

SUBMISSION ON RVUN PETITION FOR ARR AND TARIFF FOR FY 2024-25 AND APR FOR FY 2022-23

January 2024



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1. Introduction

Rajasthan Vidyut Utpadan Nigam Ltd. (RVUNL) has filed a petition for the approval of 'Annual Performance Review of Aggregate Revenue Requirement for FY 2022-23' and 'Aggregate Revenue Requirement (ARR) and Tariff for FY 2024-25' in accordance with the provision of Regulation 6(1) of RERC Tariff Regulations 2019. The present submission is in response to the petition filed by RVUNL as published on the commission's website. We request the Commission to accept this submission on record.

2. General Comments

i. Issues with the Petition Documents

We would like to highlight that the petition documents uploaded by the Hon'ble Commission on its website for comments are incomplete. The uploaded petition document refers to 31 annexures (Annexure A to Annexure Z3) in its contents and various other sections that are not uploaded with the petition. These annexures contain essential information necessary for a review of RVUNL's performance and are crucial to providing suggestions and comments on the petition. Even in the uploaded petition document, pages 93-133 containing plant-wise Fuel Consumption Details for the year are blank, with data completely missing. These pages contain critical information on fuel consumption, including month-wise details of coal received, transit loss, coal costs, transport costs, and the weighted average GCV of coal. The fuel costs are a significant cost of the overall generation tariff, and these data points are, therefore, highly essential to assessing the petitioner's performance.

Additionally, the data forms annexed with the petition related to various components of ARR and different parameters of the plants, along with detailed computations, are provided only in PDF format rather than Excel files. This limitation significantly hampers our ability to analyse the data provided in the petition and restricts effective public participation. It also impedes stakeholders from conducting a thorough analysis and providing meaningful feedback on RVUNL's performance. It may also be noted that the distribution licensees already provide data forms in Excel format with the ARR and True-up petition, and RVUNL may also be directed to follow the same.

We raised these concerns with the Hon'ble Commission through emails dated 25.12.2023 and 16.01.2023. However, no appropriate corrective action has been taken.

Publishing incomplete petition for objections/comments from public is not only in violation of the principles of transparency and fairness but also undermines the integrity of the regulatory process. We urge the Hon'ble Commission to address these issues promptly, ensuring the availability of the complete petition, including all annexures, in a format conducive to comprehensive review and analysis.

ii. Status of installation of the Flue-gas desulfurization (FGD) Equipment

The Environment (Protection) Amendment Rules, 2015, notified by the MoEFCC in December 2015, revised the environmental norms applicable to all thermal power plants (TPPs). For compliance with Sulphur dioxide (SO2) emission norms, thermal power plants are required to install Flue Gas Desulphurisation (FGD) equipment as per timelines stipulated in further notifications by MoEFCC. The petitioner is requested to furnish the following details:

- a) The current status of FGD installations at each RVUNL plant.
- b) Whether a plant-wise comprehensive techno-economic analysis has been conducted considering the cost associated with FGD installations and potential penalties for non-compliance with the MoEF&CC mandate. This analysis would evaluate the expected impact on tariffs for each plant and competitiveness under the merit order dispatch regime.

iii. Regarding the Capex Works Undertaken

The petitioner has claimed additional capitalization in previous ARR petitions and initiated various works across different power plants. The petitioner is requested to furnish information on the ongoing Capex works, which were approved in previous petitions, including the status of works, cost overrun, reasons for any delays and details of any penalties imposed on contractors involved in these projects.

As noted in the earlier petitions and orders by the Commission, the completion certificates for such projects, wherever applicable, are also not submitted. An example of completion certificate not submitted is works done by Indian railways namely "up-gradation of Railway Track from Chambal Cabin to KSTPS, Saketpura Marshalling yard" as mentioned in the section 3.25 of the RERC Order dt.12.05.2023 in the Petition No: RERC/2069/2022. We request the petitioner to provide updated details regarding this matter.

iv. Regarding expenditure on safety, training, and environment

We would like to bring the commission's attention to numerous news reports (refer to <u>Annexure-I</u>) highlighting accidents at various power plants operated by the petitioner. The safety of both workers and the plants is crucial for ensuring human well-being, productivity, legal compliance and reputation of the organization.

- a) We request the petitioner to furnish plant-wise details of initiatives, along with the allocated budget, related to employee safety and training for the fiscal year 2022-23.
- b) We also request the commission to take strict note of incidents of accidents and safety violations by the petitioner. We recommend constitution of a committee with representation from employees and civil society to investigate the reported accidents, identify the root causes, and recommend necessary corrective actions.

Furthermore, we kindly request the petitioner to provide details of their plan for enhancing safety compliance and minimizing the occurrence of accidents.

Several newspapers have also reported violation of environmental norms and local issues (refer to <u>Annexure-II</u>) arising from the petitioner's power plants in Chhabra and Suratgarh, particularly regarding the disposal of fly ash and water.

- a) The petitioner is requested to provide plant-wise compliance data regarding emissions and water consumption, aligning with the approved environmental clearances for each plant.
- b) We also request the petitioner to provide details of actions taken on the instances of violation of environmental norms during the fiscal year 2022-23 and to address these environmental issues referred in Annexure-II

v. Capacity Expansion & Business Diversification Plans

The petitioner is requested to provide its medium- and long-term capacity expansion including the status of the proposed 1320 MW capacity at Chhabra and an 800 MW unit at Kalisindh power project announced by the Government of Rajasthan in 2022 with tentative commissioning dates. The petitioner is also requested to provide the status of the 810 MW solar plant being developed by RRVUNL and the reasons for delay.

The state of Rajasthan is endowed with a Solar potential of 142GW and is currently leading the country in installation solar power. The petitioner is well posed to exploit this potential and support the state's power sector due favourable pricing of solar power. We request the petitioner to provide details of the RVUNL strategy for business diversification and plans to include RE power in portfolio.

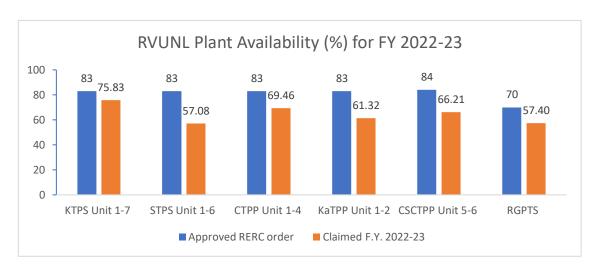
vi. Feasibility Study for Ageing Power Plant

Currently, multiple units of the plants operated by the petitioner are aged above the useful life of 25 years (as provided by CEA regulations), with a few (KTPS) aged more than 35 years. While the operation of plants beyond an age has economic benefits, the ageing equipment also poses challenges regarding reliability, productivity and efficiency. In this context, we propose that the commission direct the **petitioner to conduct a comprehensive study to assess the residual life and feasibility of operating these plants.** The study should encompass technical, economic, environmental, and safety considerations. Based on the study findings, the petitioner should undertake necessary renovations and provide details of the required capital investments.

3. Section-wise Comments | Annual Performance Review for FY 2022-23

i. Plant Availability

As per the data submitted by the petitioner, the plant availability across all plants falls below the target approved by the commission. For instance, in case of STPS it is 30% below the target indicating a significant operational inefficiency and inoptimal resource utilisation. This highlights the poor operation and maintenance practices of RRVUNL and lack of plans to address these issues. This assumes significance considering that the state has experienced record high electricity demand during the year and shortfall in supply which were bridged through short term purchase of electricity. Surprisingly, the petitioner has not provided any reasons for this subpar plant availability. We request the petitioner to furnish plant-wise explanations for the failure to achieve the target availability and its plans to address these issues in the FY2024-25.



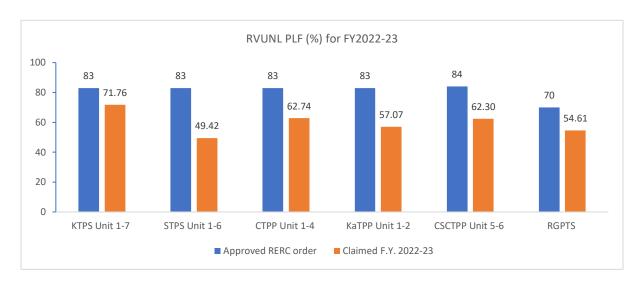
We further submit that in accordance with Regulation 45 of the RERC Tariff Regulations, 2019, full fixed charges are recoverable only upon achieving the target availability. Even if the reduced availability of thermal stations is linked to fuel supply issues, it is important to highlight that such factors are well recognized as inherent business risks under various commission precedents. The petitioner, foreseeing this situation, should have implemented an appropriate contingency plan in a timely manner. Accordingly, the Hon'ble Commission reject the petitioner's submission to approve full fixed costs and should allow the recovery of fixed charges of all these power plants only on pro-rata basis.

ii. Plant Load Factor (PLF)

The data submitted by the petitioner reveals that the plant load factor (PLF) for all RVUNL power plants in FY2022-23 was below the targeted PLF. This assumes significance as the state Distribution lisencee had to procure costly short-term power from the markets during the

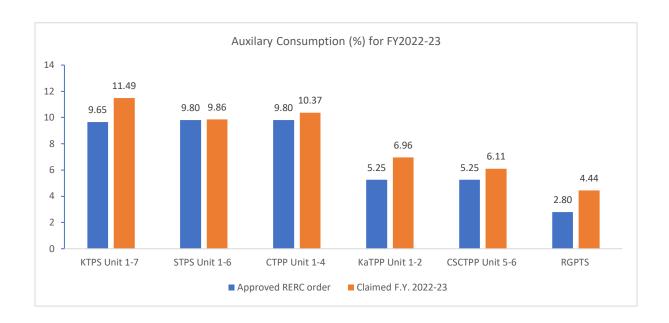
year to meet the demand due to sub-optimal performance of RVUNL plants. This indicates inefficiency in the planning, operations and maintenance of these plants. It is noteworthy that the RVUNL plants have been operating on low PLFs consistently since last few years. We request the commission to take note this serious issue and direct the petitioner to submit an action plan for addressing these issues with appropriate timeframes.

Furthermore, we request the petitioner to provide detailed, plant-wise explanations for the low PLFs, including reasons for insufficient fuel supply across all the plants across all TPPs.



iii. Auxiliary Consumption

The petitioner submitted that "Auxiliary consumption does not reduce in proportion to reduction in generation ...", stating technical limitations as reason for increased auxiliary consumption. We would like to highlight that Section 2(b) of Regulation 9 of the RERC Tariff Regulations, 2019 clearly defines plant-wise auxiliary consumption as a controllable factor. The Section (2) of Regulation 56 of the RERC Tariff Regulations, 2019 specifies that "financial losses by a Generating Company on account of Station Heat Rate, Auxiliary Consumption, and Secondary Fuel Oil Consumption shall be borne by the Generating Company."



The petitioner's request for acceptance of the higher auxiliary consumption than normative benchmark would result in increased tariffs, thereby imposing an additional burden on end consumers of electricity. Therefore, we urge the commission to disallow the petitioner's claim and consider auxiliary consumption only on a normative basis in the broader public interest.

iv. Penalties for Interest Rates

In sections 2.10 and 2.11 of the petitions, the petitioner claimed a total of Rs. 6.44 Crores as penal charges and requested the commission to allow it as a pass-on expense. We request the petitioner to provide detailed reasons for incurring penalties, identify responsible parties, and furnish information on the corrective actions taken to mitigate such penalties in the future.

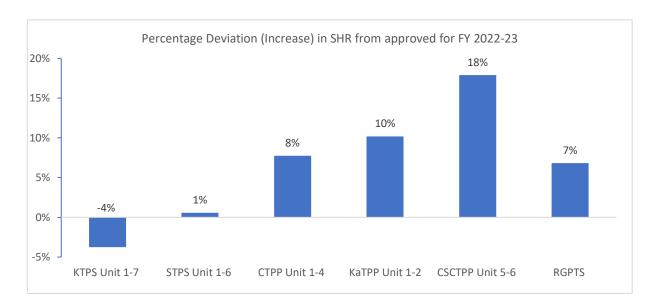
v. Plant-wise Land Holding

In the section 2.12 of the petition, the petitioner submitted the details of the lease rents that has been paid for Govt lands for the year. We request the petitioner to share the details of land holdings (including leasehold, freehold, acquired from the government, and acquired from private entities) of various plants.

vi. Station Heat Rate (SHR)

The Station Heat Rate (SHR), the amount of input heat energy required by a power plant to generate one unit, is a crucial factor which indicates amount of fuel consumed, prudent operation practices and overall efficiency. As it aligns with the design parameters of each

plant, and the commission has defined normative levels for SHR for each plant. Any deviation, particularly an increase, from these normative values indicates improper and inefficient operation as well as poor maintenance practices. Despite the petitioner claiming normative Operations and Maintenance (O&M) expenses across all plants, the SHR has shown deviation from normative benchmark significantly. The deviation is notably high, reaching 18% in the case of CSTPP.



The escalation in SHR results in increased coal consumption at the plant level, leading to a higher tariff for end consumers. Therefore, we strongly **recommend the Hon'ble Commission** to **disallow the petitioner's submission** to accept a higher SHR. The commission is urged to **consider only the normative Station Heat Rate (SHR)** as defined in the RERC Tariff Regulations, 2019, and **recalculate the required fuel**, thereby **disallowing any excess coal and other fuel costs.**

Furthermore, the petitioner is requested to provide plant-wise explanations for the deviation in SHR and furnish details of the necessary corrective actions taken to rectify the situation.

vii. Coal - Gross Calorific Value (GCV) and Costs

The Hon'ble Commission has previously directed the petitioner to submit certifications from CMFIR (Central Institute of Mining and Fuel Research) indicating the quality of coal, but the petitioner has expressed unavailability to certify through CMFIR. We recommend mandating the petitioner to provide independent, third-party certifications for the Gross Calorific Value (GCV) of the received coal, both on a received and fired basis.

It is also submitted that the actual GCV of the Indian coal consumed deviates significantly from the approved GCV. The shortfall in quality from the approved GCV to the actual GCV of Indian coal at CSTPP is as high as 10%.

Shortfall in GCV of Indian coal Approved Vs Actual

Plant	%
KTPS Unit 1-7	-2%
STPS Unit 1-6	-5%
CTPP Unit 1-4	1%
KaTPP Unit 1-2	-5%
CSCTPP Unit 5-6	-10%

The petitioner has been procuring lower quality of coal, leading to increase in the coal quantity procured. While the variation in fuel cost due to fluctuations in coal, oil, and primary secondary fuel prices is an uncontrollable factor per Section 1(a) of Regulation 9 of the RERC Tariff Regulations 2019, the variation in GCV is not defined as uncontrollable. In this context, we submit:

- a) As established in previous True-up orders, the Commission should disapprove the costs associated with the variation in fuel mix quality.
- b) We request the petitioner to provide plant-wise details and reasons for procuring coal of lower quality than the approved standards.
- c) Furthermore, we request the petitioner to provide details on the measures undertaken within the Fuel Supply Agreement (FSA) to improve the quality of the received coal.
- d) Under its FSA, CIL has established a mechanism for dispute resolution regarding coal quality. The petitioner is requested to state whether they have availed this mechanism to address the issue of low GCV of coal and provide reasons for not availing it. If yes, the petitioner is requested furnish details the dispute resolution process and outcomes.

viii. Coal Supply

The petitioner procures coal from various collieries for multiple plants through long-term Fuel Supply Agreements (FSA). Despite the agreements, the coal companies fail to ensure uninterrupted supply of coal which leads to shortage of power supply in the state. The state Discoms are forced to procure high price power from the sport markets and short-term bilateral contracts. To enhance transparency and accountability in RVUNL's coal supply, we make the following submissions:

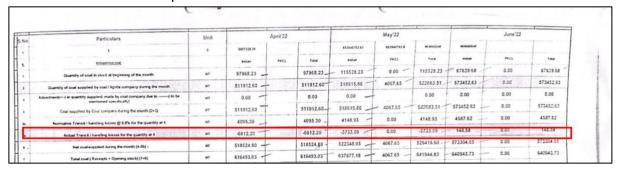
- a) We request the petitioner to provide plant-wise **details of washed and raw coal received from different collieries** indicating month-wise quantity and GCV as received and losses
- b) The Central Electricity Authority (CEA) mandates that plants located beyond 1,000 km from the coal mine should maintain a normative coal stock of 30 days. Despite this mandate, multiple news reports indicate that the petitioner failed to maintain the

- stipulated stock throughout the year. In light of this, we request the petitioner to share day-wise details of coal stocks at each power plant for the True-Up year from the Daily Coal Report (DCR) with reasons of violating the 30 days norm, wherever applicable.
- c) Coal Rejects: The petitioner operates coal mines in Parsa East and Kante Basin, with mining conducted under the Coal Mining and Delivery Agreement (CMDA). Revenue from rejected coal constitutes the petitioner's non-tariff income. We request the petitioner to submit month-wise details of coal rejects from their mines, including test reports, GCV, quantity, and price and details of the entities to which the coal rejects are sold.
- d) Coal Supply by CIL We would like to highlight that under the conditions of the Fuel Supply Agreement (FSA) with the CIL, the petitioner is entitled to commensuration of coal receipts with their Annual Contracted Quantity (ACQ). We request the petitioner to state the details of the actions taken against CIL for non-compliance with the contractual obligations pertaining to the specified ACQ.

ix. Coal Transit Loss and Handling Loss

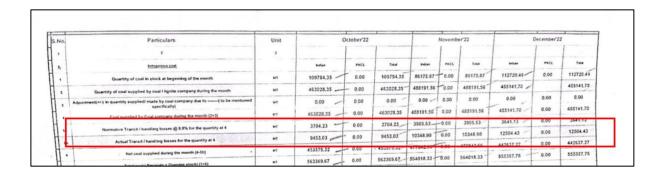
As highlighted in previous sections, the petition document uploaded by the commission lacks data related to coal transit losses. We draw the commission's attention to significant discrepancies in computation sheets – Form GT 5.1 on coal transit losses based on data available from the RVUNL website.

The details the coal transit loss of KTPS from April 2022 to June 2022 as per petition available on the RVUNL website is provided below for reference.



For the months of April and May 2022, the actual transit loss/handling loss of the coal at the KTPS is "- 6612.20 MT" and "-3733.09 MT". The petitioner is requested to explain negative transit losses and provide a detailed explanation for the same.

The below snapshot details the coal transit loss of KTPS from October 2022 to December 2022as per the petition available on the RVUNL website.

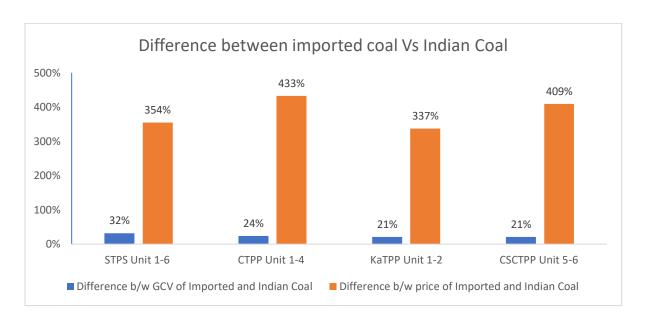


From the above data, it is evident the transit/handling losses are 250% higher than the normative levels of 0.8% stipulated by the commission. Similar deviations, as high as 400%, are observed across all power plants of the petitioner. These deviations highlight inefficiencies in coal transit and accounting processes, which shall have significant impact on the energy charges claimed by the petitioner. In this context, we make the following submissions:

- a) The petitioner is requested to provide detailed reasons for the high transit/handling losses.
- b) We submit the commission should only consider the normative rate of 0.8% for transit/handling losses and disallow costs associated with additional losses.

x. Coal imports

The petitioner has submitted details of imported coal procured during the year FY2022-23, which highlights certain quality and pricing issues associated with imported coal. It can be noted that while the quality of the imported coal (GCV) is moderately higher (20% more) than that of Indian coal, the price paid by the petitioner for the imported coal is 300% more than that of the Indian coal.



We request the petitioner to provide detailed information on the procurement of imported coal, including entities involved, and details of the procurement processes.

xi. Other issues

- a) The petitioner is requested to furnish comprehensive information regarding the initiatives, strategic planning, and measures implemented to optimize operations of its plants and reduce overall costs.
- b) We also request the petitioner to submit of details outlining the initiatives taken to optimise finance costs, including refinancing and the replacement of high-cost loans with available market loans.
- c) Additionally, the petitioner is requested to provide plant-wise details of scrap sold, including pricing details, entities involved in transactions, and other relevant information which are part of the non-tariff income.

4. Section-wise Comments | Aggregate Revenue Requirement for FY 2024-25

i. Status of DCCPP and GLPP

The Dholpur Combined Cycle Power Project (DCCPP) and Giral Lignite Power Plant (GLPL) have been non-operational for several years due to various reasons. The divestment plans for GLPL have not proven successful. These assets are built with public funds amounting to hundreds of crores and are currently lying unused with their value depreciating year on year. We request the petitioner to provide information on the future course of action and strategic plans for revival or redevelopment or divestment of these assets. We urge the commission to acknowledge the severity of this issue and expedite its resolution.

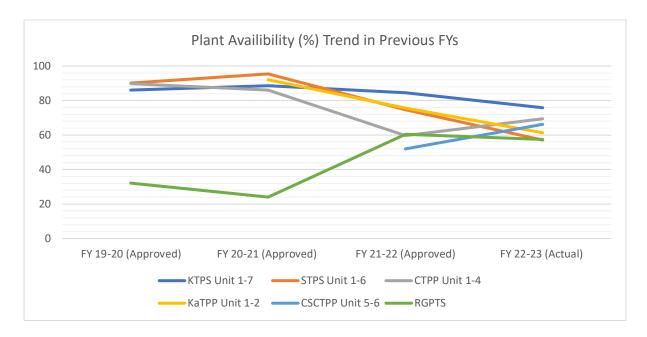
ii. Additional Capex Plan

As per the Regulation 17(7)(d) of RERC Tariff Regulations 2019, a cost-benefit analysis is mandated for any additional capitalisation plans. The petitioner is requested to provide details of the cost-benefit analysis conducted for the various additional capital expenditures proposed for different plants for the year FY 2024-25.

iii. Plant Availability

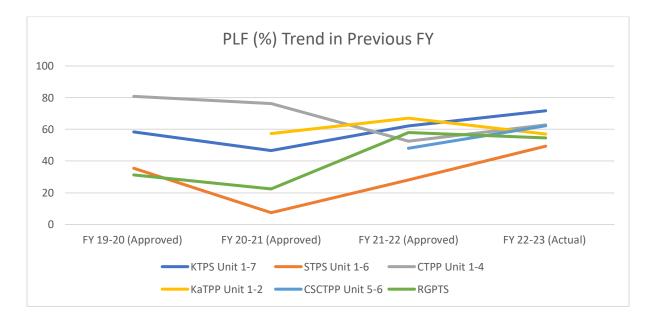
For the FY 2024-25, the petitioner has proposed a plant availability target of 83% for all plants except CSCTPP and RGPTS, which are set at 85% and 70%, respectively, in accordance with the regulations. Considering the historical performance of the plant, achieving these targets

appears challenging. The figure below illustrates the plant availability achieved by the power plant in the past four financial years based on actual energy dispatch. Except for few cases, neither of the plants has been able to attain the normative plant availability in FY 2022-23. Considering this, we kindly request the petitioner to provide its plan and steps taken to ensure normative plant availability.



iv. Plant Load Factor (PLF)

For the ARR year, the petitioner has proposed achievement of a PLF of 83% for all the plants except CSCTPP and RGPTS which is 85% and 70% respectively. The plants have performed poorly over last few years and attained lower than targeted PLF. It is requested the petitioner to furnish necessary steps and plan to ensure achievement of normative PLF or provide the realistic targets.

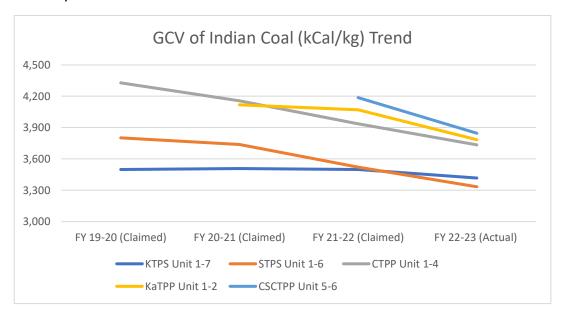


v. Coal Planning

As highlighted in the previous sections, there is an ongoing coal availability crisis in the state for the past 2 years. We request the petitioner to state the details of the measures taken to mitigate the risks of coal shortage and ensure uninterrupted coal supply. We further request the Hon'ble Commission to direct the petitioner to form a committee to ensure continuous coal supply to the power plants, ensure the statutory coal stock is maintained at all times of the year, and submit quarterly reports to the Commission.

vi. GCV vs Price

Our analysis reveals a significant and sustained decline in the GCV of coal procured by the petitioner. This implies a decrease in the energy content of the coal, potentially impacting its efficiency and overall value.



We request the petitioner to conduct a study to assess the reasons for decrease in GCV of coal procured and comparison with GCV of coal supplied to other CPSU/SPSUs.

vii. Net Generation

The petitioner anticipates a 24% increase in overall net generation for FY2024-25 compared to the actual generation of previous years (FY 2022-23). RRVUNL's plants have consistently exhibited lower plant availability and PLFs than normative benchmarks, the reasons for which have to be addressed before gaining approval from the Commission. Achieving the projected generation hinges on an uninterrupted coal supply and reinforcing operational and maintenance (O&M) practices through substantial capacity-building measures. Additionally, capital availability is contingent on prompt payments from Discoms. In light of these factors,

we strongly urge the petitioner to consider and provide a more realistic projection of generation.

Annexure I





Source:

https://www.bhaskar.com/local/rajasthan/sriganganagar/news/suratgarh-thermal-four-villages-of-rajasthan-migrated-due-to-fear-of-ash-these-villages-with-tb-crops-affected-130828949.html

Annexure II



Source: https://firstindia.co.in/news/india/agitating-farmers-gherao-suratgarh-thermal-plant-for-irrigation-water



Source:

https://www.patrika.com/kota-news/air-pollution-in-kota-by-kota-super-thermal-power-plant-2796661/