Tanjung Bin- Malaysia’s move towards greater independence from gas

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In November 2003, the financing of the Tanjung Bin power plant in the southern Malaysian state of Johor reached closure.

The 2,100 megawatt coal-fired power plant sponsored by SKS Power will supply electricity to state utility giant Tenaga Nasional Berhad.

SKS Power has awarded a three-company consortium led by the Sumitomo Corporation with a US$1.5 billion contract to build the generator coal-fired power plant, transmission works and related facilities.

When completed in 2007, the project will be the largest IPP coal-fired power plant in Asia.

Background

Over the past decade, the grid connected electricity demand in Malaysia has increased from 4,000 MW to 11,050 MW. In the next few years demand is forecast to grow at an average rate of 6% - 8%. In terms of the fuel used to generate such electricity, gas contributes more than 70% of such generation. As part of the strategy to reduce dependence on gas, the Malaysian government is promoting the construction of coal fired plants.

In 1988 coal usage for power generation in Malaysia began with the commissioning of 2x300 MW coal fired units at Stesen Janaelektrik Sultan Salahuddin Abdul Aziz, Kapar. The development of coal usage has been slow because the first generation of IPP built combined cycle gas turbine plants. This created a generation mix that was highly dependent on gas, which can sometimes be a disadvantage to the grid system’s resilience and reliability.

Mohd Zainal bin Azirun from Tenaga Nasional Berhad commented: "The present generation mix is 79.2% gas, 10.3% coal, 7% hydro and 3.5% oil. The five-fuel policy as prescribed by the government has to be enhanced to improve the grid system resilience and reliability, by moving away from the high dependence on gas to the increase utilisation of other fuels, especially coal and hydropower. It is expected that coal generation will increase at a higher rate than gas generation. According to present planting up programmes, by the year 2010, coal consumption in the power industry in

Malaysia may reach 19mtpa.".

It is estimated that there may be coal resources of up to an estimated one billion tonnes in Sabah and Sarawak most of which are low grade lignite and sub-bituminous coal. These are likely to be used only by mine mouth power plants. However, coal deposits in Malaysia have not been properly explored and the information available at present are preliminary surveys conducted by the Geological Survey Department of Malaysia. As a result nearly all the coal required by Malaysia is imported from Australia, Indonesia, China and South Africa.

The Project

SKS Power is undertaking the development, financing, construction, commissioning, operation and maintenance of the 2,100MW coal-fired to be built in Tanjung Bin. Approval for this project was granted by the Malaysian government through the Economic Planning Unit. This 2,100 MW plant will be the largest coal fired power plant owned by an independent power producer in Asia.

The project design has been undertaken on conventional lines and consists essentially of a generation facility with ancilliary facilities (switchyard, coalyard, jetty etc.) and new 132 kV, 275kV and 500 kV transmission lines to strengthen and extend the grid system. Contractually, the facility and the transmission lines are provided for under separate agreements which SKS Power has entered into with Tenaga Nasional Bhd, the national power utility.

The facility is constructed pursuant to a Power Purchase Agreement (PPA) with the cost to be borne by SKS Power while under the Transmission Works Agreement (TWA) TNB appoints SKS Power as the contractor to construct the Transmission Lines. To mitigate construction risk issues, SKS Power has awarded a single contract (EPC Contract) to the Sumitomo - Zelan consortium.

Sponsors

SKS Power was originally a wholly owned subsidiary of Northern Power Sdn. Bhd (NPSB). NPSB executed a conditional Share Sale Agreement with Malakoff Berhad on 7 August 2003 for the acquisition by Malakoff Berhad of a 90% equity stake in SKS Power.

Completion of the acquisition took place prior to, and was a condition precedent to, closing on SKS Power’s project financing. It is intended that NPSB’s remaining 10% interest in SKS Power would be acquired by a fund and discussions with respect to such acquisition are on-going.

Financing

The project will be funded through a contribution of shareholders’ funds, proceeds from the issue of project bonds, revenue generated and interest earned during the construction period and payments from TNB under the TWA.

Project financing will be through the issuance of Islamic project bonds under an Islamic Medium Term Notes (MTN) Programme. The Islamic MTN Programme will involve the issuance of up to RM 5,600 million nominal value medium term notes under the Islamic principal of Al-Istisna. A first tranche was issued on 11th November 2003. Project financing will constitute up to 80% of the total project cost (net of any internally generated cash and interest earnings during the construction period and payments from TNB in relation to the TWA).

The security arrangements for the project financing were typical for project financing of this kind and included the assignment of rights and interest under the project documents, the charging of all assets of SKS Power and the creation and maintenance of charged bank accounts for the control of funds.

Rating Agency Malaysia Berhad has assigned a long - term indicative rating of AA3 (investment grade) to the project bonds to be issued under the Islamic MTN Programme.

Legal Issues - The Contractual Scheme

According to Christopher Lee from Wong and Partners who advised SKS Power, "the project documentation might be said to be fairly conventional for an independent power project in Malaysia". A brief description of some of the principal documents follows.

The Power Purchase Agreement (PPA) between SKS Power and TNB is for an initial term of 25 years with a possible extension of up to another 15 years. The PPA is structured for fixed capacity payments and variable energy payments to be made. This PPA, however, is considered by TNB to be its third generation PPA and unlike earlier PPAs incorporates a demand risk sharing formula. Under earlier PPAs, TNB would pay a fixed capacity payment for each MW of capacity made available, regardless of despatch. Under this PPA, the foregoing holds true only to the extent of 85% of the capacity of each unit. The remaining 15% of capacity payments would be made only if the unit was despatched. If the unit was not despatched only 85% of the capacity payment would be made. The formula for the variable energy payments incorporates a mechanism for a pass through adjustment for the price of coal.

Under the Transmission Works Agreement between SKS Power and TNB, SKS Power will construct and commission the transmission lines according to TNB specifications. TNB will make progress payments to SKS Power as work on the transmission lines progress.

There is a Coal Supply and Transportation Agreement between SKS Power and TNB Fuel Services Sdn. Bhd. (TFS) under which TFS is to supply all of the fuel requirements of the project. TFS is a wholly owned subsidiary of TNB and is the nominated coal supplier to the power plant. The facility is expected to require approximately 6 million metric tonnes of coal per year. TFS will source coal through a combination of long term, short term and spot coal purchase contracts and shipping arrangements acceptable to SKS Power. A coal stock pile sufficient to generate electricity at full load for 30 continuous days has been provided for.

SKS Power awarded the engineering, procurement and construction contract to Japan-based Sumitomo Corporation and Zelan on 25 July 2003. The EPC Contract is a date-certain, lump sum, fixed - price turnkey contract and the provision of services thereunder commenced on 12 August 2003. It has guaranteed completion dates of 38 months for the first 700 MW unit, 42 months and 16 days for the second 700 MW unit and 48 months and 19 days for the third 700 MW unit. The EPC contract contains performance guarantees that the EPC contractor is obliged to achieve.

A Preliminary Works Agreement (PWA) was also entered into between IMW Dredging Sdn. Bhd. (IMW) and SKS Power for preliminary earthworks works at the site. The PWA is a lump-sum, fixed price contract for dredging, land reclamation, site - filling and soil improvement works to be undertaken. The PWA and all its associated rights and liabilities were novated by SKS Power to the EPC contractor. The works commenced in February 2003 and is expected to be completed by December 2004.

The subsequent operation and maintenance of the facility including the supply of parts is to be undertaken by Rangkai Positif Sdn. Bhd. (RPSB) for a period of 25 years under an Operations and Maintenance Agreement between SKS Power and RPSB. RPSB intends to subcontract the operation and maintenance services to Teknik Janakuasa Sdn. Bhd. a wholly owned subsidiary of Malakoff Berhad. RPSB has also entered into a number of technical services and support agreements with OEMs and other parties.

SKS Power has appointed Rentak Jitu Project Management Sdn. Bhd. (RJPM) on 27 May 2002 under a Project Management Agreement to provide project management and engineering services. Fichtner provide their services as "Owner’s Engineer" through RJPM.

SKS Power has entered into a Lease Agreement with Seaport Terminal Johore Sdn. Bhd. on 18 February 2003 for a long-term lease of the land required for the project.

The contractual scheme is summarised in the Figure 1:

Risks

There are various risks associated with the project, many of which are common to power projects. A number of these risks are mitigated by the contractual structure or terms of the project agreements. For example, the risk of cost overruns, delays in construction and performance of the facility are dealt with through the EPC contract. As Lee explained, perhaps among some of the more unique risks were the following :

Despatch Risk

SKS Power is exposed to despatch risk on 15% of its fixed capacity payments under the PPA. It will only receive such amounts if the generating units are despatched. The amounts not subject to despatch risk are, however, sufficient to provide a comfortable level of debt service. The risk, accordingly, is borne primarily by the shareholders of SKS Power. Johari Kamil, the CEO of SKS Power, has, however, expressed his confidence that, even in the long term, the demand for power in Malaysia and the ability of the facility to achieve a high ranking under the merit despatch order system will ensure the risk is minimal.

Environmental Demands

Despite improvements in technology, coal is still generally considered a dirty fuel and may, accordingly, be subject to further environmental regulation. The design of the facility has, accordingly, incorporated some of the newest technology to minimise the level of emissions and discharges. Some of the emission and discharge levels aimed at exceed current regulatory requirements. A flue gas desulphurisation plant will be an essential part of the facility to reduce the emissions of sulphur dioxide.

Coal Supply and Delivery

SKS Power will not be contracting directly with coal producers or transportation companies to ensure its supply of coal. It will instead be utilising the services of TFS in line with government policy of establishing a central purchaser to meet the coal needs of the country. TFS obligations, however, are not generated by TNB or any other party. Any risk of failure by TFS is mitigated through contractual provisions giving SKS Power rights to have detailed information from TFS with regard to its procurement and transportation of coal as well as a right for SKS Power to source its own coat in the case of default by TFS.

Conclusion

The generation of power in Malaysia is over dependent on gas. To counteract this the government has identified coal as

an alternative fuel source for the future.

The Tanjung Bin project is just one of the three major coal fired power stations that will be set up by the year 2007 and which will have in total an aggregate capacity of 5,600MW and a combined coal consumption of about 15 mtpa.

By the year 2010, it is projected that the installed capacity of Malaysia will increase to 27,000 MW and coal will contribute to 33% of the generation mix and gas generation will be reduced to 62%.

Given concerns with the environmental impact of the use of coal, there will be controlled usage of coal to ensure safe, efficient and reliable use of coal that will have a minimal impact on the environment.

Figure 2: Tanjung Bin Project Information

Tanjung Bin, Johor	Project Information
Sponsors	SKS Power Sdn. Bhd.
Total Project Cost	RM 7, 774 million
Owner's Engineers	Fichtner GmbH & Co. KG
Legal Advisor	Wong & Partners (Correspondent of Baker & McKenzie)
Financial Advisor	Babcock & Brown Asia Pacific
Insurance Advisor	Sterling Insurance Brokers Sdn. Bhd.
Lead Arrangers	• Commerce Merchant International Bankers Bhd • KAF Discount Bhd • Bank Muamalat Bhd • UOB Bank Malaysia Bhd • Bumiputra Commerce Bank Bhd • Bank Islam Malaysia Bhd • Aseambankers Malaysia Bhd and • Malayan Banking Bhd.
Legal Advisor to Lead Arrangers	Adnan, Sundra & Low