

Progress Report on Radionuclide Metrology (1999-2001)

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Information for CCRI Section II Members

1. Activity measurement

- A new ionization chamber (IG-12) have put into operation for relative activity measurements. The calibration of this chamber have begun in the last year.
- The OMH participated in the BIPM CCRI(II) key comparisons ^{152}Eu , ^{89}Sr and ^{238}Pu . In case of ^{152}Eu , the OMH was one of the five NMIs who participated in the trial comparison. Two short half life radionuclides have been standardized, too: ^{24}Na and ^{153}Sm .
- The standartization results of ^{60}Co and $^{110}\text{Ag}^m$ radionuclides have been sent to the IRS (SIR) program of BIPM. The results of this key comparisons are shown in the Attachment.

2. International activities

- There was an intercomparison between the radon monitors of BEV and OMH in the frame of bilateral co-operation 1999. Both radon monitors were placed in an known activity concentration radon chamber at the BEV.
- The CMC database have been established for radioactivity measurements and consist of 74 service lines at present.

3. Legal metrology and the distribution of radioactive certified reference sources.

- The OMH carried out the periodical metrology supervision of 39 radionuclide calibrators using 8 different type of radionuclides, and verification of 110 pieces of surface contamination monitors have been performed too.
- In the last two years approximately 300 radioactive certified reference materials (solid, liquid, large volume, large surface) have been prepared and distributed.

4. Future works

- standardization of ^{59}Fe and ^{241}Am ,
- gamma photon emission probability measurements of ^{59}Fe ,
- participation in SIR program of BIPM,
- participation in the key comparison of activity organized by BIPM,
- establishment of activity measurements by TDCR method,
- development of large volume radioactive certified reference sources,
- participation in bilateral co-operation,
- development of radon gas measurements in air.

Budapest, April, 2001.

Attachment

The results of OMH were sent to IRS of BIPM program in the last two years.

