

### **GUIDELINES FOR STARTING A DIAGNOSTIC X-RAY INSTALLATION (Applicable for Diagnostic X-Ray/Cathlab/CT Scan/C-Arm/Mammography/Dental/OPG/BMD/Mobile Units)**

As per Atomic Energy (Radiation Protection) Rules 2004 Section (3) a Licence / Registration is necessary for establishing a radiation installation. This process involves 3 steps. (i) Site Approval by DRS (ii) Quality Assurance Test by manufacturer/supplier under intimation to DRS (iii) Licence/Registration by AERB through DRS.

1. Submit completely filled and duly signed "Application for Site Approval of X-Ray Installation Layout" along with layout plan of the diagnostic x-ray room, drawn to scale 1:50 showing details as described in the application form, in original with two copies for approval to the Director, Directorate of Radiation Safety, District Hospital Compound, Thrissur. Pin: 680 001. Separate form should be submitted for each medical diagnostic x-ray unit installation. Mobile units do not require plan approval (mobile units should not be used in a room with table) but need Registration Certificate. Enclose fees in the form of Demand Draft drawn in favour of the Director of Radiation Safety payable at Thrissur, at the rates prescribed by the Government.

2. The room housing an x-ray unit shall not be less than 18m<sup>2</sup> for general-purpose radiography and conventional fluoroscopy equipment and no single dimension of the x-ray room shall be less than 4.0m. The room housing the gantry of the computed tomography (CT Scan) unit shall not be less than 25 m

and no single dimension of the gantry of CT Scan room shall be less than 4m. The room housing an orthopan tomography (OPG) units shall not be less than 15 m

and no single dimension of the OPG room shall be less than 3.5m. The room housing a mammography x-ray unit shall not be less than 10 m

and no single dimension of x-ray room shall be less than 3m. Also, not more than one unit of any type shall be installed in the same room. The minimum wall thickness of the x-ray room should be 9 inch or 23cm solid brick or equivalent. There shall be no windows and ventilations shall be above 2m from the floor outside. Table shall be oriented such that the primary (chest stand) is not directed towards the main door or darkroom. The primary wall thickness shall be 35 cm of solid brick or 32 cm solid brick + 1.5 mm LEAD

3. The users should install only Atomic Energy Regulatory Board (AERB) "Type Approved" unit or unit with valid NOC for medical diagnostic purpose and obtain a copy of the AERB "Type

Approval” certificate from the supplier/manufacturer of the x-ray unit prior to the procurement of the unit. User may verify the Type Approval Certificate Number from AERB in case of any doubt.

4. The users should procure and use protective accessories such as mobile protective barrier, lead rubber aprons, lead rubber flaps, gloves, thyroid shields, etc.

5. The employer shall provide Personnel Monitoring Badges to all radiation workers of the institute. For procuring personnel monitoring badges, please contact Avanttec Laboratories Private Limited, #31, Kamaraj Street, Srinivasa Nagar, Padi, Chennai-600 050.

6. The users should follow the guidelines given in AERB Safety Code for Medical Diagnostic X-Ray Equipment and Installations [Code No.AERB/SC/MED-2 (Rev.-1)]. The same can be purchased from AERB or downloaded from AERB website [www.aerb.gov.in](http://www.aerb.gov.in). The user shall comply with other regulatory documents related to the use and operation of x-ray units that are available in AERB website or DRS website.

i Atomic Energy (Radiation Protection) Rules, 2004 (G.S.R.303)

ii Radiation Surveillance Procedures for Medical Applications of Radiation, 1989 (G.S.R.No.388)

iii Performa for “Registration of Diagnostic X-Ray installations and Licence of Computed Tomography (CT)/Cathlab unit Installations”.

iv Documents (i) & (ii) can be purchased from bookstalls selling government publications or can be downloaded from DRS website. (iii) shall be given by the Directorate of Radiation Safety on Site Approval

7. The users should request the supplier/manufacturer of the diagnostic x-ray units to conduct Quality Assurance (QA) tests after the installation of x-ray unit/computed tomography unit/mammography/ cathlab unit prior to using it for patient diagnosis, under intimation to the DRS. Preserve the QA tests report in the hospital/institution record for further use and submit a copy of QA tests report to the DRS. The unit should be used for patient diagnosis only if its performance is found satisfactory.

8. After installation, the users should send the completely filled and duly signed “Application for Registration of Diagnostic X-Ray installations” / “Application for Licence of Computed Tomography (CT) unit / Interventional Radiology (Cathlab) Installations” (as applicable) to the Director, Directorate of Radiation Safety, District Hospital Compound, Thrissur -680 001 for

onward transmission with recommendation to the Atomic Energy Regulatory Board for obtaining Registration Certificate for diagnostic x-ray units and/or Licence Certificate for CT Scan/Cathlab units for operation.

9. The employer shall employ only qualified Radiologist and x-ray Technician. The minimum qualification is given in AERB Safety Code for Medical Diagnostic X-Ray Equipment and Installations [Code No.AERB/SC/MED-2(Rev-1)]

10. AERB issues notice every year in all leading newspapers in the country (both Hindi and English) regarding “Statutory Requirements for Safe Operation of Medical diagnostic X-ray units by Hospitals, Clinics and other Medical Institutions in India”.