

Assisting Hong Kong SAR To Provide Reliable, Efficient Electricity Supplies

The Challenge

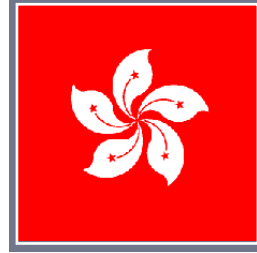
In Hong Kong, electricity is supplied by two investor-owned companies the CLP Power Hong Kong Limited (CLP Power) and the Hong Kong Electric Company Limited (HEC). While the two electricity supply companies have no exclusive rights to supply electricity and do not operate on a franchise from the Government, they have concentrated their services in distinct geographical areas.

To safeguard the interests of local consumer, the Government of the Hong Kong Special Administrative Region (SAR) entered into mutually agreed Scheme of Control Agreements (SCAs) with the electricity supply companies. These SCAs set out the obligations and rights of the electricity supply companies and of the Government on behalf of consumers. Under these agreements, electricity supply companies are obliged to ensure an adequate, reliable and efficient supply of electricity at reasonable costs to the consumer. In return, the companies are allowed to earn a reasonable return on their investment.

The SCAs enable the Government to monitor the financial planning of the utility companies, which are required to seek SAR approval for certain aspects of their financial plans, including projected tariff levels. They are also required to submit as part of their financial plans, proposals for energy efficiency and conservation programs and give consideration to, the use of alternative fuels. These plans and programs are monitored through annual auditing reviews.

To meet these review obligations, the Government of Hong Kong required an independent finding to assess the appropriateness and reasonableness of the utilities' proposed development plans and their corresponding financial plan. The review had to ensure that the utilities were providing adequate, reliable, efficient, and reasonably priced electric service to consumers, and to pay increasing attention to the environment, energy efficiency and conservation, and the use of alternative fuels.

To meet these obligations, the Hong Kong SAR turned to Nexant with a mandate not only to conduct a thorough assessment of the utilities' program and financial plans, but to develop innovative recommendations for improving electricity production and delivery at lower prices to consumers.



Project Overview

Client:

Government of Hong Kong SAR

Location:

Hong Kong

Nexant Responsibilities:

Detailed market analysis, policy and regulatory advisory, economic forecasting, scenario planning

Solution

The Nexant team provided a detailed evaluation that included the following components:

- The supply companies' load forecasts were reviewed for accuracy and track record. The impact of energy conservation and improvements in usage efficiency (DSM) on load growth were also factored in.
- The supply companies' engineering and cost assumptions, technical, and economic planning data were evaluated for correctness.
- Each generation expansion plan was evaluated to ensure the adequacy of installed capacity relative to the primary and secondary reliability criteria applicable to Hong Kong.
- The adequacy of the transmission plans associated with each generation plan were assessed, as well as the reasonableness of the capital cost of each generation and transmission plan. In addition, the team evaluated alternate transmission expansion plans.
- Generating unit additions and modifications were examined from an environmental point of view to ensure compliance with environmental objectives and to account for their associated capital and operating costs. Alternative fuels and power generating technologies were also considered.
- The reliability criteria being used for Hong Kong were examined for reasonableness based on industry trends.
- Finally, the supply companies' overall performance were benchmarked relative to a sample of other international utilities

In addition, the Nexant team recommended innovative approaches to the transition to a more competitive market in Hong Kong. Our recommendations fell into three areas:

- **Market Design** - The focus here was on the design of alternative pool, contract, and bidding mechanisms for non-regulated segments of the industry. Nexant also considered the application of alternative risk mitigation measures in conjunction with market design alternatives.
- **Regulation** - The design of the regulatory framework was evaluated to discover whether it enhanced or hindered sector performance. The Nexant team assessed the development of appropriate contracting mechanisms to impact market entry. Tariff design and performance pricing, including revenue cap and price cap mechanisms, were also studied as to their applicability in the Hong Kong power sector.
- **Market Structure** - Strategies for enhancing competition were evaluated with regard to the entry conditions for new participants and the degree of competition envisioned among existing participants.

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