

In the Appellate Tribunal for Electricity at New Delhi
(Appellate Jurisdiction)

Appeal No. 98 of 2013

Dated: 2nd December, 2014

Present: Hon'ble Mr. Rakesh Nath, Technical Member
Hon'ble Justice Surendra Kumar, Judicial Member

In the matter of:

Punjab State Power Corporation Limited Appellant
The Mall, Patiala,
PIN-147001,
Punjab.

Versus

Punjab State Electricity Regulatory Commission,
SCO No. 220-221, Sector 34-A,
Chandigarh,
Pin-160022. Respondent

Counsel for the Appellant(s) : Mr. Anand K. Ganesan
Ms. Swapna Seshadri

Counsel for the Respondent : Ms. Shikha Ohri

JUDGMENT

PER HON'BLE JUSTICE SURENDRA KUMAR, JUDICIAL MEMBER

1. The present appeal under Section 111 of the Electricity Act, 2003 emanates from the impugned review order dated 27.02.2013, passed by the Punjab State Electricity Regulatory Commission (hereinafter referred as the 'State Commission') in Petition No. 66 of 2012, whereby the State Commission has partly allowed the Review Petition filed by the appellant against the main order dated 08.10.2012 passed in Petition No. 42 of 2012 and hence the main order dated 08.10.2012 has been merged into the impugned review order dated 27.02.2013.

2. The matter in issue in the instant appeal relates to the norms fixed by the State Commission for fuel cost for the generating stations of the appellant, particularly with regard to the norm for drop in Gross Calorific Value (GCV)

between receipted coal and fired coal. By the impugned order, according to the appellant, the State Commission has proceeded to accept the recommendations of M/s. Central Power Research Institute (hereinafter called 'CPRI') on the fuel audit of the thermal generating stations of the appellant despite the inherent flaws and contradictions in the recommendations given by the CPRI and also the fact that the recommendations are not based on any actual data available on the operation of thermal generating stations. The recommendations of the CPRI included the drop in GCV between the receipted coal and bunkered coal should be within 150 kcal/kg, for which CPRI relied on the report published in Illinois, USA in the year 1961 and a report of the Research and Development Wing of the NTPC which are theoretical reports and without any basis of verifying whether such directions can be practically implemented.

3. The following grievances have been aired by the appellant:-

3.1. that the State Commission has failed to appreciate that the process of determining norms and applying the same to a generating Company is a long term process and involves verification of the actual performance levels of various generating stations all over the country, in depth analysis of how much improvements can be made through identified means and then setting the norms in a structured manner for generating stations to achieve over a period of time. The above was the process initiated by the Central Commission while determining the norms of operation in its Tariff Regulations, 2001, the Tariff Regulations, 2004 and Tariff Regulations, 2009. With each of the Tariff Regulations, the Central Commission based on the actual data received from various generating stations in the country from time to time, analyzed the data and arrived at the norms to be applied.

3.2. that the State Commission has further failed to appreciate that the report of CPRI is inherently flawed and erroneous because CPRI had proceeded to give its recommendations on the achievable station heat rate which are in complete contradiction to the report given by CPRI itself to the appellant a few months earlier in February, 2012. In the report given to the appellant, CPRI had identified various measures including short term, medium term and long term measures to be taken by the appellant to reach the achievable station heat rate over a period

of time and with substantial investment to be incurred. However, in the report given to the State Commission in August, 2012, CPRI has simply stated that the achievable station heat rate of 2500 kcal/kwh can be achieved by GGSSTP almost immediately, which itself establishes flaws in the recommendations of CPRI.

3.3. that while the appellant has endeavoured to take all steps to improve its efficiency including implementing the recommendations given by the CPRI, the recommendations are not practically implementable and the appellant ought not to be penalized with regard to the norms determined by the State Commission as against the actual operations by the appellant. This is particularly so when there are no national norms either formulated by the Central Commission or by the Central Electricity Authority.

4. The relevant facts of the case are as under:-

4.1. that the appellant- Punjab State Power Corporation Limited (hereinafter referred to as the 'PSPCL') is a Company incorporated under the provisions of the Companies Act, 1956. The appellant is an unbundled entity of the erstwhile Punjab State Electricity Board and has been vested with the functions of generation and distribution of electricity in the State of Punjab.

4.2. that the respondent is the State Electricity Regulatory Commission for the State of Punjab exercising jurisdiction and discharging functions under the provisions of the Electricity Act, 2003.

4.3. that the tariff for the generation and supply of electricity from the generating stations of the appellant for the distribution of electricity in the State of Punjab is determined by the State Commission under Sections 62, 64 and 86 of the Electricity Act, 2003.

4.4. that the appellant at present owns and operates three generating stations in the State of Punjab, namely, (i) Guru Nanak Dev Thermal Plant (GNDTP), Bhatinda (ii) Guru Hargobind Thermal Plant (GHTP), Lehra Mohabbat & (iii) Guru Gobind Singh Super Thermal Plant (GGSSTP), Ropar.

4.5. that all of the above generating stations are thermal generating stations using coal as the fuel for generation of electricity. The coal for the generating stations is supplied by captive mine of PSPCL (PANEM) and different subsidiaries of Coal India Limited which are Government of India undertakings and they supply coal from the coal mines, the generating stations of the Central Public Sector utilities such as NTPC, the generating stations of various State utilities and also various private developers in the country.

4.6. that the policy adopted and the terms and conditions for supply of coal by Coal India Limited and its subsidiaries are uniform for all the generating companies in the country. The supply of coal being virtually monopolised by Coal India Limited under the policies of the Government of India, the purchasers of coal from Coal India Limited have very limited say on such terms and conditions. The supply of coal and also its quality, price and other terms and conditions are not regulated by any independent regulatory authority such as Regulatory Commission for Electricity.

4.7. that the State Commission in the month of January, 2012 engaged the services of CPRI to conduct fuel audit of the thermal generating stations of the appellant. The terms of reference of CPRI were as follows:-

- (a) Study systems of recording, sampling, measurement, reporting, verification & accounting for Coal and Oil receipts, consumption and stocking as inventory.
- (b) Identify key constraints with the current fuel accounting system across process, technology, skills and facilities.
- (c) Method of Testing of coal at site and at plant and basis for release of payment.
- (d) Treatment of stones or any foreign material in the coal.

- (e) Calorific value based on which coal consumption is worked out i.e. Gross or fired and the extent of difference between the two.
- (f) Comparison of various Fuel consumption parameters with national (NTPC/Private Sector Thermal plants) / International standards

4.8. that CPRI submitted a preliminary report on the Fuel Audit of the thermal generating stations of the appellant. One of the primary objections of the appellant to the said preliminary report of CPRI was that the moisture content in the coal was not at all considered or taken into account for calculation of the GCV for the recommendation on the drop in GCV, the report of CPRI on the drop in GCV was merely a theoretical report without any practical study of a generating station anywhere in the country.

4.9. that thereafter, on 14.8.2012, CPRI submitted its report on the fuel audit to the State Commission admitting that the moisture content was to be considered for the purpose of calculation of drop in GCV. However, the recommendation on the drop in GCV continued to be the same at 150 kcal/kg. The CPRI had merely relied on a report published in Illinois in United States of America in the year 1961, a Research & Development study of the NTPC Research & Development Department and a report submitted to the Maharashtra Electricity Regulatory Commission. There was no study on the working condition of any generating station in the country or a norm established after analyzing the actual achieved and achievable norm of a generating company functioning.

4.10. that State Commission vide main order dated 8.10.2012 disposed of the suo motu petition on fuel audit of the thermal generating stations of the appellant by which impugned order the State Commission accepted the recommendations of CPRI and issued the following directions to the appellant for implementation:

"5. Decision of the Commission

The final Fuel Audit report of CPRI submitted vide its letter dated 14.8.2012, objections received from PSPCL and their reply by CPRI were discussed in the meeting of the Commission on 26.9.2012. The Commission holds that the objections filed by PSPCL have been adequately replied by CPRI as brought out above and therefore the Commission accepts the Fuel Audit carried out by CPRI as per its final Audit report (Annexure-A) and its replies to objection of PSPCL (para 4 above). Accordingly, the Commission directs PSPCL as under:

- (a) To implement the various recommendations made in the CPRI report for fuel savings and cost reduction.*
- (b) To take up with the appropriate authorities (MOP & Coal India Limited) regarding inclusion of surface moisture in computation of GCV (which at present is being computed on equilibrated basis which considers only inherent moisture) at the sending end. Put efforts to get the payment for coal received from CIL made, on 'As Received' basis at its thermal plants.*
- (c) To adopt a uniform method of GCV measurement for receipted and bunkered coal by adding the effect of surface moisture to the GCV at the rate of 145 kCal/kg per 1% of moisture.*
- (d) To bring down the drop in GCV between the receipted coal and bunkered coal within 150 kCal/kg.*
- (e) to conduct an independent third party validation of the washery energetics to map the yield as a function of the input raw coal quality and washed coal quality is required to be got carried out.*
- (f) To work out the monthly weighted average GCV of receipted coal (at the thermal plants) and bunkered coal and furnish the same quarterly and at the time of filing the ARR and Tariff Petition with the Commission.*

In addition to the above, in the interest of consumers, PSPCL is directed to get the audit of its captive mine at Pachhwara managed by PANEM carried out through a joint audit group of Fuel Research Institute Dhanbad and CAG to ascertain the quantum of coal extracted and coal supply to PSPCL thermal plants till date & continue the mine audit annually and submit report to the Commission."

4.11 that the appellant filed Review Petition being Petition No. 66 of 2012 seeking review of the main order dated 08.10.2012 passed by the State

Commission in Petition No. 42 of 2012 (suo-motu) regarding Fuel Audit of various Thermal Power Plants of the appellant directing the appellant/petitioner to implement the various recommendations made in the Fuel Audit Report got prepared by the Commission by getting fuel audit of three Thermal Plants of the appellant through CPRI aiming at fuel saving and cost reduction. During the hearing of the Review Petition, the State Commission directed the appellant/petitioner on 16.01.2013, to supply data of measurement of Gross Calorific Value (GCV) worked out on monthly average basis for receipted coal at thermal plants and bunkered coal under similar conditions in pursuance to the main order dated 08.10.2012. In pursuance thereof, the appellant filed information/data vide Chief Engineer/ARR & TR Memo Nos. 5139 dated 24.01.2013 and 1571 dated 11.02.2013.

5. The main submissions of the appellant/petitioner in the Review Petition before the State Commission were as under:

5.1. that the appellant/PSPCL needs references and guidance for studying techno-economic feasibility for installation of equipments such as automatic coal sampler, rail tracking system, use of coal compactors, coal density measurement, software for coal energy management, microwave or ultrasonic bunker level monitoring system, automatic auger sampling etc.

5.2. that the savings of Rs. 306 crore by merely investing Rs. 3.09 crore shown in the executive summary of CPRI report actually does not exist as the actual drop of GCV is almost matching with the theoretical calculation of drop in GCV after accounting for drop in GCV due to surface moisture.

5.3. that the recommendations given by CPRI to PSPCL on the issue of achievable station heat rate in the SHR study sponsored by PSPCL are contradictory to the findings given by CPRI in the report submitted to the Commission. In the report given to PSPCL, CPRI had given short term, medium term and long term recommendations to achieve the desired heat

rate, whereas, no such measures have been mentioned in the report submitted to the State Commission.

5.4. that the approach adopted by Coal India Limited for all utilities in the country is uniform for the computation of coal cost. It will not be possible for PSPCL to single handedly approach the Coal India Limited to favourably change the method of computation of GCV from 'as loaded at mine end' to 'as received' basis.

5.5. that on the drop in GCV between the receipted coal and bunkered coal within 150 kCal/Kg, PSPCL has submitted that:-

- (a) Recommendations given by CPRI in its report are incorrect, based on factual inaccuracies, may not be implementable on ground and the same need to be reviewed.
- (b) CPRI report does not take into account the position in various generating stations operating in the country and does not analyse the position that is achievable considering the nature of coal supply.
- (c) CPRI has in its report relied on a study conducted in USA in 1961. However, CPRI has not given copy of any reports/references on which the recommendation regarding drop in GCV is based.
- (d) The other report relied on by CPRI is of the R&D Cell of NTPC, which is a theoretical report. This report is only for future reference to conduct further studies and not as a benchmark.
- (e) There are no known norms specified by any statutory authority in India with regard to the calculation in drop of GCV in such circumstances. As per tariff policy, any norms fixed should be achievable based on past performance.

5.6. that So far as an independent third-party validation of the washery energetic to map the yield as a function of input raw coal quality and washed coal quality is concerned, the coal is heterogeneous product and its quality varies with change in the seam of coal mine. The coal from different seams have different characteristics. The quality of coal also gets affected due to addition of moisture content during rainy season and winter season.

In these circumstances, mapping the yield as a function of input raw coal quality and washed coal quality may not be accurate.

5.7. that the Comptroller and Auditor General (CAG) has expressed its inability to conduct a joint audit of the joint venture company.

5.8. that after hearing the submissions of the appellant/petitioner on the Review Petition, the State Commission, vide impugned order dated 27.02.2013, after analyzing the different statistics and considering the various submissions of the appellant/petitioner has observed that it is conclusively proved that through prudent checks and balances, PSPCL has been able to reduce the drop in GCV and could bring this reduction level even below 150 kCal/kg. Thus, the norm of GCV difference of 150 kCal/kg fixed by the State Commission between coal 'as received' and 'as fired' (bunkered coal) is achievable. The State Commission in the Tariff Order for FY 2012-13 has not only laid down that the drop in GCV of coal 'as received' and 'as fired' shall be around 150 kCal/kg but also provided Rs. 858 lac for additional facilities/infrastructure at PSPCL Thermal Plants to reduce fuel cost and directed that these measures need to be implemented by PSPCL in consumers' interest and now there is no reason for the appellant/PSPCL to drag its feet in implementing consumer friendly measures. The State Commission, in the impugned order, has clearly expressed the view that third party validation of the washery energetic can address these issues and PSPCL should explore the same and may be got carried out once in a month.

5.9. that the State Commission has further, in the impugned order dated 27.02.2013, observed that PANEM mine belongs to PSPCL, a Punjab Government Company. It is, therefore, a dedicated asset of the State of Punjab. It is thus desirable that CAG may be asked to conduct the audit of the State's mines. It is only operated by a private player in joint venture for operational convenience of PSPCL. If CAG needs technical assistance, it may requisition the help of Central Institute of Mining & Fuel Research (CIMFR), Dhanbad or any other equally good technical organization. The cost of fuel audit by CAG/ technical assistance should be borne by PSPCL in public interest and in case it is not possible for CAG to audit the PANEM mine, an

independent third party audit may be got conducted through a reputed audit company to meet the direction of its impugned order dated 8.10.2012 and the result of this audit shall be submitted by PSPCL to the State Commission. The State Commission has, in the impugned order, clearly said that the fuel audit conducted by the State Commission with the help of CPRI is a pioneering work done for the first time in the country and the Fuel Audit of Thermal/Nuclear plants is a regular practice of the Commissions in the Western Countries. Hence, it needs to be adopted by all Commissions and CERC in India in the interest of consumers of this country. The implementation of the Fuel Audit Report shall save crores of rupees to fund starved PSPCL. Rather than objecting to the various findings of the report, the PSPCL should aggressively implement it for improving its financial condition and thereby reducing the cost of generation in the interest of its consumers.

6. We may again make it clear that the instant appeal has been filed not against the main order but against the impugned review order dated 27.2.2013 passed in Review Petition No. 66 of 2012 whereby the appellant sought the review of the main order dated 08.10.2012 particularly, when the review petition has partly been allowed and some findings recorded in the main order dated 08.10.2012 have been re-affirmed by the impugned review order.

7. We have heard Shri Anand K. Ganesan & Ms. Swapna Seshadri, learned counsel for the appellant and Ms. Shikha Ohri, learned counsel for the respondent-State Commission. We have also gone through the written submissions filed by the rival parties and after going through the material available on record and the rival contentions of the parties, the following issues arise for our consideration:-

- A. Whether the State Commission is justified in determining the norm and giving directions to the appellant on the issue of the drop in GCV between the receipted coal and bunkered coal to 150 kcal/kg without considering the relevant aspects?

- B. Whether the State Commission is justified in accepting the recommendations of CPRI without appreciating the basis of such recommendations being flawed?
- C. Whether the State Commission is justified in giving direction for the achievable Station heat rate based on the recommendations of CPRI when the report of CPRI is contradictory to its own report given to the appellant earlier and is flawed?
- D. Whether the State Commission is justified in giving various directions with regard to the fuel audit without considering that such directions are practically not implementable?

8. **OUR CONSIDERATION AND CONCLUSION ON THESE ISSUES**

Since all these issues are inter-related or inter-woven, we are considering and deciding them simultaneously.

9. The following submissions have been raised on behalf of the appellant on these issues:-

9.1. that the State Commission has wrongly relied on the recommendations of CPRI, being a theoretical report. This report relies on the report published in Illinois, USA in the year 1961 and the report of the Research & Development wing of the NTPC to conclude that the drop in GCV between the receipted coal and bunkered/fired coal should be within 150 kcal/kg. The State Commission has failed to appreciate that the above reports are not relevant to determine the applicable norm for the said purposes.

9.2. that the report of the R&D Wing of the NTPC is not even implemented and made applicable to the generating stations of NTPC. The norms are to be determined based on the actual functioning of generating stations throughout the country, coming to a finding on the acceptable norm, particularly implementable measures and then verify whether such measures produce actual results. Without verifying any of these aspects, CPRI has merely proceeded on theoretical studies without any study on the operations of the generating stations.

9.3. that the process of determining norms and applying the same to a generating company is a long term process and involves verification of the actual performance levels of various generating stations all over the country, in depth analysis of how much improvements can be made through identified means and then setting the norms in a structured manner for generating stations to achieve over a period of time.

9.4. that the State Commission has erred in determining a norm which is not on the actual performance of generating stations in the country.

9.5. that the Central Commission in its order dated 21.12.2000, prior to framing of Tariff Regulations, 2001 analyzed in detail the actual working conditions of generating stations throughout the country and based on such data available determined each of the norms applicable. In the instant case, the norm of 150 kcal/kg is not a scientifically arrived at or implementable norm to term the same as efficient operation.

9.6. that the appellant operates at very efficient levels and in fact the appellant has proactively taken up the various directions and recommendations given by the State Commission with other authorities to ensure that its efficiency and operations further improve.

9.7. that the appellant does not have any objection to the fuel audit being conducted to undertake the various activities recommended by CPRI for improvements in its efficiency. In fact, almost all of the suggestions and directions given pursuant to the report of the CPRI have been adopted and implemented by the appellant. The only objection is to the norms being fixed and determined without there being any actual study of the performance of any generating station in the country, let alone covering various generating stations and arriving at an acceptable norm.

9.8. that prior to the impugned review order and the main order dated 08.10.2012 passed by the State Commission, there was no methodology for measuring the GCV at the receiving end and the GCV of the coal was only measured at the loading end by Coal India Limited and when fired by the appellant.

9.9. that only pursuant to the impugned proceedings, the coal at the receipted end was being measured but in this regard, the following facts are relevant:

(a) that coal payments are made to Coal India Limited as per GCV analysis at loading end. The same practice is followed by Coal India Limited for all utilities in the country and not only for the appellant.

(b) that PSPCL power plants have started measuring GCV on received basis with effect from November, 2012 following the directions of the State Commission.

(c) that GCV as fired basis is the GCV of coal being fed to boiler. The difference between GCV as received and GCV as fired is the stack/storage losses.

(d) that coal allocated to power utilities is measured on the basis of GCV as fired basis by the State Electricity Regulatory Commission.

9.10. that from the details of the monthly GCV drop at PSPCL power plants (Annexure A) depicts that the appellant is substantially complying the norms specified by the State Commission but only in the case of GGSSTP, the drop in GCV is somewhat more due to storage of high quantum of coal there being largest plant in state (1260MW).

9.11. that the appellant PSPCL has already made all out efforts to reduce the GCV drop, but these figures are insufficient for analyzing and determining the norms regarding the achievability of GCV drop. Norms are determined after considering the actual data for the past few years,

research on the means to have improvement in the performance and then providing for norms to be achieved. In the present case, though the appellant has substantially achieved the norms, the norms being determined by the State Commission for the first time in the country, there being no comparative data for other generating stations who are also supplied coal by Coal India Limited, there being no analysis of the actual working of other generating stations in the country, the norm fixed ought not to be taken to the prejudice of the appellant.

9.12. that while the appellant takes the best efforts to operate in an efficient manner and to operate within the norm fixed, considering the nature of the norm fixed and there being no benchmark in the country for such norms, the State Commission ought to consider any deviations from the norm, the reasons for such deviations, if any, and consider the case of the appellant on merits.

9.13. that the perversity in the approach and recommendations of CPRI is evident from the fact that contradictory recommendations have been given by CPRI to the appellant and to the State Commission during the same period of time.

9.14. that when the appellant had engaged the services of CPRI for study of the station heat rate, in the month of February, 2012, CPRI gave a detailed report on the measures required to be taken to improve the Station Heat Rate. The measures included short term, medium term and long term measures including substantive investments aggregating to about Rs. 125 crores to improve the station heat rate in the GGSSTP generating station of the appellant to about 2528.8 kcal/kwh. However, when CPRI was engaged by the State Commission for study and gave the report in August, 2012 there was no mention of any capital expenditure and it was stated that the station heat rate of 2500 kcal/kwh was achievable in the year 2012-13 itself based on immediate measures.

9.15. that the State Commission, in the impugned proceedings, has not given any independent analysis of the issues that arise, but has merely proceeded on the basis that the recommendations of CPRI are correct and are to be implemented. This is despite the fact that there is no comparison of CPRI to any generating station's actual data.

9.16. that lastly the impugned review order determining the norm of 150 Kcal/kg as the norm for drop in GCV between receipted coal and fired coal is incorrect and liable to be set aside.

10. **Per contra**, the following submissions have been made on behalf of the respondent/State Commission:-

10.1. that the present appeal is not maintainable as it challenges only the review order by which the Commission has re-affirmed its decision in the main order dated 08.10.2012. The present appeal, in the guise of a limited challenge to the review order, in effect challenges the directions issued by the Commission to the appellant in the main order. Order 47 Rule 7 of the Code of Civil Procedure, 1908 clearly provides that an order of the Court rejecting the review application shall not be appealable but an order granting review application may be objected to at once by an appeal from the order granting the review application or any appeal from the decree of the order finally passed or made in the suit.

10.2. that the instant appeal is primarily confined to the decision of the State Commission, based on the CPRI report, on the following two points:

(a) Reduction in drop of GCV of bunkered coal vis-à-vis receipt coal

(b) CPRI in its preliminary report dated 14.05.2012, on the issue of Reduction in drop of GCV between the receipt and bunkered coal, suggested as follows:

“While the audit of quantities of coal are in order, a drop in heating value is observed between the receipt and bunkered quantity beyond the normal deterioration. The process needs to be improved to minimize the drop in the heating value before it is fired into the boilers. A number of measures have been suggested for the coal yard and for the monitoring process of coal quality to restrict difference in GCVs to within 150kcal/kg.

Some of the measures are:

In case where the payment is based on quality measurement at the TPS end only, random and periodic samples need to be sent to third party truly independent labs under committee supervision.

vii. The concept of fuel basket must be used to report the receipt coal GCVs i.e., source wise GCV must be provided.

viii. the reporting period of coal consumption and reconciliation of stock must be a month.”

10.3. After taking into consideration the objections of the appellant, CPRI submitted its final report in August, 2012 recommending as follows:-

“Reduction in drop of GCV between the receipt and bunkered coal

While the audit of quantities of coal are in order, a drop in heating value is observed between the receipt and bunkered quantity beyond the normal deterioration. The process needs to be improved to minimize the drop in the GCV before it is fired into the boilers. A number of measures have been suggested for the coal yard and for the monitoring process of coal quality to restrict difference is GCVs to within 150 kcal/kg.

Some of the measures are:

- *Measurement process of GCV needs to be modified to introduce uniformity in the processes as follows:*

Sending end GCV (mine end) is being measured on equilibrated basis (without surface moisture) and total moisture is being measured.

Receipt end GCV (TPS entrance) need to be measured considering the total moisture by determining GCV on equilibrated basis and adding the effect of surface moisture at the rate of 145 kcal/kg for 1% surface moisture). This would give the GCV of coal as received.

Bunkered coal GCV (at the bunkering belts) need to be measured considering total moisture by determining the GCV on equilibrated basis and adding the effect of surface moisture (at the rate of 145 kcal/kg for 1 % surface moisture).

- *In cases where the payment is based on quality measurement at the TPS end only, random and periodic samples need to be sent to third party truly independent labs under committee supervision.*
- *The concept of the fuel basket must be used to report the receipt coal GCVs, i.e., source wise GCV must be provided.*
- *The reporting period for coal consumption and reconciliation of stock must be a month."*

10.4. that on the basis of the recommendations of CPRI, the State Commission by its main order dated 08.10.2012 issued certain directions to the appellant.

10.5. that the impugned review order and the main order clearly reflect that all the objections raised by the appellant /petitioner before the State Commission were duly and deeply considered and then the State Commission after going through the recommendations of CPRI passed the said orders. CPRI duly considered the objections of the PSPCL.

10.6. that the CPRI in its preliminary report dated 14.05.2012, on the issue of Station Heat Rate, suggested that:-

" the GGSSTP units are capable of operating at SHR of near 2,500 kcal/kWh provided equipment wise renovation of turbine modules, boiler heaters, heat exchangers, feed pump cartridges, controls and instrumentation etc. is implemented through CAPEX."

10.7. that after the preliminary report several objections were raised on behalf of the appellant/petitioner. The CPRI in its final report in August, 2012 recommended as follows:-

"Station heat rate

The GGSSTP units have already achieved 2563.75 kcal/kWh for the FY 2011-12. The operating at SHR of near 2500 kcal/kWh by GGSSTP station is achievable during 2012-2013 with operational optimization and a shifting a few medium term measures to immediate.

GNDTP has already achieved a SHR of 2842.79 kcal/kWh during 2011-2012. GNDTP is capable of achieving a SHR of 2825 kcal/kWh during 2012-2013 with operational implementation and a few measures like replacement of cooling tower fills, etc.

...

7.0 COMPARISON OF FUEL PARAMETERS WITH NATIONAL /INTERNATIONAL STANDARDS.

The station heat rate (SHR) depends on the following factors:

- *Coal quality: SHR is strongly dependent on the GCV of receipt coal. If the GCV is high, then the SHR & auxiliary power will be low. National average coal CGV is around 3200-3500 kcal/kg. In PSPGCL the coal quality is of the order of 4400 kcal/kg which is very much superior to the national average. Hence the loadability and performance can be expected to be better.*
- *Vintage of the unit: The units at GGSSTP are of BHEL (Combustion Engg. Design) boiler and BHEL (Siemens) turbine and aged around 25-27 years old. Siemens turbines have good loadability and efficiency and can be operated with good reliability at near full load.*
- *In the case of GNDTP, the units are of old design and underwent R & M. Older units of < 210 MW have higher heat rates as compared to national standards (CERC) which have been fixed at 2500 kcal/kWh.*
- *Effect of ageing : The ageing effects of boilers and turbines can be reversed or overcome to a large extent through equipment specific renovations and replacement under capex such as replacement of turbine HP, IP & LP modules, HP heaters, BFP cartridges, C & I ungradation, condenser tube nests, CW pumps, etc. In the case of GGSSTP very little renovation at an equipment level has happened over the years.*
- *Promptness of carrying on capital overhauls (COH) once in five years and annual overhauls (AOH) once annually has an impact on the SHR.*

Table 34 gives a list of SHR of stations of comparable age.

In view of the above, we are of the opinion that the SHR can be restored to the 2500 kcal/kWh level with operational optimization, intensive interventions in R & M at the equipment levels and prompt annual/capital maintenance. Since, over the past years equipment specific renovations have not happened, the SHR is above the 2500 kcal/kWh mark."

10.8. that acting upon the recommendations of the CPRI's report submitted in August, 2012, the State Commission while passing the main order dated

08.10.2012, directed the appellant to implement the aforesaid recommendations made by the CPRI for fuel savings cost reduction.

10.9. that the appellant filed a Review Petition before the State Commission seeking review of the main order dated 08.10.2012 on the issue of station heat rate alleging contradictions in the report submitted by CPRI to the appellant in February, 2012 and the report submitted by CPRI to the State Commission in August, 2012. In the report submitted by CPRI to the appellant, CPRI had given short term, medium term or long term recommendations to achieve the desired heat rate. However, in the report submitted by CPRI to the State Commission, no such measures have been mentioned. The State Commission by the impugned review order dated 27.02.2013 confirmed/affirmed that CPRI had indeed recommended short term, medium term or long term recommendations in its report to the State Commission. The relevant extract of the impugned review order is as under:-

“(iii) Reference Commission’s letter no. 4798 dated 22.8.2012, it has been indicated that the matter regarding SHR was reviewed by CPRI on initiative of the Commission and it was agreed by CPRI as under:

‘GGSSTP Ropar

GGSSTP units are capable of operating at SHR of 2500 kCal/kWh with efforts at operational optimization. In the year 2012-13, extra efforts would be required, but in subsequent years the benefits of CAPEX schemes can be reaped for benefits of SHR.

GNDTP Bathinda

The station has achieved a SHR of 2842.79 kCal/kWh for Units 1&2. The reduction achievable after immediate measures is 13 kCal/kWh and 39 kCal/kWh after medium term measures. By expediting a few medium term measures like improvement in cleanliness level of boilers, improvement in performance of cooling towers by replacement of damaged splashers, water distribution system, maintenance of nozzles, etc., the SHR of 2825 kCal/kWh is achievable.

According to above review of CPRI, PSPCL was informed that there was no case for any relaxed norms.”

10.10. that the direction to implement the recommendations of CPRI with regard to station heat rate was given by the State Commission in its main order dated 08.10.2012 which direction has simply been upheld by the State Commission in its impugned review order dated 27.02.2013. However, the appellant in the instant appeal has raised a limited challenge only against the review order and thus the main order dated 08.10.2012 has attained finality.

10.11. that this Appellate Tribunal in its judgment dated 18.10.2012 in Appeal Nos. 7, 46 and 122 of 2011 in the matter of *Punjab State Power Corporation Limited Vs. Punjab State Electricity Regulatory Commission* had already considered the issue of fixation of station heat rate of GGSSTP, Ropar, at 2500 kCal/kWh for the years 2007-08, 2008-09 and 2009-10 upholding the findings of the State Commission.

11. It is true and undisputed that prior to the impugned order and main order of the State Commission, there was no methodology for measuring the GCV of the coal at the receiving end and the GCV of the coal was only measured at the loading end by the Coal India Limited and when fired by the appellant/petitioner. The State Commission relying upon the recommendations of the CPRI has directed that the drop in GCV between the receipted coal and the bunkered coal/fired coal should be within 150 kcal/kg. Thus, after the passing of the impugned review order and the main order of the State Commission, a methodology for measuring the GCV at the receiving end and the bunkered/fired coal has been adopted. The earlier or old practice of measuring GCV of the coal at the loading end by the Coal India Limited and the bunkered/fired coal has been changed.

12. In the instant matter, the appellant does not have any objection to the fuel audit being conducted to undertake the various activities recommended by CPRI for

improvement in its efficiency. According to the learned counsel for the appellant almost all of the suggestions and directions given pursuant to the report of CPRI have been adopted and implemented by the appellant. The only objection of the appellant against the impugned order is to the norms being fixed and determined without there being any actual study of the performance of any generating stations in the country and arriving at an acceptable norm. According to the appellant, the PSPCL has already made all out efforts to reduce the Gross Calorific Value drop but these figures are insufficient for analyzing and determining the norms regarding the achievability of GCV drop. Norms should be determined after considering the actual data for the past few years, research on the means to improve the performance and then providing for norms to be achieved. The main grievance of the appellant in the present case is that though the appellant has substantially achieved the norms, the norms being determined by the State Commission for the first time in the country, there being no comparative data for other generating stations who are also supplied coal by Coal India Limited, there being no analysis of actual working of other generating stations in the country, the norms fixed ought not to be taken to the prejudice of the appellant. Considering the nature of the norms fixed and there being no benchmark in the country for such norms, the State Commission ought to consider the deviations from the norms and the reasons for such deviations, if any, and then consider the case of the appellant on merits.

13. According to the appellant, CPRI gave a detailed report to the appellant in the month of February, 2012, on the measures required to be taken to improve the station heat rate and the measures included short term, medium term and long term measures including substantive investments aggregating to about Rs. 125 crores to improve the station heat rate in the GGSSTP generating station of the

appellant to about 2528.8 kcal/kwh. However, the report of CPRI submitted to State Commission in August, 2012 had no mention of any capital expenditure and it had stated that the station heat rate of 2500 kilocal/kwh was achievable in the year 2012-13 itself based on immediate measures. According to the appellant himself, in the report given to the appellant, the CPRI had given short term, medium term and long term recommendations to achieve the desired heat rate but no such measures had been mentioned in the report of the CPRI submitted to the State Commission. The appellant claims these two reports of the CPRI to be contradictory. We have comparatively studied both the reports submitted by CPRI, one to the appellant in February, 2012 and second to the State Commission in August, 2012. In the report submitted to the appellant in February, 2012, CPRI had given measures required to be taken to improve the station heat rate and the measures included short term, medium term and long term measures including substantive investments to improve the station heat rate to about 2528.8 kilocal/kwh but in the second report submitted by CPRI to the State Commission in August, 2012 there was no mention of the capital expenditure because station heat rate of 2500 kilocal/kwh was achievable by the appellant in the year 2012-13 itself based on immediate measures. We do not find any kind of discrepancy or contradiction in between the two reports of the CPRI first submitted to the appellant in February, 2012 and second submitted to the State Commission in August, 2012.

14. The material on record depicts that appellant was given complete opportunity to raise objections to the preliminary report dated 14.05.2012 submitted by CPRI on the issue of reduction in drop of GCV between the receipted and bunkered coal and the CPRI after taking into consideration the objections of

the appellant submitted its final report in August, 2012 to the State Commission with certain recommendations regarding reduction in drop of GCV between receipted and bunkered coal which we have mentioned earlier in this judgment. The State Commission, on the basis of the recommendations of the CPRI's report submitted in August, 2012, by the main order dated 08.10.2012 issued certain directions to the appellant. The material available on record further fortifies the fact that CPRI after due consideration of the objections raised by the appellant PSPCL submitted its report to the State Commission in August, 2012 making certain recommendations and the impugned review order as well as main order clearly reflect that all the objections of the appellant/petitioner before the State Commission were duly and deeply considered and then the State Commission after going through the recommendations of the CPRI passed the said order.

15. The main objection of the respondent/State Commission to the maintainability of the instant appeal is that the instant appeal challenges only the impugned review order dated 27.02.2013 by which the Commission has re-affirmed its decision in the main order dated 08.10.2012 and the instant appeal, in the guise of limited challenge to the review order, in fact challenges the directions issued by the State Commission to the appellant in the main order dated 08.10.2012. We have considered the said objection of the respondent but we are unable to accept the same because the impugned review order is to be tested on the facts as well as on law. The State Commission acting upon the recommendations of the CPRI's report submitted in August, 2012 passed the main order dated 08.10.2012 and directed the appellant to implement the said recommendations made by CPRI for fuel saving and cost reduction. The appellant thereafter filed a review petition before the State Commission seeking review of the main order dated 08.10.2012 on

the issue of station heat rate alleging contradictions in the report submitted by CPRI to the appellant in February, 2012 and the report submitted by CPRI to the State Commission in August, 2012. We have in the earlier part of this judgment compared the two reports and do not find any contradiction or discrepancy in between the two reports. The fuel saving and cost reduction measures should be implemented by the appellant in the light of the impugned review order. The recommendation of the CPRI which is to be acted upon by the appellant is that the drop in GCV between the receipted and bunkered coal should be within 150 kcal/kg. We are unable to accept the appellant's contentions that the recommendations given in the CPRI report are not practically implementable and the appellant ought not to be penalized with regard to the norms determined by the State Commission as against the actual operations by the appellant.

16. The State Commission in the impugned review order dated 27.02.2013 has clearly observed that it is conclusively proved that through prudence checks and balances, PSPCL (appellant herein) has been able to reduce the drop in GCV and could bring this reduction level even below 150 kilocal/kg and thus the norm of GCV difference of 150 kilocal/kg fixed by the State Commission between coal 'as received' and 'as fired' (bunkered coal) is achievable. The State Commission, while passing the impugned review order, has directed the appellant to implement the measures recommended in the CPRI's report submitted in August, 2012 to the State Commission in the consumers interest and now there is no reason for the appellant/PSPCL to drag its feet in implementing the consumer friendly measures. In view of above discussions, we do not find any merits in any of the contentions made by the appellant on the said issues. The impugned review order is based on correct and proper appreciation of the material available on record and there is no

reason deviate from any of the findings recorded in the impugned review order. The impugned order, in our view, does not suffer from any kind of illegality or perversity. All the issues are decided against the appellant. The appeal is liable to be dismissed. However, we advise the State Commission to frame regulation regarding drop of GCV between the receipted coal and bunkered/fired coal after following due process of law.

17. SUMMARY OF FINDINGS

17.1. The State Commission is fully and legally justified in determining the norms and giving directions to the appellant on the issue of drop in GCV between the receipted coal and fired/bunkered coal to 150 kilocal/kg as the impugned order has been passed after considering the relevant facts and the recommendations of CPRI. The State Commission is justified in accepting the recommendations of CPRI and the impugned order has been passed on due consideration of the recommendations and other factors available on record. We do not find any contradiction or discrepancy between the two reports submitted by CPRI, namely, report submitted to the appellant in February, 2012 and the report submitted by the CPRI to the State Commission in August, 2012. The State Commission is justified in giving various directions with regard to the fuel audit after due consideration considering that such directions are practically implementable. There is nothing on record to suggest or indicate that the directions given by the State Commission with regard to the fuel audit are practically not implementable.

17.2. The State Commission may take steps to frame regulation regarding drop & GCV between receipted coal and bunkered/fired coal after following due process of law.

18. Consequently, for the reasons stated above, the appeal has no merits and is hereby dismissed. The impugned review order dated 27.02.2013 passed by the State Commission is hereby affirmed. No order as to costs.

Pronounced in open Court on this 2nd day of December, 2014.

**(Justice Surendra Kumar)
Judicial Member**

**(Rakesh Nath)
Technical Member**

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