

## MALRAD SCENARIO X



### Background:

A student counts an old sealed point source of an unknown nuclide at a distance of 5 m from the face of a 3 x 3 inch sodium iodide detector. The spectrum was counted for 1200 seconds over 2048 channels. Two dose measurements were made – one at distance of 1 m (0.174  $\mu\text{Sv/hr}$ ) and one at a distance of 3 m (0.0191  $\mu\text{Sv/hr}$ ).

He had also measured a calibration point source to check his energy calibration. This consisted of kBq activities of  $^{241}\text{Am}$ ,  $^{137}\text{Cs}$  and  $^{60}\text{Co}$ . He counted this at a distance of 15 cm for a period of 2400 seconds.

Note: no background has been added.

### Materials provided:

Two spectra, in a number of formats are provided.

Scenario\_X\_source(range of formats) - the spectrum accrued from the sealed source.

Scenario\_X\_point.(range of formats) - spectrum of the point source taken earlier.