

Generation Business Strategies and Risk Assessment among Municipal Electric Utilities in California

Shiva Swaminathan is a resource planner at the Utilities Department of the City of Palo Alto, California. He leads the modeling efforts of the electric utility's supply resource portfolio and has implemented risk management systems for the utility. He holds an M.S. degree in power systems engineering, an M.A. in economics from Ohio University, and a B.S. in electrical engineering from Moratuwa University. He is also a graduate member of the Chartered Institute of Management Accountants, London.

Jane Ratchye is a senior resource planner at Palo Alto's Utilities Department, with responsibility for the development of the energy risk management program for the gas and electric utilities. She holds a B.S. in mechanical engineering and an M.S. in engineering-economic systems from Stanford University. The interpretations and conclusions of this article are those of the authors and do not necessarily represent the views of the City of Palo Alto.

MUs must determine their position along a risk spectrum that ranges from actively owning and managing generation assets to adopting a more passive role as a load aggregator that reduces risks and potential financial rewards to the city.

Shiva Swaminathan and Jane Ratchye

The introduction of open markets for electricity in California and many other states in the United States has raised new questions for municipal utilities (MU). What is the role of a MU when there are competitive markets for electricity generation services? Should MUs provide their customers the option to choose an outside generation service provider? What are the risks and rewards faced by a MU in continuing to own generation assets to provide generation services to its customers? This article exam-

ines these issues and concludes that, in the absence of captive customers or favorable tax treatment, the risk-reward profile associated with the ownership of generation assets will lie outside the risk tolerance of public entities. As a result, generation business units of most MUs are likely to undergo radical changes, including the sale of generation plants, outsourcing of operational functions, establishment of strategic alliances, and transformation into the role of load aggregators.

I. Understanding the Roots

Most MUs were established early in the past century to wire towns in order to distribute power to their residents. The residents and customers of these utilities retained control of these enterprises, either through a cooperative establishment or through municipal city governments. In the past, when the electric utility industry was considered a vertically integrated natural monopoly, these public utilities considered the provision of generation services, along with distribution services, to fall within the purview of municipal services provided to residents.

Many communities take pride in owning their local utility and having a voice in its operation. The nonprofit nature of these enterprises and the tax-exempt status the municipalities enjoy in issuing bonds for capital projects tend to benefit customers through lower rates. However, the operational efficiency of a MU has been hard to compare with that of a neighboring investor-owned utility (IOU) in the regulated regime.¹ The development of open markets for generation services where there is transparent price discovery has now provided the opportunity for both public and private enterprises to benchmark their operational performance.

While electric transmission and distribution services to a large extent could still be considered a natural monopoly, the introduction of open markets for generation services has reduced the

need for public entities to continue to provide electric generation services to residents. This is not to say the utility should not serve the function of an aggregator of customer load, but the need for a public utility to take on proprietary positions (i.e., generation assets) has diminished. In addition, one needs to recognize that in open markets where customers can select their electric supplier, the

The development of open markets has provided the opportunity for both public and private enterprises to benchmark their performance.

return on generation asset investments is uncertain. In this context, each utility needs to examine whether owning generation assets is in the best interest of its owners/residents.

II. Response to Competitive Markets and Customer Choice

Most MUs in California are regulated by their local city governments. Hence, electric competition legislation introduced at the state level and implemented through the California Public Utilities Commission did not have a direct impact on municipal utilities.

However, many MUs have responded to state initiatives and are opening their borders, to enable their customers to choose an external electricity service provider.

While all customers in the three major IOU service territories in California have had the ability to select their supplier since April 1998, the MUs have chosen various approaches in providing choice to customers. Some have provided choice to some of their customers, but others have been more cautious.² Disparate regulatory bodies, issues related to stranded cost recovery, the treatment of tax-exempt bonds and "private use"³ issues, inadequate information system infrastructure, and a plain lack of interest from customers are some of the reasons for MUs not being in any hurry to open their borders to external electric suppliers.

Should MUs open their borders to external suppliers and still treat generation services provided by MUs on the same basis as other city services? When an electric customer has the ability to choose an external generation service provider, the electric customer is no longer bound to shoulder any risks taken by the MU in acquiring generation services. The customer may remain with the MU or switch to an external supplier, depending on whose terms are more favorable. This option is not available for other municipal services, such as policing, fire, and public parks. Hence, MUs must recognize that the generation service provided after opening their borders to out-

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات