## 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" ×5" ×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.

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