

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No: 91/MP/2016

Coram:

**Shri P.K. Pujari, Chairperson
Dr. M.K. Iyer, Member
Shri I.S. Jha, Member**

Date of Order: 11th November, 2019

In the matter of

Petition under Section 79(1)(f)(k) of the Electricity Act 2003 read with Regulation 54 & 55 of Central Electricity Regulatory Commission (Terms & Conditions of Tariff) Regulations, 2014 along with Regulation 111 & 115 of Central Electricity Regulatory Commission (Conduct of Business) Regulations 1999, seeking re-determination of gross station heat rate of Badarpur TPS as provided under Regulation 36 (C) (a (ii) of the CERC (Terms & Conditions of Tariff) Regulations, 2014.

And

In the matter of

Tata Power Delhi Distribution Limited
NDPL House, Hudson Lane,
Kingsway Camp, Delhi-110009

.....Petitioner

Versus

1. NTPC Limited
NTPC Bhawan, 7th Floor, SCOPE Complex
Institutional Area, Lodhi Road,
New Delhi-110003Respondent No.1
2. BSES Yamuna Power Limited
BSES Corporate Annexe,
CBD-III Grid, First Floor,
Opposite Agarwal Fun City Mall,
Karkardooma, Delhi-110032Respondent No.2
3. New Delhi Municipal Council
Palika Kendra, Parliament Street,
New Delhi-110001Respondent No.3
4. Military Engineering Services (MES)
Garrison Engineer Utilities,
Kotwala Road, Delhi Cantt,
New Delhi-110010.Respondent No.4



5. Government of NCT of Delhi
Through - Department of Power
GNCTD, 8th Level, B- Wing,
Delhi Secretariat,
Delhi-110002

.....Respondent No.5

Parties Present:

Ms. Anukriti Jain, Advocate, TPDDL
Shri Apoorva Misra, Advocate, TPDDL
Ms. Shefali Sobti, TPDDL
Shri Varun Bhatnagar, TPDDL
Shri Uttam Kumar, TPDDL
Shri Sitesh Mukherjee, Advocate, NTPC
Shri Deep Rao, Advocate, NTPC
Shri Kousik Mandal, NTPC
Shri Nishant Gupta, NTPC

ORDER

The Petitioner, Tata Power Delhi Distribution Limited, a distribution licensee purchasing electricity power from Badarpur Thermal Power Station (shortly referred as "Badarpur TPS"). The Respondent No. 1, NTPC Ltd., is a generating company, which owns and operates Badarpur TPS and is supplying electricity to the Petitioner. The Respondents No. 2 to 4 are also purchasing electricity from the Badarpur TPS of respondent No1, NTPC. The Respondent No.5 is Government of NCT of Delhi.

2. Delhi Pollution Control Committee, Department of Environment, Government of NCT of Delhi, (DPCC) issued notice dated 08.12.2015 followed by order dated 31.12.2015 with the direction not to operate three units of 95 MW and one unit of 210 MW of Badarpur TPS out of five units up to 15.3.2016 in view of rising air pollution in the State of Delhi. On account of closure of units, composition of the generating station was changed to 1x210 MW or 2x210 MW from 3x95 MW and 2x210 MW. On account of this cause, the petitioner has preferred the present petition seeking re-determination of gross Station heat rate of Badarpur TPS specified under Regulation 36 (c) (a) (ii) of Central Electricity Regulatory Commission (Terms & Conditions of



Tariff) Regulations, 2014 (hereinafter to be referred as Tariff Regulations, 2014) due to change in composition of units.

3. The petitioner has filed this petition under Section 79(1)(f)(k) of the Electricity Act, 2003 (shortly referred as "the Act") read with Regulation 54 & 55 of Tariff Regulations, 2014 along with Regulation 111 & 115 of Central Electricity Regulatory Commission (Conduct of Business) Regulations 1999. The Petitioner has made the following prayers:-

- a) Hold and declare that due to shut down of three units of 95 MW and one unit of 210 MW from 1.1.2016 to 15.3.2016, Station Heat Rate of Badarpur TPS station stands revised;
- b) Re-determination of Station Heat Rate of the subject project Badarpur TPS w.e.f. the date of closure of three / four units of Badarpur TPS;
- c) Direct Respondent No. 1, NTPC to recover charges towards the off take of power by beneficiaries from Badarpur TPS station as per the revised tariff determined by the Commission w.e.f. the date of closure of the three / four units of Badarpur TPS and refund excess charges claimed with interest @ 15% per annum.

Background

4. The short facts of the case are as follows:-

- a. On 8.5.2008, the petitioner jointly with the Respondent No. 2 to 4 entered into agreement with the Respondent No.1 for procurement of power from its various generating stations including Badarpur TPS. The petitioner was entitled to procure 22.77% (160.55 MW) of electricity generated from all 5 units of Badarpur Thermal Power Station (BTPS).
- b. On 8.7.2015, the Delhi Pollution Control Committee, Department of Environment, Govt, of NCT of Delhi, (shortly referred as "DPCC") issued a



show cause notice to Badarpur TPS for closure to control air pollution in Delhi and revocation of consent to Badarpur TPS station of Respondent No. 1.

- c. On 8.12.2015, another show cause notice under Section 31(a) of the Air (Prevention and Control of Pollution) Act, 1981 was issued for closure of Badarpur TPS till 15.3.2016 by DPCC in view of rising air pollution in the State of Delhi. This was initiated after receiving Orders from the Hon'ble Supreme Court of India in this regard.
- d. After considering reply filed by Badarpur TPS, State Load Despatch Centre (SLDC) & Delhi Transco Limited (DTL), the DPCC decided in its order dated 31.12.2015 not to operate 3 units of 95 MW and 1 unit of 210 MW of Badarpur TPS out of 5 units up to 15.3.2016 and closure of three units of 95 MW each from 15.3.2016 onwards.
- e. The Respondent No.1 reduced its declared availability from cumulative 91.07% in December, 2015 to 76.59% in March,2016 on account of DPCC direction to close down one unit of 210 MW and three units of 95 MW each from 1.1.2016 to 15.3.2016 and thereafter directing for closure of the three units of 95 MW each from 15.3.2016 onwards.
- f. The Commission has specified norms of Station Heat Rate Regulation under Regulation 36(c)(a)(i) of Tariff Regulation, 2014 taking into account composition of all units i.e. 3 x 95 MW units and 2x 210 MW units. On account of closure of units as per direction of DPCC, the composition of units of the Badarpur TPS has been changed. The petitioner has sought re-determination of norms of Station Heat Rate as per revised composition which was not envisaged at the time of formulating Tariff Regulations, 2014.

5. The Petition was admitted on 8.12.016 and notices were issued to the respondents. Respondent No.1 has filed its reply vide affidavit dated 5.12.2016 and



the Petitioner has filed its rejoinder vide affidavit dated 12.5.2018. The Respondent No.1, vide affidavit dated 6.6.2018, has placed on record actual heat rate as directed by the Commission.

Submission of the Petitioner

6. The petitioner has submitted the following in support of his plea to revise Station Heat Rate during shutdown of some of the units as under:-

- a) That the Badarpur TPS comprises of five units i.e. three units of 95 MW and two units of 210 MW commissioned during different period of time. Three units of 95 MW were commissioned on 26.7.1973, 5.8.1974 and 29.3.1975. Two units of 210 MW were commissioned on 2.12.1978 and 25.12.1981.
- b) The DPCC issued show cause notice dated 8.12.2015 followed by order issued order to not operate 3 units of 95 MW and 1 unit of 210 MW of BTPS out of 5 units up to 15.03.2016 vide direction dated 31.12.2015.
- c) DPCC held its another meeting on 15.3.2016 for considering the operational aspect of BTPS and Rajghat Power House beyond 15.3.2016 and possible environmental issue due to their operation. During the meeting, NTPC officials informed DPCC that it has retro fitted pollution control devices in 2 units of 210 MW of Badarpur TPS and therefore such units will meet standard of particulate matter of 50 MW/Nm³. NTPC also informed DPCC that the 3 units of 95 MW had not been retro fitted with the pollution control device and therefore will be unable to meet the standards of particulate matter as prescribed by DPCC. Accordingly, DPCC decided to allow operation of 2 units of 210 MW and closure of 3 units of 95 MW.
- d) That the Regulation 36(c)(a)(i) of Tariff Regulation, 2014 provides Station Heat Rate of existing coal based thermal stations having 200/210/215 MW as 2450 kcal/Kwh. However, normative Station Heat Rate for Badarpur TPS was



specified separately as 2750 Kcal/KWH for the reasons that it consisted peculiar composition of 3 x 95 MW units and 2x 210 MW units.

- e) The Commission has been empowered under Section 79(1)(c) of the Act to regulate the inter-state transmission of electricity. The power to 'regulate' has wide ambit and it has been held by the Hon'ble Supreme Court in a catena of judgements that the power to "regulate" confers plenary power over the subject matter of regulation.
- f) Regulation 54 read with Regulation 55 of the Tariff Regulations, 2014 empowers the Commission to exercise power to relax the provisions of 2014 Tariff Regulations for removing the issues, such as the issue raised in the instant petition, where a plant consisting of 210 MW units is making unjust enrichment by claiming higher SHR, allowed to a combination power plant.

Submissions of the Respondent No.1

7. The Respondent No.1 has submitted as under:-

- a) That the prayer is not maintainable as it amounts to amendment of the Tariff Regulations, 2014 so as to revise SHR of Badarpur TPS on account of shut down of 4 out of 5 units. The Tariff Regulations does not provide for revision of Station Heat Rate and filing of Petition is not a proper initiation for seeking amendment of the Regulation.
- b) That the Tariff Policy, 2016 provides to specify suitable performance norms which should be efficient, relatable to past performance, capable of achievement and progressively reflecting increased efficiencies and may also take into consideration the latest technological advancements, fuel, vintage of equipments, nature of operations, level of service to be provided to consumers etc. The norms of Station Heat Rate specified is in accordance with the spirit of the Tariff Policy and therefore, the relief sought by the Petitioner seeking



revision and re-determination of the norm, is against the spirit of the said Regulations.

- c) The Commission, vide order dated 9.5.2006, in Petition No. 40 of 2004, determined the norm of Badarpur TPS, after taking into consideration various factors including design, size, past performance, life of the plant, etc. and in consultation with CEA, determined the SHR for Badarpur TPS as 2885 kCal/kWh. The Commission while determining the SHR of Badarpur TPS took into account that the units of Badarpur TPS have outlived their rated life and thus, decided not to apply SHR norms applicable to the rated life of the generating station, and determined the SHR of Badarpur TPS separately. The Commission even in the case of Bokaro TPS of DVC, consisting of 3X210 MW units, determined the SHR separately, vide Regulation 36(C)(a)(iii) of the Tariff Regulations, 2014. Therefore, the contention of the Petitioner that this Commission determined the Station Heat Rate of Badarpur TPS different from the other thermal generating stations, only due to the peculiar composition of Badarpur TPS, is wholly misplaced.
- d) Badarpur TPS has been restricted to operate only Stage II units due to supervening mandatory directions of DPCC. However, the Capacity Charges being the fixed costs - like O&M cost, depreciation, interest on loan, etc. shall be continued to be incurred by Badarpur TPS for the entire capacity of station. Additionally, Badarpur TPS will have to bear the preservation charges for the Units not being scheduled. Since the 100% allocation of Badarpur TPS power is to Delhi, the Delhi Discoms are required to continue to pay not only the Capacity charges but also the other consequential charges like the preservation charges etc. Therefore, the Petitioner's plea for revision and re-determination of the SHR of Badarpur TPS, due to change in law event, is not maintainable.



- e) DPCC has abruptly modified the norms for particulate matter emission under the Consent to Operate dated 02.01.2014 (Consent to Operate) issued to the Respondent No. 1 under the Air (Prevention and Control of Pollution) Act, 1981 (Air Act) and the Water (Prevention and Control of Pollution) Act, 1974 (Water Act) which constitutes a Change in Law, entitling the Respondent No. 1 to fixed charges for the period during which BTPS was forced to shut down due to the said change in law entitling the Respondent No.1 to recover the fixed charges.
- f) The financial losses incurred by the Respondent No. 1, on account of the said Change in law, are recoverable from the Discoms including the Petitioner through tariff. Thus, it would be unfair and unjust if the period during which units of BTPS were shut down due to change in law, the SHR of BTPS be revised. In fact, the Respondent No. 1 has unfairly suffered a loss of revenue / tariff due to reduced capacity charges and in the form of preservation charges.
- g) Badarpur TPS has been envisaged as Load Centre station to enhance stability of Grid. Badarpur TPS is also a part of Islanding Scheme for Delhi. Under the said Scheme, Delhi's power system will be isolated from the regional grid when grid disturbance is imminent and, after isolation it will continue to meet at least emergency loads of essential services. This is possible when all the units of BTPS including Stage-I units also operate and thus Respondent No. 1 is keeping all the units ready for operation in view of security and reliability of grid.
- h) The power to relax is in general terms and its exercise is discretionary. In the present matter, the discretionary relief of relaxation should be refused by this Commission as it cannot be exercised in a manner as to nullify the relevant provisions of the Tariff Regulations, 2014 and render them completely redundant.



8. The Petitioner has filed its Rejoinder vide affidavit dated 12.5.2018 to the reply filed by Respondent No. 1. The Petitioner has submitted as under:-

a) That the decision to close down all the units of Badarpur TPS was agreed including the Respondent No.1, as per the record of minutes of meeting (MoM) of the Environment Pollution (Prevention & Control) Authority dated 26.3.2018. As per decision, the Badarpur TPS will be closed once the Tughlaqabad sub-station is commissioned. It further records that the commissioning of the Tughlaqabad sub-station will be done as per the agreed schedule of July 2018.

b) On 26.3.2018, it has been decided to close down all the units of Badarpur TPS by July 2018, there does not remain any uncertainty regarding the closure and likelihood of revival of operation of Phase I (3 x 95 MW) or for that matter, continuing of operation of Phase II (2x210 MW), have lost relevance.

c) That the Petitioner is not seeking an amendment to the Tariff Regulations, 2014 but is only seeking for the relaxation of norms of gross SHR *vis a vis* Badarpur TPS as determined by this Commission under Regulation 36(C)(a)(i) of the said tariff regulations. Regulation 36(C)(a)(i) provides that the existing coal based thermal generating stations having 200/210/215 MW units will be considered to have a gross SHR of 2450 Kcal/kWh and that the stations having 500 MW units (sub-critical) will be considered to have a gross SHR of 2375 Kcal/kWh.

d) While determining the gross Station Heat Rate, the Commission took into consideration the peculiar composition that Badarpur TPS had i.e. 3 units of 95 MW each and 2 units of 210 MW each and thereby, laid down a separate normative SHR for Badarpur TPS i.e. 2750 kCal/kWh. At this juncture, it is to be noted that out of the aforesaid five units, four units i.e. 3 units of 95 MW each and one unit of 210 MW, were shut down from



1.1.2016 to 15.3.2016, in view of the failure to meet the revised particulate matter emission level.

e) That the Respondent No.1 had informed that they have retrofitted pollution control devices in 2 units of 210 MW of Badarpur TPS and therefore, such units will meet the standard of particulate matter of 50 Mg/NM³. Accordingly, the DPCC allowed the operation of 2 units of 210 MW and directed for the closure of the other 3 units of 95 MW.

f) The Commission had determined the normative SHR of 2750 kCal/kWh keeping in mind that Badarpur TPS consisted of a combination of 3 generating units of 95 MW and 2 generating units of 210 MW which would continue to generate power during the control period of the Tariff Regulations, 2014. However, subsequently, 3 units of 95 MW had been shut down pursuant to the directions issued by the DPCC and continue to be under shutdown since 1.1.2016 till now. In view of the foregoing, there is no logic for the Respondent No.1 to still consider the SHR of 2750 kCal/kWh for the remaining 2 units of 210 MW each. It was due to the peculiar composition that necessitates requirement of separate normative SHR.

g) The tariff should be reflective of the real cost of the generation. However, in the instant case, SHR was fixed for the Badarpur TPS taking into account the 3 units of 95 MW each and 2 units of 210 MW each. It is to be noted that the 3 units of 95 MW are under complete shut down and therefore SHR of 2750 kCal/kWh (which was retained keeping in view their operational status) for the Badarpur TPS does not reflect the correct value of the SHR of the plant. The present circumstance demands that this Commission protects the interest of the consumers and revises the SHR keeping in mind the 2 working units of 210 MW each. In the event, same is



not done, the ultimate burden will have to be borne by the consumers of the national capital territory of Delhi by way of paying higher tariff.

9. The Respondent No.1 has placed on record the actual station heat rate of the 210 MW units for the period from 15.3.2016 till closure of the plant. The Respondent No.1 further submits that as per Explanatory Memorandum to Draft Tariff Regulations, 2014 dated 6.12.2013, the relaxed Normative Station Heat Rate norm for Badarpur TPS specified has been determined taking into account the past actuals of the Station Heat Rate, vintage of machines, nature of operations, level of service to be provided to consumers, sufficient operational flexibility with system of built in incentive and disincentive mechanism and no relaxed norms were provided in respect of Badarpur TPS.

Analysis and Decision

10. After hearing the learned counsels for the Petitioner and Respondent No.1 and perusal of documents on record, the only question which arises for our consideration is:

“Whether SHR of Badarpur TPS is required to be revised in the light of fact of shut down of three units of 95 MW and one unit of 210 MW during the period from 1.1.2016 to 15.3.2016 and shutdown of three units of 95 MW from 16.3.2016 onwards ?”.

11. The Commission in the Tariff Regulations, 2014 has considered following norms of gross Station Heat Rate:

“Norms of operation for thermal generating station

36. The norms of operation as given hereunder shall apply to thermal generating stations:

(C) Gross Station Heat Rate

(a) Existing Thermal Generating Station

(i) Existing Coal-based Thermal Generating Stations, other than those covered under clauses (ii) and (iii) below :

<i>200/210/250 MW Sets</i>	<i>500 MW Sets (Sub-critical)</i>
<i>2450 kCal/kWh</i>	<i>2375 kCal/kWh</i>

(ii) Following Thermal generating stations of NTPC Ltd:



<i>Badarpur TPS</i>	<i>2750kCal/kWh</i>
<i>Talcher TPS</i>	<i>2850kCal/kWh</i>
<i>Tanda TPS</i>	<i>2750kCal/kWh</i>

12. The Petitioner has contended that relaxed and separate norms of the Station Heat Rate for Badarpur TPS was specified due to peculiar composition of units and hence, the change of composition will attract the revision in norm of existing generating station. The petitioner further submits that norms of 2450 Kcal/kWh under Regulation 36(C)(a)(i) of the Tariff Regulations, 2014 which provides that existing coal based thermal generating station having 200/210/215 MW units is applicable in the instant case. Whereas the Respondent No.1 claimed that the relaxed norms was specified due to vintage of plants and also cited the example of Bokaro station.

13. We have examined the reason for specifying separate norms in Tariff Regulations, 2014. Relevant para of the explanatory memorandum is quoted below.

“16.3.2 Actual Gross Station Heat Rate

a) Actual Gross Station Heat Rate (kCal/kWh) for Coal and Lignite based stations of NTPC, NSPCL and NLC Stations

<i>Sr. No</i>	<i>Stations</i>	<i>Capacity/ Configuration (MW)</i>	<i>FY 2008 -09</i>	<i>FY 2009-10</i>	<i>FY 2010-11</i>	<i>FY 2011-12</i>	<i>FY 2012-13</i>	<i>Current Wt. Avg. Norm</i>	<i>Five Year Average</i>
<i>1</i>	<i>Singrauli Super Thermal Power Station</i>	<i>2000 (200X5+ 500X2)</i>	<i>2393</i>	<i>2393</i>	<i>2393</i>	<i>2392</i>	<i>2390</i>	<i>2463</i>	<i>2392</i>
<i>14</i>	<i>Badarpur Thermal Power Station</i>	<i>705 (95X3+ 210X2)</i>	<i>2773</i>	<i>2750</i>	<i>2749</i>	<i>2749</i>	<i>2755</i>	<i>2825</i>	<i>2755</i>

16.5.5 The Commission further had approved relaxed norms for some of the generating stations after taking due consideration of plant vintage. In case of Badarpur TPS and Tanda TPS the Commission had approved a norm of 2825 kCal/kWh whereas the five year average heat rate achieved by the station was 2755 kCal/kWh and 2743 kCal/kWh respectively. Further with regards to Talcher TPS the Commission had approved a heat rate of 2950 kCal/kWh whereas the five year average heat rate achieved by the station



was 2849 kCal/kWh. The Commission is of the view that the stations have been granted relaxed norms in Tariff Regulations, 2009 to accommodate the impact of vintage of these stations. There has been additional capitalisation in these stations which has translated into performance and therefore the norms can be normalised to reflect the current operational efficiency of these stations. Accordingly, the Commission proposes to revise the heat rate norm for Badarpur, Tanda and Talcher TPS as 2750 kCal/kWh, 2750 kCal/kWh and 2850 kCal/kWh respectively.” (emphasis supplied)

From the explanatory memorandum of the Tariff Regulation 2014, it is evident that the gross Station Heat Rate (SHR) for the period 2009-14 of certain stations including Badarpur TPS was separately decided to accommodate the impact of vintage of these stations. However, considering their actual performance for the period 2008-13, which improved to some extent due to ongoing additional capital expenditure, Commission for the period 2014-19 revised the SHR norm of these stations. The SHR norm of the Badarpur was revised from 2825 kCal/kWh to 2750 kCal/kWh. However, even for the tariff setting 2014-19, Badarpur was kept under the list of stations having relaxed norms as it had a combination of old and less efficient units of 95 MW (vintage units) and comparatively efficient units of 210 MW. The norm of 2450 kCal/kWh for 210 MW units was specified under Regulation 36(C)(a)(i) based on the actual performance of a basket of 210 MW units (excluding 210 MW units of Badarpur) which also included certain plants of NTPC e.g Singraulli, which had 210 MW units of almost same vintage as that of 210 MW units of Badarpur.

14. Thus, the petitioner's contention that the separate norms were specified due to peculiar composition of the Badarpur has merit. Accordingly, Commission is of the considered view that after the closure of 95 MW units, there is a need to revise the SHR norm of the station compatible to 210 MW units. However, petitioner's prayer for applying norms of 2450 Kcal/kWh as specified for other 210 MW units under Regulation 36(C)(a)(i) of the 2014 Tariff Regulations, 2014 to 210 MW units of Badarpur need further analysis.



15. The Respondent No.1 has submitted the actual station heat rate of the 210 MW units of the generating station for the period from 15.3.2016 till closure of the plant on or before 7.6.2019. The Respondent No.1, vide affidavit dated 6.6.2019, in compliance of the aforesaid directions, has placed on record the following detail:-

<u>Financial year</u>	<u>Station Heat Rate (Kcal/KWh) of Badarpur TPS</u>
FY 2015-16	2676
FY 2016-17	2685
FY 2017-18	2684
FY 2018-19	2658

The average of Station Heat Rate of Badarpur TPS for the period 2015-16 to 2018-19 on actual basis is 2675.75 kCal/kWh which reflects the operation of only 210 MW units under revised condition of operation.

16. It is observed that the performance of the 210 MW units of Badarpur is not comparable to the other units of 210 MW units for which SHR norm of 2450 kCal/kWh as applicable for the period 2014-19. Based on the submissions of the respondent, NTPC in the instant petitions and earlier petitions filed by respondent for approval of tariff for the period 2009-14 and 2014-19, the reasons are as follows:

- a) Two units of 210 MW completed their useful life in 2003 and 2006, respectively. After completion of useful life R&M is required to improve/sustain the operational norms including SHR norm. As such, these units of Badarpur were required to go under renovation and modernization on completion of useful life.
- b) On the other hand 210 MW units of other stations not under the list of relaxed norms were eligible for special allowance in lieu of R&M on completion of their useful life in terms of 2009 and 2014 Tariff Regulations. As such, Generators could use this allowance to maintain their units for sustaining the operational norms either by catering to the problem areas or by way of comprehensive R&M for which they do not require filing of the petition with CERC. They are also not required to seek



the consent of beneficiaries which is a time consuming process. Accordingly, even after completing their useful life they were required to match the average operational norms applicable to other units based on the actual operational norms achieved by the basket of 210 MW units including relatively new units.

c) For the purpose of comparison, oldest units of 210 MW of Singrauli station, which was never put under the category of stations with relaxed norms, after completion of their useful life started receiving the special compensation allowance to the tune of Rs. 5.0 Lakh/MW during 2009-14 and Rs.7.5 Lakh/MW during 2014-19. On the other hand, Badarpur could not avail the special compensation allowance as the stations under the category of relaxed norms for which R&M expenditure was allowed to be incurred, were not eligible for the same. Commission vide order dated 12.05.2011 approved an amount of Rs.427 crore for carrying out expenditure on CEA approved R&M main plant schemes pertaining to 210 MW units of BTPS. Further, Commission allowed an expenditure of Rs.138.50 crore for the conversion of open cycle CW system to closed cycle CW system. Though, NTPC carried out expenditure on certain other schemes allowed by CEA/CERC, however, NTPC deferred the above mentioned expenditure allowed by CERC for comprehensive R&M of the main plant of 210 MW units and on conversion of open cycle system to closed cycle CW system, beyond 2014-19 because of uncertainty in running of BTPS due to DPCC orders. This expenditure on R&M of main plant and conversion of CW system was directly linked to improvement of operational norms including SHR. As such, due to non-implementation of comprehensive R&M of Main Plant and conversion of open cycle CW system to closed cycle CW system, SHR of 2x210 MW units of BTPS is on higher side as compared to other similar units.

d) It is observed that BTPS generally gets schedule during summers and is closed down during winters due to high pollution levels in Delhi. This uneven scheduling effects the heat rate considerably because of high cooling water



temperature in summer (30° C) as compared to winter (approx. 20 ° C) which has direct impact on condenser vacuum and thus SHR.

17. In view of the above, Commission is of the view that considering heat rate of 2450 kCal/kWh applicable to similar units availing special compensation allowance, for Badarpur units of 210 MW units which could not complete the R&M of main plant package due to DPCC orders, would not be reasonable. Accordingly, we are inclined to consider the actual average heat rate of 2675.75 kcal/kWh achieved by the 210 MW units of Badarpur station as normative heat rate for the period during which the units of 95 MW were not allowed to operate during the tariff setting 2014-19.

18. The Respondent No.1 has further submitted that the Station heat Rate norms should be considered with operational margin. Since we are considering actual S.H.R, there is no need to consider the additional operational margin.

19. Further, considering the fact that actual SHR captures the impact of unit loading, applicable compensation payable to respondent on account of higher SHR whenever unit loading is less than the loading of 85%, shall not be payable. Accordingly, the NTPC is directed to adjust any compensation received on account of higher SHR with the beneficiaries.

20. The Commission, in exercise of our power to Relax under Regulation 54 of the 2014 Tariff Regulations, allows Station Heat Rate norms of 2675.75 kCal/kWh for 210 MW units of Badarpur TPS, which shall be applicable for the period during which only 210 MW units were in operation due to closure of the 95 MW units during 2014-19. Respondent No.1 is directed to adjust the energy charges towards the off take of power by beneficiaries from Badarpur TPS station as per the revised energy charges determined based on Station Heat Rate of 2675.75 kCal/kWh in place of SHR of



2750 kCal/kWh w.e.f. the date of closure of the three units of 95 MW units and refund excess charges claimed along with the interest on bank rate specified under Tariff Regulations, 2014. The impact of improved heat rate norm on AFC shall be decided while approving the trued up tariff of BTPS for the period 2014-19.

21. Petition No. 91/MP/2016 is disposed of in terms of above.

Sd/-
(I.S. Jha)
Member

Sd/-
(Dr. M.K. Iyer)
Member

Sd/-
(P.K. Pujari)
Chairperson

