

**BEFORE THE
MAHARASHTRA ELECTRICITY REGULATORY COMMISSION
World Trade Centre, Centre No.1, 13th Floor, Cuffe Parade, Mumbai-400 005**

Case No. 6 of 2000

**IN THE MATTER
OF
THE VIOLATION OF THE DIRECTIONS OF THE MAHARASHTRA
ELECTRICITY REGULATORY COMMISSION (MERC) ON MERIT ORDER
DISPATCH BY THE MAHARASHTRA STATE ELECTRICITY BOARD (MSEB)
AND UNWANTED PURCHASE OF MOST EXPENSIVE ENERGY FROM
DABHOL POWER COMPANY (DPC) IGNORING CHEAPER ALTERNATIVES
DURING THE YEAR 2000-2001**

**Mr. P. Subrahmanyam, Chairman
Mr. Venkat Chary, Member
Mr. Jayant Deo, Member**

Date of Order: April 01, 2002

ORDER

The Maharashtra Electricity Regulatory Commission, in exercise of the powers vested in it under Sections 22 and 29 of the Electricity Regulations Act, 1998 (ERC Act, 1998) and all other powers enabling it in this behalf and, after considering the Petition submitted by the petitioner, Shri S.R. Paranjpe, a consumer of the MSEB, hereby passes the following Order in the above referred matter.

2. Shri Paranjpe filed a petition on 6th November 2000 under Sections 22(2), 44 and 45 of the ERC Act, 1998, and Regulations 30, 68 and 85 of the Maharashtra Electricity Regulatory Commission (Conduct of Business) Regulations, 1999, for taking appropriate action against the MSEB for violation of the Commission's directions regarding merit order purchase, particularly with respect to power purchase from the Dabhol Power Company (DPC), contained in its Tariff Order dated 5th May 2000 and for directing the MSEB (i) to stop further purchase of energy from any source where the cost of purchase is equal to or more than the average realization per unit of electricity by the MSEB (ii) to suitably amend the Order of 5th May 2000, (iii) to take action u/s 44 of the ERC Act, 1998, and Regulation 30 of the MERC (Conduct of Business) Regulations, 1999 in the form of ad interim/interim relief.

3. In support, the petitioner submitted his analysis of the MSEB data on the demand and purchase of energy from the DPC during April to October 2000 alleging a continued breach of the Commission's order on merit order dispatch from June 2000 onwards.

4. This matter was heard on (i) 24th November 2000, (ii) 11th December 2000 and (iii) 29th December 2000, and the Commission issued an Interim Order on January 01, 2001 admitting the petition for further hearing on 22nd January 2001. The reply submitted by the MSEB on 24th November 2000 was not accepted by the Commission in the absence of appropriate signature of the concerned authority. The MSEB was directed to submit its affidavit duly following the norms and to co-operate with the Petitioner by providing him with all required relevant data asked for by him. However, on account of the data processing difficulties faced by the Petitioner, the hearing was postponed to 1st February 2001 as requested by him.

5. During the hearing on 1st February 2001, Shri S.R. Paranjpe submitted an affidavit seeking permission of the Commission to present “Part-I of his submission” and stated that he would make further submissions before 15th February, 2001 by reconciling his findings with the facts received from the MSEB after interaction between the two. He also sought condonation of the delay in submitting his affidavit on the day of hearing. Shri Paranjpe requested the Commission to accept his contention regarding a “rebuttable presumption” that the MSEB had, in a malafide manner, manipulated, through very large load shedding, to justify Phase-II of the Dabhol Power Corporation’s Project. He further requested the Commission to fix the responsibility for rebuttal on the MSEB and its officials to prove their bonafides.

6. Chairman, MSEB, took objection to the submissions of Shri Paranjpe and drew the attention of the Commission to the fact that the MSEB had already supplied the required data on two different occasions to him and even then he has been unable to come up with a firm analysis. He, therefore, requested the Commission to direct Shri Paranjpe to first furnish the data he has worked on, along with his worksheets (clearly labeled so that the MSEB can determine with which database each worksheet is linked), so that it is possible for the MSEB to reply to Shri Paranjpe’s petition with a full and adequate analysis. He further contended that the analysis so far furnished by Shri Paranjpe was methodologically deficient being based on **“average analysis and actual generation”** figures and did not evaluate the policy-options properly. He also requested the Commission to determine the status of Shri Pradyumna Kaul who has been relying basically on Shri Paranjpe’s statistics and had appeared before the Commission as “intervener/parallel petitioner”. The MSEB, he said, would like to have a clarification on whether Shri Kaul has joined Shri Paranjpe’s petition or whether the MSEB has to respond to Shri Kaul each time separately. The view of the MSEB was that either Shri Kaul should be discharged from the proceedings or Shri Paranjpe should be ordered to speak on behalf of both of them.

7. Prayas, an NGO recognized by the MERC u/s 26 of the Electricity Regulatory Commissions Act, 1998, presented their interpretation of the facts on load shedding resorted to by the MSEB all over the State, contending that there was some merit in Shri Paranjpe's arguments.

8. Keeping the above in view, the Commission further issued the following instruction through its Interim Order dated 1st February 2001:

- i) The status of Shri P. Kaul is that of an individual petitioner.
- ii) Shri Paranjpe and Shri Kaul, the Petitioners, shall, by 16.2.2001, submit their affidavits to the Commission, giving full analysis of the statistical data pertaining to May-November 2000 along with an explanatory note on the methodology adopted so that it is possible for the MSEB to respond.
- iii) In response to Shri Paranjpe's and Shri Kaul's affidavits, the MSEB shall submit its affidavit to the Commission by 9.3.2001.
- iv) By 30.3.2001, Shri Paranjpe and Shri Kaul shall submit their final response to the MSEB's affidavit.
- v) The Case will be heard on 9th April 2001 at 11.30 hours in the office of the Commission.

9. Shri S.R. Paranjpe, in his affidavit dated 11.4.2001 in Case No.6, had accepted that the real time analysis is more accurate than the analysis based on averages (Para 7.1 P.16). While he conceded that it cannot be conclusively proved through the analysis that no energy should have been purchased from the DPC due to various constraints in real time operation and lacunae in the MSEB's information system, yet he reaffirmed that an average based analysis is more than adequate in this case.

10. The Commission observed that this would negate his contention in the original petition that there was no need to buy any energy from the DPC.

11. The Petitioner further submitted that the MSEB has bought energy from the DPC even when the frequency level did not demand it. This, according to him, has been accepted by the MSEB in their affidavit dated 22.3.2001 (para 6.3.1 and 6.3.2 of page 10). The Board has stated that "the frequency analysis chart (Second Supplemental Petition, para 6.3.1) clearly shows that out of 1989 M.U.s purchased from the DPC, 53%

of the energy was utilised when frequency was below 49.0 Hz and 42% of the energy was utilised when frequency was between 49.0Hz to 50.5 Hz.” However, the MSEB declined to treat the frequency band analysis as valid as the frequency occurs for a shorter duration at discrete intervals.

12. The Petitioner submitted his further analysis and stressed on the following points:

- a) Unwanted purchase has been made by the Respondent (MSEB)
- b) Section 18 of IE (S) Act 1948 has been violated by procuring DPC power.
- c) The Commission’s order on Merit Order Despatch has been violated by procurement of DPC power.
- d) The Doctrine of Rebuttable Presumption.

13. The Petitioner stressed on the documentary evidence in the form of a copy of the fax, reportedly sent by the MSEB officials from the load-Despatch centre, sending out instructions to back-down and to maintain technical minimum generation. The Petitioner sought to establish that though the MSEB claim improved PLF consistently based on plant availability and nature of demand, the MSEB has changed the supply pattern and did load shifting to suit their need of procuring energy from the DPC. He mentioned that the MSEB is reflecting the peak demand as the supply position added to the claimed load shedding figure, which is not a true reflection of the demand situation in the system. He complained that this was a deliberate attempt on the part of the MSEB to justify the base-load requirement compared to the supply position available at its disposal exclusive of the DPC.

14. The Petitioner complained that, on the other hand, the MSEB pays penalty to the NTPC for drawing less number of units than the agreed quota of 800 M.Us. He also submitted the range/period/hourly analysis of the supply-demand situation for the Commission’s perusal. Similarly, the Petitioner further sought to establish that the **frequency of the system** is *the reflection of the imbalance existing between demand and supply at any given time* and, therefore, need not necessarily be beyond the control of the MSEB so as to require it to put up its hands and to take shelter under grid frequency. He

asserted that the MSEB maintains the generation level low to make the frequency operate at a lower band and thereby justify the procurement of costly power.

15. The Petitioner, further, contended that as the MSEB does not accept average based analysis, he would like to detail the real time analysis carried out by him with certain basic minimum assumptions such as the gas supply at Uran is taken at actuals, the NTPC supply is taken at actuals, etc. With this, he again sought to draw the conclusion that the MSEB has procured unwanted quantity of power instead of having a judicious mix of their own thermal and hydel generating capacity. This has been done by (a) lower utilisation of its own thermal capacity, and (b) squandering the hydro potential during the low-demand period.

16. The Commission directed the MSEB to submit their complete load shedding figures for the period under analysis, for its perusal.

17. The Petitioner corrected his submission of an earlier day on the DPC's bill date, which is 28th instead of 23rd of the month. He further submitted the DPC bills for the following dates: (i) 22nd, (ii) 23rd and (iii) 24th October 2000. The analysis indicates that, on all 3 days, the supply of DPC remained unchanged. This was a clear example of the fact that while the MSEB was sending instructions to back-down its own generation, it avoided doing so for the DPC. Similarly, according to the Petitioner, the analysis shows that the power procurement from the NTPC also has been reduced in the month of October 2000.

18. The Petitioner explained the real time analysis, which is based upon the following, to stress the point that, on the day of maximum demand, there was no need to purchase DPC power and, therefore, on any other day as well, it was not necessary to purchase power from the DPC.

- i) The day of Maximum Demand in 1999-00, i.e., 29.12.1999 [source of data: Page 136 of old tariff proposal].

- ii) The day of Maximum Demand as occurred during 2000-01 upto the month of data available.
- iii) The hour-by-hour basis of generation, planned shutdown and unplanned shutdown were available and, from the analysis, it is pointed out that the thermal generating capacity [derived upto 5670 MW] was utilised on 29.12.1999. Further, it was shown that if full utilisation of the thermal capacity was done upto 6 hours, then there was no need to use either hydel or DPC support.
- iv) Further, during 7 hrs to 11 hrs the shortfall comes to 600 MW at the maximum and, therefore, hydel supplement would be necessary.
- v) Between 11 hrs to 16 hrs, there will be unutilized thermal capacity.
- vi) After 16 hrs upto 00 hrs., support was required upto 924 MW, which was well within the reach of Koyna's available capacity of 1500 MW as on that date.

19. The Petitioner further submitted his analysis of the month of April 2000 divided into two fortnights, considering both planned and forced outage situations. The real value of the capacity available is summarised for easy comprehension in the Sheet-II submitted. The Col-'J' reflects the situation when the forced outage of 500 MW takes place. Under this simulated situation, the analysis indicates that the following violation has taken place and was perpetuated by the MSEB:

- i) The MSEB has not used its own thermal capacity upto optimum level.
- ii) The MSEB has not used effectively the central sector allocation of power.
- iii) The MSEB has purchased beyond the limit as set in the tariff order.

20. The Petitioner argues that the analysis of Sheet-I shows that the MSEB will require additional support only in the evening. From Sheets IV and V, it was indicated that the load builds up particularly in the months of February, March and April. Annexure-I (Part-II) of the revised application has been based on the MSEB data from which the analysis of top 50 instances of maximum generation at various power stations indicate that each unit is capable of reaching maximum capacity. However, subsequently, the MSEB has systematically reduced their capacity. Therefore, there has been an effort on the MSEB's part to derate by throttling its own capacity of generation.

21. The Petitioner referred to the range analysis submitted by him in his original petition 23.11.2000. If perused, Column-7 of Annexure-VI indicates that even the de-rated capacity (5100 MW) has not been used by the MSEB. Annexure-V (part-II) of the amended application (21.2.2001) does give the range of supply during the period 1.4.2000 to 30.11.2000. Col. 'C' reflects that the minimum thermal capacity of the MSEB was 3900 MW and maximum 5500 MW. The average generation during this period does indicate that, even for one hour, the de-rated capacity has not been utilised completely. It is also indicative that, during this period, the generation from Uran is much lower compared to its normal capability. Therefore, the range analysis leads to the following conclusions: (i) in the lower range of the demand, there is no sufficient reason for the MSEB for not being able to meet through its own capacity, and (ii) in the higher range of demand, the back up would have been necessary, which could well have been met by either hydel or gas based purchase in order of priority. Therefore, in this year again, the MSEB has procured from the DPC without attaining optimum utilisation of the resources.

22. Regarding load shedding, the Petitioner submitted that the MSEB's claim and particularly the submissions made on affidavit during 7.12.2000 and 29.12.2000, by the Technical Member of the MSEB were totally misleading. The **definition of load shedding** is that *'it is that amount of disconnected load to restore the balance between the supply and demand when the supply potential is fully reached'*. Table- II indicated that the load shedding has gathered momentum and the MSEB has claimed on affidavit that there was a power shortage upto 2000 MW. On the contrary, the MSEB Chairman's letter to the Government does indicate that with a system capacity of 12000 MW and base load capacity of 6400 MW, there is no need of an additional base load station and, therefore, it is obvious that the contention of the MSEB is invalid.

23. Technical Member (TM), MSEB's affidavit shows that there is a sudden jump in the load shedding in December and has led to million units loss and the same figures, if co-related with the October end instructions to generating stations for reducing generation, establishes that the load shedding was a doctored situation. The figures of

generation do not support the load shedding claim, and particularly the December-January figures for load shedding are not explained. Annexure-III of the Application [amended dt 22.4.2001] gives the hourly analysis. The load curve earlier has been showing two peaks (i) at Day and (ii) at Night. However, the MSEB changed the same peaks due to planned disconnection of load. The MSEB peak generation at 20 hours is only an average 4386 MW inclusive of Uran which otherwise indicates that there has been planned load disconnection to establish a larger image of load shedding. This further gets corroborated if the average sale of units are seen, which remained constant. The Petitioner alleged that the documents submitted by the MSEB under affidavits have been misleading.

24. On the point regarding under-frequency, the analysis indicates that, upto the month of October 1999, the frequency was high and manageable, though it was slightly lower than 50 Hz. But immediately after the DPC's coming on stream, the frequency has drastically fallen when the demand did not increase to that extent. While the demand has grown up only between 4 – 5%, the same could have been handled by increased supply from Koyna or Khaperkheda. Therefore, the reasoning of under-frequency and resulting system problem are mere brain-waves of the MSEB to establish that the procurement from DPC was necessary in view of shortage in supply as compared to demand. The peak has been defined by the MSEB as “supply + claimed load shedding”.

25. The petitioner concluded with the following charges:

- (1) The MSEB has made unwanted purchases, which also attracts the provision of Section 409 of IPC dealing with breach of public trust by public servants.
- (2) The MSEB has given false justification for the same.
- (3) The Statements on affidavits by the MSEB officials on coal quality, under-frequency, generation, NTPC Ramping Rate, Derating all follow suit.
- (4) Due to these purchases, the MSEB has caused loss o the extent of Rs.900 crores to the State exchequer over a period of two years considering the fixed cost to DPC.

Reply of the MSEB:

26. The MSEB vide its affidavit dated 22.3.2001 submitted that the thrust of both the Second and third Supplemental Petitions is that the MSEB's power need can be met without purchases of any power from the DPC. Further, it is alleged that the MSEB has inappropriately manipulated its dispatch of the system by under-utilizing its own generation and engaging in inappropriate load shedding. It denied the allegations that (a) there has been manipulation of the MSEB's system, (b) DPC's power was not necessary to meet the system demand, and (c) load shedding has not been conducted in an appropriate and prudent manner. It further asserted that, contrary to the assertions of the Petitioner, the system dispatches have been both prudent and responsible. Dispatches of the Board are on a real time basis and are subjected to real time operational parameters and instructions from the Western Regional Load Despatch Centre (WRLDC). The Petitioner's methodology of averaging generation and dispatch data is flawed and gives a distorted view of the MSEB's system operations.

27. It was further submitted that the Board conscientiously dispatched supply on a merit order basis in accordance with the MERC's Order dated 5.5.2000 and it disagreed with the interpretation by the Petitioner as "*boundary conditions imposed on the quantum and the rate at which energy could be purchased by the MSEB from the DPC.*"

28. With regard to the allegations made by the Petitioner in his affidavit (dated 12.4.2001 para 4.0), the MSEB affidavit further stated that, pursuant to Section 42 of the ERC Act, 1998, the Commission is restricted to take cognizance of offences committed under Section 193 and 228 of the Indian Penal Code. A review of both sections discloses no authorization of the use of a rebuttable presumption in proceedings where such offences are alleged. In fact, it is the MSEB's understanding that a rebuttable presumption is utilised in India in proceedings involving (1) the Anti-Corruption Act; (2) Section 106 of the Indian Evidence Act, which deals with proof of a fact; (3) Section 107 of the Indian Evidence Act, which deals with proof of death and (4) Section 345 of the Code of Criminal Procedure, which deals with detaining a person after an offence is

committed pursuant to, inter alia, Section 228. In the instant case, Section 228 is inapplicable because the offence described has not been committed.

29. The MSEB further submitted that it had not manipulated its system in any way to facilitate the purchase of the DPC quantities. It had not backed down its own generation to create a need for DPC power, and it has not concocted the concept of load shedding to prove the need for DPC power. In addition, none of its officials has made any misstatements with regard to the MSEB practices in these areas or the need for DPC power. Therefore, the MSEB requested the Commission to summarily dismiss this case.

30. The Commission observed that

- (a) the Board has not satisfactorily replied as to why it has not purchased energy from the TEC-BSES grid (*para 7.08 Page 12 of the MSEB affidavit*).
- (b) the Board should confirm that the policy of restricting Captive Power fulfills the requirements of section 18, 44 of IE(S) Act and Section 29(2)(c, d, and f) of the ERC Act.
- (c) The Board should also to explain with reference to point 6.4.1 and 6.4.2 (a and b) at page 10 of the affidavit as to why the base load capacity (90% PLF) was agreed when the requirement was for peak load / intermediate load.
- (d) The Board has to confirm, (with reference to point 3.2 on page 6) that no part of the original allocation of 4.5 MCMD Gas has been given away any time nor it will be diverted. A reference has been made in the recent Energy Review Committee Report that the MSEB, through its letter dated 7.10.96 (part 1, page 94, end note point No.4) to the Ministry of Petroleum and Natural Gas, has agreed to transfer 1.4 MMCMD of Gas out of 4.5 MMCMD in favour of the winning bidder for the 410 MW project.
- (e) The Board should have to substantiate its claim about the generation backing down and receipt from the Central Sector (Annexure 4.1, 4.5, 4.7 of OCCM Minutes referred to in the Minutes of September 2000 appended to the affidavit).

31. The Commission further observed that the system security and the voltage level might have necessitated power purchases, which must be brought to the notice of the Commission. However, the MSEB, on its own part, has been lagging in attaining the objective as enumerated under section 18A(b) of the E(S) Act, 1948 and u/s 22(1)(d) of the ERC Act, 1998.

32. The Commission strongly feels that the MSEB has not been utilizing the potential of information technology in its Central Load Dispatch Centre to collect hourly average generation availability projection from various generating stations, actual generation, frequency, power received at each sub-station, rate of rise of system demand, and the load (including timing) at the feeder just before the load is shed.

33. The Commission observed that real time accurate demand projection including a long term demand assessment taking cognition of all constraints, i.e., boundary conditions, will help in the long run to institute performance based tariff regime. Particularly, this is more relevant in respect of the MSEB where efficient utilisation of its own resources and accurate projection of its demand v/s capacity availability may ensure quality supply to the consumers without any interruption which may draw premium as it will avoid substantial economic cost to the State.

34. After carefully considering all the facts of the case and the arguments of both parties, the Commission hereby directs:

- (1) The MSEB should initiate review of both its short-term and long-term generation availability and carry out power-balance besides the customary energy-balance normally carried out.
- (2) The MSEB should make appropriate demand-estimation including the load-growth, but without taking into account the estimated load shedding, which is nothing more than guesswork.

- (3) The MSEB should submit time bound Programme for on-line monitoring of purchases and generation and display of day's summary on its website.
- (4) The Petitioner's plea of penalising the MSEB for purchasing the costly power cannot be accepted as the MSEB has been able to contain its total purchase within the cost-frame work laid down by the Commission in its Tariff Order dated 5th May 2000 and in view of various real time constraints faced by the MSEB while operating the entire system.

Subject to the above directions, the Petition is dismissed.

Sd/-
(Venkat Chary)
Member

Sd/-
(Jayant Deo)
Member

Sd/-
(P.Subrahmanyam)
Chairman.

Sd/-
(Sanjay Kumar)
Secretary.