CHAPTER 5

5. Managing Exchange Risk for Power Companies

5.1 Application of Alternatives Financial Strategies in the Context of Power Company

Before we can apply the alternative financial strategies discussed in the previous chapter for the local power companies, let us analyse the areas of similarity and differences between the power companies and the multinationals. This analysis is summarised in the following Table 6.

From Table 8, the main factor that differentiates the MNC and the local power companies, is the balance sheet exposure. Due to the geographical location of the MNC subsidiaries operation, the balance sheet of the MNC is exposed to the currency risks from the individual monetary assets and monetary liability of their subsidiaries' operation. In the case of the local Power Company, it is irrelevant since only local currency is reported in the balance sheet. Any loss due to the currency fluctuation is categorised into translation loss. Considering this argument, most of the alternative strategies in managing the balance sheet risks are not applicable for the power companies in Malaysia. Most of the exchange risks for these companies arise from the trading risk. Hence, the more relevant strategies are the ones that involves the trading risks for the short run, and working capital policies and long term investment for the long run.

Some of the alternatives strategies that are applicable in this context are:-

- Sell only in the currency of costs: avoid risk by matching. The component suppliers to the power companies mostly adopt this method. However, for the power companies, they have limited choices in term of selling currency to TENAGA using the currency cost due to the contractual agreement.

These companies normally disguise this method by offering alternatives offers price at currency cost with an attractive discount.

- Accept selected risks and automatically hedge them by using forward contracts. The decision to hedge depends on the potential loss that is likely to incur and the cost that will be incurred on the hedge. The company can buy forward the foreign currency cost of the equipment at the time of purchase. The extent of hedge depends on the company's subjective expectations about future currency values, the probabilities attached to the different outlooks, and the related cost of protecting the foreign currency position. A fully hedged position provides the maximum protection against exchange risks while a completely unhedged position carries the full burden of uncertainty. The maturity date shall match the time of payment of the equipment to the foreign suppliers.
- Alternative to forward contracts, the power company can create extra assets, like bank deposits in the same cost currency to cover the purchase of the equipment, i.e.; negative borrowing. Instead of waiting until the date to pay, the company can buy the supplier's currency instantly the day of order and place it on deposits until the need of the currency to make the payment. The facility of foreign currency account is available in the local banks or international banks. Care has to be taken to match the maturities, so that the deposits are available to finance the repayment of the liabilities when they fall due. This approach is viable provided that the interest rate earned from foreign currency deposits is a least equivalent to the cost of hedging by forward contract.
- Reduce payable in multiple currency. The arrangement to reduce payable in multiple currencies can take place by forcing the suppliers to accept local currency instead of the suppliers' currency. However, the disadvantage of this policy are the possibility of losing the long-term relationship supplier, or the price of the equipment will at the premium since the exchange risk is transferred to the suppliers.
- Increase receivable in hard foreign currencies. When the conditions that the selling price to TENAGA could not be in the cost currency, the

company can increase the receivable by venturing out to export activities. With export activities, the receipt of payable in foreign currency (usually in US dollar) can use to pay the receivable of other currencies such as US dollars, Deutsche Mark, Pound sterling, etc.

- with increase payable in hard currencies, it is then viable for the power companies to obtain foreign currency borrowing from the local or international banks. The foreign currency borrowing will be matched by the income from the payable thus reducing the exchange risks.

Table 8 : Factors Affecting Financial Strategies for Power Companies in Malaysia

Factors Considered in Managing the Exchange Risks	Power Companies in Malaysia	Multinational Company (MNC)
1. Multiple use of currency	• Involve multiple currencies due to various overseas suppliers. • Project cost in multiple foreign currencies while project price is in Ringgit Malaysia and US dollar only.	• Involve multiple currencies due to the geographic operations of the subsidiaries
2. Interest Rates	• Interest rate is controlled by the Central Bank - can be considered as one common interest rates	• Involve multiple interest rate consideration depending on the countries of operation
3. Tax Implication	• Only one local tax is applicable.	• Multiple tax considerations
4. Balance sheet exposure	• Based on Malaysia Accounting Practise • balance sheet is in local currency only. Any loss in foreign exchange is considered as translation loss • no balance sheet exposure - only one currency	• Balance sheet of each subsidiaries can be in local currency different from the MNC headquarters • expose to balance sheet due to various denomination of currencies
5. Working Capital	• Only payable and receivable where payable require conversion to multiple currencies and receivable in local currency.	• Involve management of all the monetary assets and monetary liabilities due to various denomination in balance.
6. Restrictions such as Exchange Control	• not applicable	• depends on the country of operation
7. Financial Instruments Available For Hedging	• Forward currency contracts by Banks • Swap - limited and expensive	• Forward contracts • Swaps • Options/Futures Market
8. Foreign Currency loan	• local banks for borrowing in local currency only • foreign currency loan is very limited	• can be obtained from host country via the subsidiaries
9. Foreign currency Account	• available	• depends on the host country
10. Trade Credit	• available from suppliers such as open account and letter of credits	• available from suppliers such as open account and letter of credits

5.2 *Comparison of Existing Financial Strategies of Power Companies and The Alternatives Financial Strategies*

A short survey based on interviews for three types of Power Company were carried out to identify the most common steps taken in managing the currency risks. These results are shown in the below Table 9.

Table 9: Comparison of Currency Risk Financial Strategies

	Company A	Company B	Company C
Paid-up Capital	5 million	5 million	50,000
Core Business	Transmission Projects	Distribution Projects	Control Relay Panels for Power System
Type	Private Limited	Public Listed	Private Limited
Number of Employees	70	200	30
Main Customers	TENAGA/SESCo & other ASEAN utilities	TENAGA/ Private Local Market	TENAGA/Local Main Contractors
Annual Revenue	300 to 400 million	200 to 250 million	7 to 10 million
Currency of selling			
• Ringgit Malaysia	80%	95%	80%
• US Dollar	20%	5%	15%
• Others	None	None	5%
Typical percentage of foreign currency cost			
• Ringgit Malaysia	20%	60%	50%
• US dollar	40%	20%	10%
• Pounds Sterling	25%	20%	20%
• Deutch Mark	10%	-	20%
• Others	5%	-	-
		-	
Avoid Risk by Matching	Yes, Depends on customers	No	Yes, Depends on customers
Forward Contract	Yes, Most of the time	Yes, partially hedged	Yes, partially hedged
Create asset/Foreign Account Deposits	No	No	No
Reduce payable in multiple currency	Try to limit to 3 currencies	Yes, preferable to Ringgit only	No, terms dictated by supplier
Increase receivable in hard currency	Increase Export Activities	Venturing into Export	Venturing into Export

Other financial alternatives.	No	No	No
Centralised Financial Department	Centralised Finance Dept.	Centralised Finance Dept.	Use Group HQ facilities

Most power companies hedge their foreign currency requirement at the time of purchasing the imported equipment, however the amount to be hedged depends on the size of the company and its financial capability. It is also noted that activity of the financing the operation of these companies is separated from the core operation of the business.

The preceding section describes the practise of these power companies in managing the exchange risk from the tendering stage to the project execution.

5.3 Managing Exchange Risks for Power Companies in Practise

The concerns for the power companies in managing exposure are the expose risk arising from the nature of contracts undertaken; unfavourable contract terms and conditions (no downpayment, performance bond, payment terms) and the duration contracts period. The delivery timing of the project that can take any time from 18 months to 24 months of completion is very crucial in determining the extend of the exposure to the exchange risks. This period of delivery exclude the period when they submitted the tender and the 12 months warranty period covered by the contract. Therefore, the worst case of particular project duration undertaken can be up to 60 months. As can be seen from Figure 1, the long period of project duration can yield fluctuation in the exchange rate as well as the interest rate.

Besides the long period of the project, the amounts involved can be very large, not only in absolute terms, but also as a proportion of the entire annual turnover of the Power Company. Typically, one local power company

undertakes about 2 to 5 transmission and distribution projects with total value at about RM50 to RM100 million at one time with typical project schedule shown in Figure 2.

Figure 2 : Typical Schedule of a Transmission Project

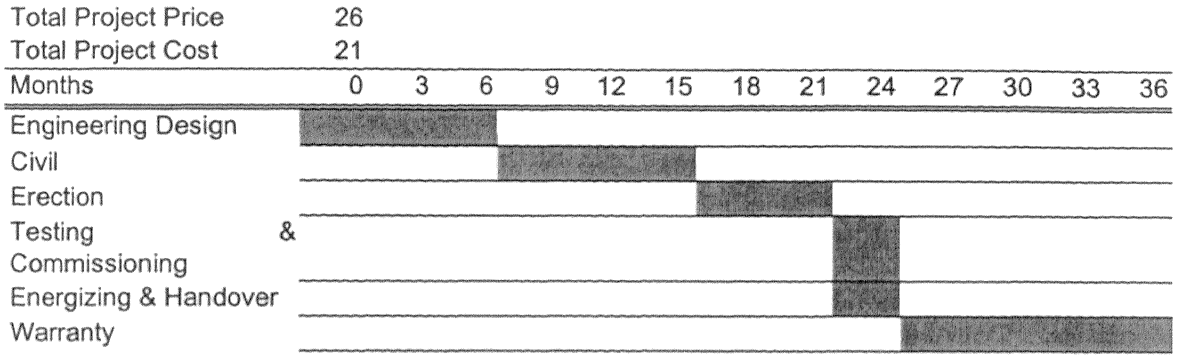
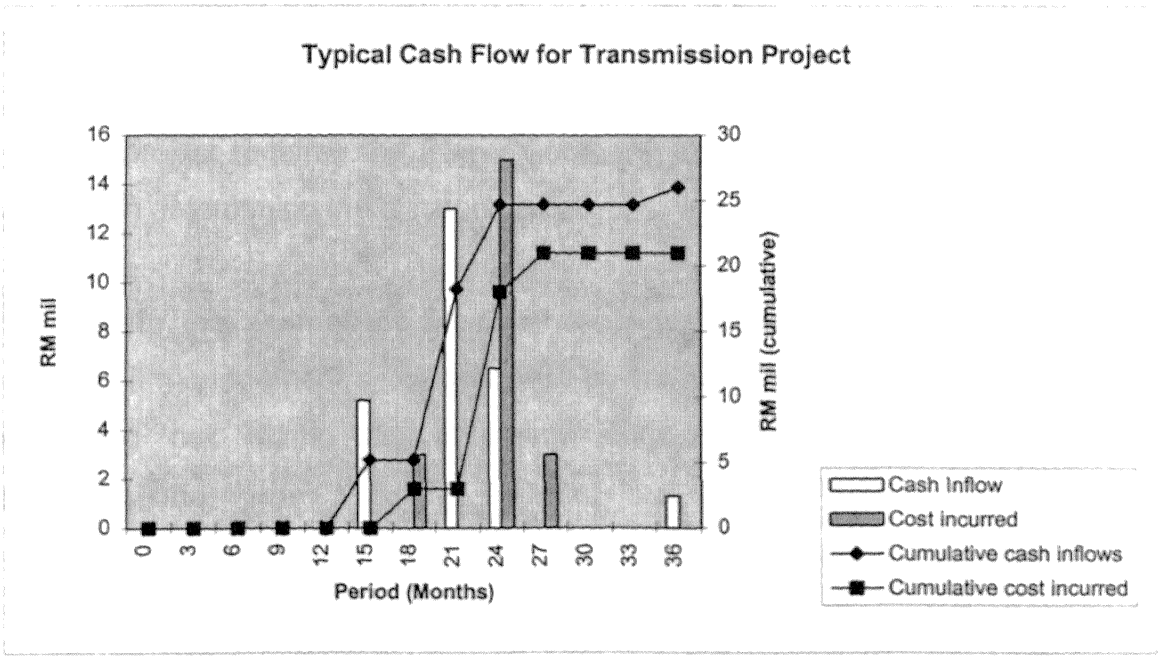


Figure 3 shows a typical cash collection and cost pattern of a project undertaken with value about RM26million. The project is a turnkey project to build one 132/33kV substation including the civil work, supply, erection and commissioning the electrical equipment of the substation.

Figure 3 : Typical Cash Flow for Transmission Project



Another characteristic of the contracts is, that they often involved sizeable subcontracts due to the ways the contracts being structured by TENAGA. A

representative project might have an overall contract price of RM26 million, which includes one USD4.05 million for the 132kV switchgear supplier, DM0.4 million for Transformer subcontractors, FF3 million for the substation control system supplier, PDS0.35 million for relay supplier with balance in Ringgit for civil, erection, commissioning and local labour (refer to Table 10). It shall be noted that the costs of contracts are in four currencies but the contract price is in one local currency. The Ringgit cost constitute less than 25 percentage of the overall cost of the project, giving rise to balance 75% of the cost expose to the fluctuation of currency.

In this context, there are two stages involved in the currency risk management process;

1. the first is the pricing decision during the tendering period stage and,
2. the second stage is during the implementation of the project contract whereby multiple currency transaction in receivable and payable of the contracts

The power company has to make decision how to bid for the contract and to calculate the most optimum discount factor value to be used during the financial decision on the pricing of the tender. The multiple currency involved in such a project requires the Power Company to understand the currency risk factor in determining the discount factor.

In relation to the alternatives financial strategies discussed in the earlier chapter, risk management associated with power company mostly stem from the trading risk during the tendering stage and during the project implementation.

Table 10; Cost Structure of a Typical Transmission 132/33kV Substation Project

Item	Components/Materials Cost	Total Price in Foreign Currency				Total Price in Locals
		USD	DM	PDS	FF	RM
A	**Imported Components**					
1	132kV Isolators	800,000				
2	132kV Circuit Breakers	2,000,000				
3	132kV Busbars	200,000				
4	132kV Earth Switches	250,000				
5	Current Transformers	400,000				
6	Voltage Transformers	300,000				
7	90MVA 132/33kV Power Transformers		400,000			
8	Power Cables	100,000				
9	Protection Relays			350,000		
10	Substation Computer System				3,000,000	
	Subtotals A	**4,050,000**	**400,000**	**350,000**	**3,000,000**	
B	**Local Components**					
12	Auxiliary cables					100,000
13	Steel Structures					350,000
14	Cubicles					200,000
15	Cables Trays					120,000
16	Battery System					125,000
17	33kV Switchgear					550,000
18	Miscellaneous Equipment					150,000
	Subtotals B					**1,595,000**
C	**Services**					
19	Civil Works					500,000
20	Engineering Design					350,000
	Transportation					100,000
21	Erection Works					500,000
22	Supervisions					250,000
23	Commissioning & Testing					250,000
24	Project Management					250,000
	Subtotals C					**2,200,000**

5.4 Tender Period Stage

The essence of the problem during the tender period is that the power companies are committed to a fixed price of the tender for a period of 6

months to TENAGA before they know if they are selected and being awarded of the contracts. This 6 months validity period of the tender sometimes can be extended to another 6 months.

The price of the tender can be quoted in US dollar currency for the imported portion of the contract, and TENAGA will make payment at the agreed rate declared by the contractor in the tender bid. Due to the structure of the tender that only allow the rate published by Malayan Banking in the News Strait Times, within 30 days period prior to the closing date to be entered in the tender price schedule, the contractors do not have any choice to use other rate unless the tender price is quoted in Ringgit only. Depending on the direction of the local currency strength against the dollar currency, the contractors had to predict the optimum rate that they should used in their tender pricing. In the case where the contractor feel that the local currency is weakening, the best option for the contractors is to use the highest prevailing rate in the tender currency requirement schedule (the highest rate at or prior 30 days before the closing date) or vice versa to price their tender in Ringgit only. Determinants of the exchange rate are very judgmental depending on the experiences of the company.

Even if the company take position to cover the exchange risk by selling forward, or borrowing in local currency, the biggest risk that the company experienced will be losing the tender bid and the local currency strengthened against dollar at the same time.

Because of the above restriction of the tender currency requirements and uncertainty of winning the bid and the long tender period evaluation by TENAGA, the contractors usually do not buy forward or hedge the cost currency of the projects during this tendering period. In this tender period, some of the possible ways that are adopted by power companies to manage the currency risk are: -

1. refuse to accept the risk and quote currencies of cost only, but payment will be in the local currency where the prevailing rate to be used. This risk is transferred to the customer, and at such the tender may be disqualified
2. disguise the refusal by qualifying the exposed currency price with currency adjustment clause,
3. accept the risk but try to protect it by quoting a high and possibly uncompetitive price, converted at a rate which contains a large contingency against adverse currency movements
4. proceed as in 3 but offer a currency adjustment clause as a further, probably cheaper alternative to the customer

However, it should be interesting to study the determinants of mark-up factor used in tender pricing by the Power Company. From the interviews conducted with tendering/costing managers in power companies, it was found that the most common method used by the power companies in their tender pricing is the accounting cost plus method. The mark-up factor required are determined by the financial director in the case where there is one, or alternatively by the CEO in most common cases where financial specialist is not available.

In most cases, the CEO and the financial director of the company carry out the financial decision process or commonly known as tender vetting process. As part of the tendering strategy, this process normally takes place one day before the tender closing day. The cost plus method is the easiest and fastest approach and the tender price can be obtained from the formula below.

$$\text{Tender Price} = \frac{\text{Total Material Cost}}{\text{(1-Mark-up factor)}}$$

The mark-up factor include the following considerations:-.

	Factor Considerations
1. Project Risk	• validity period • delivery period • liquidity period

	• performance bond
	• customer credit worthiness
	• payment mode
2. Operating cost	• fixed overheads
	• variable overheads
3. Target net profit	• competitiveness of the tender bid

The apportion weightage of each factor is based from the experience of the financial decision-maker, normal operating level and the company's policy. The exchange risk factor is not taken into account as the rate given by the authorised financial personal or the company's banker has included this risk. The project risk factors are considered to be very minimal due to the company's experience with the project.

5.5 Contract Award Stage.

Before the contract is officially awarded, a letter of intent by TENAGA will be issued to the prospective contractor. It is the intention of TENAGA to clarify the commercial terms and project technical compliance with the prospective contractor before the contract is officially awarded. The period between the issuance of letter of intent and the official purchase order (signature of contract) will take about 1 to 2 months.

The most used financial instruments by the power companies to hedge their currency requirements is the forward exchange contracts from the local domestic banks. Based on the experiences and relationship between the companies and the bank, the rate and the period is determined on the negotiated basis. The period of hedge can be from 3 months to a year with the option of renewal. However, the amount of foreign currencies hedged is very limited and does not cover the total foreign currencies requirement because of several factors:-

- limited internal fund of the companies as compared to the amount value of the foreign currency requirement in a project. The contract does not provide any downpayment and as such, the power companies has to use their own internal fund or through borrowings. This approach reduces the profitability of the project undertaken
- the requirement of foreign currencies in a project involve multiple receipt at different period of time involves a close monitoring of the progress of the project. Due to the structure of the power companies' organisation, in particular the local incorporated companies, the power companies only maintain a small department of finance and administration. This department is staffed by a handful of accounting clerks with one or two executives, and therefore it is not possible to carry out these monitoring and specialised functions. Even this task of monitoring is transferred to the parent company (for those companies, the lack of co-ordination and communication between the project manager and the finance personnel is the major problem in practise. In most cases, where financial specialist is not available, the tendering manager will obtain the exchange rate from the company's bankers.
- it is not possible to hedge the total foreign currency requirements as the cost of hedge is very high and deemed not necessary to cover the total risk resulting from exchange rate fluctuation. The decision is based on the steady performance of Ringgit against other currencies for the past 20 years.
- the power company receivable are in Ringgit and payable are in multiple currency. There is no other transaction that involves other currency other than Ringgit because of the power companies' operation are limited to Malaysia market.