

**Report of the  
Comptroller and Auditor General of India  
on  
Activities of  
Atomic Energy Regulatory Board  
for the year ended March 2012**

**Union Government  
Department of Atomic Energy**

Report No. 9 of 2012-13  
(Performance Audit)

## Contents

		Page Number
Preface		iii
Executive Summary		v
<b>Chapter 1</b>	<b>Introduction</b>	<b>1</b>
1.1	Background	1
1.2	Formation of the Atomic Energy Regulatory Board	1
1.3	Functions of the Atomic Energy Regulatory Board	2
1.4	Constitution of the Board and its organisational structure	2
1.5	Why we took up this performance audit	4
1.6	Audit objectives	4
1.7	Scope of audit	5
1.8	Audit criteria	5
1.9	Audit methodology	5
<b>Chapter 2</b>	<b>Regulatory framework for nuclear and radiation facilities</b>	<b>7</b>
2.1	Introduction	7
2.2	Legal status of Atomic Energy Regulatory Board	7
2.3	Delays in conferring statutory status with enhanced legal powers to AERB	9
2.4	Regulatory independence and the clarity of AERB's role	12
2.5	Powers to make rules	14
2.6	Control weaknesses in framing rules	15
2.7	Provisions to enforce rules	15
2.8	Penalty provisions	15
<b>Chapter 3</b>	<b>Development of safety policy, standards, codes and guides</b>	<b>17</b>
3.1	National Safety Policy	17
3.2	Safety standards, codes and guides	18
<b>Chapter 4</b>	<b>Consents</b>	<b>23</b>
4.1	Introduction	23
4.2	Regulatory consent	24
4.3	Cost of consenting process	34
<b>Chapter 5</b>	<b>Compliance and enforcement of regulatory requirements</b>	<b>35</b>
5.1	Regulatory inspections and prescribed periodicity	35
5.2	Shortfalls in regulatory inspection of radiation facilities	36
5.3	Delays in issue of regulatory inspection reports	39
5.4	Delays in submission of responses to the observations in inspection reports	40
5.5	Delays in compliance of the recommendations of the Safety Review Committee for Operating Plants	41
5.6	Non-initiation of regulatory action against defaulting X-ray units in Kerala	43

		Page Number
<b>Chapter 6 Radiation protection</b>		<b>44</b>
6.1	Introduction	44
6.2	Radiation protection in India	44
6.3	Radiation protection in nuclear and radiation facilities	45
6.4	Radioactive waste management	48
6.5	Acute shortage of Radiological Safety Officers	53
<b>Chapter 7 Emergency preparedness for nuclear and radiation facilities</b>		<b>56</b>
7.1	Introduction	56
7.2	International scenario vis-à-vis the Indian scenario	58
7.3	Emergency preparedness plans for nuclear power plants	59
7.4	Emergency plans for radiation facilities	61
<b>Chapter 8 Decommissioning of nuclear and radiation facilities</b>		<b>62</b>
8.1	Introduction	62
8.2	International scenario vis-à-vis the Indian scenario	62
8.3	Non-submission of proposal for decommissioning of any nuclear facility	64
8.4	Adequacy of decommissioning of reserves and investment of decommissioning fund	66
<b>Chapter 9 Maintaining liaisons with international bodies dealing with nuclear regulatory issues</b>		<b>68</b>
9.1	India, IAEA, and international cooperation	68
9.2	AERB and benefits from international cooperation	69
9.3	IAEA Integrated Regulatory Review Service	71
<b>Chapter 10 Conclusion</b>		<b>73</b>
<b>Annexures</b>		<b>77</b>
Annex 1	AERB's regulatory and safety functions envisaged under Sections 16, 17 and 23 of the AE Act, 1962	79
Annex 2	Suggested inspection frequencies as per 'IAEA-TECDOC- 1526'	81
Annex 3	Data relating to regulatory inspection for nuclear medicine, nucleonic gauges and diagnostic radiology (X-ray equipment) conducted during the period 2005-06 to 2011-12	82
Annex 4	Incident of high radiation exposures in metal scrap market in Mayapuri, Delhi	83
Annex 5	Details of 'unusual occurrences' relating to 15 cases which were not recovered/found	86
Annex 6	Duties and functions of Radiological Safety Officers under various rules	88
<b>Glossary of Terms</b>		<b>90</b>