

# Methodology used by VIC (new participant)

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# Concepts

- VIC has been conducting calculations using MCNP with each organism's geometry data.
- VIC will continue studying if appropriate results are obtained from interpolation of the relationship between energy and  $S/V$ .

# Comparison of Methodologies (Internal Exposure)

- VIC
  - Derived absorption dose for ellipsoid.
- ICRP Publ. 108
  - Derived absorption dose for sphere and conversion function to ellipsoid was defined.

VIC's questions:

- Why was a sphere model used?
- Is there a sphere model database in use?

# Comparison of Methodologies (External Exposure)

- VIC
  - Absorption doses for the ellipsoid were derived. Flat source and shallow layer contamination soil (10 cm) were not calculated.
  - Calculation at the soil thickness where the absorption doses versus the source energy converges.
  - Calculation with the limited horizontal extent may cause underestimations.
  - Calculation of beta ray.
- ICRP Publ. 108
  - Two phrases effort to improve statistical error on few 10 cm flat source calculation.
  - Limited to gamma ray.
  - The height from ground was divided into several layers. Biomass average mass of each layer was defined and then absorption dose was defined from absorbed energy at each layer.
  - Organism in soil: air layer and fur skin were treated as shielding layer.
  - Birds: the results by height from the ground are available.