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**COMMENT/RESPONSES ON THE REVISED RISK
ASSESSMENT WORK PLAN ADDENDUM**

05/15/92

**USEPA/DOE-FN
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LETTER**



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

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REPLY TO THE ATTENTION OF:

MAY 15 1992

Mr. Jack R. Craig
United States Department of Energy
Feed Materials Production Center
P.O. Box 398705
Cincinnati, Ohio 45239-8705

HRE-8J

RE: Comment/Responses on the
Revised Risk Assessment Work
Plan Addendum

Dear Mr. Craig:

The United States Environmental Protection Agency (U.S. EPA) has completed its review of the Comment/Responses on the revised Risk Assessment Work Plan Addendum.

U.S. EPA hereby approves the comment/responses on the Work Plan pending incorporation of the enclosed comments. Also enclosed are responses to comment numbers six through eight for the revised Background Sampling Plan. These comments were addressed by U.S. EPA Headquarters personnel and may affect the Risk Assessment Work Plan. If the United States Department of Energy (U.S. DOE) disagrees with any of the enclosed comments, it is recommended that any outstanding issues be discussed with U.S. EPA immediately. Once all issues have been resolved, a final Risk Assessment Work Plan must be submitted to U.S. EPA.

Please contact me at (312/FTS) 886-0992 if you have any questions.

Sincerely,

James A. Saric
Remedial Project Manager

Enclosure

cc: Graham Mitchell, OEPA-SWDO
Pat Whitfield, U.S. DOE-HDQ
Dennis Carr, WMCO

Handwritten notes:
JRS
Grove
Notion Response
to F-1274
(4/28)

U.S. EPA COMMENTS ON U.S. DOE'S COMMENT/RESPONSE ON THE REVISED
RISK ASSESSMENT

GENERAL

A check should be made to determine if background concentrations are dependent on soil types.

Some caution may be needed in that sample concentrations for different depths at the same location may be correlated. Statistical analysis can look for this as well as the planned examination of the differences in mean concentration among depths. U.S. DOE should test for the presence of a statistical correlation.

SPECIFIC

18: U.S. DOE maintains that the selection of off-site alternatives introduces "short-term" worker risks in the form of highway deaths and injuries, and to ignore these risks in the discussion of alternatives would be irresponsible. Region V maintains that the risk of off-site transportation accidents and fatalities is not restricted to off-site alternatives, but also applies to other alternatives, especially those which require extensive movement of equipment and materials on-site to implement an on-site alternative, and to include transportation risks in some alternatives and ignore them in others serves to intentionally bias the remediation selection process. Furthermore, U.S. EPA considers all off-site transportation risks to be beyond Agency control; transportation risks are the accepted risk of doing business in our society, and they must be accepted if any remediation is to take place at any CERCLA site.

Second, the accident and fatality rates for truck and rail transport proposed for use also appear to be biased. The rates of accidents and fatalities to hazardous material transporters should be used, not the rates for interstate truckers, passengers in trucks, drivers and passengers in cars, pedestrians, train passengers, etc. I would suspect that the rates for these latter categories are much greater than the rates for hazardous material haulers.

21: I do not understand the difference between future contamination of media and future exposure. Doesn't the potential for future contamination of a medium indicate the potential for a future exposure pathway? Both indicate the potential for exposure, given the current (present) land use. This is quite different from the potential for future exposure given an alternate (future) land use. The examples given in the response illustrate my point. The potential for exposure, if present waste caps erode or other erosion takes place which causes the movement of contaminants in eroded material and runoff, is to current residents

under the current land use. Therefore, this should not be viewed as a future exposure scenario, but a potential present land use exposure scenario. This issue still requires additional clarification. It is not obvious in the response that U.S. DOE holds this view-point.

- 22: As we discussed at the FEMP RI/FS meeting in Chicago on January 16, 1992 and several times since then, it is permissible to subtract the background concentrations for naturally-occurring and some anthropogenic radionuclides from the measured concentrations in the calculation of site-related risks from these contaminants. It is not appropriate to subtract the background concentration from the measured concentration to calculate risks from non-radioactive compounds. The purpose of the risk assessment is to determine if there is a risk to the public posed by chemicals at the site. This is purely a scientific evaluation. The proportioning of risks to site alone or site plus background, finger-pointing or trying to determine who is responsible for which risk is not part of the health risk assessment, but belongs in the risk management document. Risk assessment documents will not be accepted if the exposure point concentration for any chemical of concern (excluding radionuclides whose risk is based on radiation dose) is determined by subtracting the upper 95th percent confidence limit on the arithmetic mean background concentration, the arithmetic mean background concentration, or any other measure of background from the site concentration for the chemical. RAGS Part A, must be followed in this regard.

This position is supported by Headquarters, and reflected in the memo from Bruce Means, Toxics Integration Branch, on this issue.

- 23: Response to this comment is acceptable. U.S. EPA should be informed of the values to be used for the exposure pathways in question.
- 26: U.S. EPA approves the use of the Baes et. al ratios, but reserves the right to request calculations using the measured ratios, or to request field measurement of bioaccumulation, if results of the risk assessment are borderline.

BACKGROUND SAMPLING PLAN COMMENTS

- 6: If the data are not compatible with the normal or lognormal model the UTL approach may not be valid or applicable for all data sets.
- 7: Since U.S. DOE collected samples without doing power calculations, U.S. EPA can not be assured that the number of samples are adequate to calculate background. U.S. EPA's judgement of adequacy will be based upon the results of analysis.
- 8: The comment refers to risks from potential exceedences of background. The text needs to be changed to reflect that Confidence Intervals will be used. Also for compounds with naturally high background levels a useful measure may be the percent excess over background as an alternative to absolute difference.



UNITED STATES ENVIRO
WASHIN:

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To	Pat Van Leeuwen	From	Bruce Means
Co.		Co.	
Dept.		Phone #	
Fax #	8-886-4071	Fax #	8-260-6852

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OFFICE OF
SOLID WASTE AND EMERGENCY RESPONSE

MEMORANDUM

SUBJECT: Background Concentrations at Superfund Sites

FROM: Bruce Means *Bruce Means*
Toxics Integration Branch (OS-230)

TO: Pat Van Leeuwen
Waste Management Division, Region 5 (HSRLT-5J)

As discussed in RAGS Part A (Section 5.7), a comparison of sample concentrations with background concentrations is useful for identifying or screening out the non-site-related chemicals that are found at or near the site. RAGS Part A states that if inorganic chemicals are present at a site at naturally occurring levels, they may be eliminated from the quantitative risk assessment. However, since most organic chemicals found at a site are not naturally occurring, they cannot be eliminated from quantitative risk assessment because they are found in "background" samples. The presence of organics in background samples may indicate that the "background" samples were collected in an area influenced by site contamination.

Part A, Section 5.7, also indicates that if background risk is thought to be significant, it should be calculated separately from the complete site-related risk (site risk being calculated based on all concentrations found at the site) and be considered by the RPM in the cleanup decision as accessory information; no suggestion of subtracting "background risks" to get "responsible party only-based risks" was made in Part A, in part, since it was felt that rarely if ever would the quality of data needed for such a comparison be available. As you know, the recent "Guidance on Data Useability for Risk Assessment" recommends that only a few background samples be taken. Given the large variability often seen for inorganics near some sites, it would be extremely difficult to interpret this kind of information.

Further, the decisions about how the Superfund program would address unusually high background concentrations and what influence they may have on the significance of site risk is purely a risk management issue. As Chapter 8 (Section 8.6.1) indicates, discussion of site contaminant concentrations relative to background concentration ranges is all that is routinely expected in the risk characterization.

In summary, RAGS Part A provides guidance on eliminating chemicals as chemicals of concern based on consideration of background concentrations. There is no guidance which suggests that risks from exposure to chemicals at background levels should be subtracted from all site-related risks. TIB continues to support the guidance in RAGS and feels that these issues are better addressed by risk managers during the selection of remedy discussions.

cc: J. Konz