

**TABLE 4.15.1.2-1.—Facilities Managing Radionuclides at LLNL**

| <b>Building Number</b>  | <b>Radionuclide</b>                   | <b>Approximate<sup>a</sup> Quantity<br/>(kg, lb, or curies)</b> | <b>Status<sup>b</sup></b>  |
|-------------------------|---------------------------------------|---|--|
| Building 131<br>Highbay | Natural thorium                       | 0.5 kg  | Inventory maintained below<br>Category 3 quantities.   |
|                         | Uranium-238                           | 115 kg  |  |
|                         | Natural uranium                       | 12 kg   |  |
|                         | Depleted uranium<br>4 sealed sources  | 7,525 kg  |  |
| Building 151            | 15-Cat 3 radionuclides                | Varies  | Inventory maintained below<br>Category 3 quantities.   |
| Building 231            | Natural thorium                       | 9 kg  |  |
|                         | Natural uranium                       | 2,200 kg  |  |
|                         | Depleted uranium                      | 2,000 kg  |  |
|                         | Rhenium                               | 60 kg   |  |
| Building 235            | 10-Cat 3 radionuclides                | Varies  | Low Hazard Radiological<br>Facility  |
| Building 239            | Fuel-grade plutonium                  | 6 kg  | Varies, resident inventory<br>maintained below Category 3<br>levels.   |
|                         | Weapons-grade<br>Plutonium            | 6 kg<br>50 kg   |  |
|                         | Highly Enriched Uranium               | 25 kg   |  |
|                         | Depleted Uranium                      | 500 kg  |  |
|                         | Tritium                               | 0.02 kg   |  |
| Building 241            | Depleted Uranium                      | 2,650 kg  | Low Hazard Radiological<br>Facility  |
|                         | 5-Cat 3 radionuclides                 | Varies  |  |
| Building 251            | 42-Cat 2 Radionuclides                | Varies  | Inventory maintained as<br>Category 2.   |
| Building 261/262        | 16-Cat 3 radionuclides                | Varies  | Inventory maintained below<br>Category 3 quantities.<br>Metal  |
|                         | Thorium                               | 100 lbs   |  |
|                         | Natural uranium<br>Depleted uranium   | 100 lbs<br>300 lbs  |  |
| Building 322            | Depleted uranium                      | 30 kg   |  |
| Building 327            | Depleted uranium                      | 95 kg   | Inventory maintained below<br>Category 3 quantities.<br>Sealed Sources.  |
|                         | Natural uranium                       | 0.13 kg   |  |
|                         | 10-Cat 3 Radionuclides                |   |  |
| Building 331            | Tritium                               | 30 g  | Inventory is distributed between<br>two segments. Small quantities<br>of other radionuclides may be<br>present, but the facility will<br>remain a Category 3 Facility. |
| Building 332            | Plutonium (fuel grade-<br>equivalent) | 1,500 kg<br>700 kg  | Category 2 Facility  |
|                         | Enriched uranium                      | 500 kg  |  |
|                         | Depleted or natural<br>uranium        | 3,000 kg  |  |
|                         |                                       |   |  |
| Building 334            | Fuel grade plutonium                  | 18 kg   | Inventory maintained below<br>Category 2 quantities.   |
|                         | Weapons grade plutonium               | 18 kg   |  |
|                         | Highly enriched uranium               | 100 kg  |  |
|                         | Depleted uranium                      | 500 kg  |  |
|                         | Tritium                               | 0.0001 kg   |  |
| Building 361            | Phosphorus-32                         | 0.027 Ci  |  |
|                         | Sulphur-35                            | 0.008 Ci  |  |
|                         | Carbon-14                             | 0.13 Ci   |  |
|                         | Tritium                               | 0.29 Ci   |  |

**TABLE 4.15.1.2-1.—Facilities Managing Radionuclides at LLNL (continued)**

| <b>Building Number</b> | <b>Radionuclide</b> | <b>Approximate<sup>a</sup> Quantity<br/>(kg, lb, or curies)</b> | <b>Status<sup>b</sup></b> |
|------------------------|---------------------|---|---------------------------|
| Building 364           | Cesium- 137         | $3.43 \times 10^{-3}$ Ci  | Sealed Source             |

Source: LLNL 1999b, LLNL 1999c, LLNL 2000d, LLNL 2000l, LLNL 2001e, LLNL 2001ag, LLNL 2001h, LLNL 2001x, LLNL 2001f, LLNL 2002k, LLNL 2002an.

<sup>a</sup>Inventories are snapshots in time and provided in the units found in the reference document. To convert from kg to pounds multiply kg by 2.2034. The information is to provide a degree of scale and is not (unless otherwise stated) a limit.

<sup>b</sup>See text box in this section (4.15.1.2) for definitions of material categories. These categories are defined in DOE-STD-1027-92, Attachment 1. Ci = curies; DOE = U.S. Department of Energy; g = grams; kg = kilograms; lb = pounds.

#### LLNL Material Categories

**Category 1** materials are hazardous or other materials that are also “controlled materials” because of their security classification, high value, or special hazards. Examples are:

- Accountable nuclear materials
- Carcinogens (if accountable or classified)
- Classified parts and materials (other than documents)
- Explosives
- Material contaminated with accountable amounts of controlled material
- Mock explosives
- Precious metals, gems, and other valuable materials
- Radioactive materials
- Special reactor materials

**Category 2** materials are unclassified hazardous wastes (e.g., asbestos, spent acids) of negligible economic value, such as radioactive and mixed waste.

**Category 3** materials are all hazardous materials other than those that fall into Category 1 or 2. Category 3 includes most industrial and laboratory chemicals that are not wastes (LLNL 1996a).

**TABLE 4.15.1.2-2.—Approximate Radioactive Quantities Managed at Site 300**

| <b>Material</b>  | <b>Use</b>          | <b>Allowed Quantities<sup>a, b</sup></b> |
|------------------|---------------------|--|
| Depleted uranium | Assembly components | 4.2 Ci                                   |
|                  |                     | 10,640 kg                                |
| Thorium-232      | Assembly components | 0.1 Ci                                   |
|                  |                     | 910 kg                                   |
| Tritium          | Assembly components | 955 Ci                                   |
|                  |                     | 100 mg                                   |

Source: LLNL 2002l.

<sup>a</sup> Units presented are those found in the reference document.

<sup>b</sup> Quantities are snapshots in time.

Ci = curies; kg = kilograms; mg = milligrams.