CLAIMS

1. A shielding assembly (200) for a system that generates and infuses radiopharmaceuticals, the shielding assembly comprising:

a sidewall (201, 203, 205) that defines a plurality of compartments and provides a radioactive radiation barrier for the compartments;

a first compartment of the plurality of compartments, the first compartment being defined by a first portion of the sidewall that surrounds a first space configured to contain a radioisotope generator (21) that generates radiopharmaceuticals via elution;

a second compartment of the plurality of compartments, the second compartment being defined by a second portion (205) of the sidewall that surrounds a second space configured to hold a portion of an infusion circuit (300) of the system, the portion of the infusion circuit including an eluate line, a waste line, and a patient line (305p); and

a third compartment of the plurality of compartments, the third compartment being defined by a third portion (203) of the sidewall that surrounds a third space configured to accommodate a waste bottle of the infusion system, the third portion of the sidewall extending upward relative to the second portion of the sidewall;

a first passageway (215o) formed in the sidewall and extending between the first compartment and the second compartment, the first passageway being configured to receive an eluate line (305) so that, when the generator is contained within the first compartment and the eluate line is coupled to the generator, the eluate line extends through the sidewall via the first passageway; and

a second passageway formed in the third portion of the sidewall, the second passageway being configured to receive at least one of the waste line and the patient line so that, when the portion of the infusion circuit that includes the waste line and the patient line is held in the second compartment, the at least one of the waste line and the patient line received in the second passageway extends upward with respect to ground on an opposite side of the third portion of the sidewall from a side facing the space configured to accommodate the waste bottle.

2. The shielding assembly of claim 1, further comprising

a third passageway (251g) formed in the second portion of the sidewall, the third passageway being configured to receive an eluant line from an eluant source positioned outside of the shielding assembly so that, when the portion of the infusion circuit is held in the second compartment, the eluant line extends from outside of the shielding assembly into the second compartment via the third passageway.

3. The shielding assembly of claim 1, wherein the second passageway extends to an upper surface of the third portion of the sidewall, the upper surface of the third portion extending about a perimeter to define an opening (233) into the third compartment.

4. The shielding assembly of claim 1, further comprising a retaining member (237) mounted within the second passageway to hold the at least one of the waste line and the patient line in place within the second passageway.

5. The shielding assembly of claim 2, further comprising a fourth passageway (215i) formed in the sidewall and extending between the first compartment and the second compartment, the fourth passageway being configured to receive another eluant line from the eluant source so that, when the generator is contained within the first compartment, the another eluant line extends through the sidewall via the fourth passageway.

6. The shielding assembly of claim 1, further comprising a third passageway formed in the sidewall and extending between the first compartment and the second compartment, the third passageway being configured to receive the eluant line so that, when the generator is contained within the first compartment and the eluant line is coupled to the generator, the eluant line extends through the sidewall via the third passageway.

7. The shielding assembly of claim 6, wherein the third passageway extends alongside the first passageway.

8. The shielding assembly of claim 1, wherein the first portion of the sidewall extends about a perimeter to define an opening into the first compartment.