UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
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DALLAS, TX 75202-2733

NOV 28 2000

Mr. Larry Fisher
BRAC Environmental Coordinator
Environmental Management Division
Tooele Army Depot
Tooele, Utah 84074-5000

RE: **Final Risk Assessment Work Plan,**
Fort Wingate Depot Activity, New Mexico
EPA I.D. # NM6213820974

Dear Mr. Fisher:

We have reviewed this report, dated 31 August, 2000. We have these comments to submit:

General Comments:
It is not clear how the Army plans to assess risk to residents (including the pathways of beef and vegetable ingestion). EPA generally uses age-adjusted factors for carcinogens and relies upon the child defaults for determining residential risks from non-carcinogens. Using the child for assessing residential risk is more conservative than using the adult under standard EPA defaults. However, this risk assessment is proposing a longer adult exposure duration to accommodate tribal concerns. Is the child scenario still the more conservative? The Army needs to make this comparison and use the more conservative scenario for assessing non-carcinogen hazards to the resident.

We note that UXO (unexploded ordnance) do not seem to be a consideration in the proposed risk assessments. The UXO risks to human health and environmental receptors need to be assessed at the sites which have UXO contamination. At this time there is little consensus between the Environmental Protection Agency and the Department of Defense on how to evaluate UXO risks; nonetheless, these risks need to be considered at this facility. Please present a proposal on evaluation and management of the UXO risks at Fort Wingate Depot.

Another risk assessment issue which was not dealt with in this work plan is that of human health risks within the munitions igloos. Please submit an appropriate risk assessment methodology for consideration.

Specific Comments:

Page 2-2. The elimination screen based on frequency of detection has been paraphrased such that the original intent is not present. For example: "If a constituent is detected in less than 5% of the samples collected from a given medium it will be eliminated" is not what RAGs (Risk Assessment Guidance for Superfund) states or intends. This document says that a chemical can be a candidate for elimination if: 1) it is detected infrequently in one or perhaps two environmental media, 2) it is not detected in any other sampled media or at high concentrations, and 3) there is no reason to believe that the chemical may be present. RAGs goes on to say that if using a detection frequency limit approved by the RPM such as 5%, then at least 20 samples of a medium would be needed at that AOC/SWMU.

Section 2.2.1.1, Background, page 2-4: Well FW31 is located southwest of the Pistol Range, not southeast, according to Figure 3-1 in the 1995 RI/FS report. Please clarify the location of this well. Assuming that the well location in the RI/FS report is correct, this well may not be representative of ground water in other parts of the facility. FW31 is two to three miles away from the majority of sites in the northern area, drilled into stratigraphy that is significantly below that of the northern area, although apparently still within the Chinle Formation. But the screening level values shown on Table 2-4 are acceptable for this risk assessment because the water mineralization is somewhat less than that found in the northern area and the potential constituents of concern are low values or non-detects.

Page 2-9. In the inhalation equation, "IF_{air}" should be "IR_{air}."

Page 2-14. Intake Factors: The IF units are incorrect in several places. On page 2-14 the resultant product should be in units of liters/kg-day, not 1/day. And on pages 2-9 and 2-15 the IF units should be 1/day, not liters/day.

Page 2-16. Human health decision-making is generally made when the risk is between 10^{-4} and 10^{-6}, not when it is greater than 10^{-4}. As noted in our March 14, 2000, comment letter on the OB/OD Phase 1B report: EPA has stated its policy on this issue (61 FR 19450, May 1, 1996):

> EPA's preference, all things being equal, is to select remedies that are at the more protective end of the risk range. Therefore, program implementors and facility owners/operators should generally use 10^{-6} as a point of departure when developing site-specific media cleanup standards.

Tables 2-1 to 2-3: These proposed background levels need to get regulatory approval before they are used in the risk assessment. EPA will provide comments soon on the soil background report, which we received on November 2nd.

Table 2-8. EPA has revised several of the assumptions used in this data in draft documents. While you may not wish to reference the draft documents, the latest revised Region 6 Human Health Screening Values and text was uploaded to the Region 6 web site in early October. You may, if you wish, use that document as the basis for changing the assumptions. One of the major changes is that EPA no longer recommends a default absorption factor for volatile organic chemicals. Also, the recommended skin adherence factor for the adult worker and child is 0.2.

Tables 2-10, 2-11, and others involving inhalation: The inhalation rate listed on the tables is the same for both adult and child. On some tables it is listed as 15 m^3/day and others as 20. The reference given is USEPA 1991. This reference is not listed in section 5, "References." Please provide the reference and explain why the child rate is the same as the adult for a 15 kg weight child and why this inhalation rate varies. Using the scenario depicted on Table 2-10, I calculated an adjusted inhalation factor of 19.92. Using EPA's defaults of adult inhalation rate of 20 m^3/day and child inhalation rate of 10, the adjusted inhalation factor is 22.57.

Page 3-8: We do not know of any Region 6 soil benchmark values for ecological risk. What does the document refer to?

Table 3-2, Sample Preassessment Evaluation: The contaminant concentrations of the current condition should be used for selecting COCs. It appears that historic data was used for this evaluation. Concerning future use, we would think that it is the lack of watering rather than the switch to native plants that will reduce the amount of species use in this area. Also, we don't understand the significance to the risk management decision of the magnitude of exceedance description without the relationship of the detection values to the TRVs.

Figure 3-3. We note that this figure has some missing prey-predator connections. For instance, coyotes also eat rabbits and Deer Mice. Please make sure that the web is complete for all of the selected receptors.

If you have any questions on these comments, please contact me at (214) 665-2196.

Sincerely,

Charles Hendrickson

Charles Hendrickson
New Mexico & Federal
Facilities Section

cc: Julie Wanslow, NMED
Beverly Post, USACE
Mark Blakeslee, DOI-BLM

Response to USEPA Review Comments
Final Risk Assessment Work Plan
Fort Wingate Depot Activity, Gallup, NM
dated 31 August 2000

Reviewer: Charles Hendrickson, USEPA Region VI
Date: 28 November 2000

General Comments

Comment 1: It is not clear how the Army plans to assess risk to residents (including the pathways of beef and vegetable ingestion). EPA generally uses age-adjusted factors for carcinogens and relies upon the child defaults for determining residential risks from non-carcinogens. Using the child for assessing residential risk is more conservative than using the adult under standard EPA defaults. However, this risk assessment is proposing a longer adult exposure duration to accommodate tribal concerns. Is the child scenario still the more conservative? The Army needs to make this comparison and use the more conservative scenario for assessing non-carcinogen hazards to the resident.

Response: The Army will evaluate whether the child or adult scenario is more conservative, and the most conservative scenario will be used to assess Fort Wingate Depot Activity (FWDA) data.

Comment 2: We note that UXO (unexploded ordnance) do not seem to be a consideration in the proposed risk assessments. The UXO risks to human health and environmental receptors need to be assessed at the sites which have UXO contamination. At this time there is little consensus between the Environmental Protection Agency and the Department of Defense on how to evaluate UXO risks; nonetheless, these risks need to be considered at this facility. Please present a proposal on evaluation and management of the UXO risks at Fort Wingate Depot.

Response: The Army is evaluating options to assess the risks posed by UXO. Once an approach is identified for use at FWDA, it will be presented to the BCT members.

Comment 3: Another risk assessment issue which was not dealt with in this work plan is that of human health risks within the munitions igloos. Please submit an appropriate risk assessment methodology for consideration.

Response: Future use of the igloos will be restricted to "like use" scenarios, such as storage of non-consumable items. Therefore, the Army has determined that no further sampling or assessment of potential risks posed by the igloos is necessary.

Specific Comments

Comment 4: Page 2-2. The elimination screen based on frequency of detection has been paraphrased such that the original intent is not present. For example: "If a constituent is

detected in less than 5% of the samples collected from a given medium it will be eliminated" is not what RAGs (Risk Assessment Guidance for Superfund) states or intends. This document says that a chemical can be a candidate for elimination if: 1) it is detected infrequently in one or perhaps two environmental media, 2) it is not detected in any other sampled media or at high concentrations, and 3) there is no reason to believe that the chemical may be present. RAGs goes on to say that if using a detection frequency limit approved by the RPM such as 5%, then at least 20 samples of a medium would be needed at that AOC/SWMU.

Response: Constituents of concern with a frequency of detection less than 5% will be evaluated on a case by case basis with respect to 1) detection in other media, 2) sample population size, and 3) operational history of the particular AOC/SWMU.

Comment 5: Section 2.2.1.1, Background, page 2-4: Well FW31 is located southwest of the Pistol Range, not southeast, according to Figure 3-1 in the 1995 RI/FS report. Please clarify the location of this well. Assuming that the well location in the RI/FS report is correct, this well may not be representative of ground water in other parts of the facility. FW31 is two to three miles away from the majority of sites in the northern area, drilled into stratigraphy that is significantly below that of the northern area, although apparently still within the Chinle Formation. But the screening level values shown on Table 2-4 are acceptable for this risk assessment because the water mineralization is somewhat less than that found in the northern area and the potential constituents of concern are low values or non-detects.

Response: Monitoring well FW31 is located southwest of the Pistol Range. During the investigations of Buildings 542 and 600 in the Workshop Area, a new background monitoring well (TMW14A) was drilled. Concentrations of inorganic constituents in samples collected from well TMW14A will be used for ground water background screening levels for the Workshop and Administration Areas in the northern portion of FWDA.

Comment 6: Page 2-9. In the inhalation equation, "IF_{air}" should be "IR_{air}."

Response: The inhalation of fugitive dust equation will be revised before it is used to assess FWDA data.

Comment 7: Page 2-14. Intake Factors: The IF units are incorrect in several places. On page 2-14 the resultant product should be in units of liters/kg-day, not 1/day. And on pages 2-9 and 2-15 the IF units should be 1/day, not liters/day.

Response: The units will be revised before these numbers are used to assess FWDA data.

Comment 8: Page 2-16. Human health decision-making is generally made when the risk is between 10^{-4} and 10^{-6}, not when it is greater than 10^{-4}. As noted in our March 14, 2000, comment letter on the OB/OD Phase IB report:

> "EPA has stated its policy on this issue (61 FR 19450, May 1, 1996); EPA's preference, all things being equal, is to select remedies that are at the more protective end of the risk range. Therefore, program implementers and facility owners/operators should generally use 10^{-6} as a point of departure when developing site-specific media cleanup standards."

Response: It is the Army's position that the comment incorrectly states that human health decision-making is generally made when the risk is between 10^{-4} and 10^{-6}, not when it is greater than 10^{-4}. OSWER Directive 9355.0-30 states "Where the cumulative carcinogenic site risk to an individual based on reasonable maximum exposure for both current and future land use is less than 10^{-4}, and the non-carcinogenic hazard quotient is less than 1, action generally is not warranted unless there are adverse environmental impacts". When remediation is required, the EPA policy is in fact as stated further in the comment: "use 10^{-6} as a point of departure when developing site-specific media cleanup standards".

Comment 9: Tables 2-1 to 2-3: These proposed background levels need to get regulatory approval before they are used in the risk assessment. EPA will provide comments soon on the soil background report, which we received on November 2nd.

Response: Comments on the proposed background levels have been received from USEPA and resolved as of this date; thus, the background levels are considered to be approved.

Comment 10: Table 2-8: EPA has revised several of the assumptions used in this data in draft documents. While you may not wish to reference the draft documents, the latest revised Region 6 Human Health Screening Values and text was uploaded to the Region 6 web site in early October. You may, if you wish, use that document as the basis for changing the assumptions. One of the major changes is that EPA no longer recommends a default absorption factor for volatile organic chemicals. Also, the recommended skin adherence factor for the adult worker and child is 0.2.

Response: The latest revised USEPA Region VI Human Health Screening Values will be used to assess FWDA data.

Comment 11: Tables 2-10, 2-11, and others involving inhalation: The inhalation rate listed on the tables is the same for both adult and child. On some tables it is listed as 15 m^3/day and others as 20. The reference given is USEPA 1991. This reference is not listed in section 5, "References." Please provide the reference and explain why the child rate is the same as

the adult for a 15 kg weight child and why this inhalation rate varies. Using the scenario depicted on Table 2-10, I calculated an adjusted inhalation factor of 19.92. Using EPA's defaults of adult inhalation rate of 20 m^3/day and child inhalation rate of 10, the adjusted inhalation factor is 22.57.

Response: The requested reference is: *Risk Assessment Guidance for Superfund - Volume I, Human Health Evaluation Manual, Part B-Development of Risk-based Preliminary Remediation Goals* (USEPA,1991).

The inhalation rates of 20 m^3/day for an adult and 10 m^3/day for a child will be used to assess FWDA data.

Comment 12: Page 3-8: We do not know of any Region 6 soil benchmark values for ecological risk. What does the document refer to?

Response: The requested reference is: *Screening Level Ecological Risk Assessment Protocol for Hazardous Waste Combustion Facilities* (USEPA, 1999).

Comment 13: Table 3-2, Sample Preassessment Evaluation: The contaminant concentrations of the current condition should be used for selecting COCs. It appears that historic data was used for this evaluation. Concerning future use, we would think that it is the lack of watering rather than the switch to native plants that will reduce the amount of species use in this area. Also, we don't understand the significance to the risk management decision of the magnitude of exceedance description without the relationship of the detection values to the TRVs.

Response: This step was included in the risk assessment approach for FWDA based upon discussions with USEPA and NMED risk assessors during a 1997 site visit and meeting.

Comment 14: Figure 3-3. We note that this figure has some missing prey-predator connections. For instance, coyotes also eat rabbits and Deer Mice. Please make-sure that the web is complete for all of the selected receptors.

Response: For the selected receptors in the food web, all prey-predator connections will be considered when assessing FWDA data.