The Performance Audit of Public Enterprise by the National Audit office of the Republic of China, Taiwan – Case Study: The Electricity Purchase of Taipower Company

By Lucia Aiwen Sun
Tamkang University, Taiwan Province of China

Abstract- The audit of Public Enterprises by the National Audit Office (NAO) of Taiwan, has put more emphasizes in performance audit in recent years. The subjects of audit have also been changed from business management to public issues. In March 2012, Taiwan decided to raise electricity price. This policy brings alone the price raising and the complaint of people. The public queried some unreasonable things about purchasing electric power from cogeneration companies and independent power producers. The article will introduce the connotation of performance audit then will take electricity purchase of Taipower Company as an example to introduce the practice and result of public enterprises performance audit in Taiwan.

Keywords: performance audit, performance audit of public enterprises, cogeneration, independent power producer.

GJSFR-E Classification : FOR Code: 091599

© 2014, Lucia Aiwen Sun. This is a research/review paper, distributed under the terms of the Creative Commons Attribution-Noncommercial 3.0 Unported License http://creativecommons.org/licenses/by-nc/3.0/, permitting all non commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.
The Performance Audit of Public Enterprise by the National Audit Office of the Republic of China, Taiwan – Case Study: The Electricity Purchase of Taipower Company

Lucia Aiwen Sun

Abstract - The audit of Public Enterprises by the National Audit Office (NAO) of Taiwan, has put more emphasis in performance audit in recent years. The subjects of audit have also been changed from business management to public issues. In March 2012, Taiwan decided to raise electricity price. This policy brings along the price raising and the complaint of people. The public queried some unreasonable things about purchasing electric power from cogeneration companies and independent power producers. The article will introduce the connotation of performance audit then will take electricity purchase of Taipower Company as an example to introduce the practice and result of public enterprises performance audit in Taiwan.

Keywords: performance audit, performance audit of public enterprises, cogeneration, independent power producer.

I. Introduction

Business of public enterprise, such as oil, electricity, water, and transportation, are the basic instrument for people’s life. To retrospect the history of Taiwan’s economic development, public enterprises play an important role for supporting economic activities, helping the growth of economy, increasing the revenue of national treasury; its operation is original with permission of government. Management system has passivity increasingly for lack of competitiveness in monopoly and oligopoly market. Although public enterprises’ large sales revenue and support from government, their operating income has decreased significantly in recent years because of dramatic change of environment, disorder of pricing, and public enterprise’s non-instant reaction to the changes of the market. Taipower Company (Taiwan Electricity Company) is one of the examples.

“Taiwan Power Company” (Taipower) was organized on May 1, 1946. At the end of 2011, the company had NT$330 billion in capital, with total assets of NT$1.6 trillion and 27,261 employees it has 12.77 million customers in Taiwan and the islands of Kinmen and Matsu. The company’s major business items are power development, power supply, investment in power-related businesses, energy technology services, management consulting services, real estate development, rental and leasing business, etc.1 Therefore, it has made a great contribution to economic development and quality of people’s life. In 2008, economic activities became slowly with the eruption of financial crisis, and the growth of electric power consumption is less than expected. Private power plant also joined operation gradually. For these reasons above, generating sets of Taipower Company are idle. In 2008 to 2011, reserve capacity of Taipower’s electric power system is 20% to 28%, which exceed the expectation 16% greatly. However, the company bought electric power from companies of cogeneration and independent power producer with pricing higher than selling price. As a result, loss of the company is more and more serious. To the end of 2011, accumulated losses of Taipower Company has been 117.7 billion, about 35.69% of its capital. In order to fill up the losses, the company raised the electric price in March 2012; therefore, consumer price has risen with electric price, and has made an influence on people’s life.2

a) The meaning and objective of performance audit

The objective of performance audit is used to measure government’s performance, including economy, efficiency, and effectiveness of public expenditure. Economy focuses on the most economic administration principles, practice and management policy. Effectiveness, which is the degree of the policy achievement, emphasizes on the comparison of reality and expectation. As far as efficiency, it focuses on the percentage of input and output. When the government budgets estimation for next year is setup, NAO should offer related data and suggestions of improving financial efficiency and decreasing non-economic expenditure, hoping to improve the quality of government’s policy.

1 http://www.taipower.com.tw/e_content/content/mma/mma01-1.aspx?sid=5, latest visit 2014/1/14
b) **The execution of performance audit**

When executing performance audit, audit office will evaluate the economy of inputs, the achievement of ambition and relations of input and output. On other hand, we will audit whether the design of audited parties' management system are suitable, whether the execution is in compliance with the design, whether the design has worked, and investigate the reason of problems. We will focus on the issues which people cares or problems which have already happened when choosing audit issues. As far as the timing of executing performance audit, we must compare execution with achievements in input or output phase.

II. **Case Study**

a) **Identifying Subject**

The electricity transmission and distribution system of Taiwan is exclusive dealing by Taipower Company. This public enterprise has been continuously at a huge loss since 2006. Even, Taipower Company had raised electricity price twice in 2008, but is still loss. At the end of 2011, the accumulated loss is up to NTD 117.7 billion (USD 3.92 billion). In recent years, the reserve capacity of power system of Taipower Company is higher than the target value (16% approved); this means some of its own power-generating facilities are idle. However, Taipower Company has still purchased electricity from independent power producers (abbr. IPPs) and cogeneration companies, that purchasing price is even higher than Taipower's own cost of power generating. In 2012, Taipower Company is mulling to raise the selling price of electricity once more, and cause a lot of grievances. National Audit Office of Taiwan decided to conduct a project audit for investigating the purchasing performance of Taipower.

b) **Background and Current Situation**

Reliable and stable power supply and inexpensive electricity price play an important role for economic growth and export competitiveness. In the late of 1980s, Taipower Company was having a lot of difficulties in power system developments. This situation caused the supply of electricity became very tight. The reserve capacity of power system had rapid declined from 35% to 14% in 1987. Government decided to release "Regulation of Purchasing Electricity From Cogeneration Companies", which central government requires Taipower Company to purchase all of electricity that comes from cogeneration companies, in order to attract private sector for investing cogeneration system. In 1990 and 1991, the reserve capacity of power system had decreased to 5% (reasonable margin was 20%) during summer period, and many power development plans also run into public protests. Therefore, Ministry of Economic Affairs decided to allow private sectors for investing and operating the power plants.

Amendment of "Energy Management Act" in 2002, given energy users, who already set up the steam and electricity symbiotic equipment, could require Taipower Company to purchase their surplus electricity, which Taipower Company cannot refuse. At the end of 2011, there are nine private-own independent power plants (two are coal-fired and the others are gas-fired). Taipower Company had signed 9 contracts with separate IPPs; each contract has 25-year guaranteed period that Taipower is responsible to purchase the IPP's electricity during the peak-hours.

In 2011, Taipower Company had purchased four hundred billion kilowatt-hours (symbolized KWH) of electricity from IPPs and cogeneration companies, accounting for all of the 24% (as left chart). The cost of purchasing electricity is more than NTD 130 billion (around USD 4.33 billion), accounting for all of the 30%. Comparing the average purchasing price and the average generating cost of Taipower, per unit of purchasing price is higher 20% to 30% than generating cost of Taipower (as below chart).

---


5 Taiwan Power Company Sustainability Report 2011, Department of Corporate Planning, Taiwan Power Company, 2011.
III. Methodologies

1. Reviewing all contracts and other relevant information, and analyzing differences between contract content and execution in each stage.
2. Analyze the procedures of purchasing electricity from IPPs & cogeneration companies.\textsuperscript{6}
3. Interviewing supervisors of relevant departments (such as accounting, power development, power supply, system operation, etc.), in order to understand what kind of significant problems had occurred when Taipower Company purchases electricity from IPPs & cogeneration companies.
4. Based on the collected information, analyze and identify the problems, and then interview supervisors who are in charge of purchasing, in order to find out the causes of problems and solutions.
5. Designing questionnaires to confirm the key problems, and require Taipower Company to fill out questionnaires, and also provide the copies of relevant documents or with written statements.
6. Adopting brainstorming and critical thinking methodologies, to discuss the important issues one by one, and analyze the reasons that cause purchasing price is higher than self-generation cost, and investigate whether the performance is poor or not, and who is accountable.
7. Finally, discussing the audit findings and opinions with supervisors, to confirm there is no significant disagreement or different point of view between both sides.


IV. Findings

1. Taipower Company has sufficient power supply capacity during peak hours. According to “Regulation of Purchasing Electricity From Cogeneration Companies”, the purchase prices between peak hours and off-peak hours are very different. The purchase price of peak hours is 3.84 times higher than the purchase price of off-peak hours. Therefore, cogeneration companies increase their power supply during peak hours, in order to sell more electricity at a higher price. As a result, the average purchase price of cogeneration is higher than the average purchase price of IPPs. Also, it is even higher than nature-gas fired cost of Taipower. During off-peak hours, Taipower Company doesn’t have sufficient coal-fired and nuclear power generator (so-call basic generator), which generating cost are lower. However, Taipower Company allows cogeneration companies to buy electricity during off-peak hours. This situation causes Taipower Company has to start up nature-gas fired generators and diesel fired generators, which generating cost are higher, during off-peak hours. As a result, total cost of power generating is increasing. Obviously, the electricity purchasing performance of Taipower is not good enough, even it is uneconomical.

2. 20 years ago, interest rate was at 5% to 7% in Taiwan. However, interest rate has been dramatically declined since 2003. The borrowing rate of Taipower is even declined to 1.52% in nowadays. The NAO had urged Taipower to renegotiate interest rate with IPPs in 2006. Also, one of the research reports, that is made by Taipower itself in 2007, pointed out the fuel adjusting mechanism should be brought up with the renegotiation of interest rate at the same...
time. However, Taipower doesn’t take NAO suggestion and research report in consideration. Therefore, Taipower agreed independent power producers’ requirements immediately for setting up the fuel adjusting mechanism, but put the interest rate renegotiation aside. As the result, the trio of Taipower officials failed to renew contracts for the procurement of electricity with nine independent power producers in accordance with changes in the nation’s interest rates as stipulated in their long-term contracts, resulting in an extra cost of NTD 5.9 billion (USD197 million).

3. The purchase price of IPP contracts includes the economic carrying cost (the cost of building the power plants plus the reasonable profit). According to “Rule of Power Plant Setup Requirement”, Taipower must allocate the economic carrying cost equally during the useful life of power plants. However, Taipower disobey the rule.

4. Taipower must pay the electrical capacity charge to independent power producers. There is an upper limit for electrical capacity charge. However, Taipower ignores the upper limit when it actually pays to IPPs, resulting in an extra cost of NTD 1.2 billion (USD 40 million).

5. Irregularities between Taipower and independent power producers included Taipower purchasing electricity from the firms at a higher price than its own electricity generation cost, when its power reserve capacity was already well above stipulated reserves.

6. In 2005, Executive Power cut down the reverse capacity of power system to 16%, but the Bureau of Energy still granted permission in July 2006 to a private power corporation, to install 490 megawatts in capacity when the Bureau of Energy already knew that Taipower had sufficient power reserves, imposing additional cost of NTD 0.3 billion (USD 10 million) per year on Taipower, which began purchasing surplus electricity from private power corporation in June 2009.

7. The purchase price, that Taipower had agreed to pay, includes the maintenance cost of terminal equipment’s. In 1999 to 2003, IPPs transferred those equipment’s to Taipower, and ask Taipower to take responsibility for maintaining. However, Taipower doesn’t deduct the maintenance free from the purchase price, resulting in an extra maintenance cost of NTD 86 million (USD 2.87 million) in 25 years.

V. Difficulties and Solutions

1. Lack of expertise: Due to the electricity purchasing affairs are complex and professional, the members of audit team not only study and collect the general information of power plants from journals, magazines, dissertations, and so on, but also make more efforts to figure out the operation model and contract content, in order to enrich the basic knowledge and identify crucial issues.

2. Data collection is deterred: Staffs and supervisors, who are responsible for the purchasing affairs, are reluctant to provide details or answer questions that audit team need to figure out, and even did not give a clear answer, in order to drag the progress of audit. The audit team reported this situation to the Assistant of Auditor General, and also notified Taipower about the regulation of article 14 of audit Law. If Taipower continuously refused to provide the information, or provide incomplete information, the audit team is going to report this situation to Control Power, and impeach the staffs and supervisors who are not incorporated.

3. Lack of time: On-site audit working hours are limited, the members of audit team have to study the collected information after the working hours, and prepare the audit programs for next day.

VI. Conclusions

Congress conference of the International Supreme Audit Institutions (abbr. INTOSAI) in 2010, INTOSAI had revealed the core value of Supreme Audit Institutions (abbr. SAIs) which comes from two dimensions. One is SAI should be regarded as a role model of the independent authority, and the other is SAI should be treated as an authority for improving the lives of citizens. On the other hand, the vision of national audit office of Taiwan is as followed: provide high quality audit service; maximize the value of audit function; improve the performance of government; facilitate integrity in public sectors. Therefore, NAO of Taiwan performs the audit of public enterprises, which is not only overseeing operations, financial and accounting affairs of public enterprises, but also investigating illegal or not due diligence behaviors of public enterprises. Moreover, NAO of Taiwan has continuously adapted to world trend and paid attentions on the rapid changes of world economy. NAO of Taiwan is committed to ensure that government is held accountable for using resources legally and responsibly, for the purpose intended, and economically, efficiently and effectively. NAO of Taiwan will continue play a management consultant role to enhance the competitiveness of the public enterprises. In March 2012, Taiwan government is mulling to raise the electricity price, this causes lot of grievances. Media brings up lots of doubts and criticisms about purchasing electricity affairs of Taipower, which may involve illegal or bad practices. Most contents that Media has discussed are as same as the audit report of NAO of Taiwan. Also, the impeachment that Control Power had

made is based on the opinions of NAO of Taiwan. As a result, it increased the value of SAIs that is improving the lives of citizens and supervise the good use of public money.