

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 169/MP/2019

Coram:

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

Date of Order: 25th May, 2020

In the matter of:

Petition under Section 79(1)(b) read with Section 79(1)(f) of the Electricity Act, 2003 for adjudication of the issues arising out of the Power Supply Agreement dated 31.12.2014 for supply of 115 MW and Power Supply Agreement dated 26.12.2014 for supply of 100 MW of power to Kerala State Electricity Board Limited.

And

In the matter of:

Jhabua Power Limited
Unit No. 307, Third Floor,
ABW Tower, M.G. Road,
Gurugram, Haryana - 122 002.

.....**Petitioner**

Vs.

Kerala State Electricity Board Limited
Vydyuthi Bhavanam,
Pattom, Thiruvananthapuram,
Kerala - 695 004.

.....**Respondent**

The following were present:

Shri Sanjay Sen, Senior Advocate, Jhabua Power Limited
Shri Matrugupta Mishra, Advocate, Jhabua Power Limited
Ms. Shikha Ohri, Advocate, Jhabua Power Limited
Shri Md. Aman Shaikh, Advocate, Jhabua Power Limited
Shri Roopam Bansal, Jhabua Power Limited
Shri Janmejaya Mahapatra, Jhabua Power Limited
Shri Prabhas Bajaj, Advocate, Kerala State Electricity Board Ltd.
Shri Prateek, Advocate, Kerala State Electricity Board Ltd.
Ms. Sangeetha, Kerala State Electricity Board Ltd.
Ms. Hema, Kerala State Electricity Board Ltd.
Shri Sreeja RS, Kerala State Electricity Board Ltd.

ORDER

The Petitioner, Jhabua Power Limited, has filed the present Petition under Section 79(1)(f) of the Electricity Act, 2003 (hereinafter referred to as 'the Act') for adjudication of the disputes arising out of the Power Supply Agreements (PSAs) dated 31.12.2014 and 26.12.2014 for supply of 115 MW and 100 MW respectively to the Respondent, Kerala State Electricity Board Limited (KSEBL). The Petitioner has made the following prayers:

"a) Direct Respondent to pay the amount recoverable by the Petitioner on account of its mis-interpretation by the Respondent of the various stipulations in the PSA on SHR;

b) Declare that the station of the Petitioner has Net SHR of 2347.9 kCal/kWh for payment of Fixed Charge Rate since the start of supply of power under the PSA dated 31.12.2014;

c) Allow the Petitioner to recover the variable charge at Net SHR of 2465.2 kcal/kwh since the start of supply of power under both the PSAs dated 31.12.2014 & 26.12.2014;

d) Allow the Petitioner to recover entire withheld fixed charges & fuel charges along with carrying cost from the Respondent."

Brief Background

2. Brief background leading to filing of the present Petition is as under:

(a) The Petitioner has set-up a generating station of 1x600 MW coal based thermal power plant near village Barela-Gorakhpur, Tehsil Ghansore, District Seoni in the State of Madhya Pradesh (hereinafter referred to as 'generating station'). The generating station of the Petitioner achieved the commercial operation on 3.5.2016.

(b) Pursuant to the competitive bid process conducted by KSEBL (the Respondent) on Design, Build, Finance, Own and Operate (DBFOO) basis as per the Guidelines issued by the Ministry of Power dated 8.11.2013, the Petitioner and the Respondent entered into two separate long-term PSAs dated 26.12.2014 and dated 31.12.2014 for supply of 100 MW and 115 MW, respectively. The supply under the PSA (115 MW) dated 31.12.2014 commenced on 22.12.2016, whereas supply under the PSA (100 MW) dated 26.12.2014 commenced on 1.10.2017. Accordingly, the Petitioner raised the monthly bills under the PSA dated 31.12.2014 from January 2017 and under the PSA dated 26.12.2014 from November 2017.

(c) In terms of the provisions of the PSAs, the Petitioner, after the completion of construction of the generating station and upon completion of various tests specified therein, was required to furnish the Completion Certificate, *inter-alia*, indicating the Station Heat Rate (hereinafter referred to as "SHR"). The Petitioner furnished the Completion Certificate in respect of PSA dated 31.12.2014 (115 MW) (hereinafter referred to as "PSA-I) indicating the gross SHR as 2341.94 kCal/kWh and net SHR at the Point of Connection as 2465.2 kCal/kWh.

(d) However, upon raising of the 1st invoice by the Petitioner for supply of power in terms of PSA-I dated 31.12.2014 in the month of January 2017, KSEBL made certain deductions while making payment towards the same on account of net SHR (2465.2 kCal/kWh) in the Completion Certificate being higher than the specified SHR (2350 kCal/kWh) in the PSA.

(e) The aforesaid deduction was contested by the Petitioner on the ground that KSEBL mis-interpreted the provisions of the PSA pertaining to SHR and therefore, wrongly calculated the Fixed Charges and Fuel Charges payable to the Petitioner. According to the Petitioner, KSEBL ought to have calculated the Fixed Charges

considering the SHR of 2347.9 kCal/kWh (without 5% margin) for the first year of operation and Fuel Charges by considering the SHR upto 2465.2 kCal/kWh (including the 5% margin). However, the aforesaid stand of the Petitioner was rejected by KSEBL.

(f) Due to a number of representations by the Petitioner, KSEBL constituted an internal expert committee on 26.4.2017, *inter-alia*, to look into the issue related to determination of values of SHR to be considered for the purpose of calculation of Fixed Charges and Fuel Charges based on the PSA and submissions of the Petitioner. On basis of report of the Committee dated 4.10.2017 and a subsequent meeting held between the Petitioner and the Respondent on 31.10.2017, the parties appeared to have agreed to consider single SHR of 2347.9 kCal/kWh for calculation of Fixed Charge and Fuel Charge in respect of both the PSAs. In furtherance, the Petitioner furnished the Completion Certificate for PSA dated 26.12.2014 (hereinafter referred as "PSA-II" on 4.11.2017 indicating the net SHR of 2347.9 kCal/kWh, which has been considered by KSEBL for calculation of Fixed Charge and Fuel Charge for the said PSA.

(g) Subsequent to the aforesaid arrangement reached between the Parties, KSEBL approached the Kerala State Electricity Regulatory Commission (KSERC) through Petition being O.P No. 12 of 2018, *inter-alia*, for consideration of net SHR of 2347.9 kCal/kWh for payment of Fixed Charge since the start of supply of power under the PSA-I and clarification regarding the applicability of Clause 3.2 of Schedule-F of the PSA for net SHR to be considered for the purpose of payment of Fuel Charges under Article 22 of the PSA.

(h) However, before the said Petition could be decided by KSERC, the Petitioner filed an application seeking withdrawal of the Petition on the ground that as the generating station of the Petitioner was having composite scheme of generation and sale of power in more than one State, the Central Electricity Regulatory Commission would have exclusive jurisdiction in this regard under Section 79(1)(b) of the Act. KSERC vide its order dated 6.6.2019 permitted the Petitioner to withdraw the said Petition.

(i) Accordingly, the present Petition has been preferred, *inter-alia*, seeking declaration that the generating station of the Petitioner has net SHR of 2347.9 kCal/kWh for payment of Fixed Charge since start of supply of power under PSA-I and to allow the recovery of Fuel Charge at net SHR of 2465.2 kCal/kWh since start of supply of power under both the PSAs.

Submissions of the Petitioner

3. In support of its prayers, the Petitioner has mainly contended as under:

SHR for computation of Fixed Charges

(a) In terms of Article 13 of the PSAs, the Petitioner was required to submit a Completion Certificate in respect of the generating station in the format prescribed under Schedule-G after conducting the tests as per the standards mentioned in Schedule-F of the PSA before commencement of supply.

(b) Clause 3.2 (SHR test) of Schedule-F states that the performance tests as per Performance Test Code - 4 (PTC-4) and Performance Test Code - 6 (PTC-6) of ASME standards for boilers and turbines, respectively, shall be carried out to determine the SHR at 100% maximum continuous rating (MCR) of the Power Station, after accounting for auxiliary consumption and losses on the dedicated transmission system, if any, and SHR shall be lower of SHR so determined and 2350 kCal/kWh, which was to be further increased by 5% to account for potential variations arising from temperature, humidity, quality of coal and other unforeseen factors and the number so arrived at was to be specified as the SHR in the Provisional Certificate or Completion Certificate, as the case may be.

(c) Upon conducting the performance tests as per PTC-4 and PTC-6 as specified in the Clause 3.2 of the Schedule-F of the PSA, the Petitioner arrived at gross SHR (uncorrected) of 2341.9 kCal/kWh at generator terminal, gross SHR (corrected) of 2229.4 kCal/kWh at generator terminal, net SHR (uncorrected) of 2465.2 kCal/kWh at point of connection to grid after accounting for 5% of auxiliary

consumption, and net SHR (corrected) of 2347.9 kCal/kWh at point of connection to grid after accounting for auxiliary consumption. As the net SHR at the point of connection to the grid (2347.9 kCal/kWh) was less than 2350 kCal/kWh, this value was increased by 5% in accordance with the provision of the Clause 3.2 of the Schedule-F and thus, arrived at the resultant value of 2465.2 kCal/kWh.

(d) Accordingly, the Petitioner submitted Completion Certificate in respect of PSA-I (115 MW) on 22.11.2016 i.e. prior to Scheduled Commercial Operation Date of 1.12.2016, *inter-alia*, indicating the gross SHR as 2341.9 kCal/kWh and net SHR at the point of grid connection as 2465.2 kCal/kWh. To avoid any confusion, the Petitioner had indicated the two values in the Completion Certificate - the gross SHR of the unit (i.e. 2341.9 kCal/kWh) as well as the net SHR of the unit (i.e. 2465.2 kCal/kWh) at the point of connection to the Grid after including 5% margin as indicated in Schedule-F. The said certificate was accepted by KSEBL and no clarification was sought from the Petitioner regarding SHR values.

(e) However, while processing the first monthly bill of the Petitioner, KSEBL reduced the fixed charge by 10% i.e. from Rs. 2.38/unit to Rs. 2.14/unit by citing the provisions of Article 21.2.3 of the PSA. Article 21.2.3 of the PSA states that in the event the Completion Certificate specifies a SHR that is higher than SHR Specified in Schedule-C (i.e. 2350 kCal/kWh), the Initial Fixed Charge shall be decreased such that for every increase of 1% as compared to SHR specified in Schedule-C, the amount specified in Clause 21.2.1 shall be decreased by 2% thereof.

(f) KSEBL has misinterpreted the SHR as specified in the Completion Certificate as it has, without taking any cognizance of the actual SHR of 2347.9 kCal/kWh, only considered the SHR value of 2465.2 kCal/kWh resulting in penalization by way of deduction of 10% Fixed Charges (@2% deduction for every 1% increase in SHR value), as per the provisions of Clause 21.2.3 of the PSA.

(g) Schedule-C: 'Specification and Standards' is primarily meant to set the boundary limits with regard to design parameters of the power plant from which the power is to be procured. Accordingly, the net SHR limit of 2350 kCal/kWh at 100%

MCR stipulated in the 'Specification and Standards' has to be considered for the limited purpose of deciding efficiency of the machine regarding the consumption of coal. Therefore, the PSA has incorporated incentivization and penalization by increasing and decreasing the Fixed Charges. Therefore, the reference to Schedule-C: 'Specification and Standards' in the provisions for calculating the Fixed Charges in Clause 21.2.2 and 21.2.3 makes it clear that Design SHR value at MCR condition of 2350 kCal/kWh has to be understood in the above context.

(h) Similarly, definition of 'Specification & Standards' at Article 39 of the PSA also makes it clear that repeated reference in the PSA to 'Specification & Standards' with regard to the net SHR of 2350 kCal/kWh for arriving at the Fixed Charge is concerned with the design and engineering of the power station and is intended to either incentivize an inherently efficiently designed machine or penalize the inherently inefficiently designed machine.

(i) KSEBL has repeatedly rejected the explanations given by the Petitioner that the correction factors have to be considered on the values found from the parameters during the tests, as per the OEM curves and the various PTC to take care of the deviations in various parameters from the design values since it is not possible to either achieve or simulate these conditions as per design during the period of the tests so as to arrive at the SHR at design values of the parameters.

(j) The net SHR achieved during the tests conducted for the station at design parameters as per PTC-4 and PTC-6 was 2347.9 kCal/kWh which was very well within the ceiling design limit of 2350 kCal/kWh.

(k) KSEBL has also not taken cognizance of Article 13.2.2 of the PSA. Article 13.2.2 provides that the tests in respect of SHR shall be deemed to be successful only if tests establish that the SHR is equal to or lower than the rate specified in the Specification and Standards. The said article also provides that in the event the tests establish that the actual SHR exceeds the specified SHR by up to 5% thereof, the tests shall be deemed to be successful as if the Power Station has achieved the specified SHR. Accordingly, the above article has been specifically inserted to

differentiate and insulate 5% increase stipulated in Clause 3.2 of Schedule-F from dis-incentivisation in the form of reduction in the Fixed Charges as stipulated in Article 21.2.3 of the PSA.

(l) BTG set of the Petitioner's generating station has been designed, manufactured, supplied, erected and commissioned by BHEL and the guaranteed parameters by OEM i.e. BHEL indicate a designed gross SHR of 2237.05 kCal/kWh (at 100% TMCR with 0% makeup) against which a SHR of 2229.4 kCal/kWh was observed during the tests. This proves that the BTG set installed by the Petitioner is of excellent design conforming to the Specification and Standards of the PSA.

(m) BTG sets of similar configuration and capacity have been installed by BHEL at JSPL, Tamnar (Chhattisgarh) and JITPL, Angul (Odisha), among others, with whom KSEBL has also tied up long term power through similar PSAs, wherein KSEBL has accepted SHR less than 2350 kCal/kWh for such machines including the Petitioner's 100 MW PSA also from the same unit. Accordingly, it is highly unrealistic to assume that the machine installed at the Petitioner's generating station and commissioned in May, 2016 shall be so inefficient to have a net SHR of 2465.2 kCal/kWh.

(n) Summary of the "as determined" parameters and actual parameters after applying correction factors is as under:

S. No.	Parameter	As determined values	Corrections considered	Corrected values	Design values as per guaranteed parameter from the OEM
1	Boiler Efficiency (%)	86.17	0.89	87.06	86.9
2	Turbine Heat Rate (kCal/kWh)	2018.1	77.2	1940.9	1944.0
3	Gross Heat Rate (kCal/kWh)	2341.9	-	2229.4	2237.0
4	Net Heat Rate @ 5.05% Auxiliary Power Consumption (kCal/kWh)	2465.2	-	2347.9	-

Accordingly, net SHR of 2347.9 kCal/kWh has to be considered for determination of Base Fixed Charge.

(o) As per Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019, while deriving SHR for calculating the Fuel Charge, normative gross SHR of the unit is required to be considered as 1.05 times the Design SHR indicating that a margin of 5% has been allowed for taking care of the inefficiencies that may creep in due to actual conditions which might differ from the above design conditions.

(p) It is a settled principle of law that a contract is required to be read in its entirety, for the purpose of giving meaning to the intention of the parties and for the construction of each and every clause in the manner such clauses are designed and conceived towards giving meaning to the contract. While interpreting the clause 21.2.3, KSEBL has failed to appreciate that schedule-C lays down Specification and Standards, whereas the manner in which the SHR is to be tested and the final number to be arrived, is laid down under Schedule-F. Schedule-F provides for the *modus operandi* to be followed while conducting various tests including the test to ascertain SHR. Clause 3.2 of Schedule-F provides that in case the SHR is lower than 2350 kCal/ kWh, the same shall be increased by 5% to account for potential variations arising from temperature, humidity, quality of coal and other unforeseen factors. Further, in Article 13.2.2, a 5% margin over and above the specified SHR is allowed and still the Completion Certificate would hold valid in the eyes of PSA.

(q) The interpretation adopted by KSEBL suffers from gross irregularity since KSEBL has exclusively relied upon Article 21.2.3 for computation of Fixed Charges, whereas Article 21.2.3 has to be read with Clause 3.2 of Schedule-F and Article 13.2.2 of the PSA. There is no ambiguity that the Standards and Specifications mentioned under Schedule-C is to be read with the detailed *modus operandi* laid down under Schedule-F for conducting individual tests. Therefore, a harmonious construction is required to be carried out between Schedule-C, Clause 3.2 of Schedule-F and Article 13.2.2 of the PSA for the purpose of ascertaining the implication of Article 21.2.3 of the PSA for arriving at the calculation of SHR for the purpose of determining Fixed Charges under the PSA.

(r) KSEBL has overlooked the above provision while deciding to penalize the Petitioner for submitting Completion Certificate as per the instructions of Clause 3.2 of Schedule-F of the PSA even though the net SHR is well within the ceiling limit of 2350 kCal/kWh.

(s) In order to avoid similar deduction in payment of Fixed Charges for supply of power under PSA dated 26.12.2014 (100 MW), the Petitioner while submitting the Completion Certificate mentioned 2347.90 kCal/kWh as the actual net SHR. KSEBL is already paying to the Petitioner entire Fixed Charges without any deductions in respect of the said PSA. Therefore, it is illogical as to how, for supply of power from the same unit, KSEBL has adopted two different sets of approach (and value of SHR) for payment of Fixed Charges.

SHR for computation of Fuel Charges

(t) In terms of Clauses 22.1.1 and 22.2.2 of the PSA, for deriving Fuel Charge also, the SHR value as indicated in the Completion Certificate, which in turn has to be calculated and mentioned following the procedure as outlined in Clause 3.2 of the Schedule-F (SHR Test) of the PSA, is required to be taken into account.

(u) Perusal of Clause 3.2 of the Schedule-F (SHR test) of the PSA clearly indicates that the PSA only links recovery of Fixed Charges to ceiling design SHR of 2350 kCal/kWh at 100% MCR condition after factoring in only transmission losses of dedicated transmission line and auxiliary consumption whereas for recovery of fuel charges, the same has been linked to the SHR after factoring in additional factors such as temperature, humidity, quality of coal and other unforeseen factors. Since the reference point differs, the SHR is bound to differ. This does not tantamount to seeking technically two different SHR. The SHR being an inherent parameter will always be the same for given set of conditions. However, the same shall differ if additional factors are taken into consideration.

(v) The PSA allows additional incremental heat rate @0.15% every year due to de-gradation of unit as per Article 22.1.1 and hence the reference SHR (Design SHR at 100% MCR) for fuel charges differs every year. The PSA also allows

additional heat rate in case of scheduling below 85% in accordance with Clause 2.1 of Schedule-C of the PSA. The above provisions do not indicate that these are technically different SHRs for the same unit but are included to factor into actual operational conditions which will result in change in the SHR.

(w) It would not be practically sound to allow Fuel Charges on the basis of SHR obtained at design conditions as the actual operational conditions differ. To cover this aspect, 5% window was provided to factor in the actual operational conditions. Otherwise the margin of 5% would have no relevance in the PSA.

(x) Accordingly, the stipulations of the PSA clearly indicate two SHR values, namely.

i) A design SHR value, which has to be derived based on the tests conducted as per PTC-4 & PTC-6 and the same is to be used for calculation of the Fixed Charge. The SHR value to be considered for the plant of the Petitioner is 2347.9 KCal/KWh.

ii) An operating SHR value, which is 5% higher than the above Design SHR value, is to be used for the calculation of the Fuel Charge. The SHR value to be considered for the plant of the Petitioner is 2465.2 KCal/KWh.

(y) Misinterpretation of the provisions of the PSAs by KSEBL has led to an under-recovery of approximately Rs. 53 crore (as on 31st May, 2019).

(z) Generating station of the Petitioner is having composite scheme of generation and supply of power in more than one State and accordingly, the Commission has jurisdiction to adjudicate the dispute under Section 79(1)(f) of the Act.

4. The Petition was admitted on 29.8.2019 and the notice was issued to KSEBL to file its reply. KSEBL has filed its reply to the Petition vide affidavit dated 7.9.2019 and the Petitioner has filed its rejoinder thereof vide affidavit dated 28.9.2019.

Reply of the Respondent KSEBL

5. KSEBL in its reply dated 7.9.2019 has mainly submitted as under:

(a) Fixed Charge payment to the Petitioner is governed by the Article 21 of the PSA. As per said Article, 'Base Fixed Charge' for the year in which COD occurs and as quoted by the Petitioner in the bid is to be reduced/ enhanced by making an appropriate deduction/ addition based on the 'Station Heat Rate' as specified in the 'Completion Certificate'. Thereafter, 'Base Fixed Charge' for subsequent accounting years is determined by decreasing the Base Fixed Charge for immediately preceding accounting year by 2% and further adjusted to reflect 30% of the variation in the Wholesale Price Index (WPI).

(b) Thus, as per the provisions of the PSA, SHR has a bearing on the payment of monthly Fixed Charges payable to the Petitioner as they are derived from the Base Fixed Charge which is computed based on the offered base rate and taking into account the SHR specified in the Completion Certificate. The SHR specified in the Completion Certificate is compared with the limit of SHR specified in the Schedule-C of the PSA. If the SHR specified in the Completion Certificate is higher than that specified in Schedule-C, it indicates lesser efficiency of the Plant and thereby leading to deduction in the charges payable to the Petitioner.

(c) Further, Article 22.2.1 clearly specifies that SHR mentioned in the Completion Certificate is to be taken as the SHR for all the purposes under the agreements. Therefore, the agreement provides for only one definition and envisages only one SHR for calculation of Fixed Charges and Fuel Charges, which is the SHR as per the Completion Certificate.

(d) As per the Schedule-C of the PSA, the SHR reckoned at the point of grid connection shall after accounting for auxiliary consumption and transmission losses, not exceed 2350 kCal/kWh at 100% Maximum Continuous Rating. Article 13.2.2 further stipulates that tests in respect of SHR shall be deemed to be successful only if the tests establish that the SHR is equal to or lower than the rate specified in the Specification and Standards. It also stipulates that in the event, the tests establish that the actual SHR exceeds the specified SHR by upto 5%, the tests shall be deemed to be successful as if the power station has achieved the specified SHR.

(e) Clause 3.2 of the Schedule-F stipulates that lower of the SHR determined as per the test and 2350 kCal/kWh, shall be increased by 5% to account for potential variations arising from temperature, humidity, quality of coal and other unforeseen factors and the number so arrived shall be specified as the SHR in the provisional certificate or Completion Certificate.

(f) On the basis of the above provisions of the PSA, the Petitioner vide its letter dated 22.11.2016 furnished the Completion Certificate to KSEBL wherein it was certified that gross SHR of the power station is 2341.94 kCal/kWh and the net SHR at the point of grid connection is 2465.2 kCal/kWh. Since the SHR value of 2465.2 kCal/kWh as per the test was within 5% of the specified SHR of 2350 kCal/kWh (i.e. 2467.5 kCal/kWh), the test was deemed to be successful and this net SHR as specified in the Completion Certificate became the SHR as per the definition of SHR for the entire scheme of the PSA.

(g) As the net SHR of 2465.2 kCal/kWh was higher by 4.9% than the specified SHR of 2350 kCal/kWh, the Initial Fixed Charge was determined by decreasing the quoted Fixed Charge by 2% for every increase in 1% SHR in line with the Article 21.2.3 of the PSA and thereafter applying the necessary adjustment due to variations in WPI, the Petitioner was paid the Fixed Charges. The payment of Fixed Charges by KSEBL to the Petitioner is strictly in accordance with the provisions of the PSA and the terms and conditions therein being notified by the Ministry of Power under Section 63 of the Act in the DBFOO Guidelines.

(h) The Petitioner has contended that the gross SHR value of 2341.94 kCal/kWh and net SHR value of 2465.2 kCal/kWh specified in the competition certificate were uncorrected values as was determined after conducting the test and without applying the correction factors. It is incorrect on part of the Petitioner to state that correction factors were to be considered on these values as per the OEM curves and the various performance test codes to arrive at design values and to recalculate the Base Fixed Charge with SHR of 2347.9 kCal/kWh and Fuel Charge based on SHR of 2465.2 kCal/kWh.

(i) As per the PSA, there is only one SHR for calculation of Fixed Charge and Fuel Charge, which is as per the Completion Certificate. Accordingly, KSEBL proceeded by taking SHR value of 2465.2 kCal/kWh as the applicable SHR for calculation of Fixed Charge and Fuel Charge. The contention of the Petitioner that there have to be two different values of SHR, one for calculating Fixed Charge and other for Fuel Charge is not only contrary to the PSAs but is also unknown in the industry. SHR being a technical parameter, two different values of SHR cannot be accepted for the same unit of the Plant.

(j) However, considering the persistent requests of the Petitioner, KSEBL constituted an intra-departmental expert committee (hereinafter referred to as the Expert Committee) on 26.4.2017 to study and submit a report on the values of SHR and GCV to be taken for the calculations of monthly Fixed Charge and Fuel Charge. The expert committee also reiterated that adoption of two different values of SHR under the same contract, is not permissible. The committee, inter-alia, also recommended that as the Petitioner failed to produce documentary evidence in support of its claim on corrected value of SHR of 2347.9 kCal/kWh, actual SHR of the Petitioner is to be reckoned as 2465.20 kCal/kWh. Since the same exceeds the limit of 2350 kCal/kWh, the SHR of the power station may be restricted to 2350 kCal/kWh for calculation of both Fixed Charge and Fuel Charge. Alternatively, the Expert Committee also recommended that an opportunity may be given to the Petitioner to conduct SHR test in presence of external experts and KSEBL officials to prove that SHR of the generating station is in line with the specification and standards i.e. equal or less than 2350 kCal/kWh.

(k) After analyzing the report of Expert Committee, the Petitioner requested KSEBL to consider SHR of 2347.9 kCal/kWh for calculating the Fixed Charge, as well as the Fuel Charge as indicated in the Minutes of Meeting dated 31.10.2017 held between the Petitioner and KSEBL. Thus, the Petitioner itself had agreed with the position in law that it is only one value of SHR which is permissible to be adopted as SHR under the contractual provisions.

(l) With SHR value of 2465.2 kCal/kWh and the heat rate de-gradation of 0.15% per annum over the years as allowed in the PSA for Fuel Charge, the limit of 5% as specified in the Completion Certificate may exceed and this will in turn lead to increase in the Fuel Charge/ Variable Charge considerably. By adoption of SHR of 2347.9 kCal/kWh, even with degradation, the SHR can be limited within 5%. Since the Fuel Charge is fully pass through based on actual cost of coal and actual cost of transportation of coal, higher SHR is detrimental to the interest of KSEBL and the consumers of the State. Therefore, without prejudice to its rights and interests as per the contractual provisions and only with a view to resolve the dispute, KSEBL and the Petitioner mutually agreed to adopt 2347.9 kCal/kWh as the SHR for calculating the Fixed Charge as well as the Fuel Charge.

(m) For validation of the aforesaid mutually agreed SHR, KSEBL had also requested the Petitioner to approach KSERC. The Petitioner in a petition filed before KSERC, requested KSERC to consider the net SHR of 2347.9 kCal/kWh for payment of Fixed Charge since start of supply of power under the PSA dated 31.12.2014. The Petitioner further requested KSERC to issue clarification regarding the applicability of Clause 3.2 of Schedule-F of the PSA for net SHR for the purpose of payment of Fuel Charge, contrary to what was mutually agreed between the Parties.

(n) Payment of Fuel Charge is stipulated under Article 22 of the PSA. Article 22.2.2 of the PSA stipulates that the figure arrived by dividing the product of SHR and landed fuel cost per kilogram of fuel by the average GCV per kilogram of coal shall be deemed to be the Fuel Charge. SHR specified herein is the same SHR as defined under Article 22.1.1 which is also used for the computation of Fixed Charge.

(o) In terms of provisions of the PSA as well as per the existing industry practices, there can only be one SHR for a unit. Since the SHR is a technical parameter, two different values of SHR cannot be accepted for the same unit of a Plant. CERC also in its Tariff Regulations has also been allowing only one value of SHR for the same type of units of the power plant.

(p) For PSA dated 26.12.2014 (for 100 MW) wherein power was to be supplied with effect from October 2017, the Petitioner had specified SHR as 2347.9 kCal/kWh in the Completion Certificate and the bills were raised accordingly. However, the payment towards Fixed Charges and Fuel Charges is worked out based on single SHR of 2347.9 kCal/kWh against this PSA. The Petitioner has requested for higher SHR for Fuel Charges in respect of this PSA also, which is impermissible and devoid of any merit.

(q) As the PSA specifies only one SHR for both Fixed Charge and Fuel Charge and as the Petitioner and the Respondent had mutually agreed on SHR of 2347.9 kCal/kWh, SHR of 2347.9 Kcal/kWh may be treated as the SHR for both Fixed Charge and Fuel Charge. In alternative, in case the Petitioner is seeking an SHR of 2465.20 kCal/kWh, despite the consensus having been arrived at SHR of 2347.9 kCal/kWh, the same SHR has to be applied for working out Fixed Charges as well as Fuel Charges.

(r) The Petitioner has been admitted under Corporate Insolvency Resolution Process by National Company Law Tribunal, Kolkata. However, the Petition does not demonstrate that it has been filed with approval of the Resolution Professional and is, therefore, defective and deserves to be dismissed on this ground alone.

(s) As regards contentions of the Petitioner that KSEBL has accepted a value of SHR lower than 2350 kCal/kWh to those who have installed BTG set of similar configuration and capacity at its generating stations at Chhattisgarh and Odisha and paid incentive on Fixed Charges, it is clarified that Fixed Charge and Fuel Charge for such plants are being paid based on the SHR specified in the Completion Certificate furnished by those generators, which is either less than or same as 2350 kCal/kWh.

(t) There was no misinterpretation on the value of SHR. KSEBL had adopted the value of SHR in the Completion Certificate which is in accordance with the PSA.

(u) The Formal Test Report with regard to SHR which was agreed to be submitted by BHEL, after conducting the Performance and Guarantee Test is not yet furnished to KSEBL. Even otherwise, the said Report would not have any bearing on the contractual provisions which mandate that the SHR mentioned in the Completion Certificate shall be taken as the SHR for purposes of the contract.

(v) The Petitioner has referred to the 2019 Tariff Regulations of the Commission which allows margin above the design SHR to take care of variation in site conditions. However, the PSA executed in the present case with the Petitioner are based on the Guidelines issued by the Ministry of Power on DBFOO basis under Section 63 of the Act and, therefore, the said Regulations are not applicable to the present PSAs. As per the DBFOO Guidelines, SHR to be taken for computation of Initial Fixed Charge and Variable Charge is the SHR specified in the Completion Certificate. No margin is allowed for variation in SHR over and above the SHR specified in the Completion Certificate. The Guidelines expect that the generators who participate in the bid install machines having a design SHR which is capable of achieving SHR of not more than 2350 kCal/kWh in actual testing. However, the Petitioner can avail an annual increase in SHR of 0.15% on each successive anniversary of COD as per Article 22.1.1 in the Fuel Charge computation.

(w) The interpretation of the Petitioner that annual increase of 0.15% in the SHR as stipulated in the PSA means that there can be two SHRs is totally wrong and is liable to be rejected as it is allowed for taking into consideration the reduction in despatch.

Rejoinder of the Petitioner

6. The Petitioner in its rejoinder dated 28.9.2019 mainly reiterated its submissions made in the Petition. In addition, the Petitioner has submitted as under:

(a) Instead of addressing the technical and contractual contentions raised by the Petitioner as per the provisions of the PSA, KSEBL has simply repeated its singular stance of consideration of one SHR value for determination of both Fixed Charge and Fuel Charge.

(b) The stipulations for arriving at the SHR value which in turn is to be considered for deriving the Fixed Charge payable and the stipulations for arriving at the SHR value which in turn is to be considered for deriving the Fuel Charge payable are different. Therefore, it is natural that SHR value for payment of Fixed Charge may be different from SHR value that would be considered for payment of Fuel Charge. The scheme of the PSA is required to be looked in toto, instead of having distorted approach with regard to the terms and conditions of the PSA. It is not the case of the Petitioner that for the same plant there shall be two different SHR values as far as the performance test values are concerned.

(c) Clause 3.2 of Schedule-F which lays down the protocol or the modus through which the SHR test shall be conducted. First part lays down the procedure through which SHR shall be determined at 100 % MCR of the Power Station after accounting for auxiliary consumption and losses on dedicated transmission system. This number so arrived at is the SHR of the generating station. It further mandates that the value so determined or 2350 kCal/kWh, whichever is lower, shall be the SHR and the said SHR shall be increased by 5% to account for variations arising from temperature, humidity, quality of coal and other unforeseen factors and the numbers so arrived at shall be specified as the SHR in the provisional or Completion Certificate. Thus, it was not only mandatory to add 5% but also to reflect such increased value of SHR in Completion Certificate. Accordingly, the Petitioner had indicated 2465.2 kCal/kWh as SHR, after adding 5% on the actual SHR determined as 2347.9 kCal/kWh, upon factoring auxiliary consumption and transmission losses at 100% MCR.

(d) In case of Fixed Charge, SHR is merely a modulating parameter which is either adding to or subtracting from the quoted Fixed Charge of the supplier, in order to maintain a certain standard of performance and incentivise those suppliers, who are performing better than the normative standard prescribed under Schedule-C. On the contrary, for determining the Fuel Charge, the operating conditions for which the increase of 5% has been stipulated, is required to be considered. It is because the computation of Fuel Charge does not restrict itself to the standards provided

under Schedule-C. Rather it refers to the SHR arrived at as determined by the tests conducted following Schedule-F and specified in the Completion Certificate as per Article 22.

(e) Limit values of SHR as specified in the Schedule-C of the PSA is with regard to the design SHR and the same is in no way meant to be the operating SHR. The provision of operating margin of 5% in the design SHR to arrive at the operating SHR has been incorporated by Clause 3.2 of Schedule-F: Tests to arrive at the operating value of SHR from the design SHR. KSEBL is intentionally taking a simplistic view to shroud the real essence/ meaning as provided in the PSA.

(f) Value of SHR as indicated in the Completion Certificate is only applicable for calculating the Fuel Charge and cannot be taken "as it is" for arriving at the Fixed Charge. Since the value indicated as above is 5% above the actual SHR found as per the test, KSEBL should have arrived at the value of SHR to be considered for incentivisation/ penalization of the Fixed Charge (as per Article 21.2.3) by dividing the value indicated in the Completion Certificate by a factor of 1.05 (i.e. 2347.9 KCal/kWh). Even though the definition of SHR is same for the entire PSA, there are definite and separate provisions available in the PSA for arriving at the values to be considered for calculating the Fixed Charge and Fuel Charge.

(g) A distinction is required to be drawn with regard to interpretation of Schedule-C and Schedule-F. Schedule-C deals with the 'Specifications and Standards' to be followed for the entire power station and other normative parameter, required for smooth functioning of the generating asset. Therefore, it is generic in nature, whereas Schedule-F deals with specific test to be carried out to arrive at this value. The developer is bound to follow the strict procedure meticulously provided and mandated under Schedule-F which would ultimately ensure compliance of specifications and standards as provided under Schedule-C from a macroscopic perspective. When it comes to SHR test, the procedure provided under Clause 3.2 of Schedule-F is required to be adhered to. As per the principle of law, the specific provision shall have an overriding effect over the generic

provisions. Therefore, Article 3.2 of Schedule-F cannot be brushed aside while factoring SHR value for payment of tariff.

(h) The Petitioner has always maintained that the SHR value of 2347.9 kCal/kWh has to be considered for arriving at the Fixed Charge and the value of 2465.2 kCal/kWh needs to be considered for determining the Fuel Charge, in line with the provisions of the PSA. Since, under Clause 3.2 of Schedule-F of the PSA, it is mandatory on the part of the Petitioner to add 5% margin on the test result of SHR for factoring in operating conditions. This exercise cannot be given the flavour of margin of 5% as provided under Article 13.2.2 of the PSA, as the Petitioner has to take the shelter of Article 13.2.2 for obtaining the benefit of a deeming provision. The applicability of Article 13.2.2 is superimposed upon the Petitioner whereas the test conducted and the result thereof is in consonance with the modus of Schedule-F.

(i) KSEBL is wrongly construing the submission of the Petitioner as if it is asking for two values of SHRs for the same unit. The fact is that any unit has a design SHR (based on which the Fixed Charge is to be calculated as per the provisions of the PSA) and an operating SHR, which normally is a deteriorated value of design SHR based on the variations of the actual conditions as compared to the design conditions. While KSEBL overlooks all the provisions of the PSA in stating that the same unit cannot have two SHR values, it, in fact, is conveniently considering two SHR values for the same unit of the Petitioner in two PPAs – 2465.2 kCal/ kWh in PSA-I (115 MW) and 2347.9 kCal/ kWh in PSA- II (100 MW).

(j) SHR value of 2465.2 kCal/kWh has been arrived at by escalating the test SHR of 2347.9 by 5%, as provided in the Schedule-F. Therefore, all SHR degradations/ incentivisation for calculation of the Fixed Charges have to be applied on the value of 2347.9 kCal/kWh and not 2465.2 kCal/kWh. The 5%, in contrast to the understanding of KSEBL, is in no way intended to be a limitation but a margin that has been provided to a supplier to at least partially cover the effects of Operating inefficiencies financially. Thus, there is neither any limitation of 5% nor any apprehension of violating any limitation.

(k) There were a lot of apprehensions regarding declaration of SHR value in the Completion Certificate for PSA dated 26.12.2014 (100 MW), power flow for which was scheduled to start from 1st October 2017, particularly in light of the numerous correspondences and discussions including presentation to the Expert Committee which were being held at that time. The Petitioner had agreed to mention 2347.9 kCal/kWh as the test SHR (without taking into consideration the 5% margin provided in Schedule-F: Clause 3.2 to avoid deduction similar to those in PSA dated 31.12.2014 (115 MW). In spite of the above, KSEBL chose to refer the matter to KSERC, which clearly indicates that KSEBL itself was not sure about the correct interpretation of the provisions and did not agree with the findings of the Expert Committee.

(l) Petitioner Company has been admitted under Corporate Insolvency Resolution Process (CIRP) by the National Company Law Tribunal (NCLT), Kolkata Bench and Mr. Abhilash Lal has been appointed as the Resolution Professional vide its order dated 24.7.2019, which has authorized Mr. Janmejaya Mahapatra, Chief Executive Officer of the Petitioner to undertake all the dealings with various authorities. The authorization further indicates that any documents to the above PPAs shall be executed jointly by Mr. Janmejaya Mahapatra, Chief Executive Officer and Mr. Abhilash Lal, Resolution Professional (RP) on behalf of the Petitioner. Accordingly, the Petitioner has filed duly affirmed affidavit of both the above persons along with the present rejoinder. Further, subsequent to the admission to CIRP, the Petitioner had filed an appeal before the National Company Law Appellate Tribunal (NCLAT). NCLAT vide its order dated 5.4.2019 had stayed the formation of the Committee of Creditors and ordered that the Interim Resolution Professional (IRP) shall allow the paid Directors, Officers and employees to function. Subsequently, the IRP has been replaced by the present RP, Mr Abhilash Lal by the Committee of Creditors (CoC) and the RP has issued the above-mentioned delegation of responsibility to the deponent to represent the Corporate Debtor in all matters.

(m) KSEBL is shying away from the facts of the provisions on the singular ground that there cannot be two SHR values, very well realising the fact that the

Petitioner is also praying on similar lines – the only difference being there can be single test SHR, but the actual SHR based on which the Fuel Charge needs to be determined may vary based on the operating conditions including partial loading. The different values of SHR to be considered at different loads are provided in Annex-III (Schedule-C) - SHR of the PPA. Therefore, on a day when the schedule is less than 85%, the SHR to be considered for determining the Fuel Charge shall have to be escalated by 2.25% to 50% depending on the amount of partial scheduling. This doesn't mean that the Fixed Charge shall also be recalculated since as per KSEBL, there could be only one SHR – same for both Fixed Charge and Fuel Charge.

7. The Petitioner vide Record of Proceedings for the hearing dated 25.2.2020 was directed to furnish the Completion Certificate (Schedule G) in respect of PSA dated 26.12.2014 (100 MW). The Petitioner has furnished the information called for vide affidavit dated 7.3.2020.

Analysis and Decision

8. We have heard the learned senior counsel for the Petitioner and the learned counsel appearing on behalf of Respondent and have perused the pleadings and documents on record. We have also taken on record the written notes handed over by the parties during the course of the argument. As far as the jurisdiction of the Commission to adjudicate upon the dispute involved in the present Petition is concerned, it is undisputed that the generating station of the Petitioner is having 'composite' scheme of generation and sale of power in more than one State as the generating station is located in the State of Madhya Pradesh and is supplying power to the utilities in the States of Madhya Pradesh, Kerala and West Bengal. Thus, this Commission has the jurisdiction to adjudicate the dispute in terms of the PSAs executed between the Petitioner and with the Respondent in terms of provisions of Section 79(1)(b) of the Act and as held by the

Hon'ble Supreme Court in its judgement dated 11.04.2017 in Civil Appeal Nos.5399-5400 of 2016. None of the parties have raised issue regarding jurisdiction of the Commission. Accordingly, we proceed to deal with the issue involved in the present case.

9. Before going into merits of the case, a primary contention of KSEBL objecting the maintainability of the instant Petition needs to be addressed. KSEBL has contended that the Petitioner company has been admitted to Corporate Insolvency Resolution Process pursuant to the order of NCLT, Kolkata Bench and Resolution Professional has been appointed therein. However, it was contended that the Petitioner did not disclose these facts in the Petition. Per contra, the Petitioner in its rejoinder has submitted that NCLT vide its order dated 24.7.2019, has appointed Shri Abhilash Lal as Resolution Professional, which has authorised Shri Janmejaya Mahapatra to undertake all the dealing with various authorities and the said authorization further indicates that any documents to the above PPAs shall be executed jointly by Shri Janmejaya Mahapatra and Shri Abhilash Lal.

10. It is apparent that the insolvency proceeding against the Petitioner was admitted by NCLT prior to filing of the present Petition. Though the Resolution Professional was appointed subsequent to filing of the present Petition, the Interim Resolution Professional had been appointed on the date of admission of the Petition by the NCLT. In its Rejoinder, the Petitioner has filed the authorisation letter as well as the affirmed affidavit of both the Resolution Professional [Shri Abhilash Lal] as well as the person authorised by the Resolution Professional [Shri Janmejaya Mahapatra]. In view of the authorisation and affidavit filed by the Resolution Professional, Shri Abhilash Lal, filed along with the

rejoinder, we hold that the present Petition is properly authorised and is, thus, maintainable. Accordingly, we now proceed to deal with the matter on merits.

11. With regard to the dispute between the Petitioner and the Respondent on merits, the following issues arise for our consideration:

Issue I: Whether the deductions made by the Respondent in respect of bills for Fixed Charges raised by the Petitioner for supply of power under PSA-I is in accordance with provisions of the PSA?

Issue-II: Whether in terms of the PSA executed between the Petitioner and the Respondent, two different values of SHR have to be taken for computing Fixed Charges and Fuel Charges?

Issue-III: Whether for PSA-II, the Petitioner can be allowed recovery of Fuel Charges based on SHR of 2465.2 kCal/kWh though it has indicated SHR of 2347.9 kCal/kWh in the Completion Certificate?

12. These issues have been analysed and discussed in seriatim in the succeeding paragraphs.

Issue I and Issue II:

Issue I: Whether the deductions made by the Respondent in respect of bills for Fixed Charges raised by the Petitioner for supply of power under PSA-I is in accordance with provisions of the PSA? And

Issue-II: Whether in terms of the PSA executed between the Petitioner and the Respondent, two different values of SHR have to be taken for computing Fixed Charges and Fuel Charges?

13. These two issues pertaining to PSA-I are interrelated and, hence, these have been clubbed for the purpose of analysis. The Petitioner has submitted that based on the performance tests conducted by it, corrected net SHR at point of grid connection was found to be 2347.9 kCal/kWh after accounting for auxiliary consumption and transmission losses. However, SHR of 2465.2 kCal/kWh (2347.9×1.05) was reported in Completion Certificate as per requirement of PSA to account for the operational margin of 5%. The

Petitioner has submitted that after submission of the Completion Certificate, it raised invoice for supply of power in terms of PSA-I in the month of January 2017. However, KSEBL made certain deductions while making payment towards the same citing that net SHR (2465.2 kCal/kWh) furnished by the Petitioner in the Completion Certificate was higher than the specified SHR (2350 kCal/kWh) in the PSA.

14. The aforesaid deduction was contested by the Petitioner stating that KSEBL has misinterpreted provisions of the PSA pertaining to SHR and, therefore, wrongly calculated the Fixed Charges and Fuel Charges payable to the Petitioner. In this regard, the Petitioner vide its letter dated 8.2.2017 to the Respondent stated as under:

“It is submitted that the Gross Station Heat Rate Value of 2341.94 Kcal/KWhr and the net station heat rate value of 2465.2 kcal/KWhr are the uncorrected values, as was determined after conduction the tests. The same were indicated in the completion certificate, submitted to you. As you are aware, correction factors have to be considered on these values, as per the OEM Curves and the various performance test codes, to arrive at the design value.”

We, thus, note that the Petitioner mentioned that the two values as indicated in the Completion Certificate i.e. Gross SHR of 2341.94 kCal/kWh and net SHR of 2465.2 kCal/kWh were the uncorrected values and that there was a need for applying correction factors on the SHR values arrived through the tests.

15. In the same letter dated 8.2.2017, the Petitioner informed that after applying correction factors based on OEM curves, the corrected values work out as i) 2229.4 kCal/kWh (corrected gross SHR) and ii) 2347.9 kCal/kWh (corrected net SHR). The Petitioner vide the above letter dated 8.2.2017 also submitted the OEM curves and comprehensive report titled “Protocol for Determination of Station Gross Heat rate” to the Respondent. It is observed that the letter along with its annexures as mentioned above

explained the procedure of arriving at the corrected SHRs by application of the OEM curves. The Petitioner, after explaining the procedure of arriving at the corrected values, requested the respondent to recalculate the Fixed Charges based on the net SHR (corrected) of 2347.9 kCal/kWh and adjust the deductions made by the Respondent from the bills based on the uncorrected net SHR of 2465.2 kCal/kWh as indicated in the Completion Certificate.

16. The Petitioner again vide its letter dated 15.4.2017 addressed to the Respondent indicated that while making deductions in Fixed Charges payable to the Petitioner, the Respondent has misinterpreted provisions of the PSA namely clauses 13.2.1, 13.2.2 and Schedule-F and that the following should have been considered while calculating the Fixed Charges and the Fuel Charges:

- a) SHR of 2347.9 kCal/kWh for determination of Fixed Charge (for the 1st year of operation)
- b) SHR up to 2465.2 kCal/kWh after escalating by 5% margin as per schedule-F depending upon the heat rate actually observed during the relevant month under consideration for determination of variable charge rate.

17. We note from the communications dated 8.2.2017 and 15.4.2017 of the Petitioner that SHR of 2465.2 kCal/kWh as indicated in the Completion Certificate was the uncorrected net SHR. However, consequent upon deduction of Fixed Charges by the Respondent and noticing that value to be reported in the Completion Certificate should be corrected net SHR the Petitioner notified the Respondent of the correct position. We note that the initial values reported in the Completion Certificate were uncorrected Gross SHR of 2341.94 kCal/kWh and uncorrected net SHR of 2465.2 kCal/kWh. After applying corrections, these values came to 2229.4 kCal/kWh (corrected gross SHR) and 2347.9

kCal/kWh (corrected net SHR). The Petitioner requested the Respondent to consider the SHR of 2347.9 kCal/kWh, which was the corrected net SHR, for determination of Fixed Charges and SHR of 2465.2 kCal/kWh (after adding 5% of operational margin over the corrected net SHR of 2347.9 kCal/kWh) for determining the Fuel Charges. We notice that after applying corrections and adding 5% operational margin, the value of SHR intimated to the Respondent was 2465.2 kCal/kWh which incidentally is the same as the uncorrected net SHR as reported in the Completion Certificate earlier. Therefore, net SHR of 2347.9 kCal/kWh at grid connection point and SHR of 2465.2 kCal/kWh which is obtained after escalating the net SHR by 5% margin as per Clause 3.2 of Schedule-F of the PSA-I, is in order.

18. However, the aforesaid stand of the Petitioner communicated to the Respondent vide letters dated 8.2.2017 and 15.4.2017, was rejected by KSEBL stating that there cannot be two SHRs for the same generating station - one for Fixed Charges and other for Fuel Charges and stated that the same is against established industry practices.

19. To decide the issue, let us analyze the various provisions of PSA with regard to SHR and payment of Fixed Charges and Fuel Charges.

20. The Station Heat Rate (SHR) is defined under Article 39 of the PSA which refers to the meaning as set forth in Clause 22.1.1. SHR as per Clause 22.1.1 of PSA has been defined as under:

"22.1 Station Heat Rate

22.1.1 The heat energy input, in Kcal, required for generation and supply of 1 (one kWh of electricity, at the Point of Grid Connection, after accounting for auxiliary consumption and transmission losses, if any, as determined by Tests and specified in the Provisional Certificate or Completion Certificate, as the case may be, shall be the net station heat rate of the Power Station (the 'Station Heat Rate' or "SHR").

Provided that the SHR shall be adjusted from time to time in accordance with the provisions of Clause 24.4, to account for any reduction in Despatch. Provided further that the aforesaid SHR shall be deemed to be increased by 0.15% (zero point one five per cent) on each successive anniversary of COD and the number so arrived at shall be the applicable SHR for that year. For avoidance of doubt and by way of illustration, the Parties expressly agree that if Tests determine that Station Heat Rate at the Point of Grid Connection is say 2,350 kCal per kWh, it shall be assumed that such Station Heat Rate has been derived after accounting for auxiliary consumption and transmission losses.”

We note that the above definition is for net station heat rate of the Power Station (the 'Station Heat Rate' or "SHR"). It uses two terms i.e. net SHR and SHR and does not differentiate between the two terms. In terms of this definition, SHR as determined in terms of Tests would be the net SHR that is the amount of heat energy input, in kCal, for generation of one kWh of electricity at point of grid connection and is arrived at after accounting for auxiliary consumption and transmission losses, if any, as determined by Tests and specified in the Provisional Certificate or Completion Certificate, as the case may be. Thus, SHR is required to be obtained by grossing up the amount of heat energy input in kCal for generation of one kWh of electricity at generator terminal (gross SHR), with the factor of $\{1 - \text{auxiliary consumption and transmission losses}(\%)\}$. In subsequent parts of this order, we will term this SHR as net SHR. We note that in this definition of net SHR, operational margin of 5% is not mentioned.

21. The operational margin of 5% to account for potential variations arising from temperature, humidity, quality of coal and other unforeseen factors is dealt with in Clause 3.2 of Schedule-F of the PSA that is extracted as under:

The Utility's Engineer shall carry out, or cause to be carried out, Tests specified in the Performance Testing Code - 4 (PTC - 4) and Performance Test Code - 6 (PTC - 6) of ASME Standards for boilers and turbines respectively, and Tests specified in other applicable codes in respect of associated equipment, to determine the Station Heat Rate at 100% (hundred per cent) maximum continuous rating (MCR) of the Power Station, after accounting for auxiliary consumption and losses on the Dedicated Transmission System, if any, and the Station Heat Rate shall be lower of SHR so determined and 2,350 Kcal per kWh, which shall be increased by (five per cent) thereof to account for potential variations

arising from temperature, humidity, quality of coal and other unforeseen factors, and the number so arrived at shall be specified as the Station Heat Rate in the Provisional Certificate or Completion Certificate, as the case may be.

A bare perusal of the above clause reveals that the Petitioner's engineer was required to carry out Tests specified in PTC-4 and PTC-6 of ASME standards for boilers and turbines. Similar tests were required to be carried out for associated equipment in terms of other applicable codes. In this manner, the SHR was to be determined at 100% MCR of the generating station of the Petitioner after accounting for auxiliary consumption and losses on the dedicated transmission system. The SHR shall be lower of SHR so determined through the above-mentioned performance tests and 2350 kCal/kWh. We note that this SHR is the same as mentioned in Clause 22.1.1 of the PSA i.e. this is net SHR. This net SHR is to be increased by 5% to account for variations arising from temperature, humidity, quality of coal and other unforeseen factors. The SHR increased by 5% was to be specified as the SHR in the Provisional Certificate or the Completion Certificate, as the case may be.

22. We have already observed, while analysing the provisions of Clause 22.1.1, that net SHR does not take into account the operational margin of 5%. The Clause 22.1.1 also provides that *"the Parties expressly agree that if Tests determine that Station Heat Rate at the Point of Grid Connection is say 2,350 kCal per kWh, it shall be assumed that such Station Heat Rate has been derived after accounting for auxiliary consumption and transmission losses"*. However, we note from the provisions of Clause 3.2 of Schedule-F of the PSA that there has to be an operational margin of 5% over and above the SHR determined through performance tests (or 2350 kCal/kWh, whichever is lower) and that the SHR shall be the value that is determined after adding 5% operational margin. Thus,

we note that the PSA has two sets of provisions for SHR – one in terms of Clause 22.1.1 and the other in terms of Clause 3.2 of Schedule-F. Both Clauses require SHR to take into account auxiliary power consumption and transmission losses, if any. However, Clause 22.1.1 requires the Completion Certificate to mention SHR as per Tests but does not mention any operational margin while Clause 3.2 of Schedule-F requires the Completion Certificate to also mention SHR after adding 5% operational margin. Both sets of Clauses require that the Completion Certificate should mention such SHR. We have already stated earlier in paragraph 16 above that the SHR used in Clause 22.1.1 be called net SHR. For purpose of further analysis, we term the SHR determined in terms of Clause 3.2 of Schedule-F as “Final SHR” which is the SHR that is derived after applying operational margin of 5% over and above net SHR.

23. The Petitioner had indicated two values in the Completion Certificate - the gross SHR (uncorrected) of the unit (i.e. 2341.9 kCal/kWh) as well as the net SHR (corrected) of the unit (i.e. 2465.2 kCal/kWh) at the point of connection to the Grid after including 5% margin as indicated in Schedule-F. Gross SHR (uncorrected) is not relevant in the present case and so is not being considered for further discussions. We note that as per Clause 3.2 of Schedule-F of the PSA, the ceiling of net SHR is 2350 kCal/kWh and, therefore, ceiling of “Final SHR” works out to 2467.50 kCal/kWh (2350×1.05).

24. Clause 22.2.2 that deals with Fuel Charges is extracted as under:

“Pursuant to the provisions of Clause 22.2.1, the Parties expressly acknowledge and agree that the figure arrived at by dividing the product of SHR and the Landed Fuel Cost per kilogram of Fuel by the Average GCV per kilogram of coal shall be deemed to be the Fuel Charge hereunder. -----”

This provision does not mention which SHR (net SHR or “Final SHR”) has to be used for purpose of calculating Fuel Charges.

25. There is no dispute that in actual operation, the operating conditions vary in comparison to ideal test conditions. Performance Tests as per Performance Codes are carried out to determine the SHR (net SHR in this case at grid connection point) at 100% maximum continuous rating (MCR) of the Power Station and then SHR so obtained is corrected as per OEM performance curves to arrive at corrected SHR corresponding to certain stipulated standard pre-specified parameters of cooling water temperature, humidity, and quality of coal etc. Correction factors are applied because even while performing the test the prevailing actual operating parameters were different from standard pre-specified parameters. Ceiling limit of net SHR i.e. 2350 kcal/kWh at 100% MCR stipulated in the Schedule-C - 'Specification and Standards' also corresponds to standard pre-specified parameters of cooling water temperature, humidity, and quality of coal etc. During the performance tests, the Petitioner needed to demonstrate that its generating station met the performance standards. However, to account for variations on account of temperature, humidity, quality of coal and other unforeseen factors, the operational margin of 5% has been allowed in Clause 3.2 of Schedule-F of the PSA. In our view, the SHR mentioned in Clause 22.2.2 for calculation of Fuel Charges refers to "Final SHR" since it takes into consideration the operational margin of 5% on account of the above factors. Else there is no relevance of "Final SHR" being required to be mentioned in the Completion Certificate. As such, payment of Fuel Charges is required to be made to the Petitioner corresponding to "Final SHR" i.e. 2465.2 kCal/ kWh, in the instant case, after accounting for the operational margin of 5%.

26. The Respondent has made deductions from the bills raised for Fixed Charges on basis of reported value of SHR (2465.2 kCal/kWh) in the Completion Certificate arguing

that this is higher than the specified SHR (2350 kCal/kWh) provided in Clause 2.1 of Schedule-C of the PSA and, therefore, it has invoked provisions of Clause 21.2.3 of the PSA that relates to disincentives for less efficient plants. The Clause 21.2.3 and Clause 2.1 of Schedule-C of PSA read as under:

“ARTICLE 21 TARIFF

21.1.1 The Utility shall pay to the Supplier tariff comprising the sum of Fixed Charge and Fuel Charge payable by the Utility to the Supplier for Availability and for supply of electricity, as the case may be, in accordance with the provisions of this Agreement (the "Tariff").

21.1.2 As a part of Tariff, the Utility shall pay to the Supplier an amount, determined in accordance with the provisions of this Article 21, as the Fixed Charge for Availability of the Power Station to the extent of Normative Availability thereof (the "Fixed Charge").

21.2 Base Fixed Charge

21.2.1 The Parties agree that the fixed charge shall, in accordance with the offer of the Supplier for the Base Year, be Rs. 2.97 (Rupees two and paise ninety seven) per kWh, to which the amount, if any, determined in accordance with the provisions of Clause 21.2.2 or 21.2.3, as the case may be, shall be added or deducted, as the case may be, and the sum thereof (the "Initial Fixed Charge") shall be revised annually in accordance with the provisions of Clause 21.2.4 to determine the base fixed charge for the relevant Accounting Year (the "Base Fixed Charge').

21.2.2 In the event the Completion Certificate specifies a Station Heat Rate that is lower than the Station Heat Rate specified in Schedule- C, the Initial Fixed Charge shall be increased such that for every improvement of 1% (one per cent) as compared to the Station Heat Rate specified in Schedule-C, the amount specified in Clause 21.2.1 shall be increased by 1.5% (one point five per cent) thereof. Provided, however, that in case the source of Fuel is situated within 100 (one hundred) kilometres of the Power Station, such increase shall be restricted to 1% (one per cent).

21.2.3 In the event the Completion Certificate specifies a Station Heat Rate that is higher than the Station Heat Rate specified in Schedule- C, the Initial Fixed Charge shall be decreased such that for every increase of 1% (one per cent) as compared to the Station Heat Rate specified in Schedule-C, the amount specified in Clause 21.2.1 shall be decreased by 2% (two per cent) thereof. Provided, however, that in case the source of Fuel is situated within 100 (one hundred) kilometres of the Power Station, such decrease shall be restricted to 1.5% (one point five per cent).

SCHEDULE - C SPECIFICATION AND STANDARDS

2. Station Heat Rate

2.1 The Station Heat Rate, reckoned at the Point of Grid Connection Shall, after accounting for auxiliary consumption and transmission losses, not to exceed 2350 (two thousand three hundred and fifty) kCal per kWh at 100% (hundred per cent) maximum continuous rating (MCR) or such lower Station Heat Rate as may be specified in the Completion Certificate or Provisional Certificate, as the case may be.

We note that provisions of Clause 2.1 of Schedule-C put the same restrictions as Clause 3.2 of Schedule-F as regards ceiling on net SHR i.e. 2350 kCal/kWh. We have already observed that net SHR excludes the operational margin of 5%.

27. As the Respondent resorted to deductions of Fixed Charges by applying clause 21.2.3, the Petitioner approached the Respondent for allowing the Fixed Charges based on the net SHR of 2347.9 kCal/kWh and Fuel Charges on the basis of "Final SHR" of 2465.2 kcal/kWh as operational margin of 5% is pass through. However, the Respondent and the Expert Committee constituted by it held that since SHR of 2465.2 kCal/kWh mentioned by the Petitioner in the Completion Certificate exceeds the limit of SHR of 2350 kCal/kWh as per the Schedule-C, the Fixed Charges payable to the Petitioner would be governed by the disincentive clause i.e. Clause 21.2.3 of the PSA.

28. It seems the root of dispute is a lack of clarity on the values which are comparable. For application of clause 21.2.3, the "Final SHR" as per Completion Certificate (net SHR x1.05) i.e. 2465.2 kCal/kWh is being compared with ceiling of net SHR i.e. 2350 kCal/kWh mentioned in Clause 2.1 of Schedule-C, which does not include the operational margin of 5%. In our view, comparison of two values are being made, which are not comparable. As per Clause 3.2 of Schedule-F and Clause 2.1 of Schedule-C, 2350 kCal/kWh is the ceiling of net SHR. Therefore, ceiling of "Final SHR" shall be ceiling of net SHR (2350 kCal/kWh) multiplied by 1.05, which works out to 2467.50 kCal/kWh. Now, for incentive

and dis-incentive, by application of provisions of Clause 21.2.2. and 21.2.3 respectively, there are two options available:

OPTION-1: "Final SHR" as indicated in Completion Certificate (2465.2 kCal/kWh) arrived at after addition of 5% operational margin in net SHR discovered through performance test, should be compared with ceiling of "Final SHR" i.e. 2467.50 kCal/kWh which also includes operational margin of 5% in ceiling of net SHR i.e. 2350 kCal/kWh.

or

OPTION-2: "Final SHR" as indicated in the Completion Certificate (2465.2 kcal/kWh) should be divided by 1.05 to arrive at the net SHR and then compared with ceiling of net SHR i.e. 2350 kcal/kWh that is the specified SHR in Schedule-C.

29. Thus, under Option-1, Final SHR as per Completion Certificate (2465.2 kcal/kWh) is less than the specified SHR in Schedule-C (2467.50 kCal/kWh i.e. $2350 \text{ kCal/kWh} \times 1.05$) and under Option-2, the net SHR works out to 2347.9 kCal/kWh (i.e. $\text{SHR as per Completion Certificate (2465.2 kCal/kWh)/1.05}$], which is less than the specified SHR in Schedule-C i.e. 2350 kCal/kWh. Therefore, it may be observed that based on either option, the Petitioner qualifies for incentive in Fixed Charges by application of Clause 21.2.2 of the PSA.

30. The Respondent in its reply to the Petition has submitted that since the PSA specifies only one SHR for both Fixed Charges and Fuel Charges and as the Petitioner and the Respondent had mutually agreed on SHR of 2347.9 kCal/kWh, SHR of 2347.9 kCal/kWh may be treated as the SHR for both Fixed Charges and Fuel Charges. In alternative, in case the Petitioner is seeking an SHR of 2465.20 kCal/kWh, despite the

consensus having been arrived at SHR of 2347.9 kCal/kWh, the same SHR has to be applied for working out Fixed Charges as well as Fuel Charges.

31. However, the contention of the Respondent is not borne out by provisions of PSA. The PSA provides clearly for two SHRs to be mentioned in the Completion Certificate - one that is calculated in terms of Clause 22.1.1 read with Clause 39 of the PSA (net SHR) and the other that is calculated in terms of Clause 3.2 of Schedule-F ("Final SHR"). If only net SHR (2347.9 kCal/kWh) is taken for calculation of Fixed Charges and Fuel Charges, the Petitioner would not be able to avail the operational margin of 5% on account of variations due to temperature, humidity, quality of coal, other unforeseen factors etc. and thus would lose out on Fuel Charges. However, there will be no impact on Fixed Charges. On the other hand, if only "Final SHR" is taken for calculation of Fixed Charges and Energy Charges, the Petitioner will be disincentivised in terms of Clause 21.2.3 that provides that *"In the event the Completion Certificate specifies a Station Heat Rate that is higher than the Station Heat Rate specified in Schedule- C, the Initial Fixed Charge shall be decreased such that for every increase of 1% (one per cent) as compared to the Station Heat Rate specified in Schedule-C, the amount specified in Clause 21.2.1 shall be decreased by 2% (two per cent) thereof. Provided, however, that in case the source of Fuel is situated within 100 (one hundred) kilometres of the Power Station, such decrease shall be restricted to 1.5% (one point five per cent)."* In this case, there would be no impact on Fuel Charges.

32. In our view, architecture of the PSAs is very clear. The Petitioner, through the performance tests, has to demonstrate that its generating station is inherently efficient. This efficiency has to be assessed vis-à-vis benchmark net SHR of 2350 kCal/kWh that

is stipulated in Clause 3.2 of Schedule-F and Clause 2.1 of Schedule-C. If the generating station meets the efficiency benchmarks or betters it (i.e. net SHR is less than 2350 kCal/kWh), the incentive provisions of Clause 21.2.2 kick in. On the other hand, if net SHR is above 2350 kCal/kWh, the generating station is considered inherently inefficient and the disincentive Clause 21.2.3 is applicable. Overall, the Fixed Charges is payable on basis of net SHR after comparing it with benchmark of 2350 kCal/kWh and applying provisions of Clause 21.2.2 or 21.2.3, as the case may be. Higher the net SHR, higher the disincentives that the Petitioner has to bear and vice versa. As regards Fuel Charges, these are payable on SHR ("Final SHR") that is derived after taking into consideration the operational margin of 5% to account for variations on account of temperature, humidity, quality of coal and other unforeseen factors. Higher value of "Final SHR" corresponding to higher net SHR is beneficial from Fuel Charges point of view, but the Petitioner would be penalized for it being less efficient in terms of Clause 21.2.3. Thus, the PSA has built-in mechanism of checks and balances so that there is no perverse incentive or disincentive to declare false values. Therefore, in our view, as envisaged by provisions of the PSA – net SHR for the purpose of Fixed Charges and "Final SHR" for the purpose of Fuel Charges, the payment for Fixed Charges and Fuel Charges has to be made accordingly. Needless to clarify that it does not mean that there would be two SHRs for the generating station. Two SHRs as envisaged in the PSAs are not operational parameters, rather it is a commercial arrangement envisaged in the architecture of the PSA so that Fixed Charges and Energy Charges are billed.

33. Based on the above deliberations, we conclude that the deductions made by the Respondent in respect of Fixed Charges while making payment against the bills raised

by the Petitioner for supply of power under PSA-I was not correct as the same was carried out by the Respondent without making SHRs comparable as provided in different clauses of the PSA-I. Further, as per Option-2, as discussed at paragraph 28 above, we hold that with respect to PSA-I, the Petitioner is entitled to recover the Fixed Charges based on SHR of 2347.9 kCal/kWh and Fuel Charges based on SHR of 2465.2 kCal/kWh, as declared in Completion Certificate by including the operational margin of 5%.

Issue-III: Whether for PSA-II, the Petitioner can be allowed recovery of Fuel Charges based on SHR of 2465.2 kCal/kWh though it has indicated SHR of 2347.9 kCal/kWh in the Completion Certificate?

34. We observe that PSA-I was signed on 31.12.2014, whereas PSA-II had been signed on 26.12.2014, for supply of power by the Petitioner to the Respondent from the same generating station. In PSA-II, the Petitioner has indicated the SHR of 2347.9 kCal/kWh in the Completion Certificate without taking into account the 5% operational margin. However, the Petitioner has prayed that for PSA-II, for the purpose of Fuel Charges, SHR of 2465.2 kCal/kWh needs to be used after considering the 5% operational margin over and above the net SHR of 2347.9 kCal/kWh as declared in the Completion Certificate. The Respondent is opposing the prayer on the ground that there cannot be separate SHRs for calculation of Fixed Charges and Fuel Charges. In this regard, the Respondent and Expert Committee constituted by it held that since 2465.20 kCal/kWh (declared in the Completion Certificate w.r.t. PSA-I) exceeds the ceiling of SHR 2350 kCal/kWh as per the Clause 2.1 of Schedule-C, the SHR of the power station may be restricted to 2350 kCal/kWh for the calculation of both Fixed Charges and Fuel Charges. Another alternative was given by the Respondent to the Petitioner to conduct SHR test in the presence of the external expert and the officials of the Respondent to prove that the

SHR of its power station is within the ceiling specified in Clause 2.1 of Schedule-C i.e. SHR to be specified in the Completion Certificate is equal to or less than 2350 kCal/kWh.

35. We observe that for PSA-II, the Respondent has accepted 2347.9 kCal/kWh as the SHR, without conducting any fresh test. Thus, for the same plant of 1x600 MW capacity, the Respondent is making payment by considering SHR of 2465.2 kCal/kWh under PSA-I and SHR of 2347.9 kCal/kWh for PSA-II. Acceptance by the Respondent of two values of SHR in the Completion Certificate implies that the Respondent was aware that the SHR of 2465.2 kCal/kWh (PSA-I) was arrived at after including 5% operational margin in net SHR of 2347.9 kCal/kWh discovered through performance test, and that the Respondent was also aware that SHR of 2347.9 kCal/kWh quoted in Completion Certificate for PSA-II does not include 5% operational margin. As already discussed, there are clear provisions in the PSAs for two SHRs i.e. "net SHR" in terms of Clause 22.1.1 and "Final SHR" in terms of Clause 3.2 of Schedule-F. Therefore, as in the case of PSA-I, in the case of PSA-II also, Fuel Charges are required to be calculated based on SHR of 2465.2 kCal/kWh. In case of PSA-II, Fixed Charges are being paid as per SHR of 2347.9 kCal/kWh and there are no issues in case of Fixed Charges.

36. Therefore, for both the PSAs, for the purpose of calculating Fixed Charges, net SHR of 2347.9 kCal/kWh shall be considered for comparison with specified SHR of 2350 kCal/kWh as per Schedule-C and for the purpose of calculating Fuel Charges, the "Final SHR" of 2465.2 kCal/kWh shall be considered, accounting for the operational margin of 5%.

37. Accordingly, the Petitioner is directed to issue revised invoices from the commencement of power supply to the Petitioner under the respective PSAs by considering SHR of 2347.9 kCal/kWh for payment of Fixed Charges and SHR of 2465.2 kCal/kWh for payment of Fuel Charges. The Respondent shall make payment within 60 days of issue of revised invoices by the Petitioner. Failure to make payment within the stipulated 60 days will attract late payment surcharge in terms of the PSAs.

38. This order disposes off Petition no. 169/MP/2019.

Sd/-

(I. S. Jha)
Member

Sd/-

(P. K. Pujari)
Chairperson