Radioactivity Standards Laboratory
CSIR–NML
Cape Town, South Africa

# Review of the activities at the CSIR - National Metrology Laboratory
## (June 1999 to March 2001)

Contribution to item 13 of the agenda of the 16th meeting of Section II , CCRI , May 2001

**Staff Members**
B R S Simpson

The radioactivity standardization laboratory at the National Accelerator Centre (NAC) was closed in June 1999. The laboratory had maintained the national standard in a 'de facto' capacity since 1989 after the management of NAC was taken over from the CSIR by a newly created government body. The closure of the laboratory prompted the CSIR to re-establish radioactivity standardization in South Africa, thereby fulfilling its statutory responsibility to maintain the national radioactivity measurement standard. The equipment was purchased from NAC by the CSIR's Pretoria based National Metrology Laboratory (NML) and moved to a new facility in Rosebank, Cape Town. This 'satellite' laboratory became operational in terms of measurement capability in December 2000.

**International Activities**

- Participated in the ICRM'99 conference held at CMI – IIR, Prague, Czech Republic.
- Represented SADCMET at the meeting of RMO representatives in the field of ionising radiation, held at the BIPM in September 2000.
- Participated in the BIPM full-scale international comparison of $^{89}$Sr activity measurements.
- Submitted CMC radioactivity table for inter-regional review by technical experts in the COOMET and SIM regional metrology organisations.
- Preparation of a paper titled "*Radioactivity Standardization in South Africa*" for the ICRM2001 conference that was accepted for poster presentation.

**Maintenance of Standards and Laboratory Services**

- All laboratory equipment was dismantled and moved to the new facility during 2000. After reassembly, the counting systems, balances and peripheral apparatus were checked and verified to be in proper working order.
- Three X-ray 'point' sources were prepared in special custom-made source holders for the Physics Group of the NAC. These comprised $^{152}$Eu, $^{133}$Ba and $^{241}$Am, each approximately 0.37 MBq in strength.

**Publications**

1. B.R.S. Simpson and T.P. Ntsoane, *Decay scheme of $^{67}$Ga*, Proc. ICRM'99 Conference (Prague, Czech Republic, June 1999), Appl. Radiat. Isot. **52** (2000) 551.

2. B.R.S. Simpson, *Radioactivity Standardization in South Africa*, ICRM2001 International Conference on Radionuclide Metrology and its Applications, Braunschweig, Germany, May 2001 (in preparation).