IODINE BIOASSAY PROGRAM

1. Iodine Bioassays will follow the protocol outlined in the U.S. Nuclear Regulatory Commission Regulatory Guide 8.20 "Applications of Bioassay for I-125 and I-131".

2. The Radiation Safety Officer (RSO) or his representative will conduct Iodine Bioassays using an appropriate gamma probe. The probe will be held next to the thyroid region of the employee being monitored.

3. Action points for quarterly thyroid scans:

    Whenever the thyroid burden at the time of measurement exceeds 0.12 uCi of 1-125:

    A. An investigation of the operations involved, including air and other in-plant surveys, will be carried out to determine the causes of exposure and to evaluate the potential for further exposures.

    B. If the investigation indicates that further work in the area might result in an exposure above the limits established in 10 CFR 20.103, NAU will restrict the employee from further exposure until the source of exposure is discovered and corrected.

    C. Corrective actions that will eliminate or lower the potential for further exposures will be implemented.

    D. A repeat bioassay will be taken within 2 weeks of the previous measurement. It will be evaluated within 48 hours after measurement in order to confirm the presence of internal radioiodine and to obtain an estimate of its effective half-life for use in estimating dose commitment.

3. If the thyroid burden at any time exceeds 0.5 uCi of 1-125, the following actions should be taken:

    A. Carry out steps A-D above.

    B. As soon as possible, the case will be referred to appropriate medical consultation for recommendations regarding therapeutic procedures that may be carried out to accelerate removal of radioactive iodine from the body. This should be done within 2-3 hours after exposure when the time of exposure is known so that any prescribed thyroid blocking agent will be effective.

    C. Repeated thyroid scans at approximately 1 week intervals will be carried out at least until the thyroid burden is less than 0.12 uCi of l-125.