



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6

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MAR 12 2001

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

RE: Final Risk Assessment Technical Memorandum,
Open Burning/Open Detonation Areas,
Fort Wingate Depot Activity, New Mexico
EPA I.D. # NM6213820974

Dear Mr. Fisher:

We have reviewed this report, dated September 15, 2000 and received October 23, 2000. We have these comments to submit:

Section 2.1.3.1, page 2-7: The report states here that surface water will not be considered in the risk assessment because the explosives are rapidly transformed by photolysis to other compounds. The given reference source (McGrath, 1995) listed a number of daughter products from the photolytic breakdown of explosives. These generated compounds include: nitrobenzenes, benzaldehydes, azoxydicarboxylic acids, nitrophenols, ammonia, formaldehyde, nitrate/nitrite, nitrous oxide, and N-nitroso-methylenediamine. The effects of such compounds in the seasonal water holes, which are described on page 4-3, need to be considered in the risk assessment.

The compound perchlorate has recently become a human health concern. It has been found in several OB/OD units across the country due to the composition of munitions and the nature of OB/OD operations. Currently only preliminary risk-based groundwater concentration values exist upon which to base a remedy decision. Sampling and analysis for perchlorate need to be done at the OB/OD Areas to determine the nature and extent of such contamination so that a risk-based decision can be made, based on knowledge of the entire set of potential risks involved.

Section 2.1.3.3, Contaminant Transport: The consideration of physical transport of contaminants by surface water via solution, traction, and turbid flow needs to be fully addressed and disclosed in the OB/OD risk assessment, not simply referenced to another document. As for the references, the Phase 1A and Phase

1B reports, we issued a number of concerns relevant to risk assessment in two comment letters dated March 14, 2000. So these documents are not very suitable as references. Further, the off-site transport of contaminants via groundwater needs to be addressed, but is not mentioned here.

Figure 2-4: This map shows the boundary of the OB/OD Area. Please note that at the north end there are 150-175 acres of land that were added to the OB/OD Area for possible use as a Corrective Action Management Unit (CAMU). Since the CAMU is no longer being considered, and the area is beyond the kickout boundary, the area should be removed from the OB/OD Area.

Section 3.0, Human Health Risk-Based Closure: This section should at least mention the human health risk present due to unexploded ordnance (UXO) and describe the manner in which it will be addressed. Please include information on how potential UXO remedial actions may affect the risk assessment.

Section 3.2.1, Ground Water Screening Criteria: Ground water contamination also needs to be screened against EPA Maximum Contaminant Levels (MCLs) for those constituents which have MCLs.

Section 3.2.1.1: Note that while Army may be able to control human use of ground water within the OB/OD Areas by retaining control of the property, Army will not have use control on ground water that flows out of the OB/OD Areas.

Section 3.3.1, Ground Water CPSs: The risk-based closure performance standards (CPSs) should not default to a carcinogenic risk at the 1×10^{-4} level, as we have stated in previous written comments. As noted in our March 14, 2000, comments on the 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."

Therefore, the risk assessment report should submit risks that calculate in the range of 1×10^{-4} to 1×10^{-6} for regulatory review, with relevant arguments as to the specific circumstances which support your conclusions on the acceptability of the risks.

Tables 3-1 and 3-2: The 95th percentile is higher than the maximum value in several cases. This indicates a small sample size. The maximum should be used as the selected background in these instances.

Table 3-3: How can it be determined that the remediation worker will be on-site for 39.6 days for one year (8 hours/day for 120


days) when the specific remedial action to be performed has not been decided?

Table 3-3: In comments on previous Ft. Wingate risk documents, we explained that EPA has changed its policy on default absorption factors for inorganics and organics. EPA's support document for the Region 6 Medium-Specific Screening Levels can be used as a reference until the draft dermal guidance is released.

Table 4-4: The use of the maximum body weight for the robin is not conservative. What was the reasoning behind this risk assessment decision? Note that the average weight was used for the deer mouse.

If you have any questions on these comments, please call Chuck Hendrickson at (214)-665-2196 or send e-mail to him at hendrickson.charles@epa.gov.

Sincerely yours,


David Neleigh, Chief
New Mexico & Federal
Facilities Section

cc: Julie Wanslow, NMED
Jennifer Parker, NMED
Beverly Post, USACE
Mark Blakeslee, DOI-BLM
Rose Duwyenie, DOI-BIA

*Responses to USEPA Review Comments
Final Risk Assessment Technical Memorandum
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Fort Wingate Depot Activity, Gallup, NM
dated 15 September 2000*

Reviewer: Chuck Hendrickson, USEPA Region VI

Date: 12 March 2001

Comment 1: Section 2.1.3.1, page 2-7: The report states here that surface water will not be considered in the risk assessment because the explosives are rapidly transformed by photolysis to other compounds. The given reference source (McGrath, 1995) listed a number of daughter products from the photolytic breakdown of explosives. These generated compounds include: nitrobenzenes, benzaldehydes, azoxydicarboxylic acids, nitrophenols, ammonia, formaldehyde, nitrate/nitrite, nitrous oxide, and N-nitrosomethylenediamine. The effects of such compounds in the seasonal water holes, which are described on page 4-3, need to be considered in the risk assessment.

Response: As presented on page 4-3, the seasonal water holes have been observed to not contain water during dry weather. Potential exposure of ecological receptors to the seasonal water holes is limited based upon the small size of the water holes and their intermittent nature. Thus, it is considered unnecessary to include the seasonal water holes in the risk assessment.

Comment 2: The compound perchlorate has recently become a human health concern. It has been found in several OB/OD units across the country due to the composition of munitions and the nature of OB/OD operations. Currently only preliminary risk-based groundwater concentration values exist upon which to base a remedy decision. Sampling and analysis for perchlorate need to be done at the OB/OD Areas to determine the nature and extent of such contamination so that a risk-based decision can be made, based on knowledge of the entire set of potential risks involved.

Response: Selected OB/OD Area wells (CMW02, CMW16, CMW18, CMW21, CMW22, CMW25, KMW09, KMW12, and KMW13) were sampled in October 2000. Samples were submitted to DataChem Laboratories for analysis of perchlorate using a method detection limit of 4 micrograms per liter (ug/l). Perchlorate was detected in CMW21 (15.0 ug/l), CMW22 (4.7 ug/l) and KMW09 (10 ug/l). All the concentrations detected are below the Region VI Medium Specific Concentration for tap water of 18.0 ug/l. Future ground water sampling events are planned to include analysis of perchlorate.

Comment 3: Section 2.1.3.3, Contaminant Transport: The consideration of physical transport of contaminants by surface water via solution, traction, and turbid flow need to be fully addressed and disclosed in the OB/OD risk assessment, not simply referenced to another document. As for the references, the Phase IA and Phase IB reports, we issued a number of concerns relevant to risk assessment in two comment

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letters dated March 14, 2000. So these documents are not very suitable as references. Further, the off-site transport of contaminants via groundwater needs to be addressed, but is not mentioned here.

Response: The fate and transport of constituents in surface water and ground water will be discussed in further detail in the risk assessment to be incorporated into the forth-coming *OB/OD Area RCRA Interim Status Closure Plan Phase II Report* (Phase II Report).

Comment 4: Figure 2-4: This map shows the boundary of the OB/OD Area. Please note that at the north end there are 150-175 acres of land that were added to the OB/OD Area for possible use as a Corrective Action Management Unit (CAMU). Since the CAMU is no longer being considered, and the area is beyond the kickout boundary, the area should be removed from the OB/OD Area.

Response: As indicated by the title of Figure 2-4, this map is presenting the approximate area to be retained by the Army, and is not intended to present the kickout boundary. The current configuration of the boundary on the map coincides with existing fences that will prohibit unauthorized entrance to the area. The Army does not intend to install an additional fence along the kickout boundary; thus, the Army intends to retain all of the area within the boundary shown on Figure 2-4. When this figure is used in future submittals, the legend will be changed to read "Approximate boundary of area to be retained by Army".

Comment 5: Section 3.0, Human Health Risk-Based Closure: This section should at least mention the human health risk present-due to unexploded ordnance (UXO) and describe the manner in which it will be addressed. Please include information on how potential UXO remedial actions may affect the risk assessment.

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 6: Section 3.2.1, Ground Water Screening Criteria: Groundwater contamination also needs to be screened against EPA Maximum Contaminant Levels (MCLs) for those constituents which have MCLs.

Response: Ground water analytical data were screened against MCLs for those constituents that had MCLs in the *OB/OD Area RCRA Interim Status Closure Plan Phase IB Report*. Ground water analytical data will also be screened against MCLs in the forth-coming Phase II Report.

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Comment 7: Section 3.2.1.1: Note that while Army may be able to control human use of ground water within the OB/OD areas by retaining control of the property, Army will, not have use control on groundwater that flows out of the OB/OD Areas.

Response: The fate and transport of constituents in ground water that flows out of the OB/OD Areas will be discussed in the forth-coming Phase II Report.

Comment 8: Section 3.3.1, Ground Water CPSs: The risk-based closure performance standards (CPSs) should not default to a carcinogenic risk at the 1×10^{-4} level, as we have stated in previous written comments. As noted in our March 14, 2000, comments on the 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."

Therefore, the risk assessment report should submit risks that calculate in the range of 1×10^{-4} to 1×10^{-6} for regulatory review, with relevant arguments as to the specific circumstances which support your conclusions on the acceptability of the risks.

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 3-1 and 3-2: The 95th percentile is higher than the maximum value in several cases. This indicates a small sample size. The maximum should be used as the selected background in these instances.

Response: Where the 95th percentile is higher than the maximum concentration detected, the maximum concentration will be used as the background value.

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Comment 10: Table 3-3: How can it be determined that the remediation worker will be on-site for 39.6 days for one year (8 hours/day for 120 days) when the specific remedial action to be performed has not been decided?

Response: The duration of remedial worker exposure was intended to be 180 days and not the 120 days that was included in Table 3-3. The selection of 180 days was based upon the RCRA regulatory requirement that remedial activities must be completed within 180 days after receiving the final volume of hazardous waste. It is likely that the selected remedial action will be completed over a shorter time period than this; thus, use of a 180 day exposure duration is considered conservative.

Comment 11: Table 3-3: In comments on previous Ft. Wingate risk documents, we explained that EPA has changed its policy on default absorption factors for inorganics and organics. EPA's support document for the Region 6 Medium-Specific Screening Levels can be used as a reference until the draft dermal guidance is released.

Response: The recommended reference will be incorporated into the forth-coming Phase II Report.

Comment 12: Table 4-4: The use of the maximum body weight for the robin is not conservative. What was the reasoning behind this risk assessment decision? Note that the average weight was used for the deer mouse.

Response: The average body weight of the robin will be used in accordance with the New Mexico Environment Department document entitled: *Final Guidance for Assessing Ecological Risks Posed by Chemicals: Screening-Level Ecological Risk Assessment* (NMED, 2000).

8