REGISTRATION OF ACCELERATORS

TEXAS Health and Human Services
Texas Department of State Health Services

TEXAS DEPARTMENT OF STATE HEALTH SERVICES
RADIATION SECTION - REGISTRATION UNIT
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You must receive a Certificate of Registration from the agency **prior to** the treatment of patients. This includes the replacement of an accelerator in an existing vault. An accelerator may be energized for purposes of installation and acceptance testing before receiving a certificate of registration.

Completion of this form is required for new accelerator vaults and existing accelerator vaults when the isocenter has changed or the maximum energy of the accelerator has increased.

In addition to this form, the following must be submitted:

- Diagram of floor plan of the accelerator vault and surrounding areas
- Shielding calculations
- Operating and safety procedures
- Supervising Radiation Oncologist-copy of Board Certification and Texas Medical License (not required for industrial accelerator applications)
- Manufacturer, model, and serial number of accelerator.

A new accelerator, in an existing vault with ***no change*** to the isocenter or maximum energy, that have been previously approved by the Agency, must submit:

- Manufacturer, model, and serial number of accelerator
- Operating and safety procedures
- Post installation survey

When completing the shielding calculation form, please note the following:

Workload - The degree of use of the x-ray unit stated in terms of the weekly exposure of the useful beam at one meter from the source. (Rm^2)

Room Area – length x width of the room in m^2

NCRP Guidelines – the number of the guidance used to calculate shielding.

Barrier Name - This should be the name given to the individual barrier. (example: Barrier 1, Barrier A, etc.). Indicate barrier name on copy of room design submitted. Include information for the ceiling and floor as applicable.

P/S - Is the barrier a primary (P) or a secondary (S) barrier?

Primary (P) - Is a radiation protective barrier which may be struck by the main or useful beam of radiation.

Secondary(S) - Is a radiation protective barrier which may not be struck by the useful beam of radiation, but only by leakage and/or scattered radiation.

U/C - Is the area uncontrolled (U) or controlled (C)?

Controlled (C) - Is an area which requires control of access, occupancy, and working conditions for radiation protection purposes.

Uncontrolled (U) - Is any area which does **not** meet the requirements of a controlled area.

U - Use Factor - The expected fraction of the workload during which the appropriate beam of radiation may strike the barrier in question. NOTE: For a secondary barrier (U) is always 1.

T - Occupancy Factor - The maximum fraction of time during which the area shielded by the barrier in question may be occupied by any one person.

Distance - Primary - The distance in meters from the isocenter to the point of incidence on the primary barrier.

Distance - Secondary - The distance in meters from the isocenter to the point of incidence on the secondary barrier.

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ACCELERATOR SHIELDING CALCULATIONS
Include information for the ceiling and floor.

Date: ______________________________ Registration and site #:____________________________

Legal Name of Business: ____

Room Name: _____________________________

Workload: _______Rm^2 /Gy/week Voltage: _______MV Beam Stop: ☐ Yes ☐ No

Room Area: _____________________m^2 NCRP Guidelines Used: ____________________

LABEL BARRIER NAME ON COPY OF ROOM DESIGN

Barrier Name: ___________________________________

☐ Primary ☐ Secondary ☐ Controlled ☐ Uncontrolled

Use Factor _________________________ Occupancy Factor: __________________________

Distance to Primary Barrier ___________________ meters

Distance to Secondary Barrier ________________ meters

Thickness of Barrier ____________________ cm

Type of Barrier Material: ☐ Pb ☐ Concrete ☐ Heavy Concrete ☐ Iron ☐ V250 ☐ V300

*Other *(specify)* ____________________include tenth value layer thickness________________

Barrier Name: ___________________________________

☐ Primary ☐ Secondary ☐ Controlled ☐ Uncontrolled

Use Factor _________________________ Occupancy Factor: __________________________

Distance to Primary Barrier ___________________ meters

Distance to Secondary Barrier ________________ meters

Thickness of Barrier ____________________ cm

Type of Barrier Material: ☐ Pb ☐ Concrete ☐ Heavy Concrete ☐ Iron ☐ V250 ☐ V300

*Other *(specify)* ____________________include tenth value layer thickness________________

Barrier Name: ___________________________________

☐ Primary ☐ Secondary ☐ Controlled ☐ Uncontrolled

Use Factor _________________________ Occupancy Factor: __________________________

Distance to Primary Barrier ___________________ meters

Distance to Secondary Barrier ________________ meters

Thickness of Barrier ____________________ cm

Type of Barrier Material: ☐ Pb ☐ Concrete ☐ Heavy Concrete ☐ Iron ☐ V250 ☐ V300

*Other *(specify)* ____________________include tenth value layer thickness________________

Additional copies of this form may be made as necessary.

Registration #:_____

Barrier Name: _____

☐ Primary ☐ Secondary ☐ Controlled ☐ Uncontrolled

Use Factor _____ Occupancy Factor: _____

Distance to Primary Barrier _____ meters

Distance to Secondary Barrier _____ meters

Thickness of Barrier _____ cm

Type of Barrier Material: ☐ Pb ☐ Concrete ☐ Heavy Concrete ☐ Iron ☐ V250 ☐ V300

*Other *(specify)* _____include tenth value layer thickness

Barrier Name: _____

☐ Primary ☐ Secondary ☐ Controlled ☐ Uncontrolled

Use Factor _____ Occupancy Factor: _____

Distance to Primary Barrier _____ meters

Distance to Secondary Barrier _____ meters

Thickness of Barrier _____ cm

Type of Barrier Material: ☐ Pb ☐ Concrete ☐ Heavy Concrete ☐ Iron ☐ V250 ☐ V300

*Other *(specify)* _____include tenth value layer thickness_____

Barrier Name: _____

☐ Primary ☐ Secondary ☐ Controlled ☐ Uncontrolled

Use Factor _____ Occupancy Factor: _____

Distance to Primary Barrier _____ meters

Distance to Secondary Barrier _____ meters

Thickness of Barrier _____ cm

Type of Barrier Material: ☐ Pb ☐ Concrete ☐ Heavy Concrete ☐ Iron ☐ V250 ☐ V300

*Other *(specify)* _____include tenth value layer thickness_____

Provide name and contact information for individual completing form:

Contact Name:_____

Contact Phone # _____ Email address: _____