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Takshashila Policy Advisory: Draft SHANTI Rules and Regulations, 2026

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This policy advisory covers the inputs the Takshashila Institution submitted to the Department of Atomic Energy, Government of India, on draft SHANTI rules and regulations released for public consultation in August 2026.

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In August 2026, the Department of Atomic Energy (DAE), Government of India, [released](#) draft SHANTI Rules and draft SHANTI Regulations for public consultation. These have been framed under SHANTI Act of December 2025.

The Takshashila Institution submitted three inputs to DAE in response to the public consultation. These are listed below.

1 Create an Indigenous Nuclear Innovation (INI) initiative for nuclear startups

Proposal: The Government of India should establish an Indigenous Nuclear Innovation (INI) initiative for nuclear startups with an INR 5000 crore innovation fund to be administered by the DAE. Requirements stated in the rules and regulations (for instance in rule 8 and regulation 6) should be relaxed for shortlisting of the startups for the INI initiative. In addition to monetary incentives, shortlisted startups should be given pathways for regular engagement with the AERB, and other government research laboratories and facilities for pre-consultations and expertise sharing.

Rationale: Scaling from 9 GW nuclear energy generation capacity currently to more than ten fold in about two decades requires a vibrant startup ecosystem in addition to private conglomerates and state undertakings. While nuclear operators (public or private entities) are likely to be the mainstay of India's nuclear industry, the mushrooming of nuclear startups will help Indian companies capture value in the various processes and components of a nuclear supply chain (for instance, reactor design, fuel cladding, manufacturing of efficient heat exchangers, coolants, moderators etc).

Nuclear industry startups and ecosystem players have the potential to play a critical role in India's export growth and geoeconomic statecraft. The INI initiative will help Indian companies with innovative offerings scale up for domestic and international export markets by providing them with a combination of funding, design consultation with AERB, and user (operator) experience consultation with the DAE.

2 De-linking design approval by AERB from DAE's licensing process

Proposal: There is a need to separate the AERB design approval from the DAE license track. Companies should be able to secure design approval from AERB before securing licence from the DAE. Or, at the most, they should be able to secure design approval after obtaining a "In-Principle Approval" from the DAE under rule 5.

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Prior publication on SHANTI Act: For an analysis of the SHANTI Act (2025), please check Takshashila's issue brief [published in January 2026](#).

AI Disclosure: Claude (project mode) was used for brainstorming.

Rationale: Rule 3(1), dealing with licensing of nuclear companies by the DAE, states: "Provided that the license under this sub-rule shall be granted a single composite licence authorising the building, owning, operating, decommissioning of the nuclear power plant or reactor to which it relates and no licence shall be applied for, granted, divided, or severed under this sub-rule in respect of any of those activities separately." At the same time, regulation 6, which deals with the design approval by AERB, states the following precondition for making an application: "A person possessing a valid licence to build-own-operate-decommission a nuclear power plant or a reactor shall obtain design approval in accordance with regulation 7 and safety authorisation in accordance with regulation 8." When rule 3(1) and regulation 6 are seen in tandem, it means that a company has to first secure a composite license from DAE and only then can it make an application for design approval. This skews the process in favour of large private companies wanting to enter the nuclear sector while hindering smaller nuclear companies wanting to capture value in different stages of a nuclear supply chain.

For instance, under the draft rules and regulations, a company wishing to develop a new reactor design and offer it to potential operators has no specific pathway currently. Such a design company will have to secure a client (operator) before getting design approval, resulting in the possibility of AERB rejecting the design after the client (operator) has already secured the license. This will push potential operators to only choose designs that are already operational in the country to minimise the risk of cancellation of their license as under rule 7, "failure to obtain valid design approval shall constitute non-compliance with the condition of the licence and may result in suspension or cancellation of the licence in accordance with section 8 of the Act." Even if a vendor's design is approved by the AERB, the current rules/regulations will mean that every (different) operator (which is a client of the said vendor) would be seeking approval for the same design from AERB multiple times.

3 Relax rule that limits international experimental reactor designs

Proposal: Amend rule 3(3)(a) to allow for experimental and early stage reactor designs (SMRs, molten salt reactor, accelerator driven systems and high temperature gas cooled reactor) that are neither approved nor operational in a different country of origin.

Rationale: The rule 3(3)(a) states: "if a nuclear power plant or reactor is of a foreign design, its design should have been certified or approved in the country of origin by its regulatory body and should be operational either in country of origin or any other foreign country". This is a very restrictive rule especially when it comes to designs that are in early phases of development. The case in point are small modular reactors which are in various

stages of R&D across the world but only operational in Russia and China. Indian companies (private or public) should be able to enter into arrangements with SMR companies in other countries which do not yet have an operational reactor but have their design approved by a trusted regulator. Even in cases where the SMR design is neither approved nor operational, the DAE and AERB are well-placed to evaluate the design and companies involved for providing license, design approvals and safety authorisations. What holds for SMRs also holds for cutting-edge experimental designs for thorium exploitation (like molten salt reactor, accelerator driven systems and high temperature gas cooled reactor) that may not be approved/operational in other countries but have immense potential for India's nuclear expansion.



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