**Section 346.230 Access Control**

a) Each entrance to a radiation room at a panoramic irradiator shall have a door or other physical barrier to prevent inadvertent entry of personnel if the sources are not in the shielded position. Product conveyer systems may serve as barriers as long as they reliably and consistently function as a barrier. It shall not be possible to move the sources out of their shielded position if the door or barrier is open. Opening the door or barrier while the sources are exposed shall cause the sources to return promptly to their shielded position. The personnel entrance door or barrier shall have a lock that is operated by the same key used to move the sources. The doors and barriers shall not prevent any person in the radiation room from leaving.

b) In addition, each entrance to a radiation room at a panoramic irradiator shall have an independent backup access control to detect personnel entry while the sources are exposed. Detection of entry while the sources are exposed shall cause the sources to return to their fully shielded position and shall also activate a visible and audible alarm to make the person entering the room aware of the hazard. The alarm shall also alert at least one other person who is onsite of the entry. That person shall be trained on how to respond to the alarm and prepared to promptly render or summon assistance.

c) A radiation monitor shall be provided to detect the presence of high radiation levels in the radiation room of a panoramic irradiator before personnel entry. The monitor shall be integrated with a personnel access door to prevent room access when radiation levels are high. Attempted personnel entry while the monitor measures high radiation levels shall activate the alarm described in subsection (b). The monitor may be located in the entrance (normally referred to as the maze) but not in the direct radiation beam.

d) Before the sources move from their shielded position in a panoramic irradiator, the source control shall automatically activate conspicuous visible and audible alarms to alert personnel in the radiation room that the sources will be moved from their shielded position. The alarms shall give personnel enough time to leave the room before the sources leave the shielded position.

e) Each radiation room at a panoramic irradiator shall have a clearly visible and readily accessible control that would allow a person in the room to make the sources return to their fully shielded position.

f) Each radiation room of a panoramic irradiator shall contain a control that prevents the sources from moving from the shielded positions unless the control has been activated and the door or barrier to the radiation room has been closed within a pre-set time after activation of the control.

g) Each entrance to the radiation room of a panoramic irradiator and each entrance to the area within the personnel access barrier of an underwater irradiator shall be posted as required by 32 Ill. Adm. Code 340.920. Radiation postings for panoramic irradiators shall comply with the posting requirements of 32 Ill. Adm. Code 340.920, except that signs may be removed, covered, or otherwise made inoperative when the sources are fully shielded.

h) If the radiation room of a panoramic irradiator has roof plugs or other movable shielding, it shall not be possible to operate the irradiator unless the shielding is in its proper location. This requirement may be met by interlocks that prevent operation if shielding is not placed properly or by an operating procedure requiring inspection of shielding before operating.

i) Underwater irradiators shall have a personnel access barrier around the pool that shall be locked to prevent access when the irradiator is not attended. Only operators and facility management shall have access to keys to the personnel access barrier. There shall be an intrusion alarm to detect unauthorized entry when the personnel access barrier is locked. Activation of the intrusion alarm shall alert a person (not necessarily onsite) who is prepared to respond or summon assistance.

(Source: Amended at 47 Ill. Reg. 9201, effective June 22, 2023)