



**Petition No. 16 of 2005 (M)**

**In the matter of petition for recalling / reviewing of the  
order dated June 15, 2005**

M/s Bharat Aluminium Company Ltd. Balconagar, Korba (Chhattisgarh)	.....	Petitioner
Chhattisgarh State Electricity Board Daganiya, Raipur (C.G.)	.....	Respondent

**ORDER  
(Passed on 17/10/2005)**

M/s Bharat Aluminium Company Ltd., Korba (BALCO, for short) has filed a petition for review of the tariff order passed by the Commission on June 15, 2005 in petition no. 5 of 2005. The grounds of the review petition as narrated in the first petition dated 14/07/05 and subsequent additional submissions made on 05/08/05 and 27/08/05, the facts of the case and the detailed pleading of the petitioner are as under:

(i) BALCO has an aluminium plant at Korba which is a highly power intensive industry and on an average 18000 units (KWh) of electricity is required for the production of one ton of aluminium metal (as compared to 1000 to 2500 units required for a ton of steel). The petitioner has set up captive power plants (CPP) for supply of uninterrupted power which is necessary for an aluminium plant. It has a 270 MW CPP, with a new CPP of 540 MW (4X135) being set up, out of which 2X135 MW has recently been commissioned. For the operation of the aluminium plant, the petitioner requires continuous and uninterrupted supply of power. Interruption in power not only leads to serious damage to the plant but also affects the quality of the metal produced. To ensure that there is no disruption in the operations due to reduction in supply of power from captive power plant, the petitioner has availed of standby supply from the Chhattisgarh State Electricity Board (CSEB or Board, for short), respondent in this petition.

- (ii) The petitioner had entered into a power supply agreement with the respondent for 40 MVA with a Tariff Minimum Guarantee (TMG) of 40% of contract demand. Consequent upon the change in the management of the 270 MW CPP, from National Thermal Power Corporation (NTPC) to BALCO, the latter could effect substantial improvement in the PLF, thereby reducing the need for drawal of power from the respondent. The petitioner vide letter dated 17/12/2002 requested the CSEB for waiver of the TMG stating that provision of TMG did not exist in most States and that the energy charges and electricity duty being charged in Orissa and UP, where the only two competitors of the petitioner operate are much lower as compared to those prevailing in Chhattisgarh. Subsequently, BALCO requested the CSEB to reduce the TMG charge on contract demand to 20% from the existing 40%. The Board in recognition of the petitioner's electricity requirements, its purpose and nature of consumption, agreed to reduce TMG charges on contract demand to 20% on 31/01/03. The contract demand, however was increased to 60 MVA on BALCO's request and further increased to 120 MVA as per the agreement entered on 29/12/04, apparently with the expansion of the plant capacity, which in fact has necessitated the additional CPP capacity.
- (iii) The tariff structure prior to the present revision consisted of demand charge at the rate of Rs.122 per KVA per month, energy charge at the rate of Rs. 2.80 per KWh and Fuel Cost Adjustment (FCA) at the rate of Paise 76.59 per KWh. In the tariff petition filed before this Commission, CSEB had proposed the following tariff for BALCO:

Demand charges	- Rs. 250 per KVA per month
Energy charge	- Rs. 2.90 per KVAh
Monthly Minimum charge	- Demand charges on contract demand

The impact of the above proposal was that the petitioner would have been required to pay the respondent a sum of Rs. 7.79 crore per month

against Rs. 7.29 crore per month presently payable on 20% Load Factor (L.F.). The petitioner apparently did not make any submission to the Commission expecting that the tariff would be determined in terms of the proposal of the respondent as published in the public notice.

- (iv) The Commission vide its order dated 15/06/05 determined tariff and decided the following tariff (HV-4) for the petitioner:

Demand charges	- Rs. 380 per KVA per month
Energy charge	- Rs. 3.15 per KWh
Monthly Minimum charge	- Equivalent to 40% load factor on the contract demand plus demand charges on the billing demand for the month irrespective of whether any energy is consumed during the month or not.

Apart from the above, the Commission also levied a new charge called "Parallel Operation Charge" on all CPPs, for availing grid support, of Rs.16 per KVA per month on the installed capacity of the CPP. BALCO has pleaded that at no point of time was the intention of the Commission to increase the tariff in the manner aforesaid and/or levying additional/new charges on him was made public.

- (v) The petitioner has pleaded that the tariff fixed by the Commission has resulted in a tariff shock to him in that it imposes an annual additional financial burden of over Rs. 105 crore and would render the operations of the petitioner totally unviable. Earlier, the petitioner was required to pay Rs. 7.29 crore per month towards demand charges, energy charges, FCA, ED cess, meter rent etc. In terms of the proposal submitted by the CSEB the revision would have been marginal. But as per the tariff fixed by the Commission, there would be an increase of 100% in the charges and these would be as high as Rs.14.66 crore per month. The parallel

operation charges will cast a further financial burden of Rs. 17.28 crore per year.

- (vi) The formulation of a common TMG and application of a common tariff to BALCO and Bhilai Steel Plant (BSP), the only two industries in tariff category HV-4, is not justified looking the wide difference in the pattern of consumption of the two industries. The CD of power being availed by the petitioner is only for standby purpose in the event of unforeseen disruption of power supply by its CPP. Such drawal of power would be for a very short duration. The petitioner's load factor during six months of non-shutdown period in the previous financial year was only 13% and during the shutdown period only 22%. The only other consumer in tariff category HV-IV, Heavy Industries viz BSP, is not affected by the approved tariff to the extent the petitioner is, since the impact of this tariff at a load factor of over 60%, as is the case of BSP, is just 3%. The tariff structure has penalized the petitioner for consuming a very small portion of its contract demand.
- (vii) The petitioner will be required to pay additional Rs. 17.28 crore per annum as parallel operation charges on the capacity of the CPPs which are 270 MW and 540 MW. The petitioner has already paid a one-time charge for the connection to the grid. The connection to the grid is not only beneficial to the petitioner for drawing power in terms of exigencies which is for short duration, but is also beneficial to the grid since with the full commissioning of its 540 MW captive power plant BALCO would be a net exporter of power to the grid during normal operating conditions. Parallel operation charges should logically be based on the power drawn by the petitioner from the grid and such charges should be adjusted against similar charges, which should be receivable by the petitioner on export by the petitioner to the grid.
- (viii) The petitioner has further submitted that the electricity tariff in the States of Orissa and Uttar Pradesh where the competitors of the

petitioner operate, recognizes the importance of power as a major raw material for aluminium industry. Tariff as approved would give an advantage to the competitors of the petitioner. The nature of use of electricity by an aluminium industry has not been considered by the Commission. Aluminium industry can not be compared with any other industry so far power consumption is concerned. As already mentioned, power is a basic raw material for this industry.

- (ix) The petitioner is self-sufficient in meeting its power requirements through its CPPs and the purpose of maintaining parallel connection with the grid is to take support from the grid to obviate any on-site and off-site emergencies at the time of loss of generation / tripping / statutory shutdowns etc. of the CPPs. It is confirmed by the petitioner that the maximum drawal in such circumstances would be limited to the capacity of the largest CPP unit i.e. 135 MW for which he is maintaining a contract demand of 120 MVA.
- (x) The Commission has the power to order differential tariff according to the consumer's load factor, power factor, the nature of supply and the purpose of which the supply is required etc. The petitioner has submitted that the power cost is the biggest cost in aluminium production and due to the nature of its power requirement this industry deserves a special concessional tariff in order to ensure its viability. The petitioner has pleaded that its tariff should be rationalized as per the intentions expressed in the tariff design, which provides that the overall tariff after revision would remain more or less the same. This can be achieved by applying 50% of the approved demand charges and 20% as TMG which would translate to 3% higher tariff and even this is more than this industry can absorb.

2. CSEB, the respondent, in its reply has not made any substantive point against the main contentions of the petitioner. The Board has agreed that aluminum industry is highly power-intensive and that it avails Board's supply

only for standby purposes. The Board has pleaded that the logic behind the recovery of minimum charges is to ensure recovery of fixed components of expenditure/investment made in order to ensure availability of power supply to the extent of contract demand. Therefore the ground of occasional utilization of power has no relevance to the recovery of fixed charges in terms of minimum charges. The Board has further pleaded that the captive power plants are used as base load stations and Board's supply is used to accommodate the frequently fluctuating load requirement which affects Board's grid adversely. Hence, if the petitioner wants to avail the facility of grid support, he has to compensate the Board. The respondent has finally pleaded that if Commission considers the request of petitioner to revise the approved tariff, care should be taken to see that the approved ARR of the Board is protected.

3. In his rejoinder to the reply of the CSEB, the petitioner has made the following additional pleadings:

- (i) The load requirements of the petitioner do not fluctuate to the extent, as may be the case with other consumers. Even if it does, at certain times, the generating capacity of the petitioner itself takes care of such fluctuation. It is only in cases of planned shut downs, trippings, loss of generation etc., which are not frequent, would the petitioner need to draw energy more than 20% of the contract demand. In any case, neither the CSEB can provide the entire power requirement of the petitioner nor the petitioner can inject its entire generation into the system of the Board. Therefore, the parallel operation charges based on the entire capacity of 810 MW has no technical or logical basis. Synchronization with the grid may have relevance only to the extent of the contract demand. Hence parallel operation charges should be imposed only on contract demand, if at all considered necessary.
- (ii) The effective tariff rate for petitioner should not be very much different from the average tariff of the category in which the petitioner is placed, which as per para 5.8 of the order should be Rs.3.78 per unit.

On the contrary, the approved tariff when applied to the petitioner results in an effective tariff rate of Rs. 9.43 per unit.

- (iii) The respondent's claim that the parallel connection has an adverse impact on the supply system is not correct since the additional CPP capacity being put up by the petitioner, will actually act as shock-absorber and add to the stability of the grid considering the base load nature of the petitioner's operations.
- (iv) Determination of a tariff structure categorizing the respondent as a separate category of consumer and applying 20% of contract demand as minimum guaranteed energy charges, demand charges as 50% of rate as specified for HV-4 and the parallel charges applied to the contract demand, the respondent would be secured of a revenue of at least Rs.82.24 crore during 2005-06 against revenue of Rs.75.73 core in 2004-05. Hence there would no loss to the Board even if the tariff prayed for is approved.

4. The petitioner, in the light of the above, seeks the following relief in tariff:

- (i) Looking to the load drawal characteristics relevant to the petitioner's industry, the load factor should not be taken as more than 20% for which the petitioner has entered into a contract demand agreement with the respondent.
- (ii) The demand charges applicable to the petitioner should be reduced to at least 50% of the approved tariff for heavy industry in which the petitioner has presumably been inadvertently included.
- (iii) Parallel operation charge should be applied to 135 MW and not 810 MW being CPP capacity or his contract demand.

5. The Commission has heard the parties in detail and has perused the relevant documents relating to the tariff order.

6. It is observed by the Commission that in the earlier tariff also BALCO was clubbed with Bhilai Steel Plant (BSP) and the same tariff was applicable to both these consumers. Both BALCO and BSP were required to guarantee a minimum monthly payment of charges of the units equivalent to 40% load factor on the contract demand plus demand charges on the billing demand for the month, irrespective of whether any energy was consumed during the month or not. It is also observed by the Commission that BSP had a load factor of 79.69% during the year 2003-04 which subsequently reduced to 71% during 2004-05. The reason of this reduction during 2004-05 is due to the fact that BSP started getting 20 MW power from Durgapur. The load factor of the petitioner was 29.59% during 2003-04 which increased to 32% during 2004-05. The petitioner started expansion of its capacity during 2004-05, which necessitated more drawal of power from the respondent. This is the reason why it increased its contract demand from 40 to 60 and then to 120 MVA. However, once its expansion programme is over the petitioner would be requiring power only during maintenance /outage of any of its generating units. In the normal course i.e. when none of the generating units is under shutdown / breakdown, it would be in a position to inject its surplus power to the CSEB grid or sell power. We have no reason to disbelieve or disallow this pleadings since the respondent has also not contested this.

7. Looking to the trend of consumption by the petitioner, the CSEB had approved lowering of the load factor from 40% to 20% on 31/05/2003 for the purpose of computing TMG. This fact was not brought to the notice of the Commission in the tariff petition submitted by the CSEB. Nor was this brought to the notice of the Commission subsequently, in course of the elaborate discussions on tariff. As such both these consumers i.e. BSP and the petitioner were clubbed together and an average load factor of 40% was applied to both of them in the new tariff for the purpose of computation of the tariff minimum guaranteed units, i.e. the same TMG as was earlier fixed.

8. While designing the tariff for this category of consumers, the average load factor of 70% was taken into consideration. At this load factor, the



average unit rate in the earlier tariff worked out to Rs.3.77 taking demand charge @ Rs.122 per KVA and Rs. 2.80+Rs.0.77 as energy and fuel charges respectively. The intention of the Commission was to rationalize the tariff in such a manner that the overall revised tariff remains more or less the same and this been clearly articulated in the tariff design. (para 6.13.4 of the tariff order). By increasing the demand charge to Rs. 380 per KVA and reducing the energy charge to Rs. 3.15 per KWh and maintaining the same average LF of 70%, the average unit rate worked out to Rs. 3.78, which was close to the earlier tariff at Rs. 3.77 per KWh. If this tariff is applied to the petitioner taking 20% load factor, the average unit rate in the new tariff comes to Rs.5.35.

9. The petitioner has stated that the demand of power by the petitioner is only for standby purpose in the event of certain unforeseen disruption of power supply by its CPP and such drawal of power would generally be for a very short period. The petitioner's load factor during six months of non-shutdown period in the previous financial year (2004-05) was only 13% and during the shutdown period 22%. This point has been checked by the Commission's officers and it is observed that BALCO's load factor during shutdown period also normally did not exceed 20%. It is perhaps recognizing this fact, that the respondent had reduced the TMG charge on contract demand to 20% on 31/01/03. Hence the Commission feels that applying 40% load factor for the purpose of calculation of TMG may not be justified in this case. In view of this, the Commission directs that the petitioner will guarantee a minimum monthly payment of charges of unit equivalent to 20% load factor on the contract demand plus demand charges on the billing demand for the month irrespective of whether any energy is consumed or not.

10. However, as already mentioned in para 8 above, if 20% load factor is applied for the purpose of calculating TMG, the average unit cost works out of Rs.5.35 as against Rs.4.27 calculated on the earlier tariff. This is a rise of 25.21%. Rise to the extent of 25% is not in keeping with this objective and

intention of the Commission and hence needs further review. Further relief can be given to the petitioner only in the demand charge.

11. Coming to the demand charge, these charges were Rs.122 per KVA earlier which has been increased to Rs.380 per KVA, a rise of 211%. This obviously is high. The reason of this increase in the demand charge is due to the fact that while deciding the demand charge for this category, 70% load factor was taken into consideration. Since the petitioner has a load factor of around 20%, application of 70% load factor to it, in turn, increased the demand charge substantially. The Commission therefore, feels that there is a need to review the demand charge in such a manner that the overall impact on the petitioner is as per the tariff design. This could be achieved only by reducing the approved demand charge by 50% for consumption up to 20% load factor. In that case the average unit rate will come to Rs. 4.25 in place of Rs.4.27 if calculated on the earlier tariff. The condition should be that if, however, the consumption of the petitioner increases and crosses 20% load factor, full demand charges should become payable, besides the energy charges as per actual consumption.

12. Section 62 (3) of the Act provides that "while determining the tariff, no undue preference to any consumer of electricity should be shown but Commission may differentiate according to the consumer's load factor, power factor, voltage, total consumption of electricity during any specified period or the time at which the supply is required or the geographical position of any area, the nature of supply and the purpose for which the supply is required." This is one case in which differentiation on account of load factor, the nature of supply and the purpose of supply would be very much warranted. The officers of the Commission have done the necessary calculations and we are convinced that with the above changes, the approved ARR of the respondent will not be adversely affected.

13. So far as levy of parallel operation charge is concerned, the contention of the petitioner that he was not made aware of the fact that the Commission

was seeking to levy this charge is not correct. This charge in the name of standby charge was proposed by the CSEB which was covered in para 7.23 of the tariff petition. The CSEB had proposed this charge @ 7.5% of demand charges corresponding to the installed capacity of the CPP. This was given wide publicity and views/comments were invited by the Commission before levying this charge. The petitioner had not taken any objection at that time. Subsequently, the Commission approved this charge at the rate of Rs. 16 per KVA of the installed capacity of CPP.

14. The matter regarding parallel operation charges and levying the same on the contract demand or the capacity of the largest single unit of the CPP and not on the entire capacity of the CPP, in any case, is already under consideration of the Commission in a separate petition in respect of CPPs [Petition No. 17 of 2005 (M)]. It may be pertinent to mention here that the total installed capacity of CPPs in the State is already of the order of around 1000 MW which is likely to go up further. This is slightly less than the total thermal installed capacity of the CSEB. Hence this issue has to be dealt with keeping in view the overall position of CPP in the State. Till such time, the petitioner has to make payment of parallel operation charge as per the approved tariff.

15. Accordingly, the Commission orders reduction of demand charge to 50% of the approved tariff if the load factor of the petitioner remains up to 20%. For consumption beyond 20% load factor, the petitioner shall be billed at the approved tariff. The order that the petitioner will guarantee a minimum monthly payment of charges of unit equivalent to 20% load factor on the contract demand plus demand charges on the billing demand for the month as mentioned in para 10 above and reduction of M.D. charge to 50% shall be made effective from the date of implementation of tariff order, i.e. 01/07/05.

16. This review petition is thus partially admitted as above without prejudice to the other issue raised by the petitioner regarding parallel operation charges. With this order, the interim order passed by the Commission on 21/07/05

becomes inoperative. The respondent will issue revised bill to the petitioner based on para 14 of this order giving 15 days' time for payment.

17. Copy of this order may be given to the petitioner and the respondent.

Sd/-  
**Member**

Sd/-  
**Chairman**

**True Copy**

**(N.K. Rupwani)**  
**Secretary**