Dose Calibrator Accuracy Test

Using a low, medium, and high energy sealed source (repeat these steps for each source) determine dose calibrator accuracy. Suggest ^{57}Co, ^{137}Cs, and ^{60}Co

1. Select the appropriate dose calibrator setting and first measure record the background.
2. Now place the corresponding sealed source with the dose calibrator.
3. Assay the source x3 and record each reading.
4. Average the three reading.
5. Subtract the background.
6. Calculate the percent variation based on theoretical and measured levels of activity.
7. Record all your data.

Date _____

Name _____

Accuracy Test – Sealed Source 1

Radionuclide_____

Serial-Number_____

Theoretical Activity _____

Reading 1_____ Background _____

Reading 2 _____ Average Activity _____

Reading 3 _____ Net Activity _____

$$\frac{\text{Theoretical} - \text{Measured}}{\text{Theoretical}} \times 100$$ % Variation _____

Accuracy Test - Sealed Source 2

Radionuclide_____

Serial-Number_____

Theoretical Activity _____

Reading 1_____ Background _____

Reading 2 _____ Average Activity _____

Reading 3 _____ Net Activity _____

$$\frac{\text{Theoretical} - \text{Measured}}{\text{Theoretical}} \times 100$$ % Variation _____

Accuracy Test - Sealed Source 3

Radionuclide_____

Serial-Number_____

Theoretical Activity _____

Reading 1_____ Background _____

Reading 2 _____ Average Activity _____

Reading 3 _____ Net Activity _____

$$\frac{\text{Theoretical} - \text{Measured}}{\text{Theoretical}} \times 100$$ % Variation _____

Did any of the three energy levels fail? If so which one(s)?