

Comments invited by 17th October, 2004

[The following draft guidelines have been developed by the Central Electricity Regulatory Commission and forwarded to the Central Government as its statutory advice under Section 79 (2) (ii) of the Electricity Act, 2003]

**Draft Guidelines for Competitive Bidding
for Procurement of Generation on
Long Term Contracts**

Introduction

(i) An important objective of Electricity Act, 2003 is promotion of competition. The generation sector is generally acknowledged to be largely amenable to competition and hence procurement of energy should be done through competitive means to the extent feasible. Section 63 of the Electricity Act, 2003 requires the appropriate Commissions to adopt tariffs determined through transparent process of bidding in accordance with guidelines issued by the Central Government. Section 79 (2) (ii) stipulates that the Central Commission shall advise the Central Government on promotion of competition. Section 60 of the Act provides that the appropriate Commission may issue such directions as it considers appropriate to a licensee or a generating company, if such licensee or a generating company, enters into any agreement or abuses its dominant position or enters into a combination which is likely to cause or causes an adverse impact on competition in electricity industry. As such, it is necessary that the bidding process is conducted under regulatory supervision.

(ii) All existing generators such as NTPC, NHPC, NEEPCO, State Generating Companies, State Electricity Boards, Independent Power Producers etc., shall continue to supply power as per their existing contracts and the tariffs to be recovered by them shall be no greater than those determined by the appropriate Commissions.

(iii) The addition of generation capacity in future should be through competitive bidding as far as possible. However, some generating projects such as extension projects, on-going/already taken up projects may be set up on the basis of the terms and conditions of tariff decided by the appropriate Commission from time to time. In such cases also the procurement of plant and equipment shall be done through competitive bidding in suitable packages.

(iv) *With regard to hydro electric generation, Section 8 of the Electricity Act provides that any generating company intending to set up a hydro generating station shall prepare and submit to the Authority for its concurrence, a scheme estimated to involve a capital expenditure exceeding such sum, as may be fixed by the Central Government, from time-to-time, by notification. If the procuring agency estimates that capital cost of the scheme would exceed such notified sum, it shall proceed in the manner prescribed under the Act.*

Objective

The objective of the following guidelines is to prescribe a broad framework for selection of an agency through a transparent process of competitive bidding for the procurement of generating capacity on a long term contract.

1.0 Manner of Procurement

Procurement of electricity through competitive tariff based bidding may be done in any of the following manner:

- 1.1 For blocks of capacity without specifying type or source of generation.
- 1.2 For entire project capacity or blocks of capacity of thermal generation.
- 1.3 For entire project capacity or blocks of capacity of hydro generation.
- 1.4 For entire project capacity or blocks of capacity of fuel specific thermal generation with energy charges payable at net quoted heat rate.

2.0 Procuring Agency

- 2.1 Procuring agency may be the distribution licensee, State Electricity Board or its successor entities, State Governments, Electricity Departments and/or trading licensee individually or as a consortium who intend to or shall be procuring electricity. Such entities may belong to one or more States or one or more Regions.
- 2.2 In case of inter-State projects, the Central Government may also take the initiative to constitute a procuring agency in consultation with State Governments, Central Electricity Authority, Central Transmission Utility and other stakeholders. Similarly, for intra-

State projects, the State Government may take the initiative to form a procuring agency in consultation with distribution licensees, State Electricity Boards or their successor entities, State Transmission Utility etc.

- 2.3 The consortium constituting the procuring agency shall decide its organisational structure and modalities of functioning.
- 2.4 The procuring agency shall be responsible to carry out the bidding process and take approval of the appropriate Commission in accordance with these guidelines.

3.0 Project Selection

- 3.1 Project type, location and fuel selection may be done by the procuring agency in advance, or, it may be left to the bidders.
- 3.2 Site Specific Projects: In case the procuring agency intends to invite bids for setting up the project on a preferred or identified location, it shall be guided by the National Electricity Plan. For a site specific project, the procuring agency shall carry out the preliminary developmental work and studies such as pre-feasibility studies, survey, soil investigation, power evacuation studies etc., and endeavour to obtain statutory clearances, fuel linkages etc., to the extent desirable. A clear site free from encumbrances reduces uncertainties and would result in better competitive bidding.
 - 3.2.1 Site specific hydro projects for competitive bidding shall be picked up from the shelf of projects in the Ranking Studies done by the Central Electricity Authority. The procuring agency shall prepare the detailed project report and carry out detailed survey and investigation for the purpose of dams, tunnels and other civil works.
 - 3.2.2 While furnishing information and data for site specific projects, a suitable disclaimer clause shall be added. The bidders shall be asked to check, verify and confirm the data and site conditions and take full responsibility while quoting their tariff.
 - 3.2.3 Site specific hydro projects shall be offered for competitive bidding preferably after acquisition of land by the State Government, and the site shall be transferred to the successful bidder at a declared price.
- 3.3 Promotion of Regional Projects: Economy of scale and the level of prevalent technologies make it desirable that base load generation projects should be large and comprising bigger unit sizes located

near the sources of energy. Since there already exists a strong transmission network in five electrical regions of the country, it would be desirable to promote regional projects aggregating the requirement of various buying entities. The distribution licensees of a region would need to come together in the form of a consortium of bulk buyers and collectively invite bids for setting up regional projects. The concerned State Governments and State Electricity Regulatory Commissions should also promote regional projects.

- 3.4 Associated Transmission System: The procuring agency and the project developer shall coordinate with the STUs/CTU for planning and developing associated transmission facilities for power evacuation. The transmission system associated with generation projects may be developed/strengthened through the STU and/or CTU subject to mutual agreement. Alternatively, the procuring agency may invite competitive bids for building the transmission facilities for site specific generation projects. The selected agency may then seek transmission licence from the appropriate Commission to take up the work.

4.0 Specification of Requirements

- 4.1 The procuring agency shall clearly specify its need for procurement of electricity, such as,
- (i) Peak Power requirement (MW)
 - (ii) Annual Average Energy Requirement (MWhr)
 - (iii) Typical drawal pattern
 - (iv) Time schedule
 - (v) Tenure of agreement
 - (vi) Points of delivery

4.2 Scheduling and Despatch

The generating facility shall comply with the Indian Electricity Grid Code (IEGC) and scheduling and despatch procedures under Availability Based Tariff (ABT) including settlement of deviations with respect to scheduled generation as per Unscheduled Interchange (UI) rates as applicable from time to time.

4.3 Conformance to Standards of Quality and Safety

The generating facility shall conform to the technical standards for construction of electrical plants, electrical lines and connectivity to the grid, and Indian Electricity Rules specified by the Central Electricity Authority in exercise of its duties under Section 73 of the

Electricity Act. The plant and equipment shall conform to all relevant national and international standards of quality and performance.

4.4 Reliability of Supply

Suitable provisions to ensure timely commencement and reliability of power supply shall be incorporated in the long term contract including the following:

4.4.1 Timely Commencement:

The Procuring agency shall specify a suitable penalty for delay in commencement of supply from the time schedule agreed in the contract.

4.4.2 Target Availability:

Payment of full amount of Annual Fixed Charges (AFC) shall be linked to a benchmarked Annual Target Availability below which there shall be pro rata reduction in the payment. In the event of availability falling below a certain level continuously for two years, provision for penalty in addition to reduction of AFC may be included in the agreement.

4.4.3 Degradation of Contracted Capacity:

The agreement shall have provision for verification of ability to despatch full contracted capacity from time to time and suitable penalty for default.

5.0 **Tariff Based Bidding**

5.1 **For blocks of capacity without specifying type or source of generation**

or

For entire project capacity or blocks of capacity of thermal generation

5.1.1 The tariff based bidding shall call for Annual Fixed Charges (AFC) and Variable Charges.

5.1.2 Annual Fixed Charges (AFC)

(i) AFC shall have three components (Ax, Ay and Az).

$$\mathbf{AFC = Ax + Ay + Az}$$

Where;

Ax = Not linked to any index in Rupees (may be different for different years).

Ay (Optional) = Not linked to any index in US Dollars (may be different for different years).

Az = Inflation* linked base numbers in Rupees (may be different for different years)

**Inflation factor shall be based on 0.6 WPI and 0.4 CPI*

5.1.3 Variable Charges

- (i) The Variable Charges shall have four components (Bx, By, Bza and Bzb)

$$\mathbf{Variable\ Charges = Bx + By + Bza + Bzb}$$

Where,

Bx - Not linked to any index in Rupees/kWhr (may be different for different years)

By* (Optional) - Not linked to any index in US Dollars/kWhr (may be different for different years)

Bza - Linked to a suitable index** in Rupees/kWhr (the base number may be different for different years)

Bzb* (Optional) - Linked to a suitable index** in US Dollars/kWhr (the base number could be different for different years)

**Applicable only in case of imported fuel.*

***Index might be reference fuel price, or price of basket of fuels or some other index.*

- (ii) The Variable Charges shall be payable corresponding to scheduled generation.

- (iii) The Variable Charges shall be evaluated corresponding to specified Annual Average Energy Requirement.

5.2 For entire project capacity or blocks of capacity of hydro generation

5.2.1 The tariff based bidding shall call for Annual Fixed Charges (AFC).

5.2.2 Annual Fixed Charges (AFC)

- (i) AFC shall have three components (Ax, Ay and Az).

$$\mathbf{AFC = Ax + Ay + Az}$$

Where;

Ax = Not linked to any index in Rupees (may be different for different years).

Ay (Optional) = Not linked to any index in US Dollars (may be different for different years).

Az = Inflation* linked base numbers in Rupees (may be different for different years)

**Inflation factor shall be based on 0.6 WPI and 0.4 CPI*

5.2.3 The procuring agency has the choice of designing its own risk sharing methodology for hydrological uncertainty. Geological Risk shall be borne by the project developer.

5.3 For entire project capacity or block of capacity of fuel specific thermal generation with energy charges payable at net quoted heat rate

5.3.1 The tariff based bidding shall call for Annual Fixed Charges (AFC) and net heat rate (ex-bus).

5.3.2. Annual Fixed Charges (AFC):

- (i) AFC shall have three components (Ax, Ay and Az).

$$\mathbf{AFC = Ax + Ay + Az}$$

Where;

Ax = Not linked to any index in Rupees (may be different for different years).

Ay (Optional) = Not linked to any index in US Dollars (may be different for different years).

Az* = Inflation** linked base numbers in Rupees (may be different for different years)

** In case coal/ lignite based generating stations the cost of secondary fuel oil shall be internalised in Az.*

***Inflation factor shall be based on 0.6 WPI and 0.4 CPI.*

5.3.3 (i) Variable Charges shall be payable on the basis of quoted net heat rate (ex-bus).

(ii) **Variable Charges = Net Heat Rate x Scheduled Generation x Monthly Average GCV of Fuel x Monthly Weighted Average Price of Fuel.**

5.4 The procuring agency may specify a cap on the escalation to be allowed on indexed component of the variable charges.

5.5 The procuring agency has the choice of designing its own incentive scheme for generation beyond target availability and the same shall be specified in the bidding documents.

5.6 The quoted tariff shall be inclusive of all taxes.

5.7 Bid Evaluation

5.7.1 The evaluation of the bids shall be done on the basis of the Net Present Value (NPV) of the Annual Fixed Charges and Variable Charges corresponding to annual energy requirement for the full tenure of the long term agreement.

5.7.2 The discounting factor, inflation factor and Rupees versus US dollar exchange rate variation to be considered for evaluating the NPV shall be carefully chosen and clearly indicated by the procuring agency in the bid documents.

5.7.3 Fuel price escalation to be considered for evaluation of indexed variable charges may be specified if possible; otherwise, the principles and methodology for the same shall be indicated in the bid documents. Energy security issues shall also be factored in the evaluation.

5.7.4 Bid evaluation shall be done taking into account the associated cost of transmission up to the specified point(s) of delivery.

6.0 Exit option

The buyers and the sellers may exercise exit option subject to terms and conditions specified in the contract documents. In the event of disagreement or dispute, the matter shall be referred to the appropriate Commission. The Commission shall consider the issues on merit and may allow exit to parties subject to the payment of settlement charges etc. to be decided by the Commission.

7.0 Trading of Capacity

The signatories to the Power Purchase Agreement i.e. procurers or their successor entities, would have the right to trade or assign their generating capacity share to a third party after informing the generator so long as they are meeting their full payment obligations.

8.0 Excess Capacity

The procuring agency may agree to the setting up of a generating plant of capacity higher than the capacity sought in the bid. Such spare generating capacity would belong to the owner, who may use it as captive or merchant capacity or for sale as a separate power block under a separate long term contract.

9.0 Save for where the law otherwise provides, the Central or State Public Sector Undertakings may freely participate in the competitive bidding.

10.0 Bidding Process

10.1 The procedure for inviting bids shall be a two stage process, the first stage being Request for Qualification (RfQ) and the second stage being Request for Proposal (RfP)

10.2 The bid documents shall be written in a manner so as to promote competition and shall not be restrictive.

- 10.3 The RfQ bidding document shall contain;
- (i) Specifications of requirements.
 - (ii) Eligibility criteria for the bidders [to be specified with a view to (a) minimising risk of delay (b) preventing frivolous bids and (c) assessing the financial capability of the bidders].
 - (iii) Pre-feasibility studies/Detailed Project Report, if prepared.
 - (iv) Status of clearances, linkages etc.
 - (v) Description of bidding process.
 - (vi) Allocation of responsibilities.
- 10.4 The bid document shall make it clear that the bidder is responsible for obtaining/transferring various statutory clearances such as Central/State Pollution Control Board clearances, MOEF clearance, CWC clearance, right of way, chimney height, clearance from Ministry of Defence, External Commercial Borrowing, clearance from Ministry of Finance, RBI clearance, Foreign Direct Investment clearance etc., from the appropriate authorities.
- 10.5 The invitation of bids should be given wide publicity in the form of publication in trade journals, leading economic newspapers, intimation to various Embassies in India publicity through Indian Embassies and High Commissions abroad from where investment is expected to come.
- 10.6 The evaluation criteria shall be pre-specified in the bid document so that the bidders are clear on the method of evaluation of their bids. All the bids shall be opened at the prescribed time in the presence of interested bidders, and major parameters shall be read out at the time of bid opening.
- 10.7 Pre-bid conferences should be held to furnish adequate clarifications so that bidders are clear about the requirements.
- 10.8 The RfQ bids shall be evaluated in accordance with the evaluation criteria prescribed in the bid document and selection of qualified bidders shall be done.
- 10.9 The RfP document shall be issued to the bidders who are successful at the RfQ stage. The RfP document shall bring out all the requirements and contain the drafts of various agreements including Power Purchase Agreement, Installation Agreement, Support Agreement etc. All these documents shall be in the form of drafts and it would be preferable to identify if any deviation from these documents could be accepted. Wherever no deviation is permissible, it should be clearly indicated in the documents.

Deviation from the documents may be permitted subject to the condition that appropriate cost loading for such deviations be done in a specified manner.

- 10.10 The RfP documents shall indicate creditworthiness/financial arrangements of the procuring agency to meet its payment obligations for purchase of power.
- 10.11 The RfP bids shall be classified into conforming or non-conforming bids. The bids which are in conformity with the bid documents shall then be further evaluated.
- 10.12 Evaluation report of various bids both at the RfQ and RfP stages shall be supplied to the appropriate Commission, if malafide is alleged.

11.0 Regulatory Approval

A two stage regulatory approval is prescribed below:

- 11.1 Before floating the bid enquiry, the procuring agency shall obtain approval of the bidding documents from the appropriate Commission;

Provided that any subsequent amendment to the bid documents shall be carried out with prior approval of the appropriate Commission.

- 11.2 After completing the bidding process, the procuring agency shall seek approval of the appropriate Commission for the adoption of tariff;

Provided that if the number of qualified bidders after RfQ stage is less than three (3), approval of the appropriate Commission shall be obtained before proceeding from RfQ stage to RfP stage. The Commission may or may not allow the bidding to proceed to RfP stage if there are only two qualified bidders. In case there is only one qualified bidder or the Commission does not allow to proceed with two bidders, the process shall stand aborted. In such a situation, the procuring agency may re-invite bids.

Provided further that if there are only two bids in response to the RfP, the procuring agency shall furnish adequate justification for adoption of tariff. In case there is only one bid in response to the RfP or the Commission is not satisfied that adequate competition

has taken place, the process shall stand aborted. In such a situation, the procuring agency may re-invite bids.

12.0 Settlement of Disputes

- 12.1 Any dispute during the bidding process or tenure of the long term contract shall be subject to jurisdiction of the appropriate commission under the Section 79 (1) (f) or the Section 86 (1) (f) of the Electricity Act, 2003 as the case may be.
- 12.2 Appeal against the decision of the appropriate commission shall lie with the Appellate Tribunal under Section 111 of the Act.
- 12.3 Appeal against the decision of the Appellate Tribunal shall lie with the Supreme Court of the India under Section 125 of the Act.
