

Measurement conditions of Whole-body counter (WBC)

Type of WBC:

Fuji Electric NaI (JAEA, Tokai)

Chair

NaI(8"  $\phi$   $\times$  4") 2 sets

Measuring time: 3 minutes

MDA: Cs134:340Bq, Cs137:370Bq

Canberra FASTSCAN (JAEA, Tokai)

Standing

NaI (16"  $\times$  5"  $\times$  3") 2 sets

Measuring time: 2 minutes

MDA: Cs134:300Bq, Cs137:300Bq

The energy calibration: Cs137 and Co60 point sources

The efficiency calibration:

Fuji WBC ; water block phantom was carried by using of the BOMAB phantom  
including uniformly distributed Cs137

Canberra WBC ; transfer phantom (equivalent to BOMAB phantom) + mix gamma source  
including 9 kinds of nuclides

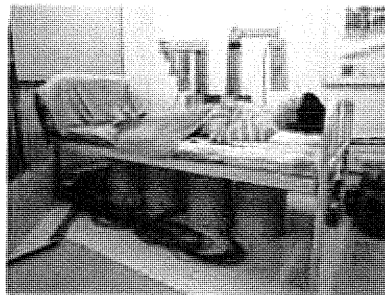
Radiation exposure scenario: acute single inhalation in 2011.3.12

## 1. Measurement condition of Whole-body counter (WBC)

- bed type WBC
- 4 NaI(Tl) detectors (20 cm in diameter and 10 cm in thickness), which have the 5-cm-thick lead cylinder shield. They are placed under the bed.
- Measuring time: 3 minutes
- MDA : Cs134 : 320Bq, Cs137 : 570Bq

The energy calibration was carried by using of point sources of Cs-137 and Co-60.

The efficiency calibration was carried by using of the BOMAB phantom including uniformly distributed Cs-137.



## 2. Measurement condition of urine samples

- Each urine sample was measured by two high purity germanium detectors, which were shielded by lead, copper and acrylic.
- The energy calibration carried by the volume gamma reference source of U-8 container.
- The urine was collected as spot sample and 70ml of urine was measured.
- The MDA for Cs-137 is 13Bq/L with 1000sec measurement.

date	Age	WBC		Urine	
		Cs-134 Bq	Cs-137 Bq	Cs-134 Bq/L	Cs-137 Bq/L
2011.6.27					
2011.6.28					
2011.6.29					
2011.6.30					
2011.7.2					
2011.7.3					

2011.7.3						
2011.7.4						
2011.7.5						
2011.7.7						
2011.7.9						
2011.7.10						