

Progress Report on Radionuclide Metrology (2007-2009)

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1. Research Activities

▶ Standardization of Radionuclides :

- Activity measurements of H-3 by TDCR method.
- Activity measurement of I-131 by 4 π β - γ coincidence counting techniques.
- Development of rice reference materials
(10 institutes from 6 countries and IAEA participated for determination of the reference value)
- Activity measurement of Eu-155 by 4 π β - γ coincidence counting techniques.

▶ Development of equipments and facilities:

- Set up of β (LS) - γ coincidence counting system.
- Gamma-ray spectrometry system with a well-type HP Ge detector for low level activity measurement. (In progress).

2. International Activities.

- CCRI intercomparison : H-3
- APMP intercomparison : Ba-133, I-131
- CMC review for other RMOs
- Participation of APMP/TCRI meeting
 - India – 2007, Indonesia – 2008

- **Participation of IEC and ISO meeting.**
 - **IEC TC 45/45B (Nuclear Instrumentation), London – 2008**
 - **ISO TC 85/SC 2 (Radiation Protection), Wien - 2009**

3. Laboratory Services

- **Dissemination of radioactivity CRMs. (200 CRMs / y)**
- **Technical consultation to the industry.**
- **Calibration and test services for radiation detectors and radionuclides.**
- **Technical training for radiation workers.**

4. Future Work

- **Participation of BIPM/SIR comparisons (Eu-155, 2009)**
- **Participation of CCRI key comparison (H-3, 2009)**
- **Participation of TCRI/APMP key comparisons (I-131, 2009)**
- **Standardization of radionuclides (Sn-113)**
- **Improvement of digital coincidence counting technique. (On-going)**
- **Development of environmental reference materials (On-going)**