



www.aerb.gov.in

January-March 2019

AERB

e-Newsletter

Atomic Energy Regulatory Board



The mission of the AERB is to ensure that the use of ionising radiation and nuclear energy in India does not cause undue risk to health of people and the environment

Contents

| | |
|--|----|
| From Chairman's Desk..... | 2 |
| Safety Review and Regulation..... | 4 |
| Safety Review and Enforcement In Radiation Facilities..... | 4 |
| Initiatives towards Maximum Governance and Minimum Government..... | 4 |
| International Cooperation..... | 5 |
| National Safety Day/ Safety Week Celebration at AERB..... | 6 |
| Discussion Meet/Seminars/Awareness Programme..... | 7 |
| Safety Promotional Activities..... | 10 |
| Human Resources Development..... | 11 |
| Swachhata Pakhwada..... | 12 |
| Official Language Implementation..... | 13 |
| Women's Day Celebration in AERB..... | 13 |
| Changes in AERB's Organisation..... | 14 |
| Recruitment / Retirement..... | 15 |
| Feedback..... | 16 |

From Chairman's Desk



At the beginning of the New Year, I assumed charge of the Chairman of this esteemed organization. Even though I have been associated with the nuclear sector for quite a long, I assumed this position of great responsibility to carry forward the mission of AERB in protecting the people and environment from undue risks, in use of ionising radiation.

The benefits of Nuclear and Radiation Technologies either in generation of power as well as in applications of radiation in the field of medicine, industry, agriculture and research should serve people safely.

All the regulatory activities are being executed smoothly by the competent AERB team as per the excellent systems established by the past visionary leaders.

We are pleased to meet the delegation from Ghana Atomic Energy Commission in AERB and share the regulatory practices being followed by us.

AERB team acted promptly and sensibly in coordinating with concerning agencies in recovering the radiation source from one of the oil drilling sites at Rajahmundry, Andhra Pradesh. I appreciate the efforts of the concerned officials in recovering the radiation source intact.

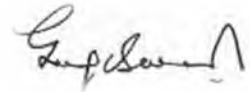
With continued efforts towards, 'Minimum Government, Maximum Governance', AERB has further simplified the licensing process for some of the "Consumer Products" using tiny radiation substances by automating some of the requirements through online web based eLORA (e-Licensing of Radiation Applications) system of AERB. AERB has implemented e-Office system, developed by National Informatics Centre (NIC), which is helping expeditious processing of proposals.

Various safety promotional events such as organising theme meets, discussion meets on important issues for our stakeholders were held in this quarter, are elaborated in this issue of e-newsletter. On the occasion of National Safety Day / Safety Week, an interactive session was organised on March 1, 2019 for our employees to spread awareness about importance of workplace safety.

AERB is geared up to meet the regulatory requirements of the expanding nuclear power programme of the country. Required regulatory clearances for six indigenous 700 MWe PHWR units in Gujarat (KAPP-3&4), Rajasthan (RAPP-7&8) and Haryana (GHAVP-1&2) are issued. AERB continued its regulatory oversight programme covering nuclear and radiation facilities and took appropriate enforcement actions on errant organisations.

I earnestly hope that in the coming days of the New Year 2019 we continue to work with the same zeal and fervour to enhance Safety as per AERB mission.

I appreciate the efforts of the editorial team for bringing out this informative e-newsletter. I take this opportunity to solicit your suggestions and feedback for further improving our processes.



(G. Nageswara Rao)

Safety Review and Regulation

Consenting of Nuclear and Radiation Facilities

- Renewal of Licence for operation of HWP-Hazira under the Factories Act, 1948
- Renewal of Licence for operation of KKNPP-1&2 under the Factories Act, 1948
- Approval for next irradiation campaign in Fast Breeder Test Reactor (FBTR), Kalpakkam.
- Regulatory clearance for Acid-solvent run at Demonstration Fast Reactor Fuel Reprocessing Plant (DFRP), Kalpakkam

Safety Review and Enforcement In Radiation Facilities

Ageing Management Studies for Gamma Radiation Processing Facility

ISOMED, the first commercial irradiation plant for sterilization of medical products and recently upgraded for food products preservation, that uses the Co-60 radioactive isotope, was set up in India by the Department of Atomic Energy (DAE) at Bhabha Atomic Research Centre (BARC), Trombay, in 1974 with the assistance of the United Nations Development Programme (UNDP).

After the facility's safe and continued successful operations for more than four decades, a comprehensive aging management studies to identify areas for strengthening and renovation to ensure continued safe operation was initiated.

As part of the studies, experts from AERB carried out thermal analysis of the cooling coil configuration in the concrete structure which houses very high intensity radioactive source. The analysis which used multi-physics computational tools, provided the design basis for renovation of this facility for its continued safe operations.

Enforcement Actions in Radiation Facilities

AERB conducted surprise regulatory inspection and sealed two industrial radiography devices at Agra and two industrial radiography devices at Rajkot (belonging to two Gujrat based radiography facilities) due to storage/use at unapproved sites.

Subsequently, all the industrial radiography institutions were directed to comply with the regulatory requirements. Any discrepancy with regard to location of radiography devices vis-a-vis eLORA information, similar action will be initiated.

Initiatives towards Maximum Governance and Minimum Government

- ❖ AERB has implemented e-Office system, developed by National Informatics Centre (NIC), a standard product designed for usability across the government offices. The implementation of e-Office at AERB caters to various administrative functions such as Leave Management, Tours Management, e-File (File Tracking) as well as to carry out

regulatory functions of AERB. The systems has helped to achieve reduction in physical movements of paper and has reduced the processing time.

- ❖ In order to facilitate and simplify the licensing process for some of the “Consumer Products” using ionizing radiation, a relatively low hazard practice, the Equipment Receipt Intimation and Source Receipt Intimation as a pre-requisite requirement have been automated in the online web based eLORA (e-Licensing of Radiation Applications) System of AERB.

International Cooperation

A bilateral meeting between Department of Atomic Energy (DAE) and delegation of Ghana Atomic Energy Commission (GAEC) consisting of Prof B.J.B. Nyarko, Director General, GAEC and Dr. Nii Kwashie Allotey, Director, GAEC was held in AERB on January 28, 2019. The discussions primarily focused on the Indian nuclear regulatory infrastructure and AERB’s regulatory oversight for nuclear and radiation facilities.



Chairman, AERB interacting with delegation from GAEC

IAEA-CNS officers’ Turnover Meeting

Indian officers participated in IAEA-CNS officers’ turnover meeting in Vienna during March 19- 21, 2019.



National Safety Day/ Safety Week Celebration at AERB

On the occasion of National Safety Day/ Safety Week, an interactive session was organized on March 1, 2019, for AERB employees to spread awareness about importance of workplace safety. During the session, video clips depicting significance of some vital aspects of occupational safety such as leadership, identification of workplace hazard, competency of worker, participation of employee in decision making and encouragement for innovations in safety were played and participants were encouraged to give their observations about the occupational safety aspects highlighted in the videos. It was followed by a presentation on a few fatal accidents occurred at DAE units and interactive discussion between the participants about the root causes of these fatal accidents.



Shri G. Nageswara Rao, Chairman, AERB interacting with Audience during celebration of National Safety Day

Executive Director, AERB, in his speech, highlighted significance of workplace safety with some examples of near miss incidents occurring in normal chores and emphasized that everyone should own responsibility to keep workplace safe. The session was concluded with closing remarks by Chairman, AERB. He shared his own experiences about near miss incidents and elaborated various aspects about occupational safety.

In this interactive session AERB officials enthusiastically participated and appreciated the content of the session.

Discussion Meet/Seminars/Awareness Programme

AERB organizes discussion meets, awareness programmes for its stakeholders and also participates in such programmes organized by DAE and other bodies to disseminate information on AERB's role, regulatory processes & functions and safety requirements to ensure that sources of ionizing radiations are handled, used and transported safely without causing harm to people and environment. The objective of such programmes is to improve the public perception of safe use of atomic energy and radiation for peaceful and beneficial purpose and provide right information to the public to eliminate fear created by myths about radiation.

Special Meet for 'Calibration and Testing Radiological Laboratories'

Recently, Atomic Energy Regulatory Board (AERB) and National Accreditation Board for Testing and Calibration Laboratories (NABL) have jointly reached an agreement towards streamlining the accreditation process of radiological measuring and testing laboratories for calibration and testing purposes. In line with its mandate, AERB would continue to regulate these laboratories from the radiological safety viewpoint in accordance with the Atomic Energy (Radiation Protection) Rules, 2004. Like-wise, NABL will provide laboratory accreditation services for testing and calibration of radiological laboratories by maintaining quality management system in testing and calibration activities. In order to apprise the concerned stakeholders, AERB arranged special meet for calibration and testing of radiological Laboratories on March 26, 2019 at its headquarter in Mumbai. The programme was attended by delegates from various private calibration and testing laboratories, experts from BARC, Board of Radiation and Isotope Technology (BRIT) & Raja Ramanna Centre for Advanced Technology (RRCAT).



Shri D. K. Shukla, Executive Director AERB giving the inaugural speech



Dr. Avijit Das, Director NABL giving special remarks on the occasion



Participants interacting with Panelists during the Session

Theme Meeting on ‘Measurement of Carbon-14 Activity in effluent release and environment samples

One day theme meeting on measurement of carbon-14 activity in effluent release and environment samples was conducted in AERB on February 19, 2019. The theme meeting was aimed at taking stock of various R&D activities being conducted for developing necessary understanding about C-14 activity in environment, in reactor systems, waste disposal facilities including environmental dose monitoring in the areas around NPPs due to C-14. The meeting was also targeted towards harmonization of measurement methods that are adopted by different laboratories with respect to C-14 measurements and identification of further actions.

Total eight studies were presented by various DAE units and Mangalore University (under BRNS project), and shared their findings and experiences. Major outcomes of all presentations and studies can be summarized as below:

- Environmental concentration of C-14 was observed to be increased during 1963 due to nuclear tests and after that levels steadily decreased due to mixing with the biosphere and oceans.
- Effective dose to a person due to natural background of C-14 is about 12 $\mu\text{Sv}/\text{y}$.
- C-14 generation in PHWRs is higher than all other types of reactors and maximum part of it is generated in the moderator system.
- Cementation of radioactive waste is suitable for keeping C-14 radioactivity confined for long duration.



Chairman, AERB Shri G. Nageswara Rao delivering the presidential address in the theme meeting



Participants in the theme meeting

The programme was a successful step towards development of understanding about C-14 generation in reactor systems, its pathways to deliver dose to public and to plan the future course of action regarding regulatory oversight.

Theme meeting on ‘Environmental Remediation Strategies for Radioactive Contamination’

Two-day theme meeting on ‘Environmental Remediation Strategies for Radioactive Contamination’ was organized by Safety Research Institute (SRI), AERB during March 14-15, 2019. Delegates from AERB, IGCAR, BARC, NPCIL, BHAVINI, CSIR, Mangalore University, TNSDRF etc. participated in the Theme Meeting. Three technical sessions consisting of ten invited lectures on remediation related topics extensively covered the Chernobyl and Fukushima experiences and current developments. The theme meeting served well in understanding remediation approaches by the participants and paved for useful technical exchanges.



Shri G. Nageswara Rao, Chairman AERB delivering the inaugural address in the Theme Meeting



Panel discussion during the Theme Meeting

Theme Meeting on ‘Regulatory Inspection Process’

AERB hosted a Theme Meeting on ‘Regulatory Inspection Process’ on February 21, 2019 at Mumbai. The objective of the meeting was to share experiences and obtain feedback on the

process of regulatory inspection of nuclear and radiation facilities. Representatives of all the Licencees of nuclear facilities, and a few radiation facilities were invited to the meeting.

During the meeting, the changes made in the regulatory inspection process of AERB, such as frequency of inspections, reporting of inspection findings, and assignment of safety significance to the inspection findings were deliberated. The delegates in general, appreciated the present regulatory inspection process of AERB, and made certain suggestions for further improvement. These suggestions were discussed during the panel discussions for further actions at AERB. Around 100 delegates from various DAE units and radiation facilities participated in this meeting.



Shri D. K. Shukla, Executive Director AERB giving the inaugural speech



Shri S. K. Ghosh, Head, DRI AERB speaking on the Occasion

Safety Promotional Activities

As a part of continuous outreach efforts towards promoting of radiation safety and disseminating information on AERB's regulatory requirements to its stakeholders, AERB officials participated as a faculty member and delivered special talks in seminars, workshops and awareness programmes organized by other institutions as detailed below.

- ❖ NAARRI (National Association for Application of Radio isotopes and Radiation in Industry) and S. P. B. Patel Engineering College, Mehsana organized 'National Seminar on Application of Radioisotopes and Radiation Technology in Agriculture Healthcare and Industries' during February 15-16, 2019 at Mehsana, Gujarat. Dr. A. U. Sonawane, Head, DRA&C, AERB delivered lecture on 'Radiological Safety and Regulations in Applications of Radiation Sources'. Dr. A. U. Sonawane, Head, DRA&C delivered the lecture during national seminar. The seminar was attended by students and faculty members from science and technology institutes, agriculture universities, and medical & para-medicals institutes.



- ❖ AERB officials participated as faculty members in a Workshop on 'Developing Safety Culture in Radiology' organised by Tata Memorial Centre (TMC), Mumbai on February 24, 2019 and delivered lecture on 'Radiation Safety in Radiology'. Participants discussed various radiological safety aspects such as safety in various modalities of radiology, patient dose optimization techniques, good practices in radiology, proper usages of TLD badges etc.
- ❖ AERB officials participated as faculty in Radiation Safety training programme organized by Department of Health & Family Welfare, Govt. of Punjab at PHSC Mohali, Punjab on February 21-22, 2019 for the Medical Radiographers, Orthopaedicians and Dentists in two batches. Talks on Radiation Safety, Regulatory Requirements in use of Medical X-ray Equipment in Orthopedics and Familiarization with eLORA system were delivered by AERB faculty.

Human Resources Development

Management Development Programme (MDP)

The Management Development Programme (MDP) for Scientific Officers of AERB was conducted from February 18-22, 2019 at Yashwantrao Chavan Academy of Development Administration (YASHADA), Pune. First batch of Scientific Officers (SO/E level) attended the 5 day residential Programme. The topics included time and stress management, governance through management, effective communication skills, motivation, meetings and report writing skills, code of ethics, human factor engineering, self-assessment and SWOT Analysis, Leadership skills and lateral & Creative thinking.



*Shri G. Nageswara Rao, Chairman AERB
inaugurating the MDP at YASHADA, Pune*



Participants of MDP at YASHADA, Pune

AERB Colloquiums

Five AERB colloquia on various topics were organised during the period, the details are follows:

- ❖ Leadership and Management for Safety
- ❖ Lessons Learnt from event of Pressure Tube leak at KAPS-1
- ❖ Radiation Shielding of Medical Installations
- ❖ Feedback on CNSC-IAEA Technical Workshop on CANDU/PHWR Accident Prognosis
- ❖ Updates and Current Status of Fukushima Daiichi Accident

Swachhata Pakhwada

As part of “Swachh Bharat Mission” launched by the Government of India, AERB celebrated ‘Swachhata Pakhwada’ during February 16-28, 2019. All the staff of AERB took a Swachhata Shapath (Cleanliness pledge). Various activities such as cleaning of work place and office premises and canteen; weeding out of old/obsolete records were carried out. The slogans writing and poster competitions on Swachhata Mission were organised during the period. The awards were distributed to officials maintaining cleanliness at their workplace and winners of slogan & poster competition. Also, three best cosmetic workers have been awarded for their best performance during the year.

During the week a talk was delivered by Dr. Yogesh Shejul, BARC Hospital on ‘Types of fever, Preliminary precaution apart from cleanliness, food to be avoided’ giving emphasis on cleanliness and hygienic food.



Chairman, AERB presenting prizes to winners of Cleanliness Awards



Winners of Poster Competitions receiving prize from Executive Director, AERB

Official Language Implementation

Award for Promotion of Hindi

Shri Vaibhav Gholap, Scientific Office, R&DD, AERB was awarded the “HINDI SEVI SAMMAN” for the year 2017-18 for promotional / outstanding contribution in the field of official language Hindi. This award was conferred on him in the 19th All India Official Language Conference held at NISER, Bhubaneswar on February 2, 2019. His contribution includes preparation of Hindi Shabdavali, development and implementation of bilingual softwares, training of employees on use of Unicode for Hindi typing, arranging Hindi quizzes in Department of Atomic Energy units etc. He is a member of Official Language Implementation Committee (OLIC) of AERB for last 8 years.



Women’s Day Celebration in AERB

International Women's Day is celebrated every year on March 8 worldwide, commemorating the political, social and economic achievements of women. Over the decades, the objective of Women's Day celebration has evolved and embraced culture and ethnicity to emerge as a celebration of appreciation, respect and love towards women.

Women’s Day was celebrated in AERB on March 8, 2019. On this occasion Dr. N. Mishra, Head Dept. of Obstetrics & Gynaecology, BARC delivered a talk on ‘Health Concerns for today’s Working Women’. The speaker emphasized the importance of taking care of one’s health and answered the queries by the participants. The celebration included dances, songs and quiz competition etc.



Shri Dr. N. Mishra, HOD, Obstetrics & Gynaecology, BARC with AERB employees



Glimpses of Cultural Programme on Women's Day Celebration

Changes in AERB's Organisation

Fond Farewell to Shri S.A. Bhardwaj former Chairman, AERB

Shri Shiv Abhilash Bhardwaj, Chairman, AERB laid down the office of Chairman, AERB on January 4, 2019. Shri Bhardwaj who took over as Chairman, AERB on September 1, 2015 had a vibrant and dynamic tenure at AERB.

Under his leadership, AERB has taken many initiatives to make AERB a competent, knowledge based organization by putting more emphasis on training, developing in-house technical capabilities by involving middle level officers in reviews and assessments. Number of regulatory safety documents were identified for development/revisions. With a view of decentralization of regulatory activities, he has strengthened regional regulatory centres in terms of manpower and infrastructure.

Shri Bhardwaj was felicitated for his contribution in safety and regulatory areas in the Board meeting, Executive Meeting and in the farewell organized on January 3, 2019 (FN) in AERB. Shri Bhardwaj on this occasion and thanked one and all and emphasized that AERB must continue to evolve for meeting the expectations of all the stakeholders and aspire to be a leader (internationally) in the area of safety regulation.



Shri D. K. Shukla, ED, AERB facilitating Shri S. A. Bhardwaj, Chairman, AERB in presence of Shri G. Nageswara Rao, Chairman designate



Smt. Sheela, Mohan, CAO, AERB presenting plaque to Shri S. A. Bhardwaj, Chairman, AERB

Shri Guntur Nageswara Rao takes over the reins of AERB



Shri Guntur Nageswara Rao, has taken charge as the new Chairman of Atomic Energy Regulatory Board (AERB) on January 4, 2019, consequent to the retirement of Shri S.A. Bhardwaj, former Chairman, AERB.

Shri Nageswara Rao is a renowned expert in nuclear power plant operations and safety and is well known for his managerial, technical and motivational skills. A graduate in Electrical Engineering, Shri Nageswara Rao had served as Director in the Nuclear Power Corporation of India Ltd. until 2014. He had played a leading role in the timely implementation of the safety reinforcements in the Indian nuclear power plants, following the nuclear accident at the Fukushima Daiichi nuclear power plant. He has also made significant contributions for the Nuclear Fuel Cycle Facilities in India including the Nuclear Fuel Complex and the Heavy Water Board.

Shri Nageswara Rao is a recipient of many accolades including the Nuclear Excellence Award from the World Association of Nuclear Operators (WANO) and the Outstanding Service Award from the Indian Nuclear Society (INS).

Recruitment / Retirement

AERB manpower is being augmented at various levels and through various channels in view of the expanding nuclear power programme and increasing number of radiation facilities in the country. Total sanctioned strength of AERB is 468, however in position strength as on March 31, 2019 is 340 comprising of 279 scientific and technical and 61 Administrative / Accounts / Auxiliary staff.

Personnel joined during January-March, 2019

| S. No. | Name | Designation | Date | Remarks |
|--------|---------------------------|----------------|------------|---------|
| 1 | Shri Guntur Nageswara Rao | Chairman, AERB | 04-01-2019 | --- |

Personnel Retired/Resigned during January-March, 2019

| S. No. | Name | Designation | Date | Remarks |
|--------|---------------------|-------------|------------|----------------------|
| 1 | Shri S. A. Bhardwaj | Chairman | 04-01-2019 | Completion of tenure |

Feedback

We appreciate feedback from readers /stakeholders. If you have any question or comment, please send us on AERB Feedback Portal.

Materials published in AERB newsletter may be reprinted or translated freely with due acknowledgement.

Editorial Committee

Shri Satyawan Bansal, Smt. Uma Sarma, Shri H. K. Kulkarni, Shri V.V. Raut,
Shri Soumen Sinha, Smt. Sonal Gandhi, Shri S. K. Pradhan, Smt. M. V. Inamdar,
Dr. S. P. Lakshmanan, Shri Pravin J. Patil

Editor

Shri S. B. Chafle, Director, R&DD