



# Criteria for Registrant Acceptance

Approved by **Ronald E. Filipy, Director**  
March 2002

*This policy applies to the suitability of registrants for the United States Transuranium and Uranium Registries.*

## **Selection is based solely on potential scientific worth**

Registrant selection shall be based on potential scientific value to the radiation health protection aspects of the Registries; the Registries shall not accept as Registrants or obtain tissues or perform analytical work specifically for purposes unrelated to the primary goals of the Registries, as stated in the various publications of the Registries and in other Registries policies.

## **Selection criteria for registrants are specified**

USTUR Registrants shall meet one or more of the following general criteria:

- a. Documented intake or deposition of one or more of the actinide elements as a result of an accident or loss of control, verified by bioassay as shown in their radiation dosimetry records;
- b. Occupational history of work with actinide elements (i.e. chronic exposure potential) plus confirmed positive bioassay results, and of unique value to the Registries, (e.g., route of entry, radionuclide, chemical form);
- c. Documented acute accidental exposure to any isotope of uranium or members of the uranium decay chain, verified by bioassay;
- d. Occupational history of work with uranium or members of the uranium decay chain (i.e. chronic exposure potential) plus confirmed positive bioassay results;
- e. Documented deposition of isotopes of long-lived members of the uranium decay chain (e.g., Th-230) at a level that would permit quantification in tissue with standard radiochemical techniques;
- f. Unique or unusual exposure to one or more actinide elements, or other characteristics, with po-

tential for application to or furthering of the objectives and goals of the Registries.

## **Classification of USTUR Registrants**

*Current USTUR Registrants whose donation agreements are due for renewal and all potential, new Registrants will be assigned to one of the following categories:*

*Category 1: Significant actinide intake and past or present positive bioassay results that indicate a documented intake of  $> 2.0$  nCi (74 Bq) or documented systemic burden  $> 2.0$  nCi (74 Bq). This includes Registrants with high radiation doses from external sources ( $> 10$  rem or 0.10 Sv) even though most recent bioassay results were negative. These Registrants are considered very important to the mission of the USTUR.*

*Category 2: High penetrating radiation doses from external sources ( $> 10$  rem or 0.10 Sv) even though less than 2.0 nCi (74 Bq) actinide intake or systemic burden is indicated by exposure history or bioassay results. These Registrants would also have a professed or documented exposure to beryllium, asbestos, and/or solvents such as benzene or halogenated hydrocarbons. These Registrants, though not vitally important to the original mission of the USTUR, are likely to be important as a future resource as those ancillary exposures become more widely studied.*

*Category 3: Not likely to have had actinide intakes or systemic burdens  $> 2.0$  nCi (74 Bq) based on exposure histories and bioassay results. They may have had beryllium, asbestos, or chemical exposures but penetrating radiation doses from external sources were less than 10 rem (0.10 Sv). The autopsy agreements of these registrants will not be renewed by the USTUR and potential new registrants in this category will not be accepted into the program.*

### **Bioassay, deposition, and uranium decay chain defined**

The following definitions apply to this policy:

**BIOASSAY** -- determination or quantification of radioactivity within the body, whether done by excreta analysis or external counting.

**CURIE (Ci)** -- a measure of radioactivity; one nanoCurie (nCi) is one trillionth of a Curie and there are 37 Bequerel (Bq) in one nanoCurie.

**DEPOSITION** -- retention of a radionuclide within one or more tissues.

**INTAKE** -- radioactivity taken into the body by any route, whether absorbed or incorporated into the body.

**PENETRATING RADIATION** --Radiation from an external source with sufficient energy to penetrate the body (also called "deep" dose); this is differentiated from non-penetrating of "soft" radiation from which the dose is deposited primarily in the skin.

**SIEVERT (Sv)** -- a measure of radiation dose; there are 100 rem in one Sievert.

**URANIUM DECAY CHAIN** -- the series of chain decaying radionuclides headed by either U-238 or U-235 including the stable end products.