HOTWIRING Deregulation:
How SRP Can Lead the Way to a Competitive Electric Market

By
Michael K. Block
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Executive Summary

At the end of 1996, the Arizona Corporation Commission passed a rule that phases in deregulation in the electricity industry over the next five years. The legislature will likely take action next year. In order to implement competition, Arizona’s policy makers must untangle a knot made up of opposing interest groups: consumers big and small, urban and rural; utilities in and out of state; investors, environmentalists and the occasional stray intellectual. One of the issues facing policymakers is the status of utilities not under the Corporation Commission’s jurisdiction. These include a handful of municipal utilities, irrigation and electrical districts and the Salt River Project. However, SRP’s status, far from being an obstacle, represents an opportunity to hasten the introduction of competition in the electricity industry to Arizona. SRP’s autonomy gives it the power to introduce full competition to its service territory without the hurly-burly that is accompanying the Corporation Commission’s efforts. With SRP leading the way, the rest of Arizona cannot afford to dawdle.

The electric power industry is on the threshold of a new era. Technological progress and an intellectual revolution have made the old paradigm of electric utilities as regulated monopolies obsolete. Like the deregulatory waves in transportation and telecommunications, deregulation in the electric power industry promises to bring great benefits to consumers and businesses. Before deregulation, only half of Americans had traveled on a plane, and cordless phones and fax machines were toys of the rich. Airline deregulation has saved consumers an estimated $12.4 billion and raised the number of Americans who have traveled by air to 75 percent.\(^1\) In the communications arena deregulation has contributed to a 6 percent per year decline in the real cost of an interstate phone call since 1984, and a 740 percent increase in the number of fax machines, among other things. Similarly, electricity deregulation promises lower costs, new products and innovations in service that boost efficiency.

The Salt River Project

Flying over the Salt River Valley in 1997, one sees oceans of tile roofs, skyscrapers, lush green lawns, fields of crops and numerous golf courses. The turn-of-the-century Arizona Territory was a very different place. The population of the territory was 124,000, of which 20,457 lived in Maricopa County. The economy of the Salt River Valley was dominated by agriculture which required a stable water

\(^{1}\) Robert Crandall and Jerry Ellig “Economic Deregulation and Customer Choice: Lessons for the Electric Industry,” Center for Market Processes, George Mason University, Fairfax, VA.
supply that could not be met by the annual average rainfall of seven inches and the irregular flow of the Salt River. Although canals had been used in the valley for centuries, the demands of the growing territory required a more sophisticated system supported by a water storage facility.

The National Reclamation Act of 1902 supplied the vehicle needed by valley landowners to finance such an undertaking. In 1903 the Salt River Valley Water Users' Association, a private corporation representing the interests of 4,000 owners of 203,000 acres of land, was formed. Association members put up their land as collateral for the construction costs of what would be the Roosevelt Dam. Construction began in 1905 and was completed in 1911. In the eyes of the Association, the intent in building Roosevelt Dam was unrelated to the generation of electric power. However, it soon became evident that this would be a necessary and desirable effort. After temporary hydro-electric generators were successfully installed for the construction of the dam, additional permanent generation was put in place.

Today, SRP is the second largest utility in the state. In 1995, it accounted for roughly a third of the retail sales in the state and it controls nearly 40 percent of the resources owned by Arizona utilities. In 1996, SRP had total revenues of $1.36 billion, from $1.35 billion in electric revenues and $10 million in water revenues (See Figure 1.)

**Figure 1. Electric Power in Arizona**

Source: Memo to Goldwater Institute, David Berry, Arizona Corporation Commission, October 15, 1996.
However, SRP is not just another electric company, or a "down home" more friendly version of Arizona Public Service or Tucson Electric Power. It is an autonomous municipal entity like a city, albeit formed for a specific purpose. It can issue tax-free bonds and has the ability to tax.\(^2\) This autonomy gives SRP the power to lead Arizona into the era of electricity competition.

**Why SRP should lead the way**

If the Board of Directors of the Salt River Project Agricultural Improvement and Power District, the Board of Governors of the Salt River Valley Water Users Association and the Councils of both the District and the Association voted one afternoon to allow a competitive supply of electricity in their service territory, approximately one third of all Arizonans would instantly be in a competitive electric market. Not only does SRP have the power to bring competition to its territory, it has an obligation to do so. Like a government, SRP should first and foremost be concerned with the welfare of its members. SRP's duty to its customers is to provide them with low-cost electricity, subject of course to its support for water users. In the past it was able to do this by acting like an electric utility. In the future it should do this by acting like a (de)regulator, by creating a market that allows consumers in its service territory to buy power from any provider they choose.

SRP is in a much better position to design and implement a plan for competition in electric supply than is the Arizona Corporation Commission. First, the number of interested parties is smaller, substantially reducing the haggling among interest groups that is plaguing the Corporation Commission's efforts. Second, SRP has actually been operating an electric utility and has first-hand knowledge of the technical and economic aspects of the electric industry. Third, the District actually owns the assets it would need to rearrange if it were to restructure the market within its borders. Stranded investment and any potential "taking" would probably be almost entirely an intra-organizational issue. Finally, the authority of the district to restructure the electricity market within its borders is clean and legal, eliminating the likelihood of wrangling in the courts.

**SRP—A highway for power**

The objectives of our plan are to bring the benefits of a competitive electric market to the residents of SRP's service area, to hasten the arrival of competition in the rest of Arizona and to show by example the most economically efficient restructuring strategy. In the suggestions that follow, we keep all of these objectives in mind.

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\(^2\) Even its Internet address is srp.gov.
In order to facilitate a competitive electric market and protect SRP’s historic functions, we suggest that the Association and the Agricultural Improvement and Power District form the Salt River Water and Wires District. Water and Wires would take over all of the existing functions of SRP, except the generation of power and energy marketing. In addition to continuing to provide the Valley with water, Water and Wires would serve as a highway for power over which households and businesses can buy electricity from providers throughout the West. SRP’s generation and marketing functions would be spun off into private companies. Although the relative efficiencies of public and private power have been debated, the evidence indicates that at least for generation private operators are more efficient than public ones.\(^3\)

There are two schools of thought on how Water and Wires can organize an electricity market on its transmission and distribution grid. The first to operate it like a municipal highway for electrons. Under this system, buyers contracting for power separately with individual sellers and Water and Wires would simply be responsible for the physical operation of the grid. The actual making of the market would be done by supply coordinators who would be responsible for seeing that the amount of power injected into the system equals the amount withdrawn. This entails ensuring not only that the number of kilowatt-hours sold equals the number of kilowatt hours bought, but that injections and withdrawals across the system are consistent with its physical capability. To help the supply coordinators in this task, Water and Wires would post its available transmission capacity on real-time information networks similar to the natural gas electronic bulletin boards.

We recommend, however, that Water and Wires use a market system that more accurately reflects the physical reality of the grid is an integrated, market-based dispatch system. A system like the one described by professor Vernon Smith.\(^4\) In an integrated market dispatch (IMD) system, the tasks of grid operator and market maker are carried out by one organization. As Professor Smith notes, “Central coordination is necessary in electric power because electrons flow according to the law of physics, not economics.” This characteristic of electric supply can be coordinated with a market mechanism and there are substantial returns from it doing so. Our proposal follows Professor Smith’s recommendations by merging the dispatch and power exchange functions. This is vital to the efficient functioning of this network industry. It will also provide more price information to producers and consumers than a series of individually negotiated contracts.

Protecting the Water User

The original purpose of the Salt River Project was to provide water for the Salt River Valley. Electric operations were intended to support the water production


and for many years were much less important than water functions. While this is no longer the case, electric operations still subsidize the water operations to the tune of around $32 million per year. This support is the equivalent of a dividend in an investor owned utility.\(^5\)

In a competitive environment, SRP’s electric operations might not have the revenue to continue these payments. This is the investment or benefit that could be stranded if SRP allowed competition within its boundaries. Since water is vital to the Valley it is unlikely that SRP will lead, or for that matter even join, the restructuring process unless its own variation of the stranded cost problem is addressed.

We recommend that water users be compensated for any decrease in their subsidy by giving them shares in a Water Users Compensation Fund (WUCF). The fund would be similar to a mutual fund, capitalized with enough assets to provide an annual payment equivalent to the lost water subsidy. If the fund is given assets equivalent to what they have now in SRP, high-quality municipal bonds, it would take $745 million to $1.2 billion to capitalize the WUCF. We recommend that SRP privatize its generation and marketing in order to help capitalize the WUCF. Any difference from the proceeds from the sale of the two companies and the amount needed to keep water users whole would be stranded investment.

Whatever the level of stranded investment, the theory is that it should be paid by those who will benefit from competition - the customers. Our approach to exactly what form recovery of stranded costs should take is contrary to the consensus among most policy analysts and almost all policy makers.\(^6\) The conventional wisdom favors recovering stranded costs from consumers through a wires charge, i.e. a levy per kilowatt hour of power used. However, regardless of the merits of allowing utilities to recover stranded costs, and there is at the very least a practical case for some recovery, the wires charge itself is bad economics.

The basic objective in designing a stranded cost recovery system should be to avoid visiting the “sins of the past,” on the future. Specifically, whatever caused (or generated) stranded costs under the previous monopoly regime, recovery of these costs should not unduly influence the future energy consumption decision of residential and business users. In order to ensure that stranded cost recovery has a minimal impact on how much electricity consumers use and where they choose to buy it, we suggest that regardless of how stranded cost is measured, it be recovered through a fixed, unavoidable fee that does not vary with energy use. Such a charge can be fairly apportioned by making it dependent on customer attributes that are

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\(^5\) This is the average of the annual contributions in support of water use given in the Salt River Project Annual Report 1995-96.

\(^6\) Although recovering stranded costs at least in part as we propose here has been received with some favor in New York. “Transition Rates Winning Support in N.Y.,” The Electricity Daily, August 11, 1997.
related to income such as property values. Another way would be to allocate stranded costs to customers based on past consumption (new customers would be assessed a typical meter fee based on their specific attributes).

**The rules of the game**

As is the case with SRP now, in the future the Water and Wires company will be the equivalent of the Corporation Commission for over 600,000 electric consumers. Consequently, it will have the responsibility for setting the rules governing competition and applying the set of social policies sustained by the current system. We recommend that in the future, rules and policies should be transparent and only minimally distort the market.

**Free entry.** SRP service territory should be open to all technically qualified service providers. Any generator or power marketer should be free to sell in the current SRP service territory and anybody as long as they abide by certain technical requirements will be free to construct new transmission and/or distribution lines in the territory. Low voltage grids for micro-turbine generators and all other forms of distributed generation should also be permitted.

**Social subsidies.** Current electricity rates hide a web of subsidies for certain consumers: the poor and those in remote locations. As a general proposition SRP should adopt a policy of transparency and neutrality in providing any future subsidies. When the District provides a subsidy, it ought to do so in a clean and direct manner. Moreover, both the raising of the revenue for a subsidy and the subsidy itself ought to be as unobtrusive in terms of the demand for electricity as is possible. Consequently, any revenue raised for social subsidies should come from a separate, fixed charge on the monthly bill.

**Renewable energy sources.** The most sensible renewable energy policy is one that allows consumers to choose the level of green, or environmentally friendly power they desire. Our recommendation is that Water and Wires include within the power exchange, a spot market for both generic and environmentally friendly power. Those who were willing to do so could submit bids for the premium that they would be willing to pay for various quantities and qualities of environmentally friendly power. Under our approach, those who feel that fossil fuels are bad for the environment will have a chance to do something about it without imposing costs on those not so convinced or concerned about such effects. Given the state of knowledge in this area, we feel that this would represent a reasonable response by SRP to the concerns of environmental activists about the impact of competitive restructuring on renewable energy sources.

**Two governments are better than one**

The States have been referred to as laboratories of democracy. This concept carries on down to other political jurisdictions such as cities and counties. This means that individual governments are free to tailor policy to meet the needs and
wishes of their citizens and that individual jurisdictions are essentially in competition with each other. Governments that enact bad policies watch businesses fail and residents move out. This competition keeps governments from taking actions that are too detrimental to residents.

Any attempts to “coordinate” the deregulation process, either through an inter-governmental agreement (IGA) between SRP and the Corporation Commission or through legislation putting SRP under the Commission’s jurisdiction, is precisely what should not be done. The deregulatory effort in Arizona will benefit from the flexibility of multiple jurisdictions. Economic regulation is one of the least perfect human endeavors. The fact that Arizona, and in particular its largest metropolitan area, potentially has two utility regulators—the Corporation Commission and SRP—is good fortune in the extreme. Having two regulators will benefit the process of introducing competition in electric power. The rules developed by the ACC and by SRP will be subjected to a type of market test. Competition between regulators will spur deregulation. If any regulatory body lags behind, households and businesses under its jurisdiction will wonder why they have to pay higher rates than their neighbors. This same pressure will keep in check any cost-raising regulations any regulatory body might be contemplating.

Conclusion

The owners of SRP should seize this opportunity and give consumers in its service territory full freedom to choose their electricity provider. They should do this as soon as possible; independent of the action taken by any other agency. Opening SRP territory to full competition would not only benefit current SRP consumers, but give an impetus to deregulation in the state as a whole. The practical and political difficulties of keeping parts of the state under a regulated monopoly when almost half of the metropolitan Phoenix area is open to competition will be overwhelming. Low electricity prices will give businesses located in former SRP territory a competitive advantage. Land will be more valuable since the area will be a more desirable place to locate a business or buy a home. Homeowners, businesses and cities outside former SRP territory would not tolerate not having the low power prices enjoyed by their competitors and neighbors. It would not be very long after SRP voted to implement competition that the entire state would have to follow suit.

SRP is in the driver’s seat and can provide the quickest way for all Arizonans to reap the benefits of a competitive market in electricity. Such a move would be the single most productive activity any public body in the state concerned with electric power could undertake.
## Introduction

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