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October 2007 Final Responses

<b>November 2006, Draft Munitions and Explosives of Concern Hazard Assessment Guidance Document--Comment Form</b>					
<b>Comments by: State of Colorado</b>					
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1	General Comment #1			This appears to be a well thought out and well prepared document. However, the State of Colorado is concerned that the assessment tends to frame MEC remediation in terms of “find ways not to remove MEC” instead of “find ways to remove MEC”. The following comments flow from that concern.	The TWG appreciates the positive comments, and will evaluate the “framing” concern in conjunction with the comments and responses that follow.
2	General Comment #2			In the Executive Summary it states “The MEC-HA does not answer the question of “how clean is clean?” Unfortunately, the language and statements in Section 5.1 clearly demonstrate that for all practical purposes the “blanket statements” of the MEC HA Hazard Levels can and will be used as risk based cleanup standards of MEC under CERCLA decisions. Hazards Levels 1 & 2 are unacceptable risks, while Hazard Levels 3 & 4 are acceptable risks which clearly can and will be used to define “how clean is clean.” In addition, it states that the “Site specific project teams will	The TWG is aware of the language issues here at the text. Alternative language will be developed during technical editing. Disagree that Levels 1 and 2 equate to unacceptable risks while 3 and 4 equate to acceptable risks. Furthermore, the guidance is very clear that the MEC HA can be used to inform and support decision making, but that it is not the decision.

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				determine “how clean is clean” by selecting the alternative to be implemented to meet CERCLA requirements.” Of concern to the State of Colorado is that the MEC-HA will be used to determine the “Protectiveness” criteria under CERCLA. This clearly makes the MEC-HA a clean-up standard.	
3	General Comment #3			<p>The MEC HA input factor scores are the fundamental basis for the model, yet they appear to be based on broad generalizations, correlations, assumptions, and limited professional judgments. None of the input factors appear to have been independently peer reviewed or validated. The model and input scores need to include supporting data, studies or other validation before they can be used as a basis for decision making.</p> <p>Additionally, as with most generalizations, the assumptions made in assigning input factor scores are not universally valid and may not make sense for many sites or types of munitions. For example, the model scoring assumes the majority of MEC hazards on all maneuver areas are on the surface – providing a 100 point reduction in risk for surface cleanup and only a 10 point</p>	<p>The development of the scores and weights are discussed in the guidance. There is additional information at the MEC HA website in TWG meeting minutes and other reference information. The TWG has made scores of presentation and actively sought feedback on the scores, weights, and other aspects of the MEC HA during a three year period. The tool was also pilot tested at Camp Beale and Camp Butner.</p> <p>In regard to the comment on maneuver areas, as discussed in the text, if a maneuver area also contained impact areas, or burial areas that resulted in subsurface MEC, then it would be appropriate to subdivide the area into multiple MRSSs.</p>

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				additional reduction for subsurface cleanup, regardless of future land use. This implies that the majority of MEC hazards on all maneuver areas are surface. Yet, the contamination on maneuver areas varied widely from site-to-site. Maneuver areas can have significant levels of subsurface contamination and thus arbitrarily biasing the cleanup decision for all maneuver areas toward surface cleanup is not appropriate. This is just one example of why generalized models are rarely appropriate. The same concern holds for all of the implied assumptions within the scoring factors.	
4	General Comment #4			The State of Colorado is concerned how the two MEC models, this MEC-HA and DoD's Munitions Response Site Prioritization Protocol (MRSPP) will interrelate. The framework and input factors appear to be similar, however, the scoring of these factors in the two models are inconsistent. As an example, could site specific project managers be left to negotiate response actions at sites with a MRSPP Rating of A or B, but are deemed a Category 3 or 4 by the MEC-HA?	It is difficult to respond to hypothetical questions of this nature. It is not clear what is meant by the comment that the two tools scorings are inconsistent. The MEC HA text includes discussions on the MRSPP and the MEC HA.
5	General			The State of Colorado is concerned that the	Individuals and families, as well as

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	Comment #5			MEC HA evaluates the risk from explosive hazards to the general population using a site, not to an individual. Baseline Risk Assessments and environmental cleanup decisions should be based on assessments of risks to an individual and specifically include risks to sensitive receptors such as children. This model does not consider risks to an individual or the specific combination of types of activities that an individual may engage in on the site. For example, a family living on a MRS and engaging in gardening, hiking or other activities within the MRS would likely be considered an unacceptable risk to those individuals, particularly the children. However, the family would only represent a very small number of contact hours, thus not be accounted for in the MEC-HA.	combination of activities can be addressed by the MEC HA through evaluation of potential contact hours associated with MRS conditions.

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<b>Specific Comments</b>					
6	2.2.3	14	483	Why are the scoring categories much narrower for categories 1 and 2? The model runs in Appendix D suggest most situations (85%) will fall into category 3 or 4. This tends to take the focus away from attempting MEC removal on many sites.	The input factor combinations selected for the sensitivity tests were not selected as a sample of the population of the MMRP Inventory, but to test the model with a set of feasible input combinations that <b>may</b> be found in the inventory. Therefore, 85% of the sensitivity test results in Hazard Level 3 or 4 only reflects the structure of the test. Since baseline, surface cleanup and subsurface cleanup conditions were all tested, and the majority of the tests involved cleanup, this result is to be expected.
7	4.1.1	27	701	Table 4-2 scores energetic material type by category. High explosives receive a score of 100 and incendiary receives a score of 30. Incendiary is described in Table 4-1 as “Any flammable material that is used as filler in munitions intended to destroy a target by fire.” How have these scores been determined? How is death or injury by explosion more serious than death or injury by incineration?	The text box in the section provides the rationale for the order of the energetic material types. See Appendix D for the discussion on the development of the scores and weights.

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8	4.4	31	794	Do the potential contact hours have an area component? Wouldn't 10,000 receptor-hours/year be a higher risk for 10 acres vs. 100 acres?	No, the contact hours do not have an explicit area component. However, the MRS where the MEC HA is applied does have an area component. Contact hours are only one component in the evaluation of explosive safety hazards at an MRS.
9	4.6.2	35	840	Item B in Figure 4-2 shows MEC on the surface and the minimum MEC depth being greater than the maximum intrusive depth. How can this situation occur?	The definitions for this input factor categories in Table 4-11 state that the maximum receptor depth and minimum MEC depth do not overlap <b>after</b> cleanup. The captions in Figure 4-2 will be changed to be consistent with Table 4-11.
10	4.8.1	41	924	How would individual items such as fuzes, boosters, bursters, blasting caps, etc. be classified?	Individual fuzes will be classified as fuzed DMM. Boosters, bursters, and blasting caps will be classified as unfuzed DMM in the text.
11	5.1	47-49	1040-1094	The State of Colorado disagrees that the MEC-HA should define clean-up levels, and as described in General Comment #2 above, please clarify the definitions and intent of: 1) the statement in section 5.1.1 that, "There may be instances where there is an imminent threat to human health from MEC" implies that Hazard Level 1 sites (or alternatives) should be considered imminent threats. 2) the statement in section 5.1.3 that, "An MRS scored in Hazard Level 3 would be considered safe for the current land use	The MEC HA does not define cleanup levels. The cited text in Section 5.1.1 regarding imminent threats needs to be taken in the context stated in the document. The context is that under such conditions it may be appropriate to conduct an emergency response without calculating a MEC HA score.  Agree that terms like "safe" have been removed.

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				without further munitions response, although not necessarily suitable for reasonably anticipated future use” implies that Hazard Level 3 sites (or alternatives) should be considered protective and represent acceptable risks. And 3) the statement in section 5.1.4 that, “An MRS score in Hazard Level 4 is compatible with current and determined or reasonably anticipated future use” implies that Hazard Level 4 sites (or alternative) would be considered safe for current and future land uses. It should be noted that the guidance makes no statements regarding the protectiveness or risks at Hazard Level 2 sites.	