



सत्यमेव जयते

Dr. Pramod Deo
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केन्द्रीय विद्युत विनियामक आयोग
CENTRAL ELECTRICITY REGULATORY COMMISSION



D. O. No.:10/4/2011-Statutory Advice/CERC
Dated: 26th October, 2012

Subject: Revision of Standard bid Documents for Case-2/UMPPs - furnishing of comments reg.

Dear *Shri Uma Shankar,*

This has reference to Ministry of Power's letter No. 23/17/2011-R&R (Vol-IV) dated 07.09.2012 seeking comments of the Central Commission on draft Model Power Purchase Agreement (PPA) for Public Private Partnership in Generation of Electricity. The draft Model PPA has been examined by the Commission and it is felt that the document needs refinement to adequately address various issues around competitive procurement of power by the distribution licensees.

2. The Commission would like to place on record the following specific observations in the context of the draft Model PPA prepared by Ministry of Power:-

3. **Design, Build, Finance, Operate and Transfer (DBFOT) Model:** The model SBD which has been named as "Public Private Partnership in Generation of Electricity" is premised on the assumption that the Distribution Licensee will be a public entity and Generator will be a private entity. This may not necessarily be a correct assumption as we already have private distribution licensees in the country and this document will also be applicable for procurement of power by such licensees. At the same time, there may be a situation when some Government distribution licensees may also get privatized under the provisions of the Electricity Act, 2003. The nomenclature of model SBD as "Public Private Partnership" is therefore not appropriate.

In our view, DBFOT model is suited more for natural monopoly businesses like road, transport, transmission and distribution of electricity etc. and not for de-

licensed businesses like generation. It is felt that DBFOT model may not inspire the developer to adopt prudent maintenance towards the end of concession period leading to high degree of deterioration of the plant. The model may also lead to complexities in transfer process in case of multiple procurers. There may be a situation where distribution licensees may not like to undertake additional business of power generation over and above the existing distribution business. This model may also create uncertainty in terms of financing because of unsecured nature of assets in the absence of clear title/ownership of such assets with the bidder.

It is therefore suggested that the document should be designed based on Build Own Operate (BOO) model instead of DBFOT model, as in the existing SBD.

4. Single Variable Bidding and Station Heat Rate (SHR): The proposed model of Single Variable based Bidding appears to be intended at simplifying the bidding process. But in practice it might turn out to be more intrusive than the cost plus regulated tariff regime. Further, for the fixed cost component also, the assumption of payout curve and prefixed (percentage) escalable component may not hold good for the entire period of PPA and for all projects.

The provision of payment of energy charge based on the actual SHR measured prior to COD is fraught with avoidable complexities.

Linkage of SHR & Fixed Charges

The draft Model PPA has a provision of incentivizing improvement in SHR with higher capacity charges. There is no concrete empirical evidence to establish a functional relationship between Capacity charges and SHR during operation period. The initial capital deployed in the project is generally not linked to improvement or deterioration of SHR. Our analysis (**Annexure-I**) also suggests that the savings to the beneficiary by way of reduced energy charge due to improved SHR might be less than the out go for the beneficiary as a result of higher capacity charges.

Further, SHR depends on many factors, other than machine design, such as plant loading, quality of coal, ambient temperature etc., and may deteriorate on account of any of these factors. In fact, improvement in SHR during the operation of the plant may not be feasible without technology improvement or renovation and modernization (R&M). Any such provision may also lead to disputes in future.

Also, measurement of SHR/its computation on quarterly basis and linking it to recovery of Fixed Charges and Energy Charge does not appear to be practical. It

is therefore suggested that SHR should also be a biddable parameter or pre-specified SHR should be treated as normative parameter for payment of energy charge and there should be no adjustment of fixed charges.

5. Deemed Availability: We are of the view that the fuel risk should not be passed to the consumers entirely. With the kind of proposition made in the Draft Model PPA, which envisages the concept of deemed availability and sharing of cost equivalent of Deemed Availability in the ratio of 70:30 between the beneficiary and the generator, both the bidder and the procurer will be subjected to risks. This also might lead to assets getting stranded. The bidder would have to factor in risk equivalent to 30% loss despite the deemed availability in the event of less supply of coal by CIL, which might lead to higher quotes by the bidder. Similarly, the procurer would have to bear cost of 70% in the event of deemed availability, despite the plant not remaining available. Such a dispensation is not there even under the cost plus regulated tariff regime. In addition, the concept of keeping minimum fuel stock for 10 days with respect to dedicated capacity may not be practically feasible.

It is suggested that the Ministry of Power should engage with the Ministry of Coal to ensure 100% supply of coal. In the event of CIL not being able to supply from its mines, it (CIL) should import, blend and supply coal to the generator. The cost of blended coal procured by CIL may be allowed as a pass through. In view of the above, the concept of deemed availability and minimum fuel stock for 10 days should be done away with.

6. Normative Availability & Incentive: The provision of incentive beyond normative availability is not justified in a competitive bidding regime. Normative availability should be fixed after factoring in the need for reasonable plant outage and any generation beyond the normative availability should be paid for by the beneficiary only at the rate of Energy Charge. Alternatively, the generator should be given the choice to sell the electricity (generated over and above the normative availability) in the open market.

7. Concept of Open Capacity: The draft Model PPA has a provision for open capacity to the extent of 20% of the installed capacity. The concept of open capacity is not justified in case of captive mine holders. In case of linkage based project also, given the fuel uncertainty, the provision of Open Capacity will lead to assets getting further stranded. There is no rationale for providing for open capacity in the SBD. It should deal with only the capacity to be contracted to avoid complication and discourage perverse tendency of loading, in the bid for the dedicated capacity, the costs on account of risks associated with open capacity.

8. Role of independent Engineers (IE): In the draft Model PPA, the concept of an Independent Engineer has been introduced at various stages of the project. The provision of appointment of an Independent Engineer by the 'utility' and with such elaborate roles and functions of overseeing/certifying inter-alia technical parameters of the plant, would tantamount to creating an independent authority not envisaged under the Electricity Act, 2003. This may also lead to dispute and should ideally be dispensed with. For greater acceptability, it is desirable that both the parties should be jointly involved to undertake measurement and monitoring issues.

9. Other Issues:

Gross Calorific Value (GCV)

The draft Model PPA requires the Concessionaire to determine Gross Calorific Value (GCV) by collecting random samples of fuel at the rate of 2 Kg for every 10 tons of fuel immediately following storage at the power station. It is felt that taking 2 kg samples for every 10 tons of fuel may not be practical. For a 500 MW plant based on domestic coal, coal requirement would be of the order of 6000 ton/day implying that 600 samples would have to be taken in a day. There is a standard for sampling by Bureau of Indian Standards (BIS) which should be followed. Deviation from an established Statutory Sampling Standard is not desirable.

Further, there might be a difference in GCV, determined by the Concessionaire and by the Utility, owing to change in weather conditions (e.g., temperature, humidity etc.). Similarly, there may be a difference between GCV measured at Storage point by Concessionaire and that certified by the fuel supplier as per the Fuel Supply Agreement. This difference of GCV shall have significant commercial impact.

It is therefore suggested that the GCV as certified by the supplier may be used for the purpose of payment of energy charge and it should be the responsibility of the bidder to ensure that it receives the coal of desired quality/GCV from the supplier. In case of captive mine, the computation of GCV may be undertaken through joint sampling by both the beneficiary and the bidder.

Indexed Fixed Charges

It has been provided in the draft Model PPA that fixed charges shall be revised to reflect 30% variation of WPI. It is observed that the Indexed fixed charges (which primarily constitute operation and maintenance cost containing

mainly manpower cost and variation in manpower cost) are best reflected through a combination of WPI and CPI. Therefore, linking fixed charges only with WPI is not justified. It should be linked to weighted average of WPI & CPI.

Change of Scope

The draft Model PPA allows the beneficiary to undertake additional works and services, which are not included in the scope of the project but are necessary for safer and improved power station, with the consent of the utility. It is felt that there is no need for such a provision in the SBD as change of scope should be only consequent to change in law.

Right to Despatch

The draft Model PPA provides that the utility shall have the first right to despatch, in the form of UI, any surplus electricity generated from dedicated capacity. The utility cannot have the first right to despatch in the form of UI. One cannot put flag to the UI and as such this is not possible. Further, the UI shall be for a station as a whole and it would not be possible to identify UI relating to the dedicated capacity or the open capacity or generation above installed capacity.

Also any UI proceed net of fuel cost may only be shared and not the total UI revenue. The provisions need to be modified suitably.

Conditions precedent

Under the conditions precedent, the utility should not be subjected to penalties for failure to obtain the required statutory clearances (e.g. clearance under Sections 68, 164 of the Act etc.).

10. In view of the above, in exercise of its powers, under section 79 (2) of the Electricity Act, 2003, the Central Commission advises the Ministry of Power to consider the following observations while finalizing the model Standard bid Documents for Competitive Procurement of Power :-

- The document should be designed based on Build Own Operate (BOO) model instead of DBFOT model, as in the existing SBD.
- SHR should be a biddable parameter or pre-specified SHR should be treated as normative parameter for payment of energy charge and there should be no adjustment of fixed charges.

- The concept of deemed availability and minimum fuel stock for 10 days should be done away with. Ministry of Power should engage with the Ministry of Coal to ensure 100% supply of coal. In the event of CIL not being able to supply from its mines, it should import, blend and supply coal to the generator. The cost of blended coal may be allowed as a pass through.
- Normative availability should be fixed after factoring in the need for reasonable plant outage and any generation beyond the normative availability should be paid for by the beneficiary only at the rate of Energy Charge. There should not be any provision for incentive beyond normative availability.
- The provision of Independent Engineer should be dispensed with. Ideally both the contracting parties should be jointly involved to undertake measurement and monitoring of project.
- The GCV as certified by the supplier may be used for the purpose of payment of energy charge and it should be the responsibility of the bidder to ensure that it receives the coal of desired quality/GCV from the supplier. In case of captive mine, the computation of GCV may be undertaken through joint sampling by both the beneficiary and the bidder.
- Indexed Fixed Charges should be linked to weighted average of WPI & CPI.
- Any change in scope of project may be allowed only on account of change in law.
- The provision relating to dispatch of power through UI should be aligned with the concept of ABT and UI mechanism.
- Under the conditions precedent, the utility should not be subjected to penalties for failure to obtain the required statutory clearances (e.g. clearance under Sections 68, 164 of the Act etc.).

With regards,

Yours sincerely,

Pramod Deo
(Dr. Pramod Deo)

Encl : as above.

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/ Annexure-I /

Illustration

Assumptions		As per Specified SHR	As per Actual SHR (Assuming 1% Improvement in SHR)
Station Heat Rate	KCal/KWh	2300	2277
Gross Calorific Value	KCal/Kg	3900	3900
Landed Coal Price (Pit head station)	Rs/Tonne	1450	1450
Quantum of Fuel	Kg/KWh	0.590	0.584
Fixed Charges	Rs/Unit	1.400	1.421

	Impact (Paise/Unit)	Impact in Percentage
Savings in Fuel Price	0.855	1.00%
Increase in Fixed Price	2.100	1.50%
Net Increase in Tariff	1.245	0.55%

Break Even (Savings in Fuel Price= Increase in Fixed Price) : At landed coal price between Rs 3500-3600 per Tonne - It is highly unlikely that landed cost of domestic coal (linkage/captive) may shoot up to this level.