Duncan Valley Electric Cooperative
Washington Youth Tour 2012

"Brothers and sisters, I want to tell you this. The greatest thing on earth is to have the love of God in your heart, and the next greatest thing is to have electricity in your home. "

– Farmer giving witness in a rural Tennessee church in the 1940's

History

Before REA

May 11, 1935, is the day we mark as the birth date of REA – the Rural Electrification Administration – a program designed to provide electric service to every farm, ranch and home in the vast rural areas of our nation. Until that time only 10.9 percent of the farms in the United States were receiving electric service. Bringing electricity to rural areas was technically possible, but according to most people involved in the electric power industry, it was far from being economically feasible. Building an electric system in rural areas was relatively expensive because there are fewer consumers per mile of line to pay the costs. Power companies could foresee no profits to be made in serving the sparsely populated rural areas. Those few farms in the early 1930s that could get electric service had to pay as much as ten cents per kilowatt-hour for their electricity.

REA was authorized to act as a banker for responsible organizations willing to take over the task of providing electricity to rural areas. The investor-owned power companies were offered funds and the cooperation of the REA to begin supplying electricity to the rural homes. But by the end of 1935, it was apparent the commercial electric companies were not going to take the initiative to extend electric service to rural areas even with the help of the REA. It became evident that if there were going to be lights in rural America, the rural residents would have to do it themselves. Farm people had long been familiar with the cooperative organizations to buy feed and fertilizer, gin their cotton and market their grain. Thus when power companies showed little interest in building electric lines into rural areas, it was only natural that the leaders of farm organizations proposed the formation of another type of cooperative—this one to provide electric service on a nonprofit basis.

The enactment of the Rural Electrification Act of 1936 by Congress gave birth to the idea of using cooperatives as a means of bringing power to the countryside.

"I'll never forget that day – it was late on a November afternoon, just before dark. All we had were wires hanging down from the ceiling in every room, with bare bulbs on the end. Dad turned on the one in the kitchen first, and he just stood there, holding on to the pull chain. He said to me, 'Carl, come here and hang on to this so I can turn on the light in the sitting room.' I knew he didn't have to do that and I told him to stop holding it, that it would stay on. He finally let go, and then looked kind of foolish."

The "Rural Electrification Program"

Rural Electrification refers to a partnership effort of the federal government and electric systems serving rural America. The federal government provided financing for cooperatives on favorable terms, and rural residents provided the initiative and leadership in organizing, constructing and operating their own rural electric cooperative systems to provide service for themselves and future consumers in their rural area.

Through the Rural Electrification Administration, and agency of the U.S. Department of Agriculture, loans were made to finance nonprofit and cooperative electric and telephone associations, public bodies and other electric and telephone utilities. President Franklin D Roosevelt created the REA by executive order on May 11, 1935. The agency was given continuing status and its authority and responsibilities were certified in the Rural Electrification Act of 1936. The act established REA as a lending agency with responsibility for developing a program for rural electrification.

REA loans financed the construction and operation of generating plants, transmission and distribution lines or systems to provide initial and continued adequate electric service to rural areas. Loans were repaid from the borrowers'. REA also provided engineering and management assistance to its borrowers.

From1944 until 1973, loans were made for a period of 35 years at 2 percent interest and made directly from the U.S. Treasury. On May 11, 1973, Congress amended the REA Act ending the reliance on direct Treasury loans and establishing the Rural Electrification and Telephone Revolving Fund to provide for insured and guaranteed loans. From 1973 until 1993, most insured loans were made at 5 percent with the low-percent loans made only to the co-ops meeting special "hardship" criteria established by law.

Historic changes were made in the REA in October 1993, when the Rural Electrification Loan Restructuring Act was signed into law. The major features of the Act include provisions to:

- Raise the interest rate on REA loans to consumer-owned electric utilities from the current 5 percent to the same rate paid by municipally owned utilities;
- Make rural electric co-ops eligible for non-electric federal rural development assistance such as rural water and waste disposal loans;
- Streamline federal procedures;
- Allow REA loans for energy conservation and other means of encouraging more efficient energy use.

Today 98.8 percent of the nation's farms have electric service, a tremendous achievement of which REA and the rural electric systems it has financed over the years should be proud. But the job of REA isn't finished. Each year rural electric systems are required to borrow and invest great amounts of additional money to make vital improvements and expand their electric service.

REA Becomes RUS

In October 1994, the Rural Electrification Administration officially became the Rural Utilities Service (RUS). The order ended a 13-month effort by the Clinton Administration to revamp and reorganize the 130-year-old U.S. Department of Agriculture, which housed the REA. The change created further opportunities for electric cooperatives to provide water and sewer services to rural consumers.

The Cooperative Process

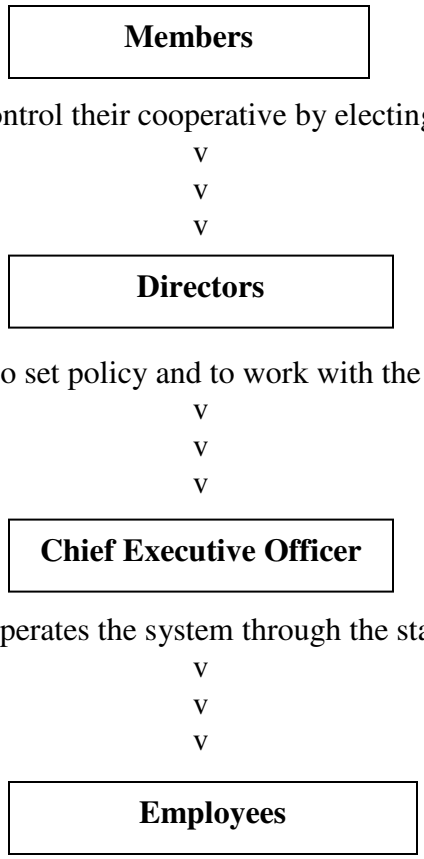
What is a Cooperative?

A cooperative is a nonprofit enterprise or organization jointly owned and equally controlled by those using its services for mutual benefit. There are about 1,000 rural electric cooperatives operating today. Each one is independent, locally owned business enterprise, incorporated under the laws of the state in which it operates. Consumers who receive electric service are member-owners of the cooperative and, as such, share responsibility for its success or failure along with the benefits they derive.

The greatest assets of an electric cooperative are the member-owners and their participation in its democratic process of operation.

As democratic institutions, electric cooperatives afford a large number of people, the member–owners, an opportunity to take part in the decision-making of their cooperative through their votes. Each member-owner is entitled to one vote in cooperative elections. This is a unique right, which consumers of other electric utility companies do not have.

This process ensures that cooperative member-owners have controlling authority over the cooperative's board of directors. The one member-one vote concept is not only a right of cooperative members it is a responsibility.



The Seven Cooperative Principles

In 1966 the International Cooperative Alliance adopted the seven principles as guidelines for cooperatives:

1. **Open and voluntary membership**
   Membership in a cooperative should be voluntary and available without artificial restrictions or any social, political or religious discrimination to all persons who can make use of its services and who are willing to accept the responsibilities.
2. **Democratic control**
   Cooperatives are democratic organizations. Persons selected or appointed in a manner agreed by the members and accountable to them should administer their affairs. Members of primary cooperatives should enjoy equal rights of voting (one member, one vote) and participation in decisions affecting their organizations.
3. **Limited interest on shares**
   Share capital should receive only a strictly limited rate of interest, if any.
4. **Return of surplus to members**
   Surplus or savings, if any, arising out of operations of a cooperative, belong to the members and should be distributed to avoid one member gaining at the expense of others. This may be done by a decision of the members as follows: a) by provision for the development of the business of the co-op; b) by provision of common services; c) by distribution among the members in proportion to their transactions with the co-op.
5. **Cooperative education**

All cooperatives should make provisions for the education of their members, officers, employees, and the general public in the principles and techniques of cooperatives, both economic and democratic.

6. **Cooperation among cooperatives**
   All cooperatives, in order to serve the interest of their members and their communities, should actively collaborate in every practical way with other cooperatives at local, national and international levels.
7. **Concern for community**
   While focusing on member needs, cooperatives should work for the sustainable development of their communities through policies accepted by their members.

Duncan Valley Electric Cooperative, Inc.

DVEC is a rural electric, nonprofit, distribution cooperative. Most rural electric systems are distribution cooperatives – organizations that purchase power at wholesale prices and deliver it to members.

DVEC was incorporated in June 1947, to obtain REA financing and bring power to the farms, ranches and towns of southeastern Arizona and western New Mexico. DVEC no longer requires a $5.00 membership fee. By signing the application for service and agreeing to the terms of membership according to the Bylaws you can now become a member of DVEC.

Board of Directors

Directors of cooperatives are elected to the board of directors by the membership of the cooperative. Each member has one vote in the election of a director and in any other decision brought before the membership. Bylaws adopted by the members set forth their rights and responsibilities, the procedures for election of directors and other guarantees for a democratically run organization.

DVEC is divided into 3 voting districts for the purpose of director elections. Districts are divided geographically to provide representation throughout the service area. District One goes from Verde Lee-Loma Linda south to Apache Creek. District Two extends south from Apache Creek to the New Mexico State line. District Three is made up of all members who live in New Mexico. Members in each DVEC voting district elect representatives to the board of directors. DVEC has 8 directors. Election of directors is conducted by mail ballot and they serve a 3-year term. These directors meet once a month, usually on the first Monday.

DVEC's CEO

The board of directors hires a chief executive officer (CEO) to take charge of operating the cooperative for the benefit of the members. DVEC's CEO is Mike Pearce. He is responsible to the board for carrying out the day-to-day operations within the guidelines determined by the board. The CEO hires the employees who make up the cooperative's staff.

DVEC's Service Area

DVEC serves most of the southern half of Greenlee County, Arizona and parts of Hidalgo and Grant counties in New Mexico.

Regulated by Arizona Corporation Commission and the New Mexico Public Regulation Commission

State law considers DVEC a monopoly because it is the only electric utility allowed to provide electric service within its certificated boundaries. The Arizona Corporation Commission (ACC) defines the territory that is included in the certificated boundaries. Because the cooperative is the sole provider of electric service in that area, it is regulated by the ACC, as are investor-owned utilities like Arizona public Service and Tucson Electric Power. DVEC's rate schedules and service conditions must be approved by the ACC.

Though there is proposed deregulation of the electric industry, ACC will still provide oversight of utilities on issues such as standards for services safety and fair treatment of consumers.

DVEC must follow similar rules and regulations from the New Mexico Public Regulation Commission for its New Mexico customers.

Number of Members and Miles of Energized Line

As of December 2010, DVEC has approximately 1,682 members, with 2323 electric meters, 742 gas meters and 507 miles of energized line.

Annual Meeting

DVEC is required to hold an annual meeting each year for the purpose of reporting to the members about the operation of their cooperative for the previous year and to transact such other business that may come before the membership. The annual meeting is held in Duncan in March or April of each year.

Communications with Members

Currents is DVEC's official publication. It is used to inform members of important notices and information about their cooperative. It is published bi-monthly and mailed directly to members. DVEC also informs members through bill messages, special mailings and newspaper and radio advertising.

Youth Programs

Supporting youth programs is one way rural electric cooperatives can help build for the future and DVEC is doing its share to help the young people in its service area. DVEC sponsors the Washington Youth Tour, an annual, weeklong event in June. Two high school juniors win all-expense-paid trips to join high school students from all over the country in Washington, D.C., to learn more about government, cooperatives, and rural electrification.

DVEC offers 2 scholarships of $500.00 each year to graduating seniors in the cooperative's service area. DVEC also works closely with the schools in its service area, offering educational programs on safety and by supporting different programs such as FFA, FBLA and others.

Taxes

In most states, rural electric cooperatives pay taxes on the same basis as other businesses with the exception of income tax. Cooperatives, as nonprofit corporations, are generally exempt from income tax. They do however, pay payroll, franchise, sales and property taxes. In a few states taxes are levied on a basis that recognizes most of their plant produces comparatively low revenue because lines extend into sparsely populated territory.

Local Cooperative Operations

The basic purpose of an electric cooperative is to provide the electric service its members needed at reasonable rates. Electric cooperative must charge rates to accomplish four primary purposes:

- Cover the cost of operating and maintaining the cooperative's system
- Cover the cost of repayment of all loan funds borrowed by the cooperative for upgrading and expanding service to meet members' needs
- Cover the cost of production and transmission of all electric power which the members use
- Maintain the equity capital required for its operations and to meet the requirements of lenders

Building to meet the growth of rural areas and to ensure adequate, reliable power for present member needs requires ever increasing amounts of capital. This means that electric cooperatives must charge their members rates which are high enough to repay all loans and to build and maintain cooperative lines and equipment, in addition to paying the increasing costs for building new power generation facilities, fuel and expenses of

providing service. The cooperative must produce a minimal margin (profit) at the end of the year in order to stay in business and continue to provide service. The margins (profit) constitute the members' investment of capital in the system and not a profit either to the cooperative or to its members.

Capital Credits—Return of Margins to Members

In a cooperative, the net margins (money remaining after paying all expenses) do not belong to the cooperative—they belong to the individual members who paid money on their monthly bills.

It is impossible to plan the operations so precisely in advance that revenues come out exactly even at the end of the year. Some margins must remain after expenses are paid so the business may continue to operate. The cooperative must have some money on hand to provide current operating funds and as a reserve against emergencies. DVEC must also have sufficient margins from its operations to repay the principal on its loans.

The margins made each year are recorded in a special capital credit account for refund at a future time. Each member's share is assigned in proportion to the amount of electricity used by that member. The individual member's capital credits are his ownership equity in the system. As the financial position of the cooperative permits, capital credits assigned from earlier years are refunded to members.

In 1998 DVEC's contract to supply power to Phelps Dodge Corporation, Morenci, ended. Since that time there have not been margins enough to pay out capital credits.

Wholesale Power Supply

Power supply, broadly speaking, has two parts: generating electricity and then transmitting it to its ultimate destination.

DVEC purchases all its power from Arizona Electric Power Cooperative (AEPCO) headquartered in Benson, AZ. AEPCO is a nonprofit generation and transmission cooperative organized and owned by distribution cooperatives to assure power supply for consumers. It generates and transmits electricity to its members systems.

AEPCO supplies wholesale electric energy to six Class A member cooperatives, two Class B members and one Class C member. The six Class A member cooperatives are Sulphur Springs Valley, Trico, Duncan Valley, Mohave, Graham County and Anza Electric Cooperatives. The Class B members are the City of Mesa and Morenci Water and Electric, and Salt River Project is the Class C member. (The only Arizona distributions cooperative that does not receive its wholesale power from AEPCO is Navopache Electric Cooperative.)

Recognizing the need for a reliable power supplier, AEPCO was incorporated in 1961 by Sulphur Springs Valley, Trico, Duncan Valley and Graham County Electric Cooperatives. AEPCO gained Mohave Electric Cooperative as a member in 1973, Anza Electric Cooperative of Anza, California, in 1979, the City of Mesa in 1982, Salt River project in 1988, and Morenci Water and Electric in 1998.

AEPCO generates most of its power from coal at its Apache Generating Station near Cochise, Arizona. AEPCO dedicated its two 175-megawatt coal-fired generating units in October of 1978. Other generating units on the site include combined cycle Unit No. 1 and two gas turbines. This is a total generating capacity of about 520 million watts. In the early '90s AEPCO converted its two coal-fired units to burn either coal or natural gas to gain flexibility to choose the more cost-effective fuel.

AEPCO's board of directors includes a total of 14 directors, two members from each of the six distribution cooperatives and one member each from the Class B members and from the Class C members.

The environmental system at Apache Generating Station includes electrostatic precipitators for fly ash removal, sulfur dioxide scrubbers and a chimney, making the units among the most modern and clean in the state. Air quality is monitored around the clock. Fly ash and sulfur dioxide are two byproducts of burning coal. The electrostatic precipitators are designed to remove 99.5 percent of fly ash and the scrubber system is designed to remove 85 percent of the sulfur dioxide gas by a chemical process that converts the gas to a solid.

To better position electric cooperatives to operate in the competitive environment that will result once Arizona's electric utility industry is open to consumer choice, AEPCO has restructured its operations into three separate cooperatives.

AEPCO is a generation cooperative. Its mission is to generate electricity at Apache Station for its members, to sell surplus energy into the wholesale energy market in the Southwest and to secure additional power generations resources as needed to meet the energy needs in the areas served by electric cooperatives.

Southwest Transmission Cooperative is a new cooperative that is owned by AEPCO's Class A members. This new cooperative owns, maintains and operates a high-voltage electric transmission system and the related energy management systems that deliver power from Apache Station to member distribution cooperatives and wholesale consumers.

Sierra Southwest Cooperative Services, the third cooperative, is also owned by AEPCO's Class A members. Sierra has three basic business units. First, it provides manpower and administrative support services to AEPCO and Southwest Transmission. Second, it acts as a power marketer, arranging for energy purchases and sales for periods greater than one year and provides wholesale power contract administration. Finally, Sierra offers retail consumers high-quality energy services and products as a licensed Energy Service Provider in Arizona.

The Delivery System

Although storage of electricity is possible, it is difficult and expensive. Most electricity is still used as it is generated. This means moving electricity from the power plant where it is generated to the many different consumers using it.

As electric energy is generated, it is transformed and transported instantaneously through a network of wires to the consumer. A connection of wires exists every inch of the way from the generator to the lamp on your desk. The systems of wires used to transport electricity are known as transmission and distribution lines. Figure A-1 shows the steps in the electric delivery system from power plant to consumer.

The transmission system transports electric energy from the generator to the main substation that serves a given area. There its voltage is reduced through transformers, and it is passed on to the distribution substations. From that point, distribution lines deliver the electricity into homes, businesses, offices and factories of individual consumers.

This whole interlocking system of electricity delivery is commonly known as "the grid." Power delivery systems are expensive so having the margins available to repair and maintaining these systems is very important.

State and National Organizations

Soon after their formation, rural electric cooperatives found there were certain areas in which their operations could be made more economically efficient on a collective basis. Many cooperative systems work together in both national and statewide organizations to provide a variety of economical, professional and supply services.

These organizations provide the advantages of the economies of scale in larger utility-type operations without infringements upon the rights and concepts of each individual system.

Electric Cooperatives in Arizona

DVEC is one of the nine electric cooperatives in Arizona. The other cooperatives are Trico, Sulphur Springs Valley, Graham County, Mohave, Navopache, Arizona Electric Cooperative, Southwest Transmission, and Sierra Southwest. Sulphur Springs Valley, Trico, Duncan Valley, Graham County, Mohave and Navopache electric cooperatives are electric distribution cooperative.

Statewide Association—GCSECA

Most states have a statewide cooperative association, created and supported by the local electric cooperatives in the state. Arizona's statewide association, of which DVEC is a member is Grand Canyon State Electric Cooperative Association in Phoenix.

Incorporated in 1952, the nonprofit association represents one California and eight Arizona electric cooperatives and 17 associate members. Through the statewide association member cooperatives are provided with supplementary services such as safety and job training, educational programs for employees and directors and representation in state and national regulatory and legislative matters.

National Rural Electric Cooperative Association

The National Rural Electric Cooperative Association (NRECA) is the national service organization for nearly 1,000 rural electric systems in 46 states. It is a nonpartisan and nonprofit organization owned and controlled by its member rural electric systems.

NRECA was founded in March 1942 by individuals concerned with the problems confronting rural electric cooperatives. They envisioned that NRECA would unite rural electric systems under one banner to protect their interests and provide support to help them serve rural America. Through NRECA, headquartered in Arlington, Virginia, rural electric systems provide themselves with a variety of essential services, which would be unavailable or too expensive if each system attempted to provide these services individually. Among the services are management training and evaluation programs, educational development programs, assistance with member information and communications, and legislative lobbying. NRECA finances its operations with annual dues from members and income provided by its revenue-producing services.

One such program, organized and coordinated by NRECA, is the Washington Youth Tour. Member cooperatives can participate by sending students from their areas. Each cooperative develops its own criteria for students to qualify.

Financing

Rural Utilities Service

When DVEC needs to borrow funds for large construction projects RUS is one of the sources used.

Cooperative Finance Corporation

The electric utility industry is referred to by economists as a "capital intensive' industry. Enormous quantities of capital are needed to meet America's electric needs.

Since 1935, rural electric systems depended exclusively on loans from the Rural Electrification Administration to meet their capital requirements. In the late 1950s when the interest rate on government borrowing rose significantly higher than the low two percent loan rate, pressures for the rural electric systems to provide for its own needs began to mount. To meet this demand, rural electric systems organized and established in April

1969, the National Rural Utilities Cooperative Finance Corporation (CFC) as a means of obtaining additional financing for system development and growth.

CFC is a nonprofit, cooperative financing institution that provides its member-systems with an independent source for loan funds as a supplement to loans made by RUS.

CFC has two major sources of long-term capital (equity and debt) used to make long-term loans to member system—investments by members in Capital Terms Certificates and the sale of Collateral Trust Bonds in the private capital market.

CFC is another source DVEC uses when there is a need to borrow money.

Deregulation/Competition

The Arizona Corporation commission has begun the move to deregulate the electric utility industry. Also known as retail wheeling or establishing a competitive environment, the changes will allow consumers to choose their electric supplier, the company that generates electricity. (DVEC and other distribution utilities will still build and maintain power lines and respond to outage emergencies.)

Electric cooperatives like DVEC are preparing for deregulation but are also concerned about how this will affect all our consumers. While large industrial consumers are virtually guaranteed to save money, small business owners and residential consumers may not receive any decrease or may even see their rates increase to offset the savings gained by larger consumers.

Rationale

When electricity was first marketed in the United States there were no regulations and competition was open. It soon became obvious that it made no sense to have each company running its own set of power lines. So in exchange for exclusive rights to serve a particular area (in other words, to become a monopoly), utilities in Arizona were regulated by the Arizona Corporation Commission. The Commission approved rates and service conditions.

Changes

As more and more industries deregulated (airlines, telephone service, etc.) consumers saw the advantages in a competitive market. Competition in electric service appears to be next.

People ask what this will mean for them. Many answers are still unclear. There is an expectation that more choices will mean lower prices. This will certainly be true early in the process for the large user such as mines and industries. The Benefits may take longer to reach rural, residential consumers, however, as the details of the process are worked out.

It will certainly mean a different way of doing business for electric utilities, large or small. They will be looking at more efficient means of providing service and consider offering products and services in addition to electricity. Several electric utilities are already offering home security systems, power protection devices and Internet services.

How will this competition work?

Only a portion of the electric bill will be affected by competition. Currently the total amount due on an electric bill includes not only the cost of generating electricity but also the costs to transmit and distribute it(equipment, maintenance, labor, etc.). In addition there are costs for billing, meter reading, and consumer communications.

Electric bills will soon show these costs itemized so consumers can more easily compare current costs to offers made by other power suppliers. The energy cost (generation) of electricity as well as metering and billing costs are to be open to competition. In other words, consumers will be able to "shop" for certain portions of their electric utility bill.

The existing electric company or cooperative will continue to maintain lines and equipment and respond to outage calls.

The Process

Any company interested in selling energy to DVEC 's consumers must contact the cooperative as a first step to set up the process. No companies have yet approached DVEC. Only four companies have registered with the ACC to sell energy to residential consumers in the state and none appears interested in DVEC's service area at this time.

It is important that cooperative consumers understand they do not have to switch utilities. DVEC is eager to remain their power supplier. Any changes must be initiated by the consumer.

Touchstone Energy®

One of the ways DVEC has been preparing for competition is by becoming a Touchstone Energy® Cooperative. In 1996 cooperatives across the United States surveyed Americans to determine people's perceptions of electric cooperatives and their strengths. In general people had a favorable view of cooperatives largely because they are local businesses and a part of the communities they serve.

Based on this knowledge a core group of cooperatives including DVEC established a brand identity for cooperatives—Touchstone Energy®. Touchstone's tagline of "The Power of Human Connections" emphasizes the personal touch and people value.

A 'touchstone' is a measure of quality and value. 'Touchstone Energy®' was selected as the most effective name for communicating the unique characteristics that convey the special nature of cooperatives, which include: strength and responsiveness through a local presence; a human relation ship orientation; innovation and high quality service; a true focus on consumers.

Innovation
accountability
community commitment
integrity

But Touchstone Energy® is more than just a logo and a tagline. It is a "pledge" to four basic principles—

In this way quality is backed up by a commitment from each cooperative. And a consumer moving from one part of the country to another can be assured of quality service from a Touchstone Energy® cooperative.

There are over 600 Touchstone Energy® organizations (cooperatives and allied groups) in 39 states. This means the combined consumer base under the Touchstone Energy® brand (15 million people) makes it the largest electricity utility in the nation.

This is ***not*** a name change for DVEC. Each cooperative maintains its name and identity and becomes part of Touchstone Energy's nationwide network. The Touchstone Energy® name and logo are incorporated into a cooperative's existing logo.

Energy and Utility Terms

Energy Demand	amount of electricity used at a given time (typically measured in a continuous 15-minute interval)
Grid	a system of interconnected high-voltage transmission lines and power-generating facilities that allows bulk-power suppliers to share resources on a regional basis. This system provides emergency generation and transmission.
Investor-owned utility (IOU)	utility that generates and/or distributes electrical energy for profit. An investor-owned utility is owned and controlled by stockholders.
Kilowatt-hour	the energy that will be expended by using 1,000 watts of electricity for one hour.
Outage	interruption of service to an electric consumer
Peak Load	maximum electricity demand.
Substation	a facility for the transfer of electricity from generator to customer by reducing voltages to values appropriate for distribution.
Watt	the electrical unit of power or the rate at which electrical energy is being consumed. One watt is the power in a circuit with an electromotive force of one volt and a current of one ampere.