumer must check with Ohio Utilities Protection Service (1-800-362-2764) at least two full working days before trenching.**



## Secondary Underground Service Attachment Diagram E



*(This drawing is for reference only. Please check with your local and county office for latest codes and requirements.)*



## Meter Base

The meter base is furnished by North Central. It shall be mounted by the consumer at location specified by the Cooperative at a height of 60-inches above the final grade at the center of the meter base. **(See Diagram E on facing page)**. The consumer shall run a minimum of 4/0 aluminum wire or 3/0 copper wire from the bottom terminals of the meter base to the breakerbox. The Cooperative shall run 4/0 aluminum underground wire from the transformer or the service pole to the top terminals inside the meter base.

## Cost

There may be an aid-to-construction charge for the underground secondary meter base unit, depending on the length of the run. At the consumer's request, North Central will dig and backfill the trench for a set per foot fee. If applicable, a minimum trip fee charge will be assessed. The Cooperative will not install where rock is located.

## Conduit

The consumer is responsible for installing the load conduit. The load conduit shall be galvanized rigid steel or rigid non-metallic (PVC) minimum schedule 40.

The Cooperative shall supply and install the line conduit (2-1/2-inch PVC). Insulated bushings are required inside of the meter base. The line conduit shall extend 18-inches below the groundline.

Concrete shall not be poured directly against the conduit. Leave six-inches minimum clearance between conduit and concrete.

## Ground

The Cooperative requires grounding in the meter base. There is a separate ground terminal for this connection. The consumer shall install an 8-foot by 5/8-inch ground rod located 12-inches below groundline and 24-inches away from the foundation. A minimum of No. 4 copper wire shall be used to connect the ground terminal inside the meter base to the ground rod. The consumer also needs to have a separate ground from breaker panel to the ground rod.

## Trench

If the consumer installs their own trench, it shall remain open until wire is installed. If the trench is not properly dug, a minimum return trip fee will be assessed for each additional visit to the site to install the permanent service. The route of the trench will be specified by Cooperative personnel. The trench shall be at a depth of 36-inches with a minimum width of 6-inches, no sharp turns and level at the bottom of the trench.

The consumer shall furnish 4-inch rigid steel conduit or schedule 40 PVC for under all driveways and patios. A nylon string shall be placed inside of this conduit. This requirement may be waived depending on the soil conditions, backfilling and depth of the trench. The consumer shall maintain a minimum of 12-inches to the underground utilities, such as telephone wires, gas or water lines.

The Cooperative will run their service wires inside 4-inch field tile at all locations that do not require rigid conduit. **The consumer must check with Ohio Utilities Protection Service (1-800-362-2764) at least two full working days before trenching.**

## Our History

In the 1930's, electricity service was common — as long as you lived in the city. The countryside was in the dark. The big city power companies were willing to provide the needed amenities of the period, as long as you lived in the city.

Out in the farmlands, the farmer could not use an electric pump. He had to milk his cows by hand. He didn't have an electric feed grinder and he had to stick hundreds of ears of corn into a grinder and crank it by hand for hours in order to provide feed for his mules and horses. The lucky ones could use a noisy gas engine to power some of their farm equipment. The farmer had to stumble through the barn by kerosene lamplight if he had to work after sunset. In the home, washing, ironing, cooking, canning, and shearing all had to be done by hand using the same methods that were used by the farm wife's mother and grandmother. Water was pumped and carried by hand. Light came from oil or kerosene lamps. Wood or coal stoves heated homes, water and food.



In the city, laborsaving devices were greatly improving the quality of life. Because there was no electric service for those living in rural areas, electricity was becoming the great divider between the city and the country. One part of the nation lived in light, the other in darkness. One class was enlightened; the other class was backward. The chasm was growing.

The farmers wanted electricity. However, privately owned power companies said serving rural areas would be too costly because the houses were too far apart and farmers would not use much electricity. These companies declared that farmers would have to stay in the dark because there was no profit to be made in serving them.

Under President Franklin D. Roosevelt, the Rural Electrification Administration (REA) was formed in 1935 to administer a program to encourage rural electrification by lending low-interest money (equal to the government's cost to borrow money) to any group or company that would undertake the task. Even with the offer of low-interest financing, with a few exceptions, virtually all of the private electric companies chose not to get involved.

Instead, the farmers decided to form Cooperatives to do the job themselves.

On April 13, 1936, a group of Rural Electrification Association Committeemen from Wyandot, Wood, Seneca and Hancock Counties met in Upper Sandusky, OH. Upon a motion made by Mr. Lewis Baldosser and a second by Mr. Paul O. Crum, the group voted to incorporate. Mr. L.B. Keller moved and Mr. Glenn Diller seconded that the name of the association be the North Central Farm Bureau Electric Cooperative. The motion passed unanimously.

Construction began in August 1937 and the first few miles of lines were energized in March 1938, to provide electric service to a handful of consumer-owners. Those first members' average electric use was than 75 kilowatt hours for the first month and cost \$2.

Since then, the Cooperative has grown and its membership has become quite diverse. In the fall of 2006, the Cooperative served about 9,750 consumers in Seneca, Wyandot, Crawford, Richland, Huron, Sandusky, Hancock and Wood counties.

Growth and expansion have been a way of life for North Central Electric members. Today, North Central has a strong commercial and industrial base with nearly 55 percent of total annual power sales coming from the business sector. This diversified commercial load results in better utilization of the Cooperative's electric lines and equipment. The increase in kilowatt-hour sales spreads power costs over more consumers and helps stabilize rate for all Cooperative members.

The Cooperative has 11 substations and one metering point that distribute power over 1,750 miles of underground and overhead lines. All told, the Cooperative serves about 5.7 consumers per mile of line, which is slightly above the national average. In 2006, the average residential consumer consumed about 1,250 kilowatt hours per month, which costs about \$105.

## Willie Wiredhand

This is Willie Wiredhand, our national electric cooperatives' mascot for more than 50 years. Willie is a familiar face on our RE logo. That logo is one of the most recognizable in our area, gracing our trucks, stationary and promotional materials, such as the caps worn by many of the Cooperative's members.

Back in the late 1930's and early 1940's, farmers caught up to the city folk when they received electric service on the farm. They used to say that having electricity on the farm was like having another "hired hand." Hence the name, Willie Wiredhand.

Waving Willie can be seen at our annual meeting, our fair booths, special events and parades. He projects our ideal of providing friendly, efficient and cost-effective service.



# Willie Wiredhand®

## **Affiliated Organizations**

### **RUS**

The Rural Utilities Service is a division of the United States Department of Agriculture, formed in 1936 with the passage of President Franklin Delano Roosevelt's Rural Electrification Act. For many years RUS was known as the REA or Rural Electrification Administration. Over the years RUS has provided low interest financing to Cooperatives like North Central. We are required to meet various RUS loan requirements to qualify for these funds.

### **NRECA**

The National Rural Electric Cooperative Association is the national organization of 900-plus rural electric Cooperatives in the United States and Puerto Rico. It serves as a medium through which electric Cooperatives can exchange information and ideas, and represents your interests in the nation's capital. NRECA conducts employee and trustee management training programs, coordinates national activities, deals with national legislative affairs, operates employee insurance and retirement programs for member systems, and works closely with RUS in administering regulations to the Cooperatives. Each state elects one trustee to serve on the NRECA Board.

### **CFC**

The Cooperative Finance Corporation was formed in 1969 when nearly 800 Cooperatives organized to provide themselves with a source of supplemental capital when the Rural Electrification Administration began to phase out the two percent interest loan program. The participating member systems elect a 22-member board of directors, who govern the financing institution. By bargaining for a large number of Cooperatives, CFC is able to get a better interest rate for the member systems. Interest rates charged by CFC are determined by the cost of money on the open market.

### **COBANK**

Another source of supplemental financing for Ohio's electric cooperatives is the National Bank for Cooperatives (CoBank), which is part of the Farm Credit System. CoBank specializes in providing financial solutions and leasing services to cooperatives, agribusinesses, Farm Credit associations and rural communications energy and water companies.

CoBank lends concurrently with RUS, providing financing in conjunction with the guaranteed loan program, which includes refinancing of Federal Financing Bank loans. Funds and loans come from private funding sources. There is no government money involved.

## **OREC**

The Ohio Rural Electric Cooperative Association, Inc. is the state organization consisting of Ohio's 24 electric cooperatives and one West Virginia cooperative. The organization provides specialized services to the member systems and coordinates cooperative activities on a statewide level. OREC provides services such as publishing the *Country Living* magazine, job-safety training programs, and keeping updated on legislation and laws affecting cooperatives. Each cooperative elects one trustee to serve on the OREC Board and conduct the business of the organization.

## **Buckeye Power, Inc.**

Buckeye Power, Inc. is a generation and transmission Cooperative jointly owned by Ohio's 24 electric Cooperatives. Buckeye Power was formed to provide Ohio Cooperatives with a dependable source of electric power and to provide that power at the lowest cost possible. The Cardinal Generating Station, located just south of Steubenville, OH on the Ohio River, consists of two 640-megawatt power plants owned by Buckeye Power, and a third unit owned by American Electric Power. This unique arrangement whereas an investor-owned utility and a rural electric Cooperative have worked together to build and operate generating facilities has been successful for both utilities.



Additional generation dedicated to serve Ohio's electric cooperatives is produced at the Robert P. Mone plant in Van Wert, OH. This natural-gas facility can produce 510 megawatts of power, utilizing three natural gas or oil-fired combustion turbines. This plant helps meet peak demand loads for the Ohio electric cooperatives and AEP.

Buckeye's generation mix also includes the 55 megawatts of hydroelectric power from the New York Power Authority Power.

## **FESCO**

In 1998, North Central Electric Cooperative formed a management and shared services cooperative with Lorain-Medina Rural Electric Cooperative in Wellington, OH., called Federated Energy Services Cooperative, or FESCO. We have one management team serving two cooperatives, sharing employees, equipment and a wide array of services. Savings achieved by sharing resources helps keep our rates competitive and maintain our high level of service to our members.

The boards of North Central Electric and Lorain-Medina Rural Electric

meet together each month with our FESCO management team. Each board has retained their autonomy and conducts business as separate entities. Each board has representation on the FESCO Board of Trustees which makes decisions on matters affecting the shared services and shared employees of both Cooperatives.

FESCO has provided an excellent opportunity for each board to learn from each other, and find areas to improve and offer additional services to the Cooperatives and their members at less cost.

### **Touchstone Energy®**

Touchstone Energy® is an alliance of more than 600 electric Cooperatives, serving 17 million customers every day in 45 states. Members of Touchstone Energy® cooperatives like North Central Electric can be assured of high standards of services to customers large and small.

Touchstone Energy® cooperatives serve their members with integrity, accountability, innovation and a longstanding commitment to communities.

Touchstone Energy cooperatives are local, active members of their communities dedicated to serving commercial, industrial, agricultural and residential customers with integrity, accountability, innovation and commitment to community.



# Touchstone Energy®

*The power of human connections*

## **Problem Resolution Procedures**

Although we have one of the highest member satisfaction ratings among the Ohio electric cooperatives, the Cooperative is a not-for-profit business operated by people. Occasionally, we do encounter member concerns that may need additional effort to resolve.

A telephone call or a signed letter addressed to a department head or to the General Manager should lead to a prompt resolution of the issue in most cases. Members will be afforded every opportunity to meet with the staff or other employees and, if necessary, the General Manager to resolve any concerns or problems.

If the member believes after meeting with Cooperative staff or management that they need to meet with the Board of Trustees to discuss their concern or problem, then they must submit a written application (available from the Cooperative's office upon request) addressed to the Cooperative's General Manager at least five working days before the next regularly scheduled Board of Trustees meeting stating the purpose for which they wish to meet with the board. The General Manager reviews with the President of the Board of Trustees any requests to meet with the board that he receives.

The President of the Cooperative's Board of Trustees may have the General Manager extend an invitation for the member to attend a portion of the regularly scheduled meeting of the Board of Trustees, where the member will be given up to 15 minutes to present their concerns. Attendance at the requested meeting is limited to no more than two members of the Cooperative per requested meeting. After this discussion, the member will be excused and the President (or the General Manager at the board's direction) will get back with the member on the board's decision or action in a timely manner, whether or not any action is taken.



## **Statement of Non-Discrimination**

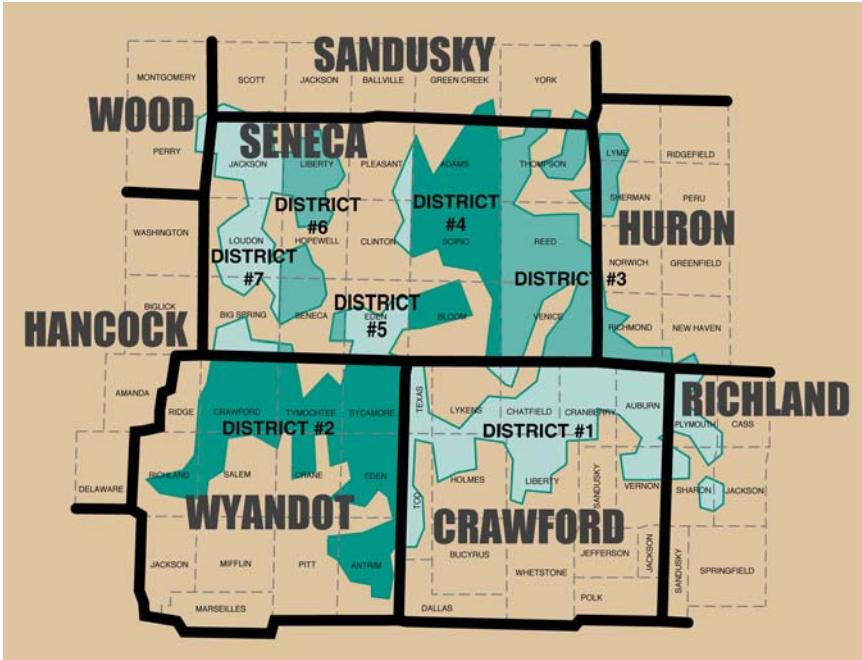
North Central Electric Cooperative, Inc., 13978 E. Co. Rd. 56, Attica, OH 44807-0475 is the recipient of federal financial assistance from the Rural Utilities Service, an agency of the U.S. Department of Agriculture, and is subject to the provisions of Title VI of the Civil Rights Act of 1964, as amended, Section 504 of the Rehabilitation Act of 1973, as amended, the Age Discrimination Act of 1975, as amended, and the rules and regulations of the U.S. Department of Agriculture. In accordance with Federal law and the U.S. Department of Agriculture's policy, this institution is prohibited from discriminating on the basis of race, color, national origin, sex, religion, age, or disability (not all prohibited bases apply to all programs).

The person responsible for coordinating this organization's nondiscrimination compliance efforts is Markus I. Bryant, General Manager. To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 1400 Independence Avenue, SW, Washington, DC 20250-9410, or call (202) 720-5964 (voice or TDD). USDA is an equal opportunity provider and employer. Confidentiality will be maintained to the extent possible.





# North Central Electric Cooperative Board of Trustees' Districts



The service area of North Central Electric Cooperative, Inc. is divided into seven board districts, each with a member-elected representative on the Cooperative Board of Trustees. As representatives of the rural community, they communicate the interests of the Cooperative's membership.

## North Central Electric Cooperative, Inc.

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