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PITFALLS OF POWER PURCHASE AGREEMENT: CASE OF COGENTRIX PPA WITH KEB

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Abstract

The MOU or Cost plus form of inviting private power company individually to supply power is inferior to setting broad guidelines for competition and inviting number of suppliers to bid for a kwh of power. The experience of how the Power Purchase Agreement under the Cost plus form can be extremely one-sided is detailed below.

Recently the State Government announced that there will be no review of the MOU signed with Cogentrix. Ostensibly this is done to give the 'right signal' regarding the Government policy of inviting foreign investment as well as to give an impression that there is not going to be any witch-hunting. However, a close reading of the PPA which KEB has signed with Cogentrix, gives the impression that it is extremely one sided favouring the foreign Company and requiring unequal treatment of the foreign company vis-a-vis other Indian companies. These are detailed below.

The Mangalore Thermal Project to be set up by Cogentrix, for which the PPA has been signed, would consist of two units of 210 MW each of coal fired thermal plants in the first phase and three units of 210 MW each in the second phase. These are gross capacities. The net capacity of each unit is mentioned as 167 MW in one place and 200 MW in another place in the agreement. The implication for policy is that cost per unit size is normally worked out in terms of the net capacity, and if the net capacity is significantly smaller than the nominal capacity, the real cost per MW in terms of the net capacity will be more. The project is to be set up in Nandikur, 35 km from Mangalore. The gestation period is estimated as 40 months, from the day the funds start flowing to the project to the day the first unit is commissioned.

Guaranteed Return: The PPA provides for 16% return on equity, which itself is quite high for what obtains for this industry internationally. Since the industry is relatively risk free in terms of certainty of demand, the bench marks for

comparison are the rates on treasury bills which are around 12 to 13% for the domestic investor, and the interest rates in the international capital market at around 5.5 % plus a provision for country risk for the international investor.

PLF Incentives and Fuel Management Fees: Full capital costs will be recovered corresponding to the plant working at 68.493 % plant load factor, or 6000 hours per year. If its works less, due to reasons attributable to the Company, then it will rocover proportionately less. But, if it exceeds 68.493 PLF, there are liberal incentives; the incremental capacity provided upto 85% PLF will get an **additional 70% return**, and beyond 85% PLF there would be an **additional 65% return** on the incremental capacity. The PLF incentives along with deemed generation provisions will lead to an effective return on equity of around 25 to 26%. This is essentially double payment for the same asset. Normally, a certain percentage return on equity is provided on products where it is difficult to assess competitive market price, because the industry is inherently monopolistic. But that is end of it. Not so in this case. On every unit (kwh) of energy sold, the Company levies an additional 8% of the cost of fuel, as fuel management fee. Actually it appears to be a fuel mismanagement fee, since higher the fuel cost, higher will be this component! Since the company is already compensated for its efforts by way of return on equity, there is no justification for this component. Also, presumably similar incentives will be incorporated in the Request For Quotation from the fuel suppliers, for supplies of coal which better the specifications.

Debt-Equity Ratio: While the power ministry thought it was liberalising when it changed the debt:equity ratio from 2:1 to 4:1, thinking of the private Indian investor who will find it difficult to bring in large equity for such capital intensive projects, foreign companies actually see it as a limitation. The PPA says that debt will not be allowed to exceed 4 times the equity, implying that while the Company will retain the option to have 4 times the equity as debt, it will actually do with much less debt. The foreign investors prefer less debt for two reasons: given a guaranteed return on equity, they would like to have a large equity base. Secondly, once the project is commissioned, the project risks get considerably reduced, and the foreign company would like to sell this debt position in the international market for a lower yield, so that they can capture the interest-differential as additional profit; to do this they require a lower debt: equity ratio.

Corporate Income Tax: As per present tax laws, all independant generators have a five year tax holiday. Thereafter, the corporate income tax is recovered as part of fixed charge, in effect, making the Company exempt from payment of income tax. This is putting the power generating companies, both foreign and Indian, above the law of the land, vis-a-vis other companies for which post-tax guaranteed return is not assured.

Foreign Exchange Risk: All costs are divided into dollar denominated and rupee denominated costs for purposes of the Board (KEB) to pay to the Company in dollars and rupees. But as far as project costs are concerned, even the rupee costs are changed

into dollars at the exchange rate existing during construction period, and both dollar and rupee components have to be effectively repaid in dollar terms, converting at the applicable exchange rate for every contract year. This means, for ever, the Board, in a strange sort of way provides a counter guarantee for the macroeconomic management of the economy. Bluntly put, KEB pays out extra whenever the exchange rate goes down due to devaluation, rendering the concept of cost per unit of power totally meaningless, since for every future year, it will significantly depend on the exchange rate, throughout the life of the plant. This is certainly a new arrangement which the Indian Electricity Boards have so far not entered into. Even when projects were financed by foreign loans like the World Bank loan or OECF loan from Japan, the Central Government or its agency like the Power Finance Corporation has been the main borrower from the foreign agency; thus basically the Centre had absorbed the foreign exchange risk. In turn it had on-lent to the Board at a higher interest rate. Now, exposing the SEB to foreign exchange risk, before the country has become strong in the international market to assure a stable or improving exchange rate, is fraught with grave consequences. There are already several historical examples of many African utilities going broke just because of this arrangement of direct borrowing from the foreign lender. The consequent off-set provided by the facility of borrowing at lower international interest rates, will not fully neutralize the burden of SEBs taking the foreign exchange risk. The Company (Cogentrix) has protected itself from any increases in interest rates by making several hedges and interest

rate protection arrangements, the cost of which are recoverable from the Board, while the Board has left itself open to exchange rate risk. Besides, all recoveries for the Company are indexed by inflation for future years, the rupee component by the inflation in India and the dollar component by the inflation in the U.S. Devaluation occurs because of the differential inflation between two countries. Therefore indexing both for devaluation and inflation, as contained in the PPA, means double correction, because there is no case for the foreign investor to hedge his rupee component of investment against rupee inflation, which is likely to be higher all the time, when he is already protected against dollar inflation.

Depreciation: Depreciation is claimed at 7.5%, for 90% of fixed assets; i.e. the life of the plant is assumed to be a pittance of 12 years. In contrast the Electricity Supply Act had, until recently, allowed SEBs a depreciation of 90% of assets over 25 years, amounting to 3.6% per year. The World Bank allows power sector assets to be depreciated over 15 years. The effect of this almost double the rate of depreciation is to increase the cost of power in the initial 12 years, and reduce it in later years. It is true that the act is now amended to give the higher depreciation to the SEBs as well. But this will not be beneficial to the SEBs, it will only increase their losses further, since they cannot charge marginal cost based tariffs. Also, once the price is fixed based on cost plus, it is likely to go on without this benefit coming to the Board and hence the ultimate electricity user, as there is no provision at present in

the PPA to downward adjust the cost for the depreciation beyond 12 years. The Board should have insisted on an annual reivew of the costs, and related the price of power to costs to ensure that it gets the benefit of depreciation becoming zero. Even if depreciation is taken care, the Company at the end of say 13 and a half years (after allowing for 100% depreciation), still **owns** a well running plant, which has been fully paid for, whose market value, due to reasons of inflation etc, is likely to be more than the cost of the plant itself. In that event, beyond the initial 12 years, the Board/customers are entitled to get, not only the benefit of zero depreciation, but also a credit for each year equal to the market value of the depreciated plant divided by the difference beteen the engineering life and the number of years elapsed, duly adjusted for increasing market value of the plant due to inflation. Alternatively, a clause can be put that if and when the Company sells any plant or land, the salvage value shall be on the actual realization value and not some notional value, and any surplus accruing on account of this must accrue to the customers as lower electricity charges. If the depreciation is so adjusted from the price of electricity for each year, then there is much less incentive for the Company to supply power from a costless plant, merely for 16% Return on Equity. These conflicts of interests must be looked at and sorted out.

Immunity from Electricity Act: The PPA seeks immunity from Sections 45 and 55 of the Electricity Act. The Board will have no right to close down the plant or take over which the Act provided earlier. This is reasonable. But the second immunity

implies that the independant generator will not obey the grid discipline, i.e he will not back down even if his cost of generation is high enough to warrent his backing down. This is elaborated below.

Deemed Generation and Sale to third party: Even though privatisation is being done in the name of the market and competition, the PPA violates the basic tenets of free market, which says that the lowest bidder should be awarded the contract. In normal power pool operations, this is known as the merit order operations. The integrated grid is conceived as the buyer and various independant generators will quote their prices to supply electricity every half hour. The prices quoted will normally be based on the variable cost of generation. Thus the lowest cost plant will supply at the base load and the highest cost plant will supply at the peak load (except for hydro where the objective will be to use all the storage water in the reservoir and at the same time satisfy the peak load as much as possible). Thus every generator shall operate as much as it deserves! But the PPA stipulates that the Company's plant shall operate as a base load plant, on a must-run basis. In other words, the PPA refuses to accept a normal business risk which every generator is exposed to in competitive conditions.If one has to accommodate this condition, KEB will perforce have to back down its own low cost generation and the low cost generation from Karnataka Power Corporation in order to keep running the Company's plant at base load. Apart from increasing the overall cost to KEB, this will also lead to industrial relations problems with the generation

staff of KEB and KPC who will be having incentive clauses for maximising generation. How will KPC react to this? What if KPC also demands such conditions? Proponents of the PPA will argue that at present Karnataka needs all the power that the Plant can generate in view of the energy deficits and the ability of the Karnataka system to bank the thermal energy in its hydro, by backing down the latter. But in that event, the thermal energy bought at the margin should be declared as off peak energy and bought only at energy rates, without paying capacity costs.

Any time the Company backs down the generation at the instance of the Board or Government, the units not produced will be counted as deemed generation and the Board will be billed for those units as well. Not only this, if the Company has to start up more than 6 times a year because of such stoppage requests by the Board, or drawal below 30% of capacity or other emergency conditions, the Board has to pay US Dollars 15,000 (at 1994 levels, duly indexed for future years) for **every such start up**; beyond 12 start ups, the amount increases to US $25,000 for every start up. Not only this, apart from the start up fine, the Board shall also pay for the actual costs of all diesel fuel for each and every start up consumed during such start up and during the period of 12 hours after such start up. However, if the Company fails to generate and deliver to the Board the electricity that the Company has agreed to generate, the sole remedy of the Board in respect of such a failure shall be the adjustment in the purchase for electricity, and no other. This is as one sided, as the Board's supply clauses with its customers existing at

present.

The Company will have the right but not the obligation to sell power to third party industrial and other consumers. This is with the approval of the Board, but the approval shall not be unreasonably withheld or delayed. Since this PPA has already been signed, KEB has no moral authority to withhold or delay issuance of no-objection certificate for industrial consumers from Peenya to buy power directly from NTPC. The interdependance of the Board's financial performance on the Company's sale of power directly to industry customers thereby milking the creamy segment of the Board's customers is conveniently short circuted by the Company. The PPA demands that the sale shall not be objected to as long as it does not affect the technical working of the Board or increase the capital or operating cost of the Board. What it does not say, is that the Board's revenues shall not be affected. It is said that the final PPA does not contain the provision of third party sale. But it must be remembered that the act has been amended to provided for allowing third party sale, and hence this clause of 'no third party sale' can be overturned in a court of law.

During the construction period, the Board should sell electricity to the Company, just like to all other Companies, i.e. at HT Tariff (i.e. at a price much less that what the Company would be selling to the Board in future), but demand charge will be payable only for the actual periods consumed, unlike other companies which have to pay for the whole year. This is, to say the least, absurd, as it assumes that KEB has

some magic wand to create this marginal capacity to provide for the Company just during its period of construction.

Project and Country Risk: Both the project risk and the country risk reduce over the life time of the project. The project risk reduces once the project is commissioned and the country risk is likely to be reduced, after a few years of the project, upon prompt payment, once the investors see certain revenue streams. The Company will cash in on both these counts, by selling their debt position i.e. renegotiating the interest rates. They will also take advantage of the market in case lower interest rates prevail in future. But these advantages will accrue solely to the Company. The SEB could have bargained for a share in these windfall gains by asking for a provision to call the debts and repay earlier, as well as asking for a provision of floating rate debt to take advantage of declining interest rates.

Drawbacks of Cost Plus: The very **Cost plus** concept is inherently flawed, since it is prices that can be controlled in the ultimate analysis and not costs. The mechanism of competition is the best check on prices. No regulatory body, be it the tariff commission, the bureau of industrial costs and prices or in the present case the Central Electricity Authority can effectively control costs. It is also infructuous to control costs. In the case of glut, as it obtains now in the international electricity equipment industry, one can get equipment at prices much below costs, if only one can go with cash in hand and shop around. Can CEA take cognisance of the market conditions in deciding on costs? While the Board has the

freedom to get out of the agreement if the CEA approved cost is not what it agreed to in the CEA submission, what happens once the project starts and cost increases are approved by CEA? What control the Board, which pays for the cost, has on this? It is long established by M/s. Averch and Johnson that there is overcapitalization in the electricity industry through out the world just because of this principle of 'cost plus', and this goes by the name Averch-Johnson hypothesis. The estimated capital cost of cogentrix power in 1997 works out to around Rs.3.26 crores per MW. But as set out earlier, devaluation and inflation can render the initial capital cost estimate completely meaningless when it comes to yearly payments.

Conclusion: Inviting foreign direct investment in the power sector calls for a host of new skills to be acquired on the part of SEBs and their Government partners in negotiating with the foreign companies. These cover technical skills in drawing up the required specification and evaluating them vis-a-vis different bids, legal skills of entering into international contracts, project financing skills and negotiating skills of knowing ones' own strengths and opponents' weaknesses. At present many of these skills appear to be conspicuous by their absence. The Government seems to have thoughtlessly gone about signing the PPA without weighing all the options. It urgently needs a review. The country certainly need more power, but not power at any cost.