**Section 346.530 Operating and Emergency Procedures**

a) The licensee shall have and follow written operating procedures for:

1) Operation of the irradiator, including entering and leaving the radiation room;

2) Use of personnel dosimeters;

3) Surveying the shielding of panoramic irradiators;

4) Monitoring pool water for contamination while the water is in the pool and before release of pool water to unrestricted areas;

5) Leak testing of sources;

6) Inspection and maintenance checks required by Section 346.610 of this Part;

7) Loading, unloading and repositioning sources, if the operations will be performed by the licensee; and

8) Inspection of movable shielding required by Section 346.230(h) of this Part, if applicable.

b) The licensee shall have and follow emergency or abnormal event procedures, appropriate for the irradiator type, for:

1) Sources stuck in the unshielded position;

 2) Failure of hoists or cables involving the source racks;

3) Personnel overexposures;

4) A radiation alarm from the product exit portal monitor or pool monitor;

5) Detection of leaking sources, pool contamination or alarm caused by contamination of pool water;

6) A low or high water level indicator or an abnormal water loss or leakage from the source storage pool;

7) A prolonged loss of electrical power;

8) A fire alarm or explosion in the radiation room;

9) An alarm indicating unauthorized entry into the radiation room, area around the pool or another alarmed area;

10) Natural phenomena, including an earthquake, tornado, flooding or other phenomena as appropriate for the geological location of the facility; and

11) The jamming of automatic conveyor systems.