

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 239/MP/2017**

**Coram:**

**Shri P.K. Pujari, Chairperson**

**Shri A.K. Singhal, Member**

**Shri A.S. Bakshi, Member**

**Dr. M.K. Iyer, Member**

**Date of Order: 25<sup>th</sup> of April, 2018**

**In the matter of**

Petition under Section 62 and 79 (1) (a) of the Electricity Act, 2003 read with Chapter-V of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and with Regulation 54 of CERC (Terms and Condition of Tariff) Regulation, 2014 for Relaxation of the Station Heat Rate Norms of Vallur Thermal Power Station (3X500MW) for the period from 1.4.2014 to 31.3.2019.

**AND**

**IN THE MATTER OF**

NTECL (NTPC Tamil Nadu Energy Company Ltd.)

NTPC Bhawan

Core-7, Scope Complex

7, Institutional Area, Lodhi Road

New Delhi-110 003

.....**Petitioner**

**Vs**

- 1) A.P. Transmission Corporation Limited  
Vidyut Soudha, Khairatabad,  
Hyderabad-500082
- 2) APEPDCL (A.P. Eastern Power Distribution Company Ltd.)  
P&T Colony, Seethammadhara,  
Vishakapatnam-503013
- 3) APSPDCL (A.P. Southern Power Distribution Company Ltd)  
Beside Srinivassakalyana Mandapam,  
Tiruchanur Road, Kesavayana Gunta,  
Tirupati- 517501
- 4) Transmission Corporation of Telangana Ltd.  
Vidyut Soudha Khairatabad,  
Hyderabad - 500 082



- 5) TSSPDCL (Telangana State Southern Power Distribution Company Ltd)  
Mint Compound  
Corporate Office  
Hyderabad – 500 063
- 6) TSNPDCL (Telangana Northern Power Distribution Company Ltd)  
H. No. 2-5-31/2  
Vidyut Bhavan  
Nakkalagutta, Hanamkonda  
Warangal – 506 001
- 7) Power Company of Karnataka Ltd.  
KPTCL complex, Kaveri Bhawan,  
Bengaluru- 560009
- 8) Bangalore Electricity Supply Company Ltd.  
(BESCOM)  
Krishna Rajendra circle,  
Bangalore- 506001
- 9) Mangalore Electricity Supply Company Ltd.  
(MESCOM)  
MESCOM Bhavana  
Corporate Office  
Bejai Kevai Cross Road  
Mangalore-575004
- 10) Chamundeshwari Electricity Supply Company Ltd.  
(CESC)  
Corporate Office, No 29,  
GROUND Floor,  
Kaveri Grameena Bank Road  
Vijayanagar 2<sup>nd</sup> Stage,  
Mysore – 570017
- 11) Gulbarga Electricity Supply Company Ltd.  
(GESCOM)  
Main Road, Gulbarga- 585102
- 12) Hubli Electricity Supply Company Ltd.  
(HESCOM)  
Navanagar, PB Road,  
Hubli- 580025
- 13) Kerala State Electricity Board Ltd.  
Vaidyuthibhavanam, Pattom,  
Thiruvananthapuram- 695004

14) Tamil Nadu generation & Distribution Corporation Ltd. (TANGEDCO)  
NPKRR Maaligai, 144, Anna Salai,  
Chennai- 600002

15) Electricity department  
Govt. of Puducherry,  
137, Netaji Subhash Chandra Bose Salai,  
Puducherry- 605001

.....Respondents

**Parties present:**

Shri M.G. Ramachandran, Advocate, NTECL  
Ms. Ranjitha Ramchandaran, Advocate, GUVNL  
Ms. Poorva Siagal, Advocate, GUVNL  
Ms. Anushree Bardhan, Advocate, NTECL  
Shri Rohit Chhabra, NTECL  
Shri Patanjali Dixit, NTECL  
Shri Arun Nair, NTECL  
Shri S. Vallinayagam, Advocate, TANGEDCO

**ORDER**

The Petitioner, NTPC Tamil Nadu Energy Company Limited, has filed the present petition with the following prayers:

“The petition may please be admitted and Vallur thermal power station (3x500 mw) may be allowed relaxed operating norms for heat rate from 2351.25 Kcal/Kwh to 2375.22 Kcal/Kwh for 2014-19 period by invoking the Commission's Powers under Regulation 54 'Power to Relax ”

2. In support of the above prayer, the Petitioner in this Petition has submitted as under:

(a) The Petitioner is a joint venture of NTPC and TANGEDCO . The Petitioner has set up the Vallur Thermal Power Station, (hereinafter referred to as “the generating station”) with a capacity of 1500 MW comprising of two units of 500 MW each in Phase-I and one unit of 500 MW in Phase-II located near Chennai, in the State of Tamil Nadu. Power from the generating station is supplied to the Respondents. The dates of commercial operation of the units of the generating station are as under:



<b>Unit-I</b>	29.11.2012
<b>Unit-II</b>	25.8.2013
<b>Unit-III</b>	26.2.2015

(b) As per the 2014 Tariff Regulations, the maximum design heat rate for plants having temperature of 537.565 °C and pressure rating of 170 kg/cm<sup>2</sup> using sub-bituminous coal is 2250 Kcal/Kwh and the normative GSR works out to 2351.25 Kcal/Kwh with an operating margin of 1.045. The tariff of the generating station for the period from 1.4.2014 to 31.3.2019 was determined by the Commission vide its order dated 11.7.2017 in the Petition No. 277/GT/2014 in accordance with the 2014 Tariff Regulations. The Commission in the said order allowed the gross station heat rate (GHSR) as 2351.25 Kcal/kwh.

(c) The investment approval of the last unit (i.e. Unit-III) of the generating station was accorded on 28.7.2009 (i.e. during 2009-14 period) and the unit was commissioned on 26.2.2015 (i.e. after March'14). In the 2009 Tariff Regulations, the maximum design unit heat rate for plants having temperature of 537/565 °C and pressure rating of 170 Kg/cm<sup>2</sup> using sub bituminous coal was 2276 kcal/kwh. The unit design heat rate of Vallur units is 2272.94 Kcal/kWh (1932/0.85) which is lower than the ceiling heat rate provided in 2009 Tariff Regulations. Therefore, the applicable station heat rate with an operating margin of 4.5% (as allowed by the Commission in 2014 Tariff Regulations) should be 2375.22 Kcal/Kwh (2272.94X1.045) instead of 2351.25 Kcal/Kwh which was allowed by the Commission for period 2014-19.

(d) The generating station has never achieved Heat Rate as allowed by the Commission vide order dated 11.7.2017 in Petition No. 277/GT/2014. The actual Heat Rate of the generating station during the period (2014-17) is as under:



	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>Average</b>
Loading Factor (%)	82.17	77.08	83.34	82.53
Actual Heat Rate (Kcal/Kwh)	2528	2476	2427	2469.05
Heat Rate as per CERC (Kcal/kwh)	2351.25	2351.25	2351.25	2351.25
Difference (Actual value - Order Value)	176.75	124.75	75.75	125.75

(e) Regulation 6.3B (3) of the Central Electricity Regulatory Commission (Indian Electricity Grid Code) (Fourth Amendment) Regulations, 2016 (Fourth Amendment of Grid Code) which came into force w.e.f. 15.5.2017 provides for technical minimum schedule for operation of Central Generating Stations and Inter-State Generating Stations.

(f) The compensation to the generating station as per Regulation 6.3.B will be 2.25% (unit loading% lies in the band of 75 to 84.99 for period 2014-17). This will increase the Station Heat Rate (SHR), allowed in tariff period 2014-19. The difference between the actual station heat rate and the compensated heat rate will be of the tune of 65 Kcal/kwh as under:

<b>Heat rate as per CERC order (Kcal/Kwh) (1)</b>	<b>Compensated Heat Rate (Kcal/Kwh) (2)</b>	<b>Actual Average Heat Rate (Kcal/Kwh) (3)</b>	<b>Difference (4)= (3-2)</b>
2351.25	2404.15	2469.05	<b>64.9</b>

(g) The generating station is not able to meet the norms of Heat Rate and incurring financial loss on account of higher actual Heat Rate. The details of actual Heat Rate achieved year-wise during the period 2014-15, 2015-16 and 2016-17 along with loss incurred is as under:

Parameter	2014-15	2015-16	2016-17	Average
Heat Rate as per CERC order (Kcal/Kwh)	2351.25	2351.25	2351.25	2351.25
Scheduled Generation MU	5351.45	7156.58	8686.16	7064.73
ECR (Rs/Unit)	1.928	2.033	2.468	2.184
Actual Heat Rate (Kcal/Kwh)	2528	2476	2427	2469.05
Under-recovery in Heat Rate (Kcal/Kwh)	176.75	124.75	75.75	117.80
Impact due to under recovery in Heat Rate in Rs/unit.	0.143	0.095	0.082	0.101
Financial loss incurred (Rs in crore)	76.61	68.13	71.21	71.98
<b>Total Financial loss due to Heat Rate in 2014-17 (Rs Cr)</b>				<b>215.95</b>

- (h) Relax the Heat rate norms with an operating margin of 4.5% (i.e.  $1.045 \times 2272.94$ ) Kcal/Kwh as the investment approval was accorded during the Tariff Period 2009-14. The specification of TG and SG packages were placed as per the prevailing Tariff Regulations. The design heat rate of the installed station was lower than the ceiling heat rate provided in the 2009 Tariff Regulations. However, the Commission has further tightened the operating norms and has allowed the heat rate of 2250 Kcal/Kwh vide order date 11.7.2017 which is less than the Design Heat Rate.
- (i) The unit were designed and processed during the period 2009-14 when the limiting norms were 2276 Kcal/Kwh as per the then prevailing Regulations. Designed Heat Rate value of the units are 2272.94 Kcal/Kwh (i.e.  $1932/0.85$ ) considering the operating margin of 6.5% as per 2009 Tariff Regulations and the heat rate works out to be 2420.68 ( $2272.94 \times 1.065$ ).

(j) As per the last three years performance, the heat rate achieved is 2404.15 Kcal/Kwh with compensation, which is much lower than the figure as mentioned above, whereas the allowed Heat Rate as per tariff order dated 11.7.2017 for 2014-19 is 2351.25 Kcal/Kwh.

3. In the above circumstances, the Petitioner has prayed for relaxation of Heat Rate norms for the generating station from 2351.25 Kcal/Kwh to 2375.22 Kcal/Kwh for the period 2014-19 in exercise of power under Regulation 54 (Power to Relax) of the 2014 Tariff Regulations.

4. The matter was heard on 22.2.2018 on "admission". During the hearing, learned counsel for the Petitioner reiterated the submissions made in the petition and prayed that the relief sought for may be granted.

5. Respondent No. 14, TANGEDCO has filed its reply vide affidavit dated 2.1.2018. Rejoinder to the reply of TANGEDCO has been filed by the Petitioner vide affidavit dated 19.2.2018. Further, the sub-rejoinder to the rejoinder of the Petitioner has been filed by TANGEDCO vide affidavit dated 7.3.2018. The Commission, after hearing the parties, reserved order on the issue of "maintainability".

### **Reply of TANGEDCO**

6. The Respondent, TANGDECO in its reply has submitted as under:

(a) The generating station has never achieved the heat rate as allowed by the Commission in order dated 11.7.2017. It needs to be clarified by the Petitioner whether the performance guarantee tests conducted on each unit during trial

operation has achieved the required mandatory unit heat rates in line with the Regulation 36 (C) (c) (i) and (c) (b) (i) of 2019 Tariff Regulations.

(b) The Petitioner instead of taking measures to rectify the defect and achieving the mandatory unit Heat rate, is trying to take dual benefit by combining the fourth amendment of the Grid Code and 2014 Tariff Regulations. The Commission in its order dated 5.5.2017 has approved the detailed Operating Procedure for taking units under Reserve Shut Down and Mechanism for Compensation for Degradation of Heat Rate has determined the compensation mechanism for forced shutdown of the Central Generating Stations. Since the Central Generating Stations are being compensated by the Commission's order dated 5.5.2017, there is no justification in the claim of the Petitioner for relaxing the Gross Station Heat Rate pertaining to the Petitioner's units.

(c) The Petitioner has compared the Station Heat Rate as per CERC order against the actual Heat Rate achieved and arrived at a loss of Rs. 215.95 crore for three years viz., 2014-15, 2015-16 and 2016-17. Since, the actual Heat Rate achieved by the generating station is subject to review and rectification, the comparison between the two is not logically correct. The Petitioner's prayer to relax the Station Heat Rate norms from -2351.25 kcal/kWhr to 2375.22 kcal/kWh is not justifiable.

(d) The 2014 Tariff Regulations have been specified by the Commission in exercise of the power under Section 178 read with Section 61 of the Act and the Electricity (Procedure for previous publication) Rules, 2005. The procedure requires the Commission to publish the draft regulation and invite the comments/ suggestions of the stakeholders thereon and to finalize the regulations after considering the

comments / suggestions / objections raised. The Commission has consulted the stakeholders while framing the Regulations. The Petitioner was given the opportunity to be heard during the course of determination of 2014 Tariff Regulations. The Petitioner, without raising any disputes during the framing of 2014 Tariff Regulations for the tariff block 2014-19, is now trying to challenge the Regulations.

(e) The Hon'ble Supreme Court in the case of the State of U.P. & Others Vs. Babu Ram Upadhyaya [(1961) 2SCR679] has held that the rules made under the Statute must be treated for all purpose of construction or obligations exactly as if they were in the Act and are to be of the same effect as if contained in the Act and are to be judicially noticed for all purpose of construction and obligations. Therefore, 2014 Tariff Regulations which have been notified by the Commission in exercise of the powers given under Section 178 of the Act have become a part of the Act and hence it does not provide for review of any regulation made by the Commission.

### **Rejoinder of the Petitioner**

7. The Petitioner, vide its rejoinder to the reply of TANGEDCO, has submitted as under:
- (a) The actual heat rate as achieved by the generating station was always greater than the allowed Heat Rate. TANGEDCO has misinterpreted the Petitioner's claim by linking the achievable value of Heat Rate with Performance Guarantee (PG) Test during trial operation. The trial operation has no connection with the PG Test. Further, the PG Test is performed under certain conditions for which the Turbine cycle Heat Rate is guaranteed by the OEM.

(b) The Petitioner has suffered a significant loss for 2014-17 period on account of Heat Rate. Considering the value of actual average heat rate of (2014-17) for the remaining tariff period (2017-19), the difference between the actual station heat rate and the compensated heat rate will be of the tune of 65 Kcal/kwh. Therefore, the objection of the Respondent that the Petitioner is trying to take the dual benefit by combining the fourth Amendment of the Grid Code and 2014 Tariff Regulations is totally untrue. It has been clearly mentioned in the petition that after getting a compensation of 2.25% on the normative heat rate value, the compensated heat rate will still be much lower than the actual heat rate. Further, the station has suffered a financial loss of Rs. 215.95 crore due to heat rate for the period 2014-17.

**Counter reply of TANGEDCO to Rejoinder of the Petitioner:**

8. TANGEDCO, vide its affidavit dated 7.3.2018, has submitted as under:

(a) The Petitioner, instead of furnishing the details of Heat rate achieved during PG test as requested by TANGEDCO, has chosen to state that the PG test is performed under 'certain conditions'. The Petitioner can take up the issue with the OEM of the machine if it is not able to achieve the design value as per the specification and Purchase order executed by it.

(b) The Petitioner has considered the compensated heat rate of 2404.15 kcal/kWh and calculated the difference of 2.25% from the GSHR determined by the Commission i.e. 2351.25 kCal/kWh and calculated the presumptive loss of Rs.215.95 crore, whereas the prayer is to relax the Station Heat Rate Norms as determined by the Commission to the design value x 1.045% applicable. Further, the Petitioner has not substantiated his statement while countering the reply furnished by TANGEDCO.

(c) The Petitioner has filed the present petition by invoking Commission's powers under Regulation 54 "Power to Relax". However, the same has been dealt with by the Commission in its orders dated 16.2.2018 in Petition Nos. 179/MP/2017 and 167/MP/2017. Therefore, the Petitioner's prayer to exercise the "Power to Relax" Provision is not tenable.

9. The Petitioner, vide its affidavit dated 15.3.2018, has further submitted as under:

(a) The Station Heat Rate norms under the 2009 Tariff Regulations was 2276 Kcal/Kwh as per the then prevailing Regulations. The Designed Heat Rate value of the units are 2272.94 Kcal/Kwh (i.e.  $1932/0.85$ ) considering the operating margin of 6.5% 2009 Tariff Regulations and the heat rate works out to be 2420.68 ( $2272.94 \times 1.065$ ). 2014 Tariff Regulations have substantially varied the Station Heat Rate by reducing the same to 2250 Kcal/Kwh with a margin of 4.5%. However, the same was not considered in order dated 11.7.2017 in Petition No 227/GT/2014.

(b) The Petitioner has placed on record the three financial years actual which clearly shows that there has been an inherent problem in achieving the Station Heat Rate prescribed under the 2014 Tariff Regulations not only in the case of the Petitioner but also in the case of other generating stations similarly situated. The other generating stations have also approached the Commission for modification to the Station Heat Rate norms, based on the actual performance.

(c) The operating margin of 6.5% considered in the 2009 Tariff Regulations has been substantially reduced to 4.5% i.e. more than 30% which has changed the admissible norm considerably. The statement of object and reasons of the 2014 Tariff Regulations had proceeded on the basis that there is sufficient margin available to

tighten the Station Heat Rate norms i.e. both for the change in the operating margin from 6.5% to 4.5% and also a further reduction in the Station Heat Rate. However, the actual performance during the first three years of the control period establishes that not only in the case of the Petitioner but also for many other generating stations, the same has not been feasible. The fundamental basis on which the Station Heat Rate norms were changed i.e. the possibility of significant reduction in the actual operation has not materialized.

(d) The Petitioner and other similarly placed generating stations had planned their investment approval based on the appropriate norms determined till the control period 2009-14 and it has been established that with the optimum investment considering the applicable operating norms, it is not possible for these generating stations to achieve the Station Heat Rate norms specified in the 2014 Tariff Regulations.

(e) The Tariff Regulations are to be guided by the provisions of Section 61 of the Electricity Act, 2003. The norms and parameters have to be reasonable and feasible to achieve. The Station Heat Rate norms at 2250 Kcal/kWh being achieved in certain generating stations cannot be a basis for fixing it as a normative applicable to all the generating stations.

**Analysis and Decisions:**

10. We have considered the submissions of the parties and perused the documents on record. The Petitioner has prayed for relaxation in Heat Rate norms for its generating station from 2351.25 Kcal/Kwh ( $2250 \times 1.045$ ) to 2375.22 Kcal/Kwh ( $1932 \times 1.045 / 0.85$ ) for the period 2014-19. In justification of this prayer, the Petitioner has submitted that even after

accounting for heat rate degradation due to low loading of its units, the average actual unit heat rate i.e. 2469.05 kCal/kWh is still on higher side by 64.90 kCal/kWh in comparison to compensated heat rate norm of 2404.15 kcal/kWh (2351.25x1.0225). The Petitioner has submitted that since its generating units are not able to meet the normative heat rate norm of 2351.25 kCal/kWh resulting in financial losses, the Commission under power to relax may allow the relaxed heat rate norm of 2375.22 kCal/kWh.

11. Regulation 54 of the 2014 Tariff Regulations provides as under:-

“54. **Power to Relax:** The Commission, for reasons to be recorded in writing, may relax any of the provisions of these regulations on its own motion or on an application made before it by an interested person.”

The power of relaxation under the Tariff Regulations is in general terms and its exercise is discretionary. It is settled law that exercise of discretion must not be arbitrary, must be exercised reasonably and with circumspection, consistent with justice, equity and good conscience, always in keeping with the given facts and circumstances of a case.

12. We have to examine whether the present case is a fit case for exercise of power to relax to grant relief to the Petitioner.

13. Regulation 36 (C) (b) of 2014 Tariff Regulations deals with the Heat Rate norms in respect of the thermal generating stations which have achieved COD on or after 1.4.2014. The said regulation is extracted as under:

**“New Thermal Generating Station achieving COD on or after 1.4.2014**

(i) Coal-based and lignite-fired Thermal Generating Stations  
= 1.045 X Design Heat Rate (kCal/kWh)

Where the Design Heat Rate of a generating unit means the unit heat rate guaranteed by the supplier at conditions of 100% MCR, zero percent make up, design coal and design cooling water temperature/back pressure.

Provided that the design heat rate shall not exceed the following maximum design unit heat rates depending upon the pressure and temperature ratings of the units:-

Pressure Rating (Kg/cm <sup>2</sup> )	150	170	170	247
SHT/RHT (0C)	535/535	537/537	537/565	565/593
Type of BFP	Electrical Driven	Turbine Driven	Turbine Driven	Turbine Driven
Max Turbine Heat Rate (kCal/kWh)	1955	1950	1935	1850
Min. Boiler Efficiency				
Sub-Bituminous Indian Coal	0.86	0.86	0.86	0.86
Bituminous Imported Coal	0.89	0.89	0.89	0.89
<b>Max Design Unit Heat Rate (kCal/kWh)</b>				
Sub-Bituminous Indian Coal	2273	2267	2250	2151
Bituminous Imported Coal	2197	2191	2174	2078

Provided further that in case pressure and temperature parameters of a unit are different from above ratings, the maximum design unit heat rate of the nearest class shall be taken:

Provided also that where unit heat rate has not been guaranteed but turbine cycle heat rate and boiler efficiency are guaranteed separately by the same supplier or different suppliers, the unit design heat rate shall be arrived at by using guaranteed turbine cycle heat rate and boiler efficiency:

Provided also that where the boiler efficiency is below 86% for Sub-bituminous Indian coal and 89% for bituminous imported coal, the same shall be considered as 86% and 89% respectively for Sub-bituminous Indian coal and bituminous imported coal for computation of station heat rate:

Provided also that maximum turbine cycle heat rate shall be adjusted for type of dry cooling system:

Provided also that if one or more generating units were declared under commercial operation prior to 1.4.2014, the heat rate norms for those generating units as well as generating units declared under commercial operation on or after 1.4.2014 shall be lower of the heat rate norms arrived at by above methodology and the norms as per the regulation 36(C)(a)(i):

Provided also that in case of lignite-fired generating stations (including stations based on CFBC technology), maximum design heat rates shall be increased using factor for moisture content given in sub-clause (C)(a)(iv) of this regulation:

Provided also that for Generating stations based on coal rejects, the Commission will approve the Design Heat Rate on case to case basis.

**Note:** In respect of generating units where the boiler feed pumps are electrically operated, the maximum design unit heat rate shall be 40 kCal/kWh lower than the maximum design unit heat rate specified above with turbine driven BFP.”

14. It is noticed that while praying for relaxed heat rate of 2375.22 kCal/kWh, the Petitioner has not disputed the methodology with regard to calculation of heat rate norm of

2351.25 kCal/kWh based on the provisions of Regulation 36 (C)(b) of the 2014 Tariff Regulations. The Petitioner has no problem either with operating margin of 4.5% or with the heat rate degradation factor of 2.25%. The Petitioner is just praying that boiler efficiency of 85% as per the 2009 Tariff Regulations should be applied in place of 86% as per the 2014 Tariff Regulations. The basic premise/rationale for considering boiler efficiency of 85% as furnished by the Petitioner is that the units were planned and ordered during the 2009-14 tariff period when the minimum boiler efficiency as per Tariff regulations was set as 85% and therefore, the boiler efficiency of the plant should be considered as 85% even though the plant was commissioned during 2014-19 period. In this regard, the Commission, in Para 37.55 and 37.56 of SOR to 2014 Tariff Regulations, has discussed the rationale for fixing the minimum boiler efficiency norm as 86% as under:

**“37.55** Most of the generating stations have suggested to increase the margin to 6.50% to 8.00% over and above design heat rate as compared to 4.50% proposed for new coal based generating stations in the draft Regulations and have also suggested to relax the boiler efficiency. CEA, in its recommendation, has specified a margin of 3% for the station heat rate of new generating stations. As regards lowering the boiler efficiency, CEA in its report has stated that:-

“...in most of the stations the boiler efficiency for subsequent units installed later has been much lower than the boiler efficiency for the previous units. In some of the cases, the boiler efficiency has been alarmingly lower. There appears to be no justification for such reduction in boiler efficiency when the earlier units have higher boiler efficiency with same/comparable coal quality. Technology must progressively lead to efficiency improvements and not the other way and thus improvements in technology over the years are expected to lead to higher boiler efficiency for subsequent units installed later. In some of the cases it is seen that utilities in their recent specifications have specified that a minimum carbon loss of 1 to 1.5% would be considered for quoting boiler efficiency - thus, leading to corresponding reduction in boiler efficiency (and consequent increase in design heat rate). Such practices defeat the purpose of specifying the normative heat rate in terms of the design heat rate. It needs to be understood that the operating margin (over the design heat rate) provided in the norms is intended to cover the variations over a certain base line, and the quantum of variation allowed has been fixed considering this base line as the design heat rate at design CW temperature/back pressure, zero percent makeup etc. as specified in the norms. Contrary to the above, the provisions of minimum carbon loss etc. lead to artificially inflating or jacking up the base line (design heat rate) itself. Thus such a practice by the utilities is seen as an attempt to build up certain margin upfront in the design heat rate thus leading to a higher design heat rate and consequently leading to a higher normative heat rate value ultimately. 7.20.3 It is, therefore, recommended that such practices by the utilities should be discontinued forthwith. A review of all Specifications should be undertaken by CERC and where such provisions leading to build up of margin upfront in the design heat rate are found,

the operating margin provided in norms should be correspondingly lowered to the extent that such build up in terms of additional losses etc. have been provided in the specifications. Only then would the true spirit of allowing intended operating margin over DHR for normative purposes would be realized.”

**37.56** The Commission, in the draft Regulations, had proposed to limit the boiler efficiency to 87%. The Commission is of the view that the CEA’s computation of 3% margin on design heat rate is based on the lower boiler efficiency, which for recently installed units is in the range of 84%-85%. However, the Commission had proposed a margin of 4.50% at higher boiler efficiency of 87%. The Commission considering the recommendations of CEA and other suggestions received from the stakeholders, has revised the boiler efficiency to 86% from 87% proposed in the draft Regulations for new generating stations achieving COD on or after 01.04.2014 while retaining the margin of 4.50% for heat rate.”

15. It is, therefore, evident that the Commission after considering the comments/suggestion of the stakeholders, including the Petitioner, had specified the terms and conditions for determination of tariff, including the operational norms, applicable for the period from 1.4.2014. In our considered view, the operational norms [Regulations 36 (C) (b) specified by the Commission under the 2014 Tariff Regulations] cannot be categorised as unreasonable so as to justify exercise of power to relaxation.

16. The Petitioner has submitted that investment approval was accorded to the generating station on 28.7.2009 i.e. in the Tariff Period 2009-14 and accordingly, specification of TG and SG packages were placed as per 2009 Tariff Regulations. The Petitioner has submitted that design heat rate of the installed station was lower than the ceiling heat rate provided in the 2009 Regulations. However, in the 2014 Tariff Regulations, operating norms has been further tightened. The Petitioner has prayed for relaxation of heat rate norms under Regulation 36 (C) (b) of 2014 Tariff Regulations by considering lower boiler efficiency of 85% only on the premise that its units are not being able to meet the norms prescribed in the 2014 Tariff Regulations. In our considered view, the Petitioner through better and improved O & M practices can achieve the boiler efficiency of 86% as

prescribed in the 2014 Tariff Regulations. Therefore, we do not find sufficient justification for relaxation of heat rate norms.

17. The Petitioner has submitted that it is facing difficulty in achieving heat rate norms in terms of Regulation 36 (C) (b) of the 2014 Tariff Regulations in respect of this generating station. Accordingly, it has prayed that the Commission may exercise the power to relax under Regulation 54 of the 2014 Tariff Regulations and grant the prayer for fixing the heat rate norms from 2351.25 Kcal/Kwh to 2375.22 Kcal/Kwh. In our view, the heat rate norms have been prescribed after consideration of the recommendation of CEA and extensive stakeholders consultations. The failure of the generating station of the Petitioner to achieve the heat rate norms cannot be considered as the sufficient ground for exercise of power to relaxation. The Petitioner with better O & M practices can achieve the specified heat rate norms. In our view, there is no merit in the submissions of the Petitioner to grant the relief prayed for and the same is beyond the scope of Regulation 54 of the 214 Tariff Regulations. Based on the above discussions, the prayer of the Petitioner is rejected and the Petition is, therefore, not maintainable.

18. Accordingly, Petition No. 239/MP/2017 is disposed of at the admission stage.

**sd/-**  
**(Dr. M.K. Iyer)**  
**Member**

**sd/-**  
**(A. S. Bakshi)**  
**Member**

**sd/-**  
**(A. K. Singhal)**  
**Member**

**sd/-**  
**(P. K. Pujari)**  
**Chairperson**