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**OAK RIDGE NATIONAL LABORATORY**

OPERATED BY MARTIN MARIETTA ENERGY SYSTEMS, INC.  
FOR THE U. S. DEPARTMENT OF ENERGY

**CHESTER R. RICHMOND**

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August 7, 1990

Anthony A. Weadock  
Department of Energy  
Department of Environment, Safety and Health, EH-40  
Washington, DC 20545

Dear Mr. Weadock:

Enclosed are copies of information I left with Rick Jones and Bob Goldsmith during my July 26 visit to Germantown. I have also included a copy of the original Hall-Otero agreement dated February 25, 1966.

I look forward to working with you on matters related to Project INDALO. I will see you here in Oak Ridge late this month or during one of my trips to Washington.

Sincerely,

A handwritten signature in cursive script that reads "Chester R. Richmond" followed by a stylized monogram "BIB".

Chester R. Richmond

CRR:btb

Enclosures

## Information on Project Indalo for DOE/ASESH/EH-40

### Project Indalo (Technical Assistance to Spain):

#### Funds used for the following activities

##### •In Spain (Palomares)

- Transportation of Palomares residents to Madrid labs (CIEMAT) for periodic medical evaluations.
- Measurement of soil, air and vegetation samples for Pu and Am. Also limited number of water and animal tissue samples. Many archived samples being measured for Am.
- One staff person to man meteorological station and function on site in Palomares.
- Costs for collecting and processing samples (mainly air, soil and vegetation).

##### •In Madrid (CIEMAT)

- Costs for support of Palomares residents in Madrid.
- Costs of bioassay measurements for people (Pu and Am).
- Staff to work on project - scientific and support.
- Management and administrative costs.
- Costs for assay of environmental vegetation, soil and air.

#### Funds used in US

##### •ORNL coordinates US support to Spain

- Provides technical assistance.
- Assists with internal dosimetry and dose calculations.
- Obtains equipment needed for bioassay labs at CIEMAT.
- Obtains internal standards for bioassay quality control.
- Assist with data interpretation especially for in vivo counting and bioassay.
- Provides assistance with installation and maintenance of equipment.
- Obtain and help install equipment at Palomares.

**ORNL integrated support**

-I have included the last FWP we submitted for ORNL integrated support for Project Indalo. We did not submit a proposal this spring because of all the uncertainty. I am interested in continuing in this role. My very rough estimate would be about 50K per year.

**Equipment needs**

-Upgrade of alpha counting system in CIEMAT.  
-Provide low energy x-ray detectors for measuring Americium at Palomares and in CIEMAT.  
-Replacement of Meteorological station equipment at Palomares.

**Major uncertainty re cost:**

-Costs related to possible remediation at Palomares.  
-Inventory of residual contamination not fully known at this time.