VIGILANTE ELECTRIC COOPERATIVE

A Touchstone Energy® Cooperative

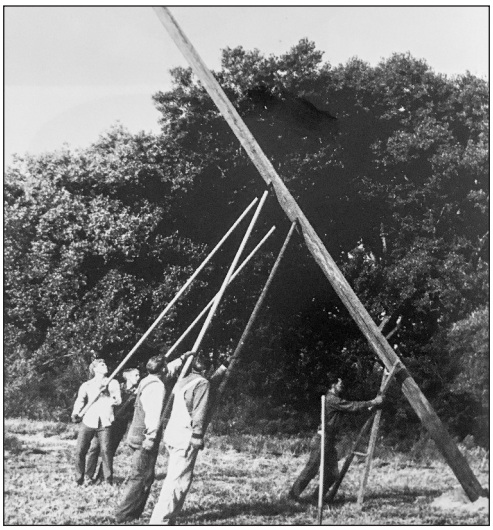
OWNED BY THOSE WE SERVE

P.O. Box 1049, Dillon, MT 59725-1049
(406) 683-2327 or (800) 221-8271
Web site: www.vec.coop
E-mail: contact@vec.coop

Cooperative 101

The Birth of Electric Cooperatives, Part 4

Cooke, though, insisted that REA offer low-interest loans and hire skilled labor rather than — as required by national relief legislation — simply give jobs to the unemployed. Realizing construction of distribution lines — as well as operations, maintenance and management of rural electric projects — required specialized training, the president on August 7 of that year made REA a lending agency, freeing it from national relief restrictions.



In assembling his REA team, Cooke brought in enthusiastic advisers who had worked with him for the past 20 years. He also recruited the cream of the nation's leading engineering schools, gave these top achievers a full year's training and then assigned them to regular positions.

To finish matters, Cooke sought out volunteer attorneys to prepare background on state laws regarding electric utility service. Some were later hired full-time.

Nine days after REA's creation, Cooke met with 15 of the top power company officials from around the nation and asked for a proposal on how they would use agency loans. IOU representatives were amiable and apparently receptive, but also noncommittal. They appointed a committee to discuss how to work with REA.

The eventual IOU response left Cooke disillusioned. In July, the companies returned with an outrageous plan: they would take the entire $100 million and hook up only 351,000 prospective rural customers. These were the "cream" of rural businesses — large and easy-to-connect users. More than 100,000 of them weren't even farmers.

On top of it, the utilities claimed that, "very few major farm operations are now not served" — essentially ignoring the nearly 89 percent of farms across America without central station electric service. Most of the handful of applications that did come in from IOUs proposed rates so high Cooke refused to make the loans.

Cooke then looked to municipal electric systems. But a Missouri Supreme Court ruling in November made clear that resulting legal battles with power companies, when towns and cities tried to annex farms outside incorporated limits, would slow rural electrification to a crawl.

Although private power suppliers showed little interest in building rural lineeven with incentives provided by 2-percent REA loanloan applications and inquiries poured in from farm groups and cooperatives.

Cooke responded to one such letter with a pep talk:

"Find out how many farmers living within, say five or 10 miles of your home in any direction would pay for electricity if they could get it at a moderate price," he wrote. "Ask them how much they would use — and for what purpose —grinding feed, heating water, preserving fruit in an electric refrigerator and, of course, lighting their houses. When you have the facts send them in to us."

REA staff was divided over whether inexperienced cooperatives could do the job, even though the successful January 1934 launch of Alcorn County Electric Power Association in Corinth, Miss., to distribute Tennessee Valley Authority generation had shown that the cooperative business model was up to the task. Cooke remained ambivalent at first, but by December 1935 saw the handwriting on the wall. He realized that farmers and their rural neighbors were willing to take electrification into their own hands on a cooperative basis and become REA's primary borrowers. Seven of the first 10 REA loans, in fact, were made to co-ops, and by the end of 1936, nearly 100 co-ops in 26 states had signed loan contracts with the agency.

Through the Giant Power Survey and PASNY studies, Cooke and his cutting-edge engineers had uncovered the "hard numbers" proving that costs for building rural power lines were too high. With REA in place, they set out to show that those costs could be driven down dramatically.

Using a creative combination of innovations — high-strength wire (which reduced the number of poles needed per mile from 30 to 18), single-phase lines (poles without crossarms), equipment standardization and systemwide planning (instead of a pole-by-pole approach) — line construction was placed on an "assembly line" basis. Contractors followed "REA specs" and began to erect lines that were not only cheaper, simpler and lighter but, also, able to hold up

Continued on page 6

Appeal of electric vehicles gaining momentum

By Tom Tate

The appeal of electric vehicles (EVs) is gaining momentum. The push for greater miles per gallon that began in the second half of the last century has been joined by the push for greater miles per charge. But before getting too far into this transportation evolution, a quick history lesson about EVs is in order.

The first known electric car was developed in 1837 in Aberdeen, Scotland. Early variants were powered by galvanic cells rather than rechargeable batteries. The lead-acid battery was invented in France in 1859, with further French development leading to manufacturing of these batteries on an industrial scale in the early 1880s. This allowed a rechargeable battery to be installed on the vehicle.

Soon manufacturers were selling a wide array of EVs ranging from trams to trolleys to cars, and even locomotives. Interest in electric cars blossomed in the late 1890s and early 1900s. As roads improved and became more extensive, demand for greater range emerged. A variety of solutions were put forth, including the first battery exchanges by an electric utility in Connecticut in 1910, and the first hybrid automobile in 1911. It would not be long until America led the world in the number of EVs on the roads.

But the rapid expansion of the country and the limitation of electricity to major cities and towns spelled the end of the electric car. The world wanted to be mobile, and EVs simply did not have the range required. Enter Henry Ford and the mass-produced, affordable internal-combustion engine, and the EV's fate was sealed.

Fast forward to modern times and EVs are dominating the automotive news. Thanks to the electric cooperative movement, electricity is available everywhere in the U.S., the majority of roads are paved and environmental concerns are increasing awareness.

While many drawbacks of EVs are gone, there is still a major concern limiting EV growth, dubbed "range anxiety." This stems from the persistent limited range of all EVs. While the Tesla offering provides 270 miles for their all-wheel drive model and 355 miles on their standard models, that pales in comparison to most internal combustion cars. And, the lack of a rapid-charging infrastructure is an ongoing impediment. Just like their 20th century predecessors, pure EVs are great "city cars."

Fortunately, advances in battery technology are hammering away at the range issue. Range is steadily expanding and battery management systems are squeezing out more miles.

Continued on page 6

Where Does All the Energy Go?

By Rod Siring, Member Services

During my time at Vigilante Electric Cooperative, there have been a few topics that I come back to. One of those topics is how energy is used within a home, and how to reduce waste. It is constantly evolving, always relevant and, thanks to the Department of Energy (DOE), we have current statistics regarding it.

The DOE estimates that families spend close to $2,100 a year on their home utility bills, and that residential energy consumption accounts for 22 percent of the energy consumed in the United States. It is also estimated that a large portion of this energy is wasted. Depending on the website you research, this wasted energy could be as much as 30 percent every year. The good news is that there is a lot we can do to save energy and money.

First, we need to understand how we use energy in our homes. In the United States, it is estimated that 40 percent of our energy dollars goes toward heating and cooling, 13 percent to water heating, 7 percent to refrigeration and 40 percent is categorized as other, which includes things such as lighting, electronics and standby loads. Next, we need to take a whole-house approach to reducing energy consumption.

We recommend doing a home-energy assessment (or energy audit). First, start by taking a do-it-yourself approach to an energy assessment. The DOE has an online guide called: "Energy Savers Guide – Tips on Saving Money and Energy at Home." It is a great reference providing many no cost/low-cost ways to lower your energy bill, and is available at *www.energysavers.gov.*

Vigilante Electric offers energy audits free of charge. These audits will show what parts of your house use the most energy and suggest the best ways to cut energy costs. You can contact us at (800) 221-8271 or 683-2327. You can find more money saving ideas on Touchstone Energy's website *(www.touchstoneenergy.com)* by following the Together We Save link.

Standby Loads

Standby loads, vampire loads and phantom loads are all terms used to describe energy consumed by electronic devices when the device is not in use. This may seem like a contradiction, but it is the fastest-growing segment of electrical. Most importantly — it's a waste.

Today's houses are filled with appliances that consume power even when they're off. Standby loads maintain your television settings and allow the unit to power up quickly when you press the "on" button. They keep the clocks going on your DVD player, stove and microwave, and your wireless network running even when you're not online.

All of this electronic readiness comes with a price tag measured in electrical use. In fact, a joint study between the U.S. Environmental Protection Agency and several other environmental agencies around the globe put that price at a full 10 percent of your monthly energy bill. There is, however, an easy solution.

Replacing your conventional power strips with advanced power strips (APS) helps you reduce wasted electricity and, in turn, save on energy costs. Advanced power strips prevent electronics from drawing power when your electronic devices are in standby mode without their use being compromised. The best applications for APS are for home-entertainment centers and home offices.

Capital Credit Refunds

Vigilante Electric Cooperative is currently trying to locate the following individuals for payment of Capital Credits.

If you have any information regarding names on this list, please contact us at 800-221-8271 or 683-2327, or by email at *contact@vec.coop.*

A T & T
c/o SEMPRA ENERGY
SOLN, SAN DIEGO CA

ADDERLEY, ADRIAN E
DILLON, MT

AGTARAP, DARLA
HELENA, MT

ALLEN, SHIRLEY
PROCTOR, MT

AMERICAN GEN
FINANCE
HELENA, MT

ANDERSON, JAMIE
WINSLOW, AZ

ANDERSON,
RICHARD/LINDA
DRIFTWOOD, PA

ANDREWS, TINA
NO LAS VEGAS,
NV

ASHPOLE, DAVID
W/KAREN
OWASSO, OK

ASSOCIATES FIN
SERVICE
HELENA, MT

AUGUST, SHAUNA
DILLON, MT

BAILEY, TAMARA D
DILLON, MT

BAIR, HATTIE
MILES CITY, MT

BALER, MARTIN R
WHITEHALL, MT

BAROCH, KELLY
TOWNSEND, MT

BELICE, SHAWN E
CHINOOK, MT

BENNETT, JOHN A/
BRENDA
KIMBERLY, ID

BENSON, BRAD
THERMOPOLIS,
WY

BERG,
KATRINA/BOURASSA,
SERENA
DILLON, MT

BLAKE, SHAWN
HELENA, MT

BLANKENSHIP, CRYSTAL
HELENA, MT

BLASKOVIC, BRANKO
TOWNSEND, MT

BOEGLI, SHARON
TOWNSEND, MT

BOOTH, CRYSTAL
GRIDLEY, KS

BOURNE, ROBERT
DELTA JUNCTION, AK

BOUSQUET, JESSICA
SEELEY LAKE, MT

BOYLES, DEBRA
BOISE, ID

BRANT, STEVEN
BOISE, ID

BRAY, GARY B
CENTERVILLE, LA

BRIGGS, MICHAEL
CLANCY, MT

BROWER, BEV
DILLON, MT

BROWN, GARY/KELLIE
GRAND RAPIDS, MN

BROWN, STEPHEN
BUTTE, MT

BRUNDAGE, KEVIN
DILLON, MT

BUELL, JACK JR
DILLON, MT

BURK, MEGAN
PAYETTE, ID

BURNS, MARK
DILLON, MT

BYERS,
CATHRYN/OPPERGARD,
CHRISTINA
CORVALLIS, MT

CASSELS, LINDA
GLEN, MT

CASSELS,
ROBERT/FLORA
SUN VALLEY, NV

CASTRO, ROBERT R
BUTTE, MT

CLARK, CODI
DILLON, MT

CLARK, GREG/SARA
WOODINVILLE,
WA

CLOS, TAMARA
HELENA, MT

COBURN, TAMI
MISSOULA, MT

COKELEY, BEN A
MONMOUTH, OR

COLE, MICHAEL/JUDY
THREE FORKS, MT

COMBO, TIM
BUTTE, MT

CONKLIN, JIM L/
SHELLEY
CARDWELL, MT

CONRAD, RAYMOND C
TOWNSEND, MT

CONTWAY, BRUCE P
TUSTIN, CA

COOK, DAVID F
c/o STEVE COOK
BUTTE, MT

COOK, TED JR
CARDWELL, MT

COON, SHAWNA
ENNIS, MT

CRAWFORD, CHRIS
BAKER, MT

CRENSHAW, JAMES
KENTON, TN

CROSS, JEREMY
TOWNSEND, MT

DALTON, PEGGY A
LUPTON, AZ

DAVIDSON, LYLE/
PATRICIA
WOLF POINT, MT

DENMAN, THOMAS
THREE FORKS, MT

DERN, CARL
DUVALL, WA

DIXON, KELLY
c/o ILETA DIXON
REXBURG, ID

DREW, LINDA K
CONNELL, WA

DULANEY, BRANDON
HELENA, MT

EBLEN, MARK
c/o BERTHA EBLEN
TWIN BRIDGES, MT

EIKOM, DEVAN/LORRIE
CORVALLIS, MT

EMORY, LISA T
TWIN BRIDGES, MT

Capital Credits
Continued next month

Cooperative 101

Continued from page 3

under severe punishment. By 1939, the average cost to build a mile of rural line totaled only $538; with overhead added in, the cost rose to just $825. Power company prices, in comparison, ran from $1,800 to $3,000 per mile.

Right from the beginning, the can-do spirit of rural electrification faced serious pushback from an array of opponents. Investor-owned utilities intensified efforts to block what they saw as a competitive threat, aided by allies scattered throughout the legal profession, state bureaucracies and legislatures, and universities.

In some cases, state utility regulators — heavily influenced by private interests — threw out incorporation filings from cooperatives or suffocated "newborn co-ops" by imposing crushing conditions, such as blocking them from building facilities within a mile of established power company lines. A few legislative committees crafted similar provisions to be attached, most times unsuccessfully, to state electric cooperative enabling acts. And much too often, newly enrolled co-op members would wake up to discover that a local investor-owned utility had run "spite lines" right through the heart of a cooperative's planned service territory, hooking up easy-to-reach accounts in densely settled areas — those the co-op had counted on make the whole system "pay out."

An REA report documented 200 cases of such "cream-skimming" activities in 38 states over the previous four years. Eight newly organized cooperatives were wiped out entirely as a result; others were considerably weakened. As REA Cooperative Specialist Udo Rall recounted in 1953: "In Virginia, a co-op engineered a line north through the wilderness, ending in a prosperous section near Chancellorsville. When construction was about to start, the power company built a short line out of Chancellorsville to serve a handful of large dairies the co-op had counted on to make its 40 miles of line feasible. Of two loans on which REA has taken a loss, one was to a co-op in New York that was spite-lined to death. And some [co-ops] died aborning."

Even more troubling, big utility cherry-picking was at times aided by rogue Cooperative Extension Service agents. While most county agents worked hard to organize cooperatives, a few teamed with college professors to warn farmers against the electric cooperative model, claiming that they would be exposed to lawsuits and shoddy service by signing up for membership. A few even pilfered planning documents from co-op organizational meetings and handed them over to local power companies for constructing spite lines. Cooke, exasperated at such reports, once characterized academics as "undercover operatives" for the power companies.

Harassment flowed from state offices of rural electrification as well. Ostensibly set up to assist REA, these agencies were many times hijacked by investor-owned utility interests and actively undermined the national effort. REA responded by avoiding these entities.

Recently, we conducted a high-voltage safety demonstration for the students and teachers of the rural schools in Beaverhead County. Pictured are linemen Travis Jensen and Cody Tarter.

Electric vehicles

Continued from page 4

At the same time, more companies and utilities are installing efficient charging stations at their places of business and in popular public locations.

Range anxiety notwithstanding, EVs have a bright future. Prices are dropping and range is expanding, so owners can confidently drive nearly everywhere with a little bit of planning. On top of this, the cars are just plain cool. The Tesla Model 3 promises a minimalist interior with all the necessary controls and information presented on a large touchscreen in the center of the console, as opposed to the traditional instrument cluster.

Further, if you've never driven an electric vehicle, you are in for a treat. While an internal-combustion engine must rev up to speed, an EV has full power at its disposal instantly. Of course, there are limits on this 0-60 mph capability to prevent inexperienced and over-eager drivers from launching themselves into accidents and speeding tickets. They are quiet, well-appointed inside and allow you to forever bypass the lines at the gas station — unless you are in need of some snacks and a slushy.

One final word, if you do purchase an EV, be sure to let your electric cooperative know. The service to your home is sized to meet the demands of your house as they existed when service was connected. Adding the EV charger creates a risk of overloading the wires and transformers powering your home. Overloaded services can fail and leave you in the dark — with an uncharged EV.

Someday, we'll all be gliding silently — and cleanly — on our travels.