Department of Energy
National Nuclear Security Administration
Washington, DC 20585

March 2, 2004

MEMORANDUM FOR: RALPH ERICKSON
MANAGER
LOS ALAMOS SITE OPERATIONS

FROM: PAUL LONGSWORTH
DEPUTY ADMINISTRATOR
DEFENSE NUCLEAR NONPROLIFERATION

SUBJECT: Expanded Scope for the Off-Site Source Recovery Program

The purpose of this memorandum is to formally increase the scope of radionuclides that the Off-Site Source Recovery Program (OSRP) will address. The OSRP at the Los Alamos National Laboratory (LANL) is the lead laboratory for this activity. The current scope of radionuclides for the OSRP are those that meet the regulatory definition of Greater Than Class C (GTCC) as stated in Title 10, Code of Federal Regulations, Part 61.

By transferring the OSRP and placing it in the Nuclear and Radiological Threat Reduction Task Force (NA-20.2), the scope of the OSRP has been expanded to provide consistency across the activities performed by NA-20.2 The previous scope of GTCC isotopes and the additional isotopes for the expanded scope are attached. In addition, for the isotopes which are defined as GTCC, the lower limit of class C will not be a constraining factor in terms of scope or the recovery of sources, but national security considerations will be the primary driving factor. In other words the expanded scope includes sources, which may be below the class C concentrations of the isotopes listed in the regulation.

It is my understanding that in January, 2004 you met with Ed McGinnis of my staff and offered to perform a supplement analysis to the LANL Site Wide Environmental Impact Statement to determine what types and amounts of additional radioisotopes LANL could accept without having to perform any new analysis. I believe the supplemental analysis should be initiated immediately to determine what amounts of each type of source LANL can and cannot accept. This information is critical to our ability to respond to national security situations. An issue which makes the LANL supplement analysis information crucial is the lack of inventory data on the suspected volumes of sources. It is not known at this time what amounts OSRP will be tasked with recovering.

The formal increase in scope as described above and is based on the radionuclides that NA-20.2 is addressing globally. There are a number of documents which address isotopes of concern, two of which are the Department of Energy and U.S. Nuclear Regulatory Commission Interagency Working Group report, and the International Atomic Energy Agency's technical document (IAEA-TECDOC-1344) on categorizing sealed sources. We may request reviews of additional isotopes of concern found in these documents in the future, but they are numerous and we do not wish to delay the completion of the supplement analysis with isotopes beyond the new scope.

Please provide an estimated time for the completion of this analysis. If you have any questions, please contact me or Ed McGinnis at (202) 586-9215.

Attachment

The lists of isotopes in this attachment are subdivided into two groups, those which are commonly found in sealed sources, and those which are not. The supplement analysis should not include isotopes not commonly found in sealed sources.

Previous Scope:

The original scope of the OSRP included all GTCC sealed sources. The following isotopes are listed in Title 10, Code of Federal Regulations, Part 61, which defines Greater Than Class C.

Isotopes commonly found in sealed sources:

- Alpha emitting transuranic nuclides with a half-life greater than five years and concentrations exceeding 100 nanocuries per gram: plutonium-238, plutonium-239, americium-241, and curium-244.
- Strontium-90 in concentrations exceeding 7,000 curies per cubic meter.
- Cesium-137 in concentrations exceeding 4,600 curies per cubic meter.

Isotopes not commonly found in sealed sources:

- Carbon-14, nickel-59, niobdium-94, tecnecium-99, iodine-129, plutonium-241, curium-242, and nickel-63.

Scope increase under Defense Nuclear Nonproliferation, effective immediately:

Additional isotopes to provide consistency across the Nuclear and Radiological Threat Reduction efforts:

- All concentrations of the sources in the original scope commonly found in sealed sources.
- Californium-252, cobalt-60, iridium-192, and radium-226, all of which are commonly found in sealed sources.