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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
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ENTERED

Mr. Howard E. Moffitt
Deputy Base Engineer
Environmental Management
550 Tabosa Avenue
Holloman Air Force Base, NM 88330-8458

Dear Mr. Moffitt:

The Environmental Protection Agency (EPA) Region 6 has reviewed Holloman's Rational National Standards Initiative (RNSI) Risk Assessment *Pathways, Parameters and Equations* (PPE) Report. Enclosed are comments from the Region's RCRA risk assessment reviewer.

Holloman should address these comments in future revisions of the PPE report. In addition, Holloman should be aware of the general concerns raised by the comments in all future risk assessments. If Holloman ensures that the concerns the RCRA risk assessment reviewer noted with the PPE report are addressed, then future risk assessment reports will improve and will receive fewer negative comments.

EPA is willing to discuss the enclosed comments and Holloman's risk assessment reports in a meeting or teleconference. Please contact Mr. Lowell Seaton at (214) 665-8304 to set up a meeting date. Technical questions regarding the attached risk assessment comments should be addressed to Mr. Michael Morton at 665-8329.

Sincerely yours,

WK Honker

William K. Honker, P.E.
RCRA Permits Branch

Enclosure

cc: Mr. Benito Garcia
New Mexico Environment Department

## General Comments for the PPE Document:

The *Pathways, Parameters and Equations Report* (PPE) repeatedly refers to the combined "screening/clean-up levels" as if these terms are synonymous. There are important distinctions between screening levels and clean-up levels. Screening levels and clean-up standards will quite often end of being two different values for the same contaminated site. Screening levels are generally more conservative values than clean-up levels due to uncertainty in site-specific conditions and the inherent conservatism imparted into a screening process. Clean-up standards are generally less conservative values resulting in higher chemical-specific concentrations than their screening level counterparts. Clean-up standards are routinely agreed upon after a thorough contaminant investigation and are based on the risk assessment results and the regulatory requirements pertinent to local/state requirements.

The PPE states a number of objectives which include "...providing a risk management tool for establishing risk-based criteria to screen out waste constituents that pose no risk to human health... and ...development of risk-based screening/clean-up standards." As a tool for screening specific chemicals in various media, the PPE appears to be useful. However, this procedure is not recommended for use as the basis for establishment of clean-up action at a contaminated site. Such decision-making should not be made without conducting a risk assessment and consideration of uncertainties, cost of remediation or public regard.

The PPE document focuses on exposure pathways and contamination for on-site land use only. The PPE should address the potential for off-site contamination. This RNSI document should attempt to identify and describe possible exposure pathways associated with the off-site migration of base contamination.

The PPE document does not adequately address ecological risk. If the purpose of the PPE is to strictly address human health, this should be reflected in the project objectives or perhaps even in the title of the document.

## Specific Comments:

PG 1 ¶ 1 The first bullet should evaluate current and future land use options. The second bullet should define both on-base and **off-base** exposure pathways. Bullet three should read "Identify a method to determine chemicals of potential concern that may drive **human health** risks at active IRP sites..." A sixth bullet should be added to read: "Conduct risk assessments for all sites which were not eliminated during the screening process in

order to evaluate exposures and risks associated with the chemicals of concern."

PG 1-1 At the bottom, the PPE states that clean-up standards will be calculated based on equations and default exposure assumptions selected in the MAP document. Holloman should have conducted a risk assessment between the PPE and the MAP in order to calculate clean-up standards.

PG 1-2 On this page and throughout the PPE document, the RNSI refers to screening/cleanup levels or concentrations. As mentioned above, screening levels and clean-up levels should be defined separately.

PG 2-2 The ground water definition of restricted use needs to be further explained with regard to "no ground water use has been identified."

PG 3-2 Figures 3-1 through 3-4 refer to the use of U.S. EPA Ambient Water Quality Criteria (AWQC) for the protection of human health for calculating screening/clean-up levels. The AWQC human health values are not acceptable for either screening or development of clean-up levels where incidental ingestion of surface water is to be protected. The AWQC were not developed using the same assumptions and protectiveness criteria which are incorporated into EPA's Risk Assessment Guidance for Superfund (RAGS). In addition, many of these values were developed in 1980 and therefore may be based on out-dated toxicological data. It would be more appropriate to develop screening levels from the generic equation and default values for exposure to surface water provided in RAGS: Part A.

PG 3-6 Inhalation screening levels for both industrial/ commercial and residential exposures can be calculated from the information provided in EPA's RAGS and RCRA Subpart S to 40 *CFR* Part 264. If inhalation of particulates or volatiles is a human health concern at a site, this pathway should be quantified regardless of the exposure scenario.

PG 3-7 Reference is made to the EPA document *Assessing Human Health Risks from Chemically Contaminated Fish or Shell Fish: A Guidance Document*. While this document contains useful information on fish tissue, bioconcentration, etc., screening levels for surface water should be based on the health-based equations and parameters prescribed in EPA's RAGS and toxicity data available on EPA's IRIS database.

PG 4-2 Where site-specific information is used to adjust exposure assumptions (e.g. exposure frequency), documentation should be provided.

PG 4-2 A hazard quotient of 0.1 should be used for screening purposes but not for clean-up levels/standards. Clean-up is not necessarily required when the hazard quotient exceeds 0.1.

PG 4-3 The default exposure assumptions provided in Tables 4-1 through 4-6 represent only a fraction of the potential pathways that may need to be assessed. Pathways such as inhalation are not provided.

PG 5-3 The intent of OSWER Soil Screening Levels is screening out potentially contaminated sites requiring no further action. They are not intended to set clean-up levels.

PG 5-24 The proposed RCRA corrective action Subpart S action levels may be used for screening levels but should not be used for clean-up levels.

PG 6-7 In the Decision Logic Flow Chart: Risk Screening for Groundwater (Figure 6-3), the reference to Maximum Contaminant Levels (MCLs) should be removed and only risk-based levels be used as the screening criteria. There are a number of MCLs which exceed the risk-based levels proposed by the PPE document. Ground water contaminants that exceed a risk level, even if it is below an MCL, should be retained as contaminants of concern.

PG 6-10 Clean-up standards should not be based on the type of fuel (i.e. diesel, JP-4, etc). Certain constituents such as benzene can exceed risk-based levels although Total Petroleum Hydrocarbon (TPH) values may meet standards.

PG 6-11 Under section 6.4, please refer to comments above for Page 3-2.