

**ELECTRIC UTILITY DEREGULATION IN ARIZONA:
Beginnings of a Competitive Utilities Market**

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Arizona electricity consumers have been accustomed to paying a single bill for their service. With the onset of industry deregulation, consumers will have more options on how to spend their energy dollars. Over the next few years, competition will be phased in, shifting marketplace control from the government to consumers. Under deregulation, electric service will be divided into four separate functions: the generation of power, transmission, distribution, and metering and billing of electricity.

As competition unfolds, consumers are gaining the ability to choose who generates their electricity, who delivers the power, who reads their meters, and who tabulates their bills. The competitive portion of consumers' bills will include generation, metering and billing. Since companies to transmit and distribute electricity will share existing electricity lines, these two functions will remain regulated. Arizona Public Service (APS) and the Salt River Project (SRP) estimate that 20 to 50 percent of most consumers' bills will be competitive depending upon energy usage.

HISTORY OF NATIONAL UTILITY DEREGULATION

Until recently, a consumer had no choice of electricity supplier because utility companies were granted exclusive rights to provide service to franchised areas. The monopoly market structure evolved from the belief that one supplier could provide service at the lowest cost. Over time, due to a variety of economic and technological reasons, the preferred means of providing low-cost service has changed from a monopolistic market to a competitive market structure for certain services provided by utilities. Utility services were divided into different businesses to allow the deregulation of the generation, metering and billing segments of the industry.

Two federal policies were instrumental in legislating the changing views of utility regulation. In 1978, the move toward a competitive market commenced with the passage of the federal Public Utility Regulatory Policies Act (PURPA). Influenced by the oil embargoes during the 1970s, the law aimed at reducing the United States' dependence on foreign oil. According to the Energy Information Administration (EIA), the law was designed to "encourage the efficient use of fossil fuels in electric power production through *cogenerators* and the use of renewable resources through small power producers." Cogenerators are defined by the EIA as generators that simultaneously produce electric energy and another form of energy, such as heat or steam, using the same fuel source. PURPA required utilities to purchase power from outside sources which encouraged new companies to build small, independent power generators. These new companies were owned by customers, not utilities. The non-utility, customer-owned companies were able to compete with utilities for the generation of electricity.

The Energy Policy Act (EPACT), passed in 1992, provided the impetus for the transition to a competitive market by requiring utilities to open their transmission systems to wholesalers. As a result, power entities were created that could generate and sell wholesale electricity without being regulated as utilities. PURPA's introduction of cogenerators and small power producers together with EPACT's new options for utilities and regulators to meet electricity demand set the stage for deregulation of electric utilities.

HISTORY OF UTILITY DEREGULATION IN ARIZONA

The Arizona Corporation Commission (ACC) was created by the Arizona Constitution to regulate utilities, securities, railroad and pipeline safety, and incorporations. The ACC determines the standards under which these utilities conducted business including the rates paid by customers for electricity service.

In Arizona, two large investor-owned electric utility companies were franchised to serve specific territories within the state – Arizona Public Service (APS) and Tucson Electric Power (TEP). The Salt River Project (SRP), the second largest utility provider in Arizona, is not subject to regulation by the Commission (see Box). As of 1998, 32 utilities existed in Arizona: two federal utilities, five investor-owned utilities (such as APS and TEP), 10 cooperatives, and 15 publicly owned utilities (such as SRP). These companies provided consumers with "one stop" service by providing for electricity generation, transmission, distribution, and metering and billing. "In exchange for this monopoly right," according to the Arizona Corporation Commission, "every aspect of their business was regulated."

Salt River Project

Salt River Project is comprised of two companies: the Salt River Project Agricultural Improvement and Power District, and the Salt River Valley Water Users' Association.

The District, a political subdivision of the state, provides electricity to about 701,000 customers in Maricopa, Gila and Pinal counties in central Arizona. The District is an integrated utility, providing generation, transmission, and distribution services created through enabling legislation passed by the Arizona Legislature. As such, SRP is subject to legislative oversight and is not regulated by the ACC.

The Association, a private corporation, delivers one million acre-feet of water to agricultural, urban and municipal water users in the Phoenix area. The Association maintains and operates an extensive water delivery system including canals and wells.

The Arizona Corporation Commission formed the framework for deregulation on December 26, 1996, with the passage of its Retail Electric Competition Rule. The Rule, now amended, provided a foundation for deregulation by (1) authorizing retail competition; (2) permitting utility companies to recover their *stranded costs* (defined in next paragraph); (3) providing financial resources to support public programs such as utility energy conservation and consumer education; (4) allowing customers to choose between using their existing power provider or obtaining service from the new market competitors; (5) promoting new business development in buying, selling and brokering electricity; and (6) acknowledging that competition will determine prices for electricity generation. The Rule *unbundled* or separated the process of receiving electric service into four distinct utility services: electricity generation, transmission, distribution, and metering and billing.

Stranded costs are described by John Flaherty, editor of COBRA, the Association of Cogeneration, Boiler and Refrigeration Professionals, as the utility companies' "investments in generating capacity left stranded when a customer leaves the system. ... In the regulated electricity industry, a utility has an obligation to serve all the customers in its territory at all times, regardless of load on the system or size of the client base. This means that many utilities must build 'standby power plants' which may only be online at peak load times. It also means that before deregulation, they would plan ahead for areas of potential growth. In an era of competition however, when a utility loses a customer, it also loses the chance to recoup the costs it incurred to serve that customer. Resources that were once necessary for adequate capacity may stand unused, or stranded, as the industry deregulates."

On May 29, 1998, a law passed by the Arizona Legislature defined the essence of the relationship between the consumer and publicly owned power entities. The Electric Power Competition Act (see Table 1) required that the ACC and public power utilities work together to ensure that rules, procedures and orders were applied uniformly statewide. The law encompassed SRP by defining *public power entities* as "municipal corporations, cities and towns with more than 75,000 people, or other political subdivisions that generate, transmit and distribute, or otherwise provide electricity, which are not public service corporations regulated by the ACC."

**TABLE 1
KEY POINTS IN THE ELECTRIC POWER COMPETITION ACT**

Public Power Entities	<i>Public power entities</i> defined to include SRP.
Phased Implementation	Public power entities must make 20 percent of their 1995 <i>retail peak load</i> available for competition on December 31, 1998. Retail peak load represents the amount of power demand during the part of the year when demand for electricity is highest (such as the summer months in Phoenix). At least 15 percent of the initial 20 percent must be reserved for residential customers. All service territories must be fully open for competition by December 31, 2000. Provides the ACC authority to open service territories of public power entities (including investor-owned utilities and consumer owned cooperatives).
Price Reduction	Public power entities must reduce price of <i>bundled electric service</i> (price of electricity supply and delivery). The reduction must total at least 10 percent over a 10-year period.
Stranded Cost Recovery	Limits time period and specifies rules under which public power entities may recover stranded costs. All or a portion of these costs may be recovered through a temporary surcharge in electric rates.
Code of Conduct	Requires that public power entities adopt a code of conduct to prevent anti-competitive activities that may result from companies providing both competitive and non-competitive services.
Consumer Outreach and Education	Development of a comprehensive public education program is required to keep customers informed about upcoming industry changes.
Consumer Protection	Requires public power entities to adopt rules and procedures to protect the public against deceptive, unfair and abusive business practices.
Supplier of Last Resort	Requires a supplier of last resort for customers where service is discontinued due to suppliers' unwillingness or inability to supply generation service.
Consumer Choice	Requires electric and natural gas facilities to be installed in new homes in order to provide customers the option of either natural gas or electricity.
Reliability	<i>Public power entities</i> must participate in and support an independent system operator or other efforts to coordinate scheduling of transmission within the state and region.
Judicial Review	Allows interested parties and the Arizona Attorney General to challenge <i>public power entity</i> decisions regarding the terms and conditions for electric competition.
Other Provisions	Allows <i>aggregation</i> or combination of electric loads by customers to gain a volume purchasing price.
Legislative Review	Requires a legislative review in 2008 to recommend whether there should be distribution service territories who should serve as the supplier of last resort.
Public Process	Requires public power entities to provide customers with opportunities to review proposals for customer selection, complaint resolution, consumer protections, stranded costs, distribution service rates and charges.

Source: SRP (www.srpnet.com/business/powerqual).

The issue of recovering stranded costs came to the forefront in December 1998 when the Arizona Supreme Court was asked by the Attorney General's office to delay hearings scheduled by the ACC. The hearings were delayed in order to allow sufficient time for interested parties to analyze settlement agreements between Arizona Public Service, the Arizona Corporation Commission and Tucson Electric Power. According to APS, the agreements provided "additional price reductions for APS customers, stranded cost recovery, and the exchange of APS' high voltage transmission facilities for Tucson Electric's interest in the Four Corners Generating Station near Farmington, New Mexico, and the Navajo Generating Plant near Page, Arizona."

The ACC delayed the onset of competition for APS until October 1, 1999 and for TEP until January 29, 2000 for 20 percent of consumers. All consumers will have access to competitive pricing by December 31, 2000.

Since SRP is not under jurisdiction of the ACC, it was not affected by the ruling that delayed competition in the investor-owned utilities' territories. On December 31, 1998, SRP opened 20 percent of its territory to competition as stated under the terms of the Electric Power Competition Act passed in May 1998. The remaining territory must be opened to competition by December 31, 2000.

From April 23, 1999 to September 29, 1999, the Arizona Corporation Commission's retail electric competition rules were revised with the final rules for restructuring approved on September 29, 1999. The decision allows customers to be eligible for competitive electric services based on the phase-in schedule set by the Commission for the affected utilities (see Table 2 for more detail).

ARIZONA AND REGIONAL DEREGULATION

As of December 1, 1999, more than one-half of the western states (Arizona, California, Montana, Nevada, New Mexico, Oregon, and Texas) had enacted restructuring legislation, and the rest (Colorado, Idaho, Utah, Washington, and Wyoming) have ongoing commission or legislative investigations (see Figure I). California leads the region in the restructuring process, having opened 100 percent of investor-owned utilities' service territories to retail competition on March 31, 1998. Initially, California planned to phase in retail competition but the plan was later amended to allow retail access for all consumers simultaneously.

Arizona, Montana, Nevada, New Mexico, Oregon, and Texas have begun to open or have scheduled to open their electric power service territories to competition (see Table 3). Montana's Public Service Commission approved a plan to phase in competition beginning July 1, 1998 for Montana Power's largest customers and November 1998 for residential and smaller customers. Access for all residential customers is scheduled to begin in April 2000. Nevada's retail market, previously scheduled to open to competition by December 31, 1999 was delayed until March 2000. With the enactment of Nevada's latest restructuring legislation, the Governor rather than the state's public utilities commission was given the

TABLE 2
ELECTRIC INDUSTRY RESTRUCTURING ACTIVITY IN ARIZONA
(AS OF MID-DECEMBER 1999)

Salt River Project (SRP)	Arizona Public Services (APS)	Tucson Electric Power (TEP)
December 31, 1998: SRP opened 20 percent of its retail territory to competition. SRP's restructuring plan includes a 5.4 percent rate reduction for consumers remaining with SRP. SRP is not under jurisdiction of the ACC and thus not affected by the court ruling that has delayed competition in the investor-owned utilities' territories. All of SRP's service territory must be open for competition by December 31, 2000.	October 1, 1999: ACC approved a restructuring settlement agreement with APS. APS will open 20 percent of its retail territory to competition by October 1, 1999 and 100 percent by December 31, 2000. Residential rates will be reduced 7.5 percent over five years and large-user rates will be cut 5 percent over four years. APS will be allowed to recover \$350 million of \$533 million in stranded costs during a five-year transition period from 1999 through 2003.	November 22, 1999: ACC approved a restructuring settlement agreement with TEP. TEP will open 20 percent of its retail territory to competition in January 2000. The settlement will allow 100 percent recovery of \$450 million in stranded costs during an eight-year transition period from 2000 until 2008. The agreement allows rate reductions of 1 percent on July 1, 2000, completing a three-stage reduction totaling 3.1 percent. After July 1, 2000, rates will be frozen until 2008. All consumers in TEP's territory will have access to other service providers by December 31, 2000.

Source: Energy Information Administration.

authority to select another date. On April 8, 1999, New Mexico's Electric Utility Restructuring Act was enacted, opening the state's residential and small consumer electric power market to competition in January 2001. All other consumers will have access by January 2002.

Oregon's restructuring legislation will open the electric power market to competition for large industrial and commercial customers in October 2000. Unlike most other states, Oregon's restructuring bill provides residential consumers with several pricing options including the traditional regulated rate, a market-based rate, and a "green" (utilizing renewable generation sources) rate, instead of having retail access. The state's public utilities commission regulates pricing plans. Oregon's bill permits its public utilities commission to suspend restructuring if access to low-cost power is compromised, and it allows municipal utilities to decide whether or not to participate. In June 1999, Texas enacted legislation allowing retail competition of its electric power market. The bill will open the retail market by January 2002, except for customers of cooperatives and municipal utilities that choose not to participate.

Of five other western states yet to open their electric utilities markets to competition, Colorado and Washington have had research conducted which suggested that opening their electric utilities market to competition would more likely raise rather than lower rates for consumers. This past October, Colorado's legislative task force voted against opening the state's electric utilities market to competition. The task force findings were released in a report by the state's electricity advisory panel citing concern over higher rates in a competitive market for low income, rural, residential and small business consumers. According to the report, "most Colorado consumers and the economy will be hurt, losing thousands of jobs."

FIGURE I
WESTERN STATES RESTRUCTURING ACTIVITY
(AS OF DECEMBER 1, 1999)



Source: Energy Information Administration.

TABLE 3
WESTERN STATES RESTRUCTURING SCHEDULE
(AS OF DECEMBER 1, 1999)

	Partial Opening	Full Opening
Montana	July 1, 1998 for large customers. November 1, 1998 for residential and smaller customers.	April 1, 2000 for all residential customers.
Nevada	March 1, 2000.	Not yet decided.
New Mexico	January 1, 2001 for residential and smaller customers.	January 1, 2002 for all other customers.
California	Not applicable.	March 31, 1998 for all customers.
Arizona	December 31, 1998 for 20 percent of SRP's customers. October 1, 1999 for 20 percent of APS's customers. January 29, 2000 for 20 percent of TEP's customers.	December 31, 2000 for all customers of SRP, APS and TEP.
Texas	January 1, 2002.	Not yet decided.
Oregon	October 1, 2000 for large industrial and commercial customers.	Residential consumers will not have direct access to suppliers under restructuring.

Source: Energy Information Administration.

In Washington, state or local regulators usually determine electricity rates. According to Washington's Legislative Electricity Study, much of the power generation that serves Washington customers is likely to cost less than its market value. If the value of the resources is not preserved through regulation, power costs could rise significantly putting pressure on state and local rate-setters to shift costs among customers and customer classes. Having the second lowest retail electricity rate in the nation, and over two-thirds of Washington's consumers served by publicly owned utilities not subject to the state's utilities commission, interest in restructuring is low.

Idaho, Utah and Wyoming are proceeding with deregulation cautiously by slowly implementing changes. These states also have some of the lowest electricity rates in the nation and the western region. Idaho's Legislative Council Committee on Electric Utilities Restructuring issued its final report in January 1999, recommending a slow approach to retail competition. A month prior to the report, the legislative committee recommended against restructuring, concluding that deregulation would raise electricity rates for consumers. Utah's Task Force on Electric Deregulation issued a report which also favored a slow approach to deregulation. Developments from the task force's meeting on November 10, 1999 has not yet been released. Wyoming, the most tentative state of the group, cancelled a hearing on deregulation scheduled in June 1998 due to legislators' concerns. In the same month, a restructuring bill killed in January 1998 was revived. "Although both proponents and opponents feel deregulation is inevitable," according to the Energy Information Administration, "they are reluctant for the state to take a lead since prices are already among the lowest in the nation." In 1998, Idaho and Washington had the lowest consumer costs with rates for all sectors (residential, commercial, industrial, and other) at 4.0 cents per kilowatt-hour, just over half of what Arizonans currently pay (see Table 4).

Electricity rates vary by source of the power. Hydropower, which is inexpensive to generate, is widely used in the Northwest. Hydropower accounts for 87 to 100 percent of the energy produced in Idaho, Oregon and Washington according to the Energy Information Administration's 1996 state electricity profiles. Conversely, the states of Colorado, Nevada, New Mexico, Utah and Wyoming rely on coal to generate 70 to 97 percent of their energy. Coal is the source for roughly half (43 to 50 percent) of utility generation in Arizona, Montana and Texas. A combination of hydro, nuclear and gas power comprise the second half of utility generation for these states. In Arizona, the primary energy sources in 1996 were coal (43 percent), nuclear (41 percent) and hydro (13 percent). Unique among the western states, California's primary energy sources are fairly evenly distributed among hydro (43 percent), nuclear (30 percent), and gas power (27 percent).

TABLE 4
WESTERN STATES AVERAGE REVENUE IN 1998
CENTS PER KILOWATT-HOUR

	Major Power Sources ¹	All Sectors	Residential	Commercial	Industrial	Other ²
Idaho	H	4.0	5.3	4.3	2.8	4.9
Washington	H	4.0	5.0	4.8	2.6	3.6
Wyoming	C	4.3	6.4	5.3	3.4	3.5
Oregon	H	4.7	5.9	5.0	3.1	5.2
Montana	H,C	5.1	6.7	6.0	3.5	7.7
Utah	C	5.2	6.8	5.7	3.4	4.4
Nevada	C,G,H	5.8	7.0	6.5	4.6	3.9
Colorado	C	6.0	7.5	5.7	4.4	8.2
Texas	C,G,N	6.1	7.6	6.6	4.0	6.4
New Mexico	C	6.9	9.0	7.9	4.6	5.7
Arizona³	C,N,H	7.4	8.7	7.8	5.1	4.8
California	H,N,G	9.0	10.5	9.7	6.3	7.5
U.S. Average	C,N,H	6.8	8.3	7.4	4.5	6.8

¹Major power sources based on EIA's 1996 State Electricity Profiles: C = Coal, G = Gas, H = Hydro/Other, and N = Nuclear. Sources producing less than 10% of the total power are not listed.

²Includes public street and highway lighting, other sales to public authorities, sales to railroads and railways, and interdepartmental sales.

³The Energy Information Administration does not include public power providers (such as SRP) in state averages.

Source: Energy Information Administration.

DEREGULATION AND POWER GENERATION IN ARIZONA

As of January 1, 1998, 34 power-generating plants were located in Arizona, 14 in Maricopa County (see Table 5). The 34 existing plants are operated by eight public-power entities including SRP (11 plants), APS (10 plants), Bureau of Reclamation (5 plants), and TEP (4 plants). The Arizona Electric Power Cooperative, Citizens Utilities, the Imperial Irrigation District, and the USBIA (U.S. Bureau of Indian Affairs) San Carlos Project operate one plant each. In addition to these plants, co-owned plants located in Colorado (2 plants), New Mexico (1 plant), and California (1 plant) also provide power for Arizona.

Since the enactment of the Electric Power Competition Act in May 1998, plans to construct 11 new power generation plants in Arizona have been announced (see Figure II). Companies are working to secure a part of the competitive market by developing new, more cost-effective plants using natural gas turbines. Suppliers able to offer lower prices expect to gain the competitive edge in the new market. With the second highest average overall cost for electricity in the western states, industry leaders see great potential to provide inexpensive electricity in Arizona's power generating market.

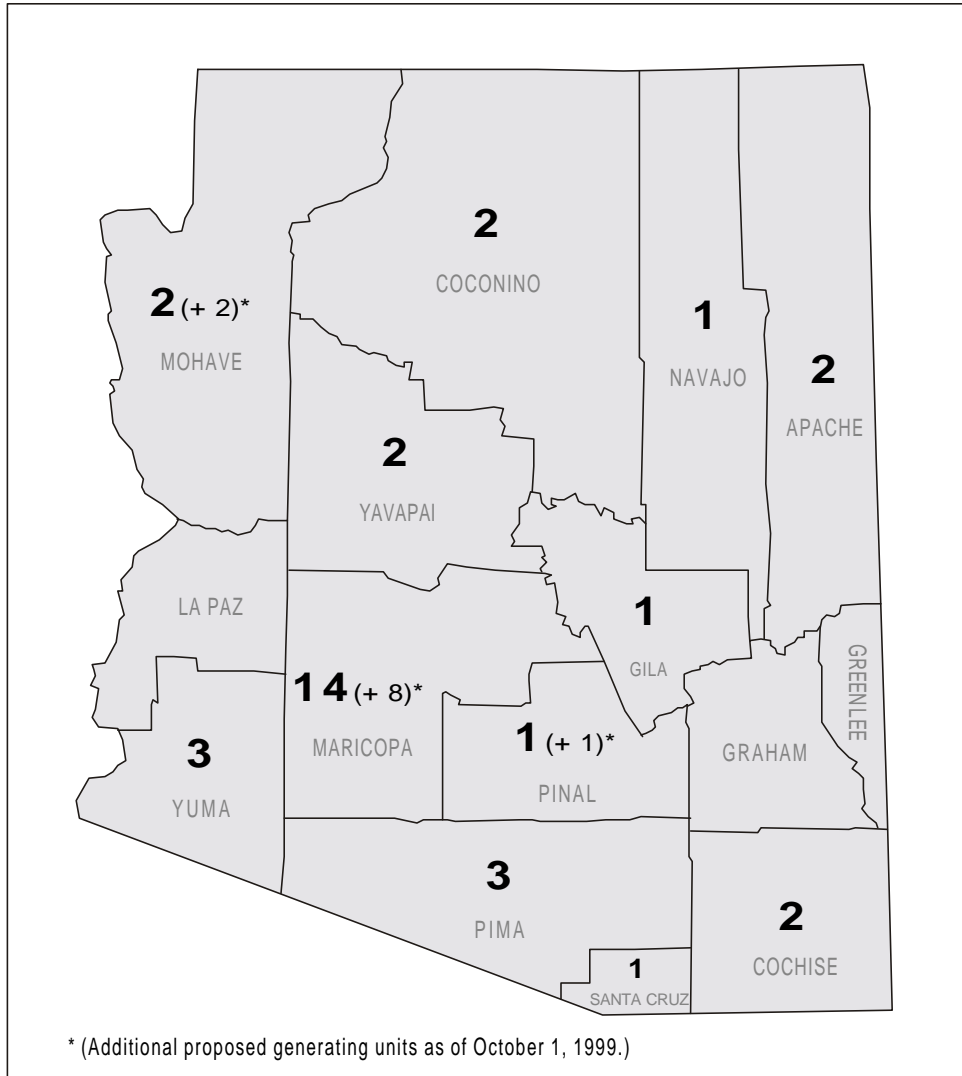
Eight of the 11 proposed plants are located in Maricopa County, with five in the western part of the county. Two new plants are proposed in Mohave County. Factors such as inexpensive land, ability to obtain air quality permits, easy access to Western Power Grid transmission lines and proximity to railways make western Arizona an attractive location for new plants. One additional plant has been proposed in Pinal County. Four of the 11 plants have been proposed by Arizona-based utilities such as the Salt River Project and Pinnacle West Capital, the parent company of Arizona Public Service.

LOOKING AHEAD

As the turn of the century approaches, Arizona's competitive electric utility market will present consumers with choices about who will provide their power. In order to compete in the new marketplace, companies are positioning themselves by building new, more efficient power plants to provide low-cost energy for consumers. With the industry evolving, time will determine whether changes in Arizona's power structure will improve rates in relation to other western neighbors and the U.S. as a whole.

The information in this report is current as of mid-December 1999. Special thanks go to Jacqueline Fifield at SRP and Peter Ewen at APS for reviewing and making suggestions for this article.

**FIGURE II
EXISTING GENERATING UNITS IN ARIZONA
(AS OF JANUARY 1, 1998)**



Source: Energy Information Administration and L. William Seidman Research Institute, College of Business, Arizona State University.

TABLE 5
EXISTING GENERATING UNITS IN ARIZONA BY COMPANY AND PLANT
(AS OF JANUARY 1, 1998)

Company	Plant
Arizona Electric Power Cooperative	Apache Station (Cochise)
Arizona Public Service	Childs (Yavapai) Cholla (Navajo) Douglas (Cochise) Irving (Yavapai) Ocotillo (Maricopa) Palo Verde (Maricopa) Saguaro (Pinal) Solar (Maricopa) West Phoenix (Maricopa) Yucca (Yuma)
Bureau of Reclamation	Davis (Mohave) Glen Canyon (Coconino) Headgate Rock (Yuma) Hoover (Mohave) Waddell (Maricopa)
Citizens Utilities	Valencia (Santa Cruz)
Imperial Irrigation District	Yuma Axis (Yuma)
Salt River Project	Agua Fria (Maricopa) Coronado (Apache) Crosscut (Maricopa) Horse Mesa (Maricopa) Kyrene (Maricopa) Mormon Flat (Maricopa) Navajo (Coconino) Roosevelt (Maricopa) Santan (Maricopa) South Consolidated (Maricopa) Stewart Mountain (Maricopa)
Tucson Electric Power	Demoss Petrie (Pima) Irvington (Pima) North Loop (Pima) Springerville (Apache)
USBIA San Carlos Project	Coolidge Dam (Gila)

Source: Energy Information Administration.