

## MALRAD SCENARIO 6



### **Background:**

Two people are found dead and autopsy reveals that the most probable cause of death was exposure to a radioactive source of considerable strength. Searches of the homes of both by the authorities reveal nothing until elevated readings are located in the yard of one of the homes. The radiation appears to emanate from a pile of junk metal but dose rates are such that the pile cannot be disturbed without investigation. A spectrum was taken at a distance of approximately 5 m from the pile surface using a small CdZnTe detector. Two dose measurements were made: one at the same point as the spectrum was taken which was 0.802 mSv/hr and one 5 m back which was 0.201 mSv/hr both having been corrected for background.

A point source of  $^{241}\text{Am}$ ,  $^{109}\text{Cd}$ ,  $^{137}\text{Cs}$  and  $^{60}\text{Co}$  was measured earlier to check the detector.

Note: background spectrum not added.

### **Materials provided:**

Two spectra, in a number of formats are provided.

Scenario\_6\_source.(range of formats) - the spectrum obtained 5m from the pile.

Scenario\_6\_point.(range of formats) - spectrum of the point source taken earlier.