

**Comments on CERC's Approach Paper on Terms and Conditions of Tariff  
Regulations for Tariff Period 1.4.2024 to 31.3.2029**

**Regarding:**

Section 6.3 on 'Decommissioning of Generating Station and Transmission Assets'

**Submitted by:**

International Forum for Environment, Sustainability & Technology (iFOREST)

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Decommissioning entails a complex set of technical interventions required for closure of a thermal power plant (TPP), demolition of its structures, and clean-up/remediation of the site, to ensure that the plant is repurposed, or the site is redeveloped. It is a full-fledged project, entailing various cost components.

A clear understanding of the expected cost of decommissioning in India's context is currently missing. This is because while some of the cost components may be relevant for all projects, most of the costs vary depending on the plant size, the extent of environmental degradation caused during plant operations, and the decided end-use of the power plant ranging from plant repurposing to site redevelopment. Global and national experience indicates that this cost could be around \$500,000 to \$150,000 per MW.

At present, decommissioning costs are not factored in during tariff determination. No funds are kept aside by plant owners for end-of-life activities, while salvage value is assumed to be sufficient for enabling decommissioning. If decommissioning is not made financially viable, generation companies are likely to abandon the plants in an 'as-it-is' state (as has been widely witnessed in the US over the past decades), creating multiple environmental as well as development problems. Thus, there is a need to create mechanisms that provide financial security to plant owners to enable decommissioning.

iFOREST welcomes the CERC's Approach Paper on Terms and Conditions of Tariff Regulations for Tariff Period 1.4.2024 to 1.3.2029 published on 26th May 2023 as the first acknowledgment of the need for accounting for decommissioning costs, calling for the inclusion of "appropriate provisions in the tariff regulations to deal with all eventualities". The guiding principle mentioned in section 6.3 of the approach paper is to devise a mechanism such that decommissioning is 'cost neutral to the generating company and also does not impact the beneficiaries.' The objective is 'to reduce risk perception among investors and provide the necessary clarity on such matters thus reducing litigations.'

As a research organization working on this policy landscape in the country, iFOREST would like to submit to the CERC our suggestion in this context, with a request of consideration during the drafting of the final Terms and Conditions of Tariff Regulations for Tariff Period 1.4.2024 to 31.3.2029 that are due to be published soon.

As detailed submissions, we would like to submit our latest research report 'Financing Decommission of Thermal Power Plants in India' which maps the key cost components arising during TPP decommissioning, financing mechanisms introduced in other regulated energy markets to cover such costs, existing provisions in India and the recommendations going forward.

**The summary of the key findings is as follows:**

- **Accrual during plant durations:**

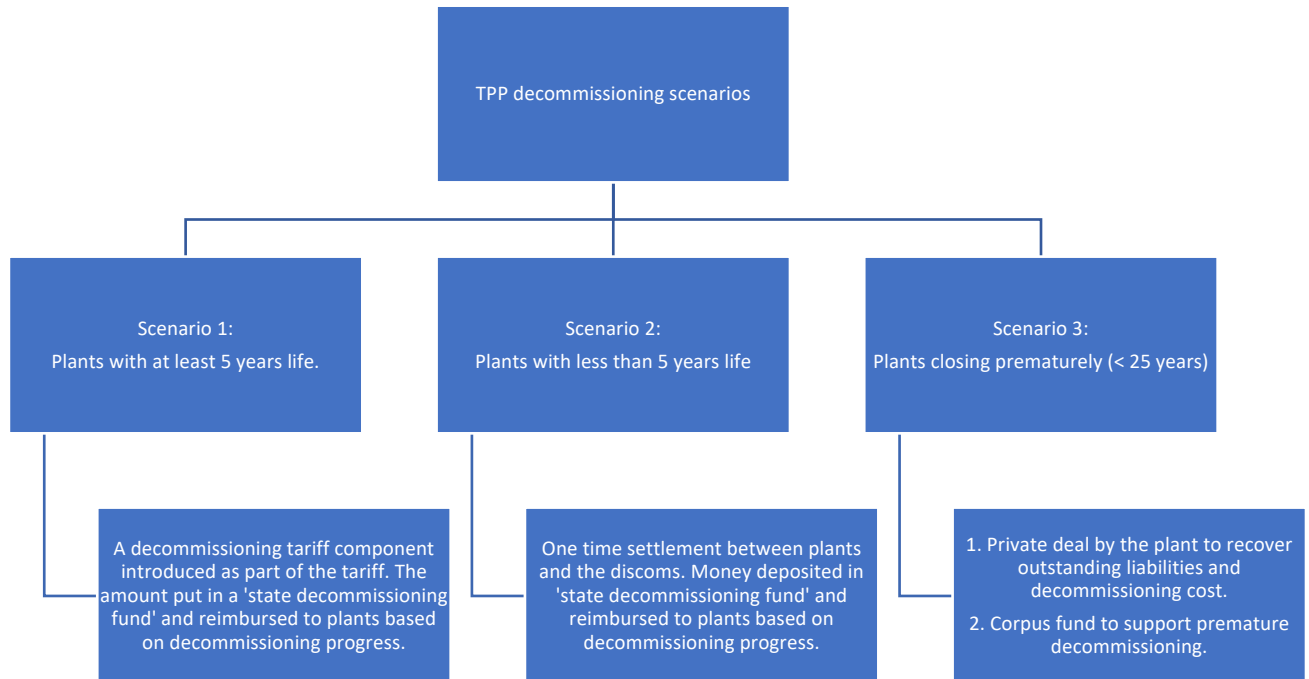
The approach paper suggests that the net profit/loss post decommissioning and disposal of assets may be adjusted in one go from the beneficiaries, duly factoring in the unrecovered depreciation. However, it would be more appropriate to adopt a mechanism that allows for the accrual of funds over a long period, prior to the planned decommissioning to protect the plant owners from a liability default. This is also aligned with the typical mechanism followed for the closure of energy assets in the case of coal mines and nuclear power plants in India as well as for the closure of TPPs in the US.

- **Scenario-based mechanism based on plant vintage:**

In the case of India, a scenario-based mechanism of financing decommissioning costs may be needed, given that operational power plants have a very wide-ranging age profile. At present, India has a coal-based installed capacity of 208.6 GW and an upcoming capacity of 28.5 GW. Nearly 76 percent of the operational capacity is less than 20 years of age; and has at least 5 years of remaining operating life to collect decommissioning costs. Of the remaining 24 percent, only 9 percent is very old capacity that has completed 35 years in operation.

Given the vintage profile of the installed capacity, three scenarios can be considered for India. The first scenario includes all existing plants that have at least five years of operational life remaining as well as the upcoming plants. In this case, a decommissioning tariff component can be added to generation tariffs to allow recovery of decommissioning costs. This can be used to set up state-level funds, from which costs can be reimbursed. For the second scenario, which includes plants with less than five years of operational life, a mechanism of one-time settlement can be thought of between plants and discoms, through a state-level fund. In the case of the third scenario, where power plants are prematurely shut down, additional funds would need to be raised through private or public sources to recover outstanding liabilities and decommissioning costs.

## Recovery mechanisms across decommissioning scenarios



The scenario-wise suggested mechanism for decommissioning cost recovery is provided below in detail:

**Scenario 1: For existing power plants that have at least five years of operational life remaining and for upcoming power plants that will be decommissioned at least after 25 years of operational life** (wherein the plant will depreciate by at least 90 percent). A tariff-based mechanism can be considered along the following lines:

- Prepare state-wise plant decommission plans where existing and upcoming plants are mandated to submit decommissioning plans which include a detailed cost assessment of the tasks to be undertaken during plant decommissioning.
- Allow recovery of the estimated decommissioning costs from the TPP tariffs after detailed verification and assessment of the decommissioning plan by a committee.
- SERC should approve the average per unit cost of decommissioning for each state determined by the committee and charge a uniform rate (Rs/kWh of electricity sold).
- The 'decommissioning tariff component' should be revised to account for changes in costs and funds collected should be deposited by power plants

annually in a state-specific fixed deposit escrow account in a scheduled bank. The funds should be exclusively used to fund decommissioning of power plants.

- At least two years prior to the date of retirement, the plant must approach the competent authority for the withdrawal of the exact amount of money for closure. During the decommissioning phase, the plant owner should be able to withdraw 25 percent of the requirement and in the next three rounds, the owner should be allowed a maximum of 25% each.
- At least within three years from the date of retirement, the plant owner must submit a detailed report on the closure activities along with a project completion certificate and a detailed financial report.

**Scenario 2: For power plants that have less than five years of operational life remaining and the plants would have depreciated by at least 90 percent at the time of decommissioning. The following mechanisms may be followed:**

- Submit a plant decommission plan along with detailed cost estimates at least two years before the planned retirement where recovery of estimated costs should be allowed from the beneficiaries (discoms). A committee could verify and assess the plan.
- The payments should be made in at least three installments by beneficiaries, with the first payment for 50 percent of the decommissioning cost, two years before the retirement date. The second installment should be collected after one year from the retirement date for 25 percent of the amount and the remaining 25 percent after two years from the retirement date.
- The funds collected must be in a state-specific fixed deposit escrow account in a scheduled bank, with a competent authority (SERC) as its exclusive beneficiary. The funds should be exclusively used to fund decommissioning of power plants.
- The plant owner must approach the identified competent authority (SERC) for the withdrawal of funds, based on a mutually agreed schedule, indicating the exact amount of money required for undertaking the decommissioning activities.
- During the decommissioning phase, the plant owner should be able to withdraw 50 percent of the available fund at the time of retirement. The next round of withdrawals should be allowed up to a maximum of 25 percent in three rounds.
- At least within three years from the date of retirement, the plant owner must submit a detailed report on the closure activities along with a project completion certificate and a detailed financial report.

**Scenario 3: For existing power plants that will be decommissioned before completing 25 years of operational life (wherein the plant has not fully depreciated)**

For TPP capacities that face premature closure, debt and equity will not have been fully paid, while there aren't adequate funds accumulated in the escrow account for paying off the decommissioning costs. Since the burden of recovery of remaining depreciation value and decommissioning cost cannot be imposed on ratepayers, plant owners should be encouraged to identify innovative financial mechanisms and arrive at a private deal with climate funds, multilateral banks, or other sources for relief and recovery of decommissioning costs. Moreover, the government can conceive a corpus fund that can source funds from international climate funds, domestic and international sources including philanthropy, etc.

Across all these three scenarios, the regulations allowing recovery of decommissioning costs through the ratepayers should provide for the following:

1. **Clear identification of costs that can be recovered through tariffs to minimize the risk of overburdening the consumers with undue costs.** Hence, the following should be considered:
  - If a power plant has failed to comply with environmental regulations during its operations, the plant owner should be made liable to pay for the expenses for that component of decontamination activities from his profits.
  - Recovery of unpaid debt and equity should not be allowed from the decommissioning cost component as this is part of the risk of business operation. Only the cost of the technical set of activities needed to prepare the plant side for repurposing or redevelopment should be considered for recovery from tariffs.
  - Few costs such as compensation to workers, labor reskilling and reemployment should be covered in the decommissioning cost to be recovered from tariffs.
2. **Plant owners should be encouraged to tap into all available financial support mechanisms to reduce the cost burden of plant closure on ratepayers such as innovative financial tools and mechanisms being created using public, private, and philanthropic funds.**