

Chapter 2: Regulatory framework for nuclear and radiation facilities

Audit Objective: Whether AERB has the necessary legal status, authority, independence and adequate mandate to fulfill the responsibilities expected of a nuclear regulator

2.1 Introduction

The characteristic features of an independent regulator are that it should be created in law, rather than by a decree, legislation, or an executive order, which in turn should provide clarity on the jurisdiction, powers, duties and responsibilities of the regulator. In terms of legal powers, the regulatory body should have the authority to make final decisions on matters within its statutory domain. It should be able to set standards and make rules for the sector for which it has been provided legal authority. It should also be able to enforce its decisions, standards, codes and rules and for this, it should be able to take recourse to a range of remedies, including penalties, appropriate to the severity of violations. It should be able to compel production and provision of information as may be necessary and monitor the performance of the regulated entities.

In this Chapter, we examine whether AERB fulfils the characteristics of an independent regulator and has a clear legal authority and how it is placed in terms of the financial and manpower benchmarks laid down by the IAEA.

2.2 Legal status of Atomic Energy Regulatory Board

In India, the AE Act and the rules framed under it provide the main legislative and regulatory framework pertaining to atomic energy and radiation facilities in the country. As stated earlier, AERB was constituted in 1983 under Section 27 of the AE Act, 1962, which allows the Central Government to delegate any power conferred or any duty imposed on it by this Act to any officer or authority subordinate to the Central or State Government. Section 27 of the Act currently does not provide for constitution of any authority or Board and merely provides for delegation of powers to a subordinate authority. Therefore, the legal status of AERB can be seen to be more of a subordinate authority with powers delegated to it by the Central Government than of a statutory body with independent powers. AERB has thus not been created by any specific legislation.

International practice: International Atomic Energy Agency (IAEA) has recognised the paramount need for independence for regulatory bodies. Its Report of 2003 stresses on the need for regulatory bodies to be able to undertake the functions of developing and enacting

sound regulations, verifying compliance with such regulations and enforcing the established regulations by imposing appropriate measures.

The independent legal status of regulatory bodies has been recognised and a number of countries have conferred legal status to them through laws enacted by their legislatures. Instances of such cases are listed below:

Independent Regulatory Authorities - Cross-country comparisons

Australia	The Australian Radiation Protection and Nuclear Safety Act 1998 established a regime to regulate the operation of nuclear installations. The Australian Radiation Protection and Nuclear Safety Agency is entrusted to perform functions and exercise powers under the Act.
Canada	Canada's Nuclear Safety and Control Act has been in force since May 2000. The Act established the Canadian Nuclear Safety Commission. The Act is binding upon the Crown, both federal and provincial and upon the private sector.
France	The Nuclear Safety Authority, an independent administrative authority, was created by an Act in June 2006.
Pakistan	The Pakistan Government enacted an ordinance in 2001 to establish the Pakistan Nuclear Regulatory Authority for regulation of nuclear safety and radiation protection in Pakistan to the extent of civil liability for nuclear damage resulting from any nuclear incident.
United States	A Nuclear Regulatory Commission was established by the Energy Reorganisation Act of 1974.

In India, the status of AERB is diminished by the fact that it is not a legal entity and is merely a subordinate authority.

The weaknesses in regulatory structures arising out of lack of ‘arms length’ of regulators has been brought out vividly in the report of the Fukushima Nuclear Accident Independent Investigation Commission which has observed that “the TEPCO Fukushima Nuclear Power Plant accident was the result of collusion between the Government, the regulators and TEPCO and the lack of governance by the said parties. They effectively betrayed the nation’s right to be safe from nuclear accidents. Therefore, we conclude that the accident was clearly ‘manmade’. We believe that the root causes were the organisational and regulatory systems that supported faulty rationales for decisions and actions.”

The failure to have an autonomous and empowered regulator is clearly fraught with grave risks.

2.3 Delays in conferring statutory status with enhanced legal powers to AERB

The actions taken by DAE over the years with regard to dealing with the necessity of conferring statutory status with enhanced legal powers to AERB by amending the AE Act, 1962 as recommended by a number of Committees is set out in the chronology of events detailed below:

Date	Event
February 1981	The Meckoni Committee ³ submits a Report titled ‘Reorganisation of Regulatory and Safety Functions’ and recommends the creation of AERB as a statutory body under the AE Act to give it a legal status.
November 1983	DAE constitutes AERB under powers conferred under Section 27 of the AE Act, 1962.
May 1987	The Meckoni Committee submits its recommendations and suggests measures relating to effectiveness of the regulatory functions of AERB.
November 1992	DAE introduces a Bill titled ‘Atomic Energy (Amendment) Bill, 1992’ in the Rajya Sabha for amendment of Section 26 (Cognisance of Offences) of the Atomic Energy Act.

³ The Meckoni Committee report submitted in 1981 was titled ‘Reorganisation of Regulatory and Safety Functions’. It recommended the creation of an Atomic Energy Regulatory Board, with powers to lay down safety standards and assist DAE in framing rules and regulations for enforcing the regulatory and safety requirements envisaged under the AE Act. The Committee also recommended that AERB should be a statutory body under the Act (if necessary, by suitable amendment of the Act) to give AERB a legal basis.

January 1997	The Raja Ramanna Committee constituted to review all aspects of regulatory process of nuclear installation.
August 1997	The Raja Ramanna Committee submits its recommendations. It recommends the amendment of the AE Act to increase its effectiveness in the regulation of nuclear safety and changes in the regulatory system so that it becomes more effective.
February 2000	The Cabinet directs DAE to bring up a comprehensive amendment for consideration of the Cabinet.
April 2001	DAE prepares a comprehensive review of the AE Act, 1962.
September 2001	The Atomic Energy Commission considers the proposed amendments including constitution of an Atomic Energy Regulatory Authority (AERA).
June 2002	The Cabinet Committee on Security (CCS) approves the proposal regarding amendment of the AE Act, 1962.
December 2003	DAE submits a draft Bill to the Ministry of Law and Justice for vetting.
July 2004	The Legislative Department, Ministry of Law and Justice advises that as a new Government had taken over, inter-ministerial consultations in the Government of India may be done afresh.
July 2005	DAE submits a draft note to the Prime Minister for approval for placing before the Cabinet.
July 2005	DAE directs the undertaking of a further assessment of the proposed draft amendments, taking into account the requirement of harmonising its provisions with that of weapons of Mass Destruction and their Delivery Systems (Prohibition of Unlawful Activities) Act, 2005, and also implications of a Joint Statement with the US.
October 2005	DAE circulates a revised draft note to all Ministries and Departments concerned for obtaining their views afresh.
March 2006	DAE sends a revised Cabinet note incorporating the comments to the Legislative Department, Ministry of Law & Justice for vetting.
January 2007	Based on the advice of the Legislative Department, DAE again sends a revised note to the Cabinet and submits a revised draft bill to the Legislative Department for vetting.
June 2007	After carrying out the modifications, the draft Bill and Cabinet note are submitted to the Law Ministry for vetting.

August 2007	The Legislative Department vets the Draft Bill and the final note for the Cabinet is sent to the Cabinet Secretariat.
September 2007	The note to the Cabinet is withdrawn.
June 2010	In the wake of the Mayapuri incident, ⁴ DAE constitutes an Internal Committee to examine the amendment to the Atomic Energy Act, 1962, to suggest necessary modifications in the proposal to strengthen AERB.
December 2010	The Internal Committee submits its report, suggesting various amendments to the Atomic Energy Act, 1962.
September 2011	The Nuclear Safety Regulatory Authority Bill, 2011 (NSRA Bill, 2011) for constitution of a Nuclear Safety Regulatory Authority and other regulatory bodies is introduced in the Lok Sabha on 7 September 2011.

The above chronology of events highlights the delays and lack of adequate priority accorded by the Government of India in amending the AE Act, 1962 to increase its effectiveness in the regulation of nuclear safety by providing for an independent regulator under law. In spite of numerous attempts to bring out legislative changes, the fact remains that the AE Act, 1962 has not yet been amended (July 2012).

DAE stated (February 2012) that the process of improving the existing legal framework for introducing greater clarity in respect of separation of legal responsibilities concerning promotional and regulatory functions, had already been taken up and the Nuclear Safety Regulatory Authority bill had been tabled in Parliament to give enhanced legal status to the existing AERB.

DAE further stated (February 2012) that the Nuclear Safety Regulatory Authority (NSRA) Bill, 2011 introduced in the Lok Sabha envisaged consequential amendments to the AE Act, 1962 insofar as radiation safety was concerned, the provisions of which were related to Sections 16, 17, 23, 26 and 30 and that the Atomic Energy (Amendment) Bill, 2011 had since been drafted and circulated with the approval of the Prime Minister as Minister-in-charge, for the comments of the concerned Ministries. A proposal for introduction of the Atomic Energy (Amendment) Bill, 2011 in the Parliament would be submitted shortly for approval of the Cabinet. DAE also stated that delays in bringing out the Atomic Energy (Amendment) Bill, 2011 had occurred due to unforeseen developments and the intent was that such a Bill would be as comprehensive as possible.

⁴ The Mayapuri incident occurred in April 2010, resulting in serious injuries, including the death of a person, due to unsafe and unauthorised disposal of radiation equipment by Delhi University.

The protracted delay in the process of amendment of the Act as brought out in the chronology of events earlier and DAE's replies confirm that adequate priority had not been accorded to the issue for over 30 years since the first recommendation made by the Meckoni Committee in this direction in 1981.

Although international commitments, good practices and internal expert committees' recommendations are available, the legal status of AERB continues to be that of an authority subordinate to the Central Government, with powers delegated to it by the latter.

2.4 Regulatory independence and the clarity of AERB's role

Article 8 of the Convention on Nuclear Safety of the IAEA, ratified by the Government of India on March 31, 2005, stipulates that each contracting party should take appropriate steps to ensure an effective separation between the functions of the regulatory body and those of any other body or organisation concerned with the promotion or utilisation of nuclear energy. A regulatory body must be able to exercise its key regulatory functions (standard-setting, authorisation, inspection and enforcement) without pressure or constraint. We made an attempt to assess the status of AERB, based on the criteria laid down by IAEA for achieving effective independence. Our findings are discussed below:

Criteria laid down by IAEA	Present status in India	Audit Observations
1. Institutional separation of regulatory and non-regulatory functions	DAE is responsible for non-regulatory activities of power generation whereas AERB is responsible for regulatory functions of DAE activities. In the present set-up, AERB as well as DAE are responsible to the Atomic Energy Commission (AEC).	The fact that the Chairman, AEC and the Secretary, DAE are one and the same negates the very essence of institutional separation of regulatory and non-regulatory functions.
2. Fixed terms for regulatory officials and constraints on removal of regulatory officials on political grounds	The Chairman is to be appointed for a period of three years or until further orders, whichever is earlier, implying that he can be removed before completion of his term of three years. Currently, however there is no fixed term of office of the Chairman, AERB and	Internationally benchmarked practices have not been adopted.

	extensions are granted on a case to case basis. Three Chairmen worked for periods of three years each during 1990-1993, 1993-1996 and 1996-1999, two for a period of five years each during 2000-2005 and 2005-2010 and one for a period of seven years during 1983 to 1990.	
3. Separate budgetary and employment authority for the regulatory body	As per the Constitution Order of AERB issued in November 1983, DAE provides administrative support with regard to AERB's budget, parliamentary work and matters relating to establishment and accounts. AERB prepares and submits its budgetary requirement to DAE. DAE allocates the budget under separate account heads of AERB.	As against the best practice of the financing mechanism of the regulator being defined in the legal framework, AERB is dependent on DAE for budgetary and administrative support.
4. Reporting to an official or the organisation without conflicting responsibilities	As per the AERB Constitution Order 1983, the Chairman, AERB reports to the Chairman, AEC.	Chairman AERB reports to Chairman AEC. Chairman AEC is also the Secretary, DAE which is one of the bodies regulated by AERB, resulting in conflict of responsibilities and interest.

DAE stated (February 2012) that as per the Constitution Order, the Chairman, AERB had full powers of a head of department under the 'Delegation of Financial Powers Rules' and other relevant rules.

The above tabulation brings out that AERB has no effective independence as per the criteria laid down by IAEA. The Expert Committee headed by Shri Raja Ramanna in 1997 had recommended that the financial powers of Chairman, AERB should be enhanced fully to that of a Secretary of a Department in the Government of India and he should be given full powers to exercise control on the funds allocated under his budget head. However, the Chairman AERB continues to remain subordinate to Secretary DAE in this respect.

DAE further stated (February 2012) that in order to grant de jure autonomy to the regulatory body, a bill viz. Nuclear Safety Regulatory Authority Bill, 2011 had been introduced in the Parliament in September 2011.

AERB's independence is circumscribed by the following aspects: (i) there is no institutional separation of regulatory and non-regulatory functions; (ii) the tenure of the AERB Chairman is not fixed and he works in a capacity similar to any head of department in DAE; (iii) there is no separate budgetary authority; and (iv) AERB reports to an official/organisation whose activities are supposed to be regulated by it i.e. AEC.

2.5 Powers to make Rules

The existing Rules regulating various activities in the field of nuclear and radiation safety are:

- Atomic Energy (Working of the Mines, Minerals and Handling of Prescribed Substances) Rules, 1984,
- Atomic Energy (Safe Disposal of Radioactive Wastes) Rules, 1987
- Atomic Energy (Control of Irradiation of Food) Rules, 1996
- Atomic Energy (Factories) Rules, 1996.
- Atomic Energy (Radiation Protection) Rules, 2004

We, however, observed that none of the above Rules were framed by AERB. They were all framed by DAE.

DAE stated (February 2012) that as per Section 30 of the Atomic Energy Act, 1962, powers to make Rules for carrying out the purposes of the Act were given to the Central Government. However, AERB was always involved in the consultative process while framing/amending rules insofar as they related to issues connected with nuclear and radiation safety. The reply of DAE confirms that AERB had no authority to make Rules.

AERB does not have the authority for framing or revising the Rules relating to nuclear and radiation safety.

2.6 Control weaknesses in framing rules

AERB functions as a 'competent authority'⁵ in respect of the Atomic Energy (Radiation Protection) Rules, 2004. It was noticed that while AERB was constituted in 1983 as the safety regulator, it was notified as a 'competent authority' only in December 1987. When the Atomic Energy (Radiation Protection) Rules were replaced in 2004, the Chairman, AERB was notified as the 'competent authority' in October 2006.

DAE has not been prompt in delegation of powers of the competent authority to AERB. As a consequence of the delay, accountability could not have been fixed in the event of any disaster due to absence of such legal authority during the intervening periods.

2.7 Provisions to enforce rules

A regulatory authority should be able to enforce its decisions, standards, codes and rules. Audit noticed instances where the rules were ambiguous.

Clause 30 of the Atomic Energy (Radiation Protection) Rules, 2004 (RPR 2004) empowers *any person*, duly authorised under Sub-section (4) of Section 17 of the AE Act to inspect premises, radiation installations and conveyances. There is a need to eliminate the existing ambiguity caused by the words '*any person*' and replace it with 'AERB' which is a competent authority to bring in more clarity to its powers under Clause 30 of the RPR 2004.

While accepting this observation, DAE stated (February 2012) that though the authority available to AERB as per Clause 30 under RPR 2004 for carrying out inspections was never questioned, greater clarity would be brought in along with other amendments in RPR 2004. It further assured that a new set of rules would be promulgated on enactment of the NSRA Act and the new rules would eventually replace the RPR 2004.

2.8 Penalty provisions

Section 30(3) of the AE Act provides that Rules made under this Act may provide that a contravention of the rules shall, save as otherwise expressly provided in this Act, be punishable with fine, which may extend to five hundred rupees. In this connection, the following are noteworthy:

- The penalty provisions are provided for under the AE Act, 1962, administered by DAE.

⁵ Any official or authority appointed, approved or recognised by the Government of India for the purpose of the Rules promulgated under the Atomic Energy Act, 1962.

- AERB has no role in deciding the quantum of penalties.
- AERB has no powers with regard to imposition of penalties.
- The maximum amounts of fines are too low to serve as deterrents against offences/contraventions related to nuclear and radiation facilities which involve substantial risks.

Recommendations

1. The Government may ensure that the nuclear regulator is empowered and independent. For this purpose, it should be created in law and should be able to exercise necessary authority in the setting of regulations, verification of compliance with the regulations and enforcement of the same in cases of non-compliance.
2. The maximum amount of fines leviable as per the Atomic Energy Act may be reviewed and AERB as the regulator, may be empowered to take recourse to a range of remedies, including penalties proportionate to the severity of the violations.