# Guidance for determining if 10A NCAC 15 .1700 applies

## Radioactive Material Quantities Subject to 10 CFR Part 37

| Radionuclides | Category 1 | | Category 2 | |
|---|---|---|---|---|
| | Terabecquerels (TBq) | Curies (Ci)[1] | Terabecquerels (TBq) | Curies (Ci)[1] |
| Americium-241 | 60 | 1600 | 0.60 | 16 |
| Americium-241/Be | 60 | 1600 | 0.60 | 16 |
| Californium-252 | 20 | 540 | 0.20 | 5.4 |
| Curium-244 | 50 | 1400 | 0.50 | 14 |
| Cobalt-60 | 30 | 810 | 0.30 | 8.1 |
| Cesium-137 | 100 | 2700 | 1.0 | 27 |
| Gadolinium-153 | 1000 | 27,000 | 10 | 270 |
| Iridium-192 | 80 | 2200 | 0.80 | 22 |
| Promethium-147 | 40,000 | 1,100,000 | 400 | 11,000 |
| Plutonium-238 | 60 | 1600 | 0.60 | 16 |
| Plutonium-239/Be | 60 | 1600 | 0.60 | 16 |
| Radium-226 | 40 | 1100 | 0.40 | 11 |
| Selenium-75 | 200 | 5400 | 2.0 | 54 |
| Strontium-90 (Y-90) | 1000 | 27,000 | 10 | 270 |
| Thulium-170 | 20,000 | 540,000 | 200 | 5400 |
| Ytterbium-169 | 300 | 8100 | 3.0 | 81 |

**NOTE: The aggregate activity of multiple, collocated sources of the same radionuclide should be included when the total activity equals or exceeds the quantity of concern. Radioactive materials are to be considered aggregated or collocated if breaching a common physical security barrier (e.g., a locked door at the entrance to a storage room) would allow access to the radioactive material or devices containing the radioactive material.**

| **Calculations of the Total Activity or the Unity Rule**<br><br>**NOTE–If an amendment of an existing license is being requested, the calculations must include the previously authorized quantities for the radionuclide(s).** | |
|---|---|
| **Total Activity–multiple activities are requested for a single radionuclide and the sum of the activities equals or exceeds the RSRM quantity for the radionuclide.** | **YES/NO** |
| **Unity Rule–multiple radionuclides are requested and the sum of the ratios equals or exceeds unity, e.g., [(total activity for radionuclide A) ÷ (RSRM quantity for radionuclide A)] + [(total activity for radionuclide B) ÷ (RSRM quantity for radionuclide B) + etc. ÷ etc.] > 1.0.** | **YES/NO** |

## If any of the above calculations results in a "YES", the licensee/applicant will be subject to the enhanced security requirements in 10 CFR Part 37