GUIDE NO. AERB/RF/SG/G-3 (Vol. 3 of 4)

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GOVERNMENT OF INDIA

AERB SAFETY GUIDE

CONSENTING PROCESS FOR RADIATION FACILITIES

(VOLUME - 3)

ATOMIC ENERGY REGULATORY BOARD

AERB SAFETY GUIDE NO. AERB/RF/SG/G-3 (Vol. 3 of 4)

CONSENTING PROCESS FOR RADIATION FACILITIES

(VOLUME - 3)

Atomic Energy Regulatory Board
Mumbai-400 094
India

March 2011

Price

Order for this guide should be addressed to:

Chief Administrative Officer
Atomic Energy Regulatory Board
Niyamak Bhavan
Mumbai-400 094
India

FOREWORD

Activities concerning establishment and utilisation of nuclear facilities and use of radioactive sources are to be carried out in India in accordance with the provisions of the Atomic Energy Act, 1962. In pursuance of the objective of ensuring safety of members of the public and occupational workers as well as protection of the environment, the atomic energy regulatory board (AERB) has been entrusted with the responsibility of laying down safety standards and enforcing rules and regulations for such activities. The Board, therefore, has undertaken a programme of developing safety standards, codes and related guides and manuals for the purpose. While some of these documents cover aspects such as siting, design, construction, operation, quality assurance and decommissioning of nuclear and radiation facilities, other documents cover regulatory aspects of these facilities.

Safety codes and standards are formulated on the basis of nationally and internationally accepted safety criteria for design, construction and operation of specific equipment, systems, structures and components of nuclear and radiation facilities. Safety codes establish the objectives and set requirements that shall be fulfilled to provide adequate assurance for safety. Safety guides elaborate various requirements and furnish approaches for their implementation. Safety manuals deal with specific topics and contain detailed scientific and technical information on the subject. These documents are prepared by experts in the relevant fields and are extensively reviewed by advisory committees of the Board before they are published. The documents are revised when necessary, in the light of experience and feedback from users as well as new developments in the field.

AERB issued a safety code on 'Regulation of Nuclear and Radiation Facilities' (AERB/SC/G) to spell out the requirements/obligations to be met by a nuclear or radiation facility for the issue of regulatory Consent at every stage. This safety guide apprises the details of the regulatory requirements for setting up the radiation facility. such as consenting process, the stages requiring consent, wherever applicable documents to be submitted and the nature and extent of review. The guide also gives information on methods of review and assessment adopted by AERB.

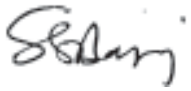
Consistent with the accepted practice, 'shall' and 'should' are used in the guide to distinguish between a firm requirement and a desirable option respectively. Appendices are an integral part of the document, whereas annexures, bibliography and list of participants are included to provide further information that might be helpful to the user. Approaches for implementation different to those set out in the guide may be acceptable, if they provide comparable assurance against undue risk to the health and safety of the occupational workers and the general public, and protection of the environment.

For aspects not covered in this guide, applicable national and international standards, codes and guides acceptable to AERB should be followed. Non-radiological aspects

such as industrial safety and environmental protection are not explicitly considered in this guide. Industrial safety shall be ensured by compliance with the applicable provisions of the Factories Act, 1948 and the Atomic Energy (Factories) Rules, 1996.

The guide has been prepared by AERB staff. It has been reviewed by experts and the Advisory Committee on Preparation of Code and Guides and on Governmental Organisation for Nuclear and Radiation Facilities (ACCGORN).

AERB wishes to thank all individuals and organisations who have prepared and reviewed the draft and helped in its finalisation. The list of experts, who have participated in this task, along with their affiliations, is included for information.



(S. S. Bajaj)
Chairman, AERB

DEFINITIONS

Acceptable Limits

Limits acceptable to the regulatory body for accident condition or potential exposure.

Accelerator

A device in which, charged particles are accelerated. Conventional X-ray tube is not considered as an accelerator.

Activity

The quantity 'A' for an amount of radionuclide in a given energy state at a given time, defined as:

$$A = dN/dt$$

where, 'dN' is the expectation value of the number of spontaneous nuclear transformations from the given energy state in a time interval 'dt'. The SI unit of activity is the reciprocal of second, (s^{-1}), termed the Becquerel (Bq).

Afterloading Applicator

A device applied to the patient into which radioactive sources are introduced either manually or by a remotely operated system.

Applicant

Any person who, applies to the competent authority for consent to undertake any of the actions for which the consent is required.

Approval

A type of consent issued by the regulatory body to a proposal.

Atomic Energy Regulatory Board (AERB)

A national authority designated by the Government of India having the legal authority for issuing regulatory consent for various activities related to the nuclear and radiation facility and to perform safety and regulatory functions, including their enforcement for the protection of site personnel, the public and the environment against undue radiation hazards.

Authorisation

A type of regulatory consent issued by the regulatory body for all sources, practices and uses involving radioactive materials and radiation generating equipment (see also 'Consent').

Becquerel

See 'Activity'

Betatron

An electron accelerator in which electrons are accelerated in an increasing magnetic field maintaining a stable orbit of electrons.

Commissioning

The process during which structures, systems and components of a nuclear and radiation facility, on being constructed, are made functional and verified to be in accordance with design specifications and to have met the performance criteria.

Competent Authority

Any official or authority appointed, approved or recognised by the Government of India for the purpose of the Rules promulgated under the Atomic Energy Act, 1962.

Computed Tomography

Reconstructive tomography in which image recording and processing are effected by a computing system.

Consent

It is a written permission issued to the 'consentee' by the regulatory body to perform specified activities related to nuclear and radiation facilities. The types of consents are 'licence', 'authorisation', 'registration', and 'approval' and will apply according to the category of the facility, the particular activity and radiation source involved.

Consentee

A person to whom consent is granted by the competent authority under the relevant Rules.

Construction

The process of manufacturing, testing and assembling the components of a nuclear or radiation facility, the erection of civil works and structures, the installation of components and equipment and the performance of associated tests.

Contamination

Presence of a radioactive substances in or on a material or in the human body or other place in excess of quantities specified by the competent authority.

Cyclotron

A device in which charged particles (other than electrons) travel in a succession of semicircular orbits of increasing radii under the influence of a constant magnetic field and are accelerated by traversing a number of times in an electric field produced by a high frequency generator.

Decommissioning

The process by which a nuclear or radiation facility is finally taken out of operation, in

a manner that provides adequate protection to the health and safety of the workers, the public and the environment.

Decontamination

The removal or reduction of contamination by a physical or chemical means .

Disposal

The emplacement of a waste in a repository without the intention of retrieval or the approved direct discharge of waste into the environment with subsequent dispersion.

Dose

A measure of the radiation absorbed by a target. The quantities termed absorbed dose, organ dose, equivalent dose, effective dose, committed equivalent dose or committed effective dose are used, depending on the context. The modifying terms are used when they are not necessary for defining the quantity of interest.

Dosimeter

A device, instrument or system, which can be used to measure or evaluate any quantity that can be related to the determination of either absorbed dose or equivalent dose.

Dosimetry

Measurements and/or calculations performed in connection with the determination of radiation dose and/or dose distributions in the irradiated volume.

Employer

Any person with recognised responsibility, commitment and duties towards a worker in his or her employment by virtue of a mutually agreed relationship. (A self-employed person is regarded as being both a worker and employer).

Enclosed Installation

In case of industrial radiography any installation in which radiography operations are carried out in an enclosure which has walls providing adequate radiation protection to persons working outside the enclosure, and which prevents unauthorised entry of persons into the enclosure during radiography operations. Such installations may include open top installations also.

Ethical Review Committee

A committee of independent, qualified persons to advise on the conditions of exposure and the dose constraints to be observed for individuals exposed for biomedical research when there is no direct benefit to the exposed individual.

Fluoroscopy

The technique of imaging by using a fluorescent screen.

Handle

Manufacture, possess, store, use, transfer by sale or otherwise export, import, transport or dispose of.

Industrial Gamma Radiography Exposure Device (IGRED)

An assembly of components necessary to make radiographic exposures and which includes the source housing, mechanism for securing the source assembly, exposure mechanism, that includes source drive associated system, positioning devices and guide tubes.

Industrial radiography

Non-destructive testing of materials employing ionising radiation.

Ionisation

Formation of ions by the division of molecules or by the addition or removal of electrons from atoms or molecules.

Irradiation

Exposure to ionising radiation.

Irradiators

A facility that houses a particle accelerator, X-ray machine, or large radioactive sources for imparting high radiation doses to materials.

Licence

A type of regulatory consent, granted by the regulatory body for all sources, practices and uses for nuclear facilities involving the nuclear fuel cycle and also certain categories of radiation facilities. It also means authority given by the regulatory body to a person to operate the above said facilities.

Limit

The value of a parameter or attribute (which is variable) used in certain specific activities or circumstances that must not be exceeded.

Luminescence

Phenomenon in which certain substances, when excited, emit light of wavelength characteristic of the substance.

Microtron

A cyclic accelerator in which electrons are guided by a constant magnetic field in circular orbits of increasing radii, tangential to each other and accelerated at the beginning of each orbit, by traversing an electric field produced by a radio frequency generator.

Monitoring

The continuous or periodic measurement of parameters for determination , assessment in respect of structure, system or component in a facility or control of radiation.

Nuclear Medicine

The speciality that utilises radio-pharmaceuticals to investigate disorders of anatomy, physiology and patho-physiology, for diagnosis and/or treatment of diseases.

Package

The packaging with its radioactive contents as prescribed for transport.

Personnel Monitoring

Determination or estimation of the dose received by a person from external and internal radiation.

Practice

Any human activity that introduces additional sources of exposure or exposure pathways or extends exposure to additional people or modifies the network of exposure pathways from existing sources, so as to increase the exposure or the likelihood of exposure of people, or the number of people exposed.

Prescibed Limits

Limits established or accepted by the regulatory body.

Protective Barrier or Shielding (Radiation)

A barrier of appropriate thickness used to reduce radiation levels to specified values.

Protective Device

Device used for the purpose of radiological protection.

Quality Assurance

Planned and systematic actions necessary to provide adequate confidence that an item or a facility will perform satisfactorily in service as per the design specifications.

Radiation

Gamma rays, X-rays or rays consisting of alpha particles, beta particles, neutrons, protons, and other nuclear, sub-atomic particles, but not sound or radio waves, or visible, infrared, ultraviolet light.

Radiation Facility

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

Radioactive Waste

Material, whatever its physical form, remaining from practices or interventions and for which no further use is foreseen. It can be (a) that contains or is contaminated with radioactive substances and has an activity or activity concentration higher than the level for clearance from regulatory requirements, and (b) exposure to which is not excluded from regulatory control .

Radioactive Waste Management Facility

Facility specifically designed to handle, treat, condition, temporarily store or permanently dispose of radioactive waste.

Radioactivity

The phenomenon whereby atoms undergo spontaneous random disintegration, usually accompanied by the emission of radiation.

Radiography (Medical)

Technique for obtaining, recording and optionally processing, directly or after transfer, information contained in an X-ray pattern at an image receptor area.

Radiography Source

A source sealed in one or more capsules, or an X-ray tube, or an electron accelerator or a neutron source used for industrial radiography.

Radiography Technician/Radiography Technologist/Radiographer

A worker, who performs radiography operations employing radiography sources and possesses a valid qualification, duly recognised by the competent authority for the specific purpose.

Radiological Safety Officer (or Radiation Safety Officer)

Any person who is so designated by the employer and who, in the opinion of the competent authority, is qualified to discharge the functions outlined in the Atomic Energy(Radiation Protection)Rules, 2004.

Radiotherapy/Radiation Therapy

Medical treatment by ionising radiation.

Registration

A type of regulatory consent issued by the regulatory body for all sources, practices and uses involving radioactive materials and radiation generating equipment.

Regulatory Body

See ‘Atomic Energy Regulatory Board’

Safety Assessment

Review of the aspects of design and operation of a source, which are relevant to the protection of persons or the safety of the source, including the analysis of the provisions for safety and protection established in the design and operation of the source and the analysis of risks associated with normal conditions and accident situations.

Safety Site-in-charge

A person who has the qualifications and training prescribed for Level 2 radiological safety officer and who is appointed by the 'consentee' as the person supervising industrial radiography operations at an authorised radiography site with approval of the competent authority.

Sealed Source

Radioactive source material that is (a) permanently sealed in a capsule or (b) closely bounded and in a solid form. The capsule or material of a sealed source shall be strong enough to maintain leak tightness under the conditions of use and wear for which the source was designed, as also under foreseeable mishaps.

Source

Any thing that causes radiation exposure, either by emitting ionising radiation or releasing radioactive substances or materials.

Source Changer

A device for transferring radiography sources from or to exposure device, and suitable for transport and storage of the source.

Source Housing

Shielding provided in any device containing a sealed source, in order to:

(i) define the useful beam; and

(ii) limit the radiation level outside of the useful beam to maximum permissible leakage levels, as specified by the competent authority.

Synchrotron

Particle accelerator in which charged particles travel in circular orbits of constant radius guided by an increasing magnetic field and accelerated by traversing a number of times an electric field produced by a high frequency generator in synchronism with the orbital motion.

Teletherapy

Treatment with external radiation beam(s) where the distance from source to skin is greater than 5 cm.

Tomography

Radiography of one or more sections/layers within an object.

Treatment Planning (Radiotherapy)

Planning of the techniques for radiation therapy, which may include treatment simulation and dosimetry.

Treatment Simulation

Methods by which the techniques and patient positioning for radiotherapy are simulated without delivering the therapy dose.

Type Approval

Approval, issued by the competent authority, based on evaluation of the device to ensure that it conforms to safety standards.

Type A package

A Package designed to withstand normal conditions of transport without loss or dispersal of its contents or loss of shielding integrity. The radioactive material may be transported in a Type A package, either in special form radioactive material or other form, with the provision that the activity shall not exceed the applicable limits prescribed in the relevant code on 'Transport of Radioactive Materials'.

Type B(U) package

A package designed to contain an activity in excess of A_1, if special form radioactive material, or in excess of A_2 if not special form radioactive material, that is designed to withstand normal and accidental conditions of transport specified in the relevant code on 'Transport of Radioactive Materials'.

Unusual Occurrence

Any occurrence which has the potential to impair or impairs the plant safety, radiological safety, industrial safety and/or environmental safety.

SPECIAL DEFINITIONS
(Specific for the Present Guide)

Consumer Product

A manufactured product or item containing radioactive substance, which is exempted from regulatory control.

Field Radiography

Radiography operations carried out on shop floors, erection sites or other such areas with provisions for adequate radiological safety for the radiography personnel and others including members of the public.

Person

Any individual, or a company, or association, or body of individuals, whether incorporated or not; or central government or a state government.

Worker

Any person who works, whether full-time, part-time or temporarily, for an employer and who has recognised rights and duties in relation to occupational radiation protection. (A self-employed person is regarded as having the duties of both an employer and a worker).

X-ray Equipment

Equipment consisting of combination of an X-ray generator, X-ray tube and associated equipment.

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ANNEXURE-1

(Refer section 3.2.1.2)

Form ID : AERB/RSD/GRAPF/SA

Government of India
Atomic Energy Regulatory Board

Niyamak Bhavan,
Anushaktinagar,
Mumbai - 400 094

APPLICATION FOR CONSENT FOR SITE APPROVAL OF LAND-BASED STATIONARY GAMMA RADIATION PROCESSING FACILITY (GRAPF)

(a) This application would be considered by the competent authority for issuance of relevant consents, under the Atomic Energy (Radiation Protection) Rules, 2004 [AE(RP)R].

(b) The duly filled-in form should be sent to Director/Head, Radiological Safety Division (RSD), AERB, Niyamak Bhavan, Anushaktinagar, Mumbai-400094 with the necessary documents

(c) Incomplete applications and those without all relevant documents are liable to be rejected

(d) All the forms pertaining to this facility can be downloaded from the website (www.aerb.gov.in)

(e) Attach extra sheets wherever required

PART A

GENERAL PARTICULARS

A.1 Name and address of the institution:

Telephone No. (O):
Fax No.
E-mail

A.2 Name and address of the Head of the institution[$]

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.3 Name and designation of the applicant[#]:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.4 Representative of the applicant to be contacted regarding the application:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.5 Address for correspondence with PIN code:

$ *The head of the institution is the person who would have the responsibilities of '**employer'** prescribed in AE(RP)R, 2004.*

\# *Applicant is the person in whose name the authorisation (licence) to handle the source may be issued, under AE(RP)R, 2004, would have the responsibilities of '**licensee'** prescribed in AE(RP)R, 2004 and should be a full time employee of the institution.*

PART B

PARTICULARS OF THE PROPOSED GRAPF
(Gamma Irradiator)

B.1 Address of proposed location of the GRAPF

B.2 Category of GRAPF proposed to be installed

B.3 Name and address of the designer

B.4 Name and address of the manufacturer

B.5 Brief description of the facility:

B.6 Purpose of irradiation facility:

B.7 Site specific information:

B.7.1 Seismic zone as per IS-1893 (current version)
(Documentary evidence from relevant State /Central Government authority)

B.7.2 Maximum level of ground water and maximum flood level for past hundred years as per the Central/State Government records, along with documentary evidence.

B.7.3 Distance of site of installation of GRAPF from:

(a) Ammunition storage and explosive dumps

(b) Storage of inflammable materials

(c) Direction of runway of civilian/military airfield

(d) Residential area and public places

(e) Rivers/dams/lake/water reservoir

B.7.4 Distance of proposed site from capable fault, if any
(Documentary evidence from relevant State/Central Government authority)

B.7.5 Provision of access roads to approach the proposed site and its detail.

B 7.6 Distance and location of the nearest railway station and airport from the site

B.8 Documents to be attached with the application

(i) Site assessment report (as per **Appendix-2A**)

(ii) Installation layout indicating location of the plot with peripheral occupancy

(iii) Map of the site region upto 2km radius covering details given in Items B.7.3 and B.7.6

(iv) Proof from local State Government authorities that the land/plot/ site for installation of the facility is in the name of the applicant and falls in industrial zone.

(v) Any other supporting documents.

PART C

UNDERTAKING

I/we hereby certify that

(i) all the statements made above are correct to the best of my/our knowledge and belief.

(ii) no activity shall be carried out for purposes other than those specified in this form.

(iii) the siting activities shall be taken up only after receipt of approval from AERB.

(iv) all provisions of the Atomic Energy (Radiation Protection) Rules, 2004 shall be strictly complied with.

(v) the site/facility shall not be transferred/sold/ rented by me/us to any other party without the prior permission of the competent authority.

(vi) full facilities will be accorded by me/us to any authorised representatives of the competent authority to inspect the installation at any time.

(vii) radiation surveillance of the installation and health surveillance of all persons engaged in radiation work as required by the competent authority will be duly carried out at my/our expense.

(viii) all stipulations/recommendations made from time to time by the competent authority in respect of radiation safety measures will be duly implemented.

(ix) duly qualified/experienced radiological safety officer(s)/operator(s) will be appointed before the commencement of operation of the facility.

(x) the procedures approved by AERB regarding decommissioning/ dismantling and reuse of the site of the decommissioned facility will be strictly complied with.

(xi) I/we will keep AERB informed about any changes in the information furnished above.

In case, it is found, at any stage, that the information provided by me/us is false and/or not authentic, then I/we hereby undertake to comply with the regulatory action(s) enforced against me/us and our institution, in accordance with the applicable Rules.

Place: Signature:

Date: Name of the applicant:

Designation:

Signature:

Name of Head of the institution:

Designation:

.

(Seal of the Head of the institution)

ANNEXURE-2

(Refer section 3.2.1.3)

Form ID.AERB/RSD/GRAPF/L&CA

Government of India
Atomic Energy Regulatory Board

Niyamak Bhavan
Anushaktinagar,
Mumbai - 400 094

APPLICATION FOR LAYOUT AND CONSTRUCTION APPROVAL OF LAND BASED STATIONARY GAMMA RADIATION PROCESSING FACILITY (GRAPF)

(a) *This application would be considered by the competent authority for issuance of relevant consents, under the Atomic Energy (Radiation Protection) Rules, 2004 [AE(RP)R].*

(b) *The duly filled-in form should be sent to Director/Head, Radiological Safety Division (RSD), AERB, Niyamak Bhavan, Anushaktinagar, Mumbai-400094 with the necessary documents*

(c) *Incomplete applications and those without all relevant documents are liable to be rejected*

(d) *All the forms pertaining to this facility can be downloaded from the website (www.aerb.gov.in)*

(e) *Attach extra sheets wherever required*

PART A

GENERAL PARTICULARS

A.1 Name and address of the institution:

Telephone No. (O):
Fax No.
E-mail

A.2 Name and address of the Head of the institution[$]

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.3 Name and designation of the applicant [#]:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.4 Representative of the applicant to be contacted regarding the application:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.5 Address for correspondence with PIN code:

$ *The head of the institution is the person who would have the responsibilities of '**employer'** prescribed in AE(RP)R, 2004.*

\# *Applicant is the person in whose name the authorisation (licence) to handle the source may be issued, under AE(RP)R, 2004, would have the responsibilities of '**licensee'** prescribed in AE(RP)R, 2004 and should be a full time employee of the institution*

PART B

PARTICULARS OF THE PROPOSED FACILITY

B.1 Name and address of the designer(s):

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

B.2 Name and address of the manufacturer:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

B.3 Name and address of the designer of sources and product system:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

B.4 Name and address of the local vendor agency, if any:

Telephone No. (O): (R)
Fax No.
Mobile No.
Email

B.5 Layout and civil engineering drawings .attached : Yes/No

B.6 Category of GRAPF :
[Specify class as per AERB/SS- 6 (Rev. 1), 2007]

B.7 Purpose of the facility:

B.8 Scale of operation : Commercial/Research/other (Specify):

B.9 Mode of operation: Batch type/Continuous/other (specify)

B.10 Products(s)/material(s) to be irradiated:

B.11 Product movement system :
(specify no. of product boxes and product carriers)

B.12 Particulars of radiation source

(i) Name of radionuclide :

(ii) Physical and chemical form :

(iii) Maximum design strength of source : ———— PBq (——— kCi)

(iv) Radiation source geometry :

(v) Source movement system : Hydraulic/Pneumatic/other (specify)

(vi) Source loading/unloading mechanism :

B.13 Documents to be attached with the Application:

(i) Copy of the AERB site approval

(ii) Detailed report from accredited agency on geological and geotechnical investigation as per **Appendix-A** of AERB/SS-6 (Rev. 1), 2007.

(iii) Preliminary safety analysis report (as per format prescribed in **Appendix-2B**)

(iv) Detailed layout of the facility with peripheral occupancy

(v) Architectural authenticated blue print of the complete design drawings including the details of radiation processing cell, wall thicknesses and labyrinth access if applicable.

(vi) Layout and civil engineering drawings

(vii) Security plan for the facility as per AERB safety guide on 'Security of Radioactive Sources in Radiation Facilities' (AERB/RS-RS/SG-1) and AERB safety guide on 'Security of Radioactive Material during Transport' (AERB/NRF-TS/SG-10)

(viii) Any other supporting documents.

PART C

UNDERTAKING

I/We hereby certify that

(i) all the statements made above are correct to the best of my/our knowledge and belief.

(ii) no activity shall be carried out for purposes other than those specified in this form.

(iii) the siting activities shall be taken up only after receipt of approval from AERB.

(iv) all provisions of the Atomic Energy (Radiation Protection) Rules, 2004 shall be strictly complied with.

(v) the site/facility shall not be transferred/sold/rented by me/us to any other party without the prior permission of the competent authority.

(vi) full facilities will be accorded by me/us to any authorised representatives of the competent authority to inspect this installation at any time.

(vii) radiation surveillance of the installation and health surveillance of all persons engaged in radiation work as required by the competent authority will be duly carried out at my/our expense.

(viii) all stipulations/recommendations made from time to time by the competent authority in respect of radiation safety measures will be duly implemented.

(ix) duly qualified/experienced radiological safety officer(s)/operator(s) will be appointed before the commencement of operation of the facility.

(x) the procedures approved by AERB regarding decommissioning/dismantling and reuse of the site of the decommissioned facility will be strictly complied with.

(xi) I/we will keep AERB informed about any changes in the information furnished above.

In case, it is found, at any stage, that the information provided by me/us is false and/or not authentic, then I/we hereby undertake to comply with the regulatory action(s) enforced against me/us and our institution, in accordance with the applicable Rules.

Place:
Date:

Signature:
Name of the applicant:
Designation:

Signature:
Name of Head of the Institution:
Designation:

(Seal of the Head of the institution)

ANNEXURE-3

(Refer section 3.2.1.5)

Form ID: AERB/RSD/GRAPF/LCO

Government of India
Atomic Energy Regulatory Board

Niyamak Bhavan
Anushaktinagar,
Mumbai-400094

APPLICATION FOR LICENCE FOR COMMISSIONING/OPERATION OF LAND-BASED STATIONARY GAMMA RADIATION PROCESSING FACILITY (GRAPF)

(a) *This application would be considered by the competent authority for issuance of relevant consents, under the Atomic Energy (Radiation Protection) Rules, 2004 [AE(RP)R].*

(b) *The duly filled-in form should be sent to Director/Head, Radiological Safety Division (RSD), AERB, Niyamak Bhavan, Anushaktinagar, Mumbai-400094 with the necessary documents*

(c) *Incomplete applications and those without all relevant documents are liable to be rejected*

(d) *All the forms pertaining to this facility can be downloaded from the website (www.aerb.gov.in)*

(e) *Attach extra sheets wherever required*

PART A

GENERAL PARTICULARS

A.1 Name and address of the institution:

Telephone No. (O):
Fax No.
E-mail

A.2 Name and address of the Head of the institution [$]

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.3 Name and designation of the applicant [#]:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.4 Name and designation of the Facility In-charge:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.5 Name and designation of the radiological safety officer (RSO)[*]:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail
RSO Approval reference No.:
Approval valid up to

A.6 Representative of the applicant to be contacted regarding the application:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.7 Address for correspondence with PIN code:

$ *The head of the institution is the person who would have the responsibilities of '**employer'** prescribed in AE(RP)R, 2004.*

\# *Applicant is the person in whose name the authorisation (licence) to handle the source may be issued, under AE(RP)R, 2004, would have the responsibilities of '**licensee'** prescribed in AE(RP)R, 2004 and should be a full time employee of the institution.*

* *RSO is the person who is so designated by employer and approved by competent authority and have the responsibilities of '**Radiological Safety Officer'** prescribed in AE(RP)R, 2004.*

PART B

PARTICULARS OF THE PROPOSED FACILITY

B.1 Name, qualification and experience of personnel

S.No.	Designation of personnel	Name	**Academic qualification	Type of training/ Experience	When and where trained	Duration of training
1	Operator(s)					
2	Radiological safety officer (RSO)					

** Attach proofs of qualification and training/experience

B.2 Category of GRAPF . :
(Specify class as per AERB safety standard No. AERB/RF-IRRAD/SS- 6 (Rev.1), 2007

B.3 Purpose for which the GRAPF will be used

B.4 Scale of operation: (Commercial/Research/any other (specify)):

B.5 Products(s)/material(s) to be processed by radiation:

B.6 Radiation source details:

(a) Type of radionuclide

(b) Physical and chemical form

(c) Maximum design source strength: PBq (———— kCi)

(d) Present source activity (as on date): PBq (———— kCi)

(e) Total number of integrated source units (ISU) :

B.7 Particulars of the radiation survey meter (RSM) and area monitors available

Particulars of RSM/Area monitor	1	2	3
Make			
Model			
RSM S. No.			
Date of recent calibration			
Functional status of RSM/Area monitor (s)			

B.8 Availability of personnel monitoring services (PMS) : Yes/No

B.8.1 No. of personnel availing PMS:

B.8.2 Institution PMS number:

B.9 Documents to be available with the facility:

Required documents	Availability (Yes/No)
Final safety analysis report (FSAR)	
AERB safety code on 'Operation and Maintenance of Land-based Stationary Gamma Irradiators', (AERB/SC/IRRAD)	
PSAR as approved by AERB	
Standard operating procedures (SOP)	
Servicing/maintenance manual	
Pre-commissioning acceptance test report	
Radiation protection manual	
Radiation protection survey report (along with drawings and layout indicating stray radiation levels at different locations of the facility)	
Quality assurance manual for operation	
Security Plan for the facility as per 'AERB safety guide on 'Security of Radioactive Sources in Radiation Facilities' (AERB/RF-RS/SG-1) and AERB Safety Guide on 'Security during Transport of Radioactive Material' (AERB/NRF-TS/SG-10).	

B.10 Documents to be attached with the Application:

(i) Final safety analysis report (FSAR) (as per **Appendix-2D**)

(ii) Radiation protection manual (as per **Appendix-2E**)

(iii) Quality assurance manual for Operation (as per **Appendix-2F**)

(iv) Security Plan for the facility as per 'AERB safety guide on 'Security of Radioactive Sources in Radiation Facilities' (AERB/RF-RS/SG-1) and AERB safety guide on 'Security during Transport of Radioactive Material' (AERB/NRF-TS/SG-10).

(v) Any other document.

PART C

UNDERTAKING

I/we hereby certify that

(i) all the statements made above are correct to the best of my knowledge and belief.

(ii) no operation will be carried out for purposes other than those specified in this form.

(iii) the commissioning/operation activities shall not be commenced without Licence from AERB.

(iv) all provisions of the Atomic Energy (Radiation Protection) Rules, 2004 shall be strictly complied with.

(v) the facility shall not be transferred/sold/ rented by me/us to any other party without the prior permission of the competent authority.

(vi) no radiation source of this facility will be transported without the prior permission of the competent authority.

(vii) full facilities will be accorded by me/us to any authorised representatives of the competent authority to inspect this installation at any time.

(viii) radiation surveillance of the installation and health surveillance of all persons engaged in radiation work as required by the competent authority will be duly carried out at my/our expense.

(ix) all recommendations made from time to time by the competent authority in respect of radiation safety measures will be duly implemented.

(x) duly qualified/experienced radiological safety officer(s)/operator(s)/quality control officers will be appointed before the commencement of operation of the facility.

(xi) the requirements regarding decommissioning, disposal of decayed sources and reuse of the site of the decommissioned facility will be strictly complied with.

(xii) In case of any unforeseen situations such as bankruptcy, damage to the facility and other such situations, the sources will be returned to its supplier at my/ our own cost without jeopardising safety and security requirements.

(xiii) AERB will be informed about any changes in the information furnished above.

In case, it is found, at any stage, that the information provided by me/us is false and/ or not authentic, then I/we hereby undertake to comply with the regulatory action(s) enforced against me/us and our institution, in accordance with the applicable Rules.

Place: Signature:

Date: Name of the applicant:

Designation:

Signature:

Name of Head of the Institution:

Designation:

(Seal of the Head of the institution)

ANNEXURE-4
(Refer section 3.2.1.5)

AERB/CA-FORM-III

Government of India
Atomic Energy Regulatory Board

Niyamak Bhavan
Anushaktinagar,
Mumbai-400094.

APPLICATION FOR OBTAINING THE CERTIFICATE OF APROVAL FOR AN IRRADIATION FACILITY

[Under G.S.R. 254 Atomic Energy (Control of Irradiation of Food) Rules, 1996, Rule 5(1)]

1. Name of the applicant
2. Address of the applicant with PIN code
3. Installation for which approval is applied for
4. Name, qualification and experience of personnel

S.No.	Designation of personnel	Name	**Academic qualification	Type of training/ Experience	When and where trained	Duration of training
1	Operator(s)					
2	Radiological Safety Officer (RSO)					
3	Quality Control Officer					

** Attach proofs of qualification and training/experience

5. Proposed date of starting the facility
6. Are the personnel provided with facilities for
   (a) Personnel dose monitoring
   (b) Medical surveillance
7. Details about the irradiation facility

(a) Identification number of the facility:

(b) Location and its address

(c) Source details

Name of radionuclide : ..... Activity ..... PBq

Radiation generating plant	Energy	Output
X-ray		
Electron accelerator		

(d) Name of the supplier and his address

(e) Purpose for which the irradiation facility will be used

8. Please furnish the following:

(a) A site plan (1:500 scale or as appropriate) of the installation indicating the location of the buildings including residential complexes. Occupancy within 50 metres radius of the facility.

(b) Architectural blue prints (appropriate scale) showing layout of the equipment.

(c) Details on geology of the location, water table, soil characteristics, seismicity.

(d) Complete design drawings of the facility including details of shielding surrounding the source, wall thickness and labyrinth access if applicable; openings, voids, reinforcements, mechanical and electrical safety systems, ventilation, fire protection systems.

(e) Source movement system (where appropriate)

(f) Safety analysis report to demonstrate the adequacy of radiation safety under normal and anticipated accident conditions as detailed in Rule 20 and 21 of G.S.R. 254.

(g) Operating and emergency procedures

(h) List of calibrated radiation monitoring equipment in working condition.

(i) Description of the organisational structure including delegation of authority and responsibility for operation of the facility.

9. Any other information, which the competent authority may deem necessary to assess the safety status of irradiation facility.

10. Please indicate as appropriate:

(a) Irradiation facility is yet to be built.

(b) The irradiation facility is already built and equipped.

(c) Existing irradiation facility is to be modified as per the details enclosed.

11. I/we hereby certify that

(i) all the statements made above are correct to the best of my knowledge and belief.

(ii) no operation will be carried out for purposes other than those specified in this form

(iii) all provisions of the Atomic Energy (Control of irradiation of food) Rules, 1996 shall be strictly complied with.

(iv) the irradiation facility shall not be transferred/sold/rented by me/us to any other party without the prior permission of the competent authority.

(v) no radiation for the irradiation unit will be transported without the prior permission of the competent authority.

(vi) full facilities will be accorded by me/us to any authorised representatives of the competent authority or the licensing authority to inspect the installations at any time.

(vii) radiation surveillance of the installation and health surveillance of all persons engaged in radiation work as required by the competent authority will be duly carried out at my/our expense.

(viii) all recommendations that may be made from time to time by the competent authority in respect of radiation safety measures will be duly implemented.

(ix) duly qualified/experienced radiological safety officer(s)/operator(s)/ quality officer(s) will be appointed before the commencement of operation of the facility.

(x) the requirements regarding decommissioning, disposal of decayed sources and reuse of the site of the decommissioned facility will be strictly complied with.

Place: Signature of the applicant:
Date :

(Seal of the institution)

ANNEXURE-5

(Refer sections 3.2.2.2 and 3.2.2.3)

Form ID. AERB/RSD/IARPF/SLCA

Government of India
Atomic Energy Regulatory Board

Niyamak Bhavan
Anushaktinagar,
Mumbai-400 094.

APPLICATION FOR SITING, LAYOUT AND CONSTRUCTION APPROVAL OF INDUSTRIAL ACCELERATOR RADIATION PROCESSING FACILITY (IARPF)/PARF<10 MeV

(a) *This application would be considered by the competent authority for issuance of relevant consents, under the Atomic Energy (Radiation Protection) Rules, 2004 [AE(RP)R, 2004].*

(b) *The duly filled-in form should be sent to Director/Head, Radiological Safety Division (RSD), AERB, Niyamak Bhavan, Anushaktinagar, Mumbai-400094 with the necessary documents. For DAE Particle Accelerator Facilities < 10MeV, the duly filled-in form should be sent to Director/Head, Industrial Plants Safety Division (IPSD), AERB, Niyamak Bhavan, Anushaktinagar, Mumbai-400094 with the necessary documents.*

(c) *Incomplete applications and those without all relevant documents are liable to be rejected*

(d) *All the forms pertaining to this facility can be downloaded from the website www.aerb.gov.in*

(e) *Attach extra sheets wherever required*

PART A

GENERAL PARTICULARS

A.1 Name and address of the institution:

Telephone No. (O):
Fax No.
E-mail

A.2 Name and address of the Head of the institution[$]:

Telephone No. (O): (R)
Fax No.

Mobile No.
E-mail

A.3 Name and designation of the applicant[#]:

Telephone No. (O): (R)
Fax No.
E-mail

A.4 Address for correspondence with PIN code:

A.5 Name of the Facility In-charge:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

$ *The head of the institution is the person who would have the responsibilities of '**employer'** prescribed in AE(RP)R, 2004.*

\# *Applicant is the person in whose name the authorisation (licence) to handle the source may be issued, under AE(RP)R, 2004, would have the responsibilities of '**licensee'** prescribed in AE(RP)R, 2004 and should be a full time employee of the institution.*

PART B

PARTICULARS OF THE FACILITY

B.1 Proposed location of the radiation facility

B.2 Site specific information:

B.2.1 Seismic zone as per IS-1893 (current version) (Documentary evidence from relevant state/central govt. authority)

B.2.2 Maximum level of ground water and maximum flood level for past hundred years as per the central /state govt. records along with documentary evidence.

B.2.3 Distance of site of installation of facility from

(a) Ammunition storage and explosive dumps
(b) Storage of inflammable materials
(c) Direction of runway of civilian/military airfield
(d) Residential and public place
(e) Rivers/dams/lake/water reservoir

B.2.4 Distance of proposed site from capable fault, if any
(Documentary evidence from relevant state /central govt. authority)

B.2.5 Distance and location of the nearest railway station and airport from the site

B.3 Brief description of the Facility:

(a) Type of accelerator to be installed:
(b) Particles to be accelerated:
(c) Purpose of the facility:
(d) Purpose of operation (commercial/research):
(e) Beam specifications : (current, energy, power)
(f) Products(s)/material(s) to be irradiated:

B.4 Layout and civil engineering drawings attached: Yes/No

B.5 Product movement system (Specify no. of product boxes and product carriers):

B.6 Documents to be available with the facility:

Diagrams for electrical circuit diagrams and other interlocks	Available/Not available
Quality assurance manual for construction	Available/Not available

B.7 Documents to be attached with the Application:

(i) Installation layout indicating location of the plot with peripheral occupancy

(ii) Layout and civil engineering drawings

(iii) Map of the site region up to 2 km radius covering details given in Items B.2.3 and B.2.5.

(iv) Proof from local state govt. authorities that the land/plot for installation of IARPF is in the name of the applicant and falls in industrial zone.

(v) Preliminary safety analysis report (PSAR) (as per **Appendix-3B-I**)

(vi) Any other supporting document

.

PART C

UNDERTAKING

I/we hereby certify that

(i) all the statements made above are correct to the best of my knowledge and belief.

(ii) no activity shall be carried out for purposes other than those specified in this form.

(iii) siting and construction activities shall be taken up only after receipt of approval from AERB.

(iv) all provisions of the Atomic Energy (Radiation Protection) Rules, 2004 shall be strictly complied with.

(v) the facility shall not be transferred/sold/ rented by me/us to any other party without the prior permission of the competent authority.

(vi) full facilities will be accorded by me/us to any authorised representatives of the competent authority to inspect this installation at any time.

(vii) radiation surveillance of the installation and health surveillance of all persons engaged in radiation work as required by the competent authority will be duly carried out at my/our expense.

(viii) all recommendations made from time to time by the competent authority in respect of radiation safety measures will be duly implemented.

(ix) duly qualified/experienced radiological safety officer(s)/operator(s) will be appointed before the commencement of operation of the facility.

(x) the procedures approved by AERB regarding decommissioning/ dismantling and reuse of the site of the decommissioned facility will be strictly complied with.

(xi) I/we will keep AERB informed about any changes in the information furnished above.

In case, it is found, at any stage, that the information provided by me/us is false and/ or not authentic, then I/ we hereby undertake to comply with the regulatory action(s) enforced against me/us and our institution, in accordance with the applicable Rules.

Place: Signature:

Date: Name of the applicant:

Designation:

Signature:

Name of Head of the institution:

Designation:

(Seal of the Head of the institution)

ANNEXURE-6

(Refer sections 3.2.2.5 & 3.2.2.6)

Form No. AERB/RSD/IARPF/LCO

Government of India
Atomic Energy Regulatory Board

Niyamak Bhavan
Anushaktinagar,
Mumbai-400 094.

APPLICATION FOR LICENCE FOR COMMISSIONING/OPERATION OF INDUSTRIAL ACCELERATOR RADIATION PROCESSING FACILITY (IARPF)/PARF<10 MeV

(a) *This application would be considered by the competent authority for issuance of relevant consents, under the Atomic Energy (Radiation Protection) Rules, 2004 [AE(RP)R, 2004].*

(b) *The duly filled-in form should be sent to Director/Head, Radiological Safety Division (RSD), AERB, Niyamak Bhavan, Anushaktinagar, Mumbai-400094 with the necessary documents. For DAE Particle Accelerator Facilities < 10MeV, the duly filled-in form should be sent to Director/Head, Industrial Plants Safety Division (IPSD), AERB, Niyamak Bhavan, Anushaktinagar, Mumbai-400094 with the necessary documents.*

(c) *Incomplete applications and those without all relevant documents are liable to be rejected*

(d) *All the forms pertaining to this facility can be downloaded from the website www.aerb.gov.in*

(e) *Attach extra sheets wherever required*

PART A

GENERAL PARTICULARS

A.1 Name and address of the institution:

Telephone No. (O):
Fax No.
E-mail

A.2 Name and address of the Head of the institution[$]:

Telephone No. (O): (R)

Fax No.
Mobile No.
E-mail

A.3 Name and designation of the applicant[#]:

Telephone No. (O): (R)
Fax No.
E-mail

A.4 Address for correspondence with PIN code:

A.5 Name of the Facility In-charge :

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.6 Name and designation of the Radiological Safety Officer (s) (RSO)* :

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail
RSO approval reference No.
Approval valid up to

$ *The head of the institution is the person who would have the responsibilities of '**employer'** prescribed in AE(RP)R, 2004.*

\# *Applicant is the person in whose name the authorisation (licence) to handle the source may be issued, under AE(RP)R, 2004, would have the responsibilities of '**licensee'** prescribed in AE(RP)R, 2004 and should be a full time employee of the institution.*

* *RSO is the person who is so designated by employer and approved by competent authority and have the responsibilities of '**Radiological Safety Officer'** prescribed in in AE(RP)R, 2004.*

PART B

PARTICULARS OF THE FACILITY

B.1 Name, qualification and experience of personnel:

S. No.	Designation of personnel	Name	**Academic qualification	Type of training/ experience	When and where trained	Duration of training	PMS No.
1	Operator(s)						
2	Radiological safety officer (RSO)						

** Attach proofs of qualification and training/experience

B.2 Brief description of the Facility:

(a) Type of accelerator:

(b) Particles to be accelerated:

(c) Purpose of the facility : Commercial/research/others (specify)

(d) Beam specifications: (current, energy, power)

(e) Products(s)/material(s) to be irradiated:

(f) Product movement system:
(specify no. of product boxes and product carriers)

B.3 Particulars of the radiation survey meter (RSM) and area monitors available in working condition

Particulars of RSM/Area monitor	1	2	3
Make			
Model			
RSM Sr. No.			
Date of recent calibration			
Functional status			

B.4 Availability of personnel monitoring services (PMS) : Yes/No

B.4.1 No. of personnel availing PMS:

B.4.2 Institution PMS number:

B.5. Documents to be available with the facility:

Required documents	Availability (Yes/No)
PSAR as approved by AERB	
Final safety analysis report (FSAR)	
Standard operating procedures (SOP)	
Servicing/maintenance manual	
Pre-commissioning acceptance test report with results	
Shielding design and of installation survey (along with drawings and layout)	
Radiation protection survey report (along with drawings and layout indicating stray radiation levels at different locations of the facility)	
Diagrams for electrical circuits and other interlocks	
Radiation protection manual	
Quality assurance manual for operation	

B.6 Documents to be attached with the Application:

(i) Final safety analysis report (FSAR) (as per **Appendix-3D-I** and **II**)

(ii) Radiation protection manual (as per **Appendix 3E**)

(iii) QA manual for operation (as per AERB/SG/IS-5)

(iv) Operation and servicing/maintenance manual

(v) Pre-commissioning acceptance test report with results (as per **Appendix-3C**)

PART C

UNDERTAKING

I/we hereby certify that

(i) all the statements made above are correct to the best of my knowledge and belief.

(ii) no operation will be carried out for purposes other than those specified in this form.

(iii) the commissioning/operation activities shall not be commenced without Licence from AERB.

(iv) all provisions of the Atomic Energy (Radiation Protection) Rules, 2004 shall be strictly complied with.

(v) the facility shall not be transferred/sold/ rented by me/us to any other party without the prior permission of the competent authority.

(vi) full facilities will be accorded by me/us to any authorised representatives of the competent authority to inspect this installation at any time.

(vii) radiation surveillance of the installation and health surveillance of all persons engaged in radiation work as required by the competent authority will be duly carried out at my/our expense.

(viii) all recommendations made from time to time by the competent authority in respect of radiation safety measures will be duly implemented.

(ix) duly qualified/experienced persons will be appointed before the commencement of operation of the facility.

(x) the procedures approved by AERB regarding decommissioning, disposal of decayed sources and reuse of the site of the decommissioned facility will be strictly complied with.

(xi) I/we will keep AERB informed about any changes in the information furnished above

In case, it is found, at any stage, that the information provided by me/us is false and/ or not authentic, then I/we hereby undertake to comply with the regulatory action(s) enforced against me/us and our institution, in accordance with the applicable Rules.

Place: Signature:

Date: Name of the applicant:

Designation:

Signature:

Name of Head of the institution:

Designation:

(Seal of the Head of the institution)

ANNEXURE-7
(Refer section 3.3.2)

Form ID: AERB/IPSD/PARF/SA

Government of India
Atomic Energy Regulatory Board

Niyamak Bhavan,
Anushaktinagar
Mumbai-400 094.

APPLICATION FOR CONSENT FOR SITE APPROVAL OF PARTICLE ACCELERATOR RESEARCH FACILITY OF DAE (PARF >10 MeV)

(a)	*This application would be considered by the competent authority for issuance of relevant consents, under the Atomic Energy (Radiation Protection) Rules, 2004 [AE(RP)R, 2004].*
(b)	*The duly filled-in form should be sent to Director/Head, Industrial Plants Safety Division, (IPSD) AERB, Niyamak Bhavan, Anushaktinagar, Mumbai-400094 with the necessary documents.*
(c)	*Incomplete applications and those without all relevant documents are liable to be rejected.*
(d)	*All the forms pertaining to this facility can be downloaded from the website www.aerb.gov.in*
(e)	*Attach extra sheets wherever required.*

PART A

GENERAL PARTICULARS

A.1 Name and address of the institution:

Telephone No. (O):
Fax No.
Mobile No.
E-mail

A.2 Name and address of the Head of the institution[$]:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.3 Name and designation of the applicant[#]:

Telephone No. (O): (R)
Fax No.
Mobile No.
Email

A.4 Address for correspondence with PIN code:

A 5 Name of the Facility In-charge:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

[$] *The head of the institution is the person who would have the responsibilities of '**employer'** prescribed in AE(RP)R, 2004.*

[#] *Applicant is the person in whose name the authorisation (licence) to handle the source may be issued, under AE(RP)R, 2004, would have the responsibilities of '**licensee'** prescribed in AE(RP)R, 2004 and should be a full time employee of the institution.*

PART B

PARTICULARS OF THE FACILITY

B.1 Purpose of facility:

B.2 Brief description of the facility:

(a) Type of accelerator
(b) Particles to be accelerated
(c) Beam energy
(d) Beam current
(e) Average beam power (mW/kW)
(f) Stored beam energy in case of circular accelerators (Joules)
(g) Number of beam lines

B.3 Documents to be attached with the application

(i) Site evaluation report (as per **Appendix 4A**)
(ii) Installation layout indicating location of the plot with peripheral occupancy (covered in item 2 (b) of **Appendix 4A**)

(iii) Map of the site region upto 2km radius covering details of major facilities and site characteristics (viz, seismicity, population centres, meteorology, hydrology, geo-hydrology, railway lines, roads etc) in scale 1:100

(iv) Documentary evidence from local state government authorities that the land/plot for installation of facility is in the name of the Institution.

(v) Security Plan for the facility as per AERB safety guide on 'Security of Radioactive Sources in Radiation Facilities'(AERB/RF-RS/SG-1)

(vi) Any other supporting documents.

PART C

UNDERTAKING

I/we hereby certify that

(i) all the statements made above are correct to the best of my knowledge and belief.

(ii) no activity shall be carried out for purposes other than those specified in this form.

(iii) siting activities shall be taken up only after receipt of approval from AERB.

(iv) all provisions of the Atomic Energy (Radiation Protection) Rules, 2004 shall be strictly complied with.

(v) the facility shall not be transferred/sold/ rented by me/us to another without the prior permission of the competent authority.

(vi) full facilities will be accorded by me/us to any authorised representatives of the competent authority to inspect this installation at any time.

(vii) radiation surveillance of the installation and health surveillance of all persons engaged in radiation work as required by the competent authority will be duly carried out at my/our expense.

(viii) all recommendations made from time to time by the competent authority in respect of radiation safety measures will be duly implemented.

(ix) duly qualified/experienced radiological safety officer(s)/operator(s) will be appointed before the commencement of operation of the facility.

(x) the procedures approved by AERB regarding decommissioning/ dismantling and reuse of the site of the decommissioned facility will be strictly complied with.

(xi) I/we will keep AERB informed about any changes in the information furnished above.

In case, it is found, at any stage, that the information provided by me/us is false and/or not authentic, then I/we hereby undertake to comply with the regulatory action(s) enforced against me/us and our institution, in accordance with the applicable Rules.

Place: Signature:

Date: Name of the applicant:

Designation:

Signature:

Name of Head of the institution:

Designation:

(Seal of the Head of the institution)

ANNEXURE-8

(Refer section 3.3.3)

Form ID: AERB/IPSD/ PARF/CA

Government of India
Atomic Energy Regulatory Board

Niyamak Bhavan,
Anushaktinagar
Mumbai – 400 094

APPLICATION FOR CONSENT FOR CONSTRUCTION OF PARTICLE ACCELERATOR RESEARCH FACILITY OF DAE (PARF >10 MeV)

(a) *This application would be considered by the competent authority for issuance of relevant consents, under the Atomic Energy (Radiation Protection) Rules, 2004 [AE(RP)R, 2004].*

(b) *The duly filled-in form should be sent to Director/Head, Industrial Plants Safety Division, (IPSD) AERB, Niyamak Bhavan, Anushaktinagar, Mumbai-400094 with the necessary documents.*

(c) *Incomplete applications and those without all relevant documents are liable to be rejected.*

(d) *All the forms pertaining to this facility can be downloaded from the website www.aerb.gov.in*

(e) *Attach extra sheets wherever required.*

PART A

GENERAL PARTICULARS

A.1 Name and address of the institution:

Telephone No. (O):
Fax No.
Mobile No.
E-mail

A.2 Name and address of the Head of the institution[$]:

Telephone No. (O) (R)
Fax No.
Mobile No.
E-mail

A.3 Name and designation of the applicant[#]:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.4 Address for correspondence with PIN code:

A 5 Name of the Facility In-charge :

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

[$] *The head of the institution is the person who would have the responsibilities of '**employer'** prescribed in AE(RP)R, 2004.*

[#] *Applicant is the person in whose name the authorisation (licence) to handle the source may be issued, under AE(RP)R, 2004, would have the responsibilities of '**licensee'** prescribed in AE(RP)R, 2004 and should be a full time employee of the institution.*

PART B

PARTICULARS OF THE FACILITY

B.1 Details of siting Consent:

(a) Ref.No. and date of Consent:

(b) Status of compliance to stipulations, if any, made in the consent:

B.2 Status of site:

Availability of approach road, electrical power, water supply etc.

B.3 Brief Description of the Facility:

(a) Type of accelerator
(b) Particles to be accelerated
(c) Beam energy
(d) Beam current
(e) Average beam power (mW/kW)
(f) Stored beam energy in case of circular accelerators (Joules)
(g) Number of beam lines

B.4 Documents to be attached with the Application

(a) Design manuals of facility

(b) Civil engineering drawings.

(c) Detailed layout of the facility indicating location of the machine, shielding and its materials (sizes and thickness), mezzanines, labyrinth, entry-exit points, radiation zoning scheme etc.

(d) Preliminary safety analysis report (as per **Appendix-4B, 4D**)

(e) Radiation hazard control plans

(i) Organisational set-up including manpower and equipment

(ii) Details of safety interlocks and access control systems and radiation zoning

(iii) Pre-operational survey report of the background radiation and radioactivity

(iv) Shielding design drawings with details

(v) Radioactive material handling and waste management details, if applicable

(f) Construction Schedule

(g) Quality assurance (QA) manual for Construction (as per **Appendix-4F**)

(h) Security plan for the facility as per AERB safety guide on 'Security of Radioactive Sources in Radiation Facilities' (AERB/RF-RS/SG-1).

(i) Details of ventilation system for removal of noxious gases including radioactive gases and ozone generated. It should also include stack height.

(j) Liquid effluent quantification and discharge mode should be specified.

(k) Supporting documents, if any.

PART C

UNDERTAKING

I/we hereby certify that

(i) all the statements made above are correct to the best of my knowledge and belief .

(ii) no activity shall be carried out for purposes other than those specified in this form.

(iii) construction activities shall be taken up only after receipt of approval from AERB.

(iv) all provisions of the Atomic Energy (Radiation Protection) Rules, 2004 shall be strictly complied with.

(v) the facility shall not be transferred/sold/rented by me/us to any other party without the prior permission of the competent authority.

(vi) full facilities will be accorded by me/us to any authorised representatives of the competent authority to inspect this installation at any time.

(vii) radiation surveillance of the installation and health surveillance of all persons engaged in radiation work as required by the competent authority will be duly carried out at my/our expense.

(viii) all recommendations made from time to time by the competent authority in respect of radiation safety measures will be duly implemented.

(ix) duly qualified/experienced radiological safety officer(s)/operator(s) will be appointed before the commencement of operation of the facility.

(x) the procedures approved by AERB regarding decommissioning/ dismantling and reuse of the site of the decommissioned facility will be strictly complied with.

(xi) AERB will be informed about any changes in the information furnished above.

In case, it is found, at any stage, that the information provided by me/us is false and/ or not authentic, then I/we hereby undertake to comply with the regulatory action(s) enforced against me/us and our institution, in accordance with the applicable Rules.

Place: Signature:

Date: Name of the applicant:

Designation:

Signature:

Name of Head of the institution:

Designation:

(Seal of the Head of the institution)

ANNEXURE-9

(Refer section 3.3.4)

FORMAT FOR APPLICATION FOR APPROVAL OF PERSON TO BE DESIGNATED AS RADIATION SAFETY OFFICER
(For DAE PARF)

[In accordance with the Atomic Energy (Radiation Protection) Rules, 2004]

1	Name and address of the Facility		
2	Nature of approval sought	First/Renewal	Designated RSO/ Alternate RSO
3	Name (with initials expanded) of the individual to be designated as RSO (in block letters)		Please Affix a Recent Photograph
4	Age of the individual to be designated as RSO		
5	Present designation of the individual to be designated as RSO		
6	Date of joining the Facility		
7	Educational qualification (from graduation onwards, giving subjects covered)	Degree: University/Institution : Year of passing:	
8	Details of training/qualification in Radiation Protection	Institution: Name of training course : Duration: Year of completion:	
9	Details of experience in the relevant field.		
	Nuclear Facility	Duration	Nature of work
	Any other relevant information		
10	Category of the Facility for which the approval is sought	A / B / C / D	

Place:

Name and signature of the person to be designated as RSO

Date:

Having read and understood the provisions of the Atomic Energy (Radiation Protection) Rules, 2004, as the Employer and the Licensee, I, ... (Name and designation) ....., of .....(Details of the Facility)..... hereby

(a) certify that the individual meets all the requirements spelt out in the approved document and is fully aware of all radiological aspects of this Facility,

(b) undertake to provide all necessary infrastructure and man-power to the RSO to discharge his duties and functions effectively,

(c) undertake to inform the Atomic Energy Regulatory Board immediately in case the RSO is relieved of his duties,

and request the Approval of the Competent Authority for designating the above individual as the designated/alternate RSO for ..... (Name of the Facility) ....., for a period of 5 years.

Place: Signature of Facility-in-Charge
[Employer and Licensee under Atomic Energy (Radiation Protection) Rules, 2004]

Date:

(Seal of the facility)

ANNEXURE-10
(Refer section 3.3.4)

Form ID: AERB/IPSD/ PARF/CC

Government of India
Atomic Energy Regulatory Board

Niyamak Bhavan,
Anushaktinagar,
Mumbai-400 094.

APPLICATION FOR CONSENT FOR COMMISSIONING OF PARTICLE ACCELERATOR RESEARCH FACILITY OF DAE (PARF >10 MeV)

(a) *This application would be considered by the competent authority for issuance of relevant consents, under the Atomic Energy (Radiation Protection) Rules, 2004 [AE(RP)R, 2004).*

(b) *The duly filled-in form should be sent to Director/Head, Industrial Plants Safety Division, (IPSD) AERB, Niyamak Bhavan, Anushaktinagar, Mumbai-400094 with the necessary documents.*

(c) *Incomplete applications and those without all relevant documents are liable to be rejected.*

(d) *All the forms pertaining to this facility can be downloaded from the website www.aerb.gov.in*

(e) *Attach extra sheets wherever required.*

PART A

GENERAL PARTICULARS

A.1 Name and address of the institution:

Telephone No. (O):
Fax No.
Institution No. for personnel monitoring services
E-mail

A.2 Name and address of the Head of the institution[$]:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.3 Name and designation of the applicant[#]:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.4 Address for correspondence with PIN code:

A.5 Name of the Facility In-charge:

Telephone No. (O) (R)
Fax No.
Mobile No.
E-mail

A.6 Name and designation of the Radiological Safety Officer (s) (RSO)* :

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail
RSO approval reference No. :
Valid up to :

[$] *The head of the institution is the person who would have the responsibilities of '**employer'** prescribed in AE(RP)R, 2004.*

[#] *Applicant is the person in whose name the authorisation (licence) to handle the source may be issued, under AE(RP)R, 2004, would have the responsibilities of '**licensee'** prescribed in AE(RP)R, 2004 and should be a full time employee of the institution.*

* *RSO is the person who is so designated by employer and approved by competent authority and have the responsibilities of 'Radiological Safety Officer' prescribed in AE(RP)R, 2004.*

PART B

PARTICULARS OF THE FACILITY

B.1 Details of siting Consent

B.2 Details of cnstruction Consent:

(a) No. and date of Consent issued
(b) Compliance of stipulation/conditions of Consent
(c) Construction completion certificates

B.3 Brief description of the Facility:

(a) Type of accelerator
(b) Particles to be accelerated
(c) Beam energy
(d) Beam current
(e) Average beam Power (mW/kW)
(f) Stored beam energy in case of circular accelerators (Joules)
(g) Number of beam lines

B.4 Name, qualification and experience of personnel

S. No.	Designation of personnel	Name	**Academic qualification	Type of training/ Experience	When and where trained	Personnel monitoring service No. if applicable	Authori-sation reference No.

** Attach proofs of qualification and training/experience

B.5 Documents to be attached with the application

(i) Design manual of the systems/ equipment with specifications.

(ii) Organisational setup with responsibilities, safety organisation set up including internal safety review setup and reporting system

(iii) Radiation protection manual (RPM) (as per AERB safety manual titled 'Radiation Protection for Nuclear Facilities', AERB/NF/SM/O-2).

(iv) Details of facilities after construction including design features, approach ways, emergency exits, ventilation arrangements etc

(v) Technical specifications covering safety limits, limiting safety system setting, limiting conditions for operation, administrative controls and surveillance requirements and reporting of significant events

(vi) Commissioning schedule

(vii) Commissioning programme and procedures

(viii) Document on training and qualification of operators

(ix) Training programme for facility specific safety

(x) Arrangements for personal dosimetry and environmental monitoring

(xi) Quality assurance manual for commissioning and operation (as per **Appendix-4F**)

(xii) Emergency preparedness plan and procedures of the facility (as per AERB/SM/O-2)

(xiii) Access control system including search and secure procedure

(xiv) Security Plan for the facility as per AERB Safety Guide on 'Security of Radioactive Sources in Radiation Facilities' (AERB/RF-RS/SG-1)

(xv) Supporting documents (if any)

PART C

UNDERTAKING

I/we hereby certify that

(i) all the statements made above are correct to the best of my knowledge and belief.

(ii) no activity shall be carried out for purposes other than those specified in this form.

(iii) the commissioning activities shall not be commenced without Consent from competent authority.

(iv) all provisions of the Atomic Energy (Radiation Protection) Rules, 2004 shall be strictly complied with.

(v) the facility shall not be transferred/sold/rented by me/us to any other party without the prior permission of the competent authority.

(vi) no radiation source of this facility will be transported without the prior permission of the competent authority.

(vii) full facilities will be accorded by me/us to any authorised representatives of the competent authority to inspect the installations at any time.

(viii) radiation surveillance of the installation and health surveillance of all persons engaged in radiation work as required by the competent authority will be duly carried out at my/our expense.

(ix) all recommendations that may be made from time to time by the competent authority in respect of radiation safety measures will be duly implemented.

(x) duly qualified/experienced radiological safety officer(s)/operator(s)/quality officer(s) will be appointed before the commencement of operation of the facility.

(xi) the requirements regarding decommissioning, disposal of decayed sources and reuse of the site of the decommissioned facility will be strictly complied with.

(xii) I/we will keep AERB informed about any changes in the information furnished above.

In case, it is found, at any stage, that the information provided by me/us is false and/or not authentic, then I/we hereby undertake to comply with the regulatory action(s) enforced against me/us and our institution, in accordance with the applicable Rules.

Place: Signature:

Date: Name of the applicant:

Designation:

Signature:

Name of Head of the institution:

Designation:

(Seal of the Head of the institution)

ANNEXURE-11
(Refer section 3.3.5)

Form ID: AERB/IPSD/PARF/LO

Government of India
Atomic Energy Regulatory Board

Niyamak Bhavan,
Anushaktinagar,
Mumbai-400 094.

APPLICATION FOR LICENCE FOR OPERATION OF PARTICLE ACCELERATOR RESEARCH FACILITY OF DAE (PARF >10 MeV)

(a)	*This application would be considered by the competent authority for issuance of relevant consents, under the Atomic Energy (Radiation Protection) Rules, 2004 [AE(RP)R, 2004].*
(b)	*The duly filled-in form should be sent to Director/Head, Industrial Plants Safety Division (IPSD) AERB, Niyamak Bhavan, Anushaktinagar, Mumbai-400094 with the necessary documents.*
(c)	*Incomplete applications and those without all relevant documents are liable to be rejected.*
(d)	*All the forms pertaining to this facility can be downloaded from the website www.aerb.gov.in*
(e)	*Attach extra sheets wherever required.*

PART A

GENERAL PARTICULARS

A.1 Name and address of the institution:

Telephone No. (O):
Fax No.
Institution No. for personnel monitoring services
E-mail

A.2 Name and address of the Head of the institution[$]:

Telephone No. (O): (R)
Fax No.

Mobile No.
E-mail

A.3 Name and designation of the applicant[#]:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.4 Address for correspondence with PIN code:

A.5 Name of the Facility In-charge :

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.6 Name and designation of the Radiological Safety Officer (s) (RSO)* :

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail
RSO Approval reference No.:
Valid up to :

A.7 Name and Address of the proposed Facility:

[$] *The head of the institution is the person who would have the responsibilities of '**employer'** prescribed in AE(RP)R, 2004.*

[#] *Applicant is the person in whose name the authorisation (licence) to handle the source may be issued, under AE(RP)R, 2004, would have the responsibilities of '**licensee'** prescribed in AE(RP)R, 2004 and should be a full time employee of the institution.*

* *RSO is the person who is so designated by employer and approved by competent authority and have the responsibilities of 'Radiological Safety Officer' prescribed in AE(RP)R, 2004..*

PART B

PARTICULARS OF THE FACILITY

B.1 Details of siting Consent (Ref. No. and date)

B.2 Details of construction Consent:

B.3 Details of commissioning Consent:

(a) Ref. No. and date of Consent issued

(b) Compliance of stipulation/ conditions of Consent

B.4 Brief Description of the Facility:

(a) Type of accelerator

(b) Particles to be accelerated

(c) Beam energy

(d) Beam current

(e) Average beam power (mW/kW)

(f) Stored beam energy in case of circular accelerators (Joules)

(g) Number of beam lines

B.5 Documents to be attached with the Application:

(a) Revised FSAR [also known as safety analysis document (SAD)] (as per **Appendix-4B, 4D**)

(b) Integrated test report of the facility

(c) Radiation monitoring report during test runs

(d) Acceptance test report (as per **Appendix-4C**)

(e) Analysis of any unusual occurrences during the earlier stages

(f) Requests for approval for any modification and upgradation (if any)

(g) Operation and maintenance manual

(h) Radiation protection manual (RPM) (as per AERB Safety Manual titled 'Radiation Protection for Nuclear Facilities', AERB/NF/SM/O-2).

(i) Standard operating procedures (SOP)

(j) Internal safety review organisation and periodic reporting procedures to AERB.

(k) Security plan for the facility as per AERB Safety Guide on 'Security of Radioactive Sources in Radiation Facilities' AERB/RF-RS/SG-1

(l) Technical specifications covering limiting safety system settings, limiting conditions for operation, administrative control, surveillance requirement and reporting of significant event reports.

PART C

UNDERTAKING

I/we hereby certify that

(i) all the statements made above are correct to the best of my knowledge and belief.

(ii) no activity shall be carried out for purposes other than those specified in this application.

(iii) the operation of the facility shall not be commenced without Licence from AERB.

(iv) fulfil all relevant requirements prescribed in the Atomic Energy Act, 1962 and the Rules issued there under, and in the relevant codes.

(v) meet the requirements prescribed in other relevant statutes.

(vi) all provisions of the Atomic Energy (Radiation Protection) Rules, 2004 shall be strictly complied with.

(vii) the facility shall not be transferred/sold/ rented by me/us to any other party without the prior permission of the competent authority.

(viii) no radiation source of this facility will be transported without the prior permission of the competent authority.

(ix) full facility will be accorded by me/us to any authorised representatives of the competent authority to inspect the installation at any time.

(x) radiation surveillance of the installation and health surveillance of all persons engaged in radiation work as required by the competent authority will be duly carried out at my/our expense.

(xi) all recommendations made from time to time by the competent authority in respect of radiation safety measures will be duly implemented.

(xii) duly qualified/experienced radiological safety officer(s)/operator(s)/ quality officer(s) will be appointed before the commencement of operation of the facility.

(xiii) the requirements regarding decommissioning, disposal of decayed sources and reuse of the site of the decommissioned facility will be strictly complied with.

(xiv) I/we will keep AERB informed about any changes in the information furnished above.

In case, it is found, at any stage, that the information provided by me/us is false and/or not authentic, then I/we hereby undertake to comply with the regulatory action(s) enforced against me/us and our institution, in accordance with the applicable Rules.

Place:
Date:

Signature:
Name of the applicant:
Designation:

Signature:
Name of Head of the institution:
Designation:

(Seal of the Head of the institution)

ANNEXURE-12
(Refer section 3.4.1)

Form ID: AERB/RSD/MCY/SA

Government of India
Atomic Energy Regulatory Board

Niyamak Bhavan
Anushaktinagar
Mumbai-400 094.

APPLICATION FOR CONSENT FOR SITE APPROVAL FOR LOCATION OF MEDICAL CYCLOTRON FACILITY

(a)	*This application would be considered by the competent authority for issuance of relevant consents, under the Atomic Energy (Radiation Protection) Rules, 2004 [AE(RP)R].*
(b)	*The duly filled-in form should be sent to Director/Head, Radiological Safety Division (RSD), AERB, Niyamak Bhavan, Anushaktinagar, Mumbai-400094 with the necessary documents*
(c)	*Incomplete applications and those without all relevant documents are liable to be rejected*
(d)	*All the forms pertaining to this facility can be downloaded from the website www.aerb.gov.in*
(e)	*Attach extra sheets wherever required*

PART A

GENREAL PARTICULARS

A.1 Name and address of the institution:

Telephone No. (O):
Fax No.
E-mail

A.2 Name and address of the Head of the institution[$]:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.3 Name and designation of the applicant[#]:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.4 Address for correspondence with PIN code:

[$] *The head of the institution is the person who would have the responsibilities of '**employer'** prescribed in AE(RP)R, 2004.*

[#] *Applicant is the person in whose name the authorisation (licence) to handle the source may be issued, under AERPR 2004, would have the responsibilities of '**licensee'** prescribed in AE(RP)R, 2004 and should be a full time employee of the institution.*

PART B

PARTICULARS OF THE PROPOSED FACILITY

B.1 Address of proposed location of the facility:

B.2 Location of the site: Industrial area/hospital premises

B.3 Total available area for the medical cyclotron facility

B.4 Brief description of the facility:

B.5 Type of medical cyclotron: Non self shielded/Self shielded

B.6 Site specific information:

B.6.1 Seismic zone as per IS-1893 (current version)
(Documentary evidence from relevant state/central govt. authority)

B.6.2 Maximum level of ground water and maximum flood level for past ten years as per the central/state govt. records, along with documentary evidence.

B.6.3 Distance of site of installation of medical cyclotron facility from public and residential localities

B.6.4 Documentary evidence from accredited agency that the soil and ground characteristics (e.g. soil profile, stratum, foundation type, soil and rock) will not cause deterioration in the strength and integrity of structure of irradiation cell.

B.6.5 Provision of roads to approach the proposed site and its detail.

B.7 Documents to be attached with the Application

(i) Installation layout indicating location of the plot with peripheral occupancy

(ii) Map of the site region upto 30m radius covering details given in B.6.3 and B.6.5

(iii) Proof from local state govt. authorities that the land/plot for installation of medical cyclotron facility are in the name of the applicant.

(iv) Any other supporting documents.

PART C

UNDERTAKING

I/we hereby certify that

(i) all the statements made above are correct to the best of my knowledge and belief.

(ii) no activity shall be carried out for purposes other than those specified in this form.

(iii) the siting activities shall be taken up only after receipt of approval from AERB.

(iv) all provisions of the Atomic Energy (Radiation Protection) Rules, 2004 shall be strictly complied with.

(v) the facility shall not be transferred/sold/ rented by me/us to any other party without the prior permission of the competent authority.

(vi) full facilities will be accorded by me/us to any authorised representatives of the competent authority to inspect this installation at any time.

(vii) radiation surveillance of the installation and health surveillance of all persons engaged in radiation work as required by the competent authority will be duly carried out at my/our expense.

(viii) all recommendations made from time to time by the competent authority in respect of radiation safety measures will be duly implemented.

(ix) duly qualified/experienced radiological safety officer(s)/operator(s) will be appointed before the commencement of operation of the facility.

(x) the procedures approved by AERB regarding decommissioning/ dismantling and reuse of the site of the decommissioned facility will be strictly complied with.

(xi) AERB will be informed about any changes in the information furnished above.

In case, it is found, at any stage, that the information provided by me/us is false and/ or not authentic, then I/we hereby undertake to comply with the regulatory action(s) enforced against me/us and our institution, in accordance with the applicable Rules.

Place:

Date:

Signature:

Name of the applicant:

Designation:

Signature:

Name of Head of the institution:

Designation:

(Seal of the Head of the institution)

ANNEXURE-13
(Refer section 3.4.1.3)

Form ID. AERB/RSD/MCY/LCA

Government of India
Atomic Energy Regulatory Board

Niyamak Bhavan
Anushaktinagar,
Mumbai-400 094.

APPLICATION FOR CONSENT FOR LAYOUT AND CONSTRUCTION APPROVAL FOR MEDICAL CYCLOTRON FACILITY

(a)	*This application would be considered by the competent authority for issuance of relevant consents, under the Atomic Energy (Radiation Protection) Rules, 2004 [AE(RP)R, 2004].*
(b)	*The duly filled-in form should be sent to Director/Head, Radiological Safety Division (RSD), AERB, Niyamak Bhavan, Anushaktinagar, Mumbai-400094 with the necessary documents*
(c)	*Incomplete applications and those without all relevant documents are liable to be rejected*
(d)	*All the forms pertaining to this facility can be downloaded from the website (www.aerb.gov.in)*
(e)	*Attach extra sheets wherever required*

PART A

GENERAL PARTICULARS

A.1 Name and address of the institution:

Telephone No. (O):
Fax No.
E-mail

A.2 Name and address of the Head of the institution[$]:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.3 Name and designation of the applicant[#]:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.4 Address for correspondence with PIN code:

[$] *The head of the institution is the person who would have the responsibilities of '**employer'** prescribed in AE(RP)R, 2004.*

[#] *Applicant is the person in whose name the authorisation (licence) to handle the source may be issued, under AE(RP)R, 2004, would have the responsibilities of '**licensee'** prescribed in AE(RP)R, 2004 and should be a full time employee of the institution.*

PART B

PARTICULARS OF THE FACILITY

B.1 Purpose of the facility:

B.2 Cyclotron unit model and number:

B.2.1 Type of medical cyclotron : Non self shielded/Self shielded

B.2.2 Beam particles : Protons/Deuterons

B.3 Documents to be attached with the Application:

(i) Copy of consent of site approval

(ii) Preliminary safety analysis report (as per **Appendix-5B**)

(iii) Quality assurance during construction (as per **Appendix-5F**)

(iv) Layout of the facility drawn to a scale of 1:50 and location drawing with respect to other associated facilities drawn to a scale of 1:500

(v) Security Plan for the facility as per AERB safety guide on 'Security of Radioactive Sources in Radiation Facilities' (AERB/RF-RS/SG-1)

(vi) Other supporting documents.

PART C

UNDERTAKING

I/we hereby certify that

(i) all the statements made above are correct to the best of my knowledge and belief.

(ii) no activity will be carried out for purposes other than those specified in this form.

(iii) the construction activities shall not be commenced without the approval from AERB.

(iv) all provisions of the Atomic Energy (Radiation Protection) Rules, 2004 shall be strictly complied with.

(v) the facility shall not be transferred/sold/ rented by me/us to any other party without the prior permission of the competent authority.

(vi) full facility will be accorded by me/us to any authorised representatives of the competent authority to inspect this installation at any time.

(vii) radiation surveillance of the installation and health surveillance of all persons engaged in radiation work as required by the competent authority will be duly carried out at my/our expense.

(viii) all recommendations made from time to time by the competent authority in respect of radiation safety measures will be duly implemented.

(ix) duly qualified/experienced radiological safety officer(s)/operator(s) will be appointed before the commencement of operation of the facility;

(x) the procedures approved by AERB regarding decommissioning/ dismantling and reuse of the site of the decommissioned facility will be strictly complied with.

(xi) AERB will be informed about any changes in the information furnished above.

In case, it is found, at any stage, that the information provided by me/us is false and/ or not authentic, then I/ we hereby undertake to comply with the regulatory action(s) enforced against me/us and our institution, in accordance with the applicable Rules.

Place: Signature:

Date: Name of the applicant:

Designation:

Signature:

Name of Head of the institution:

Designation:

(Seal of the Head of the institution)

ANNEXURE-14
(Refer section 3.4.1.4)

Form ID. AERB/RSD/MCY/LCO

Government of India
Atomic Energy Regulatory Board

Niyamak Bhavan
Anushaktinagar,
Mumbai-400 094.

APPLICATION FOR LICENCE FOR COMMISSIONING AND OPERATION OF MEDICAL CYCLOTRON FACILITY

(a) *This application would be considered by the competent authority for issuance of relevant consents, under the Atomic Energy (Radiation Protection) Rules, 2004), AE(RP)R, 2004.*

(b) This form is intended to enable AERB to assess the suitability of the institution for procurement and use of radiation sources, which includes radiation generating equipment (hereinafter referred to as 'source').

(c) The duly filled-in form should be sent to Director/Head, Radiological Safety Division (RSD), AERB, Niyamak Bhavan, Anushaktinagar, Mumbai-400094 with the necessary documents.

(c) Incomplete applications and those without all relevant documents are liable to be rejected.

(d) All the forms pertaining to this facility can be downloaded from the website www.aerb.gov.in

(e) Attach extra sheets wherever required.

PART A

GENERAL PARTICULARS

A.1 Name and address of the institution:

Telephone No. (O):
Fax No.
Institution personnel monitoring number
E-mail

A.2 Name and address of the Head of the institution[$]:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.3 Name and designation of the applicant[#]:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.4 Name and designation of the radiological safety officer (RSO)*:

Telephone No. (O): (R):
Fax No.
Mobile No.
E-mail
RSO approval reference No.:
Valid up to

A.5 This application is for

First regulatory licence			
Additional	Ref No.	Date:	Valid till:
Renewal	Ref No.	Date:	Valid till:

[$] *The head of the institution is the person who would have the responsibilities of '**employer'** prescribed in AE(RP)R, 2004.*

[#] *Applicant is the person in whose name the authorisation (licence) to handle the source may be issued, under AE(RP)R, 2004, would have the responsibilities of '**licensee'** prescribed in AE(RP)R, 2004 and should be a full time employee of the institution.*

* *RSO is the person who is so designated by employer and approved by competent authority and have the responsibilities of 'Radiological Safety Officer' prescribed in AE(RP)R, 2004.*

PART B

DETAILS OF THE FACILITY

B.1 Medical Cyclotron

Name of the equipment	Make and model	Date of installation	Nominal beam energy		Maximum beam current	
			Protons MeV	Deuterons MeV	Protons μA	Deuterons μA

B.2 Synthesis Modules

Name of the equipment	Make and model	Date of installation	Maximum activity can be handled at a time

B.3 Monitoring and Measuring Instruments (survey instruments, area gamma zone monitor, stack monitor and dose calibrator)

Name of the instrument	Make, model and serial No.	Measurement range	Working status	Date of last calibration

B.4 Handling and General Facilities

Fume hoods (F.H.)	No. of functioning F.H. available:	Used for: 1. 2.
L-benches	No. of L-benches	Used for: 1. 2.
Lead bricks/lead pots for shielding		
Drainage system		
Radioactive waste storage facility	Solid waste: Liquid waste:	

B.5 List sealed/calibration source(s) if any used in the facility with the radionuclide, activity, date of procurement, purpose with supplier/ manufacturer details

B.6 Name, qualification and experience of personnel

S. No.	Category of personnel	Name	Academic qualifi-cation	Type of training/ Experience	When and where trained	Duration of training	Personnel monitoring service No.
1	Cyclotron operators						
2	Radiopharmacist						
3	Radiation technologist						
4	Radiological safety officer (RSO)						
5	Other auxiliary saff						

B.7 Details of Local Safety Committee constitution.

B.8 Procedures for disposal of radioactive waste

Radio-isotope	Nature of waste generated			Method of disposal			Activity disposed MBq/week		
	Solid	Liquid	Gas	Solid	Liquid	Gas	Solid	Liquid	Gas

B.9 Documents to be attached with the application:

(i) Copy of consent of layout plan and construction of the facility issued by BARC/AERB

(ii) Final safety analysis report (as per **Appendix-5D**)

(iii) Copy of RSO approval letter or a duly filled in Application for approval of nomination of RSO in medical institution

(iv) Radiation protection manual (as per of **Appendix-5E**)

(v) QA manual (as per **Appendix-5F**)

(vi) Copy of the certificates of training and qualification for all radiation workers

(vii) Copy of appointment and acceptance letters for the radiation workers

(viii) Security Plan for the facility as per AERB safety guide on 'Security of Radioactive Sources in Radiation Facilities' (AERB/RS/RF/SG-1).

PART C

UNDERTAKING

I/we hereby certify that

(i) all the statements made above are correct to the best of my knowledge and belief.

(ii) no operation will be carried out for purposes other than those specified in this form.

(iii) the commissioning/operation activities shall not be commenced without Licence from AERB.

(iv) all provisions of the Atomic Energy (Radiation Protection) Rules, 2004 shall be strictly complied with.

(v) the facility shall not be transferred/sold/ rented by me/us to any other party without the prior permission of the competent authority.

(vi) no radiation source of this facility will be transported without the prior permission of the competent authority.

(vii) full facility will be accorded by me/us to any authorised representatives of the competent authority to inspect the installation at any time.

(viii) radiation surveillance of the installation and health surveillance of all persons engaged in radiation work as required by the competent authority will be duly carried out at my/our expense.

(ix) all recommendations made from time to time by the competent authority in respect of radiation safety measures will be duly implemented.

(x) duly qualified/experienced radiological safety officer(s)/operator(s)/ quality officer(s) will be appointed before the commencement of operation of the facility.

(xi) AERB will be informed about the absence of any qualified manpower (as given in Table B.6) immediately.

(xii) the requirements regarding decommissioning, disposal of decayed sources and reuse of the site of the decommissioned facility will be strictly complied with.

(xiii) AERB will be informed about any changes in the information furnished above.

In case, it is found, at any stage, that the information provided by me/us is false and/or not authentic, then I/we hereby undertake to comply with the regulatory action(s) enforced against me/us and our institution, in accordance with the applicable Rules.

Place: Signature:

Date: Name of the applicant:

Designation:

Signature:

Name of Head of the institution:

Designation:

(Seal of the Head of the institution)

ANNEXURE-15

(Refer section 3.4.2.2)

Form ID: AERB/RSD/MDX/FCP /LA

Government of India
Atomic Energy Regulatory Board

Niyamak Bhavan
Anushaktinagar,
Mumbai-400 094.

APPLICATION FOR LAYOUT PLAN APPROVAL OF TESTING FACILITY FOR RADIATION GENERATING EQUIPMENT

[FOR FACILITIES ENGAGED IN THE COMMERCIAL PRODUCTION OF COMPUTED TOMOGRAPHY (CT)/INTERVENTIONAL RADIOLOGY (CATH LAB)/ RADIOGRAPHY/RADIOGRAPHY AND FLUOROSCOPY (R&F)/DENTAL/ ORTHO-PAN-TOMOGRAPHY (OPG)/MAMMOGRAPHY/BONE DENSITOMETER/ MEDICAL X-RAY TUBE AND TUBE HEAD]

(a) The duly filled-in form should be sent to Director/Head, Radiological Safety Division (RSD), AERB, Niyamak Bhavan, Anushaktinagar, Mumbai-400094 with the necessary documents.

(b) This application would be considered by the AERB for issuance of relevant consents under the Atomic Energy (Radiation Protection) Rules, 2004 [AE(RP)R, 2004].

(c) Incomplete applications and those without all relevant documents are liable to be rejected.

(d) For all the forms pertaining to this facility, AE(RP)R, 2004 and other information in this regard, refer to our website: www.aerb.gov.in

(e) Attach extra sheets wherever required.

PART A

GENERAL PARTICULARS

A.1 Name and address of the applicant (manufacturer)[#]:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.2 Name and address of the local supplier[$]:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.3 Representative of the applicant to be contacted regarding the application:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.4 Address for correspondence of the applicant with PIN code:

[#] *Applicant is the person in whose name the relevant consent may be issued, under AE(RP)R, 2004.*

[$] In case local supplier is the applicant, *in whose name licence to handle the radiation generating equipment may be issued, under AE(RP)R, 2004, would have the responsibilities of '**licensee'** prescribed in [Atomic Energy (Radiation Protection) Rules, 2004] and should be a full time employee of the institution.*

PART B

PARTICULARS OF THE RADIATION GENERATING EQUIPMENT

B.1 Details of the equipment

B.1.1 Purpose of the facility:

B.1.2 Whether the layout approval is for: New/modified facility

B.1.3 Complete address of the proposed test location:

B.1.4 Type of unit:

(a) Computed tomography
(b) Interventional radiology
(c) Fixed radiography (conventional/digital)
(d) Radiography (Mobile)
(e) Combined radiography and fluoroscopy (conventional/IIT/digital)
(f) Ortho-pan-tomography (OPG)
(g) Mammography
(h) Dental

(i) Bone densitometer

(j) Others (specify)

B.2 Details of the equipment to be tested:

(a) Maximum operating potential:

(b) Maximum operating current:

B.3 Documents to be attached with the Application:

(a) Two duly signed and stamped copies of the layout plan (scale 1:50) indicating the following:

(i) Location of the X-ray unit

(ii) Mobile protective barrier

(iii) Control panel/control room

(iv) Chest stand

(v) Windows, doors along with their lead lining, thickness, dimensions

(vi) Materials of the walls of the enclosure

(vii) Shielding details

(b) Two duly signed and stamped copies of the design and layout of the factory plan (scale 1:100) indicating the following:

(i) Location of the testing room(s)

(ii) Dark room

(iii) Other manufacturing areas, if any.

(c) Copy of the certificate issued by BIS for manufacturing of the equipment.

(d) An undertaking from the supplier that they shall not supply the unit to any other institution till the unit is type approved by AERB.

(e) Proof from local state govt. authorities that the land/plot for installation of facility is in the name of the applicant.

PART C

UNDERTAKING

I/we hereby certify that

(i) all the statements made above are correct to the best of my knowledge and belief.

(ii) no activity will be carried out for purposes other than those specified in this form.

(iii) I/we will not take up commercial production of the equipment, unless license for the same is obtained from AERB.

(iv) all provisions of the Atomic Energy (Radiation Protection) Rules, 2004 shall be strictly complied with.

(v) full facility will be accorded by me/us to any authorised representatives of the competent authority to inspect the test facility at any time.

(vi) all recommendations that may be made from time to time by the competent authority in respect of radiation safety will be duly implemented.

(vii) duly qualified/experienced radiological safety officer(s)/operator(s) will be appointed before carrying out the testing of the equipment.

(viii) AERB will be kept informed about any changes in the information furnished above.

In case, it is found, at any stage, that the information provided by me/us is false and/ or not authentic, then I/ we hereby accept that appropriate regulatory actions may be initiated against me/us and our institution, in accordance with the applicable Rules.

Place: Signature:

Date: Name of the applicant:

Designation:

(Seal of the institution)

ANNEXURE-16

(Refer section 3.4.2.3)

Government of India
Atomic Energy Regulatory Board

Form ID: AERB/RSD/MDX/FCP/LIC
Niyamak Bhavan
Anushaktinagar,
Mumbai-400 094.

APPLICATION FOR LICENCE FOR COMMERCIAL PRODUCTION OF RADIATION GENERATING EQUIPMENT

[COMPUTED TOMOGRAPHY (CT)/INTERVENTIONAL RADIOLOGY(CATH LAB)/RADIOGRAPHY/RADIOGRAPHY AND FLUOROSCOPY (R&F)/DENTAL/ ORTHO-PAN-TOMOGRAPHY (OPG)/MAMMOGRAPHY/BONE DENSITOMETER/MEDICAL X-RAY TUBE AND TUBE HEAD]

(a) *This application would be considered by the competent authority for issuance of Licence for commercial production of radiation generating equipment, under the Atomic Energy (Radiation Protection) Rules, 2004).*

(b) *The duly completed form should be sent to Director/Head, Radiological Safety Division (RSD), AERB, Niyamak Bhavan, Anushaktinagar, Mumbai-400094 with the necessary documents.*

(c) *Incomplete applications and those without all relevant documents are liable to be rejected.*

(d) *All the forms pertaining to diagnostic X-ray (CT/Cath lab) manufacture can be downloaded from the website www.aerb.gov.in*

(e) *Attach extra sheets wherever required*

PART A

GENERAL PARTICULARS

A.1 Name and address of the applicant (manufacturer)[#]

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.2 Name and address of the local supplier[$]:

Telephone No (O): (R)

Fax No.
Mobile No.
E-mail

A.3 Representative of the applicant to be contacted regarding the application:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.4 Address for correspondence of the applicant with PIN code:

A.5 Name and designation of the Radiological Safety Officer (RSO)* :

Telephone No. (O): (M)
Fax No.
E-mail
RSO Approval reference No.:
Valid up to:

A.6 Name and address of the authorised agents/local suppliers for marketing the radiation generating equipment:

---

*Applicant is the person in whose name licence to handle the radiation generating equipment may be issued, under AE(RP)R, 2004, would have the responsibilities of '**licensee'** prescribed in [Atomic Energy (Radiation Protection) Rules, 2004] and should be a full time employee of the institution.*

* *RSO is the person who is so designated by employer and approved by competent authority and have the responsibilities of '**Radiological Safety Officer'** prescribed in Atomic Energy (Radiation Protection) Rules, 2004.*

$ *In case local supplier is the applicant, in whose name licence to handle the radiation generating equipment may be issued, under AE(RP)R, 2004, would have the responsibilities of **'licensee'** prescribed in Atomic Energy (Radiation Protection) Rules, 2004 and should be a full time employee of the institution.*

PART B

PARTICULARS OF THE RADIATION GENERATING EQUIPMENT

B.1 Details of the equipment

B.1.1 Name and address of the authorised agents/local suppliers for marketing the radiation generating equipment:

B.1.2 Whether the layout approval is obtained : Yes/No

B.1.3 Type of unit:

(a) Computed tomography

(b) Interventional radiology

(c) Fixed radiography (conventional/digital)

(d) Radiography (Mobile)

(e) Combined radiography and fluoroscopy (conventional/IIT/digital)

(f) Ortho-pan-tomography (OPG)

(g) Mammography

(h) Dental

(i) Others (specify)

B.2 Number of units to be manufactured per month:

B.3 Radiation measuring and monitoring instruments, protection accessories

B.3.1 Accessories available:

(a) Lead aprons available : Yes/No

(b) Movable lead glass and protective barrier : Yes/No

(c) Lead rubber flaps provided with the couch of Cath Lab unit : Yes/No

B.3.2 Personnel monitoring badges (TLD) provided : Yes/No

B.4 Availability of quality assurance kit : Yes/No

B.5 Availability of test phantom : Yes/No

B.6 Availability of red light, X-ray caution symbol and warning placards : Yes/No

B.7 Specify the standards to which the X-ray unit comply : National/ International

B.8 Availability of qalified staff: (such as service engineer/radiological safety officer)

Name	Designation	Academic/ Professional qualification	Experience in the field	Personnel monitoring (PMS)	Full-time/ Part-time

B.9 Documents to be attached with the Application:

(i) Copy of the layout approval issued by AERB.

(ii) Quality assurance manual for design and manufacture.

(iii) Radiation protection manual (to be submitted in case of CT/Cath Lab only) as per Appendix-8E.

PART C

UNDERTAKING

I/We hereby certify that

(i) all the statements made above are correct to the best of my knowledge and belief.

(ii) no activity will be carried out for purposes other than those specified in this form.

(iii) I/we will not take up commercial production of the equipment, unless license for the same is obtained from AERB.

(iv) I/we will supply the unit only after obtaining a Type Approval from the competent authority and only to users authorised by the competent authority.

(v) all provisions of the Atomic Energy (Radiation Protection) Rules, 2004 shall be strictly complied with.

(vi) all provisions of AERB Safety Code on 'Medical Diagnostic X-ray Equipment and Installations', AERB/SC/MED-2 (Rev–1) or the revised version thereof currently in force, shall be strictly complied with.

(vii) the radiation generating equipment shall not be transported/ transferred/sold/rented by me/us to any other party without the prior permission of the competent authority.

(viii) full facility will be accorded by me/us to any authorised representatives of the competent authority to inspect our facility at any time.

(ix) radiation and medical surveillance of all persons engaged in radiation work as required by the competent authority will be duly carried out at my/our expense.

(x) all stipulations/recommendations made from time to time by the competent authority in respect of radiation safety and physical security measures will be duly implemented.

(xi) installation, commissioning, servicing and maintenance of the equipment shall be carried out by authorised service personnel.

(xii) any incident/accident such as fire, theft, damage etc., involving radiation generating equipment shall be promptly reported to AERB.

(xiii) all other necessary approvals from the concerned state/central govt. have been obtained by our institution.

(xiv) AERB will be kept informed about any changes in the information furnished above.

In case, it is found, at any stage, that the information provided by me/us is false and/or not authentic, then I/we hereby undertake to comply with the regulatory action(s) enforced against me/us and our institution, in accordance with the applicable Rules.

Place: Signature:

Date: Name of the applicant:

Designation:

(Seal of the institution)

ANNEXURE-17
(Refer section 3.4.3.2)

Form ID : AERB/RSD/IFRT/SA

Government of India
Atomic Energy Regulatory Board

Niyamak Bhavan,
Anushaktinagar,
Mumbai-400 094.

APPLICATION FOR CONSENT FOR SITE APPROVAL OF INTEGRATED FACILITY FOR RADIATION TECHNOLOGY (IFRT)

(a) *This application would be considered by the competent authority for issuance of relevant consents, under the Atomic Energy (Radiation Protection) Rules, 2004.*

(b) *The duly filled-in form should be sent to Director/Head, Radiological Safety Division (RSD), AERB, Niyamak Bhavan, Anushaktinagar, Mumbai-400094 with the necessary documents.*

(c) *Incomplete applications and those without all relevant documents are liable to be rejected.*

(d) *All the forms pertaining to this facility can be downloaded from the website www.aerb.gov.in*

(e) *Attach extra sheets wherever required.*

PART A

GENERAL PARTICULARS

A.1 Name and address of the institution:

Telephone No. (O):
Fax No.
E-mail

A.2 Name and address of the Head of the institution[$]:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.3 Name and designation of the applicant[#]:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.4 Representative of the applicant to be contacted regarding the application:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.5 Address for correspondence with PIN code:

[$] *The head of the institution is the person who would have the responsibilities of '**employer'** prescribed in AE(RP)R, 2004.*

[#] *Applicant is the person in whose name the authorisation (licence) to handle the source may be issued, under AE(RP)R, 2004, would have the responsibilities of '**licensee'** prescribed in AE(RP)R, 2004 and should be a full time employee of the institution.*

PART B

PARTICULARS OF THE PROPOSED FACILITY

B.1 Address of proposed location of the facility:

B.2 Class and category of facility proposed to be installed:

B.3 Name and address of the designer:

B.4 Name and address of the manufacturer:

B.5 Brief description of the facility:

B.6 Purpose of IFRT facility:

B.7 Site specific information:

B.7.1 Seismic zone as per IS-1893 (current version)
(Documentary evidence from relevant state/central govt. authority)

B.7.2 Maximum level of ground water and maximum flood level for past hundred years as per the central /state govt. records along with documentary evidence.

B.7.3 Distance of proposed site of installation of IFRT facility from

(a) Ammunition storage and explosive dumps

(b) Storage of inflammable materials

(c) Direction of runway of civilian/military airfield

(d) Residential and public places

(e) Rivers/dams/lake/water reservoir

B.7.4 Distance of site from capable fault, if any
(Documentary evidence from relevant state/central govt. authority)

B.7.5 Documentary evidence from accredited agency that the soil and ground characteristics (e.g. soil profile, stratum, foundation type, analysis of water, soil and rock) will not cause deterioration in the strength and integrity of structure of IFRT

B.7.6 Provision of access roads to approach the proposed site and its detail.

B.7.7 Distance and location of the nearest railway station and airport from the site

B.8 Documents to be attached with the Application

(i) Site assessment report (As per **Appendix-6A**)

(ii) Installation layout indicating location of the plot with peripheral occupancy

(iii) Map of the site region upto 2 km radius covering details given in Items B.7.3 and B.7.6

(iv) Proof from local/state govt. authorities that the land/plot for installation of the facility is in the name of the applicant and falls in industrial zone.

(v) Other supporting documents.

PART C

UNDERTAKING

I/we hereby certify that

(i) all the statements made above are correct to the best of my knowledge and belief.

(ii) no activity shall be carried out for purposes other than those specified in this form.

(iii) the siting activities shall be taken up only after receipt of approval from AERB.

(iv) all provisions of the Atomic Energy (Radiation Protection) Rules, 2004 shall be strictly complied with.

(v) the facility shall not be transferred/sold/rented by me/us to any other party without the prior permission of the competent authority.

(vi) full facility will be accorded by me/us to any authorised representatives of the competent authority to inspect this installation at any time.

(vii) radiation surveillance of the installation and health surveillance of all persons engaged in radiation work as required by the competent authority will be duly carried out at my/our expense.

(viii) all stipulations and recommendations made from time to time by the competent authority in respect of radiation safety measures will be duly implemented.

(ix) duly qualified/experienced radiological safety officer(s)/operator(s) will be appointed before the commencement of operation of the facility.

(x) the procedures approved by AERB regarding decommissioning/ dismantling and reuse of the site of the decommissioned facility will be strictly complied with.

(xi) AERB will be kept informed about any changes in the information furnished above.

In case, it is found, at any stage, that the information provided by me/us is false and/or not authentic, then I/we hereby undertake to comply with the regulatory action(s) enforced against me/us and our institution, in accordance with the applicable Rules.

Place: Signature:

Date: Name of the applicant:

Designation:

Signature:

Name of Head of the institution:

Designation:

(Seal of the Head of the institution)

ANNEXURE-18
(Refer section 3.4.3.3)

Form ID: AERB/RSD/IFRT/L&CA

Government of India
Atomic Energy Regulatory Board

Niyamak Bhavan
Anushaktinagar,
Mumbai-400 094.

APPLICATION FOR LAYOUT AND CONSTRUCTION APPROVAL OF INTEGRATED FACILITY FOR RADIATION TECHNOLOGY (IFRT)

(a) *This application would be considered by the competent authority for issuance of relevant consents, under the Atomic Energy (Radiation Protection) Rules, 2004.*

(b) *The duly filled-in form should be sent to Director/Head, Radiological Safety Division (RSD), AERB, Niyamak Bhavan, Anushaktinagar, Mumbai-400094 with the necessary documents.*

(c) *Incomplete applications and those without all relevant documents are liable to be rejected.*

(d) *All the forms pertaining to this facility can be downloaded from the website www.aerb.gov.in).*

(e) *Attach extra sheets wherever required.*

PART A

GENERAL PARTICULARS

A.1 Name and address of the institution:

Telephone No. (O):
Fax No.
E-mail

A.2 Name and address of the Head of the institution[$]:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.3 Name and designation of the applicant[#]:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.4 Representative of the applicant to be contacted regarding the application:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.5 Address for correspondence with PIN code:

[$] *The head of the institution is the person who would have the responsibilities of '**employer'** prescribed in AE(RP)R, 2004.*

[#] *Applicant is the person in whose name the authorisation (licence) to handle the source may be issued, under AE(RP)R, 2004, would have the responsibilities of '**licensee'** prescribed in AE(RP)R, 2004 and should be a full time employee of the institution.*

PART B

PARTICULARS OF THE PROPOSED FACILITY

B.1 Particulars of the agencies involved in design and construction of IFRT :

B.1.1 Name and address of the designer(s) :

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

B.1.2 Name and address of the manufacturer:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

B.1.3 Name and address of the designer of sources handling system:

Telephone No. (O): (R)

Fax No.
Mobile No.
E-mail

B.1.4 Name and address of the local vendor agency, if any;

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

B.2 Layout and civil engineering drawings attached : Yes/ No :

B.3 Class and Category of IFRT [specify class as per AERB Safety Standard No. AERB/RF-IRRAD/SS- 6(Rev-1)]

B.4 Objective/purpose of the facility:

B.5 Radiation Source proposed to be handled:

(a) Type of radionuclide : may be β, γ, α

(b) Physical and chemical form

(c) Maximum design source strength to be handled: —— PBq (—— kCi)

(d) Source handling mechanism

B.6 Device/equipment handling system:

B.7 Documents to be attached with the Application:

(i) Copy of the AERB site approval

(ii) Preliminary safety analysis report (as per format prescribed in **Appendix-6B**)

(iii) Quality assurance during construction (as per format prescribed in **Appendix-6F**)

(iv) Detailed layout of the facility with peripheral occupancy

(v) Architectural authenticated blue print of the complete design drawings including the details of radiation processing cell, wall thicknesses and labyrinth access if applicable.

(vi) Security Plan for the facility as per AERB Safety Guide on 'Security of Radioactive Sources in Radiation Facilities' (AERB/RF-RS/SG-1) and AERB Safety Guide on 'Security of Radioactive Material during Transport' (AERB/NRF-TS/SG-10).

(vii) Other supporting documents.

PART C

UNDERTAKING

I/we hereby certify that

(i) all the statements made above are correct to the best of my knowledge and belief.

(ii) no activity will be carried out for purposes other than those specified in this form.

(iii) the construction activities shall not be commenced without the approval from AERB.

(iv) all provisions of the Atomic Energy (Radiation Protection) Rules, 2004 shall be strictly complied with.

(v) the facility shall not be transferred/sold/ rented by me/us to any other party without the prior permission of the competent authority.

(vi) full facility will be accorded by me/us to any authorised representatives of the competent authority to inspect this installation at any time.

(vii) no radiation source of this facility will be transported without the prior permission of the competent authority.

(viii) radiation surveillance of the installation and health surveillance of all persons engaged in radiation work as required by the competent authority will be duly carried out at my/our expense.

(ix) all recommendations made from time to time by the competent authority in respect of radiation safety measures will be duly implemented.

(x) duly qualified/experienced radiological safety officer(s)/operator(s) will be appointed before the commencement of operation of the facility.

(xi) the procedures approved by AERB regarding decommissioning/ dismantling and reuse of the site of the decommissioned facility will be strictly complied with.

(xii) AERB will be kept informed about any changes in the information furnished above.

In case, it is found, at any stage, that the information provided by me/us is false and/or not authentic, then I/we hereby undertake to comply with the regulatory action(s) enforced against me/us and our institution, in accordance with the applicable Rules.

Place: Signature:

Date: Name of the applicant:

Designation:

Signature:

Name of Head of the institution:

Designation:

(Seal of the Head of the Institution)

ANNEXURE-19
(Refer section 3.4.3.4)

Form ID: AERB/RSD/IFRT/LCO

Government of India
Atomic Energy Regulatory Board

Niyamak Bhavan
Anushaktinagar,
Mumbai-400 094.

APPLICATION FOR LICENCE FOR COMISSIONING/OPERATION OF INTEGRATED FACILITY FOR RADIATION TECHNOLOGY (IFRT)

(a)	*This application would be considered by the competent authority for issuance of relevant consents, under the Atomic Energy (Radiation Protection) Rules, 2004.*
(b)	*The duly filled-in form should be sent to Director/Head, Radiological Safety Division (RSD), AERB, Niyamak Bhavan, Anushaktinagar, Mumbai-400094 with the necessary documents.*
(c)	*Incomplete applications and those without all relevant documents are liable to be rejected.*
(d)	*All the forms pertaining to this facility can be downloaded from the website www.aerb.gov.in*
(e)	*Attach extra sheets wherever required.*

PART A

GENERAL PARTICULARS

A.1 Name and address of the institution:

Telephone No. (O):
Fax No.
E-mail

A.2 Name and address of the Head of the institution[$]:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.3 Name and designation of the applicant[#]:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.4 Name and designation of the Facility In-charge:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.5 Name and designation of the Radiological Safety Officer (RSO)*:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail
RSO approval reference No.:
Approval valid up to

A.6 Representative of the applicant to be contacted regarding the application:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.7 Address for correspondence with PIN code:

[$] *The head of the institution is the person who would have the responsibilities of '**employer'** prescribed in AE(RP)R, 2004.*

[#] *Applicant is the person in whose name the authorisation (licence) to handle the source may be issued, under AE(RP)R, 2004, would have the responsibilities of '**licensee'** prescribed in AE(RP)R, 2004 and should be a full time employee of the institution.*

* *RSO is the person who is so designated by employer and approved by competent authority and have the responsibilities of 'Radiological Safety Officer' prescribed in AE(RP)R, 2004.*

PART B

PARTICULARS OF THE PROPOSED FACILITY

B.1 Name, qualification and experience of personnel

S.No.	Designation of personnel	Name	*Academic qualification	Type of training/ Experience	When and where trained	Duration of training
1	Operator(s)					
2	Radiological safety officer (RSO)					

*Attached proofs of qualification and training/experience

B.2 Class and Category of IFRT :
[Specify class as per AERB Safety Standard No. AERB/RF-IRRAD/ SS-6 (Rev-1)]

B.3 Radiation source details:

(a) Type of radionuclide: may be β, γ, α

(b) Physical and chemical form

(c) Maximum design source strength to be handled: PBq (————kCi)

(d) Source handling mechanism

B.4 Particulars of the radiation survey meter (RSM) and area monitors available

Particulars of RSM/Area monitor	1	2	3
Make			
Model			
RSM S. No.			
Date of recent calibration			
Functional status of RSM/Area monitor (s)			

B.5 Availability of personnel monitoring services (PMS) : Yes/No

B.5.1 No. of personnel availing PMS:

B.5.2 Institution PMS number:

B.6 Documents to be available with the facility:

Required documents	Availability (Yes/No)
PSAR as approved by AERB	
Standard operating procedures (SOP)	
Servicing /maintenance manual	
Pre-commissioning acceptance test report with results	
Radiation protection manual	
Radiation protection survey report (along with drawings and layout indicating stray radiation levels at different locations of the facility)	
Quality assurance manual for Operation	
Security plan for the facility as per AERB safety guide on 'Security of Radioactive Sources in Radiation Facilities', AERB/RF-RS/SG-1-under preparation)	

B.8 Documents to be attached with the Application:

(a) Final safety analysis report (FSAR) (as per **Appendix-6D**)

(b) Radiation protection manual (as per **Appendix-6E**)

(c) Quality assurance manual for Operation (as per **Appendix-6F**)

(d) Security plan for the facility as per AERB safety guide on 'Security of Radioactive Sources in Radiation Facilities', (AERB/RF-RS/SG-1) and AERB safety guide on 'Security of Radioactive Material during Transport', (AERB/NRF-TS/SG-10)

(e) Other documents.

PART C

UNDERTAKING

I/We hereby certify that

(i) all the statements made above are correct to the best of my knowledge and belief.

(ii) no operation will be carried out for purposes other than those specified in this form.

(iii) the commissioning/operation activities shall not be commenced without Licence from AERB.

(iv) all provisions of the Atomic Energy (Radiation Protection) Rules, 2004 shall be strictly complied with.

(v) the facility shall not be transferred/sold/ rented by me/us to any other party without the prior permission of the competent authority.

(vi) no radiation source of this facility will be transported without the prior permission of the competent authority.

(vii) full facility will be accorded by me/us to any authorised representatives of the competent authority to inspect this installation at any time.

(viii) radiation surveillance of the installation and health surveillance of all persons engaged in radiation work as required by the competent authority will be duly carried out at my/our expense.

(ix) all recommendations made from time to time by the competent authority in respect of radiation safety measures will be duly implemented.

(x) duly qualified/experienced radiological safety officer(s)/operator(s) will be appointed before the commencement of operation of the facility.

(xi) the requirements regarding decommissioning, disposal of decayed sources and reuse of the site of the decommissioned facility will be strictly complied with.

(xii) in case of any unforeseen situations such as bankruptcy, damage to the facility and other such situations, the sources will be returned to its supplier at my/our cost without jeopardising safety and security requirements.

(xiii) AERB will be kept informed about any changes in the information furnished above.

In case, it is found, at any stage, that the information provided by me/us is false and/or not authentic, then I/we hereby undertake to comply with the regulatory action(s) enforced against me/us and our institution, in accordance with the applicable Rules.

Place: Signature:

Date: Name of the applicant:

Designation:

Signature:

Name of Head of the institution

Designation:

(Seal of the institution)

ANNEXURE-20

(Refer section 3.5.1.2 (Teletherapy)
Refer section 3.5.2.2 (MLA)
Refer section 3.8.2 (Brachytherapy)
Refer section 3.12.4.2 (Simulator)

Form ID: AERB/RSD/RT/ SLA

Government of India
Atomic Energy Regulatory Board

Niyamak Bhavan
Anushaktinagar,
Mumbai-400 094.

APPLICATION FOR SITE AND LAYOUT PLAN APPROVAL OF RADIOTHERAPY FACILITIES

(a) *This Application would be considered by the competent authority for issuance of relevant consents, under the Atomic Energy (Radiation Protection) Rules, 2004.*

(b) *The duly filled-in form should be sent to Director/Head, Radiological Safety Division, (RSD) AERB, Niyamak Bhavan, Anushaktinagar, Mumbai-400094 with the necessary documents.*

(c) *Incomplete applications and those without all relevant documents are liable to be rejected.*

(d) *All the forms pertaining to this facility can be downloaded from the website www.aerb.gov.in*

(e) *Attach extra sheets wherever required.*

(f) *This Application format covers all the types of radiotherapy facilities (viz. Teletherapy, Simulator, Gamma Knife, remote manual after loading Brachytherapy and Accelerator); however, the Applicant may fill the relevant applicable portions of the form.*

PART A

GENERAL PARTICULARS

A.1 Name and address of the institution:

Telephone No. (O):
Fax No.
E-mail

A.2 Name and address of the Head of the institution[$]:

Telephone No. (O): (R):
Fax No.
Mobile No.
E-mail

A.3 Name and designation of the applicant[#]:

Telephone No. (O): (R):
Fax No.
Mobile No.
E-mail

A.4 Address for correspondence with PIN code:

A.5 Technical Expert (medical physicist) of the applicant, who was involved in the planning of the proposed facility(ies), to be contacted regarding the application

Name and address for correspondence:
Telephone No. (O); (R):
Fax No.
Mobile No.
E-mail

[#] *Applicant is the person in whose name the consent may be issued, under AE(RP)R, 2004, and would have the responsibilities of '**licensee'** prescribed in AE(RP)R, 2004 and should be a full time employee of the institution.*

[$] *The head of the institution is the person who would have the responsibilities of '**employer'** prescribed in AE(RP)R, 2004.*

PART B

PARTICULARS OF THE PROPOSED FACILITY

(All the boxes as applicable should be ticked)

B.1 Status of the Layout Plans**:

(a) New plans submitted for the first time ☐
(b) Plans modified and submitted as suggested ☐
(c) Plans already approved but needs modification ☐
(d) Modification of the plans of the existing installation ☐

**In case of

(b) copy of suggested layout plans,

(c) original approved layout plans and

(d) copy of approved layout plan of existing installation are to be attached along with the new set of layout plans sent for Approval.

B.2 Address of proposed location of the facility:

B.3 Institution No. allotted by AERB (for existing facility):

B.4 Brief description of the facility covering the following aspects:

(a) Type of facility

(b) Purpose of the facility

(c) Technical Details (fill as applicable)

B.5 Layout plan submitted for approval of (tick the applicable box)

A. TELECOBALT ☐

(i) Number of telecobalt unit(s):

(ii) Radiation source to isocentre distance: _____cm

(iii) Maximum field size at isocentre : _____cm x_____cm

(iv) Typical radiation leakage* through the head: _____%

(v) Whether unit will have beam stopper:

(vi) If yes, typical radiation leakage* through the beam stopper ___ %

***** (Leakage radiation as per manufacturer)

B. GAMMA KNIFE SYSTEM ☐

(i) Radiation source to be used in the Gammaknife:

(ii) Whether dose mapping around the unit is enclosed: Yes ☐ No ☐

C. SIMULATOR ☐

Maximum tube potential: _____ kVp

D. ACCELERATOR ☐

(i) Number of accelerator(s):

(ii) Nominal photon energies: _____ MV

(iii) Target to isocentre distance: _____cm

(iv) Maximum field size at isocentre :_____cm x_____cm

(v) Typical radiation leakage* through the head:_____ %

(vi) Typical neutron head leakage*
per 1 cGy photon dose at 1 m: ____ µSv

(vii) Whether unit will have beam stopper:
(If yes, typical radiation leakage* through the beam stopper: _____%)

(viii) Whether unit will have provision such as
SRS, SRT, IMRT, IGRTetc. Yes ☐ No ☐

* (Leakage radiation as per manufacturer)

E. REMOTE AFTERLOADING (RAL) BRACHYTHERAPY ☐

(i) Number of remote afterloading Brachytherapy unit(s):

(ii) Radiation source to be used: _____

(iii) Maximum activity to be used for patient treatment: _____ GBq

F. MANUAL AFTERLOADING (MAL) BRACHYTHERAPY ☐

(i) Radiation source(s) to be used: _____

(ii) Maximum activity to be used for patient treatment: _____ MBq

(iii) No. of patients to be treated simultaneously: _____

B.6 Documents to be attached with the Application:

(i) Two copies of detailed Layout drawing of the facility (to scale 1:200), along with the filled in check list as given in Annexure to this form.

(ii) Two copies of Radiotherapy Room drawing (to scale 1:50)

(iii) Two copies of cross-sectional (elevation) room drawings (to scale 1:50) along length, breadth and maze area of the room.

(iv) Security plan for the facility as per AERB safety guide on 'Security of Radioactive Sources in Radiation Facilities' (AERB/RF-RS/SG-1).

(v) In case of radiotherapy facility based on new technology which is yet to be commissioned in India, guidelines for room layout design and shielding calculations as per manufacturer's manual.

CHECK LIST

(Drawings should indicate the following items)

I. In the site layout drawings

(a) Radiotherapy room and the associated facilities indicated Yes ☐ No ☐

(b) Occupancies all around the Radiotherapy room clearly indicated Yes ☐ No ☐

(c) Facilities in the vicinity of Radiotherapy room (at least up to 20 meters from all the walls of Radiotherapy room) clearly indicated Yes ☐ No ☐

II. In the Radiotherapy Room layout drawings

(a) Isocentre incase of Teletherapy or Source and Bed position in case of Brachytherapy is clearly indicated Yes ☐ No ☐

(b) Central beam axis and axis of rotation clearly indicated Yes ☐ No ☐

(c) Distances of all the walls from isocentre/ source are clearly indicated Yes ☐ No ☐

(d) Occupancies all around the Radiotherapy room clearly indicated Yes ☐ No ☐

(e) Wall Materials and the density of the walls are clearly indicated Yes ☐ No ☐

(f) Dimensions of all the walls are clearly indicated Yes ☐ No ☐

(g) Control panel location is shown in the drawing Yes ☐ No ☐

(h) Door Interlocked with the unit is shown in the drawing Yes ☐ No ☐

(i) Nursing station, in case of manual Brachytherapy facility shown in the drawing Yes ☐ No ☐

III. In the Cross-sectional (elevation) Room layout drawings

(a)	Isocentre incase of Teletherapy or Source and Bed position incase of Brachytherapy is clearly indicated	Yes ☐	No ☐
(b)	Distances of all the walls, ceiling and floors from isocentre/source are clearly indicated	Yes ☐	No ☐
(c)	Occupancies all around the Radiotherapy room clearly indicated	Yes ☐	No ☐
(d)	Wall materials and its density to be used for construction are clearly indicated	Yes ☐	No ☐
(e)	Dimensions of all the walls are clearly indicated	Yes ☐	No ☐
(f)	Conduit (incase of teletherapy/remote afterloading Brachytherapy unit) is clearly indicated	Yes ☐	No ☐
(g)	Baffle (incase of window air-conditioner) is clearly indicated	Yes ☐	No ☐

PART C

UNDERTAKING

I/we hereby certify that

(i) all the statements made above are correct to the best of my knowledge and belief.

(ii) no activity will be carried out for purposes other than those specified in this form.

(iii) site and layout activities shall be taken only after receipt of approval from AERB.

(iv) all provisions of the Atomic Energy (Radiation Protection) Rules, 2004 shall be strictly complied with.

(v) the facility shall not be transferred/sold/ rented by me/us to any other party without the prior permission of the competent authority.

(vi) full facility will be accorded by me/us to any authorised representatives of the competent authority to inspect this installation at any time.

(vii) radiation surveillance of the installation and health surveillance of all persons engaged in radiation work as required by the competent authority will be duly carried out at my/our expense.

(viii) all recommendations made from time to time by the competent authority in respect of radiation safety and physical security measures will be duly implemented.

(ix) duly qualified and trained manpower (viz. radiation oncologist, medical physicist, and radiation therapy technologist) including radiological safety officer shall be appointed before the commencement of operation of the facility.

(x) the procedures approved by AERB regarding decommissioning/ dismantling and reuse of the site of the decommissioned facility will be strictly complied with.

(xi) AERB will be kept informed about any changes in the information furnished above.

In case, it is found, at any stage, that the information provided by me/us is false and/ or not authentic, then I/we hereby accept that appropriate regulatory actions may be initiated against me/us and our institution, in accordance with the applicable Rules.

Place: Signature:

Date: Name of the applicant:

Designation:

Signature:

Name of Head of the institution:

Designation:

(Seal of the Head of the institution)

ANNEXURE-21

(Refer section 3.5.1.4, (teletherapy)
Refer section 3.5.2.4 (medical linear accelerator)
Refer section 3.8.4 (brachytherapy)
Refer section 3.12.1.3) (simulator)

Form ID: AERB/RSD/RT/RGE-RS/PROC

Government of India
Atomic Energy Regulatory Board

Niyamak Bhavan
Anushaktinagar,
Mumbai-400 094.

APPLICATION FOR CONSENT FOR PROCUREMENT/ IMPORT OF RADIATION GENERATING EQUIPMENT/RADIOACTIVE SOURCE FOR RADIATION THERAPY FACILITY

(a)	*The duly filled-in form should be sent to The Director/Head, Radiological Safety Division (RSD), AERB, Niyamak Bhavan, Anushaktinagar, Mumbai-400094 with the necessary documents*
(b)	*This application would be considered by the AERB for issuance of relevant consents under the Atomic Energy (Radiation Protection) Rules, 2004.*
(c)	*Incomplete applications and those without all relevant documents are liable to be rejected.*
(d)	*For all the forms pertaining to this facility, AE(RP)R, 2004 and other information in this regard, refer to our website: www.aerb.gov.in*
(e)	*Attach extra sheets wherever required.*
(f)	*This Application format covers all the types of radiotherapy facilities (viz. Telegamma equipment, Radiotherapy Simulator, Gamma Knife, Remote and manual after loading Brachytherapy and Accelerator); however, the Applicant may fill the relevant applicable portions of the form.*

PART A

GENERAL PARTICULARS

A.1 Name and address of the institution:

Telephone No. (O):
Fax No.
E-mail

A.2 Name, designation and address of the Head of the institution[$]

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.3 Name and designation of the applicant[#]:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.4 Name and designation of the Radiological Safety Officer (RSO)* :

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail
Approval reference No. :
Approval valid up to :

A.5 Institution No. allotted by AERB (for existing facility):

[#] *Applicant is the person in whose name the authorisation (licence) to handle the source may be issued, under RPR- 2004, would have the responsibilities of* ***'licensee'*** *prescribed in AE(RP)R, 2004 and should be a full time employee of the institution.*

[$] *The head of the institution is the person who would have the responsibilities of* ***'employer'*** *prescribed in AE(RP)R, 2004.*

* *RSO is the person who is so designated by employer and approved by competent authority and have the responsibilities of 'Radiological Safety Officer' prescribed in AE(RP)R, 2004.*

PART B

DETAILS OF THE EQUIPMENT/SOURCE

B.1 **Procurement of** (tick '✓' the applicable box):
(Fill in the appropriate forms given in Parts [B.1 (i)-B.1(viii)] below and attach along with this application form)

(i) Telecobalt source ☐ - attach filled in FORM-AERB/RT/TCS

(ii)	Gamma knife source(s)	☐ - attach filled in FORM- AERB/ RT/GKS
(iii)	Medical linear accelerator	☐ - attach filled in FORM- AERB/ RT/MLA
(iv)	Remote afterloading brachy-therapy source	☐ - attach filled in FORM-AERB/ RT/RAL
(v)	Manual aterloading brachy-therapy source(s)	☐ - attach filled in FORM- AERB/ RT/MAL
(vi)	CT-simulator/simulator	☐ - attach filled in FORM- AERB/ RT/SIM
(vii)	Check source	☐ - attach filled in FORM- AERB/ RT/CHK
(viii)	Unit containing depleted uranium (DU) (without source)	☐ - attach filled in FORM-AERB/ RT/DU

B.2 Details of existing Radiation Therapy Facilities in the institution (if applicable)

(a) Number of Telecobalt units

(b) Number of medical linear accelerators

(c) No. of beds for manual afterloading brachytherapy (MAL) application:

(d) Number of remote after loading (RAL) brachytherapy units:

(e) Any unused radioactive sources/non-functional teletherapy/ brachytherapy/radiation generating equipment available in the Radiation Therapy Department :

Yes ☐ No ☐

If yes, give details of:

(i) such radioactive sources/ non-functional Teletherapy/brachytherapy/ radiation generating equipment below.

(ii) action taken for disposal of above disused radioactive sources and decommissioning of non-functional Teletherapy/brachytherapy/ radiation generating equipment.

B.3 Details of staff in Radiation Therapy Department [Consent for procurement shall not be given in case of adequate staff (working full-time) are not available i.e. radiation oncologist(s), medical physicist(s) and radiotherapy technologist(s)]

Name	Date of birth	Date of joining the present institution*	Desig-nation of personnel	Basic and professional qualifica-tion	Duration and name of institution where worked	Personnel monitoring service No.	Full-time/ Part-time**

* If staff is yet to join, enclose the copy of appointment letter and their consent of joining without which the permission shall not be issued.

** If any of the above staff works at other radiotherapy institution, please inform separately.

B.4 Documents to be attached with the Application

(i) Copy of the appointment and acceptance letters if radiotherapy staff is yet to join.

(ii) Security Plan for the facility as per AERB safety guide on 'Security of Radioactive Sources in Radiation Facilities', (AERB/RF-RS/ SG-1).

(iii) Documentary evidence from local and state/central govt. authorities that the facility is in the name of the applicant. If the location does not belong to applicant, give documentary proof for lease/loan etc. from the owner of land.

(iv) Radiation protection manual as per **Appendix 7E** (for teletherapy and brachytherapy units only)

(v) Any other documents.

PART C

UNDERTAKING

I/we hereby certify that

(i) all the statements made above are correct to the best of my knowledge and belief.

(ii) no activity will be carried out for purposes other than those specified in this form.

(iii) no procurement shall be made prior to receipt of Consent/NOC from AERB.

(iv) all provisions of the Atomic Energy (Radiation Protection) Rules, 2004 shall be strictly complied with.

(v) the unit /radioactive source shall not be transported/ transferred/sold/ rented by me/us to any other party without the prior permission of the competent authority.

(vi) full facility will be accorded by me/us to any authorised representatives of the competent authority to inspect our facility at any time.

(vii) radiation surveillance of the installation and health surveillance of all persons engaged in radiation work as required by the competent authority will be duly carried out at my/our expense.

(viii) all stipulations/recommendations made from time to time by the competent authority in respect of radiation safety and physical security measures will be duly implemented.

(ix) installation, commissioning, servicing and maintenance of the equipment shall be carried out by authorised service personnel.

(x) the requirements regarding decommissioning, disposal of contaminated/decayed sources and reuse of the unit will be strictly complied with.

(xi) any incident/accident such as fire, theft, damage etc., involving ionising radiation source shall be promptly reported (within 24 hours) to AERB.

(xii) In case of any unforeseen situations such as bankruptcy, damage to the facility/source and other such situations, the sources will be returned to its supplier at my/our cost without jeopardising safety and security requirements.

(xiii) all other necessary approvals from the concerned state/central govt. have been obtained by our institution.

(xiv) AERB will be kept informed about any changes in the information furnished above.

In case, it is found, at any stage, that the information provided by me/us is false and/ or not authentic, then I/we hereby undertake to comply with the regulatory action(s) enforced against me/us and our institution, in accordance with the applicable Rules.

Place: Signature:

Date: Name of the applicant:

Designation:

Signature:

Name of Head of the institution:

Designation:

(Seal of the institution)

PART B.1(i)

Form-AERB/RT/TCS

PROCUREMENT OF TELECOBALT SOURCE

(This form is a part of Form ID : AERB/RSD/RT/RGE-RS/PROC form, hence must be submitted along with the Main Application Form)

1. Application for: First Source ☐ Replacement source ☐

2. Source specifications:

Radioisotope	Specifications	Total Activity in TBq (RMM)

3. Specify name and postal address of the original supplier of the source:

4. Whether a copy of the undertaking furnished : by the original supplier of the imported source to take back the disused/decayed source is attached ? (In the absence of such under-taking, permission shall not be issued) Yes ☐ No ☐

5. Source shall be used in the installation, which is: New ☐ Modified ☐ Existing ☐

   (a) In case of new/modified installation

   (i) whether the installation is approved: (if yes, attach a copy of the approval letter) Yes ☐ No ☐

   (ii) whether construction completed as per approved plan : Yes ☐ No ☐

6. Source shall be used in: New Unit ☐ Existing Unit ☐

   (a) Make and model of the unit:

   (b) S. No. of the existing unit:

   (c) Whether unit contains depleted uranium (DU): Yes ☐ No ☐

   (i) If yes, specify:
   (A) the parts of the unit containing DU:
   (B) quantity of DU in each part (in kg):

(ii) In case of new unit, whether filled-in form AERB/RT/DU is attached : Yes ☐ No ☐

7. In case of a new unit

(a) Whether **NOC/Type Approval for the unit has been obtained by the supplier from AERB: Yes ☐ No ☐

(b) Whether the unit is already installed: Yes ☐ No ☐

(c) Whether the source will be transported to institution: in a flask ☐ in the source head ☐

8. In case of the existing unit

(a) The date of last source loading:

(b) The RMM value of the source at the time of loading:

(c) The present output at the normal treatment distance (in cGy/minutes):

(d) Whether, performance test report of the unit is carried out Yes ☐ No ☐

9. Name of the medical physicist, who shall be responsible for supervision of source transfer operation :

Whether the medical physicist was ever involved in source transfer operation: Yes ☐ No ☐

If **yes**, permission for source transfer operation should be obtained from AERB by submitting the filled in prescribed proforma AERB/RSD/RT/SSA given after Part B.1 (ii), 15 days prior to the actual date of source transfer operation.

If **no**, assistance for supervision of source transfer operation should be taken from a medical physicist from any other radiotherapy centre having experience in source transfer supervision. Permission should be obtained from AERB by submitting the filled in prescribed proforma AERB/RSD/RT/SSA given after Part B.1 (ii), 15 days prior to the actual date of source transfer operation along with a letter of consent from the medical physicist endorsed by his/her employer.

10. Availability of Associated Equipment for the Telecobalt Installation**

(a) Instruments for absolute dose measurement devices (secondary standard dosimeters)

** If any of the above equipment is not available, attach the copy of confirmation letter from the supplier about supply of the above equipment, without which permission shall not be issued.

(i) Calibrated and working appropriate Thimble chamber calibrated for Co-60 energy Available ☐ Not available ☐

If available,

Make and model : S.No.: Date of last calibration:

(ii) Calibrated and working Electrometer: Available ☐ Not available ☐

If available,

Make and model : S. No.: Date of last calibration:

(b) Calibrated and working survey meter: Available ☐ Not available ☐

If available,

Make and model : S.No.: Date of last calibration:

Type of detector : Available ranges:

(c) Calibrated and working Gamma Zone Monitor: in the telecobalt room Available ☐ Not available ☐

If available,

Make and model : S. No.:

(d) Working thermometer (factory calibrated): Available ☐ Not available ☐

If available,

Make and model : Type: Mercury ☐ Digital ☐ Any other ☐

(e) Working barometer Available ☐ Not available ☐
(inter compared with any standard lab):

If available,

Make and model : Type: Mercury ☐ Aneroid ☐
Digital ☐ Any other ☐

(f) Water phantom for absolute dosimetry: Available ☐ Not available ☐

11. Documents to be attached with this Application:

(i) Copy of the undertaking furnished by the original supplier of the imported source to take back the disused/decayed source.

(ii) Copy of the AERB site and layout plan approval letter in case of new/modified installation.

(iii) Filled in Application Form- AERB/RT/DU, in case, DU is used in new unit.

(iv) Copy of the NOC/Type Approval for the unit/equipment, as applicable.

(v) An undertaking by the local supplier, from whom the applicant proposes to procure, that in the case of NOC, the local supplier would not supply the unit/equipment to any other user, till the unit/equipment is type approved by AERB.

Signature of the Applicant	Signature of the Head of the institution
Name :	Name:
Designation:	Designation:

PART B.1(ii)

Form-AERB/RT/GKS

PROCUREMENT OF SOURCE FOR GAMMA KNIFE UNIT

(This form is a part of Form ID : AERB/RSD/RT/RGE-RS/PROC form, hence must be submitted along with the Main Application Form)

1. Application for: First sources ☐ Replacement sources ☐

2. Source specifications:

Radio-isotope	Specifi-cations	Activity of each source (GBq)	No. of sources	Total activity (TBq)

3. Specify name and postal address of the original supplier of the sources:

4. Whether a copy of the undertaking furnished by the original supplier of the imported source to take back the disused/decayed source is attached (in the absence of such undertaking, authorisation shall not be issued)

Yes ☐ No ☐

5. Sources shall be used in the installation, which is:

New ☐ Modified ☐ Existing ☐

In case of new/modified installation

(i) whether the installation is approved : Yes ☐ No ☐
(if yes, attach a copy of the approval letter)

(ii) whether construction completed
as per approved plan : Yes ☐ No ☐

6. Sources shall be used in: New Unit ☐ Existing Unit ☐

(a) Make and model of the unit:

(b) S. No. of the existing unit:

(c) Whether unit contains depleted uranium(DU): Yes ☐ No ☐

(i) If yes, specify:

A. the parts of the unit containing DU:

B. quantity of DU in each part (in kg):

(ii) In case of new unit, whether filled in
form AERB/RT/DU is attached: Yes ☐ No ☐

7. In case of new unit

(a) whether the unit is type approved by AERB: Yes ☐ No ☐

(If Yes, attach a copy of Type Approval letter issued by AERB to the supplier and if No (i) attach copy of NOC letter issued by AERB to the supplier and (ii) an undertaking from the supplier that they shall not supply the unit to any other institution till the unit is type approved by AERB)

(b) whether the unit is already installed: Yes ☐ No ☐

8. In case of existing unit

(a) The date of last source loading:

(b) Number of sources available:

(c) The total activity of the present sources:

(d) Whether, performance test report of the
unit is attached : Yes ☐ No ☐

9. Name of the Medical Physicist, who shall be responsible for supervision of source transfer operation:

Whether the Medical Physicist was ever involved
in source transfer operation: Yes ☐ No ☐

If yes, permission for source transfer operation should be obtained from AERB by submitting the filled in prescribed proforma AERB/RSD/RT/SSA given after Part B.1 (ii), 15 days prior to the actual date of source transfer operation.

If no, assistance for supervision of source transfer operation should be taken from a Medical Physicist from any other Radiotherapy Centre having experience in source transfer supervision. Permission should be obtained from AERB by submitting the filled in prescribed proforma AERB/RSD/RT/SSA given after Part B.1 (ii), 15 days prior to the actual date of source transfer operation along with a letter of consent from the Medical Physicist endorsed by his/her employer.

10. Availability of associated equipment for the Gamma Knife installation:

(a) Instruments for absolute dose measurement devices (secondary standard dosimeters)

(i) Calibrated and working appropriate Thimble Chamber:

Available ☐ Not available ☐

Calibrated for appropriate beam energy:

Make and model : S. No.: Date of last calibration:

(ii) Calibrated and working Electrometer:

Available ☐ Not available ☐

Make and model : S. No.: Date of last calibration:

(b) Calibrated and working survey meter:

Available ☐ Not available ☐

Make and model : S.No.: Date of last calibration:

Type of detector : Available ranges:

(c) Working gamma zone monitor in gamma knife room:

Available ☐ Not available ☐

Make and model : S. No.:

(d) Working thermometer (factory calibrated):

Available ☐ Not available ☐

Make and model : Type:

Alcohol ☐ Mercury ☐ Digital ☐ Any other ☐

(e) Working barometer (intercompared with any standard lab):

Available ☐ Not available ☐

Make and model : Type:

Mercury ☐ Aneroid ☐ Digital ☐ Any other ☐

(f) Appropriate phantom for absolute dosimetry:

Available ☐ Not available ☐

(If any of the above equipment is not available, attach the copy of the firm purchase order, without which authorisation shall not be issued)

11. Any other information:

12. Documents to be attached with the Application

(i) Copy of the undertaking furnished by the original supplier of the imported source to take back the disused/decayed source

(ii) Copy of the layout approval letter in case of new/modified installation

(iii) Filled in application form, AERB/RT/DU, in case, DU is used in new unit.

(iv) Copy of the NOC/type approval for the unit, as applicable.

In case of NOC, an undertaking from the supplier that they shall not supply the unit to any other institution till the unit is type approved by AERB.

(v) In case of the existing unit, performance test report of the unit carried out as per manufacturer's protocol.

PART B.1(iii)

Form-AERB/RT/MLA

PROCUREMENT OF RADIATION GENERATING EQUIPMENT (MEDICAL ACCELERATOR)

(This form is a part of Form ID : AERB/RSD/RT/RGE-RS/PROC form, hence must be submitted along with the Main Application Form)

1. Specifications of the unit

(a) Make and model of the unit:

(b) Nominal photon energies (MV) (specify all beam energies):

(c) Available dose rates:

(d) Nominal electron energies (MeV) (specify all beam energies):

(e) Available dose rates:

(f) Whether unit contains depleted uranium(DU): Yes ☐ No ☐

(i) If yes, specify : A, the parts of the unit containing DU:

(ii) Quantity of DU in each part (in kg):

(g) In case of new unit, whether filled-in form AERB/RT/DU is attached: Yes ☐ No ☐

(h) Other accessories:

(i) MLC: ☐ (ii) Micro-MLC: ☐
(iii) X-knife cones: ☐ (iv) Portal imaging: ☐
(v) kVCT: ☐ (vi) MVCT: ☐
(vii) Gating: ☐ (viii) Others (specify):_____

(If any other radiation source such as low energy X-ray (kV) beam is used along with the accelerator in the same room, filled in FORM-AERB/RT/SIM also to be submitted)

(i) Special treatment techniques

(i) 3D CRT: ☐ (ii) IMRT: ☐ (iii) IGRT: ☐ (iv) SRS: ☐
(v) SRT: ☐ (vi) Any other, specify:

2. Specify name and postal address of the original supplier of the Accelerator:

3. Unit shall be used in the installation, which is: New ☐ Modified ☐ Existing ☐

In case of new/modified installation

(i) whether the installation is approved: Yes ☐ No ☐
(If yes, attach a copy of the approval letter)

(ii) whether construction completed as per approved plan : Yes ☐ No ☐

4. In case of new unit

(a) Whether the unit is type approved by AERB: Yes ☐ No ☐
(If Yes, attach copy of Type Approval letter issued by AERB to the supplier and if No, (i) attach copy of NOC letter issued by AERB to the supplier and (ii) an undertaking from the supplier that they shall not supply the unit to any other institution till the unit is type approved by AERB)

(b) whether the unit is already installed: Yes ☐ No ☐

5. Availability of associated equipment for the medical accelerator installation:

(a) Instruments for absolute dose measurement devices (secondary standard dosimeters)

(i) Calibrated and working appropriate Thimble Chamber:

Available ☐ Not available ☐

Calibrated for appropriate beam energy:

Make and model: S. No.: Date of last calibration:

(ii) Calibrated and working Parallel Plate Chamber:

Available ☐ Not available ☐

Calibrated for appropriate beam energy:

Make and model: S. No.: Date of last calibration:

(iii) Calibrated and working Electrometer:

Available ☐ Not available ☐

Make and model: S .No.: Date of last calibration:

(b) Working radiation field analyser:

Available ☐ Not available ☐

Make and model : S. No.:

(c) Calibrated and working sensitive ionisation/scintillation/detector based survey meter

Available ☐ Not available ☐

Make and model : S .No.: Date of last calibration:

Type of detector : Available ranges:

(d) Working thermometer (factory calibrated):

Available ☐ Not available ☐

Make and model : Type:

Alcohol ☐ Mercury ☐ Digital ☐ Any other ☐

(e) Working barometer (intercompared with any standard lab):

Available ☐ Not available ☐

Make and model : Type:

Mercury ☐ Aneroid ☐ Digital ☐ Any other ☐

(f) Water phantom for absolute dosimetry of photon beam(s):

Available ☐ Not available ☐

(g) Solid phantom for absolute dosimetry of electron beam(s):

Available ☐ Not available ☐

(h) D_{10}/D_{20} phantom for daily output/energy constancy check:

Available ☐ Not available ☐

(If any of the above equipment is not available, attach the copy of the firm purchase order, without which authorisation shall not be issued: [a(ii) and (g) are not essential, if only photon beams are available]

6. Any other information:

7. Documents to be attached with the Application

(i) Copy of the layout approval letter in case of new/modified installation

(ii) Filled in application form, AERB/RT/DU, in case, DU is used in new unit.

(iii) Copy of the NOC/type approval for the unit, as applicable.

(iv) In case of NOC, an undertaking from the supplier that they shall not supply the unit to any other institution till the unit is type approved by AERB.

PART B.1(iv)

Form-AERB/RT/RAL

PROCUREMENT OF REMOTE AFTERLOADING (RAL) BRACHYTHERAPY SOURCE

(This form is a part of Form ID : AERB/RSD/RT/RGE-RS/PROC form, hence must be submitted along with the Main Application Form)

1. Application for: First source ☐ Replacement source ☐

2. Source specifications:

Radioisotope	Specifications	Activity of each source (GBq)	No. of sources required per year

3. Specify name and postal address of the original supplier of the sources:

4. Whether a copy of the undertaking furnished by the original supplier of the imported source to take back the disused/decayed source is attached (in the absence of such undertaking, authorisation shall not be issued)

Yes ☐ No ☐

5. Sources shall be used in the installation, which is:

New ☐ Modified ☐ Existing ☐

In case of new/modified installation

(i) whether the installation is approved: Yes ☐ No ☐
(if Yes, attach a copy of the approval letter)

(ii) whether construction completed as per approved plan :

Yes ☐ No ☐

6. Sources shall be used in: New Unit ☐ Existing Unit ☐

(a) Make and model of the unit:

(b) S. No. of the existing unit:

(c) Whether unit contains depleted uranium(DU): Yes ☐ No ☐

(i) If Yes, specify:

A. the parts of the unit containing DU:

B. quantity of DU in each part (in kg):

(ii) In case of new unit, whether filled in form AERB/RT/DU: is attached Yes ☐ No ☐

7. In case of new unit

(a) whether the unit is Type Approved by AERB: Yes ☐ No ☐

(If Yes, attach a copy of Type Approval letter issued by AERB to the supplier and if No (i) attach copy of NOC letter issued by AERB to the supplier and (ii) an undertaking from the supplier that they shall not supply the unit to any other institution till the unit is type approved by AERB)

(b) whether the unit is already installed: Yes ☐ No ☐

8. In case of existing unit

(a) the date(s) of last source loading during last one year:

(b) whether, performance test report of the unit is attached : Yes ☐ No ☐

9. Availability of associated equipment for the remote after loading brachytherapy installation:

(a) Instruments for absolute dose measurement devices (secondary standard dosimeters)

(i) Calibrated and working large volume/well type ion chamber: for the energy of brachytherapy source to be used (e.g. Ir-192)

Available ☐ Not available ☐

Make and model : S .No.: Date of last calibration:

(ii) Calibrated and working appropriate Thimble Chamber: calibrated for energy of Brachytherapy Source to be used (e.g. Ir-192)

Available ☐ Not available ☐

Make ane model : S .No.: Date of last calibration:

(iii) Calibrated and working Electrometer:

Available ☐ Not available ☐

Make and model S .No.: Date of last calibration:

(b) Special jig for output measurement:

Available ☐ Not available ☐

Make and model :

(c) Calibrated and working Survey Meter:

Available ☐ Not available ☐

Make and model : S .No.: Date of last calibration:

Type of detector : Available ranges:

(d) Working gamma zone monitor in the Brachytherapy room:

Available ☐ Not available ☐

Make and model : S .No.:

(e) Working thermometer (factory calibrated):

Available ☐ Not available ☐

Make and model :

(f) Working barometer (intercompared with any standard lab):

Available ☐ Not available ☐

Make and model : Type:

Mercury ☐ Aneroid ☐ Digital ☐ Any other ☐

(g) Emergency storage container: Available ☐ Not available ☐

[If any of the above equipment is not available, attach the copy of the firm purchase order, without which authorisation shall not be issued: either {a(i)} or {a(ii) and (b)} must be available]

10. Any other information:

11. Documents to be attached with the Application:

(i) Copy of the undertaking furnished by the original supplier of the imported source to take back the disused/decayed source.

(ii) Copy of the AERB site and layout plan approval letter in case of new/modified installation.

(iii) Filled in Application form- AERB/RT/DU, in case, DU is used in new unit.

(iv) Copy of the NOC/Type Approval for the unit/equipment, as applicable.

(v) In case of the existing unit/equipment, performance test report of the unit/equipment (with the existing source)

PART B.1(v)

Form-AERB/RT/MAL

PROCUREMENT OF MANUAL AFTERLOADING (MAL) BRACHYTHERAPY SOURCE(S)

(This form is a part of Form ID : AERB/RSD/RT/RGE-RS/PROC form, hence must be submitted along with the Main Application Form)

1. Application for: First source ☐ Replacement source ☐

2. Source specifications:

Radio-isotope	Type of source (wire/ seed etc.)	Specifications (Dimension/ Linear activity etc.)	Activity per consignment (MBq)	No. of consignments (per year)

3. Specify name and postal address of the original supplier of the sources:

4. Whether a copy of the undertaking furnished by the original supplier of the imported source to take back the disused/decayed source is attached (in the absence of such undertaking, authorisation shall not be issued)

Yes ☐ No ☐

5. Sources shall be used in the installation, which is:

New ☐ Modified ☐ Existing ☐

In case of new/modified installation

(i) whether the installation is approved: Yes ☐ No ☐

(if yes, attach a copy of the approval letter)

(ii) whether construction completed as per approved plan : Yes ☐ No ☐

6. Availability of associated equipment for the manul afterloading Brachytherapy installation:

(a) Working isotope calibrator calibrated for the energy of brachytherapy source (e.g. Ir-192)

Make and model : S. No.: Date of last calibration:

(b) Calibrated and working survey meter:

Available ☐ Not available ☐

Make and model : S. No.: Date of last calibration:

Type of detector : Available ranges:

(c) Calibrated and working contamination monitor:

Available ☐ Not available ☐

Make and model : S. No.: Date of last calibration:

(d) Working gamma zone monitor for Brachytherapy installation:

Available ☐ Not available ☐

Make and model : S. No.:

(e) Permanent storage container for the Brachytherapy sources:

Available ☐ Not available ☐

(f) Transport container for the Brachytherapy sources:

Available ☐ Not available ☐

(g) Long forceps for handling the Brachytherapy sources:

Available ☐ Not available ☐

(h) Lead bed shields for loading the sources to the patient:

Available ☐ Not available ☐

(i) In case there is a requirement for brachytherapy source preparation, whether

(i) L-bench with viewing system: Available ☐ Not available ☐

(ii) Source cutter : Available ☐ Not available ☐

(iii) Source loader : Available ☐ Not available ☐

(If any of the above equipment is not available, attach the copy of the firm purchase order, without which authorisation shall not be issued)

7. Any other information:

8. Documents to be attached with the Application:

(i) Copy of the undertaking furnished by the original supplier of the imported source to take back the disused/decayed source

(ii) Copy of the AERB site and layout plan aproval letter in case of new/ modified installation.

PART B.1(vi)

Form-AERB/RT/CHK

PROCUREMENT OF CHECK SOURCE

(This form is a part of Form ID : AERB/RSD/RT/RGE-RS/PROC form, hence must be submitted along with the Main Application Form)

1. Source specifications:

Radioisotope	Specifications	Activity of each source (MBq)	No. of sources

2. Specify name and postal address of the original supplier of the source:

3. Whether a copy of the undertaking furnished by the original supplier of the imported source to take back the disused/decayed source is attached Yes ☐ No ☐

(In the absence of such undertaking, authorisation shall not be issued)

4. Source shall be used for (thimble chamber, parallel plate chamber, survey meter etc.):

5. Any other information:

6. Documents to be attached with the Application:

Copy of the undertaking furnished by the original supplier of the imported source to take back the disused/decayed source

PART B.1(vii)

Form-AERB/RT/SIM

PROCUREMENT OF RADIATION GENERATING EQUIPMENT(SIMULATOR)

(This form is a part of Form ID : AERB/RSD/RT/RGE-RS/PROC form, hence must be submitted along with the Main Application Form)

1. Specifications of the unit

(a) Make and model of the unit:

(b) Maximum tube potential:

(c) Maximum tube current:

2. Specify name and postal address of the original supplier of the simulator:

3. Unit will be used in the installation, which is:

New ☐ Modified ☐ Existing ☐

In case of new/modified installation

(i) whether the installation is approved: Yes ☐ No ☐
(If yes, attach a copy of the approval letter)

(ii) whether construction completed as per approved plan : Yes ☐ No ☐

4. In case of new unit

(a) whether the unit is type approved by AERB: Yes ☐ No ☐

(If Yes, attach copy of Type Approval letter issued by AERB to the supplier and if No, (i) attach copy of NOC letter issued by AERB to the supplier and (ii) an undertaking from the supplier that they shall not supply the unit to any other institution till the unit is type approved by AERB)

(b) whether the unit is already installed : Yes ☐ No ☐

5. Availability of associated equipment for the simulator installation:

Calibrated and working ionisation/scintillation survey meter:

Available ☐ Not available ☐

Make and model : S .No.: Date of last calibration:

Type of detector : Available ranges:

(If any of the above equipment is not available, attach the copy of the firm purchase order, without which authorisation shall not be issued)

6. Any other information:

7. Documents to be attached with the Application:

(i) Copy of the layout approval letter in case of new/modified installation

(ii) Copy of the NOC/type approval for the unit, as applicable.

(iii) In case of NOC, an undertaking from the supplier that they shall not supply the unit to any other institution till the unit is type approved by AERB.

PART B.1(viii)

Form-AERB/RT/DU

DETAILS REGARDING THE USE OF DEPLETED URANIUM IN RADIATION THERAPY UNIT BEING PROCURED

(This form is a part of Form ID : AERB/RSD/RT/RGE-RS/PROC form, hence must be submitted along with the Main Application Form)

1. Specifications of the unit containing depleted uranium (DU)

(a) Make and model of the unit:

(b) Parts containing DU and quantity of DU in each part (in kilogram):

(c) Total weight (in kilogram):

2. Specify name and postal address of the original supplier of depleted uranium

3. Any other information:

4. Documents to be attached with the Application:

(i) Copy of the layout approval letter in case of new/modified installation

(ii) Copy of the NOC/type approval for the unit, as applicable.

(iii) In case of NOC, an undertaking from the supplier that they shall not supply the unit to any other institution till the unit is type approved by AERB.

*(*The form AERB/RSD/RT/SSA, which is given below is referred in PART B1.(i) and B1.(ii))

AERB/RSD/RT/SSA

APPLICATION TO AUTHORISE MEDICAL PHYSICIST/ RADIOLOGICAL SAFETY OFFICER FOR SUPERVISION OF SOURCE TRANSFER OPERATION IN RADIOTHERAPY

(a) *This form need to be sent to Director/Head, Radiological Safety Division (RSD), AERB, Niyamak Bhavan, Anushaktinagar, Mumbai-400094, 15 days prior to the actual date of source transfer operation*

(b) *Attach extra sheets wherever required.*

1. Institution No. allotted by AERB :

2. (a) Name of the applicant[#] :

Designation :

(b) Name of the approved RSO of the institution :

(c) Name and address of the institution :

(d) Telephone No.(with STD code) :

(e) Fax No. :

(f) E-mail :

3. Whether applicant was ever involved in source transfer operation : Yes ☐ No ☐

3.1 If YES, Number of times source transfer operation supervised:

3.2 If No, details of the medical physicist, who will assist the applicant

(a)	Name of the assisting medical physicist	:	
(b)	Institution Address	:	
(c)	Telephone No.(with STD code)	:	
(d)	E-mail	:	
(e)	No. of times source transfer operation supervised	:	
(f)	Letter of consent of the medical physicist endorsed by his/her employer is attached	:	Yes ☐ No ☐

Applicant is the Medical Physicist/Radiological Safety Officer, who will be supervising the source transfer operation alone or with the assistance of Medical Physicist from other centre experienced in source transfer operation

4. Details of the telecobalt unit

4.1 Make and model of the unit:

4.2 S. No. of the unit:

4.3 Present activity (in RMM):

5. Tentative date for source transfer:

6. Source transfer operation is for:

Loading telecobalt source after installation ☐

Replacement of telecobalt source in existing unit ☐

Decommissioning of an existing telecobalt unit ☐

7. Calibrated and working GM type survey meter available: Yes ☐ No ☐

8. Calibrated and working ionisation based survey meter: (eg. gun monitor) available Yes ☐ No ☐

9. Working gamma zone monitor available in the telecobalt room: Yes ☐ No ☐

10. Number of calibrated and working pocket dosimeters available:

11. Any other information:

I hereby certify that the information furnished above is correct to the best of my knowledge and belief.

Place: Signature of the applicant

Date: Name :

Designation:

Forwarded by

Signature of Head of the institution:

Name:

Designation:

(Seal of the Head of the institution)

ANNEXURE-22

(Refer section 3.5.1.5)
(Refer section 3.5.2.4)
(Refer section 3.8.5)
(Refer section 3.12.4.5)

Form ID: AERB/RSD/RT/combined consent/CO

Government of India
Atomic Energy Regulatory Board

Niyamak Bhavan
Anushaktinagar,
Mumbai-400 094.

APPLICATION FOR LICENCE/AUTHORISATION/REGISTRATION FOR COMMISSIONING AND OPERATION OF RADIATION THERAPY FACILITY

(a)	*This application would be considered by the AERB for issuance of relevant consents under the Atomic Energy (Radiation Protection) Rules, 2004 [AE(RP)R, 2004].*
(b)	*The duly filled-in form should be sent to Director/Head, Radiological Safety Division (RSD), AERB, Niyamak Bhavan, Anushaktinagar, Mumbai-400094 with the necessary documents*
(c)	*This form is intended to enable AERB to assess the suitability of the institution for procurement and use of radiation sources, which includes radiation generating equipment (hereinafter referred to as 'source')*
(d)	*Incomplete applications and those without all relevant documents are liable to be rejected*
(e)	*For all the forms pertaining to this facility, AE(RP)R, 2004 and other information in this regard, refer to our website: www.aerb.gov.in*
(f)	*Facilities /equipments granted License are: Telegamma equipment, Medical Linear Accelerator Facilities/equipment granted Authorisation are: Brachytherapy equipment* *Facilities/equipment granted Registration are: CT Simulator/RT simulator*
(g)	*Attach extra sheets wherever required*

PART A

GENERAL PARTICULARS

A.1 Name and address of the institution:

Telephone No. (O):
Fax No.
E-mail

A.2 Name and address of the Head of the institution[$]:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.3 Name and designation of the applicant[#] :

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.4 Name and designation of the radiological safety officer (RSO)* :

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail
RSO approval reference No. :
Valid up to

A.5 Address for correspondence with PIN code:

[#] *Applicant is the person in whose name the authorisation (licence) to handle the source may be issued, under AE(RP)R, 2004, would have the responsibilities of* ***'licensee'*** *prescribed in AE(RP)R, 2004 and should be a full time employee of the institution.*

[$] *The head of the institution is the person who would have the responsibilities of '****employer'*** *prescribed in AE(RP)R, 2004.*

***** *RSO is the person who is so designated by employe, approved by competent authority and have the responsibilities of* ***'Radiological Safety Officer'*** *prescribed in AE(RP)R, 2004).*

PART B

PARTICULARS OF THE FACILITY

B.1 Commissioning of new/existing facility:

B.2 Make and model of the unit:

B.3 Source specification (as applicable):

B.3.1 For brachytherapy :

(i) Source used : _____

(ii) Maximum activity of the source : _____ GBq

B.3.2 For Telegamma:

(i) Source(s) used in the unit:

(ii) Total activity of the source(s): _____TBq; _____RMM

B.3.3 For Linear Accelerator:

(i) Nominal photon energies (MV) (specify all beam energies):

(ii) Available dose rates:

(iii) Nominal electron energies (MeV) (specify all beam energies):

(iv) Available dose rates:

(v) Whether unit contains depleted uranium (DU): Yes ☐ No ☐

If Yes, specify :

A. the parts of the unit containing DU:

B. quantity of DU in each part (in kg):

(vi) Other accessories:

(i) MLC: ☐ (ii) Micro-MLC: ☐ (iii) X-knife cones: ☐

(iv) Portal imaging: ☐ (v) kVCT: ☐ (vi) MVCT: ☐

(vii) Gating: ☐ (viii) Others (specify):_____

(vii) Special treatment techniques

(i) 3D CRT: ☐ (ii) IMRT: ☐ (iii) IGRT: ☐ (iv) SRS: ☐

(v) SRT: ☐ (vi) Any other, specify:

B.3.4 For Simulator:

(i) Maximum tube potential (kV):

(ii) Maximum tube current (mA):

(iii) Special imaging feature (if any):

B.4 In case Radiation Therapy Facility already exists in the institution

(a) Number of medical linear accelerators:

(b) Number of telecobalt units :

(c) Number of Gammaknife units:

(d) Number of Remote After loading brachytherapy units :

(e) No. of beds for Manual brachytherapy application:

B.5 Radiation measuring, monitoring instruments and protection accessories: (*Please mention Available/Not available/Not applicable as the case may be*):

B.5.1 Dose measuring and associated devices for Teletherapy/Brachytherapy:

(a) Instruments for absolute dose measurement (secondary standard dosimeters)

(i) Calibrated and working appropriate Thimble Chamber calibrated for appropriate beam energy

Available ☐ Not available ☐ Not applicable ☐

Make and model :
S .No.:
Date of last calibration:
Chamber volume(cc):
Calibration beam energy

(ii) Calibrated and working Parallel Plate Chamber calibrated for appropriate beam energy:

Available ☐ Not available ☐ Not applicable ☐

Make and model :
S .No.:
Date of last calibration:
Chamber volume(cc):
Calibration beam energy

(iii) Calibrated and working large volume/well type ion chamber for the energy of Brachytherapy source to be used (e.g. Ir-192)

Available ☐ Not available ☐ Not applicable ☐

Make and model :
S .No.:
Date of last calibration:
Chamber volume (cc):
Calibration beam energy

(iv) Calibrated and working electrometer:

Available ☐ Not available ☐ Not applicable ☐

Make and model :
S .No.:
Date of last calibration:

(b) Working thermometer (factory calibrated):

Available ☐ Not available ☐ Not applicable

Make and model: Type:

Mercury ☐ Digital ☐ Any Other ☐

(c) Working barometer (intercompared with any standard lab)

Available ☐ Not available ☐ Not applicable ☐

Make and model : Type:

Mercury ☐ Aneroid ☐ Digital ☐ Any Other ☐

(d) Jig for output measurement of HDR source:

Available ☐ Not available ☐ Not applicable ☐

Make and model:

(e) Appropriate phantom(s) for dosimetry of teletherapy beam:

Available ☐ Not available ☐ Not applicable ☐

Make and model : Type:

Water ☐ Solid ☐ Any Other _____

(f) D_{10}/D_{20} phantom for daily output/energy constancy check:

for accelerator: Available ☐ Not available ☐ Not applicable ☐

(g) Working radiation field analyser for accelerator:

Make and model : S. No.:

B.5.2 Area monitoring devices for Teletherapy/Brachytherapy*:*

(i) Calibrated and working survey meter:

Available ☐ Not available ☐ Not applicable ☐

Make and model :
S. No.:
Date of last calibration:
Type of detector :
Available ranges:

(ii) Calibrated and working Contamination Monitor:

Available ☐ Not available ☐ Not applicable ☐

Make and model :
S. No.:
Date of last calibration:
Type of detector :
Available ranges

(iii) Working gamma zone monitor for the installation to be commissioned:

Available ☐ Not available ☐ Not applicable ☐

Make and model :
S. No.:

(iv) Pocket dosimeter for instant dose measurement

Available ☐ Not available ☐ Not applicable ☐

B.5.3 QA/other associated accessories:

(i) Working treatment planning system for teletherapy/brachytherapy:

Available ☐ Not available ☐ Not applicable ☐

Make & model : S. No.:

(ii) Therapy verification film for field congruence test:

for teletherapy

Available ☐ Not available ☐ Not applicable ☐

(iii) Isodose charts (in case of telecobalt unit) are supplied:

Available ☐ Not available ☐ Not applicable ☐

(iv) Mechanical front pointer(s) (in case of teletherapy unit):

Available ☐ Not available ☐ Not applicable ☐

(v) QA gadgets for special techniques like 3DCRT/IMRT etc.:

Available ☐ Not available ☐ Not applicable ☐

(vi) Emergency source storage container for remote afterloading brachytherapy

Available ☐ Not available ☐ Not applicable ☐

(vii) Permanent source storage container for manual brachytherapy

Available ☐ Not available ☐ Not applicable ☐

(viii) Transport container for the sources for manual brachytherapy

Available ☐ Not available ☐ Not applicable ☐

(ix) Long forceps for handling the brachytherapy sources:

Available ☐ Not available ☐ Not applicable ☐

(x) Lead bed shields for manual brachytherapy:

Available ☐ Not available ☐ Not applicable ☐

(xi) In case there is a requirement for source preparation in manual brachytherapy

(a) L-bench with viewing system:

Available ☐ Not available ☐ Not applicable ☐

(b) Source cutter:

Available ☐ Not available ☐ Not applicable ☐

(c) Source loader:

Available ☐ Not available ☐ Not applicable ☐

(xii) Closed circuit TV for patient viewing in the installation to be commissioned:

Available ☐ Not available ☐ Not applicable ☐

B.6 Staff details.

Details of staff in Radiation Therapy department (Permission for commissioning shall not be issued in case adequate number of radiotherapy staff (working full-time) i.e. Radiation Oncologists, Medical Physicists and Radiotherapy Technologists are not available)

Name	**Date of birth**	**Date of joining the present institution**	**Desig-nation of the personnel**	**Basic and pro-fessional qualifi-cations**	**Duration and name of institution where worked**	**Personnel monitoring service No.**	**Full-time/ Part-time***

* If any of the above staff works at other Radiotherapy Institution, please inform separately.

B.7 Any unused radioactive sources/ non-functional teletherapy/ brachytherapy/ radiation generating equipment available in the radiation therapy department: Yes ☐ No ☐

If yes, give details of:

(i) such radioactive sources/non-functional teletherapy/brachytherapy/ radiation generating equipment below.

(ii) action taken for disposal of above disused radioactive sources and decommissioning of non-functional teletherapy/brachytherapy/ radiation generating equipment.

B.8 Documents to be attached with the Application:

(i) Sketch/layout of installation indicating radiation levels (photon/ neutron) at different operating conditions (eg: photon energies and their dose rates etc) and at various elevations/rooms including control console, door etc.

(ii) Copies of letter of correspondence for action taken for disposal of disused radioactive sources and decommissioning of non-functional Teletherapy/Brachytherapy/Radiation generating equipment, if available.

(iii) Radiation Protection Manual as per Appendix 7E (for teletherapy and brachytherapy units only)

(iv) Security plan for the facility as per AERB safety guide on 'Security of Radioactive Sources in Radiation Facilities' (AERB/RF-RS/ SG-1) and safety guide on 'Security of Radioactive Material during Transport' (AERB/NRF-TS/SG-10)

PART C

UNDERTAKING

I/we hereby certify that

(i) all the statements made above are correct to the best of my knowledge and belief.

(ii) no activity will be carried out for purposes other than those specified in this form.

(iii) the facility/equipment shall be made operational only after obtaining the license/authorisation/ registration from AERB.

(iv) all provisions of the Atomic Energy (Radiation Protection) Rules, 2004 shall be strictly complied with.

(v) the unit/radioactive source shall not be transported/ transferred/sold/ rented by me/us to any other party without the prior permission of the competent authority.

(vi) full facility will be accorded by me/us to any authorised representatives of the competent authority to inspect our facility at any time.

(vii) radiation surveillance of the installation and health surveillance of all persons engaged in radiation work as required by the Competent Authority will be duly carried out at my/our expense.

(viii) all stipulations/recommendations made from time to time by the Competent Authority in respect of radiation safety and physical security measures will be duly implemented.

(ix) installation, commissioning, servicing and maintenance of the equipment shall be carried out by authorised service personnel.

(x) the rules regarding decommissioning, disposal of contaminated/ decayed sources and reuse of the unit will be strictly complied with.

(xi) any incident/accident such as fire, theft, damage etc., involving ionising radiation source shall be promptly reported (within 24 hrs- to AERB.

(xii) in case of any unforeseen situations such as bankruptcy, damage to the facility/source and other such situations, the sources will be returned to its supplier at my/our cost without jeopardising safety and security requirements.

(xiii) all other necessary approvals from the concerned State/Central Government have been obtained by our institution.

(xiv) AERB will be kept informed about any changes in the information furnished above.

In case, it is found, at any stage, that the information provided by me/us is false and/or not authentic, then I/we hereby undertake to comply with the regulatory action(s) enforced against me/us and our institution, in accordance with the applicable Rules.

Place: Signature:

Date: Name of the applicant:

Designation:

Signature:

Name of Head of the institution:

Designation:

(Seal of the institution)

ANNEXURE-23

(Refer section 3.6.2)

Form ID: AERB/RSD/MDX-CT-CATH/ SLA & PROC

Government of India
Atomic Energy Regulatory Board

Niyamak Bhavan
Anushaktinagar,
Mumbai-400 094.

APPLICATION FOR SITE AND LAYOUT PLAN APPROVAL AND PROCUREMENT OF MEDICAL X-RAY EQUIPMENT [COMPUTED TOMOGRAPHY (CT)/INTERVENTIONAL RADIOLOGY (CATH LAB)]

(a) *This Application would be considered by the competent authority for issuance of relevant consents, under the Atomic Energy (Radiation Protection) Rules, 2004.*

(b) *The duly filled-in form should be sent to Director/Head, Radiological Safety Division (RSD), AERB, Niyamak Bhavan, Anushaktinagar, Mumbai-400094 with the necessary documents.*

(c) *Incomplete applications and those without all relevant documents are liable to be rejected.*

(d) *All the forms pertaining to this facility can be downloaded from the website www.aerb.gov.in*

(e) *Attach extra sheets wherever required.*

PART A

GENERAL PARTICULARS

A.1 Name and address of the institution:

Telephone No. (O):
Fax No.
E-mail

A.2 Name, designation and address of the Head of the institution[$]

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.3 Name and designation of the applicant[#]:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.4 Representative of the applicant to be contacted regarding the application:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.5 Address for correspondence with PIN code:

[#] *Applicant is the person in whose name the relevant consent may be issued, under AE(RP)R, 2004 and should be a full time employee of the institution.*

[$] *The head of the institution is the person who would have the responsibilities of '**employer'** prescribed in AE(RP)R, 2004.*

PART B

PARTICULARS OF THE PROPOSED FACILITY

B.1 Purpose of the facility:

B.2 Whether the layout approval is for: New/Modified facility

B.3 Address of the proposed installation:

B.4 Details of the unit to be installed:

(a) Proposed date of installation:
(b) Type of unit: Computed Tomography/Interventional Radiology
(c) Model Name :
(d) Make:
(e) NOC/Type Approval No.:
(f) Maximum operating tube potential:
(g) Maximum operating tube current:

B.5 Name and address of the supplier:

B.6 Name and address of the manufacturer:

B.7 Details of existing units in the facility

(a) Date and year of installation:

(b) Whether the equipment has been licenced: (Yes/No)

(If No, please attach application for layout approval/licence)

B.8 Documents to be attached:

(i) Copy of the NOC/type approval certificate for the unit, as applicable.

(ii) In case of NOC, an undertaking from the supplier that they shall not supply the unit to any other institution till the unit is type approved by AERB.

(iii) Two duly signed and stamped copies of the layout plan (scale 1:50) indicating the location of the gantry/X-ray unit, control panel/ control room, windows, doors with appropriate lead lining, wall thickness, dimensions and material of the walls are enclosed.

(iv) Two duly signed and stamped copies of the floor plan (scale 1:100) indicating the location of the CT/Cath Lab rooms, waiting area etc. are enclosed.

(v) Proof from local state govt. authorities that the land/plot for installation of facility is in the name of the applicant.

PART C

UNDERTAKING

I/we hereby certify that

(i) all the statements made above are correct to the best of my knowledge and belief.

(ii) no activity will be carried out for purposes other than those specified in this form.

(iii) site and layout activities shall be taken only after receipt of approval from AERB.

(iv) all provisions of the Atomic Energy (Radiation Protection) Rules, 2004 shall be strictly complied with.

(v) the facility shall not be transferred/sold/ rented by me/us to any other party without the prior permission of the competent authority.

(vi) full facility will be accorded by me/us to any authorised representatives of the competent authority to inspect this installation at any time.

(vii) radiation surveillance of the installation and health surveillance of all persons engaged in radiation work as required by the competent authority will be duly carried out at my/our expense.

(viii) the facility shall be put into operation only after obtaining Licence from the competent authority.

(ix) all recommendations made from time to time by the competent authority in respect of radiation safety and physical security measures will be duly implemented.

(x) duly qualified and trained manpower including radiological safety officer, shall be appointed before the commencement of operation of the facility.

(xi) the procedures approved by AERB regarding decommissioning/ dismantling and reuse of the site of the decommissioned facility will be strictly complied with.

(xii) AERB will be kept informed about any changes in the information furnished above.

In case, it is found, at any stage, that the information provided by me/us is false and/or not authentic, then I/we hereby accept that appropriate regulatory actions may be initiated against me/us and our institution, in accordance with the applicable Rules.

Place:
Date:

Signature:
Name of the applicant:
Designation:

Signature:
Name of Head of the institution:
Designation:

(Seal of the Head of the institution)

(To be filled by the manufacturer/supplier)

Our company will supply a _____ unit, which is having a valid NOC/ type-approval certificate from AERB. After installation of the said unit, its performance/ acceptance test will be demonstrated to the AERB and/or user's representative as the case may be.

Signature of the Service Engineer

Place :
Date:

Name :
Designation:
Company:

(Seal of the company)

ANNEXURE-24

(Refer section 3.6.3)

Form ID: AERB/RSD/MDX-CT-CATH/LCO

Government of India
Atomic Energy Regulatory Board

Niyamak Bhavan
Anushaktinagar,
Mumbai-400 094.

APPLICATION FOR LICENCE FOR COMMISSIONING/OPERATION OF MEDICAL DIAGNOSTIC X-RAY EQUIPMENT [COMPUTED TOMOGRAPHY (CT)/ INTERVENTIONAL RADIOLOGY (CATH LAB)]

(a) *This application would be considered by the competent authority for issuance of relevant consents, under the Atomic Energy (Radiation Protection) Rules, 2004.*

(b) This form is intended to enable AERB to assess the suitability of the institution for Commissioning and Operation of radiation generating equipment (hereinafter referred to as 'source')

(c) The duly filled-in form should be sent to Director/Head, Radiological Safety Division (RSD),AERB, Niyamak Bhavan, Anushaktinagar, Mumbai-400094 with the necessary documents.

(d) Incomplete applications and those without all relevant documents are liable to be rejected.

(e) All the forms pertaining to this facility can be downloaded from the website www.aerb.gov.in

(f) Attach extra sheets wherever required.

PART A

GENERAL PARTICULARS

A.1 Name and address of the institution:

Telephone No. (O):
Fax No.
E-mail
Institution personnel monitoring service (PMS) number

A.2 Name and address of the Head of the institution[$]:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.3 Name and designation of the applicant[#]:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.4 Name and designation of the Facility In-charge:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.5 Name and designation of the radiological safety officer (RSO)*:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail
RSO Approval reference No.:
Valid up to:

A.6 Representative of the applicant to be contacted regarding the application:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.7 Address for correspondence with PIN code:

[#] *Applicant is the person in whose name the licence to handle the source may be issued, under AE(RP)R, 2004, would have the responsibilities of '**licensee'** prescribed in AE(RP)R, 2004 and should be a full time employee of the institution.*

[$] *The head of the institution is the person who would have the responsibilities of '**employer'** prescribed in AE(RP)R, 2004.*

* *RSO is the person who is so designated by employer and approved by competent authority and have the responsibilities of 'Radiological Safety Officer' prescribed in AE(RP)R, 2004.*

PART B

DETAILS OF THE EQUIPMENT

B.1 Type of equipment

(i) Computed tomography ☐

(ii) Interventional radiology ☐

B.2 Details of equipment:

(a) Manufacturer of the equipment:

(b) Supplier of the equipment:

(c) Model name:

(d) AERB type approval No.:

(e) Maximum rated operating potential (kV):

(f) Maximum rated current (mA):

(g) Date of installation:

B.3 Workload:

Type of examination	Average No. of examinations/week	mA/slice	kV	No. of slices per examination (approximate)

B.4 Availability of radiation measuring and monitoring instruments and radiation protection accessories

(a) Mobile protective barrier/ceiling mounted lead glass Yes/No

(b) Lead apron Yes/No

(d) Personnel monitoring badges (TLD) Yes/No

(e) Quality assurance kit (for testing purpose) Yes/No

(f) Availability of phantom for CT: Yes/No

(g) Red light, X-ray caution symbol and warning placards: Yes/No

B.5 Staff details

Name	Designation	Academic/ Professional qualification	Experience in the field	Personnel monitoring (PMS) No.	Full-time/ Part-time

B.6 Documents to be attached with the Application:

(i) Test report containing quality assurance checks as per **Appendix-8C-I and Appendix-8C-II** as appropriate

(ii) Copy of letter for layout approval issued by AERB

(iii) Details of QA kit and phantom details

(iv) Radiation protection manual as per **Appendix 8E**

(v) RSO approval certificate/nomination form

(vi) Copy of the NOC/Type Approval certificate for the unit.

PART C

UNDERTAKING

I/we hereby certify that

(i) all the statements made above are correct to the best of my knowledge and belief.

(ii) no activity will be carried out for purposes other than those specified in this form.

(iii) the equipment shall be put into operation only after obtaining Licence from the competent authority.

(iv) all provisions of the Atomic Energy (Radiation Protection) Rules, 2004 shall be strictly complied with.

(v) all provisions of AERB Safety Code on 'Medical Diagnostic X-ray Equipment and Installations', [AERB/SC/MED-2 (Rev.1)] or the revised version thereof currently in force shall be complied with.

(vi) the equipment shall be stored, installed and safeguarded so as to prevent unauthorised access, operation, removal and theft.

(vii) the installation/maintenance of the equipment would be done by authorised and trained persons.

(viii) the equipment shall not be transferred/sold/ rented by me/us to any other user without the prior permission from the competent authority.

(ix) full facility will be accorded by me/us to any authorised representatives of the competent authority to inspect the equipment at any time.

(x) radiation surveillance of the installation and health surveillance of all persons engaged in radiation work as required by the competent authority will be duly carried out at my/our expense.

(xi) all recommendations made from time to time by the competent authority in respect of radiation safety measures will be duly implemented.

(xii) all the radiation survey meters/safety instruments will be maintained and regularly sent for calibration.

(xiii) periodic quality assurance tests shall be conducted and records maintained.

(xiv) AERB will be kept informed about any changes in the information furnished above.

In case, it is found, at any stage, that the information provided by me/us is false and/ or not authentic, then I/ we hereby accept that appropriate regulatory actions may be initiated against me/us and our institution, in accordance with the applicable Rules.

Place:
Date:

Signature:
Name of the applicant:
Designation:

Signature:
Name of Head of the institution:
Designation:

(Seal of the Head of the institution)

(To be filled by the manufacturer/supplier)

Our company has supplied a _____ unit, which is a type-approved unit. I have installed the said unit, and demonstrated its performance/acceptance test to the user's representative. I hereby undertake that the unit satisfy all the test results as per our company's protocol and are at par with the test results carried out during type-approval of the said unit.

Signature of the Service Engineer

Place :
Date:

Name :
Designation:
Company:

(Seal of the company)

ANNEXURE-25
(Refer section 3.7.2)

Form ID: AERB/RSD/IR/PROC

Government of India
Atomic Energy Regulatory Board

Niyamak Bhavan
Anushaktinagar
Mumbai-400094.

APPLICATION FOR CONSENT FOR PROCUREMENT OF INDUSTRIAL GAMMA RADIOGRAPHY EXPOSURE DEVICE(S) (IGREDs)/ INDUSTRIAL X-RAY MACHINE(S)

(a) *This application would be considered by the competent authority for issuance of relevant consents, under the Atomic Energy (Radiation Protection) Rules, 2004.*

(b) *This form is intended to enable AERB to assess the suitability of the institution for procurement and use of radiation sources, which includes radiation generating equipment (hereinafter referred to as 'source')*

(c) *The duly filled-in form should be sent to Director/Head, Radiological Safety Division (RSD), AERB, Niyamak Bhavan, Anushaktinagar, Mumbai-400094 with the necessary documents.*

(d) *Incomplete applications and those without all relevant documents are liable to be rejected.*

(e) *All the forms pertaining to this facility can be downloaded from the website www.aerb.gov.in*

(f) *Attach extra sheets wherever required*

PART A

GENERAL PARTICULARS

A.1 Name and address of the institution:

Telephone No
Fax No.
Institution personnel monitoring service No:
E-mail

A.2 Name and address of the Head of the institution[$]

Telephone No. (O): (R)

Fax No.
Mobile No.
E-mail

A.3 Name and designation of the applicant[#]:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.4 Representative of the applicant to be contacted regarding the application:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.5 Details of RSO*/ Site-in-charge only for proposed site

Telephone No. (O): (M)
Fax No.
E-mail
RSO approval reference No.:
Valid up to:

A.6. Address for correspondence with PIN code:

[#] *Applicant is the person in whose name the relevant consent for procurement of IGRED/industrial X-ray machine/radiography source, may be issued, under AE(RP)R, 2004, and should be a full time employee of the institution.*

[$] *The head of the institution is the person who would have the responsibilities of '**employer'** prescribed in AE(RP)R, 2004.*

* *RSO is the person who is so designated by employer and approved by competent authority and have the responsibilities of 'Radiological Safety Officer' prescribed in Atomic Energy (Radiation Protection) Rules, 2004.*

PART B

PARTICULARS OF THE DEVICE

B.1 Purpose of the device:

B.2 This application is for procurement of: IGRED without source/IGRED with source/Industrial X-ray machine

B.3 Details of the IGREDs

Make, model and serial No.	Quantity	Shielding material provided and its weight (kg)	Radio isotope and its activity (Ci/Bq)	Name and address of manu-facturer	Name and address of authorised agent	Reference of NOC/ Type approval issued by AERB.

B.4 Details of the industrial X-ray machine(s):

Make, model and serial No.	Quantity	Mobile/ Portable /Fixed	Name and address of manu-facturer	Name and address of authorised supplier	Maximum rating kV, mA	Out put of the machine at maximum rating (in RMM)	Radiation leakage level of machine	Reference of NOC/ Type approval issued by AERB.

B.5 Particulars of IGRED(s)/industrial X-ray machines, if any, already in the possession of the institution

IGRED model and s. No.	Present strength of source (Ci/Bq)	Details of X-ray machine		
		Make and model	S. No.	kV and mA

B.6 Details of radiography personnel

Name	Designation (Site-in-charge/ radiographer)	Certificate No. and its validity/AERB approval ref. No.	PMS No.

B.7 Particulars of the radiation monitoring and measuring devices

B.7.1 Radiation survey meter(s) (RSM)

RSM*	1	2	3
Make			
Model			
RSM S. No.			
Date of recent calibration			
Functional status			

* There shall be atleast one RSM for each IGRED /X-ray machine

B.7.2 Particulars of pocket dosimeter(s) (PD) :

Pocket dosimeters	1	2	3
Make			
Model			
PD S. No.			
Date of recent calibration			
Functional status			

B.8 Details of proposed radiography work :

(a) Nature of job :

(b) Maximum job thickness in mm :

(c) No. of exposures per day : Panaromic: Collimated:

(d) Average time of each exposure in minutes/mA-minutes :

(e) The shift hours when radiography work will be carried out:

(f) Cordon-off area available (radial) in meter :

B.9 Particulars of radiography site(s) where IGREDs/ industrial X-ray machine(s) are proposed to be handled.

B.9.1 Name and address of the radiography site (s):

Telephone No. (O):
Fax No.
E-mail

B.9.2 Name and address of the contract awarding party :

Telephone No. (O):
Fax No.
E-mail

B.9.3 Name of the contact person with designation at radiography site:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

B.9.4 Details of source storage facility at site:

B.9.5 Whether the radiography site is approved by AERB, (if yes provide approval ref. no.:) (if no, give reasons)

B.9.6 If the IGREDs/industrial X-ray machine is to be used in an enclosure, whether the enclosure is approved by AERB/BARC, (if yes provide approval ref. no.:) (if no, give reasons)

B.9.7 Any other relevant information:

B.10 Documents to be attached with the Application:

(a) Registration of radiography agency with state/central govt. as a company (for first time procurement of radiation source by the institution)

(b) Declaration of legal status of applicant (corporation/partnership/ others), if applicable.

(c) Partnership deed with signature of notary on a stamp paper, if applicable.

(d) Undertaking of all the partners in the institution's letter head as per enclosed format, if applicable.

(e) The following documents are to be submitted for approval of certified radiography personnel:

(i) Duly filled in personal data form (Form No. TLD-4)

(ii) Undertaking as per requirements of AERB/SC/IR-1

(iii) Certificate issued by BARC/AERB

(iv) The cumulative radiation dose received

(f) Duly filled in personnel monitoring service form (Form No.: PMS-2) with the names of the persons required to be monitored monthly with their personal data (PD) form. [The PMS-2 and PD forms (TLD-4) are available with the laboratory accredited by BARC, if applicable].

(g) The documentary proof of availability of radiation safety accessories (such as area zone monitor, radiation survey meter (RSM), red flashing light, red lights, pocket dosimeter with charger, lead pot,

C.V. tong, lead collimators, radiation warning placards, cordoning ropes etc.)

(h) Copy of certificate of type approval of IGREDs/X-ray machine.

(i) Copy of certificate of approval of sealed source (including Serial No), classification and leak test certificates as per applicable national/ international standards

(j) Undertaking from source(s) supplier for acceptance of decayed/ disused source for disposal.

(k) Copy of the photographs of safe and secure storage facility authenticated by the contract awarding agency and applicant/ licensee.

(l) Copy of work order for radiography work and site feasibility report for radiography work.

(m) Security Plan for the facility as per AERB safety guide on 'Security of Radioactive Sources in Radiation Facilities' (AERB/RF-RS/ SG-1) and AERB safety guide on 'Security of Radioactive Material during Transport' (AERB/NRF-TS/SG-10), if applicable.

(n) Emergency response plan and preparedness preferably in consultation with the principle contract awarding agency.

(o) Any other supporting documents.

PART C

UNDERTAKING

I/we hereby certify that

(i) all the statements made above are correct to the best of my knowledge and belief.

(ii) no activity will be carried out for the purpose other than those specified in his form:

(iii) no procurement shall be made prior to receipt of approval from AERB.

(iv) all provisions of the Atomic Energy (Radiation Protection) Rules, 2004 shall be strictly complied with.

(v) the device shall be put into operation only after obtaining Licence from the competent authority.

(vi) the radiography exposure device (IGRED) shall be transported, as per AERB/SC/TR-1, as an item of cargo and declared as such in the

applicable transport documents. It shall not be transported in the passenger cabin of any conveyance (e.g. bus/train/aircraft). However, it may be transported by road in an exclusive vehicle.

(vii) the radiography source(s) shall be used only at the radiography sites duly approved by AERB.

(viii) radiation survey meter(s) shall be kept in operable condition at the site all times and shall be regularly used during radiography work. Direct reading dosimeter (pocket dosimeter) shall be made available for use by each radiographer and it would be used regularly in addition to the personnel monitoring badges.

(ix) the radiography source(s) shall not be moved from one authorised site to another without obtaining prior permission from AERB.

(x) radioactive source storage facility duly approved by AERB shall be provided at the site for safe storage of source(s).

(xi) at least one qualified RSO/site-in-charge shall be posted at each site and all radiography operations shall be undertaken by the certified radiographer under his supervision.

(xii) the safety and security of the radiography exposure device(s) shall be ensured all the time during use, store, transport and safeguarded so as to prevent unauthorised access, operation, removal and theft.

(xiii) the installation/maintenance of the device containing radiation source would be done by authorized and trained persons.

(xiv) the device shall not be transferred/sold/ rented by me/us to any other user without the prior permission from the competent authority.

(xv) full facility will be accorded by me/us to any authorised representatives of the competent authority to inspect the device at any time.

(xvi) radiation surveillance of the installation and health surveillance of all persons engaged in radiation work as required by the competent authority will be duly carried out at my/our expense.

(xvii) all stipulations/recommendations made from time to time by the competent authority in respect of radiation safety measures and physical security measures will be duly implemented.

(xviii) the decayed/unused radiation sources shall be returned to the original supplier.

(xix) the procedures approved by AERB regarding decommissioning/ dismantling and reuse of the site of the decommissioned facility will be strictly complied with.

(xx) AERB will be kept informed about any changes in the information furnished above.

In case, it is found, at any stage, that the information provided by me/us is false and/ or not authentic, then I/we hereby undertake to comply with the regulatory action(s) enforced against me/us and our institution, in accordance with the applicable Rules.

Place: Signature:

Date: Name of the applicant:

Designation:

Signature:

Name of Head of the institution:

Designation:

(Seal of the Head of the institution)

ANNEXURE-26
(Refer section 3.7.3.2)

Form ID: AERB/RSD/IR/SLCA-ER

Government of India
Atomic Energy Regulatory Board

Niyamak Bhavan
Anushaktinagar,
Mumbai-400094.

APPLICATION FOR CONSENT FOR SITE LAYOUT PLAN/ CONSTRUCTION OF ENCLOSED RADIOGRAPHY FACILITY

(a) *This application would be considered by the competent authority for issuance of relevant consents, under the Atomic Energy (Radiation Protection) Rules, 2004).*

(b) *The duly filled-in form should be sent to Director/Head, Radiological Safety Division (RSD), AERB, Niyamak Bhavan, Anushaktinagar, Mumbai-400094 with the necessary documents.*

(c) *Incomplete applications and those without all relevant documents are liable to be rejected.*

(d) *All the forms pertaining to this facility can be downloaded from the website www.aerb.gov.in*

(e) *Attach extra sheets wherever required.*

PART A

GENERAL PARTICULARS

A.1 Name and address of the institution:

Telephone No
Fax No.
E-mail

A.2 Name and address of the Head of the institution[$]

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.3 Name and designation of the applicant[#]:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.4 Representative of the applicant to be contacted regarding the application:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.5 Address for correspondence with PIN code:

A.6 Address with pin code of proposed site for radiography enclosure:

[#] *Applicant is the person in whose name the consent may be issued, under AE(RP)R, 2004, and should be a full time employee of the institution.*

[$] *The head of the institution is the person who would have the responsibilities of '**employer'** prescribed in AE(RP)R, 2004.*

PART B

PARTICULARS OF RADIOGRAPHY ENCLOSURE

B.1 Status of the layout plans: (Put 'X' mark in appropriate box)

B.1.1 New plan(s), submitted for the first time ☐

B.1.2 Plan(s) modified and submitted based on AERB review ☐

B.1.3 Plan(s) already approved but needs modification ☐

B.1.4 Modification of the plan(s) of the existing enclosure ☐

B.2 Type of enclosure: Enclosure with ceiling/Enclosure without ceiling (open top)/Pit type

B.3 The proposed location for construction of radiography enclosure belongs to: (Radiography agency/contract awarding agency/others)

B.4 Type approval details of IRGED/X-ray machine:

B.5 Details of radiation sources:

B.5.1 Radiation source to be used: Radioactive source (indicate name)/X-ray

B.5.1.1 In case of radioactive source:

Name of radio-isotope	Maximum activity to be used Ci(Bq)	R.H.M of the radioactive source	Maximum workload (Ci-hours/ week)	Remarks

B.5.1.2 In case of industrial X-ray machine:

Make and model of the X-ray machine	Manufacturer/ Supplier	Maximum rating of the X-ray machine (kV, mA)	Out put of the machine (in RMM or mGy/h at 1m)	Maximum workload (mA - minutes/ week or hours/week)	Remarks

B.6 Details regarding nature of radiography work:

B.6.1 Type of the objects to be radiographed : (type of material, overall dimensions and thickness)

B.6.2 Average No. of exposure(s)/shift/week :

Collimated : Panoramic:

B.6.3 Average duration of each exposure :

B.6.4 Mode of transportation of objects : into the radiography enclosure (trolley, fork lift or overhead cranes, etc.)

B.6.5 If the objects to be brought by overhead cranes : kindly indicate the position of the operator's cabin with respect to the radiography room (height from the floor level and the lateral distance from the room)

B.7 Details regarding the source storage: Pit type/others

B.8 Additional information, if any:

B.9 Documents to be attached with the Application:

(a) Two copies of duly signed and stamped (authenticated) documents on the following

(i) Site layout drawing (to scale 1:500) indicating location of radiography enclosure room, associated facilities and occupancies around the enclosure.

(ii) Cross-sectional view of radiography enclosure room drawing (to scale 1:50) indicating source/target position, distances of all the walls from source/target, location of operators room, density of materials, distance and dimensions of all the walls.

(iii) Elevation view of enclosure room drawings (to scale 1:50) indicating source/target position, ceiling and floors from source/target, occupancies around the enclosure, density of material, distance and dimensions of all the walls, location of conduit, ventilation system and height of the enclosure

(b) Attachments as per status of the layout plans (see item B.1)

(i) In case of modified plans based on AERB review, copy of suggested layout plans (see item B.1.2)

(ii) In case of plan(s) already approved but needs modification, a copy of original approved layout plans (see item B.1.3)

(iii) In case of modification of the plan(s) of the existing enclosure, a copy of approved layout plan of existing installation (see item B.1.4)

(c) Report on evaluation of shielding adequacy of the enclosure.

(d) Photographs of the source storage room with pit (all view) duly authenticated by the applicant and contract awarding agency and ownership details of the place where the storage room is constructed.

(e) Documentary evidence from local and state/central govt. authorities that the land/plot of installation of the radiography enclosure is in the name of the applicant. If the location does not belong to applicant, give documentary proof for lease/loan etc. from the owner of land.

(f) The supportive documents of the density of the materials used for the construction.

(g) Security Plan for the facility as per AERB safety guide on 'Security of Radioactive Sources in Radiation Facilities' (AERB/RF-RS/SG-1) and AERB safety guide on 'Security of Radioactive Material during Transport' (AERB/NRF-TS/SG-10), if applicable.

(h) Any other supporting documents.

PART C

UNDERTAKING

I/we hereby certify that

(i) all the statements made above are correct to the best of my knowledge and belief.

(ii) no activity shall be carried out for purposes other than those specified in this form.

(iii) the siting and construction activities shall be taken up only after receipt of approval from AERB.

(iv) all provisions of the Atomic Energy (Radiation Protection) Rules, 2004 shall be strictly complied with.

(v) the facility shall not be transferred/sold/rented by me/us to any other user without the prior permission of the competent authority.

(vi) full facility will be accorded by me/us to any authorised representatives of the competent authority to inspect this installation at any time.

(vii) radiation surveillance of the installation and health surveillance of all persons engaged in radiation work as required by the competent authority will be duly carried out at my/our expense.

(viii) all recommendations that may be made from time to time by the competent authority in respect of radiation safety measures will be duly implemented.

(ix) duly qualified/experienced radiological safety officer(s)/operator(s) will be appointed before the commencement of operation of the facility.

(x) the procedures approved by AERB regarding decommissioning/ dismantling and reuse of the site of the decommissioned facility will be strictly complied with.

(xi) AERB will be kept informed about any changes in the information furnished above.

In case, it is found, at any stage, that the information provided by me/us is false and/ or not authentic, then I/ we hereby accept that appropriate regulatory

actions may be initiated against me/us and our institution, in accordance with the applicable Rules.

Place: Signature:

Date: Name of the applicant:

Designation:

Signature:

Name of Head of the institution:

Designation:

. (Seal of the Head of the institution)

ANNEXURE-27

(Refer section 3.7.4)

Form ID: AERB/RSD/IR/SA&M-OFR

Government of India
Atomic Energy Regulatory Board

Niyamak Bhavan
Anushaktinagar,
Mumbai-400094.

APPLICATION FOR SITE APPROVAL AND MOVEMENT OF IGRED/X-RAY DEVICE FOR CONDUCTING OPEN FIELD RADIOGRAPHY WORK

(a) *This application would be considered by the competent authority for issuance of relevant consents, under the Atomic Energy (Radiation Protection) Rules, 2004 [AE(RP)R, 2004].*

(b) *This form is intended to enable AERB to assess the suitability of the institution for procurement and use of radiation sources, which includes radiation generating equipment (hereinafter referred to as 'source')*

(c) *The duly filled-in form should be sent to Director/Head, Radiological Safety Division (RSD), AERB, Niyamak Bhavan, Anushaktinagar, Mumbai-400094 with the necessary documents.*

(d) *Incomplete applications and those without all relevant documents are liable to be rejected.*

(e) *All the forms pertaining to this facility can be downloaded from the website www.aerb.gov.in*

(f) *Attach extra sheets wherever required*

.

PART A

GENERAL PARTICULARS

A.1 Name and address of the institution:

Telephone No (O):
Fax No.
E-mail
Institution No. for personnel monitoring services (PMS):

A.2 Name and address of the Head of the institution[$]

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.3 Name and designation of the applicant[#]:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.4 Representative of the applicant to be contacted regarding the application:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.5 Address for correspondence with PIN code:

A.6 Site details of existing radiography operations

A.6.1 Address
Telephone No.
Fax Nos.
E-mail

A.6.2 Contact person at the radiography site:

Telephone No. : (O): (R)
Fax No. :
Mobile No. :
E-mail :

A.7 Details regarding proposed site of the radiography operations:

A.7.1 Address:
Telephone No.:
Fax No.:
E-mail:

A.7.2 Name and designation of person responsible for routine radiography operations at proposed site:

Telephone Nos.: (O): (R)
Fax Nos.:
Mobile No.:
E-mail :

A.8 Contract awarding party for proposed site

A.8.1 Name and address:

Telephone Nos. :
Fax No.:
E-mail:

A.8.2 Name and designation of person responsible for radiography operations at site :

Telephone No.: (O): (R)
Mobile:
Fax No.:
E-mail:

A.9 Details of RSO*/Site-in-charge for proposed site

Telephone No. (O): (M):
Fax No.
E-mail
RSO Approval reference No. :
Valid up to :

---

*The head of the institution is the person who would have the responsibilities of '**employer'** prescribed in AE(RP)R, 2004.*

$ *Applicant is the person in whose name the site approval may be issued, under AE(RP)R, 2004 and should be a full time employee of the institution.*

* *RSO is the person who is so designated by employer and approved by competent authority and have the responsibilities of 'Radiological Safety Officer' prescribed in AE(RP)R, 2004.*

PART B

PARTICULARS OF PROPOSED RADIOGRAPHY WORK

B.1 Type of radiography device: Industrial gamma radiography exposure device (IGRED)/Industrial X-ray equipment

B.1.1 Particulars of industrial gamma radiography exposure device (IGRED):

Make and model of IGRED	S. No.	IGRED type approval ref. No.	Radioisotope and its activity in Ci (Bq) (as on date)	Maximum workload (Ci-hours / week)	Remarks

B.1.2 Particulars of industrial X-ray equipment:

Make and model of X-ray machine	S. No.	X-ray machine NOC/Type approval ref. No.	Maximum rating of the X-ray machine (kV, mA)	Out put of the machine (in RMM or mGy/h at 1m)	Maximum workload (mA-min/ week or hours/week)	Remarks

B.2 Details of the radiography personnel

Name	Designation (RSO/ Site-in-charge/ Radiographer)	Certificate no.	PMS No.

B.3 Details of radiation survey meters (RSM) and pocket dosimeter(s) :

	Particulars of RSM		Particulars of pocket dosimeter	
	1	2	1	2
Make & type				
Model				
S. No.				
Date of recent calibration				
Functional status				

B.4 Details of the safety/emergency accessories available at the site:

B.4.1 Lead pot and C.V. Tongs : Available/Not available

B.4.2 Collimators : Available/Not available

B.4.3 Lead shots, lead sheets or other shielding materials : Available/Not available

B.4.4 Cordoning ropes, warning lights and radiation symbols : Available/Not available

B.5 Details of the source storage room available at the site:

B.5.1 Particulars of source storage room at the proposed site.

B.5.2 Whether the source storage room was inspected by representative of AERB : Yes/No
(If yes, date of inspection)

B.6 Details of proposed radiography work:

(a) Nature of job :

(b) Maximum job thickness in mm :

(c) No. of exposures per day Panaromic : Collimated:

(d) Average time of each exposure in minutes:

(e) The shift hours when radiography work will be carried out:

(f) Cordoned-off area available (radial) in meter :

B.7 Proposed date of movement of the radiography device to the site:

B.8 Duration of the proposed radiography work :

B.9 Location and address where the radiography exposure device is proposed to be returned after completion of radiography work:

B.10 Proposed mode of transport of the radiography device*: Rail/road/air/sea

B.10.1 If transported by road provide vehicle details (such as vehicle type, registration number, colour etc.) :

B 10.2 If transported by rail provide details (such as train name and number):
*(*The IGRED shall be transported as an item of cargo and declared as such in the applicable transport documents and it shall not be transported in the passenger cabin of any conveyance e.g. bus/train/aircraft.. However, it may be transported by road in an exclusive vehicle)*

B.11. Any other relevant information:

B.12 Documents to be attached with the Application:

(i) Authenticated layout plan of radiography site including sketch of the site, type of occupancy around the immediate vicinity of the radiography site including occupancies around the proposed open field radiography site.

(ii) Copy of the letter and work order along with site assessment from and the contract awarding agency/client for radiography work.

(iii) Particulars of the type approved IGRED to be operated and maximum radiography work load.

(iv) Photographs of the source storage room with pit (all views) duly authenticated by the applicant and contract awarding agency and ownership details of the place where the storage room is constructed.

(v) Emergency preparedness plans and procedures specific to the radiography sites preferably in consultation with the principle contract awarding agency.

(vi) Security plan for the facility as per AERB safety guide on 'Security of Radioactive Sources in Radiation Facilities' (AERB/RF-RS/SG-1) and AERB safety guide on 'Security of Radioactive Material during Transport' (AERB/NRF-TS/SG-10), if applicable.

(vii) Any other supporting documents.

PART C

UNDERTAKING

I/we hereby certify that

(i) all the statements made above are correct to the best of my knowledge and belief.

(ii) no activity will be carried out for the purpose other than those specified in his form.

(iii) the radiography source(s) will be used only after obtaining the movement and site approval from AERB.

(iv) the radiography source(s) will not be moved from one approved site to another site without obtaining prior permission from AERB.

(v) all provisions of the Atomic Energy (Radiation Protection) Rules, 2004 shall be strictly complied with.

(vi) the facility shall not be transferred/sold/ rented by me/us to any other user without the prior permission of the competent authority.

(vii) full facility will be accorded by me/us to any authorised representatives of the competent authority to inspect this installation at any time.

(viii) all stipulations/recommendations that may be made from time to time by the competent authority in respect of radiation safety measures will be duly implemented.

(ix) the procedures approved by AERB regarding decommissioning/ dismantling and reuse of the site of the decommissioned facility will be strictly complied with.

(x) the device would display the radioactivity label and also labels indicating the category of the package. It would be ensured by us that the particulars regarding the contents of the package displayed in the labels are correct. Names and addresses of the consignor and the consignee would be properly displayed on the exterior of the package.

(xi) radiation survey meter(s) shall be kept in operable condition at the site all times and shall be regularly used during radiography work. Direct reading dosimeter (pocket dosimeter) shall be made available for use by each radiographer and it would be used regularly in addition to the personnel monitoring badges.

(xii) at least one qualified RSO/Site-in-charge will be posted at each site and all radiography operations shall be undertaken by the certified radiographer under his supervision.

(xiii) AERB will be kept informed about any changes in the information furnished above.

In case, it is found, at any stage, that the information provided by me/us is false and/ or not authentic, then I/we hereby undertake to comply with the regulatory action(s) enforced against me/us and our institution, in accordance with the applicable Rules.

Place: Signature:

Date: Name of the applicant:

Designation:

Signature:

Name of Head of the institution:

Designation:

(Seal of the institution)

ANNEXURE-28

(Refer section-3.7.5)

Form ID: AERB/RSD/IR/LCO

Government of India
Atomic Energy Regulatory Board

Niyamak Bhavan
Anushaktinagar
Mumbai-400094.

APPLICATION FOR LICENCE FOR COMMISSIONING AND OPERATION OF RADIOGRAPHY FACILITY

(a)	*This application would be considered by the competent authority for issuance of relevant consents, under the Atomic Energy (Radiation Protection) Rules, 2004 [AE(RP)R, 2004].*
(b)	*This form is intended to enable AERB to assess the suitability of the institution for procurement and use of radiation sources, which includes radiation generating equipment (hereinafter referred to as 'source')*
(c)	*The duly filled-in form should be sent to Director/Head, Radiological Safety Division (RSD), AERB, Niyamak Bhavan, Anushaktinagar, Mumbai-400094 with the necessary documents.*
(d)	*Incomplete applications and those without all relevant documents are liable to be rejected.*
(e)	*All the forms pertaining to this facility can be downloaded from the website www.aerb.gov.in*
(f)	*Attach extra sheets wherever required .*

PART A

GENERAL PARTICULARS

A.1 Name and address of the institution:

Telephone No. (O):
Fax No.
E-mail
Institution No. for personnel monitoring services (PMS):

A.2 Name and address of the Head of the institution[$]

Telephone No. (O): (R)

Fax No.
Mobile No.
E-mail

A.3 Name and designation of the applicant[#]:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.4 Representative of the applicant to be contacted regarding the application:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.5 Address for correspondence with PIN code:

A.6 This application is for

First time			
Modification	AERB Ref No.	Date:	Valid till
Renewal	AERB Ref No.	Date:	Valid till

[#] *Applicant is the person in whose name the Licence for commissioning and operation of the facility, may be issued, under AE(RP)R, 2004 should be a full time employee of the institution.*

[$] *The head of the institution is the person who would have the responsibilities of '**employer**' prescribed in AE(RP)R, 2004.*

PART B

PARTICULARS OF THE FACILITY

B.1 Details of the industrial gamma radiography exposure device(s) (IGRED)/ Radiography Source(s):

Make and model of IGRED(s)	**S. No.**	**Shielding material provided**	**Radio isotope**	**Maximum activity Ci (Bq) of the radiography source permitted by AERB**	**AERB type approval for IGRED (Ref . No) :**

B.2. Details of the industrial X-ray equipment(s):

Make and model of X-ray machine	Type of X-ray machine [mobile (M) portable (P) fixed (F)]	Name and address of the manufacturer of the X-ray machine	Name and address of authorised supplier	Maximum rating (kV, mA)	Reference of NOC/ type approval issued by AERB	Output of the machine at maximum rating (in RMM)

B.3 Details of certified radiography personnel available in the institution

B.3.1 Certified radiography personnel* :

Name	Designation	Year of Passing RT-1/RT-2/IRG-1	Certificate No. and its Validity/AERB approval ref. No.	PMS No.

*Radiography personnel should be duly approved by AERB.

B.3.2 Radiological Safety Officer (RSO):

S. No	Name	Ref: No. of AERB approval	Valid till

B.3.3 Name of RSO (s) who is entrusted with management of radiation protection in the department and responsible in case of emergency

Telephone No : (O): (R)
Mobile
E-mail:

B.4 Particulars of the radiation survey meter(s) (RSM) and pocket dosimeter(s) (PD) :

B.4.1 Particulars of RSM

Radiation survey monitor*	1	2	3
Make and type			
Model			
RSM S. No.			
Date of recent calibration			
Functional status			

*There should be at least one RSM for each IGRED/X-ray machine

B.4.2 Particulars of PD

Pocket dosimeters	1	2	3
Make and type			
Model			
PD S. No.			
Date of recent calibration			
Functional status			

B.5 Details of radiography operation

B.5.1 Open field radiography:

Name and address of radiography Site(s)	AERB site approval ref. No.

B.5.2 Enclosed radiography:

Name and address of enclosed radiography site(s)	AERB approval ref. No.

B.6 Any other relevant information:

B.7 Documents to be attached with the Application:

(i) Leakage radiation levels around the IGRED.

(ii) Report on trial operation of the IGRED.

(iii) Report on the radiation protection survey around radiography enclosure and open field radiography site

(iv) Radiation protection manual as per **Appendix-9E**

(v) Emergency response plan and preparedness.

(vi) Security Plan for the facility as per AERB safety guide on 'Security of Radioactive Sources in Radiation Facilities' (AERB/RF-RS/SG-1) and AERB safety guide on 'Security of Radioactive Material during Transport' (AERB/NRF-TS/SG-10), if applicable, if not, attach at the time of procurement of radiography source.

(vii) Any other supporting documents.

PART C

UNDERTAKING

I/we hereby certify that

(i) all the statements made above are correct to the best of my knowledge and belief.

(ii) no activity will be carried out for the purpose other than those specified in his form.

(iii) commissioning/operation shall be carried out only after receipt of licence from AERB.

(iv) all provisions of the Atomic Energy (Radiation Protection) Rules, 2004 shall be strictly complied with.

(v) the radiography source(s) shall not be moved from one authorised site to another site without obtaining prior permission from AERB.

(vi) storage facility duly approved by AERB shall be provided at the site for safe storage of source(s).

(vii) at least one qualified RSO/Site-in-charge shall be posted at each site and all radiography operations shall be undertaken by the certified radiographer under his supervision.

(viii) the safety and security of the radiography exposure device(s) shall be ensured all the time during use, store, transport and safeguarded so as to prevent unauthorised access, operation, removal and theft.

(ix) the installation/maintenance of the device-containing radiation source would be done by authorised and trained persons.

(x) the device shall be put into operation only after obtaining licence for use from the competent authority.

(xi) the device shall not be transferred/sold/ rented by me/us to any other user without the prior permission from the competent authority.

(xii) full facility will be accorded by me/us to any authorised representatives of the competent authority to inspect the device at any time.

(xiii) radiation surveillance of the installation and health surveillance of all persons engaged in radiation work as required by the competent authority will be duly carried out at my/our expense.

(xiv) all stipulations/recommendations made from time to time by the competent authority in respect of radiation safety measures and physical security measures will be duly implemented.

(xv) the decayed/unused radiation sources shall be returned to the original supplier.

(xvi) the procedures approved by AERB regarding decommissioning/ dismantling and reuse of the site of the decommissioned facility will be strictly complied with.

(xvii) AERB will be kept informed about any changes in the information furnished above.

In case, it is found, at any stage, that the information provided by me/us is false and/or not authentic, then I/we hereby undertake to comply with the regulatory action(s) enforced against me/us and our institution, in accordance with the applicable Rules.

Place:

Date:

Signature:

Name of the applicant:

Designation:

Signature:

Name of Head of the institution:

Designation

(Seal of the institution)

ANNEXURE-29
(Refer section 3.7.8.2)

Form ID. AERB/RSD/IAF/SLCA

Government of India
Atomic Energy Regulatory Board

Niyamak Bhavan
Anushaktinagar,
Mumbai-400094.

APPLICATION FOR SITING, LAYOUT AND CONSTRUCTION APPROVAL OF INDUSTRIAL ACCELERATOR FACILITY FOR NDT (IAF)

(a) *This application would be considered by the competent authority for issuance of relevant consents, under the Atomic Energy (Radiation Protection) Rules, 2004 [AE(RP)R, 2004]*

(b) *The duly filled-in form should be sent to Director/Head, Radiological Safety Division (RSD), AERB, NiyamakBhavan, Anushaktinagar, Mumbai-400094 with the necessary documents.*

(c) *Incomplete applications and those without all relevant documents are liable to be rejected.*

(d) *All the forms pertaining to this facility can be downloaded from the website www.aerb.gov.in*

(e) *Attach extra sheets wherever required.*

PART A

GENERAL PARTICULARS

A.1 Name and address of the institution:

Telephone No. (O):
Fax No.
E-mail

A.2 Name and address of the Head of the institution[$]:

Telephone No. (O) (R):
Fax No.
Mobile No.
E-mail

A.3 Name and designation of the applicant[#]:

Telephone No. (O) (R):
Fax No.
Mobile No.
E-mail

A.4 Address for correspondence with PIN code:

A.5 Name of the Facility In-charge :

Telephone No. (O) (R):
Fax No.
Mobile No.
E-mail

[#] *Applicant is the person in whose name the authorisation (licence) to handle the source may be issued, under AE(RP)R, 2004, would have the responsibilities of '**licence'** prescribed in AE(RP)R, 2004 and should be a full time employee of the institution.*

[$] *The head of the institution is the person who would have the responsibilities of '**employer'** prescribed in AE(RP)R, 2004.*

PART B

PARTICULARS OF THE FACILITY

B.1 Proposed location of facility

B.2 Site specific information:

B.2.1 Seismic zone as per IS-1893 (current version)
(Documentary evidence from relevant state/central govt. authority)

B.2.2 Maximum level of ground water and maximum flood level for the past hundred years as per the central/state govt. records along with documentary evidence.

B.2.3 Distance of site of installation of facility from

(a) ammunition storage and explosive dumps

(b) storage of inflammable materials

(c) direction of runway of civilian/military airfield

(d) residential and public places

(e) rivers/dams/lake/water reservoir

B.2.4 Distance of proposed site from capable fault, if any
(Documentary evidence from relevant state/central govt. authority)

B.3 Brief description of the facility:

(i) Type of accelerator to be installed:

(ii) Purpose of facility:

(iii) Category of device (mobile/fixed):

(iv) Beam specification (current, energy, power)

B.4 Layout and civil engineering drawings attached: Yes/No

B.5 Documents to be available with the facility:

Diagrams for electrical circuit and other interlocks	Available/Not available
Quality assurance manual for construction	Available/Not available

B.6 Documents to be attached with the Application:

(i) Installation layout indicating location of the plot with peripheral occupancy

(ii) Map of the site region upto 2 km radius covering details given in Items B.3.1 and B.3.3

(iii) Proof from local state govt. authorities that the land/plot for installation of PARF is in the name of the applicant and falls in industrial zone.

(iv) Layout and Civil Engineering drawings

(v) Preliminary Safety Analysis Report (PSAR) (As per **Appendix-3B-III**)

(vi) Any other supporting documents.

PART C

UNDERTAKING

I/we hereby certify that

(i) all the statements made above are correct to the best of my knowledge and belief.

(ii) no activity shall be carried out for purposes other than those specified in this form.

(iii) siting and construction activities shall be taken up only after receipt of approval from AERB.

(iv) all provisions of the Atomic Energy (Radiation Protection) Rules, 2004 shall be strictly complied with.

(v) the facility shall not be transferred/sold/rented by me/us to another user without the prior permission of the competent authority.

(vi) full facility will be accorded by me/us to any authorised representatives of the competent authority to inspect this installation at any time.

(vii) radiation surveillance of the installation and health surveillance of all persons engaged in radiation work as required by the competent authority will be duly carried out at my/our expense.

(viii) all recommendations made from time to time by the competent authority in respect of radiation safety measures will be duly implemented.

(ix) duly qualified/experienced radiological safety officer(s)/operator(s) will be appointed before the commencement of operation of the facility.

(x) the procedures approved by AERB regarding decommissioning/ dismantling and reuse of the site of the decommissioned facility will be strictly complied with.

(xi) AERB will be informed about any changes in the information furnished above.

In case, it is found, at any stage, that the information provided by me/us is false and/or not authentic, then I/we hereby undertake to comply with the regulatory action(s) enforced against me/us and our institution, in accordance with the applicable Rules.

Place:

Date:

Signature:

Name of the applicant

Designation:

Signature:

Name of Head of the institution:

Designation:

(Seal of the Head of the institution)

ANNEXURE-30
(Refer section 3.7.8.3)

Form ID: AERB/RSD/IAF/LCO

Government of India
Atomic Energy Regulatory Board

Niyamak Bhavan
Anushaktinagar,
Mumbai-400094.

APPLICATION FOR LICENCE FOR COMMISSIONING/OPERATION OF INDUSTRIAL ACCELERATOR FACILITY FOR NDT (IAF)

(a) *This application would be considered by the competent authority for issuance of relevant consents, under the Atomic Energy (Radiation Protection) Rules, 2004 [AE(RP)R, 2004].*

(b) *This form is intended to enable AERB to assess the suitability of the institution for procurement and use of radiation sources, which includes radiation generating equipment (hereinafter referred to as "source")*

(c) *The duly filled-in form should be sent to Director/Head, Radiological Safety Division (RSD), AERB, Niyamak Bhavan, Anushaktinagar, Mumbai-400094 with the necessary documents.*

(d) *Incomplete applications and those without all relevant documents are liable to be rejected.*

(e) *All the forms pertaining to this facility can be downloaded from the website www.aerb.gov.in*

(f) *Attach extra sheets wherever required.*

PART A

GENERAL PARTICULARS

A.1 Name and address of the institution:

Telephone No. (O)
Fax No.
E-mail
Personnel monitoring services number (PMS) of institution

A.2 Name and address of the Head of the institution[$]:

Telephone No. (O) (R):

Fax No.
Mobile No.
E-mail

A.3 Name and designation of the applicant[#]:

Telephone No. (O) (R):
Fax No.
Mobile No.
E-mail

A.4 Address for correspondence with PIN code:

A.5 Name of the Facility In-charge :

Telephone No. (O) (R):
Fax No.
Mobile No.
E-mail

A.6 Representative of the applicant to be contacted regarding the application:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.7 Name and designation of the Radiological Safety Officer(s) (RSO)* :

Telephone No. (O) (R):
Fax No.
Mobile No.
E-mail
RSO Approval reference No.:
Approval valid up to:

[#] *Applicant is the person in whose name the authorisation (licence) to handle the source may be issued, under AE(RP)R, 2004, would have the responsibilities of '**licensee'** prescribed in AE(RP)R, 2004 and should be a full time employee of the institution.*

[$] *The head of the institution is the person who would have the responsibilities of '**employer'** prescribed in AE(RP)R, 2004.*

* *RSO is the person who is so designated by employer and approved by competent authority and have the responsibilities of 'Radiological Safety Officer' prescribed in AE(RP)R, 2004.*

PART B

PARTICULARS OF THE FACILITY

B.1 Name, qualification and experience of personnel

S. No.	Designation of perso-nnel	Name	**Academic qualifi-cation	Type of training/ Experience certifica-tion	When and where trained	Duration of training	Experience in working with particle accelerator
1	Operator(s)						
2	Radiological safety officer (RSO)						

** Attach proofs of qualification and training/experience certificate related to radiation safety

B.2 Brief description of the facility:

(a) Type of accelerator:
(b) Particles to be accelerated:
(c) Purpose of the facility :
(d) Beam specifications : (current, energy, power)
(e) Types of objects to be radiographed :

B.3 Particulars of the radiation survey meter (RSM) and area monitors available in working condition

Particulars of RSM/Area monitor	1	2	3
Make and type			
Model			
RSM S. No.			
Date of recent calibration			

B.4 Availability of personnel monitoring services (PMS) : Yes/No

B.4.1 No. of personnel availing PMS:

B.4.2 Institution PMS number:

B.5 Documents to be available with the facility:

Required documents	Availability (Yes/No)
PSAR as approved by AERB	
Final safety analysis report (FSAR)	
Standard operating procedures (SOP)	
Servicing/maintenance manual	
Pre-commissioning acceptance test report with results	
Radiation protection manual	
Shielding design and of installation survey (along with drawings and layout)	
Radiation protection survey report (along with drawings and layout indicating stray radiation levels at different locations of the facility)	
Quality assurance manual for operation	

B.6 Documents to be attached with the Application:

(i) Final safety analysis report (FSAR) (As per **Appendix 3D-III**)

(ii) Radiation protection manual (As per **Appendix 3E**)

(iii) QA manual for operation (As per **Appendix 3F**)

(iv) Pre-commissioning acceptance test report with results (As per **Appendix 3C**)

(v) Any other document.

PART C

UNDERTAKING

I/we hereby certify that

(i) all the statements made above are correct to the best of my knowledge and belief.

(ii) no operation will be carried out for purposes other than those specified in this form.

(iii) the commissioning/operation activities shall not be commenced without Licence from AERB.

(iv) all provisions of the Atomic Energy (Radiation Protection) Rules, 2004 shall be strictly complied with.

(iv) the facility shall not be transferred/sold/rented by me/us to another user without the prior permission of the competent authority.

(v) no radiation source of this facility will be transported without the prior permission of the competent authority.

(vi) full facility will be accorded by me/us to any authorised representatives of the competent authority to inspect this installation at any time.

(vii) radiation surveillance of the installation and health surveillance of all persons engaged in radiation work as required by the competent authority will be duly carried out at my/our expense.

(viii) all recommendations made from time to time by the competent authority in respect of radiation safety measures will be duly implemented.

(ix) duly qualified/experienced radiological safety officer(s)/operator(s) will be appointed before the commencement of operation of the facility.

(x) the requirements regarding decommissioning, disposal of decayed sources and reuse of the site of the decommissioned facility will be strictly complied with.

(xi) AERB will be kept informed about any changes in the information furnished above.

In case, it is found, at any stage, that the information provided by me/us is false and/or not authentic, then I/we hereby undertake to comply with the regulatory action(s) enforced against me/us and our institution, in accordance with the applicable Rules.

Place:

Date:

Signature:

Name of the applicant

Designation:

Signature:

Name of Head of the institution:

Designation:

(Seal of the institution)

ANNEXURE-31

(Refer section 3.9.2)

Form ID: AERB/RSD/GIC/PROC

Government of India
Atomic Energy Regulatory Board

Niyamak Bhavan
Anushaktinagar,
Mumbai-400094.

APPLICATION FOR NO OBJECTION CERTIFICATE (NOC) FOR IMPORT/CONSENT FOR PROCUREMENT OF GAMMA IRRADIATION CHAMBER (GIC)

(a)	*This application would be considered by the competent authority for issuance of relevant consents, under the Atomic Energy (Radiation Protection) Rules, 2004) AE(RP)R, 2004.*
(b)	*This form is intended to enable AERB to assess the suitability of the institution for procurement and use of radiation sources, which includes radiation generating equipment (hereinafter referred to as 'source')*
(c)	*The duly filled-in form should be sent to Director/Head, Radiological Safety Division (RSD), AERB, Niyamak Bhavan, Anushaktinagar, Mumbai-400094 with the necessary documents.*
(d)	*Incomplete applications and those without all relevant documents are liable to be rejected.*
(e)	*All the forms pertaining to this facility can be downloaded from the website www.aerb.gov.in*
(f)	*Attach extra sheets wherever required.*

PART A

GENERAL PARTICULARS

A.1 Name and address of the institution:

Telephone No. (O):
Fax No.
E-mail

A.2 Name and address of the Head of the institution[$]

Telephone No. (O): (R)

Fax No.
Mobile No.
E-mail

A.3 Name and designation of the applicant[#] :

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.4 Representative of the applicant to be contacted regarding the application:

Telephone No. (O); (R)
Fax No.
Mobile No.
E-mail

A.5 Address for correspondence with PIN code:

[#] *Applicant is the person in whose name the no objection certificate to import/ procure the source may be issued, under AE(RP)R, 2004, and should be a full time employee of the institution.*

[$] *The head of the institution is the person who would have the responsibilities of '**employer'** prescribed in AE(RP)R, 2004.*

PART B

PARTICULARS OF THE DEVICE

B.1	Purpose of the gamma irradiation chamber (GIC)	
B.2	Type of GIC	Gamma chamber/Blood irradiator/ Gamma cell
B.3	Number of devices	
B.4	Technical details	
B.4.1	Make, model and S. No	
B.4.2	Name of radioisotope	
B.4.3	Maximum activity Bq (Ci)	
B.4.4	Number of integrated source units (ISU)/source pencils incorporated in GIC	

B.4.5	Sealed source classification no.: (As per relevant national/international standards)	
B.4.6	Reference of AERB NOC/ Type approval certificate for the GIC	
B.5	Name and address of manufacturer of GIC Telephone No. Fax No.E-mail	
B.6	Name and address of the supplier of GIC Telephone No. Fax No. Mobile No. E-mail	
B.7	Whether a copy of the undertaking furnished by the supplier of the source to take back the disused/ decayed source is attached ?	Yes/No
B.8	In case of replacement of source, furnish the following details	
B.8.1	Whether permission for disposal of decayed source has been obtained from AERB ?	Yes/No
B.8.2	If yes, reference number of AERB approval/permission for disposal	

B.9 Department and location where the GIC will be installed:

B.10 Objective of studies for which the GIC is procure:

B.11 Particulars of GIC already in the possession of the institution
(Attach additional sheets if necessary)

S. No.	Description, make, model and S. No. of GIC	Name of isotope and initial activity with date	Ref No. and date of authori-sation issued by AERB	Name and address of supplier	Installation location	Purpose/ Application of GIC and its current status (In use or not in use)

B.12 Details of training and experience, if any, in 'Radiation Safety Aspects of GIC' (Attach additional sheets if necessary)

B.12.1 Particulars of trained personnel

Name(s)	
Designation	
Academic qualifications	
Training course on radiation safety aspects of GIC	
Year of passing	
Experience in handling of GIC	
Whether the person who has undergone training on radiation safety aspects of GIC, has obtained the Radiological Safety Officer (RSO) approval from AERB	If yes, furnish the following details : (i) Approval ref. No. : (ii) Date of issuance : (iii) Approval valid till:
	If No, the institution should nominate the person who has successfully completed the training course on 'Radiation safety aspects of GIC' for RSO approval to AERB.

B.12.2 If there is no individual who has undergone the required training to qualify for RSO, please furnish the following undertaking. (Please delete the following undertaking, if not applicable)

I hereby undertake to

(a) get one of our personnel trained on radiation safety aspects of GIC before the procurement of the radiation sources, and

(b) obtain RSO approval from AERB, before commissioning and operation of GIC.

Signature of Applicant
(Seal of Institution)

B.13 Particulars of persons who will handle GIC:

S. No.	Name of the person	Qualification and experience in handling GIC	Personnel monitoring service (PMS) details

B.14 Whether a radiation survey meter (RSM) is available in working condition: Yes / No

B.14.1 If 'Yes', (Please furnish the following particulars relating to the RSM)

Particulars of RSM	1	2	3
Make and type			
Model			
RSM S. No.			
Date of recent calibration			
Functional status			

B.14.2 If 'No', please furnish an undertaking as given below.
(Please delete the following undertaking, if a monitoring instrument is available.)

I hereby undertake to procure a suitable radiation survey meter before the procurement of the GIC for which this application is being made.

Signature of applicant

(Seal of institution)

B.15 Additional information, if any:

B.16 Documents to be attached with the Application:

(a) Two copies of duly signed and stamped document on layout plan (scale 1:100) of GIC installation room indicating the following :

(i) Size of the room

(ii) Thickness of the walls and shielding material details

(iii) Location of entrance door, position of windows (if any) along with height from ground level

(iv) Pit size (as applicable)

(v) Occupancy in the immediate vicinity of the installation room

(vi) Floor loading capacity as prescribed by GIC supplier.

(b) Copy of certificate of approval of sealed source (including Serial No.), classification and leak test certificates as per applicable national/international standard

(c) Copy of the AERB Type Approval certificate for the GIC

(d) Copy of the document of the institution registration with the local/ state/central Government authorities.

(e) Security plan for the facility as per AERB Safety Guide on 'Security of Radioactive Sources in Radiation Facilities' (AERB/RF-RS/ SG-1) and AERB Safety Guide on 'Security of Radioactive Material during Transport' (AERB/NRF-TS/SG-10).

(f) A copy of the undertaking furnished by the supplier of the source to take back the disused/decayed source

(g) Nomination of personnel in the standard format of application form for training in radiation safety aspects of GIC (in case the personnel trained in radiation safety are not available)

(h) Any other relevant documents.

PART C

UNDERTAKING

I/we hereby certify that

(i) all the statements made above are correct to the best of my knowledge and belief.

(ii) no activity will be carried out for purposes other than those specified in this form.

(iii) no procurement shall be made prior to receipt of NOC/Consent from AERB.

(iv) all provisions of the Atomic Energy (Radiation Protection) Rules, 2004 shall be strictly complied with.

(v) the device shall be put into operation only after obtaining authorisation from the competent authority.

(vi) the device shall be stored, installed and safeguarded so as to prevent unauthorised access, operation, removal and theft.

(vii) the installation/maintenance of the device-containing radiation source would be done by authorized and trained persons.

(viii) the device shall not be transferred/sold/rented by me/us to another user without the prior permission from the competent authority.

(ix) full facility will be accorded by me/us to any authorised representatives of the competent authority to inspect the device at any time.

(x) radiation surveillance of the installation and health surveillance of all persons engaged in radiation work as required by the competent authority will be duly carried out at my/our expense.

(xi) all stipulations/recommendations made from time to time by the competent authority in respect of radiation safety measures and physical security measures will be duly implemented.

(xii) the decayed/unused radiation sources shall be returned to the original supplier.

(xiii) the procedures approved by AERB regarding decommissioning/ dismantling and reuse of the site of the decommissioned facility will be strictly complied with.

(xiv) AERB will be kept informed about any changes in the information furnished above.

In case, it is found, at any stage, that the information provided by me/us is false and/ or not authentic, then I/we hereby undertake to comply with the regulatory action(s) enforced against me/us and our institution, in accordance with the applicable Rules.

Place: Signature:

Date: Name of the applicant:

Designation:

Signature:

Name of Head of the institution:

Designation:

(Seal of the institution)

ANNEXURE-32
(Refer section 3.9.3)

Form ID. AERB/RSD/GIC/ACO

Government of India
Atomic Energy Regulatory Board

Niyamak Bhavan
Anushaktinagar,
Mumbai-400 094.

APPLICATION FOR AUTHORISATION FOR COMMISSIONING AND OPERATION OF GAMMA IRRADIATION CHAMBER (GIC)

(a)	*This application would be considered by the competent authority for issuance of relevant consents, under the Atomic Energy (Radiation Protection) Rules, 2004) [AE(RP)R, 2004].*
(b)	*This form is intended to enable AERB to assess the suitability of the institution for procurement and use of radiation sources, which includes radiation generating equipment (hereinafter referred to as 'source')*
(c)	*The duly filled-in form should be sent to Director/Head, Radiological Safety Division (RSD), AERB, Niyamak Bhavan, Anushaktinagar, Mumbai-400094 with the necessary documents.*
(d)	*Incomplete applications and those without all relevant documents are liable to be rejected.*
(e)	*All the forms pertaining to this facility can be downloaded from the website www.aerb.gov.in*
(f)	*Attach extra sheets wherever required.*

PART A

GENERAL PARTICULARS

A.1 Name and address of the institution:

Telephone No (O):
Fax No.
E-mail

A.2 Name and address of the Head of the institution[$]

Telephone No. (O): (R)
Fax No.

Mobile No.
E-mail

A.3 Name and designation of the applicant[#]:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.4 Representative of the applicant to be contacted regarding the application:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.5 Address for correspondence with PIN code:

A.6 Name and designation of the Radiological Safety Officer (s) (RSO)* :

Telephone No. (O): (R):
Fax No.
Mobile No.
E-mail
RSO Approval reference No.:
Valid up to:

[#] *Applicant is the person in whose name authorisation for use of the device may be issued, under AE(RP)R, 2004, would have the responsibilities of '**licensee/consentee'** prescribed in AE(RP)R, 2004 and should be a full time employee of the institution*

[$] *The head of the institution is the person who would have the responsibilities of '**employer'** prescribed in AE(RP)R, 2004.*

* *RSO is the person who is so designated by employer and approved by competent authority and have the responsibilities of **'**Radiological Safety Officer' prescribed in AE(RP)R, 2004.*

PART B

PARTICULARS OF DEVICE

B.1 This application is for:

First time Authorisation			
Renewal of Authorisation	Ref No.:	Date:	Valid till:

B.2	Purpose of the gamma irradiation chamber (GIC)	
B.3	Type of GIC	Gamma chamber/Blood irradiator/ Gamma cell
B.4	Technical details of GIC	
B.4.1	Make, model and S. No.	
B.4.2	Name of radioisotope	
B.4.3	Isotope physical and chemical form	
B.4.4	Maximum activity Bq (Ci)	
B.4.5	Number of integrated source units (ISU)/source pencils incorporated in the GIC	
B.4.6	S. No(s). of the each source(s)	
B.4.7	Classification of the sealed source(s); if not submitted earlier: (As per relevant national/ international standards)	
B.4.8	Reference of AERB NOC/Type Approval certificate for GIC	
B.5	Name and address of manufacturer GIC: Telephone No. Fax No. E-mail	
B.6	Name and address of the supplier of GIC: Telephone No. Fax No. Mobile No. E-mail	

B.7 Particulars of the radiation survey meter (RSM) available in working condition

Particulars of RSM	1	2	3
Make			
Model			
RSM S. No.			
Date of recent calibration			
Functional status			

B.8 Availability of personnel monitoring services (PMS) : Yes / No

B.8.1 Institution PMS number:

B.8.2 No. of personnel availing PMS:

B.9 Additional information, if any

B.10 Documents to be attached with the Application:

(i) Copy of the layout plan approval

(ii) Installation report along with results of trial operation of GIC

(iii) Report on radiation protection survey indicating stray radiation levels at accessible locations around the GIC.

(iv) Copy of certificate of approval of sealed source (including Serial No), classification and leak test certificates as per applicable national/ international standard, in case not attached at the time of procurement.

(v) Security plan for the facility as per AERB Safety Guide on 'Security of Radioactive Sources in Radiation Facilities' (AERB/RF-RS/ SG-1) and AERB Safety Guide on 'Security of Radioactive Material during Transport' (AERB/NRF-TS/SG-10).

(vi) Any other supporting documents.

PART C

UNDERTAKING

I/we hereby certify that

(i) all the statements made above are correct to the best of my knowledge and belief..

(ii) no activity will be carried out for the purpose other than those specified in this form.

(iii) the device shall be put into operation only after obtaining Authorisation from AERB.

(iv) all provisions of the Atomic Energy (Radiation Protection) Rules, 2004 shall be strictly complied with.

(v) the device shall be stored, installed and safeguarded so as to prevent unauthorised operation, removal and theft.

(vi) the device containing radiation source would be installed/maintained by authorized and trained persons.

(vii) the device shall not be transferred/sold/ rented by me/us to another user without the prior permission from the competent authority.

(viii) full facility will be accorded by me/us to any authorised representatives of the competent authority to inspect the device at any time.

(ix) radiation surveillance of the installation and health surveillance of all persons engaged in radiation work as required by the competent authority will be duly carried out at my/our expense.

(x) all recommendations made from time to time by the competent authority in respect of radiation safety measures and physical security measures will be duly implemented.

(xi) the periodic status report of all devices in the possession of the institution shall be submitted to AERB.

(xii) all the radiation survey meters/safety instruments will be maintained in functional condition all the time and will be calibrated periodically.

(xiii) the decayed/unused radiation sources shall be returned to the original supplier.

(xiv) the procedures approved by AERB regarding decommissioning/ dismantling and reuse of the site of the decommissioned facility will be strictly complied with.

(xv) any incident/accident such as fire, theft, damage etc., involving ionising radiation source and/or GIC shall be promptly reported to AERB.

(xvi) an emergency response manual prescribing specific action plans to identified persons for specific emergency scenarios shall be prepared and periodically updated.

(xvii) AERB will be kept informed about any changes in the information furnished above.

In case, it is found, at any stage, that the information provided by me/us is false and/or not authentic, then I/we hereby undertake to comply with the

regulatory action(s) enforced against me/us and our institution, in accordance with the applicable Rules.

Place:	Signature:
Date:	Name of the applicant:
	Designation:
	Signature:
	Name of Head of the institution:
	Designation

(Seal of the institution)

ANNEXURE-33a

(Refer section.3.10.1.2)

Form ID: AERB/RSD/NMF/SLA

Government of India
Atomic Energy Regulatory Board

Niyamak Bhavan,
Anushaktinagar,
Mumbai-400094.

APPLICATION FOR APPROVAL OF SITE AND LAYOUT PLAN FOR NUCLEAR MEDICINE FACILITY

(a) *This application would be considered by the competent authority for issuance of relevant consents, under the Atomic Energy (Radiation Protection) Rules, 2004) [AE(RP)R, 2004].*

(b) *The duly filled-in form should be sent to Head, Radiological Safety Division (RSD), AERB, Niyamak Bhavan, Anushaktinagar, Mumbai-400094 with the necessary documents.*

(c) *Incomplete applications and those without all relevant documents are liable to be rejected.*

(d) *All the forms pertaining to this facility can be downloaded from the website www.aerb.gov.in*

(e) *Attach extra sheets wherever required.*

PART A

GENERAL PARTICULARS

A.1 Name and address of the institution:

Telephone No: (O):
Fax No.
E-mail

A.2 Name and address of the Head of the institution[$]:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.3 Name and designation of the Applicant[#]:

Telephone No. (O): (R)
Fax No.
Mobile No.
Email

A.4 Address for correspondence with PIN code:

[$] *The head of the institution is the person who would have the responsibilities of '**employer'** prescribed in AE(RP)R, 2004.*

[#] *Applicant is the person in whose name relevant consents may be issued, under AE(RP)R, 2004, would have the responsibilities of '**licensee'** prescribed in AERPR-2004 and should be a full time employee of the institution*

PART B

PARTICULARS OF THE PROPOSED FACILITY

B.1 Location of the proposed facility (commercial/hospital):
(Nuclear medicine facilities are not allowed in residential buildings)

B.2 Brief description of the facility:

B.2.1 Make and model of the proposed imaging device(s):

B.2.2 Type of radioactive sources to be handled:

(i) Mo^{99}-Tc^{99m} generator : Column/solvent generator

(ii) Iodine : Liquid/capsule

(iii) List other isotopes.

B.2.3 Thickness and material of the walls, floors, ceiling of the nuclear medicine department.

B.3 Documents to be attached with the Application:

(a) Proof from local state govt. authorities that the land/plot for installation of facility are in the name of the applicant.

(b) NOC from other local bodies with regard to permission for installation.

(c) Following drawing(s) in duplicate:

(1) Diagnostic Facility

(i) Location of facility drawing indicating the floor, nature of occupancy around, above and below, if any.

(ii) Layout plan of the facility (with dimensions on B3 size paper, i.e. 353 X 500 mm^2) indicating required facilities such as hot lab, radiopharmacy, source storage area, injection room, gamma camera/PET-CT room, control console, radioactive waste storage and decontamination, general patient waiting area, post administration waiting area with attached toilet facility, doctor's room, staff room, work station etc. location of doors, windows, workbenches, sink, fume hood (if applicable) and exhaust in the rooms.

(2) Therapy Facility

(i) Location drawing of isolation ward, indicating the floor, nature of occupancy around, above and below, if any.

(ii) Layout plan of isolation ward (with dimensions on B3 size paper, i.e. 353 X 500 mm^2) indicating nursing station, dose administration area with fumehood location, linen storage area, and rooms for hospitalisation of patients with toilet facility giving patient bed position.

(iii) Delay tank drawing (with dimensions on B3 size paper, i.e. 353 X 500 mm^2), its location (underground/over ground) and capacity.

(d) Security plan as per AERB safety guide 'Security of Radioactive Sources in Radiation Facilities' (AERB/RF-RS/SG-1).

(e) Any other supporting documents.

PART C

UNDERTAKING

I/we hereby certify that

(i) all the statements made above are correct to the best of my knowledge and belief.

(ii) no activity will be carried out for purposes other than those specified under item of this form.

(iii) layout and construction activities shall be carried out only on obtaining approval from the competent authority.

(iv) all provisions of the Atomic Energy (Radiation Protection) Rules, 2004 shall be strictly complied with.

(v) the facility shall not be transferred/sold/ rented by me/us to another user without the prior permission of the competent authority.

(vi) full facility will be accorded by me/us to any authorised representatives of the competent authority to inspect this installation at any time.

(vii) radiation surveillance of the installation and health surveillance of all persons engaged in radiation work as required by the competent authority will be duly carried out at my/our expense.

(viii) all recommendations made from time to time by the competent authority in respect of radiation safety and physical protection measures will be duly implemented.

(ix) duly qualified/experienced radiological safety officer(s)/operator(s) will be appointed before the commencement of operation of the facility.

(x) AERB will be kept informed about any changes in the information furnished above.

In case, it is found, at any stage, that the information provided by me/us is false and/ or not authentic, then I/we hereby accept that appropriate regulatory actions may be initiated against me/us and our institution, in accordance with the applicable Rules.

Place: Signature:

Date: Name of the applicant:

Designation:

Signature:

Name of Head of the institution:

Designation:

(Seal of the institution)

ANNEXURE-33b

(Refer section.3.10.1.2)

Form ID: AERB/RSD/NM/PROC

Government of India
Atomic Energy Regulatory Board

Niyamak Bhavan
Anushaktinagar,
Mumbai-400094.

APPLICATION FOR PROCUREMENT OF RADIOISOTOPES FOR NUCLEAR MEDICINE FACILITIES

(a)	*This application would be considered by the competent authority for issuance of permission for procurement of radioisotopes for the facility, under the Atomic Energy (Radiation Protection) Rules, 2004), [AE(RP)R, 2004]*
(b)	*The duly filled-in form should be sent to Director/Head, Radiological Safety Division (RSD), AERB, Niyamak Bhavan, Anushaktinagar, Mumbai-400094 with necessary documents*
(c)	*Incomplete applications and those without all relevant documents are liable to be rejected*
(d)	*All the forms pertaining to nuclear medicine facilities can be downloaded from the website www.aerb.gov.in)*
(e)	*Attach extra sheets wherever required.*

PART A

GENERAL PARTICULARS

A.1 Name and address of the institution:

Telephone No:
Institution personnel monitoring number:
Fax No.
Mobile No.
E-mail

A.2 Name and address of the Head of the institution[$]:

Telephone No. (O) (R)
Fax No.
Mobile No.
E-mail

A.3 Name and designation of the applicant[#]:

Telephone No. (O) (R)
Fax No.
Mobile No.
E-mail

A.4 Layout approval of the facility:
(Give AERB reference no.)

[#] *Applicant is the person in whose name the relevant consent may be issued, under AE(RP)R, 2004, would have the responsibilities of '**licensee'** prescribed in AE(RP)R, 2004, and should be a full time employee of the institution.*

[$] *The head of the institution is the person who would have the responsibilities of '**employer'** prescribed in AE(RP)R, 2004.*

PART B

PARTICULARS OF RADIOACTIVE SOURCES

B.1 Purpose for procurement:

B.2 Details of radioisotopes

B.2.1 Procurement from BRIT *(tick where applicable)*

(a) BRIT, Mumbai ☐
(b) Regional centre BRIT, INMAS, Delhi ☐
(c) Regional centre BRIT, Bangalore ☐

TABLE-A

S.No.	Radiolotope	Specification	Code	Activity (Bq/MBq/ GBq)	Frequency (weekly/ monthly etc.)

B.2.2 Procurement from abroad

TABLE-B

S. No.	Rdiolotope	Specification	Activity (Bq/MBq/GBq)	Frequency (weekly/monthly etc.)

Note: Table- A *is to be filled in only when radioactive material is procured from BRIT.*

Table-B *is to be filled in only when radioactive material is imported.*

B. 3 Name, qualification and experience of personnel

S. No.	Category of personnel	Name	Academic qualifi-cation	Radiological safety training details	Personnel monitoring service No.	Authorisa-tion reference No.
1	Nuclear Medicine Physicians					
2	Nuclear Medicine Technologist(s)					
3	Radiological Safety Officer (RSO)					
4	Other auxiliary staff, in nuclear medicine facility					

PART C

UNDERTAKING

I/we hereby certify that

(i) all the statements made above are correct to the best of my/our knowledge and belief.

(ii) no activity will be carried out for purposes other than those specified in this form.

(iii) the sources shall be procured only after obtaining Approval from the cmpetent authority.

(iv) the sources shall be used only after obtaining Authorisation for commissioning and operation of the facility from the cmpetent authority.

(v) all provisions of the Atomic Energy (Radiation Protection) Rules, 2004 shall be strictly complied with.

(vi) all provisions of the AERB Safety Code on 'Nuclear Medicine Facilities' [(AERB/RF-MED/SC-2 (Rev. 2)] shall be strictly complied with.

(vii) the sources shall be handled by authorized and trained persons.

(viii) the sources shall not be transferred/sold/ rented by me/us to another user without the prior permission of the competent authority.

(ix) full facility will be accorded by me/us to any authorised representatives of the competent authority to inspect the facility at any time.

(x) radiation surveillance of the installation and health surveillance of all persons engaged in radiation work as required by AERB will be duly carried out at my/our expense.

(xi) the periodic status report of radiation safety of the facility shall be submitted to AERB.

(xii) all the radiation survey meters /safety instruments will be maintained in functional condition all the time and will be calibrated periodically.

(xiii) all recommendations made from time to time by the competent authority in respect of radiation safety and physical security measures will be duly implemented.

(xiv) duly qualified/experienced radiological safety officer(s)/operator(s), shall be appointed prior to the procurement of the sources.

(xv) the procedures approved by AERB regarding decommissioning/ dismantling and reuse of the site of the decommissioned facility will be strictly complied with.

(xvi) the decayed/unused radiation sources shall be disposed safely as per procedures approved by AERB.

(xvii) AERB shall be informed about the absence of any qualified manpower immediately.

(xviii) any incident/accident such as fire, theft, damage etc., involving radioactive sources shall be promptly reported to AERB.

(xix) AERB will be kept informed about any changes in the information furnished above.

In case, it is found, at any stage, that the information provided by me/us is false and/ or not authentic, then I/ we hereby accept that appropriate regulatory actions may be initiated against me/us and our institution in accordance with the applicable Rules.

Place:

Date:

Signature:

Name of the applicant:

Designation:

Signature:

Name of the Head of institution:

(Seal of the institution)

ANNEXURE-34

(Refer section 3.10.1.4)

Form ID: AERB/RSD/NMF/ACO

Government of India
Atomic Energy Regulatory Board

Niyamak Bhavan
Anushaktinagar,
Mumbai-400094.

APPLICATION FOR AUTHORISATION FOR COMMISSIONING AND OPERATION OF NUCLEAR MEDICINE FACILITY

(a) *This application would be considered by the competent authority for issuance of relevant consent for the facility, under the Atomic Energy (Radiation Protection) Rules, 2004), [AE(RP)R, 2004].*

(b) *The duly filled-in form should be sent to Director/Head, Radiological Safety Division (RSD), AERB, Niyamak Bhavan, Anushaktinagar, Mumbai-400094 with necessary documents*

(c) *Incomplete applications and those without all relevant documents are liable to be rejected*

(d) *All the forms pertaining to nuclear medicine facilities can be downloaded from the website www.aerb.gov.in*

(e) *Attach extra sheets wherever required.*

PART A

GENERAL PARTICULARS

A.1 Name and address of the institution:

Telephone No: (O):
Fax No.
E-mail

A.2 Name and address of the Head of the institution[$]:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.3 Name and designation of the Applicant[#]:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.4 Name and designation of the Radiological Safety Officer (RSO)*:

Telephone No. (O) (R):
Fax No.
Mobile No.
E-mail
RSO approval reference No. :
Valid up to

A.5 Address for correspondence with PIN code:

[$] *The head of the institution is the person who would have the responsibilities of '**employer'** prescribed in AE(RP)R, 2004.*

[#] *Applicant is the person in whose name the authorisation (licence) to handle the source may be issued, under AE(RP)R, 2004, would have the responsibilities of '**licencee'** prescribed in AE(RP)R, 2004 and should be a full time employee of the institution.*

* *RSO is the person who is so designated by employer and approved by competent authority and have the responsibilities of '**Radiological Safety Officer'** prescribed in AE(RP)R, 2004.*

PART B

PARTICULARS OF THE FACILITY

This application is for

First regulatory Licence			
Additional**	Ref No.	Date:	Valid till:
Renewal	Ref No.	Date:	Valid till:

*** In case of approved site and layout plan*

B.1 Details of proposed radioactive sources to be used

B.1.1 In-vivo diagnosis

S. No.	Radiosotope	Radiopharma-ceutical	Maximum proposed activity to be procured from BRIT per week	Maximum proposed activity to be imported per week

B.1.2 Radionuclide therapy (Low and high dose)

S. No.	Radiosotope	Radiopharma-ceutical	Maximum proposed activity to be procured from BRIT per week	Maximum proposed activity to be imported per week

B.1.3 List of sealed source(s) if any (to be used for calibration/quality assurance) used in the facility with the radionuclide, activity, date of procurement, purpose, supplier/manufacturer details

B.2 Equipments details

B.2.1 Imaging equipment

Name of the equipment	Make and model	Date of installation	Working (Yes/No)

B.2.2 Non-imaging equipment

Name of the equipment	Make and model	Date of installation	Working status

B.3 Isolation wards for therapy patients (undergoing treatment with high doses)

No. of isolation wards	Total No. of beds	Average No. of patients planned to be treated/month	Delay tank capacity and dimensions

B.4 Monitoring and measuring instruments (survey instruments and dose calibrator)

Name of the instrument	Make, model and serial No.	Measurement range	Working status	Date of last calibration

B.5 Handling and general facilities

Fume hoods (F.H.)	**No. of functioning F.H. available:**	**Used for:**
L-benches	No. of L-benches	Used for:
Lead bricks/lead pots for shielding		
Drainage system		
Radioactive waste storage facility	Solid waste: Liquid waste:	

B.6 Name, qualification and experience of personnel

S. No.	Designation of personnel	Name	Academic qualifi-cation	Type of training experience	When and where trained	Duration of training	Personnel monito ring service No.	Authori sation refe rence No. (if any)
1	Operator(s)							
2	Nuclear Medicine Technologists							
3	Radiological Safety Officer (RSO)							
4	Other auxiliary staff, in nuclear medi-cine facility							

B.7 Details of Local Safety Committee constitution.

B.8 Procedures for disposal of radioactive waste

Radioisotope	Nature of waste generated		Method of disposal		Activity disposed MBq/week	
	Solid	Liquid	Solid	Liquid	Solid	Liquid

B.9 Documents to be attached with the Application:

(i) Copy of approval of layout plan of the nuclear medicine laboratory issued by BARC/AERB

(ii) Copy of RSO approval letter or a duly filled in application for approval of nomination of RSO in medical institution

(iii) Personnel monitoring services details

(iv) Copy of appointment and acceptance letters for the radiation workers

(v) Security plan for the facility as per AERB safety guide on 'Security of Radioactive Sources in Radiation Facilities' (AERB/RF-RS/SG-1)-under preparation.

PART C

UNDERTAKING

I/we hereby certify that

(i) all the statements made above are correct to the best of my knowledge and belief.

(ii) no activity will be carried out for purposes other than those specified in this form.

(iii) the facility shall not be commissioned/operated until the authorisation is obtained from the competent authority.

(iv) all provisions of the Atomic Energy (Radiation Protection) Rules, 2004 shall be strictly complied with.

(v) all provisions of the AERB Safety Code on 'Nuclear Medicine Facilities' [(AERB/RF-MED/SC-2 (Rev. 2)] shall be strictly complied with.

(vi) the facility shall not be transferred/sold/ rented by me/us to another user without the prior permission of the competent authority.

(vii) full facility will be accorded by me/us to any authorised representatives of the competent authority to inspect this installation at any time.

(viii) radiation surveillance of the installation and health surveillance of all persons engaged in radiation work as required by the competent authority will be duly carried out at my/our expense.

(ix) all recommendations made from time to time by the competent authority in respect of radiation safety and physical security measures will be duly implemented.

(x) duly qualified/experienced radiological safety officer(s)/operator(s), will be appointed before the commencement of operation of the facility.

(xi) the procedures approved by AERB regarding decommissioning/ dismantling and reuse of the site of the decommissioned facility will be strictly complied with.

(xii) AERB shall be informed about the absence of any qualified manpower (as given in table B.6) immediately.

(xiii) AERB will be kept informed about any changes in the information furnished above.

In case, it is found, at any stage, that the information provided by me/us is false and/ or not authentic, then I/we hereby accept that appropriate regulatory actions may be initiated against me/us and our institution, in accordance with the applicable Rules.

Place: Signature:

Date: Name of the applicant:

Designation:

Signature:

Name of Head of the institution:

Designation:

(Seal of the institution)

ANNEXURE-35

(Refer section 3.11.1)

Form ID: AERB/RSD/NG/Mfg-AUTH

Government of India
Atomic Energy Regulatory Board

Niyamak Bhavan
Anushaktinagar,
Mumbai-400094.

APPLICATION FOR AUTHORISATION FOR FACILITIES ENGAGED IN COMMERCIAL PRODUCTION OF IONISING RADIATION GAUGING DEVICES (IRGDs)/NUCLEONIC GAUGES (NGs)

(a) *This application would be considered by the competent authority for issuance of authorisation for (the testing as part of) commercial production of radiation devices /radiation generating equipment, under the Atomic Energy (Radiation Protection) Rules, 2004, [AE(RP)R, 2004].*

(b) *This form is intended to enable AERB to assess the suitability of the institution for commercial production of radiation devices/ radiation generating equipment.*

(c) *The duly completed form should be sent to Director/Head, Radiological Safety Division (RSD), AERB, Niyamak Bhavan, Anushaktinagar, Mumbai-400094 with the necessary documents.*

(d) *Incomplete applications and those without all relevant documents are liable to be rejected*

(e) *Attach extra sheets wherever required.*

PART A

GENERAL PARTICULARS

A.1 Name and address of the institution:

Telephone No. (O):
Fax No.
E-mail

A.2 Name and address of the Head of the institution :
Telephone No. (O): (R)
Fax No.
Mobile No.:
E-mail

A.3 Representative of the applicant to be contacted regarding the application[#]:

Telephone No. (O): (R)
Fax No.
Mobile No.
E-mail

A.4 Name and designation of the Radiological Safety Officer (RSO)* :

Telephone No. (O) (M):
Fax No.
E-mail
RSO Approval reference No. :
Approval valid up to:

A.5 Address for correspondence with PIN code:

[#] *Applicant is the person in whose name Authorisation to handle the radiation generating equipment may be issued, under Atomic Energy (Radiation Protection) Rules, 2004 [AE(RP)R, 2004], would have the responsibilities of '**Licensee'** rescribed in AE(RP)R, 2004 and should be a full time employee of the institution.*

* *RSO is the person who is so designated by employer and approved by competent authority and have the responsibilities of '**Radiological Safety Officer'** prescribed in AE(RP)R, 2004.*

PART B

PARTICULARS OF THE FACILITY AND DEVICE

B.1 Details of device

(a) Model(s) of the device

(b) Purpose for its use

(c) Radiation source(s) to be used in the device:

(d) Maximum activity of the source: ————Bq (mCi)

B.2 Ref. No. and validity of Type Approval certificate(s) :

B.3 Production capacity:

B.4 Details of test facilities available for Type Approval in accordance with national/international standards :

B.5 Availability of accessories/tools for handling radiation sources:

B.6 Particulars of emergency handling accessories:

(a) Emergency handling tools

(b) Shielding container (Type-A package)

(c) Auxiliary shielding material

B.7 Details of systems available in source handling room:
(Area monitor, red warning light, radiation caution symbol, warning placards etc.):

B.8 Physical security measures provided for facility:

B.9 Particulars of the radiation monitoring and measuring instruments:

Particulars of monitor	**1**	**2**	**3**
Make and model			
Model			
S. No.			
Date of recent calibration			
Functional status			

B.10 Availability of personnel monitoring services (PMS) : Yes/No

If Yes:

(a) Institution PMS number:

(b) No. of personnel availing PMS:

B.11 Details of registration of institution with state/central authority as an industrial unit

B.12 Additional information, if any:

B.13 Documents to be attached with the Application

(a) Two copies of duly signed and stamped document on layout plan (scale 1:100) of the manufacturing facility indicating the following

(i) Layout of radiation source storage room indicating thickness of the walls and shielding material details

(ii) Source handling area/fume hood

(iii) Calibration room

(iv) Control panel/control room, if applicable

(v) Location of windows, doors along with height from ground

(vi) Occupancy around the source storage room and calibration room

(b) Copy of the Type Approval certificates issued for all models of IRGDs/NGs.

(c) Copy of the registration certificate issued by state/central authority as an industrial unit

(d) Security plan for the facility as per AERB safety guide on 'Security of Radioactive Sources in Radiation Facilities' (AERB/RF-RS/SG-1) and AERB Safety Guide on 'Security of Radioactive Material during Transport' (AERB/NRF-TS/SG-10).

(e) Any other relevant document

PART C

UNDERTAKING

I/we hereby certify that

(i) all the statements made above are correct to the best of my knowledge and belief.

(ii) no activity will be carried out for purposes other than those specified in this form.

(iii) the commercial production of devices shall commence only after obtaining authorisation from AERB.

(iv) all provisions of the Atomic Energy (Radiation Protection) Rules, 2004 shall be strictly complied with.

(v) the device shall not be transported/transferred/sold/rented by me/us to another user without the prior permission of the competent authority.

(vi) the user shall be provided, along with the equipment (i) technical specifications; (ii) operating, servicing and maintenance manuals.

(vii) the user shall be provided, with detail procedures for quality assurance tests and checks to be carried out periodically to verify correct performance of the device/equipment.

(viii) full facility will be accorded by me/us to any authorised representatives of the competent authority to inspect our facility at any time.

(ix) radiation surveillance of the installation and health surveillance of all persons engaged in radiation work as required by the competent authority will be duly carried out at my/our expense.

(x) all stipulations/recommendations made from time to time by the competent authority in respect of radiation safety and physical security measures will be duly implemented.

(xi) the installation, commissioning, servicing and maintenance of the equipment shall be carried out by our authorised service personnel.

(xii) any incident/accident such as fire, theft, damage etc., involving radiation generating equipment shall be promptly reported to AERB.

(xiii) all other necessary approvals from the concerned state/central govt. have been obtained by our institution.

(xiv) AERB will be kept informed about any changes in the information furnished above.

In case, it is found, at any stage, that the information provided by me/us is false and/or not authentic, then I/we hereby undertake to comply with the regulatory action(s) enforced against me/us and our institution, in accordance with the applicable Rules.

Place: Signature:

Date: Name of the applicant:

Designation:

Signature:

Name of Head of the institution:

Designation:

(Seal of the institution)

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DRAFT DOCUMENT FULLY REVISED (2008-2009)

WORKING GROUP

Dates of meeting:	August 21, 25, 26,	2008
	September 8, 9, 15, 25, 30,	2008
	October 1,	2008
	November 6, 7,	2008
	December 1, 2, 3, 4, 5, 8, 11, 12, 29,	2008
	January 13, 27,	2009
	February 3, 4, 5, 11, 12, 13, 17, 18,	2009
	March 2, 3,	2009
	April 11, 12, 13,	2009
	May 7, 8, 13, 14, 15, 18, 19, 21, 22,	2009

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Shri A.U. Sonawane	:	AERB
Shri R. Kannan	:	AERB
Shri R.P. Gupta	:	AERB
Dr. P.K. Dash Sharma	:	AERB
Shri R.K. Singh	:	AERB
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Shri Soumen Sinha	:	AERB
Shri M.Senthil Kumar	:	AERB
Smt. Manisha Inamdar	:	AERB
Shri Nidhip M. Chodankar	:	AERB
Shri Amit Sen	:	AERB
Kum. Arti Kulkarni	:	AERB
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Shri Bibek Mishra	:	AERB

CONSISTENCY CHECK (APRIL - JULY 2010)

Shri K. Srivasista	:	AERB

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Dates of meeting:	January 23, 1998	February 10, 1998
	June 17, 1999	July 12, 1999
	October 5 & 6, 2000	October 17, 2000
	April 1, 2005	August 4, 2006
	September 25 & 26, 2006	October 5, 2006
	November 24, 2007	July 4, 2008
	August 7 & 8, 2008	November 28, 2008

Chairman, Members and Invitees of ACCGORN:

Late Dr. S.S. Ramaswamy, Chairman (till January 2003)	:	Director General, Factory Advice Director General, Factory Advice Service and Labour Institute (FASLI) (Former)
Shri G.R. Srinivasan, Chairman (Since February 2003)	:	Vice Chairman, AERB (Former)
Shri G.V. Nadkarny	:	NPCIL (Former)
Shri A.K. Asrani	:	AERB (Former)
Shri T.N. Krishnamurthi	:	AERB (Former)
Late Dr. I.S. Sundara Rao	:	AERB (Former)
Shri N.K. Jhamb	:	AERB (Former)
Dr. K.S. Parthasarthy	:	AERB (Former)
Shri P.K. Ghosh	:	AERB (Former)
Shri G.K. De	:	AERB (Former)
Shri Deepak De	:	AERB (Former)
Shri P. Hajra	:	AERB (Former)
Shri R. Venkataraman	:	AERB (Former)

ADVISORY COMMITTEE ON PREPARATION OF CODES, GUIDES AND MANUALS ON GOVERNMENTAL ORGANISATION FOR NUCLEAR AND RADIATION FACILITIES (ACCGORN) (Contd.)

Chairman, Members and Invitees of ACCGORN (Contd.):

Shri S.P. Agarwal	:	AERB (Former)
Shri S.K. Chande	:	AERB
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Shri R.I. Gujrathi	:	AERB
Dr. Ompal Singh	:	AERB
Shri R. Bhattacharya	:	AERB
Shri Y.K. Shah (Member Secretary)	:	AERB
Shri S.T. Swamy (Permanent Invitee)	:	AERB
Smt. V. Anuradha (Permanent Invitee)	:	AERB

PROVISIONAL LIST OF CODES, GUIDES AND MANUALS FOR REGULATION OF NUCLEAR AND RADIATION FACILITIES

Safety Series No.	Titles
AERB/SC/G	Regulation of Nuclear and Radiation Facilities
AERB/NPP&RR/ SG/G-1	Consenting Process for Nuclear Power Plants and Research Reactors
AERB/NF/SG/G-2	Consenting Process for Nuclear Fuel Cycle Facilities and Related Industrial Facilities other than Nuclear Power Plants and Research Reactors
AERB/RF/SG/G-3	Consenting Process for Radiation Facilities
AERB/SG/G-4	Regulatory Inspection and Enforcement in Nuclear and Radiation Facilities
AERB/SG/G-5	Role of AERB 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 AERB for Nuclear and Radiation Facilities
AERB/SG/G-7	Regulatory Consents for Nuclear and Radiation Facilities: Contents and Formats
AERB/SG/G-8	Criteria for Regulation of Health and Safety of Nuclear Power Plant Personnel, the Public and the Environment
AERB/NPP&RR/ SM/G-1	Regulatory Inspection and Enforcement in Nuclear Power Plants and Research Reactors
AERB/NF/SM/G-2	Regulatory Inspection and Enforcement in Nuclear Fuel Cycle and Related Industrial Facilities other than Nuclear Power Plants and Research Reactors
AERB/RF/SM/G-3	Regulatory Inspection and Enforcement in Radiation Facilities

AERB SAFETY GUIDE NO. AERB/RF/SG/G-3 (Vol. 3 of 4)

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