HOW WESTERN DOES BUSINESS

AN EXPLANATION OF WESTERN'S PRODUCTS AND SERVICES

WESTERN AREA POWER ADMINISTRATION

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INTRODUCTION

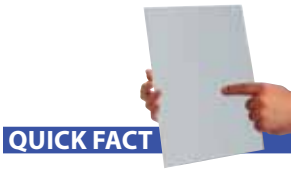
The mission of the Western Area Power Administration is to market and deliver reliable, renewable, cost-based hydroelectric power and related services.

This guide provides an overview of Western's history and how Western carries out that mission and provides electrical, transmission and ancillary services. It also discusses how we develop plans for marketing our most valuable resources—long-term firm capacity and energy. For more information about Western, call the phone numbers or email or write to the addresses listed on page 29.

Western annually sells and delivers more than 10,000 megawatts of power from 56 hydroelectric powerplants, making up about 40 percent of hydroelectric generation in the western and central United States. We also sell the United States' 547-MW entitlement from the coal-fired Navajo Generating Station near Page, Ariz.

Western also operates and maintains an extensive, integrated and complex high-voltage power transmission system to deliver power to our customers. Using this more than 17,000-circuit mile Federal transmission system, we sell and deliver reliable electric power to most of the western half of the United States. Our employees work around the clock to keep bulk power moving through the interconnected transmission system so that electricity ultimately reaches power customers.

Our service area covers 1.3 million square miles in 15 states. We sell **firm** and **non-firm** power to more than 680 wholesale customers, including cities and towns, rural electric cooperatives, public utility and irrigation districts, Federal and state agencies, Native American tribes, investor-owned utilities, power marketers and Bureau of Reclamation customers. Our utility customers, in turn, provide retail electric service to 50 million consumers in Arizona, California, Colorado, Iowa, Kansas, Minnesota, Montana, Nebraska, Nevada, New Mexico, North Dakota, South Dakota, Texas, Utah and Wyoming.



QUICK FACT

WESTERN HAS ABOUT 1,500 FULL-TIME FEDERAL EMPLOYEES AND ABOUT 500 FULL-TIME CONTRACTORS TO SERVICE ITS 15-STATE MARKETING AREA.

Except for the Navajo Generating Station entitlement, the power facilities from which Western sells power are part of 10 rate-setting systems. The systems include Western's transmission facilities and power generation facilities of 13 multipurpose water resource projects that the Bureau of Reclamation, U.S. Army Corps of Engineers and International Boundary and Water Commission own and operate. Western and the generation entities are separately managed and financed. Each entity operates and maintains its portion of the multipurpose projects and allocates its operating expenses among the projects.

Our employees work at 47 duty stations to manage power sales, transmission operations and maintenance and engineering services for our system. Our Corporate Services Office is in Lakewood, Colo. That office provides engineering, accounting, Human Resources, legal and training support to the regional offices. Regional offices in Billings, Mont., Phoenix, Ariz., Loveland, Colo., and Folsom, Calif., operate and maintain the transmission system. Power is also marketed from these regional offices and from the Colorado River Storage Project Management Center in Salt Lake City, Utah. Energy Management and Marketing Offices in Folsom, Phoenix, Montrose, Colo., and Watertown, S.D., schedule, market and forecast power to fulfill power demands for Western's firm electric service customers.

SERVICES PROVIDED

The main classes of service provided are power and energy sales and transmission service. Power Marketing Services are explained on pages 5 through 12; transmission services are explained on pages 12 through 15; and other services are explained on pages 15 through 18.

As a wholesale energy supplier, Western designs and develops contracts to sell and deliver Federal power and transmission services. In addition, Western provides for the purchase and exchange of electric resources, operation and maintenance services, transmission system interconnections and shared capacity in related facilities and joint construction and use of transmission facilities.

1977
DOE, Western established. Bob McPhail appointed as first Western Administrator

1978
Western begins developing reallocation criteria/new marketing plans

1980
Functions and property transferred to Western from Reclamation

1981
Conservation and Renewable Energy Program begins

1982
First major transmission line project completed: Miles City-New Underwood 230-kV line

1985
California-Oregon Transmission Project begins

1985
Electric Power Training Center opens

1987
Sidney (Virginia Smith) DC Converter Station dedicated

1990
Boulder City and Phoenix offices consolidated

1998
Western unveils new standards of conduct, transmission system tariff

2001
Western takes on management of Path 15 project

1999
New Corporate Service Office opens in Lakewood

2002
Upper Great Plains makes first green tag purchase

WESTERN'S HISTORY

Congress established Western on Dec. 21, 1977, under Section 302 of the Department of Energy Organization Act. Under this statute, Western assumed power marketing responsibilities and ownership, operation and maintenance of the transmission system from Reclamation. Reclamation retained responsibility for irrigation and municipal consumption as well as dam and powerplant construction, operation and maintenance.

Most Federal hydroelectric powerplants in the West were constructed in the early to mid 1900s by Reclamation or the U.S. Army Corps of Engineers as features of multi-purpose water development projects. The primary purpose of these large dams was to store water for irrigation and to provide for navigation and flood control. Project-specific authorizations for the use of water, such as meeting municipal and industrial water needs, recreation, salinity control, and fish and wildlife, may also exist. Powerplants were constructed at the dams to first serve project use loads, such as irrigation water pumping, and then to provide revenue from power sales to help repay project costs.

Though Western is not a distribution utility, we have an important role in delivering the power that ultimately reaches homes or businesses. Western sells wholesale power and provides wholesale transmission to local preference power utilities. Electric companies receive power from a variety of sources, which they then deliver to customers, generally homes and businesses. These sources include wholesale power providers such as Western, purchases and exchanges from neighboring utilities and the company's own generation.

Western, then, is not responsible for meeting the increasing energy and power demands of a local community; rather, our utility customers are responsible for supplying full-requirements electric service. Because the hydropower resources are limited, as regional **loads** (customer demands) have grown, Western's role has increasingly become one of a partial wholesale power supplier.

SPEAK THE LANGUAGE

LOAD: THE POINT OF ENERGY CONSUMPTION OR THE DELIVERY POINT FOR THE ENERGY. FOR WESTERN, THIS MEANS PREFERENCE CUSTOMERS, WHO IN TURN SERVE THE LOAD FOR MILLIONS OF HOMES AND BUSINESSES IN THE WESTERN U.S.

2004
Native American customers doubled under new marketing plans

2005
Open Access Same Time Information Systems consolidated

2005
Path 15 commissioned, EPAct of 2005 enacted

2005
Western linemen Corey Whitney and Thomas Wright bury themselves in a deep snow drift in 2005 to find the base of a broken transmission pole in the Armour, S.D., area, after a ice storm decimated the eastern third of the state

2006
Western shares Supervisory Control and Data Acquisition with Southwestern Power Administration

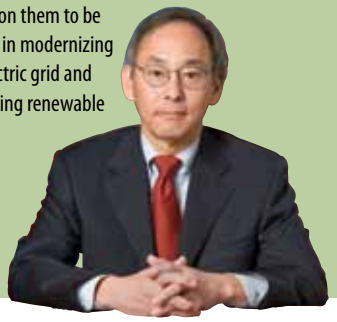
2006
Economic Policy and Trade Practices environmental work begins

2009
Transmission Infrastructure Program formally created

2011
Western implements intra-hour scheduling to make the transmission and scheduling services more flexible

2011
Construction on the SVS project began in 2010 and was completed in May 2011

2012
On March 16, 2012, the Secretary of Energy releases a memo to the power marketing administrations, calling on them to be leaders in modernizing the electric grid and promoting renewable energy



POWER MARKETING AND ENERGY SALES

The majority of Western's sales are firm and non-firm electricity generated from Federal dams across the West. Western first reserves power to meet project needs. Known as project-use power, it is used to pump water at Federal irrigation projects as required by law. It cannot be reduced by Western's sales to other customers. Project-use power may also include service to project camps, which are small towns built to support the construction and operation of the dams. Congress may occasionally authorize additional purposes for project-use power at its discretion.

After project requirements are met, Western sells the surplus generation at cost-based rates to preference power customers under long-term contracts. Once contractual obligations are met, Western sells any remaining generation at market-based prices on the short-term spot market.

We sell the generation from dams and powerplants on a project-specific basis. A project may consist of one large powerplant or the combined generation of several powerplants of varying sizes. Although Congress often determines the definition of a project, Western has combined projects into 10 rate-setting systems to sell the power and set rates more effectively and efficiently. We develop system-specific power marketing plans to ensure that power is allocated appropriately. A few examples of rate-setting systems that contain multiple projects are: Pick-Sloan Missouri Basin Program—Eastern Division, Central Valley Project, Loveland Area Projects, Parker-Davis Project and Salt Lake City Area Integrated Projects.

In rare cases, we sell powerplant generation to only one or two customers if the powerplant is small or remotely located, the power is not economically feasible to sell to others or if cost-effective transmission is not available. In such cases, we may sell generation through a contract tailored specifically to the requirements of Western and the customer who wants to receive the generation. Provo River and Falcon-Amistad projects are examples of these kinds of arrangements.

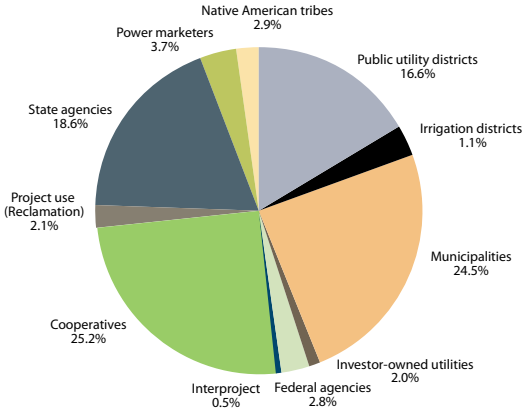
POWER MARKETING: WESTERN SELLS, OR MARKETS, THE HYDROPOWER GENERATED FROM FEDERAL DAMS AND THEN SENDS THE POWER THROUGH WESTERN POWER LINES TO LOCAL UTILITIES TO SERVE AMERICAN COMMUNITIES.

IMPORTANT LEGISLATION AND REGULATIONS

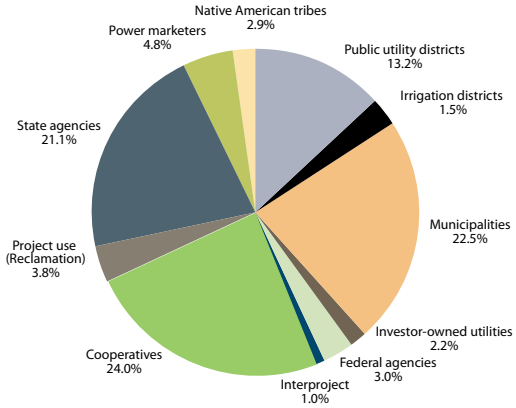
In marketing electricity, Western must follow many laws, regulations and policies. Many of these are unique to our agency. Section 9(c) of the Reclamation Project Act of 1939 (43 U.S.C. § 485h(c)) established a maximum term of 40 years for Western's power sales contracts, except Boulder Canyon, which has a 50-year contract term under the Hoover Power Allocation Act of 2011. It also identifies certain types of prospective customers who must be given preference in Federal power sales, such as municipal and public utility districts, water and irrigation districts, state and Federal entities, Native American tribes and rural electric cooperatives. This act also specifies the repayment responsibility of power users. It states that any sale of electric power must produce enough power revenues to cover power users' share of annual operation and maintenance project costs, plus interest on their share of the construction investment.

In some cases, project-specific laws govern how Western can sell the output of particular powerplants. For example, the Hoover Power Allocation Act of 2011 (Public Law 112-72) states which entities should be offered allocations of long-term firm capacity and associated firm energy generated at Hoover powerplant and the duration of the sales contracts.

WHERE OUR REVENUES COME FROM ($)



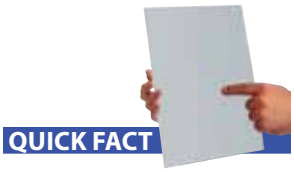
WHERE OUR ENERGY GOES (MWh)



Another major law affecting Western is the Federal Power Act, enacted by Congress in 1935 to oversee and regulate the transmission and sale of electric energy in interstate commerce. Under Section 211 of the Act, Western is subject to limited jurisdiction of the **Federal Energy Regulatory Commission**, an independent regulatory agency within the Department of Energy that has authority over interstate electricity sales and wholesale electric rates.

Other more recent laws have had significant effects on Western, including the Energy Policy Act of 1992 and the Energy Policy Act of 2005, both of which have called for Western and our customers to promote the use of conservation and renewable energy. The EPAct of 2005 amended parts of the Federal Power Act to give FERC expanded jurisdiction over Western for such areas as reliability, rates, compliance and open access transmission.

More recently, Congress passed the American Recovery and Reinvestment Act. Section 402 amended the Hoover Power Plant Act of 1984, specifically providing Western the new authority to borrow up to $3.25 billion from the U.S. Treasury to construct transmission lines to help deliver renewable energy to market.



QUICK FACT

LESS THAN 10 PERCENT OF WESTERN'S BUDGET COMES FROM TRADITIONAL CONGRESSIONAL APPROPRIATIONS. THE REST COMES FROM RECEIPTS FROM POWER MARKETING AND TRANSMISSION SALES, OFF-SETTING COLLECTIONS AND ALTERNATIVE FINANCING LIKE CUSTOMER ADVANCES.

ENERGY POLICY ACT OF 2005

Some of the most significant changes to Western in the first part of this century have come from passage of the EPAct of 2005, a historic law aimed at strengthening our nation's electrical infrastructure, reducing our dependence on foreign oil, increasing conservation and expanding the use of clean renewable energy. It also expands FERC's oversight of Federal utilities, including Western. Western is not a public utility subject to FERC's jurisdiction under Sections 205 and 206 of the Federal Power Act; however, FERC has had historic authority over our rates. EPAct of 2005 expanded FERC's jurisdiction over Western by:

- Clarifying the standard of review FERC will use in examining Western's rates
- Giving FERC the authority to order Western to provide comparable open access transmission service under terms that are not unduly discriminatory or preferential
- Adding a section to the Federal Power Act that gives FERC the authority to certify an electric reliability organization to develop and enforce reliability standards, making Western subject to FERC jurisdiction for reliability
- Requiring Western to comply with certain filing and notice provisions defined in section 205 (c) and (d) of the Federal Power Act
- Allowing FERC to require Federal agencies to provide access to electric lines on Federal lands for vegetation management, service restoration and other situations that immediately endanger reliability or safety

EPAct of 2005 also emphasizes the need to modernize our nation's aging electric power infrastructure through several measures to encourage much needed new investment in transmission. It also required the Department of Energy to study electric transmission congestion in the United States every three years.

To alleviate this congestion, the EPAct of 2005 includes new financial incentives to help remove some of the risk associated with constructing transmission, including incentive investment rates for new transmission facilities and expanding Western's authority to use non-Federal funding to construct or participate in construction of transmission in national interest corridors.

Another emphasis of EPAct of 2005 is to encourage economic development for Native American tribes by removing barriers to generating or accessing electricity on tribal lands. For example, Section 2602 of EPAct of 2005 was amended to allow Federal agencies to give preference to electricity purchased from Native American tribes at or below market rates. Section 2605 requires Federal power marketing administrators to encourage tribal energy development.

Finally, the EPAct of 2005 renews the emphasis on energy efficiency and conservation. For example, it mandates new energy efficiency standards for all Federal buildings and allows agencies to retain the money saved from energy efficiencies to be used for additional energy-saving projects. It also encourages agencies to take actions to maximize air conditioning and refrigeration equipment efficiency and requires new building efficiency standards.

QUICK FACT

WESTERN ANNUALLY DELIVERS MORE THAN 42.4 BILLION KILOWATT-HOURS OF RENEWABLE HYDROPOWER TO TOWNS AND CITIES THROUGHOUT THE WEST. THAT'S ENOUGH POWER TO SERVE MORE THAN 12 MILLION HOMES FOR ONE YEAR!

CUSTOMER CHOICE: FLEXIBILITY IN PURCHASING POWER

In low water years or when operational constraints exist due to environmental concerns, Western's recent power sales contracts allow customers to choose whether to have us buy firming energy on their behalf if there is not enough Federal generation to meet our contractual commitment. We may purchase energy over and above the amount of our firm monthly energy obligation, at the customer's request. Customers can opt for us to purchase the energy and pass the cost, plus administrative fees, on to the customer, known as pass-through cost provisions. The other alternative is for customers to provide their own supplemental power above that available from Federal hydro generation, either from the market or from their own generation.

This customer choice philosophy is featured in the *Energy Planning and Management Program* and implemented through language in long-term electrical power contracts. This approach reduces our purchase power and wheeling expenses, and gives us the flexibility to meet the varying needs of both large and small customers. Smaller customers typically want Western to continue providing their full contractual commitment of electric power since they have few economic alternatives. On the other hand, large customers with their own generation resources or access to wholesale energy markets wanted the choice to purchase directly or request us to do so. Customer choice accommodates these varying needs and is consistent with our customer service practices.

THE POWER MARKETING PLAN

Power marketing plans specify when and how Western will sell power. Although marketing plans vary considerably from project to project, they commonly address issues such as:

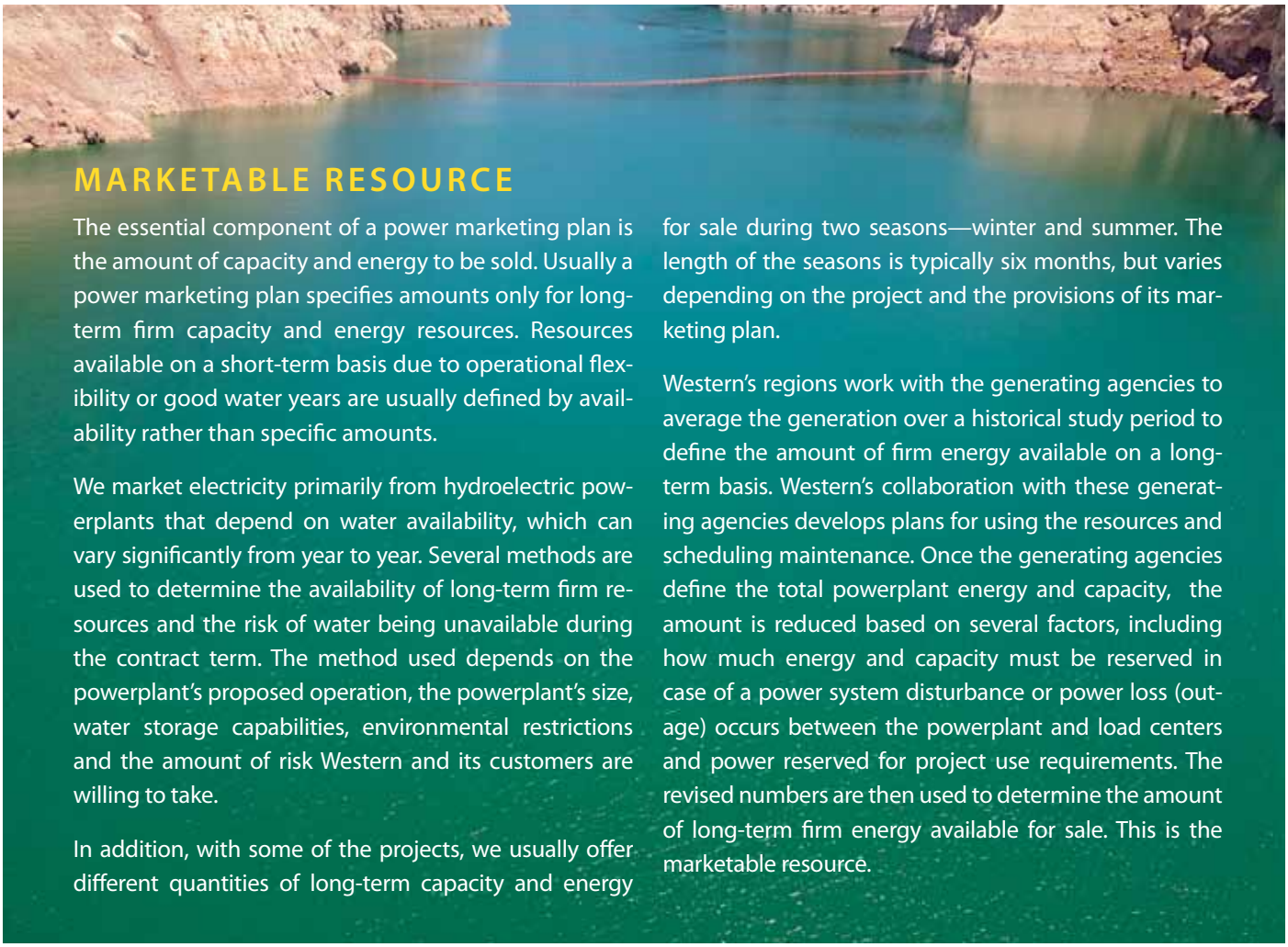
- Contract terms and conditions
- Geographic area where electricity will be sold
- Classes or types of electric service offered
- Amount offered for sale
- Who is eligible to receive electricity
- Principles governing how power is distributed to eligible applicants

Marketing plans may also contain other criteria reflecting our mission, legal requirements, current marketing practices and new policies. Some marketing plans include provisions for creating **resource pools** for new customers. Resource pools are created by reducing existing customers' allocations and then offering this amount to new customers at specific intervals during the contract period.

Power marketing plans can also include other classes of electrical service that Western may offer, but might specify quantities that will be available. These services include seasonal sales of firm capacity with or without energy, **supplemental power**, **maintenance energy** and **emergency assistance energy** provided to other utilities and non-firm or **interruptible energy sales**.

SPEAK THE LANGUAGE

COST-BASED RATES: THE LOWEST RATES CONSISTENT WITH SOUND BUSINESS PRINCIPLES. WESTERN SETS ITS RATES TO COVER OPERATIONS AND MAINTENANCE AND THE FEDERAL INVESTMENT IN THE FACILITIES, PLUS INTEREST.



MARKETABLE RESOURCE

The essential component of a power marketing plan is the amount of capacity and energy to be sold. Usually a power marketing plan specifies amounts only for long-term firm capacity and energy resources. Resources available on a short-term basis due to operational flexibility or good water years are usually defined by availability rather than specific amounts.

We market electricity primarily from hydroelectric powerplants that depend on water availability, which can vary significantly from year to year. Several methods are used to determine the availability of long-term firm resources and the risk of water being unavailable during the contract term. The method used depends on the powerplant's proposed operation, the powerplant's size, water storage capabilities, environmental restrictions and the amount of risk Western and its customers are willing to take.

In addition, with some of the projects, we usually offer different quantities of long-term capacity and energy for sale during two seasons—winter and summer. The length of the seasons is typically six months, but varies depending on the project and the provisions of its marketing plan.

Western's regions work with the generating agencies to average the generation over a historical study period to define the amount of firm energy available on a long-term basis. Western's collaboration with these generating agencies develops plans for using the resources and scheduling maintenance. Once the generating agencies define the total powerplant energy and capacity, the amount is reduced based on several factors, including how much energy and capacity must be reserved in case of a power system disturbance or power loss (outage) occurs between the powerplant and load centers and power reserved for project use requirements. The revised numbers are then used to determine the amount of long-term firm energy available for sale. This is the marketable resource.

Historically, firm energy has been based on one or any combination of three factors:

1. The minimum amounts available under adverse conditions
2. A statistical probability that the amount of power marketed will be available during the contract term
3. The powerplant's installed capacity

Under actual water conditions, Western typically has more resources available to sell than it needs to deliver under its long-term contracts. When more energy is available, we sell the surplus or exchange it with other utilities to be returned later. When less is available, we purchase power or find a utility to provide exchange power to be returned later.

QUICK FACT

WESTERN IS ONE OF FOUR POWER MARKETING ADMINISTRATIONS IN THE U.S. DEPARTMENT OF ENERGY FORMED TO MARKET AND TRANSMIT ELECTRICITY FROM MULTI-USE WATER PROJECTS. THE OTHERS ARE BONNEVILLE POWER ADMINISTRATION IN THE NORTHWEST, SOUTHEAST POWER ADMINISTRATION AND SOUTHWESTERN POWER ADMINISTRATION.

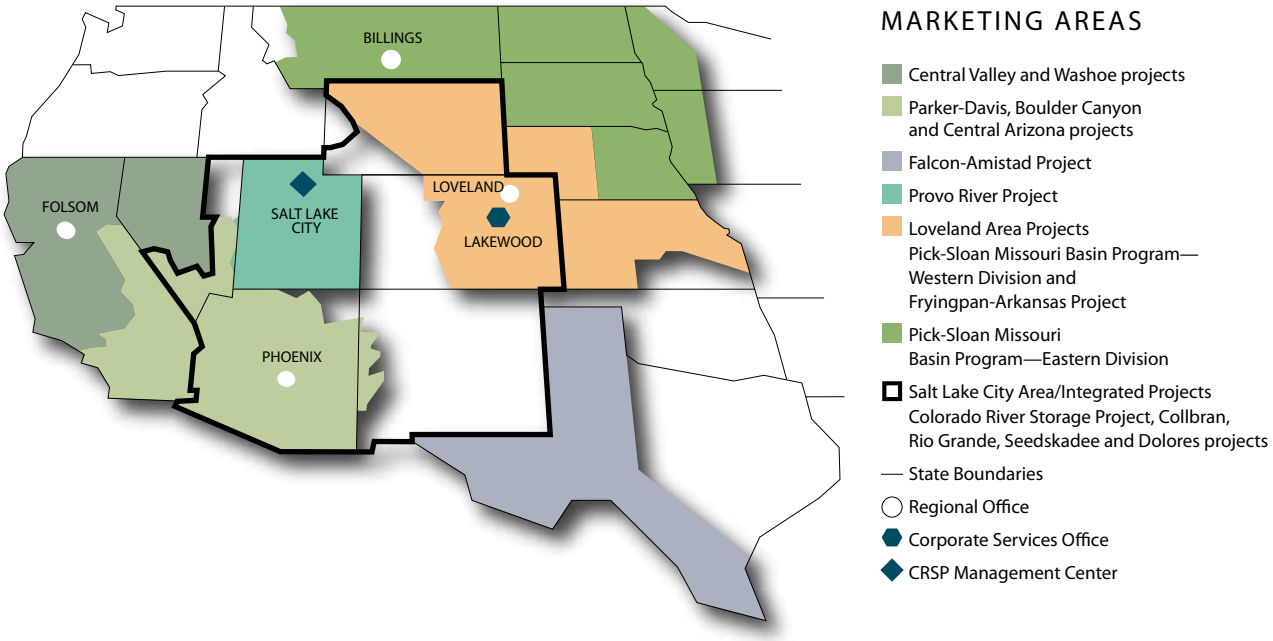
PREFERENCE

Various laws, including the Reclamation Project Act of 1939, require Western to give preference to certain types of non-profit organizations seeking to purchase Federal power. Our preference customers include state and Federal agencies, water and irrigation districts, municipalities, public utility districts, Native American tribes and rural electric cooperatives.

Although these types of organizations are entitled to preference, Western has discretion regarding which preference entities should receive power. We have allocated resources to diverse public loads such as wildlife refuges, universities and mass transit systems. Sometimes, legislation specifies a geographic area which receives priority to Federal hydropower. A law may also designate specific entities that must receive preference in power sales from a particular powerplant or project.

MARKETING AREAS

Western places geographic limits on the marketing of power, which define the location of eligible customers. Marketing area boundaries are usually based on past marketing practices, the location of the powerplants generating the electricity being sold, state boundary lines or river drainages.



CONTRACTS

Power marketing plans include the initial date when deliveries may begin under the contract and when the contracts terminate. Our power marketing plans typically include 20- to 30-year contract terms, which provide certainty for our customers and relative stability in repaying the Federal investment in power facilities.

CONTRACT FLEXIBILITY

In developing contracts, Western allows considerable flexibility to meet future changes. For example, in dry water years or when generation is reduced for environmental reasons, customers may opt to have us purchase power to meet their needs, they may buy what they need from other suppliers or they may provide their own generation. Marketing plans allow adjustments to meet year-to-year changes in hydrology or river operations over the term of the contract.

MARKETING PLAN DEVELOPMENT

Western develops a power marketing plan when additions to generation capability occur or when existing power sales contracts expire. We determine when to develop a marketing plan by estimating the time required to complete the process and how much advance notice existing and potential customers need to plan for their future Federal energy resources. Early planning allows time for customers to determine how to best integrate their Federal power with other resources to meet their needs.

Draft plan creation

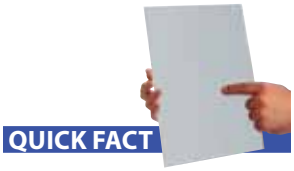
Western discusses marketing plan concepts with customers and other interested parties before beginning a formal public participation process. We use input from these informal meetings to develop the formal plan. The formal development process begins when a notice is published in the *Federal Register* and copies of the notice are sent to our customers and other interested stakeholders.

The notice explains the need for the plan and usually presents Western's initial proposal or options. It also announces the location, dates and times of public information meetings and comment forums and the duration of the comment period, which is when Western accepts comments for consideration in the plan. After forums are held and comments received, we may issue a final decision concerning the plan or issue a revised proposal. In some cases, we may repeat these steps so we can consider additional comments before issuing a final decision.

During plan development, we examine the proposal to determine the appropriate level of documentation needed to comply with the National Environmental Policy Act of 1969. In recent years, the Department of Energy has revised its implementation guidelines so new documentation is needed only for plans that call for adding major new generation resources, service to major new loads or major changes in the operating parameters of power generating resources. If proposed marketing plans do not call for these things, they can receive a categorical exclusion from more comprehensive environmental review.

Publishing the final plan

The final plan is published in the *Federal Register*, along with our responses to the comments received. Normally, the final plan is effective 30 days after it is published in the *Federal Register*. The final plan typically includes **allocations** of firm power to individual customers, or describes how the allocations will be determined.



QUICK FACT

SEE WESTERN'S MARKETING PLANS ON THE REGIONS WEBSITES AT WWW.WAPA.GOV

An allocation of firm power under the marketing plan is the distribution of available resources among all competing applicants. An allocation is an opportunity to contract for an assigned amount of power—it is not a right to receive power. An allocation normally requires a potential customer to enter into a contract within six months to a year.

After the plan is complete, or while it is being finalized, we draft contracts. These contracts incorporate essential portions of the final plan. We add other standard contract provisions to comply with existing laws and government policies. Each contract has its provisions tailored to the individual customer, such as the amount of long-term firm capacity and energy the customer may receive, conditions for scheduling electricity deliveries, delivery points and points of use and, when necessary, conditions concerning transmission by third parties.

The process is complete when Western and the customer sign the contract. Once an electric service contract is signed, the allocation becomes a binding contractual commitment.

The entire process generally takes several years from development of the initial marketing plan to execution of contracts with the customers.

POWER MARKETING SERVICES

Western's power marketing services include:

- Long-term firm power
- Other firm sales
- Seasonal power sales
- Purchase power
- Portfolio management
- Scheduling coordinator

Marketing power is based on two concepts: **capacity** and **energy**. Capacity is the ability to generate electricity and is measured in kilowatts, while energy is a measure of generation over time and is measured in kilowatthours. Western's power rate schedules usually include separately defined charges for capacity and energy.

To understand how these are related but separate, think about buying a delivery truck. Some of the truck's costs, such as loan payments, registration and taxes, are inherent whether or not the truck is driven. But other costs are variable, such as gas, oil, tires and maintenance.

The fixed costs are similar to capacity charges. Electricity must be available the instant consumers need it, just like you need the vehicle to reach your destination. Capacity is more important to meet consumers' instantaneous demand as they turn on lights, appliances and motors.

The variable costs, such as gasoline, are similar to energy charges. One kilowatthour of energy delivered over one hour requires one kilowatt of capacity. Energy is important to meeting consumers' continuing need for electricity. With the delivery of electricity, capacity and energy are both present; however, they can be marketed and charged for separately.

Another example is a car driving on a highway. In power marketing, capacity is the rate of delivery or demand of electricity and is measured in kilowatts or megawatts. This could be related to the car's speed. Energy is the amount of electricity delivered over time and is measured in kilowatthours or megawatthours. In other words, energy may be compared to the distance traveled on a highway.

LONG-TERM FIRM POWER

Our primary power marketing product is long-term firm power. Firm power is capacity and energy that we guarantee to be available as stated in contract terms. We reserve a portion of our generation to continue delivering firm power even if an outage occurs at a powerplant.

OTHER FIRM SALES

Some of Western's projects sell power that is not on a long-term, short-term or non-firm basis. An example is the Boulder Canyon Project, where power is sold if it is available. Under this conditional basis, Western is under no obligation to acquire capacity or energy to meet a contractual obligation when power generation is not available at Hoover Dam due to drought or other factors. Another example is our Central Valley Project, where customers receive a percentage of the powerplant output. In above-average water years, when there is an abundance of generation, CVP customers receive more base resource. On the flip side, during below-average water years, when generation is down, customers receive less base resource. At a customer's request, we can purchase supplemental power as a custom product to be used in conjunction with the base resource to meet our customer's load requirement.

Western also sells **peaking power** from the Eastern Division of the Pick-Sloan Missouri River Program. This capacity-based product meets the peak loads of customers and delays the need for customers to construct new generation. Rates for peaking power only include a charge for capacity since the energy is typically returned to Western.

OTHER SALES

Although most of our major power marketing contracts are for long-term sales of capacity and energy, we provide many other related services if we have the available resources and operational flexibility.

Non-firm energy can be used when the customer has the capacity to meet its consumers' demand for electricity, but would rather purchase non-firm energy that is less expensive than the cost of its own generation or alternative sources of supply.

Non-firm energy is usually sold with the requirement that the sale can be stopped after phone call notice and the buyer must have the resource available to meet its own load. Rates for non-firm energy only include a charge for the energy delivered, since the customer has the capacity to meet its loads, if necessary. Non-firm energy is marketed under several names that reflect the conditions of the sale or charges for the energy. Non-firm energy classes of service include categories such as **interruptible energy**, **economy energy** and **fuel-replacement energy**.

Short-term sales are for limited duration of a day, week or month and generally include **interchange energy**, **exchange energy**, **emergency assistance energy** and **maintenance energy**.

Seasonal sales include power generated or made available to customers only during certain seasons of the year.

PURCHASE POWER

Purchase power is power that Western must buy from other suppliers when we do not have enough Federal generation (due to poor water conditions or operational constraints) to meet our contract commitments. Power may also be purchased to support short-term sales. In some marketing plans, we are moving away from marketing resources that anticipate significant power purchases to meet firm contractual commitments. In others, we market the hydroelectric resource as a base resource then offer the option of purchasing supplemental power as a custom product upon customer request.

TRANSMISSION SERVICES

Another service Western offers is transmission, which includes:

- Point-to-Point Transmission Service
- Network Integration Transmission Service (NITS)

In addition to providing transmission service to deliver our power, sale of transmission service allows other utilities to use our transmission system to transmit non-Federal power. In the past, we have occasionally developed marketing plans specifically to sell transmission service over certain facilities. Since Western's adoption of an Open Access Transmission Service Tariff, or OATT, we provide open access to our transmission system through our Open Access, Same-Time Information System, or OASIS.

Transmission marketed on an OASIS site is the remaining available capacity after Western reserves the necessary transmission capacity to deliver project use power and Federal power committed to preference entities under long-term power contracts. Transmission posted on Western's OASIS sites is referred to as **Available Transmission Capacity** or **ATC**.

In July 2011, we added intra-hour transmission scheduling for ATC. Working in cooperation with WestConnect and two other regional transmission organizations, several public utilities made the move to scheduling transmission every 30 minutes opposed to the standard hour schedule to better integrate intermittent, variable generation sources, such as solar and wind.

QUICK FACT

COMPARED TO THE 69-KILOVOLT AND BELOW LINES THAT DISTRIBUTE POWER TO HOMES AND BUSINESSES, MOST OF WESTERN'S TRANSMISSION LINES CAN BE MORE THAN SEVEN-TIMES HIGHER IN VOLTAGE. USING HIGH-VOLTAGE LINES, GENERALLY 115-KV TO 500-KV, WESTERN IS ABLE TO MORE EFFICIENTLY TRANSPORT ENERGY ACROSS LONG DISTANCES.

POINT-TO-POINT TRANSMISSION SERVICE

Firm point-to-point transmission service is reserved and scheduled between specific points of receipt and delivery and is not subject to interruption or curtailment except under limited circumstances. Long-term service is considered to be a reservation of one year or more, a reservation of five years or more having rollover rights. Short-term firm point-to-point service is for less than one year.

Non-firm, point-to-point transmission service is provided on an as-available basis and can be interrupted. It is available for as little as one hour or as long as 11 consecutive months.

SPEAK THE LANGUAGE

TRANSMISSION SYSTEM: IN ITS SIMPLEST FORM INCLUDES GENERATION, SUBSTATIONS, CIRCUIT BREAKERS, TRANSFORMERS, STRUCTURES (TOWERS), CONDUCTORS (WIRES), INSULATORS AND LOAD (CUSTOMERS).

NETWORK INTEGRATION TRANSMISSION SERVICE

Western also offers **NITS** over our system to deliver capacity and energy from our customer's designated resources to its designated load (its customers). Similar to a spider web, multiple generators at different points can be used to serve multiple load points or load that's not physically interconnected with Western. Using this transmission service, NITS customers can efficiently and economically dispatch and regulate their resources to serve their loads in a balancing area. Also, NITS gives the customer flexibility and the ability to deliver to their loads even in the event of transmission outages. NITS customers using this service must obtain or provide ancillary services, such as scheduling, system control, imbalance service, operating reserves service and dispatch service. The minimum term for NITS is one year.

With network service, customers use the transmission service just like Western would use it to meet its obligations. Therefore, if transmission is available, we provide it to those who request it.

OPERATION AND MAINTENANCE SERVICES

Since reliability is essential to superior customer service, more than half of Western's workforce is dedicated to performing operation and maintenance services. In the operations arena, dispatchers ensure the system is constantly balanced, second by second, between supply and demand and making sure the power has the transmission needed to get it where it needs to go. Our dispatchers direct maintenance and emergency situations 24/7. Maintenance employees work as high-voltage linemen, electricians, heavy equipment operators and meter and relay technicians to keep the system operating reliably. They construct new transmission lines and facilities, replace wood poles and insulators, trim trees, maintain and replace substation equipment such as circuit breakers and transformers and repair damage to equipment after severe weather. These employees also help customers when storms or other emergencies damage vital equipment on their systems. We also have staff dedicated to overseeing maintenance standards, safety procedures, guidelines and policies to incorporate new technologies, procedures or equipment.

In addition, we operate an extensive communication system using microwave and fiber optics to support the regional power system. We can transmit everything from powerplant control to voice and corporate data to keep the power system running smoothly.

Finally, we have employees dedicated to planning, designing and constructing new or modified cost-effective facilities and equipment. These employees design additions and replacements to our transmission system and associated power control, protection and telecommunication facilities. They also coordinate the preparation and assembly of construction specification packages and oversee work by contractors.

QUICK FACT

NEARLY 42 PERCENT OF WESTERN'S TRANSMISSION LINES AND STRUCTURES WERE ORIGINALLY BUILT MORE THAN 50 YEARS AGO, IN THE 1950S AND 1960S. WESTERN REGULARLY MAINTAINS AND UPGRADES IT VAST 17,000 MILES OF TRANSMISSION LINES ACROSS MORE THAN 1.3 MILLION SQUARE MILES IN AMERICA TO SUSTAIN RELIABLE POWER DELIVERY.

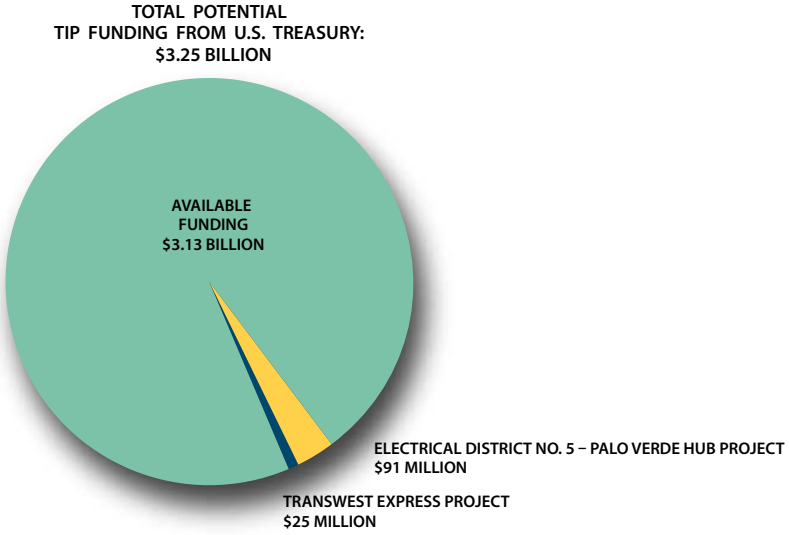

HAYWARD BAKER

TRANSMISSION INFRASTRUCTURE PROGRAM

In 2009, Section 402 of the American Recovery and Reinvestment Act amended the Hoover Power Plant Act of 1984 to give Western authority to borrow up to $3.25 billion from the U.S. Treasury to pursue transmission projects that integrate renewable generation sources into the electric transmission grid. The law provides authority to construct and upgrade transmission lines to help deliver renewable resources to market.

Proposed projects seeking Treasury funding must:

- Be in the public interest
- Not adversely affect system reliability or operations, or other statutory obligations
- Offer reasonable expectation that proceeds will be adequate to meet Western's repayment obligations
- Use a public process to set transmission rates
- Have the necessary capability to obtain and deliver generation-related ancillary services
- Generate sufficient proceeds to repay principal and interest on the loan from the Treasury



Western created the Transmission Infrastructure Program, also known as TIP, to implement this new initiative.

Also in 2009, Western published a request for proposals to take part in the program. To date, more than 200 proposals have been received, three projects have been financed and several others are in the planning and approval stage. The approved projects at time of print are the Electrical District 5 – Palo Verde Hub and the development phase of the TransWest Express projects.

OTHER AUTHORITIES FOR BUILDING TRANSMISSION

Section 1222 of Energy Policy Act of 2005 granted Western new, limited authority to develop transmission projects not associated with delivering hydropower. Western can either upgrade its existing transmission facilities or construct new transmission lines in its service territory. However, this authority did not come with funding, only the authority to accept up to $100 million of third-party financing.

Project proposals will be considered until Sept. 30, 2015, or until DOE accepts $100 million in contributed funds under Section 1222, whichever comes sooner.

GENERAL REQUIREMENTS FOR INTERCONNECTION

Occasionally, customers will request to interconnect to Western's transmission system. These requests are typically for load growth, to accommodate a new load or to increase the reliability of an existing load. To assist us in quickly and thoroughly evaluating requests for interconnections, we have published a document identifying the general requirements and the process for interconnecting, adding to or modifying Western's transmission facilities. The document summarizes the funding, reliability, safety and security, environmental, land acquisition and technical and contractual requirements as they relate to interconnecting to the transmission system. This document, "**General Requirements for Interconnection**," can be found on our OASIS website.

OTHER SERVICES

Finally, Western provides a variety of services to assist customers, help share information on new technologies and encourage the development and use of renewable resources. These services include ancillary services, energy services, the renewable resource program and renewable energy credits, and work for others.

ANCILLARY SERVICES

Ancillary services are services that make the transmission system "work." Similar to the need to periodically adjust the tuning on an old television or radio dial, ancillary services support the transmission of energy from resources to loads while maintaining reliable operation of the system. In some projects, we charge separate fees for each service. These services include:

- **Scheduling, system control and dispatch service**—scheduling the movement of power through, out of, within or into a balancing area
- **Reactive supply and voltage control services**—maintaining correct voltage through adjustments to generator output
- **Energy imbalance service**—providing energy correction for any hourly mismatch between a transmission customer's energy supply and demand served
- **Regulation and frequency response services**—following the moment-to-moment variations in the demand or supply in the balancing authority
- **Operating reserve–spinning reserve service**—providing back-up service from a reserve unit whose capacity must equal that of the largest generation unit (When the reserve unit is operating, it is spinning at full speed, thus the name spinning reserve.)
- **Operating reserve—supplemental reserve service**—a generation source that can serve load in the event of a system contingency within a short period of time
- **Transmission losses service**—provides for transmission losses for transactions within Western's balancing authorities
- **Generator imbalance service**—delivery of the hourly pre-scheduled amount of energy without regard to actual generation during the hour

Western's Rate and Repayment brochure provides more information about rates and ancillary services. It is available from Corporate Communications and our regional offices.

ENERGY SERVICES

Through our **Energy Services** program, we are able to share information on new technologies and provide a range of technical services. These include loaning equipment, facilitating partnerships, conducting workshops, providing on-site technical assistance to help customers identify and implement energy efficient and renewable energy technology, performing cost-shared studies, facilitating networking and developing publications.

Also, Energy Services provides customers technical assistance on completing Integrated Resource Plans. Integrated resource planning is a process Western customers must use to evaluate a range of demand-side and supply-side alternatives to provide reliable electric service to their consumers at the lowest cost. These alternatives include new generating capacity, power purchases, energy conservation and efficiency, co-generation and renewable energy resources. Supply-side options provide energy, while demand-side options include technologies that help reduce electrical demand.

Under current IRP regulations for Western's firm power customers, IRPs must:

- Identify and compare all practical energy efficiency and energy supply resource options
- Include an action plan with deadlines set by the customer
- Describe efforts to minimize adverse environmental effects of new generating resources
- Provide ample opportunity for full public participation
- Conduct load forecasting
- Include a brief description of how goals will be measured

Alternatively, customers with an annual sales or use of 25 gigawatthours or less may submit a Small Customer Plan, which includes a letter that identifies their achievements against targeted action plans, as well as the revised summary of actions if the previous summary of actions has expired. Customers required under state, tribal or Federal regulation to make a mandated minimum financial/resource investment in DSM or renewable energy programs or initiatives may submit that report in lieu of an IRP. The final rule can be found at 10 CFR Part 905.

For no-cost energy-related technical assistance within Western's service territory, call our Energy Experts Hotline at 800-769-3756 or visit **www.wapa.gov/es**.

RENEWABLE RESOURCE PROGRAM

On Aug. 20, 1996, Western published its Renewable Resources Policy, which outlines our program to facilitate the voluntary use of **renewable resources** by our customers. We provide technical expertise and marketing information, and act as a facilitator with our customers and

renewable resource developers. The program goal is to identify customers who desire renewable resources in their generation mix, and provide the technical and marketing assistance for them to fully evaluate the renewable resource option. Also under this program, Western established a renewable resource information clearinghouse at www.wapa.gov, which arranges for representation in regional and national renewable resource forums and coordinates with the National Rural Electric Cooperative Association, the American Public Power Association and the U.S. Department of Energy Office of Energy Efficiency and Renewable Energy to develop literature, workshops and presentations on renewable resources specifically for consumer-owned utilities, Native American tribes and Federal agencies.

RENEWABLE ENERGY CERTIFICATES

Upon request, Western will purchase renewable energy or **renewable energy certificates** for Federal agencies. RECs are the environmental attributes of power generated from renewable electric plants. No renewable energy is physically delivered to an agency's site. The agency is only purchasing the environmental attributes of renewable generation. This may be a good option for sites where renewable power delivery is restricted because of physical, institutional or financial barriers. The cost of this service, which is intended to stimulate renewable resource development, such as wind and solar generation within our service territory, is the responsibility of the requesting agency.

In the future, Western will also consider requests from existing non-Federal power customers. Such a purchase may be structured to **firm** up our hydropower commitment, or may be independent from the sale of Federal hydroelectricity.

WORK FOR OTHERS

Western performs work for others upon request as permitted by staffing availability. Such work may include the study, design and construction of transmission-related facilities. We may provide operation, maintenance, replacement or modification of facilities and balancing area operator services. Certain power supply-related services are also available. Payment for these services is the responsibility of the requesting customer, and is facilitated by advanced customer funding through the establishment of escrow accounts.

Western as the operator of a large transmission system has expertise and experience in marketing transmission and administrating OATT. Transmission- and OATT-related services, such as OASIS and Tagging Agent Services, are also available when they are beneficial to Western and its mission.

QUICK FACT

AS OF SEPT. 30, 2011, WESTERN HAD INTERCONNECTED MORE THAN 1,030 MEGAWATTS OF RENEWABLE WIND ENERGY INTO ITS TRANSMISSION SYSTEM WITH SIXTY-EIGHT PROJECTS, TOTALING 11,200 MW, WAITING FOR INTERCONNECTION.

RENEWABLE RESOURCES IN WESTERN'S INTERCONNECTION QUEUES
8,577 MW wind
2,585 MW solar
35 MW biomass

RESPONDING TO CHANGE

We have witnessed tremendous changes in the electric utility industry since the 1990s. As the industry experienced unprecedented changes in structure and regulation, we responded by making numerous changes to our power marketing policies and transmission practices so we could continue to accomplish our mission and meet our customers' needs in this new competitive environment.

FUNCTIONAL SEPARATION

Western initiated changes to its operations in April 1996 in response to several directives from FERC, specifically FERC Orders No. 888 and 889. These regulations were developed to bring lower-cost power to electric consumers through broader access to markets and ensure that public utilities offer open and fair transmission and services.

While FERC does not have authority over Western as a Federal agency, we voluntarily chose to follow FERC's rules because Western is a major transmission system owner in the United States. Voluntary compliance allows us reciprocal access to transmission managed by public utilities. We want to keep up with the changes in the electric utility industry by complying with the rules other wholesale power and transmission utilities must follow. We developed an open access transmission service tariff that applies Westernwide and contains provisions that accommodate our power marketing mission. Originally submitted in February 1998, Western revised the tariff in 2005, 2007 and 2011 to incorporate FERC-mandated procedures for large generator and small generator interconnections, add provisions to meet the intent of FERC Order 890 and make additional changes to further Western's mission.

CRIME WATCH

VANDALS CAUSE HUNDREDS OF THOUSANDS OF DOLLARS IN DAMAGE TO TRANSMISSION LINES PER YEAR, NOT TO MENTION SPARK UNPLANNED ELECTRICAL OUTAGES. IF YOU SPOT SOMEONE DAMAGING POWER LINES, CALL THE POLICE. IF IT'S A WESTERN LINE, CALL 800-209-8962.

FERC ORDERS 888 AND 889

Under FERC Order 888, public utilities under FERC jurisdiction must offer open and comparable access to their transmission systems. This means utilities must offer others the same transmission service at the same rates, terms and conditions under which they provide service to themselves. Because FERC's order was designed for utilities that most often operate a single integrated power system, our challenge was to integrate the unique characteristics and legal requirements of multiple systems into one single tariff. We sought to accomplish this while accommodating the diverse nature of the various projects from which we market power or offer transmission services. FERC Order 889 then called for developing an electronic, Internet-based OASIS as a tool for sharing information on transmission prices and product availability.

FERC Order 889 also required transmission functions to be separated from power marketing functions. OASIS is used to ensure that transmission owners and their affiliates do not have an unfair competitive advantage in using transmission to sell power. A utility's merchant employees can obtain information about their own transmission system for their own wholesale power transactions only through the OASIS. Western's open access transmission service tariff, which applies across Western, initially became effective Feb. 5, 1998. Finally, FERC Order 889 called for Standards of Conduct, which are designed to prevent power marketing employees from having special access to transmission-related information. Transmission employees are forbidden from discussing transmission information with power marketing employees. Western filed SOC with FERC in December 1998. FERC approved these standards March 31, 1999.

RTO FORMATION

Another FERC order that initiated change in the industry was FERC Order 2000, which encouraged utilities to form and join **regional transmission organizations**. The intent was to encourage an independent entity to operate regional transmission assets. To address this order, Western participates in RTO discussions with several RTOs in our service territory. Western's policy is to join an RTO when it makes good business sense to do so. It is important to note that the EPAct of 2005 prohibited FERC from requiring Western to transfer control or operational control of its transmission facilities to an RTO, although Western could decide to join an RTO under the right circumstances.

REGIONAL TRANSMISSION PLANNING

FERC Order 1000 changes the way investor-owned utilities conduct transmission planning by amending FERC Order 890. Issued July 21, 2011, FERC Order 1000 was designed to improve transmission planning coordination between and within regions by requiring each public utility transmission provider to participate in a regional transmission planning process that produces a regional transmission plan, amend its OATT to describe procedures that provide for the consideration of transmission needs driven by public policy requirements in the local and regional transmission planning processes and removing a Federal right of first refusal to construct certain new transmission facilities. FERC Order 1000 took effect in September 2011 with the first intraregional planning and cost allocation methodologies to be defined by late 2012 and the first interregional planning and cost allocation methodologies to be implemented six months later.

GLOSSARY OF TERMS

Allocation: Portion of energy contracted to each Western customer. It can be either a set amount of power or a proportion or percentage of the power generated.

Ancillary services: Services that make the transmission system "work," including scheduling, system control and power delivery; maintaining correct voltages and adjusting generation to match supply to demand; and providing back-up generation and transmission reserves.

Available transmission capacity (ATC): Transmission capacity available after fulfilling transmission needs for preference contract deliveries and project use power that Western can sell on the open market.

Balancing area: An electrical system bounded by interconnection metering and telemetry.

Capacity: Amount of electric power a generator or transmission line is capable of delivering. Measured in kilowatts or megawatts.

Co-generation: Producing both electric energy and steam from various forms of energy.

Contingent capacity: Capacity sold to customers with the understanding that the service may be unavailable under certain conditions.

Economy energy: Non-firm electric energy purchased by one utility from another and substituted for energy that would have been generated more expensively by the purchasing utility's own system, or purchased from higher cost services.

Emergency assistance energy: Energy delivered to other utilities in situations of unplanned, forced outages to their generation or transmission facilities.

Energy: Amount of electricity delivered over time. Measured in kilowatthours or megawatthours.

Federal Energy Regulatory Commission (FERC): An independent DOE agency whose mission is to provide regulatory oversight of interstate power and transmission sales.

Firm power: Capacity and energy Western guarantees to be available 24 hours a day.

Generating agencies: Organizations that run the powerplants from which wholesale marketers then sell the power. For Western, the agencies are the U.S. Bureau of Reclamation, U.S. Army Corps of Engineers and the International Boundary and Water Commission.

Interchange/exchange energy: Energy delivered to other utilities on an hourly, as-available basis with the provision that the energy will be returned. Exchange energy is similar, but usually for a longer scheduled period.

Interruptible energy sales: Energy sold under terms that allow the supplier to terminate delivery.

Fuel-replacement energy: Electric energy generated at a hydropower plant as a substitute for energy that would otherwise have been generated by a thermal electric plant.

Maintenance energy: Energy delivered to other utilities during scheduled maintenance outages to their generation or transmission facilities.

Marketable resource: The amount of capacity or energy to be sold. It is a function of total powerplant energy and capacity that is possible minus necessary reserves, project use power and historic flows and water conditions.

Network Integration Transmission Service (NITS): An arrangement that provides flexible delivery of energy between generation and delivery point over multiple transmission paths as opposed to a single transmission line or path.

Non-firm energy: Energy usually sold with the requirement that the sale can be stopped on telephone notice and the buyer must have the resource available to meet its own load.

Open Access Transmission Service Tariff (OATT): Provides the terms and conditions under which Western provides open access to our transmission system.

Open Access, Same-Time Information System (OASIS): Website where available transmission is shown in real time.

Peaking power: Power sold during a utility's peak demand hours with a provision that an equal or greater amount of energy must be returned to Western during an off-peak period. Peak hours are usually during the day and off-peak times are generally at night. The customer is purchasing the ability to meet its consumers' instantaneous power needs.

Point-to-point transmission service: An arrangement that provides transmission capacity energy on either a firm or non-firm basis from one point on Western's system to a point on a customer's transmission system.

Power: Combination of capacity and energy.

Preference: Western gives some customers first choice in purchasing Federal power as required by various laws, including the Reclamation Project Act of 1939. Those entitled to preference include cities and towns, state and Federal agencies, irrigation districts, public utility districts, Native American tribal utilities and rural electric cooperatives.

Project use power: Electricity needed to pump water at Federal irrigation projects.

Purchase power: Power purchased from other suppliers when we do not have enough Federal generation to meet our contract commitments. Power may also be purchased to support short-term sales.

Regional transmission organization (RTO): An organization that is responsible for moving electricity over large interstate areas.

Renewable Energy Credits (REC): The environmental attributes of power generated from renewable electric plants.

Resource pools: Power withdrawn from current customers and offered to new customers at specific intervals during a contract period.

Seasonal sales: Power generated or made available to customers only during certain seasons of the year.

Short-term sales: Limited power sales for a day, week or month.

Standards of Conduct (SOC): Set of rules and policies directing the interaction between power marketing and transmission employees within the same organization or between partner organizations to eliminate favoritism and unfair marketing practices and ensure prices for services are not manipulated and are transparent.

Supplemental power: Power in addition to the base resource that may be purchased to meet higher demand for a short period of time.

Withdrawable capacity: Power that is normally dedicated for some other use, such as project use load, but is not currently being used. Therefore, if the primary dedicated user needs the power, it may be withdrawn from the current customers.

CONTACTING US

Additional available publications include general information brochures about Western, the rate and repayment process, requirements for interconnection and annual reports. To obtain a copy of these publications, contact our Corporate Communications office in Lakewood, Colo. Copies of our project-specific marketing plans, OASIS and our open access transmission tariff can be accessed through our website.

For more information about Western or a glossary of terms commonly used in the electrical industry, call or write:

Corporate Communications
Western Area Power Administration
P.O. Box 281213
Lakewood, CO 80228-1213
720-962-7050
Email: CorpComm@wapa.gov

Visit our website at www.wapa.gov

Our regional offices can also assist with more information about Western. Call or write:

UPPER GREAT PLAINS REGIONAL OFFICE
P.O. Box 35800
Billings, MT 59107-5800
406-255-2800

ROCKY MOUNTAIN REGIONAL OFFICE
P.O. Box 3700
Loveland, CO 80539-3003
970-461-7200

DESERT SOUTHWEST REGIONAL OFFICE
P.O. Box 6457
Phoenix, AZ 85005-6457
602-352-2525

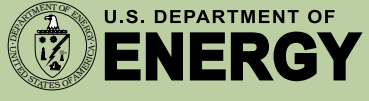
SIERRA NEVADA REGIONAL OFFICE
114 Parkshore Drive
Folsom, CA 95630-4710
916-353-4416

CRSP MANAGEMENT CENTER
150 East Social Hall Avenue
Suite 300
Salt Lake City, UT 84111-1580
801-524-5493

POWER MARKETING LIAISON OFFICE
U.S. Department of Energy
Room 8G-037, Forrestal Building
1000 Independence Ave., SW
Washington, DC, 20585-0001
202-586-5581

For no-cost energy-related technical assistance within Western's service territory, call 1-800-POWERLN 1-800-769-3756


Western
AREA POWER
ADMINISTRATION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