



## DEPARTMENT OF THE AIR FORCE

HEADQUARTERS 49TH FIGHTER WING (ACC)  
HOLLOMAN AIR FORCE BASE, NEW MEXICO

6 6 APR 1995

MEMORANDUM FOR NEW MEXICO ENVIRONMENT DEPARTMENT  
Attn: Steve Pullen  
Hazardous & Radioactive Materials Bureau  
525 Camino del los Marquez  
Santa Fe, NM 87502



FROM: 49 CES/CEV  
550 Tabosa Avenue  
Holloman AFB, NM 88330-8458

SUBJECT: Pathways, Parameters, and Equations Report

1. As part of the Rational National Standards Initiative (RNSI), discussed at our last Total Environmental Restoration Contract team meeting on 19 Jan 95, Holloman AFB (HAFB) submits the enclosed Pathways, Parameters, and Equations (PPE) Report for your review. This report is the first phase of the RNSI effort and is designed to evaluate site-specific evaluations of risk posed by various Solid Waste Management Units and Installation Restoration Program sites on HAFB.
2. Based on the criteria set forth in the PPE Report, each site will be evaluated for risk relative to four specific land use types: industrial, commercial, residential, and open space. Your input into the methodology used to evaluate these sites is required in order to ensure that all stakeholder's interests are incorporated into the final report. Your timely review comments would be appreciated.
3. If you have any questions regarding the PPE Report, or require additional information, please contact Warren Neff at (505) 475-5395.

  
HOWARD E. MOFFITT  
Deputy Base Civil Engineer

Attachment:  
PPE Report

## **RATIONAL NATIONAL STANDARDS INITIATIVE PROJECT SUMMARY**

**Written By:  
Paul Bechtel  
Radian Corporation  
for  
Omaha Corps of Engineers**

### **1.0 RATIONAL NATIONAL STANDARDS INITIATIVE (RNSI)**

The Rational National Standards Initiative is an approach to Air Force IRP site cleanups that recognizes recent activity in the environmental industry is moving toward the use of risk-based cleanup goals. This approach also acknowledges that cleanup goals designed to protect human health and the environment shall not be created equally for every potential future reuse of Air Force property.

#### **1.1 The RNSI Concept**

Current cleanup regulations require that Air Force IRP sites generally clean up sites for residential reuse, no matter what the future use of the property may be. A fast inspection of the future land uses of Air Force property shows that only a small percentage of Air Force property is intended for residential use or reuse.

The Rational National Standards Initiative focuses on the fact that human exposure to soil and groundwater in a residential setting is typically more frequent and of greater duration than exposure in an open space, commercial, or industrial setting. Therefore, cleanup levels for contaminated sites whose future land uses are open space, commercial, and industrial uses would, by comparison, be less restrictive than those regulatory cleanup standards currently being applied to Air Force IRP sites. However, the level of protection is the same in each reuse scenario, and cleanup standards should vary depending on how the property will be reused in the future. Once

the future use is determined, deed restrictions are placed on the property to assure that the land is not used for a more restrictive use in the future.

## **1.2            The RNSI Process**

This approach utilizes methods of calculating risk-based screening/cleanup levels that are approved for use in risk evaluations by the EPA region in which each installation is located. Exposure factors and durations are developed for each future land and groundwater reuse scenario. This data is then applied to the EPA accepted risk-based equations to develop cleanup levels for each chemical detected at each IRP site. The maximum detected concentration of each constituent is then compared to the cleanup level calculated for each future use scenario. Constituents whose maximum concentration exceeds risk-based/future reuse cleanup levels are recommended for remedial action and an estimate of costs and time to implement the RA is prepared. Constituents whose maximum concentration is below risk-based future reuse cleanup levels are eliminated from further consideration.

## **1.3            Status of the Rational National Standards Initiative**

The Rational National Standards Initiative has been applied to the active sites at Ellsworth and Shaw AFBs to date. RNSI work will begin at 16 other ACC installations in December 1994. The conclusions drawn from the results of the prototype efforts at Shaw and Ellsworth AFBs show that cleanup levels to achieve the same level of protection do vary with land and groundwater use. Results also show that significant cost and time savings can be realized through application of this approach. Although the results are all positive, there are some constraints to contend with.

#### 1.4 Regulatory Acceptance

The prototype reports were completed to inspect the results prior to carrying this approach forward to the regulatory community. The RNSI work scheduled to start in December 1994 will include the regulators as part of the project team.

This approach is not expected to gain rapid regulatory acceptance. A strategy to approach the regulatory community with this strategy is currently being planned.