IN THE JHARKHAND STATE ELECTRICITY REGULATORY COMMISSION AT RANCHI

Case No. 01 of 2022, 29 of 2023, 30 of 2023, 31 of 2023, 32 of 2023, 33 of 2023, 34 of 2023, 34 of 2023, 35 of 2023 and 36 of 2023

Steel Authority of India Limited, Bokaro Steel Plant (SAIL/BSL)..... Petitioner

Versus

Jharkhand Renewable Energy Development Agency (JREDA)..... Respondent

CORAM: HON'BLE JUSTICE MR. AMITAV KUMAR GUPTA, CHAIRPERSON
HON'BLE MR. MAHENDRA PRASAD, MEMBER (LAW)
HON'BLE MR. ATUL KUMAR, MEMBER (TECH)

For the Petitioner: Mr. Saket Upashayay, Advocate
For the Respondent: Mr. Rupesh Singh, Advocate, Mr. Jagdeesh A.C.

Date – 30th May, 2024

1. The Petitioner-Steel Authority of India Limited (**SAIL/BSL**)has filed the instant petition under clause 13 read with clause 15.2 of the JSERC (Renewable Purchase Obligation and its compliance) Regulation, 2016 for exemption from RPO compliance for FY 2013-14, FY 2014-15, FY 2015-16, FY 2016-17, FY 2017-18, FY 2018-19, FY 2019-20, and FY 2020-21.
2. The Petitioner in the instant petition has prayed for the following relief:

(a) For exemption from RPO compliance for the Period of FY 2013-14 to FY 2020-21 inter-alia since the electricity produced from captive co-generation units of the petitioner is far in excess of its RPO requirements for the Period of FY 2013-14 to FY 2020-21.

(b) To recognize BPSCL, the captive power plant of capacity of 338MW, having installed capacity of (3*60+2*55+1*12) MW+l*36MW =338 MW at Bokaro Steel Limited as generation power plant.

(c) To exempt Bokaro Steel Limited from applicability of Renewable Purchase Obligation (RPO) as the captive power plant of Bokaro Steel Limited is a co-generation plant and not a conventional Thermal Power Plant

(d) For grant of any other relief or reliefs as this Commission may deem fit in the facts and circumstances of the instant case and in the interest of the justice.

The factual matrix of the case may be appreciated in the following manner:

Submission of Petitioner

3. The Learned counsel for the petitioner has submitted that the petitioner-Bokaro Steel Plant is a unit of Steel Authority of India Limited, a Government company incorporated in FY 1964 under provision of Companies Act, 1956. Furthermore, the petitioner has been granted Distribution Licenses by the Hon'ble Commission for supply of power in its designated area under the provision of section 14 of Electricity Act, 2003.

4. It was submitted that as per the provisions of JSERC (Renewable Purchase Obligation and Compliance) (1st amendment) Regulations, 2012**("Regulations of 2012),**a Distribution Licensee becomes an "obligated entity" when it has to mandatorily fulfill renewable purchase obligation under the Regulations.

5. The learned counsel has further submitted that there are two sources of power supply, namely: (a) captive generation from BPSCL (BPSCL being a captive power plant within BSL, operating under a joint venture of SAIL and DVC), and (b) energy import from DVC.

6. It was submitted that the captive plant of BSL comprises nine multi-fuel fired high-pressure (HP) boilers. The primary fuels used are waste gases (BF, CO, and LD gases) and coal, which are used as inputs to the boilers for steam generation at a pressure of 100 at a (100 kg/cm^2). A portion of the high-pressure steam generated is utilized to drive seven steam turbines, which, in turn, drive generators to produce electrical power from all seven turbo-generators (TGs).

a) The process of iron making involves Blast Furnaces; a large quantity of Blast Furnace Gas (BFG) is generated from the 05 nos. Of Blast Furnaces.

b) For the process of converting iron ore to liquid iron, coke is required as an essential fuel in Blast Furnaces. So the cooking coal is converted to Coke at 08 Nos. Of Coke Ovens and during this process of conversion from Coal to Coke, large quantum of Coke Oven Gas (COG)is generated.

c) While converting Liquid Iron to Liquid Steel at Steel Melting Shops (SMS), Converter Technology is used which is popularly known as LD Converter and a large quantity of LD gas (LDG) is generated during the steel making process at Steel Melting Shops. Currently, SMS-2 is operating with 02 Nos. of LD Converters.

d) These above mentioned gases (CO Gas, BF Gas & LD Gas), which are

by-products of the process of conversion are rich in mainly Carbon Monoxide, Carbon Dioxide and other form of impurities etc, which are highly poisonous and strong pollutants for the environment. Hence rather than bleeding the process gases into the environment they are being gainfully utilized as a fuel for heating purpose inside the power plants and other furnaces of steel plants.

e) A considerable chunk of these above mentioned gases are used as a main input fuel to Boilers of Captive Power Plants of BSL for generation of steam which in turn is used as input to Steam driven ii. Turbo-Generators for power generation. The power thus generated from the Captive Power Plants through the said process is consumed internally in the plant operation.

7. It was submitted that the electrical energy produced from the captive co-generation plants of BSL significantly exceeds the Renewable Purchase Obligation (RPO) requirements as per the latest RPO Regulation notified by JSERC. BSL utilizes 100% of the power generated from its captive power plants for its own use. The power requirement of the Bokaro Steel Plant exceeds the available captive power, necessitating the import of additional power in bulk from DVC to fulfill the plant's operational needs. Consequently, the power generated at the captive power plants of BSL cannot be supplied to the licensed area of SAIL Township.

8. It was pointed out that SAIL-BSL is a distribution licensee responsible for supplying domestic and commercial power to the residents and establishments of Bokaro Steel City. It receives electricity directly at the Main Receiving Substation (MRS) of BSL, which is connected to the CTPS substation of DVC. Therefore, the power purchased from DVC is used for distribution within the licensed area of the township. The power generated from the captive power plants is not utilized in the licensed area of the township.

9. It was further submitted that the captive generation is significantly less than the total power requirement of the Bokaro Steel Plant and cannot even meet the power needs of the plant's essential loads. Consequently, the Bokaro Steel Plant must import a substantial portion of its power from DVC, with a contract demand of 220 MVA. Data detailing the total power requirement of BSL, the available captive generation for BSL, the import from DVC, and the power requirement of the township are annexed in Annexure-1.

10. It was submitted that for the fiscal year 2020-21, the total applicable Renewable Purchase Obligation (RPO) percentage required is 1% for solar and

3% for non-solar, amounting to 4%. In contrast, the percentage of power generation through co-generation by the petitioner is 47.6%. It is necessary to apprise the Hon'ble Commission that the total heat value of the gas is 20,37,610.7 Gcal, resulting in coal savings of 511,576.88 tons.

11. It is pertinent to elucidate that waste gases generated in the steel-making processes serve as the primary fuel in the captive power plant. The power plant supplies both steam and power, which serve as end products in the steel plant. Approximately 55% of the steam produced by the power plant is utilized as an end product in the steel-making process, while the remaining 45% is dedicated to power generation. Steam is employed at various pressures, such as 100 ATA, 39 ATA, and 8-12 ATA, depending on specific requirements in the manufacturing process. Steam at pressures of 100 ATA and 39 ATA is utilized to drive shaft power, such as blowers and compressors, while steam at 8-12 ATA is primarily employed for vacuuming and other process requirements.

12. The learned counsel has emphasized that SAIL Bokaro is not an obligated entity as per the Commission's order in Case No. 07 of 2016 dated 20.06.2018, because SAIL-BSL imports power from DVC, and DVC already complies with the RPO for that portion of the power as annexed in annexure-3 of the petition.

13. It was highlighted that the RPO of the steel plant (on captive consumption) is fulfilled through energy generation from the co-generation plant of Bokaro Steel Plant, as allowed by the Hon'ble Commission in its order dated 24th March, 2014, in Case No. 10 of 2013 as annexed in annexure-4 of the petition.

14. It was submitted that the energy requirements of the licensed area of SAIL Bokaro Steel Plant are met through power purchased from Damodar Valley Corporation (DVC). This fact, along with relevant data, has been previously submitted to the Hon'ble Commission in the tariff petition of SAIL-Bokaro.

Submission of Respondent

15. The learned counsel for the respondent has highlighted clause 5.26 of the JSERC (Renewable Purchase Obligation and its Compliance) Regulation 2010, which specifies that every obligated entity must procure electricity from renewable sources at a defined minimum percentage of the total consumption of its consumers, including T&D losses, during the year, as tabulated below:

Year	Minimum Quantum of purchase in (%) from renewable energy source (in terms of energy in kWh)		
	Solar	Non-Solar	Total
2010-11	0.25%	1.75%	2.00%
2011-12	0.50%	2.50%	3.00%

2012-13	1.00%	3.00%	4.00%

16. It wasfurther submitted thatas per clause 5.2 of the JSERC (Renewable Purchase Obligation and its Compliance) Regulation 2012, the RPO target had extended till FY 2015-16 which specifies that every obligated entity must procure electricity from renewable sources at a defined minimum percentage of the total consumption of its consumers, including T&D losses, during the year, as tabulated below:

Year	Minimum Quantum of purchase in (%) from renewable energy source (in terms of energy in kWh)		
	Solar	Non-Solar	Total
2013-14	1.00%	3.00%	4.00%
2014-15	1.00%	3.00%	4.00%
2015-16	1.00%	3.00%	4.00%

17. Furthermore, in accordance with clause 5.2 of the JSERC (Renewable Purchase Obligation and its Compliance) Regulation 2016, the RPO target was set until FY 2019-20, specifying that every obligated entity must procure electricity from renewable sources at a defined minimum percentage of the total consumption, as tabulated below:

Year	Minimum Quantum of purchase in (%) from renewable energy source (in terms of energy in kWh)		
	Solar	Non-Solar	Total
2016-17	1.80%	3.50%	5.30%
2017-18	3.75%	4.005	7.75%
2018-19	5.50%	4.50%	10.00%
2019-20	6.55%	5.00%	11.55%

18. In light of the aforementioned regulation, respondent-JREDA, through Letter No. 684/2016 dated 30.04.2016 and Letter No. 1050/2016 dated 13.07.2016, issued letters to M/s SAIL, Bokaro, seeking the status of implementation of RPO from FY 2010-11 to FY 2015-16.

In reply to the aforesaid letter, M/s SAIL, Bokaro informed the respondent vide their letter No.TA/JREDA/2016-410 dated 18.07.2016 that the Hon'ble Commission vide order dated 24.03.2014 in JSERC MYT tariff order for FY 2013-14 to FY 2015-16, has held that: -

> *"…… Captive Power Plant of Bokaro Steel Limited clearly fulfills all the requirements of co-generation plant and as such declares to be a co-generation plant and as a result, the energy generation of the co - generation Plant will be considered for fulfillment of the Renewable Purchase Obligation for the FY 2010-11, FY 2011-12 and FY 2012-13. The co-generation will be considered for fulfillment of renewable power purchase obligation of Steel Plant only".*

In the aforementioned letter, M/s Bokaro Steel also informed that they have approached the Hon'ble Commission seeking exemption from fulfilling the RPO for Bokaro Steel Limited as a distribution licensee. They justified this request by highlighting that they procure power from DVC, which is already an obligated entity for fulfilling the RPO requirements.

19. It was submitted that the respondent sent another notice vide letter No.573/2018 dated 20.04.2018 for RPO compliance for the FY 2013-14 to FY 2016-17 and for FY 2010-11 to FY 2013-14.

That respondent again sent a notice vide letter No.1252/2018 dated 18.08.2018 to the petitioner and its non-compliance of RPO for the FY 2013-14 to FY 2016-17 and asked the petitioner to deposit the penalty of Rs.124.68 Crores to Jharkhand Renewable Purchase Obligation Charge Regulatory Fund Account.

That respondent again sent notice vide letter No.264/2018 dated 21.02.2018 to Bokaro Steel Limited as Captive consumption distribution for non-compliance of RPO obligation for the financial year 2013-14 to 2017-18 (Captive) and FY 2010-11 to 2017-18 (distribution up to quarter 3) and directed the petitioner to submit the compliance of RPO for the said financial year.

That respondent again sent another notice vide letter No.19/20 dated 04.01.2020 to the petitioner as captive for non-compliance of RPO for FY 2017-18 to FY 2018-19 with a direction to deposit the penalty of Rs.82.68 Crores to Jharkhand RPO Charged Regulatory Fund Account.

The Learned counsel for the respondent stated that the respondent has sent several reminders and letters to the petitioner being letter Nos.877/2020 dated 29.09.2020, 51/2021 dated 11.01.2021, 1298/2021 dated 03.08.2021, 1552/2021 dated 31.08.2021, 1562/2021 dated 13.08.2021, 225/2021 dated 07.12.2021, 312/2022 dated 22.02.2022, 5256/2022 dated 07.12.2021, 326/2022 dated 22.02.2022 and 1090/2022 dated 21.05.2022 for compliance of RPO for the FY 2019-20 to FY 2021-22

20. The learned counsel for the respondent has drawn attention to paragraphs 8, 10, and 24 of the petition filed by the petitioner. In these paragraphs, the petitioner has stated that the power drawn from DVC fully supplies the SAIL township, that the power generated from the Captive Power Plant cannot be supplied to the licensed area of SAIL, and that a portion of the power from DVC is utilized for the Steel Plant after fulfilling the requirements of the licensed area of SAIL.

Furthermore, it was stated that the statements of the petitioner are not in conformity with the data regarding the power requirement of BSL, as enclosed in Annexure-1 to the petition, and this inconsistency had been demonstrated during the hearing. Hence, the contention of the petitioner should be deemed incorrect and should be denied. It is asserted that the petitioner has not approached the matter with clean hands, and therefore, no relief should be granted to the petitioner.

Commission's Observation and findings

21. The Commission has considered the submission made by the parties and perused the materials/informations available on records.

22. It is evident that section 2(12) of Electricity Act 2003 provides the definition of "co-generation" which reads as under: -

> *(12) "Cogeneration" means a process which simultaneously produces two or more forms of useful energy (including electricity);*

Co-generation is also a process whereby simultaneously electricity and heat are produced both of which are used. It is clear from the definition given in section 2(12) of the Act that the legislature has not restricted the said process to mean production of energy from any form of fuel. It may be fossil fuel or may be non-fossil fuel.

Further, co-generation enables energy supply to all types of consumers with various benefits to both users and society at large.

23. Furthermore, it is evident that section 86(1)(e) of the Electricity Act, 2003 provides that the State Commission has the responsibility to promote co-generation and generation of electricity from renewable source of energy, and discharge such other function as may be assigned to it under the Act, which reads as under: -

> ***"Section 86 Function of State Commission:*** *- (1) The state Commission shall discharge the following functions, namely: -*
>
> *.....*
>
> *(e) Promote co-generation and generation of electricity from renewable sources of energy by providing suitable measures for connectivity with the grid and sale of electricity to any person, and also specify, for purchase of electricity from such sources, a percentage of the total consumption of electricity in the area of a distribution licensee.;*
>
> *.....*
>
> *(k) discharge such other functions as may be assigned to it under this*

Act."

24. The Commission has observed that the Hon'ble APTEL, in Appeal No. 57 of 2009, in the judgment of Century Rayon Vs. MERC, states as follows:

> *"(I) The plain reading of section 86(1) (e) does not, show that the expression 'co-generation' means cogeneration from renewable sources alone. The meaning of the term 'co-generation' has to be understood as defined in section 2 (12) of the Act.*
>
> *(II) As per section 86(1)(e), there are two categories of 'generators namely (1) co-generators (2) Generators of electricity through renewable sources of energy. It is clear from this section that both these categories must be promoted by the State Commission by directing the distribution licensees to purchase electricity from both of these categories.*
>
> *(III) The fastening of the obligation on the co-generator to procure electricity from renewable energy procures would defeat the object of section 86(1) (e).*
>
> *(IV) The clear meaning of the words contained in section 86(1) (e) is that both are different and both are required to be promoted and as such the fastening of liability on one in preference to the other is totally contrary to the legislative interest.*
>
> *(V) Under the scheme of the Act, both renewable source of energy and cogeneration power plant, are equally entitled to be promoted by State Commission through the suitable methods and suitable directions, in view of the fact that cogeneration plants, who provide many number of benefits to environment as well as to the public at a large, are to be entitled to be treated at par with the other renewable energy sources.*
>
> *(VI) The intention of the legislature is to clearly promote cogeneration in this industry generally irrespective of the nature of the fuel used for such cogeneration and not cogeneration or generation from renewable energy sources alone."*

25. The Commission has referred to Case No. 10/2016 vide order dated 24.03.2014 and JSERC MYT Order for FY 2014-15 to FY 2015-16 which reads as: -

> *"..... Captive Power Plant of Bokaro Steel Limited clearly fulfills all the requirements of co-generation plant and as such declares to be a co-generation plant and as a result, the energy generated ofthe co - generation Plant will be considered for fulfillment of the Renewable*

Purchase obligation for the F.Y. 2010-11, 2011-12 and 2012-13. The co-generation will be considered for fulfillment of renewable power purchase obligation of Steel Plant only."

26. The Commission has examined the configuration of the captive power plant and the data related to captive power consumption of BSL, along with the RPO requirement for FY 2013-14 to FY 2020-21, as submitted by the petitioner in the supplementary affidavit.

ORDER

27. The Commission observed that the petitioner, SAIL BSL, has submitted details regarding steam utilization for heating purposes, power generation, and the amount of fuel saved, as presented in the petition. It is clear from these details that the co-generation plants of SAIL BSL benefit the environment by reducing the release of Carbon Monoxide (CO), Carbon Dioxide (CO_2), and other impurities, which are highly poisonous and strong pollutants generated as by-products of the process of conversion of CO Gas, BF Gas, and LD Gas. Additionally, the co-generation plants contribute to environmental conservation by reducing the use of non-conventional fossil fuels.

28. The Commission, therefore, considers the co-generation plant of BSL to have fulfilled the requirements of renewable purchase obligation percentage as specified in JSERC (Renewable Purchase obligation and its Compliance) (First Amendment) Regulation, 2012, JSERC (Renewable Purchase obligation and its Compliance) Regulation, 2016.

29. In view of the legal provisions on the subject, the judgment of the APTEL, and other State Commissions referred to herein above, the Commission is of the opinion that the Captive Power Plant of Bokaro Steel Limited clearly fulfills all the requirements of a co-generation plant. As such, the Commission declares it to be a co-generation plant. Consequently, the energy generation of the co-generation plant will be considered for the fulfillment of the Renewable Power Purchase Obligation for FY 2013-14, FY 2014-15, FY 2015-16, FY 2016-17, FY 2017-18, FY 2018-19, FY 2019-20, and FY 2020-21. The co-generation will be considered for the fulfillment of the Renewable Power Purchase Obligation of the steel plant only.

30. The Petition stands disposed off, with the aforesaid directions.

Sd/-	Sd/-	Sd/-
Member(T)	Member(L)	Chairperson