Additional submission before the Rajasthan Electricity Regulatory Commission

Prayas (Energy Group) *September 29, 2025*

In the matter of: Petition no. 2298/2025 under Section 86(1) (b) and other applicable provisions of the Electricity Act, 2003 for seeking approval for procurement of 3200 (4*800) MW power for 25 years through competitive bidding process based on Model Bidding documents viz. RFQ, RFP and PSA issued under MoP, GoI Guidelines dated 06.03.2019 and amendments thereon for procurement of Electricity from Thermal Power Stations to be set up on Design, Build, Finance, own & Operate basis and sourcing fuel including allocation of coal under B(iv) of Shakti.

Prayas (Energy Group) in its submission dated March 24, 2025 has highlighted several critical issues with the consideration of adding 3200 MW of RTC thermal power, locked in over 25 years – at a time when the power sector is seeing fast paced changes such as downward price trends in cleaner generation alternatives. Moreover, addition of such capacity will make it increasingly harder for Rajasthan to meet its Renewable Purchase Obligations. Further, such coal-based capacity, which RUVITL envisages to come online by the mid-2030s, will result in the capacity remaining in the energy mix of the state even in 2070, given the 40 year operational life of coal-based TPPs. Thus, this 3200 MW will either endanger India's net-zero commitment by 2070 or result in Rajasthan consumers paying fixed costs for a plant that is unlikely to be used or used very sparingly.

In light of the hearings on the matter held on September 24, 2025 and additional submission made by RUVITL on September 27, 2025, we make the following submission in addition to our previous submission. We request the Commission to take into account the following:

1. Proposed capacity is significantly in excess of required thermal capacity even in FY36

The rationale for the 3200 MW of additional thermal capacity proposed by RUVITL in its original petition was based on the demand and capacity requirements as projected in CEA's Resource Adequacy Plan (RAP) for Rajasthan published in May 2024. This iteration of the RAP claimed a deficit of 3141 MW by FY32, after consideration of pipeline capacity in addition to currently operating capacity. Even in its reply to Prayas (Energy Group), RUVITL refers to this edition of the RAP as the basis for the capacity addition where it states, "*It is submitted that the EAC has adopted the RAP and accordingly, the petitioner has made final assessment for requirement of 3,200 MW thermal power based on the same.*"

However, CEA published a revised RAP for Rajasthan up to FY36 in August 2025. According to this iteration of the RAP, the requirement for contracted thermal capacity by FY32 has been revised downwards to 16,561 MW, a reduction of 3,971 MW of thermal capacity from the previous RAP. **It is clear that the proposed 3200 MW of coal capacity is no longer required to address demand in FY32. The revised RAP clearly highlights that no new coal capacity addition is needed for Rajasthan till FY33.**

The additional submission from RUVITL dated September 27, 2025 states that the 35th EAC meeting considered all the contracted and in-pipeline capacity while assessing the need for additional thermal capacity. However, we would also like to highlight that the details of the

projects considered in the 35th EAC meeting, which form the basis for the proposed thermal capacity addition, have not been shared or made public. Hence, it is difficult for the public to make an informed judgement and comment on the same.

Further, as per the revised RAP:

- Contracted thermal (coal and gas) capacity required in FY36 is 18645 MW
- The current thermal contracted capacity of Rajasthan Discoms is 14026 MW
- Therefore, by FY36 Discoms will require additional 4619 MW (18645 -14026 MW)
- RUVITL already has the following thermal capacity in the pipeline:
    - Thermal capacity of 140 MW from Khurja TPs and 150 MW from Singrauli TPS
    - 3325 MW of thermal capacity for which MoUs have been signed on 10.03.2024, expected to be commissioned by FY30. This capacity was considered in the RUVITL submission made in March 2025.
- Considering the above capacities, the additional requirement is only 1004 MW by FY36 (4619 – 140 – 150 – 3325 MW), to meet the RAP target of 18645 MW, even if this has to be met from thermal sources.

Thus, using the same approach used by RUVITL in its initial submission[1], **the proposed thermal capacity addition is significantly in excess of the capacity requirement even in FY36.**

It is understood that RUVITL is entitled to 1400 MW from the Mahi Banswara Rajasthan Atomic Power project whose construction has already begun on September 25, 2025[2]. **Therefore, the case for the proposed 3200 MW thermal capacity gets even weaker.**

2. Unrealistic demand projections

As per RUVITL's reply dated September 27, 2025, "*The RAP projects peak demand at 32 GW by 2035-36 with CAGR 4.5%, but the EAC, after reviewing historical CAGR of ~7.5% in Rajasthan, prudently flagged CEA's assumptions as conservative and adopted the assessment of the CEA.*"

As per data reported in CEA's Load Generation Balance Report from FY19 to FY25, the peak demand grows at a CAGR of 6.31%. On the other hand, peak demand between FY21 and FY25 grows at a CAGR of 7.33%, which is in line with the growth rate quoted by RUVITL. However, **it is important to note that FY21 was a Covid year and considering it as a base year for projecting growth would result in super normal projections**. After the post-pandemic recovery, the peak demand in Rajasthan has grown only at a CAGR of 4.95% (as per CEA's LGBR data) between FY23 and FY25.

Given the above, considering sustained peak demand growth at a CAGR as high as 7.5% over the next decade, till FY36, is highly unrealistic.

[1] The above calculation is carried out in line with the calculation made by RUVITL on page 10 of its initial submission.

[2] https://www.pib.gov.in/PressReleasePage.aspx?PRID=2171783#:~:text=Prime%20Minister%20Shri%20Narendra%20Modi,of%20NPCIL%20and%20NTPC%20Ltd

Further, any consideration of thermal capacity addition should be based on likely growth of net-load rather than peak load, since peak load occurs during solar hours and can be predominantly met by solar. This has been elaborated in our submission dated March 24, 2025.

3. Inflated consideration of retired capacity post FY30

RUVITL's reply, dated September 27, 2025, states the replacement of ~1350 MW of retiring RVUNL plants post FY30, as a reason to procure the proposed coal-based RTC capacity – without giving details of which 1350 MW is due for retirement. Currently, RVUNL coal-based capacity totals 7580 MW. Of this, 1350 MW would have operated for 30 years by FY30, and is likely the aforementioned capacity considered for retirement.

The Central ERC, in its Terms and Conditions for Tariff Regulations 2024, states that the operational life of coal/lignite based TPP should be considered as 35 years. Additionally, as per Schedule II of the Companies Act 2013, the useful life of thermal generation plants is 40 years. It should be noted that there are many instances of TPPs operating well beyond 40 years, including RVUNL's Kota TPP, which generated at a PLF of 81% in FY25.

Further, retired coal-based TPP need not be replaced by coal-based capacity – particularly in the 2030s and beyond. It is likely to be more optimal to consider alternate sources of generation to replace the retired coal capacity, as elaborated in section 4 of this submission.

While it is understood that some capacity from Rajasthan's coal fleet could be considered for retirement by the 2030s, blanket early retirements using only age-based parameters will prove counterproductive towards ensuring low cost supply, particularly if the replacement considered is greenfield coal capacity.

4. New RTC coal capacity unsuitable for Rajasthan in the medium and long term

With the increasing penetration of RE, the proposed 3200 MW of coal-based RTC capacity is likely to be only suitable to serve non-solar peak demand in the medium term. It is pertinent to note that the non-solar peak demand in Rajasthan has grown only at a CAGR of 4.63% between FY22 to FY24 – much lower than the assumed 7.5% CAGR which is now stated as the basis for the proposed capacity – based on available GRID-India data. It is likely that this growth will further decline going forward, given the shift of agricultural load, which accounts ~40% of utility sales, to day-time with increasing solar generation[3].

Even in the medium term, tying up 3200 MW of coal-based RTC power for this purpose is questionable. It is highly likely that alternative sources of RTC power such as FDRE and RE+storage projects will become increasingly viable and competitive within the next decade and form a cheaper, cleaner alternative with lower lock-ins. For instance, recent renewable+storage based FDRE or RTC tenders have received winning bids under Rs. 5/kWh whereas the winning bid in a recent coal-based auction was Rs. 5.83/kWh. Given the low gestation period of renewables and

[3] Rajasthan Discoms have already procured 4,791 MW under PM KUSUM and have received approval from the Commission to contract an additional 6000 MW (with a ceiling tariff of Rs. 3.04/kWh).

storage, a tender issued around 2030 can easily meet the evening peak requirement in 2036, by when the price differential between renewables+storage and coal would only have grown wider.

Other states are already beginning to adopt such good practices. A recent example is the innovative tender issued in Madhya Pradesh, where the winning solar+ESS bid was discovered at as low a price as Rs. 2.7/kWh.

Therefore, locking into 25 years of RTC coal capacity through the current petition is unlikely to be the best option for Rajasthan. Instead, with prices of alternative sources of generation likely to fall further in the next 2-3 years, **RUVITL could consider floating a technology agnostic tender closer to FY36, to address the requirement of any incremental capacity.** In this way, RUVITL will comfortably meet any envisaged shortfall with the most optimal and prudent capacity addition available. It will likely prevent the Discoms from having to commit to 25 years of fixed costs for coal-based capacity that will be used increasingly sparingly going forward. Appropriate medium term contracting could be considered in the interim.

In light of the points made above, we request the Commission to disallow the request for the proposed addition of 3200 MW of coal-based capacity.

We request the Commission to take our submission on record, and allow us to make any additional submissions on the matter, as needed.

Prayas (Energy Group)
Place: Pune
Date: September 29, 2025