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GOVERNMENT OF INDIA
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ATOMIC ENERGY REGULATORY BOARD
पूर्वी क्षेत्रीय नियामक केंद्र
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विषय: 17 जनवरी, 2025 को पूर्वी क्षेत्रीय नियामक केंद्र द्वारा आयोजित "रेडियोथेरेपी सुविधाओं में नियामक पहलुओं और कार्मिक निगरानी सेवा के सुरक्षित उपयोग" पर जागरूकता कार्यक्रम की रिपोर्ट

Report of Awareness Programme on "Regulatory Aspects & Safe Use of Personnel Monitoring Service in Radiotherapy Facilities" Organised by Eastern Regional Regulatory Centre on January 17, 2025

1. Background

An analysis of Personnel Monitoring Service (PMS) related inspection findings for the period of 2020-23 revealed that among all the radiotherapy (RT) facilities inspected throughout the country, those belonging to the Eastern Region has recorded the highest number of findings related to PMS. In view of this, it was considered prudent that an awareness programme be conducted inviting the licensees of the RT facilities of eastern region for refreshing the existing knowledge as well as sensitizing on the latest regulatory requirements & guidelines with particular emphasis on safe use of PMS.

Accordingly, an awareness programme on "Regulatory Aspects & Safe Use of Personnel Monitoring Service in Radiotherapy Facilities" was organized by ERRC inviting the licensees of the radiotherapy facilities of eastern region on January 17, 2025 at Ajai Divatia Lecture Hall, VECC-Kolkata.

Around 60 participants (Medical Physicists, RSO, Radiation Oncologist etc.) nominated by the licensees from different RT facilities of eastern region attended the programme.

Dr. D. K. Shukla, Chairman-AERB and Dr. Sumit Som, Director-VECC graced the occasion as the Chief Guest and Guest of Honor respectively.

2. Inaugural Session

In his welcome address, Dr. M. K. Pathak, OIC-ERRC, emphasized the correlation between the rapid advancements in RT technology and the statistically increasing trend in new

cancer cases over time globally as well as in India. Thus, it is essential that employees at RT facilities receive continual training and education as part of their curriculum in order to stay up to date with changing cancer treatment modalities and related safety & regulatory requirements. He stressed on the need of management's commitment and employee's participation to develop a strong safety culture in RT facilities. He also mentioned the purpose of the awareness programme giving a statistics of deficiencies related to PMS and other types of deviation generally observed during regulatory inspection. He expressed his sincere gratitude to Chairman-AERB and Director-VECC, for enriching the occasion with their presence and agreeing to share their thoughts & insights with the participants. He further acknowledged the presence of Shri P. K. Dixit, RASD-AERB for sensitizing the participants on the latest development on safety review of RT installations & to refresh on different regulatory aspects. He specially mentioned names of Shri Alok Maheswari-Director, Ultratecch Laboratories & his GM cum RSO for their presence as resource persons to address the issues and doubts with regard to availability, handling & processing of TLD cards and dose reports.

Director-VECC provided an insightful overview of VECC's 47 years of success, highlighting the K-130 cyclotron, which has been operational since 1977, and the K500 superconducting cyclotron, utilized for nuclear research. Subsequently, he reiterated on the importance of early diagnosis of cancer in improving the survival rate for the cancer patients. In this regard, he highlighted on the role of the currently operational DAE medical cyclotron facility at Chakgaria-Kolkata in continuous production & supply of radioisotopes to hospitals & diagnostic facilities. He informed that in order to cater to increasing demands of radio-isotopes, in particular that of FDG, it has been planned to increase the operational hours of the cyclotron, even in the night shift. He informed that the isotopes are being presently supplied at a much cheaper prices compared to other sources of supply. He mentioned about trial production of some other isotopes in the medical cyclotron namely Ga-68 & Tl-201. He also informed regarding the development of an indigenous cyclotron by VECC, expected to be tested next year and the same technological development of medical cyclotron would further reduce the cost of radio-isotopes. He concluded by highlighting the importance of organizing awareness programme for sensitizing the facility operators with regard to the regulatory guidelines & requirements that needs to be followed to ensure safety of working personnel.

Chairman-AERB greeted all the participants and appreciated the large attendance, which he acknowledged as a testament of commitment to their roles. He began his talk by informing at the outset, that AERB firmly believes that all facilities actively pursue to provide & ensure essential safety measures for their personnel. The philosophy is to assume that the intentions of the facilities are always to improve upon safety. However, in order to ensure that the outcome matches the desired one, he suggested a two-

pronged approach consisting of periodic awareness programme & continual feedback process. He observed that with the evolution of newer & more recent treatment modalities in radiotherapy, the requirement of oncologists, medical physicist & RT technologists is on the rise. He presented a statistics of different types of radiotherapy equipment licensed under AERB and different categories of manpower like radiation oncologist, medical physicist, RSO, radiotherapy technologist registered through e-LORA. He explained the mechanisms of ensuring safety in a typical RT facility starting from the Procurement, Layout approvals, Commissioning and Licensing process.

He explained that periodical Quality Assurance of RT equipment ensures that safety objective is always met. He emphasized that the RT technologists are the front-end personnel involved in actual operation of the RT equipment, and hence the 'ownership' to ensure safety should start from there. He emphasized that an efficient teamwork involving all RT personnel right from treatment planning to dose delivery is essential to ensure that the dose to the patient is optimized. In this regard, he harped on the fact that optimization of patient dose & establishment of Diagnostic Reference Levels are 'grey' areas that need to be explored so that the principles of ALARA can also be applied for the patients. He stated the importance of PMS in ensuring ALARA principles for the working personnel, as all necessary care is taken. The dose received by the personnel will be determined by the dose evaluated through Personnel Monitoring System (PMS) through the issuance of TLDs.

Any improper handling of TLDs can cause wastage of time & manpower for both AERB as well as the facility, which will in turn affect patient treatment. He concluded his talk by emphasizing the roles of the licensees & RSOs in ensuring that PMS is safely used and that safety in terms of 3Ms: Man, Machine & Methods are established & always ensured in the facilities.

After the lecture of Chief Guest, felicitation of the Chief Guest and Guest of Honour were done, followed by Vote of Thanks.

3. Technical Session

Five lectures were delivered in two technical sessions. In technical session –I, lectures on (i) Radiation Protection & Regulatory Aspects of Radiotherapy Facilities (ii) Regulatory Inspection of Radiotherapy Facilities and (iii) Personnel Monitoring Service–Inputs for Safe Handling by Ultratech Laboratories were delivered followed by different question and answers. In technical session-II, two lectures; one on (i) Personnel Monitoring Service in Radiotherapy Facilities –Regulatory Perspective and other on (ii) Incidents & Accidents in Radiotherapy Facilities–Lessons Learnt were delivered.

In the question & answer session, queries were raised on different topics like procedures related to various types of submissions in e-LORA, preparation of safety assessment report, provision of e-LORA access to the RSOs for routine nature of activities like timely

submission of periodic safety status report in addition to employer/licensee of the RT facilities, availability of PMS within minimum time and cancellation by Ultra-Tech Labs, making provision for online form fill up for new PMS application to reduce the processing time, review on raising of inspection related NC for unavailability of PMS for the newly joined staffs due to long time required in availing PMS, review of actual TLD requirements for different staffs, calibration processes & requirements for QA instruments etc. and the same were suitably answered by the speakers.

4. Feedback & Discussion

Feedback forms were circulated to the participants and the same were collected for analysis. During the feedback session, the audience actively participated in the discussions. In the feedback, participants mentioned about requirement of attending the awareness programme by the licensees to understand their roles & responsibilities, training on step by step e-LORA guidelines & quality assurance of RT equipment, including field demonstration, guidelines on transport related issues, regulatory decision on PMS by estimation method for the RT staffs who are not directly associated with operation etc. Participants also gave a positive feedback on different attributes like objective of the programme, arrangement made, lectures delivered on different topics and their usefulness for future work either strongly agreeing to the same or agreeing to the same. The participants also requested to issue a participation certificate for attending such awareness programme organized by AERB.

5. Conclusion

The program concluded in a positive and enriching manner, with participants expressing gratitude for the knowledge gained from the various lectures and the thoughts shared by the Chairman, AERB, Director-VECC and different speakers. They also expressed hope that future periodic programs of this kind would support the ongoing improvement of the safety culture among radiotherapy facilities.

Enclosures: Photographs of the Awareness Programme

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(डॉ मानस कुमार पाठक Dr. Manas Kumar Pathak) 22/1/2025
वै.अधि./एच और ओआईसी, ईआरआरसी, एईआरबी SO/H & OIC, ERRC, AERB

Photographs of awareness Programme



Chairman, AERB delivering the Speech as Chief Guest in the Awareness Programme



Chairman, AERB with Participants



Participants and Staffs of AERB