AERB SAFETY GUIDE NO. AERB/SG/G-5

ROLE OF THE REGULATORY BODY WITH RESPECT TO EMERGENCY RESPONSE AND PREPAREDNESS AT NUCLEAR AND RADIATION FACILITIES

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FOREWORD

The establishment and operation of nuclear and radiation facilities, and the use of radioactive sources, contribute to the economic and social progress of the country. However, while undertaking such activities, the safety of the workers concerned, the general public and the environment at large, is to be ensured, and this is possible through compliance with the relevant provisions of the Atomic Energy Act, 1962.

Since the inception of the atomic energy programme in the country, importance has been given to the adoption and maintenance of high safety standards. In order to enforce safety standards, the Government of India constituted the Atomic Energy Regulatory Board (AERB), in November 1983.

The Board is entrusted with the responsibility for laying down safety standards and framing rules and regulations covering regulatory and safety functions envisaged under the above Act. AERB has therefore undertaken a programme of developing Safety standards, codes, guides and manuals for both nuclear and radiation facilities, covering all aspects such as siting, design, construction, operation, quality assurance, decommissioning and regulation.

Safety Standards contain internationally accepted safety criteria for design, construction and operation of specific equipment, systems, structures and components of nuclear and radiation facilities. Safety Codes are intended to establish objectives and to set minimum requirements that shall be fulfilled to provide adequate assurance for safety in nuclear and radiation facilities. Safety Guides provide guidelines and make available the methods for implementing the specific requirements as prescribed in line with the relevant Safety Code(s). Safety Manuals are intended to elaborate specific aspects and may contain detailed technical information and/or procedures.

Consistent with accepted practice, "shall" and "should" used in these documents distinguish between firm requirements and a desirable option respectively, for the benefit of the user.

Emphasis in these documents is on protection of site personnel, the public and the environment from unacceptable radiological hazards. For aspects not covered, applicable and acceptable national and international codes and standards shall be followed.

Industrial safety in nuclear and radiation facilities is to be ensured through compliance with the applicable provisions of the Factories Act, 1948 and the Atomic Energy (Factories), Rules, 1996.

The Codes, Guides and Manuals will be revised as and when necessary in the light of the experience and feedback from users as well as new developments in the field.

Based on its experience, AERB has issued a Safety Code on "Regulation of Nuclear and Radiation Facilities", to spell out the minimum safety related requirements/obligations to be met by a nuclear or radiation facility to qualify for the issue of regulatory consent at every stage leading to eventual operation. It is hoped that this will be of use to the Regulatory Body as well as to the applicant of any nuclear or radiation facility.

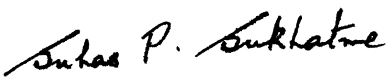
This Safety Guide on the "Role of the Regulatory Body with respect to Emergency Response and Preparedness at Nuclear and Radiation Facilities" provides guidance for the Regulatory Body on its role during emergencies at nuclear and radiation facilities. While elaborating the requirements stated in the Safety Code, the Guide also provides necessary information intended to assist the facilities, and other participating/collaborating agencies, to fulfil the requirements stipulated in the Code. It also elaborates on the Regulatory Body's review and approval process of the emergency response and preparedness plans formulated by the nuclear and radiation facilities and also its inspection of the emergency exercises carried out to assess the adequacy of the response plans and the associated preparedness.

The Guide has been prepared by a Working Group consisting of AERB staff and other professionals. In drafting it, extensive use has been made of the

information contained in the relevant documents of the International Atomic Energy Agency (IAEA) under the Nuclear Safety Standards (NUSS) programme, specially the Guide on "Role of the Regulatory Body with respect to Emergency Response at Nuclear Power Plants (50-SG-G-5)".

Experts have reviewed the Guide and the AERB Advisory Committees have vetted it before issue. The list of persons who have participated in the Committee meetings, along with their affiliations, is appended in the document.

AERB wishes to thank all individuals and organisations who reviewed the draft and helped in the finalisation of the Guide.



(Suhas P. Sukhatme)
Chairman, AERB

DEFINITIONS

Accident

An unplanned event resulting in (or having the potential to result in) personal injury or damage to equipment which may or may not cause release of unacceptable quantities of radioactive material or toxic chemicals.

Countermeasures

An action aimed at alleviating or mitigating the consequences of an accidental release of radioactive material into the environment.

Derived Intervention Level (DIL)

Quantities that can be directly measured, such as exposure rate from ground deposited activity, and concentration in foodstuff and water, at which intervention in the form of countermeasures should be initiated.

District Authority

Person notified by the appropriate Government(s), who has jurisdiction over the area outside the exclusion zone of the nuclear/radiation facility and who is responsible for co-ordinating the activities of various government agencies with a view to protect public and the environment in case of an off-site emergency.

Emergency

A situation which endangers or is likely to endanger safety of site personnel, the nuclear/ radiation facility or the environment and the public.

Emergency Plan

Requirements with respect to preparedness and procedures to be implemented to mitigate the consequences of an emergency.

Intervention Level (IL)

A level of cumulative dose to whole body or an organ, at which intervention such as introduction of countermeasures should be carried out in the event of radiological emergency.

Nuclear Facility

All nuclear fuel cycle and associated installations encompassing activities covering from the front end to the back end of nuclear fuel cycle processes and also the associated industrial facilities such as heavy water plants, beryllium extraction plants, zirconium plants etc.

Prophylactics

Specific stable chemical compounds which have a reducing or blocking effect on the uptake of certain radionuclides.

Radiation Facility

Any installation/equipment or a practice involving use of radiation generating units, or the use of radioisotopes in research, industry, medicine and agriculture.

Regulatory Body

An Authority constituted and empowered by the Central Government to carry out the regulatory and safety functions as envisaged in the Atomic Energy Act, 1962, and the Rules issued thereunder.

The term is synonymous with the term 'Competent Authority', mentioned in the above said Rules.

Regulatory Inspection

An examination by review of documents, observation, measurement or test undertaken by or on behalf of the Regulatory Body during any stage of the regulatory consenting process, to ensure conformance of materials, components, systems and structures, as well as operational and maintenance activities, processes, procedures, practices and personnel competence, with predetermined requirements.

Site

The area surrounding the plant which is under the direct control of the plant and to which members of public have no free access.

Off-Site

Area beyond the site boundary (public domain).

CONTENTS

1. INTRODUCTION

1.1 General

1.1.1 This Safety Guide has been prepared as part of the regulatory requirements for establishing Codes of Practices and Safety Guides relating to nuclear and radiation facilities [1]. This Guide amplifies the provisions of the Safety Code on Regulation of Nuclear and Radiation Facilities in respect of the role of Regulatory Body regarding Emergency Response and Preparedness.

1.1.2 Despite inherent and engineered safety features and the measures taken by the consentee of a nuclear and radiation facility, there is still a potential for the occurrence of an accident resulting in radioactive releases or releases of hazardous chemicals affecting the plant, personnel, property, general public and the environment. The impact of such accidental releases can be mitigated (minimised) through well laid down and executed emergency procedures. It is the responsibility of the Regulatory Body to ensure that the Consentee has laid down necessary emergency procedures by having an on-site emergency preparedness plan, and the District Authority has a similar plan with respect to off-site emergency. The role, responsibilities and action plan for various agencies required to act during an emergency should be detailed in these documents.

1.2 Objectives

1.2.1 The Regulatory Body has the responsibility to check and ensure that the mitigative actions as per approved plans are taken during an emergency. To achieve this, the following requirements have to be fulfilled:

(i) establishment of approved emergency preparedness manuals for nuclear and radiation facilities, identification of responsibilities of various organisations and agencies to intervene during emergency;

(ii) maintenance of adequate state of emergency preparedness at the nuclear and radiation facilities; and

(iii) revision and updating of existing emergency preparedness manuals periodically reflecting the latest inputs available.

1.3 Scope

The document brings out the role and responsibility of the regulatory body in an emergency, and the necessity for establishing an action (or advisory) group in the Headquarters. The guide also deals with the modality of regulatory verification of the emergency preparedness of a facility and the usefulness of emergency exercises for updating/revision of the plans. This document does not cover the off-site emergency that may occur during transportation of radioactive materials. For such emergencies, the document cited under reference [2] is applicable. This Guide identifies agencies responsible for response during various types of emergencies that may arise and outlines the nature of interfaces among these agencies which will ensure effective emergency response. The Guide also details the contents of emergency preparedness manuals to be prescribed by the Regulatory Body to facilitate preparation, proper review and approval.

2. TYPES OF EMERGENCIES AND BASIC RESPONSIBILITIES

2.1 General

2.1.1 Depending on the extent and severity of an accident, emergency situations are classified as follows:

(i) Emergency standby : Abnormal plant conditions with potential to develop into accident situations, if timely preventive actions are not taken.

(ii) Personnel emergency : Emergency involving serious injury and/or excessive contamination of personnel involving radioactive/toxic chemicals or exposures to radiation and toxic chemicals.

(iii) Plant emergency : Accident situations due to release of hazardous chemicals/radioactive materials, fire/explosion in the plant but with consequences confined within the plant boundary.

(iv) Site emergency : Accident situations in the plant involving radioactivity transgressing the plant boundary but confined to the site, or involving release of hazardous chemicals/explosion/fire, whose effects are confined to the site, with off-site consequences expected to be negligible.

(v) Off-site emergency : Accident situations with excessive release of radioactivity or release of large amounts of hazardous chemicals/explosion/fire, with consequences likely to extend and transgress into public domain, calling for intervention.

2.2 Responsibility for Emergency Response

2.2.1 The agencies responsible for carrying out remedial measures during the different categories of emergencies mentioned above are as follows:

Type of Emergency	Responsible Agency
(i) Emergency standby	Plant management
(ii) Personnel emergency	
(iii) Plant emergency	
(iv) Site emergency	
(v) Off-site emergency	District Authority of the State Government having jurisdiction over public domain affected by the accident, normally the District Collector.

2.2.2 The Regulatory Body has to interface with concerned agencies in all types of emergencies.

3. ORGANISATIONAL ASPECTS - INTERFACES

3.1 General

For effective emergency response, it is necessary to identify and delineate interfaces among various organisations which have been assigned specific responsibilities. In this chapter the responsibilities of Consentee, District Authorities, and the Regulatory Body are specified by identifying the interfaces among them.

3.2 Regulatory Body vis-a-vis Consentee

3.2.1 The Regulatory Body should ensure that the Consentee does the following:

(i) prepares Emergency Preparedness Plans in respect of Plant Emergency and Site Emergency and submits them to the Regulatory Body for review and approval and revises the same at specified intervals;

(ii) informs the Regulatory Body sufficiently in advance as stipulated or agreed to, about the proposed conduct of Site Emergency Exercises;

(iii) conducts periodic communication exercises and Plant and Site Emergency Exercises as prescribed in the Emergency Preparedness Plan;

(iv) rectifies deficiencies noted during the above exercises;

(v) liaises with District Authorities as prescribed in the Emergency Preparedness Plan; and

(vi) informs the Regulatory Body about the occurrence of an emergency situation and subsequent follow-up actions taken.

3.3 Regulatory Body vis-a-vis District Authorities

The Reglatory Body should have appropriate arrangements with the District Authority to:

(i) ensure that the off-site emergency plan is prepared as prescribed;

(ii) receive the off-site emergency plan for review and for offering recommendation, if any;

(iii) receive intimation in advance as agreed to, about the conduct of off-site emergency exercises;

(iv) ensure that off-site emergency exercises are conducted at frequencies as prescribed or as indicated in the Plan;

(v) ensure that the Plan is updated as and when necessary, and revised once in five years; and

(vi) see that its recommendations are considered and implemented.

3.4 Off-site Emergency Exercise

An off-site emergency exercise shall be conducted prior to regular operation of NPPs or Nuclear Fuel Cycle Facilities.

4. REVIEW AND APPROVAL OF EMERGENCY PLANS

4.1 General

4.1.1 The emergency preparedness plan should provide for adequate measures for handling the situation and ensure readiness of persons, facilities and equipment and for effective co-ordination between various groups at site and off-Site including public authorities.

4.1.2 Emergency preparedness programme planned at the design stage of nuclear and radiation facilities indicating exit routes from the facility, availability of shelters taking into account the population distribution etc., shall be submitted to the Regulatory Body before the operation of the facility.

4.2 Types of Emergency Plan

4.2.1 The emergency preparedness plan shall cover all emergency situations envisaged so that a graded scale of response consistent with the magnitude of situation can be specified and ensured. The plan thus shall address the following situations:

(i) emergency standby,

(ii) personnel emergency,

(iii) plant emergency,

(iv) on-site emergency and

(v) off-site emergency

4.2.2 Details of response to emergency standby, personnel emergency, plant emergency and site emergency situation shall be specified in the Site Emergency Preparedness manual of the nuclear and radiation facility. Details of response to off-site emergency shall be specified in the off-site emergency preparedness manual.

4.3 On-site Emergency Plan

4.3.1 The site emergency plan for nuclear and radiation facilities should include:

(i) classification of emergencies,

(ii) emergency actions,

(iii) emergency agencies,

(iv) declaration and notification,

(v) identification of control centres and assembly areas,

(vi) emergency equipment, materials and decontamination facilities,

(vii) communication facilities,

(viii) first-aid centre and hospital facilities,

(ix) duties and responsibilities of key personnel - including Site Emergency Director. Plant Superintendent, Shift Charge Engineer, Advisory Group, Health Physicists/Safety Officers, Telephone operator, Transport in-charge, Medical Superintendent and Officer-in-Charge entrusted with environmental monitoring for radioactivity/ toxic chemicals,

(x) environmental monitoring programmes,

(xi) assessment of conditions subsequent to release of radioactivity/ toxic chemicals,

(xii) rescue/rehabilitation,

(xiii) termination of emergency and notificatin of the same,

(xiv) maintenance of emergency preparedness,

(xv) records,

(xvi) training of plant personnel for handling emergency situations and

(xvii) periodicity of conducting drills/exercises.

4.3.2 The requirements in site emergency plans for radiation and nuclear facilities are prescribed in detail in the relevant Safety Guidelines on Site Emergency Preparedness Plans [3,4]

4.4 Off-site Emergency Plan

4.4.1 The Regulatory Body should ensure that off-site emergency plans envisaged for nuclear mand radiation facilities include the following:

(i) Site characteristics - such as demography, nature of land and produce, meteorological data,

(ii) Emergency evaluation guidelines,

(iii) Declaration and termination of emergency,

(iv) Duties and responsibilities of relevant key personnel and off-site agencies such as District Authorities, Police, Agriculture Department, Animal Husbandry Department, Fisheries Department, Transport Department, Medical services, Communication agencies, Military, Department of Atomic Energy, Civil Defence and other emergency services,

(v) Communication facilities,

(vi) Environmental monitoring and assessment,

(vii) Protective measures,

(viii) Resources and facilities,

(ix) Intervention levels and derived intervention levels [5],

(x) Emergency action plan,

(xi) Maintenance of emergency preparedness,

(xii) Records,

(xiii) Periodicity of conducting drills/exercises,

(xiv) Public awareness programmes and

(xv) Training of plant personnel and public authorities.

4.4.2 The Regulatory Body shall formulate guidelines on countermeasures to be taken at various intervention levels, along with derived intervention levels in the case of off-site emergencies. Action plans, based on these guidelines and other requirements in the off-site emergency plans, for nuclear and radiation facilities in general, are described in detail in the Safety Guidelines for preparation of emergency preparedness plans issued by the Regulatory Body. [6,7]

4.5 Assessment of Emergency Preparedness

4.5.1 The Regulatory Body shall complete the review and assessment of the on-site and off-site emergency preparedness plans before issuing the consent for commencement of operations.

4.5.2 The Regulatory Body shall satisfy itself that all essential information required for safe conduct of emergency response plan has been furnished and compliance with requirements assured.

4.5.3 The Regulatory Body shall, in addition, provide for regulatory inspection for assessment of emergency preparedness as detailed under Chapter 6.

5. RESPONSE TO AN EMERGENCY

5.1 General

The Regulatory Body should have regulatory jurisdiction in respect of industrial and radiation safety of all nuclear facilities and radiation safety in respect of radiation facilities in the country as per the statutory provisions [8]. This applies to normal conditions as well as emergency conditions of the nuclear and radiation facilities. Hence it is necessary that the Regulatory Body should be appropriately equipped to respond to any emergency.

5.2 Role and Responsibility of the Regulatory Body in Emergency

The role of the Regulatory Body covers the following stages:

(i) assessment of emergency preparedness (pre-emergency),

(ii) an emergency situation (during emergency), and

(iii) after termination of an emergency (post emergency).

5.2.1 The responsibilities in the emergency preparedness stage are:

(i) to lay down the radiological and other guidelines for declaring emergency,

(ii) to review as appropriate the emergency preparedness plans developed by the nuclear and radiation facilities and the public authorities,

(iii) to ensure that an adequate/updated overall emergency plan has been prepared and is in force, and

(iv) to ensure that the emergency preparedness is also maintained through exercises.

5.2.2 During an emergency situation the Regulatory Body should:-

(i) keep itself informed of the actions taken by the District Authorities and the operating organisation,

(ii) review and assess the emergency situation as necessary, and

(iii) as and when required, inform the public concerning the emergency situations.

5.2.3 After the termination of an emergency situation the Regulatory Body should:

(i) review and authorise follow up actions, if necessary, with a view to protect the public from radioactive contamination and minimise exposure to radiation and toxic chemicals,

(ii) laydown criteria for re-entry into plant areas and affected places,

(iii) review and authorise actions necessary for the plant recovery, resumption of operations or decommissioning of the nuclear and radiation facility as appropriate, and

(iv) conduct an overall assessment of the events that led to the emergency, actions taken during the emergency and post-emergency consequences and action plans.

5.3 Communication within the Regulatory Body

When any emergency condition in a nuclear or radiation facility is declared, in order to ensure proper review of the situation by the Regulatory Body and provide an effective response,the information shall be communicated to the designated persons in the Regulatory Body.

Depending on facilities where emergency is reported, appropriate groups or persons in the Regulatory Body shall be activated. For this purpose, proper channels of communication shall be established in the Regulatory Body.

5.4 Assessment of Situations and Actions

An Advisory Group consisting of experts in relevant areas of safety should be constituted in respect of any emergency condition in nuclear and radiation facilities. The Head of the Regulatory Body shall be informed of any emergency condition in the nuclear and radiation facilities. On receipt of information regarding emergency, the Advisory Group should be activated. Assessment of situations will be governed initially by reports received from the Emergency Control Centre located at the incident location. Based on the recommendation of the Advisory Group, the Head of the Regulatory Body may initiate appropriate actions as necessary.

5.5 Documentation Regarding Emergency Response

The following documents shall be available within the Regulatory Body at a centralised location:

(i) reports containing observations on the emergency exercises of various facilities including those prepared by the Regulatory Body,

(ii) documented reports on relevant information/exchanges between the Regulatory Body and various other agencies during and after the emergency exercises, and

(iii) approved emergency preparedness plans of various facilities.

6. REGULATORY INSPECTION

6.1 General

The emergency preparedness of nuclear and radiation facilities should be verified through regulatory inspection [9].

6.2 Regulatory Inspection

The regulatory inspection should cover the following:

(a) updating the emergency preparedness plans prepared by the nuclear and radiation facilities;

(b) availability of specific action plans with officials who have been assigned specific emergency response actions;

(c) availability of various communication facilities and their periodic testing;

(d) inventory of equipment at the emergency control centres and their maintenance;

(e) availability of trained manpower for emergency actions;

(f) availability and maintenance of support facilities like firefighting equipment, ambulance, first-aid, decontamination, and off-site storage of prophylactics, and medical management of exposed personnel;

(g) availability and maintenance of emergency survey/monitoring vehicle;

(h) availability of meteorological data to estimate atmospheric dispersion;

(i) provision to maintain habitability of control room during emergency either arising from the same plant or that arising from other facilities located at that site;

(j) mechanism of coordination with other facilities at that site;

(k) periodicity of conducting exercises as per emergency preparedness plan; and

(l) rectification of deficiencies observed/pointed out during earlier emergency exercises and regulatory inspections.

7. EMERGENCY EXERCISES AND REVIEW

7.1 General

Emergency exercises are intended to demonstrate the level of preparedness and bring out deficiencies,if any. Periodicity of conducting emergency exercises in nuclear and radiation facilities shall be as per the Emergency Preparedness Plan.

7.2 Observation and Evaluation

The Regulatory Body should verify the following:

7.2.1 Initial Phase of Emergency Exercise

(a) the response of control room operator in assessing predetermined accident scenario to classify the emergency;

(b) the response and effectiveness of:

(i) siren in alerting all on-site personnel,

(ii) notification process to alert all emergency agencies,

(iii) accounting of plant/site personnel,

(iv) evacuation of plant/site security area,

(v) procedures followed by personnel manning emergency control centres,

(vi) notification and supply of information to designated authorities on- and off-site and the general public, and

(vii) adherence to approved procedures.

7.2.2 Assessment of Accident Consequences

Assessment should include wherever applicable available arrangements and techniques to:

(i) evaluate meteorological data,

(ii) evaluate monitoring data obtained from field measurements and installed monitors (on-site/off-site),

(iii) track the radiation plume and obtain meaningful and useful results (as applicable),

(iv) estimate dose projection by all routes for formulating applicable protective countermeasures,

(v) analyse ground level concentrations if there is a release of toxic substances e.g. Chlorine,

(vi) estimate the thermal radiation in case of a hydrocarbon fire, e.g. diesel fire, for damage potential, and

(vii) evaluate the peak overpressure generated due to vapour cloud explosion e.g. LPG.

7.2.3 Radiological Monitoring — Evaluation of :

(i) availability, selection and use of equipment,

(ii) timely response of monitoring teams in reaching specified locations to perform all specified tasks, and

(iii) promptness in proper monitoring, recording and relaying of monitored data to emergency control centre.

7.2.4 Assessment of Decision Making Processes and Protective Measures include Evaluation of:

(i) the ability to implement protective measures to prevent or minimise exposure of the public,

(ii) arangements for administration of prophylactics, sheltering, evacuation, access/egress control, traffic control and ingestion control, and

(iii) the interface between on-site and off-site organisations.

7.2.5 Critical Review of Medical Facilities:

(i) for rendering assistance to both public and on-site personnel in decontamination and treatment of exposed/affected persons, and

(ii) to ensure availability of ambulance facilities and other resources.

7.2.6 Assessment of:

(i) personnel dose/inhalation of toxic gases,

(ii) control of radiation exposure of emergency response personnel, and

(iii) possible injury to human beings and potential damage to machine and material.

7.2.7 Evaluation of the following :

(i) establishment of sufficient and accurate communication between identified emergency response agencies, and

(ii) logging procedures including technical terminology used in all communications to ensure clarity.

7.2.8 The Regulatory Body shall ensure that exercises are carried out as per the emergency preparedness plan.

8. PERIODIC ASSESSMENT AND UPDATING/ REVISION OF EMERGENCY PLANS

8.1 General

The efficacy of the emergency preparedness plans should be evaluated by conduct of periodic emergency exercises. Owing to transfer/movement of key personnel assigned with emergency responsibilities and also due to changes in population distribution etc., the emergency preparedness plans should be updated/revised periodically.

8.2 Assessment of Emergency Preparedness Plans

The Regulatory Body should assess the implementation of emergency action plans formulated in the plan, during periodic emergency drills/ exercise and/or in an emergency situation for its effectiveness.

8.3 Updating/Revision of Emergency Preparedness Plans

(a) The emergency preparedness plans should be updated from time to time to incorporate any change that may be necessary

(b) The emergency preparedness plans should be revised atleast once in five years on the basis of experience gained during exercises and its assessment and incidents that may have taken place in the concerned utility or elsewhere. The revised plans should be approved by appropriate authority before they are issued.

REFERENCES

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3. ATOMIC ENERGY REGULATORY BOARD, Preparation of Site Emergency Preparedness Plans for Nuclear Installations, AERB/SG/EP-1, 1999.

4. ATOMIC ENERGY REGULATORY BOARD, Preparation of Site Emergency Preparedness Plans for Non-nuclear Installations, AERB/SG/EP-3, 2000.

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8. Atomic Energy Act, 1962.

9. ATOMIC ENERGY REGULATORY BOARD, Regulatory Inspection and Enforcement in Nuclear and Radiation Facilities, AERB/SG/G-4 (under preparation).

LIST OF PARTICIPANTS

WORKING GROUP

Dates of the Meeting	:	July 4, 1995 August 11, 1995 November 10, 1995

Members and invitees participating in the meetings:

Shri S. Venkatesan (Chairman)	:	AERB
Shri K. Muralidhar	:	DAE
Shri M. Sundaram	:	BARC
Dr. A.N. Nandakumar	:	BARC
Shri P.K. Ghosh	:	AERB
Shri S.K. Fotedar (till March 1996)	:	NPC
Shri A.S. Awatramani	:	NPC
Shri V.P. Gholap (Invitee)	:	AERB
Shri G. Natarajan (Member-Secretary)	:	AERB

ADVISORY COMMITTEE ON PREPARATION OF CODE AND GUIDES ON GOVERNMENTAL ORGANISATION FOR REGULATION OF NUCLEAR AND RADIATION FACILITIES (ACCGORN)

Dates of Meeting	:	December 21, 1995	March 1, 1996
		January 2, 1996	June 10, 1997
		Februray 19 & 20, 1996	May 5, 2000

Members and invitees participating in the meetings:

Dr. S.S. Ramaswamy (Chairman)	:	Formerly DG, FASLI
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Shri A.K. Asrani	:	AERB
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Shri R.S. Singh (Member-Secretary since October, 1999)	:	AERB

LIST OF SAFETY CODE AND GUIDES ON REGULATION OF NUCLEAR AND RADIATION FACILITIES

Safety Series No.	Title
AERB/SC/G	Regulation of Nuclear and Radiation Facilities.
AERB/SG/G-1	Consenting Process for Nuclear Power Plants and Research Reactors: Documents Submission, Regulatory Review and Assessment of Consent Applications.
AERB/SG/G-2	Consenting Process for Nuclear Fuel Cycle and Related Industrial Facilities: Documents Submission, Regulatory Review and Assessment of Consent Applications.
AERB/SG/G-3	Consenting Process for Radiation Facilities: Documents Submission, Regulatory Review and Assessment of Consent Applications.
AERB/SG/G-4	Regulatory Inspection and Enforcement in Nuclear and Radiation Facilities.
AERB/SG/G-5	Role of Regulatory Body with respect to Emergency Response and Preparedness at Nuclear and Radiation Facilities.
AERB/SG/G-6	Codes, Standards and Guides to be Prepared by the Regulatory Body, for Nuclear and Radiation Facilities.
AERB/SG/G-7	Regulatory Consents for Nuclear and Radiation Facilities: Contents and Format.
AERB/SG/G-8	Regulations and Criteria for Health and Safety of Nuclear Power Plant Personnel, the Public and the Environment.