

THE U.S. ARMY BIOASSAY PROGRAM FOR INTERNALLY DEPOSITED RADIONUCLIDES. *J.W. Collins¹, *S. Dunston¹, Angel D. Christman³, MAJ Maguire, MD², 1LT K. Guiberson¹, U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM), ¹Medical Health Physics Program (MHPP), ²Occupational and Environmental Medicine Program (OEMP), ³Radiologic, Classic and Clinical Chemistry Division (RCCCD), APG, MD, 21010-5422)

The U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM) is responsible for providing bioassay support, upon request, to Department of Army (DA) and Defense Logistics Installations (DLA) in support of the license conditions of DA and DLA Nuclear Regulatory Commission (NRC) licenses. Specifically, USACHPPM is directed to perform bioassay analyses that result in individual internal dose data compatible to the DA-approved dose analysis method(s). Specimens for bioassay are collected at medical facilities by occupational health professionals and sent to USACHPPM for analysis and dose assessments. Specimens are prepared, and analyzed based on the particular radionuclide(s) suspected of internal intake. The basic types of requests received for bioassay services are the routine and incident (priority - emergency). The Radiologic, Classic, and Clinical Chemistry Division (RCCCD) at USACHPPM employs specialized radioanalytic techniques and instrumentation to quantify the radionuclide concentration in the specimen. Dose assessment is then performed by the USACHPPM Medical Health Physics Program (MHPP) on the analytical data generated by the laboratory. A dose assessment report is produced concerning the routine or incident request, and subsequently sent to the medical treatment facility which initiated the request and submitted the specimen, the NRC license manager, and the U.S. Army Ionizing Radiation Dosimetry Center (USAIRDC).

The report sent to the medical treatment facility is placed into the individual's medical record. The report sent to the NRC license manager is archived. The report sent to the USAIRDC is combined with any external dose in order to provide the NRC annual dose history. The USAIRDC archives the report for at least 75 years. The Occupational and Environmental Medicine Program (OEMP) at USACHPPM provides medical advice to the MHPP upon request, and counseling to health care professionals and patients concerning medical aspects of an internal intake of radioactive material. The USACHPPM processes approximately 1400 bioassay requests annually. Approximately 10% of all requests involve incidents usually requiring NRC notification. Less than 1% of all specimens processed exceed a dose of 10 mrem.

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