



Chhattisgarh State Electricity Regulatory Commission
Irrigation Colony Shanti Nagar, Raipur - 492 001 (C.G.)
Ph.0771-4048788, Fax: 407355
www.cserc.gov.in, e-mail: cserc.sec.cg@nic.in

In the matter of terms and conditions and pricing of power to be purchased in short-term from captive generating plants (CGPs) and IPPs of the State of Chhattisgarh by the Chhattisgarh State Power Distribution Company Ltd. for the year 2010-11.

Suo Motu Petition No.05 of 2010

Chhattisgarh Power Distribution Company Ltd.
(Successor Company of Chhattisgarh State Electricity Board), Raipur

..... Respondent

**Present: Manoj Dey, Chairman
B.K. Sharma, Member**

ORDER
(Passed on 30.04.2010)

The Chhattisgarh State Power Distribution Company Ltd. (CSPDCL for short) procures power on short-term basis to meet its total demand and energy requirement. The Commission passed an order on 18.04.09 in suo-motu petition No. 09/2009(M) and specified maximum ceiling rates and terms and conditions of short-term power purchase for the period 2009-10. The order passed in this petition was effective from 01.04.09 to 31.03.2010.

The CSPDCL was required to submit the power purchase plan and propose measures / actions to meet its total power requirement for the year 2010-11. The CSPDCL instead of filing petition submitted a proposal for pricing and other terms and conditions for short-term power procurement for 2010-11 vide letter dated 19.02.2010 to the Commission. The Commission has been entrusted with the responsibility under the provisions of section 86(1)(b) of the Electricity Act, 2003 (the Act, for short) to regulate electricity purchase and procurement process of distribution licensee including the price at which electricity shall be procured from the generating companies, etc. In the discharge of this responsibility and to avoid further delay in the matter this Commission registered a suo-motu petition under section 86(1)(b) and section 62(1)(a) of the Act and treated the letter dated 19.02.2010 of the CSPDCL as an application for this purpose. The CSPDCL's proposal was forwarded to the State Government, Members of State Advisory Committee, all CGPs/IPP's who are supplying power to CSPDCL, for offering their comments/views. The proposal was uploaded on the website of the Commission on 24.02.2010. A public notice was also issued in the newspapers on 25.02.2010 and comments/ suggestions were invited from all stakeholders including the public by 17.03.2010. The Commission held a public hearing in the matter on 19.03.2010. The list of the stakeholders who submitted comments/ suggestions and participated in the hearing is at Annexure to this order. The points raised by the stakeholders were

further forwarded to CSPDCL to offer their views on the issues. The issues which were raised by stakeholders and the CSPDCL are discussed below:

2. **Need for short-term power purchase**

Presently, the CSPDCL is procuring power on long-term basis from the generating stations of Chhattisgarh State Power Generating Company Ltd. (CSPGCL, for short), Central Generating Stations (ISGS) as per allocations, NTPC-SAIL Power Company Ltd. (NSPCL), biomass based generating plants in the State and M/s Jindal Steel & Power Ltd. (JSPL). As per the seventeenth Electricity Power Survey (EPS) report of the Central Electricity Authority, the maximum peak demand estimated for Chhattisgarh for the year 2010-11 is 3277 MW. The total energy requirement estimated by CEA for the State for 2010-11 is 20047 MU. It remains the fact that the demand for electricity has been rising fast in the State, but there will be no addition of generation capacity by the State Utility, i.e. CSPGCL during 2010-11. As submitted by CSPDCL, the total availability of power from all the long-term purchase commitments is estimated at 2385 MW for 2010-11. There would, therefore, be a need for short-term purchase of power during 2010-11. It is not always feasible to meet the consumers' demand from the long-term PPAs only. For various reasons, including varying load-generation balance, weather conditions, seasonal demand, planned and forced outages of generators supplying power, a distribution utility may require alternative means to meet the seasonal or peaking demands.

The CSPDCL is required to submit the business plan of its distribution and supply business. Power procurement plan is an important component of the business plan of distribution licensee. The above indicated figures of demand and availability of CSPDCL are based on rough estimate. **The figures of demand and availability shall be examined in detail while processing the business plan.** However, as per the CEA's projection and estimates submitted by CSPDCL, the peak demand of CSPDCL for 2010-11 has to be certainly met from short-term power purchase.

3. **Long-term plans**

In one of the comments received on the petition, it is suggested that CSPDCL may be instructed to purchase maximum power through long-term power purchase contract. M/s Bajrang Metallics and Power Ltd. has submitted that CSPDCL is avoiding bidding process for procurement of power on long-term/medium-term basis and continues to purchase power through short-term route. M/s BMPL has suggested to initiate action and direct CSPDCL to initiate bidding process. M/s Jagdamba Power and Alloys Ltd., M/s Real Ispat & Power Ltd. and some other stakeholders have also expressed similar views. Mr. Gopal Mukherjee, Member, State Advisory Committee has requested the Commission to formulate suitable guidelines for long-term period.

The Commission had asked CSPDCL to prepare a long-term plan. CSPDCL is a State Utility, it purchases power and then supplies to its consumer. It has long-term commitments with its consumer for supply of power. While the demand is in increasing trend, the rate of increase of availability of power through long-term purchase route is not proportionate. The short-term power requirement of CSPDCL is in increasing trend. A detail analysis for demand and availability position of power needs to be done. The Commission is of the view that a long-term power procurement plan may be least cost plan (least financial

cost to the licensee), the ultimate objective being to make reliable and secure power to all its consumers with economic viable tariff. The Commission has also issued "guidelines for power purchases and power procurement process" for distribution licensee. **The Commission directs CSPDCL to prepare a long-term power procurement plan for a period 2011-2022 and submit to the Commission by September 2010. The Commission shall examine and then approve the plan after due consultation.**

Part A

Terms and Conditions of short-term power purchase

4. Load factor issue

M/s Jindal Power Ltd.(JPL), M/s BALCO and M/s Jagdamba Power Alloys Ltd. have expressed their inability to achieve the load factor of 80% and have pleaded that it should be reduced to 70%. M/s JPL has stated that 80% load factor required to get full rate, is difficult to achieve and that too on weekly basis. The Confederation of Indian Industries, Chhattisgarh, has also requested to consider load factor of 70%. CSPDCL has requested to retain load factor at 80%. The issue of load factor was discussed in detail in the order dated 18.04.09 in suo-motu petition No. 09/2009. However, the Commission took note of the contention of the representatives of generating plants and asked CSPDCL to provide PLF of power plants operating in the State and load factor for supply of power to CSPDCL for the year 2009-10. The CSPDCL submitted details of 09 power plants and the figures submitted reveals that the PLF of these 09 power plants are more than 80% in year 2009. As per the CEA's report, PLF of private sector utilities & IPPs (thermal) for the period April 2009 to March 2010 was more than 80% at the national level. **The Commission, therefore, do not find any basis to relax this parameter. The load factor of supply shall be retained at 80%.**

5. Forced and planned outage of power plant

The CII, Chhattisgarh, Chhattisgarh Udyogh Mahasangh, Urla Industry Association, M/s Aryan Coal Benefication Ltd. and some other representatives of IPP/CGP have suggested that the force majeure, forced outage and planned outage conditions should be clearly specified for calculating load factor. They have stated that as per statutory requirement, an annual overhaul and maintenance of boilers is required to be carried out. The power plant faces breakdowns also. They added that the position and facts on forced majeure can be verified from their log books and also through random checking of their plants. The parties suggested that a provision of cancellation/downward revision of contracted power on weekly or monthly basis shall be permitted and the revised declared quantum should form the basis of calculating load factor. During the public hearing also the power developers emphasized on this issue and requested the Commission to provide a suitable solution on this issue.

The contention raised by the generators/CGP was examined. "Force majeure" and "Forced outage" has been specified in the Indian Electricity Grid Code (IEGC). Similarly, the "Planned outage" has been defined in the State Grid Code. These definitions are reproduced below:

"Force Majeure : any event which is beyond the control of the agencies involved which they could not foresee or with a reasonable amount of diligence

could not have foreseen or which could not be prevented and which substantially affect the performance by either agency such as but not limited to:

- (a) Acts of God, natural phenomena, including but not limited to floods, droughts, earthquakes and epidemics;
- (b) Acts of any Government domestic or foreign, including but not limited to war declared or undeclared, hostilities, priorities, quarantines, embargoes;
- (c) Riot or Civil Commotion
- (d) Grid's failure not attributable to agencies involved. **(IEGC) and (State grid code).**

"Forced Outage": an outage of a Generating Unit or a transmission facility due to a fault or other reasons which has not been planned. **(IEGC)**

"Planned Outage": in relation to a SSGS unit means outage of power station equipment and in relation to transmission facility means outage of transmission lines and equipments, which have been planned and agreed with SLDC in advance **(State Grid Code).**

From the above specified definitions, two inferences can be drawn. First, from the above specified definitions it is unambiguous that "force majeure" and "forced outage" is entirely distinct condition. Second, the IEGC and State Grid code also recognizes that there are outage conditions in a generating plant. A power plant plans for outages as a preventive measure for a secured and reliable supply so also for an efficient operation (technical and economic) of the plant. For power plants, there is Indian Boiler Regulations framed under Indian Boiler Act. There are high pressure parts in power plants and so the boiler is required to be shut down for annual maintenance (AOH) and inspection. This is a planned outage condition. As stated above an outage can be planned other than AOH also. Secondly, a generating unit is sometimes forced to shut down because of any breakdowns or defect in any of the auxiliaries of the power plant or in its main unit. This is a forced outage condition. Logically, such conditions, which are incidental in a power plant, cannot be denied.

Now, let us examine the modalities of power purchase and supply for some other generating plants operating in the country. The Central Generating Station or the inter-State Generating Station (ISGS) supplies power to its beneficiaries under an ABT mechanism which is notified by the Central Commission. Depending on the availability of the generating units, the ISGS have the flexibility to schedule and dispatch power for its beneficiaries. For ISGS, the IEGC specifies provisions for scheduling and rescheduling of power. If there is forced outage condition or if the situation compels, the ISGS can revise the schedule even during a day. For short-term inter-State open access bilateral transactions, the CERC Regulations permits the sellers to revise their schedule, subject to certain time frame for revision.

There are outages in the State generating utility also. In the existing terms and conditions of power supply from the State generating utility to the State distribution utility, the tariff order 2009-10, takes care that the State generating utility is able to recover its entire cost of generation. But here one aspect has to be noticed is that the State generating utility supplies its entire power to the State distribution utility. The Commission has notified terms and conditions of determination of tariff Regulations, 2010 which is based on availability based tariff (ABT) principle. So under the ABT regime, the State

generating utility will also have the flexibility on its internal operation of plant and can schedule the power as per availability of its generating units.

The State Grid Code and CSERC (intra-State open access) Regulations also gives due considerations to forced and planned outage condition. In intra-State open access Regulations there is a provision that when a generating plant is under 'outage', then the open access customers (consumers) who is availing power from the generators shall continue to receive power from the distribution licensee on payment of applicable charges. This provision has been specified in accordance with the mandate of Tariff Policy. Presently, according to the existing provisions of terms and conditions of short-term power supply, a generating plant (IPP) or CGP enters into a contract with the distribution licensee for certain quantum of power. This contracted quantum of power is used for load factor calculations. If the power plant faces forced outage or if there is a planned outage in the power plant, the load factor for supply may tend to reduce. It is because of this reason that the power developers have requested to consider this issue. **Considering the plea of developers and based on discussions mentioned above, the Commission decides that 'forced' and 'planned' outage conditions of generating plant (IPP) and CGP, shall now be considered for the purpose of load factor calculations for short-term supply of power by the CGP/IPPs of the State.**

6. As the State Grid Code and IEGC specifies forced and planned outage conditions, the Commission do not like to specify it separately in this order. However, in order to simplify the mechanism, it will be appropriate that we consider a reasonable time period in a year for such conditions (forced and planned outage) and compute the load factor accordingly, i.e. by giving due consideration to forced and planned outage condition. The Commission decides that the **"planned outage"** period of a power plant shall be considered for maximum 15 days in a year. **The generating plants (IPP) or CGPs can declare about their outage planning to the distribution licensee and SLDC. The period of planned outage shall not be considered for load factor calculations.** The estimated duration of planned outage shall be informed to CSPDCL and SLDC at the time of declaring schedule for the month.

Regarding forced outage condition, the Commission feels that it is difficult to inspect, monitor and verify that when a power plant was under forced outage condition. Alternatively, it would be appropriate to consider certain reasonable "hours" for forced outage conditions and compute the load factor accordingly. The generating plant (IPP) or a CGP supplying power to the CSPDCL can claim a maximum of **240 hours in a year** for forced outage condition. This period i.e. maximum of 240 hrs in the year shall not be considered for load factor calculations. It is to note that the hours specified for forced outage condition is apart from what is permitted for planned outage period. The CSPDCL shall consider maximum of 240 hours for forced outage period during the year and calculate the load factor accordingly. There may not be any requirement to verify forced outage condition of power plant, but the IPP/CGP will intimate CSPDCL and SLDC in writing (by fax) regarding breakdown and probable time to restore power production and subsequently inform when generator comes on the bus.

However, if CSPDCL comes to know that this provision is misused by any entity, it can investigate in the matter and collect facts and place it before the Commission for further instructions.

Since the provision of 15 days for planned outage and 240 hours for forced outage has been considered for an year for the purpose of calculation of load factor, thus to avail these facilities the generator and CGPs are required to execute PPA with CSPDCL for one year. The situation related to force majeure condition shall be in addition to above and relaxation in this respect be considered by CSPDCL on case to case basis.

7. Limits on over-injection

The CSPDCL has requested to impose limits on over-injection during peak hour supply of power also. CSPDCL has submitted that, unrestricted injection during peak hours is misutilized by some of the generators to avail undue benefit from the market. The CSPDCL has proposed to limit injection rate to 110% throughout the day. Chhattisgarh Vidhyut Mandal Abhiyanta Sangh has requested the Commission to investigate into the matter and then proceed in this case. M/s JPL, M/s BMPL, CII, CUM, UIA, BALCO and others had opposed this proposal of CSPDCL and suggested to continue the existing mechanism. CSPDCL submitted that over-injection by the generators resulted into under-drawal by State, and the average rate for UI under-drawal for three consecutive months was about Rs 2.50 per unit. This position of the State requires attention. Although the CSPDCL has not submitted any fact or analysis on commercial implications of such under-drawal, but what we understand is that, if the average cost of short-term power purchase of CSPDCL is more than Rs 2.50 per unit in the respective three months (as indicated by CSPDCL) then this would adversely affect the commercial aspect of CSPDCL and ultimately the end consumers of the State. The tariff order 2009-10 emphasized to adopt merit order purchase principle during power procurement. The previous three tariff orders also directed the licensee to adopt merit order purchase principle. A mechanism was already in place, to prevent such situation, but whether it has been followed or not is not known to us. This may be examined in detail during truing up exercise of CSPCL's petition.

However, the fact submitted by CSPDCL cannot be overlooked. The loss on account of such power procurement by the CSPDCL will affect the consumers of the State. One more aspect needs to be seen. The CSPDCL is a UI pool member (regional entity as per IEGC) for regional grid operations. The Central commission has passed an order in suo-motu petition No. 01/2010 "in the matter of rate of congestion charge in real time operation in inter-State transmission of electricity". para 2(5) of this order says:

"It is important to note that at a frequency greater than 50 Hz, the congestion would not be caused by the overdrawing utility but by the utility injecting power into the congested transmission corridor and the congestion charge would instead be applied on the injecting utility. The detailed procedure for levy of congestion charge is given in the Congestion Charge Regulations. For the injecting utility, the remedy would be to reduce injection through reduction of generation in its control area."

Further 22 (c) of the referred CERC order says:

"at frequency below 50 Hz, congestion charge would be levied for over-drawal in the importing control area and at frequencies above 50 Hz, congestion charge would be levied for under-drawal in the exporting control area."

These two provisions of CERC relating to congestion charges requires special attention. As mentioned above, CSPDCL is a regional entity and UI pool member for inter-State power transactions. The power developers connected to the State grid are the intra-State entities. Now, at a situation when there is under-drawal position by CSPDCL, at frequency above 50 Hz, if power injection (supply) is not regulated then the CSPDCL is liable to pay congestion charge at Rs 5.45 per kwh. This penal clause will definitely have an adverse impact. This situation can be avoided mainly by two methods. First, by adopting merit order purchase principle and second by properly controlling and regulating the injection into the State grid. The first method of regulating power supply by adopting merit order purchase will be discussed in coming paragraphs. So here we will examine the second point i.e. injection limit only. There are two modes of power purchase by CSPDCL, long-term and short-term. Major portion of CSPDCL's power purchase is through long-term route. The rate of power purchase through long-term route is generally less than short-term power purchase price. For Central generating station, the IEGC and UI Regulations specifies provisions for controlled injection to avoid over-injection, misuse and gaming. The CSPGCL supplies its full power to State and also the tariff of State generating utility is less than rates of short-term power purchase by CSPDCL. So the supply from CSPGCL into the grid can not be restricted except otherwise under an extreme grid emergency conditions and for safety purpose. Hence, among the entities which are connected to the State grid, the remaining is the suppliers who supply power through short-term route. According to the existing terms and conditions of short-term power supply, for off-peak hours there is an over-injection limit of 110%, which may take care of the situation to some extent. For off-peak hours supply, there is disincentive, if the IPPs/CGPs continue supplying power beyond 110% of the contracted quantum. For short-term peak hours supply, there is no limit of injection. Of course a power plant can supply power only upto its capacity of generation, but here in the State, most of the power plants who supply power to CSPDCL are CGPs which have in house captive load. The supply to the grid can vary (upto the capacity of generation), depending upon drawal of their captive load. Some IPPs supply power to the buyers outside the State, during peak hours also. Such IPPs may vary the quantum of power injection into the State grid as per their commercial interest. If an IPP or CGP understates its capacity and enters into contract for less quantum of power than what it can actually supply (for power supply during the peak hours) it has no disincentive as it can inject power to the extent to attain load factor of 80% and get the full rate (price) for supply of power though it may cause under-drawal by CSPDCL and congestion in the system. The associations and some generators have stated that there is TOD tariff for peak hours and so there should not be any injection limit. On this point, the Commission would like to clarify that TOD is the tariff for supply to consumers during peak and other hours and here we are concerned with quantum of injection and drawal. In the order dated 18.04.09, the over-injection limit was kept at 110% for peak hours supply also, **but on the request of the power developers and keeping in view that CSPDCL faces shortage of power specially during peak hours, this restriction was removed by order dated 23.06.09.**

In the light of above discussions, the Commission comes into conclusion that there is a need to impose over-injection limit for peak hour short-term supply also. Summing up this issue, there are three main reasons for imposing

injection limit during peak hour. First, commercial implication to the State because of congestion charges. Second, to avoid possibility of misuse of the existing provisions for unlimited injection (for short-term supply) during peak hours. The third reason for imposing such limitation shall be covered in succeeding paragraphs 9 below.

Now what shall be the limit of over-injection is another important issue. Except a few, most of the power plants in the State are of low capacity. So in a general context, taking a liberal view the Commission fixes an over-injection limit of 120% for peak hours supply, however, for off-peak hours the injection limit of 110% is maintained.

The over-injection limit has to be monitored on real time basis by SLDC. The real time data may not be available to SLDC in some cases. The Commission is of the view that apart from monitoring injection during real time operations, there should be a disincentive if the suppliers continue supplying power over the specified limit. For power supply during off-peak hours, the rate of power supply beyond the specified limits, was fixed at Re 1/- per unit which is maintained during 2010-11 also. This provision was incorporated with a view to discourage injection beyond the permissible limits and the same shall be continued for the year 2010-11. This rate of Re.1/- per unit shall also be applicable for supply during peak hour beyond the permissible limit.

8. **Merit order purchase**

As discussed above, because of Central Commission's order on congestion charges and also to avoid possibility of misuse of the provisions on unrestricted over-injection limit during peak hour supply, the limit of over-injection has been specified at 120%. The other alternate for optimum technical and economic operation of the grid, which has to be taken into consideration, is the merit order purchase principle. The two measures, merit order power purchase and limits on power injection belong to real time function (operation) of the grid, to be implemented by SLDC.

In the four tariff orders passed by the Commission, there has been insistence for the distribution licensee to adopt merit order purchase principle. Now the question arises that whose power is to be curtailed first in such a situation, i.e. (when the grid frequency is above 50 Hz and there is under-drawal situation). As observed from the tariff order of 2009-10, the short-term power purchase cost (excluding purchase from renewable) is the marginal cost (maximum cost) of power purchase of CSPDCL. The short-term power supply to CSPDCL is mainly from CGPs and IPPs of the State. Now, if the merit order principle is followed then power supply from CGPs/IPP needs to be backed down, which will affect the load factor of supply. So a judicious and logical approach has to be taken so that the interest of the State is also protected without affecting the interest of power suppliers. The Commission decides that merit order power purchase principle shall be strictly followed and the power supply from CGP/IPP has to be backed down first. As both these measures are real time grid operations, the Act has assigned these functions to the SLDC. The SLDC should ensure that as per section 32(2) of the Act, it should carry out real time operations for grid control and dispatch of electricity within the State through **secured and economic operation of the State grid.**

Now coming to the suppliers side, if according to merit order purchase principle, the supply of power of any CGP or IPP is restricted,

then the backing down period of supply shall be considered for deemed generation with respect to the scheduled quantum and the load factor calculations shall be done taking into account the deemed generation. The SLDC has to certify the deemed generation and send the details such as the date, time period, quantum of backed down power and related deemed energy to CSPDCL and the generator. The quantum of deemed generation will be considered only for the purpose of calculation of load factor and the payment for power purchase shall be done on the basis of actual energy supplied to CSPDCL.

The directions by the SLDC to ensure **secured and economic grid operation of the State grid** shall be strictly followed by the CGPs/IPPs failing which they shall attract penal provision as per the Act.

The SLDC within 15 days of issue of the order shall submit the modalities of merit order power purchase.

9. Power procurement process

The power procurement process involves three main functions, (i) planning (ii) real time functions (iii) post power supply function.

The real time functions of power purchase have to be ensured by the SLDC. The other two functions has to be done by the distribution licensee i.e. CSPDCL. Regarding long-term planning, directives have been issued in para 3 above. Here, we will examine and see why short-term power procurement planning is also necessary. In para 7 above we have mentioned about one more reason of imposition of restriction on over-injection. On this point the Central Commission has issued a draft on Central Electricity Regulatory Commission (Unscheduled Interchange charges and related matters) (Amendment) Regulations, 2010. An explanatory memorandum to the draft Regulations, 2010 (Amendment) has also been issued on 01.04.2010. The portion of CERC, Regulations which is relevant to this case is reproduced below:

"Provided also that the charges for the Unscheduled Interchange for the under drawls by the buyer or the beneficiaries in a time block in excess of 20% of the schedule or 250 MW whichever is less shall not exceed the Cap Rate as specified in the Schedule A of these regulations as per the methodology specified in clause (4) of this regulation.

Provided also that the charges for the Unscheduled Interchange for the over-injection by the seller in excess of 120% of the schedule subject to a limit of ex-bus generation corresponding to 105% of the Installed Capacity of the station in a time block or 101% of the Installed Capacity over a day shall not exceed the Cap Rate as specified in the Schedule A of these regulations as per the methodology specified in clause (5) of this regulation.

Provided also that the charges for the Unscheduled Interchange for the over-injection by the seller in excess of ex-bus generation corresponding to 105% of the Installed Capacity of the station in a time block or 101% of the Installed Capacity over a day shall be equal to the charges for the Unscheduled Interchange corresponding to grid frequency interval of 'below 50.02 Hz and not below 50.0 Hz'."

Although this Regulation is in draft stage, but the Central commission has made an effort to ensure grid discipline. These are regulatory measures to ensure economic and safe grid operation. These measures are also to prevent

misuse of inter-State open access transactions. While the efforts of Central Commission is very much appreciated but at the same time it requires that all the entities which are connected to the grid and have an exposure to power market should ensure that grid discipline is maintained. Now let us see what are the reasons behind such provisions. The explanatory memorandum of CERC says:

“However, Commission is of the view that a cap rate may be imposed for the under draws by the buyer or the beneficiaries in a time block in excess of 20% of the schedule or 250 MW whichever is less and for the over-injection by the seller in excess of 120% of the schedule subject to limit of ex-bus generation corresponding to 105% of the Installed Capacity of the station in a time block or 101% of the Installed Capacity over a day. This is with a view to discourage the buyer and the beneficiaries to under draw heavily though the UI mechanism instead of opting for scheduled route through bilateral arrangements and through PXs. Similarly, the seller including captive and merchant generators should also be discouraged to avail the UI mechanism for selling power as unscheduled energy rather than selling the power as scheduled power through bilateral arrangement or through the platform of PXs. It has been observed that one station in western region is pumping power as UI for months together. Such situation is also likely to arise in new capacity addition in Private Sector where entire power of the station may not be tied up in long term and the generator may have to sell the balance power in the medium term or the short term or at PX or as UI.”

The reason mentioned above is self explanatory and is one of the three reasons for inducing over-injection limit for short-term power supply in the State. The Central Commission has observed that the beneficiaries' are under-drawing heavily from the regional grid. This point is relevant for our State also. The reports of market monitoring cell of CERC shows that our State has also resorted to under-drawal. There are many reasons for under-drawal. However, an “effective planning” can help the utility to some extent. Keeping this point in view there is a need for proper planning for short-term power purchase also. For this, the first step would be that the CSPDCL preferably enters into short-term contract period for one year. The second step can be a scheduling mechanism for ascertaining and assessing power availability position of the distribution licensee. The Commission would like to introduce both these mechanism at this stage. This will help in effective power procurement planning for the distribution licensee and also will provide a flexible and elastic operation to the power developers.

The short-term power procurement process is specified as under:

- (1) The CSPDCL may preferably enter into power purchase agreement with the CGPs/IPPs of the State for a period of one year from the CGP/IPP who are desirous to avail benefit related to forced and planned outage condition.
- (2) The agreement should reflect minimum and maximum contracted quantum of power. The minimum contracted power should be atleast 80% of the maximum contracted power. It is advisable that the CGPs and IPPs while entering into agreements with the CSPDCL (State utility) for

short-term power purchase shall contract power for supply according to their best assessment.

Illustration: For e.g. the CSPDCL will enter into contract with a CGP/IPP for 16-20 MW power. Here the maximum contracted power is 20 MW and the minimum contracted power is 16 MW, which is 80% of the maximum contracted power.

- (3) The CGPs and IPPs who have entered into the contract for power supply with CSPDCL, shall give a monthly schedule of their power supply to take place in next month to the CSPDCL by 23 of the month. A copy of this monthly schedule shall also be given to the SLDC. The power scheduled by CGP/IPP shall be within the range of power contracted with the CSPDCL.

Illustration: For e.g. if a CGP/IPP enters into agreement with for 16-20 MW power, then he can schedule any quantum of power between 16 MW and 20 MW and this shall remain fixed for that month. For **power supply for the month of July**, the CGPs/IPP have to give the schedule by 23 of June.

- (4) If the monthly schedule for next month is not submitted by CGP/IPP upto 23 of the current month, the current month's schedule submitted by CGP/IPP shall be considered for all calculation purposes.
- (5) The load factor for power supplied by the CGP/IPP to CSPDCL shall be calculated on the basis of **scheduled quantum**.

Illustration: Suppose, for 16-20 MW bilateral agreement, if the schedule given by an IPP/CGP is 18 MW, then load factor of energy supplied to CSPDCL shall be calculated by considering 18 MW scheduled power and accordingly scheduled energy for time block.

- (6) The power injection rate by CGPs/IPP shall be limited to the scheduled power and scheduled energy.

Illustration: Suppose, for 16-20 MW bilateral agreement, if the schedule given by an IPP/CGP is 18 MW the maximum injection shall be limited to 110% for non-peak and 120% for peak hours on the basis of 18 MW (scheduled power and related scheduled energy).

- (7) **Load factor calculations** for peak and off-peak supply:

Peak hour : 1800 hrs to 2300 hrs

Off-peak hours: 2300 hrs to 1800 hrs next day

(a) LF for peak hours will be calculated as:-

LF (Peak) = Number of eligible units supplied during peak hours

Scheduled quantum X 5 hrs. X number of days in a month or week, as applicable

(b) LF during off peak hours will be calculated as

LF (Off Peak) = Number of eligible units supplied during off-peak hours

Scheduled quantum X 19hrs. X number of days in a month or week, as applicable

'Eligible units' means:

For off peak hours: Units (energy) supplied upto permitted injection rate of 110% of scheduled quantum (scheduled energy in time block).

For peak hours: Units (energy) supplied upto permitted injection rate of 120% of scheduled quantum(scheduled energy in time block).

Note: For contracted quantum of 10 MW or more power load factor may be calculated on weekly basis; for less than 10 MW power, load factor may be calculated on monthly basis.

- (8) Billing and payment: The payment for procurement of power will be done on monthly basis. For delay in payment beyond 30 days from the date of submission of bill, the supplier shall be entitled to a delayed payment surcharge @ 1% per month. The payment option of RTGS/NEFT mode may be preferred where found feasible.
- (9) For peak hour contracted supply the payment will be made at a fixed rate of Rs 1 per unit only for supply within half an hour between 17.30 hrs to 18.00 hrs and 23.00 hrs. to 23.30 hrs. and no payment will be made for any injection prior to 17:30 hrs. and after 23:30 hrs.
- (10) The relaxations for load factor calculations due to forced and planned outage condition can be availed by IPPs/CGPs, only when they have a short-term PPA for the complete period of one year with CSPDCL.
- (11) During backing down of generating unit or generating station including CGP, the **deemed generation shall be considered as supply and the load factor calculations shall be done taking into account the deemed generation. The SLDC has to certify the deemed generation and send the required details to CSPDCL and generator. However, the payment for power purchase shall be done on the basis of actual energy supplied to CSPDCL.**

Part B

10. Pricing of short-term power

The CSPDCL has proposed to continue with the existing power purchase rate of Rs 2.95 per unit for purchase of short-term power from CGPs/IPP of the State. It appears from the CSPDCL's proposal that the utility wants the rate of power purchase for peak and off-peak hours to be equal. According to CSPDCL, the rate of purchase for short-term power is the highest amongst all sources of power purchase. CSPDCL further states that the overall average UI under-drawal for three months was Rs 2.50 per unit and therefore there is no justification to consider higher rates for purchasing short-term power by CSPDCL for the year 2010-11.

According to Chhattisgarh Vidhyut Mandal Abhiyanta Sangh the short-term power purchase price should not be revised. The Sangh has suggested that tariff must be two part tariff consisting of fixed charge and energy charge and the power should be supplied under intra-State ABT regime. The Sangh further adds that in the tariff policy there is no method other than cost plus approach and so the Commission should adopt the same method. The Sangh states that tariff should not be decided on the basis of last year's tariff, but it should be based on authentic data and added that the basis of determination of tariff for short-term power purchase should be explained in the order.

M/s JPL has submitted that in the union budget for 2010-11 there is provision of clean energy cess @ Rs 50/MT of coal which would impact on fuel input cost by 5 paise per unit and this impact should be considered while deciding the rates. JPL has suggested that peak hour power purchase rate should be 110% of off-peak hour which is 105% at present. According to JPL, keeping in view the short-term power procurement rate for inter-State power transaction, the rates proposed by CSPDCL is on lower side and needs to be revised. According to BMPL, Singhal Enterprises, M/s Real Ispat, M/s Jagdamba power, BALCO, M/s Monnet Ispat and others the fuel cost has been increased by Coal India and there is continuous increase in O&M cost and so the rates must be increased. M/s Arasmeta has suggested that separate rates shall be fixed for purchase of power from waste heat recovery based generators. M/s Arasmeta has requested to consider the market trend and power purchase rates prevalent in other States. M/s BALCO and some other power producers have requested to increase the short-term power purchase price. Different rates have been proposed by representatives of different IPPs/ CGPs for short-term purchase by State distribution utility.

11. We will examine this matter in detail. First we will comment on the cost plus approach. The cost plus method suggested in Tariff Policy is for determination of tariff under section 62 of the Act. The tariff can be determined under cost plus approach if the generators/CGP enter into medium or long-term agreement with CSPDCL. There is no medium or long-term power purchase agreement between such generators and CSPDCL. In para 15 of suo-motu petition no 09/2009 the Commission ordered that:

"However, a generating plant/captive generating plant will have the option to approach this Commission for determination of generation tariff for supply of power to the distribution licensee".

In this order we have indicated that as per Clause 5.2.26 of National Electricity Policy (NEP):

"The appropriate Regulatory Commission shall exercise regulatory oversight on such commercial arrangements between captive generators and licensees and determine tariffs when a licensee is the off-taker of power from captive plant."

No generator or CGP or any associations of the power producers has approached this Commission to determine tariff under section 62 of the Act and under the Regulations framed by Commission for determination of tariff. i.e. section 61 of the Act. For determining tariff under section 62 and cost plus approach, the IPPs/CGPs or their association are required to file a petition. In case of biomass based generating plants, the association filed petition before this Commission to determine the tariff and the tariff was determined through cost plus approach. There was prudence check of DPR's of the biomass projects. The CEA conducted a study for biomass based generating plants and the recommendations of CEA were also taken into consideration. Most of the projects were of same size and the issues of these projects were almost common. But here, this is the case of power developers which are IPPs and CGPs and are supplying power to the State under short-term PPA. In Chattisgarh, most of the CGPs/IPPS are thermal power plants and are of different capacities with coal firing, waste heat recovery, combination of coal firing and waste heat, and coal rejects. The efficiencies of the power plants are also different. The plants are

under operation for different periods of time and are located at different places. The primary fuel i.e. coal is procured under different modalities. Hence, the cost of generation i.e. energy charge and fixed cost is also different for each power plant. The Central Electricity Regulatory Commission (CERC) "in the matter for restricting the prices of electricity in short-term market" has undertaken a detailed examination of the scope of provision to clause (a) of sub-section (1) of section 62. The CERC has also suggested that the State Commissions may impose limits on the prices at which their State Utilities may procure short-term power, taking into account the relevant factors and implications. In such a situation we can fix a maximum general price level which can balance the interest of the consumers and also the power developers. Thus, the maximum ceiling price for short-term power purchase under section 62 (1)(a) and section 86 (1)(b) will be decided by us upfront and then the CSPDCL and IPPs/CGPs will enter into an agreement.

12. Now we may examine the basis of price fixation. The basis what we have adopted earlier (suo-motu petition no 09/2009) for fixing the maximum ceiling price for year 2009-10 was an escalation from the existing rate of 2008-09. Now to find out the basis for maximum ceiling rates for short-term power purchase for 2008-09 we have to look at the events in past. The erstwhile Chhattisgarh State Electricity Board vide letter dated 06.01.2007 submitted that:

"For procurement of power from CGPs located in the State under short-term power procurement for a period of one year, the Board had invited tender from CGPs located in Chhattisgarh, which was opened on 15.09.2006. On opening of the tender it has been observed that the tenderers have quoted a high rate and accordingly the board has decided to consider for counter offering, a rate, which can be appealing to the tendering parties and can provide good and quality power to the Board. The rate of Rs 2.80 per unit for the power supplied over the rate of 85% load factor has been considered appropriate".

The State was facing acute shortage of power at that time. The Commission agreed with the Board's proposal and the rate of short-term power purchase was fixed at Rs 2.80 per unit for a period of one year. For short-term power purchase for 2008-09, the Board vide letter dated 19.03.08 submitted that:

"Any competitive bidding process is expected to result in steep increase in the cost of power which would be highly damaging to the financial health of the Board.

Our past experience of power procurement is also not conducive to power procurement through bidding. Every time the rates offered for sale of power by the power producers, have been higher and there has been no reduction even after having several rounds of negotiations for reduction in prices. Ultimately the counter offer rates given by CSEB has been the basis on which approval of power procurement had been sought from the Commission.

We have received several such letters from the power producers where they have consented to supply power to CSEB at the same rate and terms and conditions on which they have been selling power to CSEB. CSERC is requested to have a view on their proposal for sale of power to CSEB for further one year."

The Commission agreed with the Board's proposal. The contents of above letter shows that the rates offered by the power producers for supply of power in 2007-08 and 2008-09 was higher than Rs 2.80 per unit.

13. Now let us see what is the submission of CSPDCL (i.e. buyers issue) for short-term power purchase price for 2010-11. The CSPDCL has submitted that since there was under-drawal and the overall average rate (UI) during previous three months was Rs. 2.50 and hence there is no justification to increase the rate. The Commission had notified CSERC (terms and conditions of determination of tariff) Regulations according to MYT principle, Regulation 2010. We may see what parameters are considered in these Regulations. The O&M cost of licensees (distribution) and generating company shall be escalated at rate of 5.72% with respect to the base year, i.e. 2009-10. The O&M norm of transmission licensee has also been fixed by CERC the same principle has been adopted for the State also. Thus, there will increase in the O&M cost for generating company and licensee whose tariff is determined under section 62. Here also the average inflation rate is applied to indexed capacity charge and energy charge component in case of captive coal mine source. So there is an appropriate reason for increasing short-term power purchase price also. It is to be noticed that the rates offered by power developers for short-term power purchase for 2007-08 and 2008-09 was under a situation when there was only single buyer of electricity, i.e. the State utility. Now, in 2010-11, as a power market is under development, there are many buyers in the market. The power sourced by CSPDCL from long-term route is unable to cater the total demand and energy requirement of the State and the sellers have multiple options for sale of their power. There is no relevancy in contention of CSPDCL that since there was under-drawal and overall average UI rate during previous three months was Rs 2.50 per unit, hence there is no justification in increase of the rate.

14. Let us examine sellers issue. Most of the sellers have pleaded to increase the short-term power purchase rates as the input cost has increased substantially. In this petition, the power plants whose maximum ceiling rate is going to be decided, are IPPs and CGPs. In our country the power market is characterized mainly by long-term bilateral contracts. An IPP is one whose main business is to supply power to the buyers of electricity. An IPP attains financial closure on the basis of long-term bilateral agreements entered with buyers. Investments are made taking into considerations many relevant factors. While taking location decisions, one of the factors is the input market location. While examining input market condition, an investor ascertains raw material availability in that region. For power plant, the primary fuel is coal and is the main operating cost. As per economics, in Chhattisgarh the IPPs are installed because of availability of coal in the State. Fuel linkage is ascertained and the IPPs get coal at reasonable cost as there is fuel supply agreement with coal suppliers. The modalities of coal procurement may be different for different IPPs. Some may procure total coal as per their requirement under fuel supply agreement with the coal suppliers. There may be some IPPs which procure coal from open market and some may have arrangements that they procure certain quantum of fuel under fuel supply agreements with coal suppliers and also from the open market. The landed cost of coal may be different for different IPPs. But an IPP, whose primary business is to supply electricity, should also ascertain output market situation. It is for this purpose the Para 5.7 of the National Electricity Policy (NEP), which is on competition aimed at consumers benefit, states:

"to promote market development, a part of new generating capacities, say 15% may be sold outside long-term PPAs. As the power

markets develop, it would be feasible to finance projects with competitive generation costs outside the long-term power purchase agreement framework. In the coming years, a significant portion of the installed capacity of new generating stations could participate in competitive power markets. This will increase the depth of the power markets and provide alternatives for both generators and licensees/consumers and in long run would lead to reduction in tariff."

The NEP indicates that IPPs may have long-term PPA for certain quantum of power and may sell a part of the generating capacity in open market. The rates offered in long-term contracts (IPPs coming under Section 63) is generally less. If the entire power is sold by an IPP in short-term market the rates quoted will generally be on the higher side. The short-term rates offered by IPPs in this case do not appear reasonable.

Now coming to second category of sellers which are CGPs. A captive generating plant is one which has been setup primarily for its own use. The primary good of CGPs operating in the State is not electricity. For such CGPs, clause 6.3 of the Tariff Policy states that the tariff for supply of surplus power of a captive generating plant to a distribution utility should include variable cost of generation at actual levels and *reasonable compensation for capacity charges*.

15. Before coming to any conclusion, we may examine two important provisions of the Act. Section 60 and section 66.

Section 60 of the Act mandates:

"The Appropriate Commission may issue such directions as it considers appropriate to a licensee or a generating company if such licensee or 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 effect on competition in electricity industry."

Section 66 of Act says:

"The Appropriate Commission shall endeavor to promote the development of a market (including trading) in power in such manner as may be specified and shall be guided by the National Electricity Policy referred to in section 3 in this regard."

The above two mandates of the Act show that an appropriate balance needs to be maintained between the interests of consumers and the need for investments by the public and private utilities. The short-term purchase price will be decided, keeping a balance between the interest of the consumers of the State and power producers. The Act mandates to follow NEP.

16. As stated above, in this year there will be no addition in generating capacity by the State owned public utility. The State has to depend on private power producers for meeting the power and energy requirement. Under Section 66 of Act, the Commission has to develop a market such that there are adequate investments in the electricity sector. Keeping in view the mandate of the NEP we shall fix the maximum ceiling price for short-term procurement of power. The NEP states:

"5.8.2 *The public sector should be able to raise internal resources so as to at least meet the equity requirement of investments even after suitable gross budgetary support from the Government at the Centre and in the states in order*

to complete their on-going projects in a time-bound manner. Expansion of public sector investments would be dependent on the financial viability of the proposed projects. It would, therefore, be imperative that an appropriate surplus is generated through return on investments and, at the same time, depreciation reserve created so as to fully meet the debt service obligation. This will not only enable financial closure but also bankability of the project would be improved for expansion programmes, with the Central and State level public sector organizations, **as also private sector projects, being in a position to fulfill their obligations toward equity funding and debt repayments.**

5.8.4 Capital is scarce. Private sector will have multiple options for investments. Return on investment will, therefore, need to be provided in a manner that the sector is able to attract adequate investments at par with, if not in preference to, investment opportunities in other sectors. This would obviously be based on a clear understanding and evaluation of opportunities and risks. **An appropriate balance will have to be maintained between the interests of consumers and the need for investments.**

5.8.6 Competition will bring significant benefits to consumers , in which case, **it is competition which will determine the price rather than any cost plus exercise on the basis of operating norms and parameters.** All efforts will need to be made to bring the power industry to this situation as early as possible, in the overall interest of consumers. Detailed guidelines for competitive bidding as stipulated in section 63 of the Act have been issued by the Central Government”

For determination of short-term power purchase we will be guided by the NEP which states that **“it is competition which will determine the price rather than any cost plus exercise on the basis of operating norms and parameters”**. But at the same time we have to protect the interest of consumers. The prices of electricity in short-term power market bilateral and power exchange (PX) are on the higher side as compared to the existing maximum, short-term power purchase price. Even the lowest average price is also high as compared to the existing short-term maximum power purchase price of CSPDCL. Taking into consideration the increasing trend in O&M cost, higher ROE for utilities whose tariff is decided under section 62, the escalation rate of energy charges for renewable plants as specified by Central Commission, short-term power purchase price in PX and bilateral market the Central Commission’s fuel cost escalation factor of 5% for determining the tariff for biomass-based generating plants the Commission has come into conclusion that the same escalation rate shall be considered for fixing maximum ceiling price for short-term purchase of power. Thus, the Commission decides that the maximum ceiling price shall be Rs 3.10 per unit for the year 2010-11 (which is 5% escalation of Rs 2.95 per unit fixed for 2009-10). **However, a generating plant/ captive generating plant or the CSPDCL will have the option to approach this Commission for fixing of tariff for a specific generating station/captive generating station in case they feel that the impugned tariff is more/less than what can legitimately be determined under the Act and the Regulation.”**

17. The Commission noted that in the short-term power market the rate of peak hour supply is generally more than the rate of off peak hour supply. For retail consumers of CSPDCL also there is TOD tariff where peak power price is

higher than the off peak price. **The NEP and tariff policy also suggests that there should be differential pricing for peak and off-peak hours. Therefore, the Commission decides that the tariff for supply during peak hours shall be 5% more than the agreed base rate /effective procurement price as the case may be.**

18. **In view of the above, the Commission decides as follows:**

- (1) The maximum base rate for power supply at 80% and above load factor of the schedule power shall be Rs. 3.10 per kwh, which is 5% more as compare to the maximum base rate for the year 2009-10.
- (2) The **effective rate** for power supply below 80% load factor will be calculated as follows:

$$\text{Effective Rate in Rs.} = \frac{\text{Agreed base rate} \times \text{L.F \%}}{80\%}$$

The **agreed base rate** is the rate agreed between the supplier and CSPDCL, which may be equal to or less than the maximum base rate of Rs. 3.10 per kwh.

- (3) The **minimum effective rate** shall be Rs 1.50 per unit.
- (4) The rate for power supply during peak hours i.e. 18:00 hrs. to 23:00 hrs. shall be 5% more than the agreed base rate /effective rate, as the case may be.
- (5) Rate for power supplied beyond over-injection limit:
Off peak hour supply: The rate for excess supply, i.e. for over-injection over and above 110% of scheduled energy in time block, Re 1/- per KWh.
Peak hour supply: The rate for excess supply, i.e. for over-injection over and above 120% of scheduled energy in time block, Re. 1/- per KWh.
- (6) The rate of infirm power, i.e. power supplied by any CGP/IPP, before the date of COD of their power plant shall be Rs. 1/- per unit. This rate of infirm power is applicable to the power plants who may enter PPA with CSPDCL.

19. As per the clause 9 of the Commission's guidelines for power purchase and procurement process, the short-term power procurement procedure shall be as follows:

- (a) As long as transparent and prudent bidding or institutional mechanism is adopted and commercial considerations are honoured, the CSPDCL shall be free to procure power at the agreed base rate within the specified limit (maximum base rate) and the total quantum of purchase shall be as per approved short-term power procurement plan.
- (b) The CSPDCL may undertake short-term purchase by entering into contracts for the same on the above basis. Approval of the Commission will not be necessary for each contract. However, the details of such purchases shall be submitted to the Commission.
- (c) The CSPDCL shall submit a draft PPA before the Commission within 15 days of issue of the order for approval.

20. As indicated in para 09 above there are three main functions during power procurement process. We have mentioned about planning and real time operation aspects. The post power supply functions such as load factor calculations, billing, payment etc. have also been covered. Some of the post power supply functions have to be performed by the SLDC and some by CSPDCL. Data consolidation, analysis of the data etc-is another function which CSPDCL has to perform during power procurement process. It may help in forecasting the future power requirements.

For the year 2010-11 the CSPDCL shall submit a quarterly report of power purchased from all sources by August, November, February and May.

21. Other issues related to short-term power purchase.

We will examine some other important relevant issues related with this case.

(a) **Metering point:** The CSEB was integrated utility till 01.01.2009. It has been restructured and transfer scheme has also been notified by the State Government. Now there is separate transmission company, i.e. STU which is CSPTCL. Many CGPs/IPPs are directly connected to CSPTCL network while some are connected to CSPDCL's network. The metering point for power purchase and billing purpose for those plants which are connected to grid shall be at point of injection at sub-station owned by licensee. The provision related to metering shall be governed by the Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006 as amended from time to time.

(b) Some of the power developers in their written submission and during public hearing have informed that the utility is charging 6% losses in kind from their power plant to the point of injection into the grid, which has been actually fixed for open access transaction. We would like to clarify that the metering point is at CSPTCL/CSPDCL sub-station. The energy losses for dedicated lines, i.e. from the power plant to the point of injection at the sub-station is to be borne by the power developers. The energy loss from the point of injection onwards has to be borne by the CSPDCL. This is the existing provision and the same shall be continued.

(c) **Reactive energy charges:** Some power developers have raised the issue related to reactive energy charges levied by CSPDCL. A petition has been filed before this Commission in this matter. As the matter is subjudice we would not like to discuss on this issue. This issue will be addressed in that case.

We order accordingly. The order shall be effective from 01.04.2010.

**Sd/-
Member**

**Sd/-
Chairman**

List of persons who attended the public hearing on 19.03.2010

Sl.	Name	Organization / Designation
1.	Shri L.S. Chawla	CE (Commercial), CSPDCL
2.	Shri G.C. Mukherjee	Addl. CE (Commercial), CSPDCL
3.	Shri G. Laxman Rao	General Manager, ACB(I) Ltd., Raipur
4.	Shri C.P. Sharma	Advisor, SEML, Raipur
5.	Shri G.K. Chhagen	ED, SEML, Raipur
6.	Shri Shyamlal Shome	GM (Finance), BALCO
7.	Shri P Tandon	Sr. VP, Jindal Power Ltd., Raigarh
8.	Shri NK Chandramani	Sr.Mng., Jindal Power Ltd., Raigarh
9.	Shri Arun Poddar,	V.P, Jagadamba Power
10.	Shri Ritesh Jindel	Head Corp. Relations
11.	Shri S.K. Goyal	Director, SBPIL
12.	Shri S.K.Jha	Manager, SNIL
13.	Shri S.P. Naik	Sr. GM, JNIL
14.	Shri P.S. Dutta Gupta	GM, SEML
15.	Shri N.K.Sharma	Sr. Mng. SBPIL
16.	Shri Tushar Shukla	Head Corporate, BALCO
17.	Shri S. Satyanarayan	GR Sponge & Power
18.	Shri R.S. Saxena	SKS Ispat & Power Ltd.
19.	Shri Sushil Agrawal	Singhal Ispat & Power Ltd.
20.	Shri Mohit Dewan	Advocate, Singhal Enterprises (P) Ltd.
21.	Shri Manish Molita	GM
22.	Shri Vijay Jhanwan	Gopal Sponge
23.	Shri Piyush Agrawal	Gopal Sponge

List of persons / company who have submitted their written comments
/ suggestions

Sl.	Name of the company & address
1.	Chief Engineer (Comml.),CSPDCL, Danganiya, Raipur
2.	BALCO, BALCO Nagar, Korba
3.	ACB(INDIA) LIMITED, P.O. Jawali, Tehsil Katghora
4.	Urla Industries Association, Urla Industrial Complex, Raipur
5.	Shree Nakoda Ispat Ltd, Shankar Nagar, Raipur
6.	Monnet Ispat & Energy Ltd. Monnet House, 11, Masjid Math, Greater Kailash Part II, New Delhi- 110 048
7.	Real Ispat & Power Ltd, near Holy Hearts School, Civil Lines, Raipur
8.	Arasmeta Captive Power Co. Pvt. Ltd, Road No.22, Jublee Hills, Hyderabad
9.	Shri Lalit Kumar Singhania
10.	Shri Gopal Mukherjee, Member, SAC, 44, Surajmukhi Rajkishore Nagar, Bilaspur
11.	Chhattisgarh Udyog Mahasangh, Katora Talab, Raipur
12.	Confideration of Indian Industry, P-25, Avanti Vihar, Sector-1, Raipur
13.	Jagdamba Power and Alloys Ltd., G/16, Hira Arcade, Pandri, Raipur
14.	Shri Bajrang Metallics and Power Ltd., village. Gondwara, Urla Industrial Complex, Raipur
15.	Singhal Enterprises Pvt. Ltd. Geetanjali Nagar, Raipur
16.	Jindal Power Ltd. Mandir Hassaud, Raipur
17.	Shri P.N. Singh, General Secretary, Chhattisgarh Vidhyut Mandal Abhiyanta Sangh, Raipur