Draft Minutes
Executive Sponsor Briefing
Technical Working Group on Hazard Assessment
March 30, 2005
1 PM to 2 PM, Hall of States, Washington, DC

Attendees:

Executive Sponsor Group:
Pat Meehan, DOD
Jim Woolford, EPA
Terry Gray, ASTSWMO
John Aquino, TASWER
Willy Taylor, DOI

Technical Working Group:
Dick Wright, Mitretek
Vic Weiszek, Department of Defense
Dwight Hempel, Bureau of Land Management
Clarence Smith, State of Illinois
Jennifer Roberts, State of Alaska
Bill Veith, USACE, Huntsville
Syed Rizvi, TASWER
Kevin Oates, EPA
Doug Maddox, EPA

Other Attendees
Tom Canaday, ASTSWMO
Jim Ortiz, DOI
Dania Rodriguez, ASTSWMO

Versar Staff:
Holly Riester
Norrell Lantzer
Laura Wrench

Kevin Oates presented a briefing to the Executive Sponsor Group (attached) explaining the MEC HA in its current form and how the group arrived at the form and elements of the framework.

A series of questions and answers followed.

Regarding table 4, how did you come up with those numbers/scores? (Woolford)
Kevin explained that the group felt it was important to have a scoring range different than the munitions response site prioritization protocol so that the results would not be confused. Once that was determined, Laura spent a lot of time running through hundreds of sensitivity runs,

which were presented to and discussed by the workgroup. The group addressed the issue of how do we want to relatively rank the results? We also ran through some exercises to compare the results with expectations of scoring related to certain site conditions, and then adjusting the weights and scores accordingly to reflect those things that make a site more hazardous.

Did the work group agree with that? Yes, it was a winnowing process. We would review a proposal, discuss how items were weighted, and then go through a long process and various iterations and sensitivity runs to come to the final score.

We also recognized that certain factors will always be scored the same no matter what the remediation or the land use activity. For example, a location with a specific type of MEC (e.g., high explosive) will always be scored based on the presence of that type of MEC. This reflects the uncertainty associated with whether all MEC items can be located and remediated. There are other factors such as clean up and accessibility in which the score will be affected by remediation and land use activity decisions. Scoring decisions reflect our understanding of this interaction.

Regarding the Potential Contact Hours categories—do you have any sort of numbers there behind the categories? (Meehan)

Yes, we do have numbers. The categories are based on an order of magnitude shift in the number of people times the number of hours that is estimated for the particular activities.

The executive sponsors replied that there seems to be a reasonable balance for contact hours between remote areas and more highly used areas.

Did you get into how often or when this (the hazard assessment) would need to be done?

We have discussed that to some extent, but that is really more a matter that will come up in the guidance document. This is on the list of issues for us to address in the guidance document.

There are several reasons the work group has discussed that would likely result in doing the hazard assessment again. For example, if the land use activities change, then the hazard assessment should be run again. Also, as more information becomes available, it can be done again, with additional information for better results. It could also be used in a post-remediation situation to demonstrate hazard reduction.

When you say subsurface clearance you don't specify how deep, can you explain why? (Woolford)

Because we have been using an overlap in the hazard assessment of intrusive depths and depth where munitions are located, the depth of subsurface clearance is a site-specific relationship, rather than an absolute. The depth of clearance of munitions would be related to the intrusive depth of the activities associated with the current or future land use and depth below ground surface where the munitions are located.

Would you need to allow for some amount of error in intrusive depth?

We talk about the maximum intrusive depth in relation to the minimum depth of the munition. The project team would need to determine these maximums and minimums and use that in their calculations. These are conservative assumptions and allows for some flexibility in the alternatives and tradeoffs.

So once I have this information, what is my decision?

As a group we have really focused on creating a tool to provide the information to the project teams to support their decision based on that information. So your decision would depend on what your goals and desired outcome is, as well as your resources. Teams will need to use their own alternatives analysis. We have intentionally stayed away from presumptive remedies etc. that would link a specific score to a specific response action requirement.

Comment: (Woolford) This only addresses the munitions aspect, so it is almost an overlay with the risk assessment process in CERCLA and those two processes may be used together to make decisions.

What is the role of MEC HA in "No Further Action" decisions? If you get a category 4, is that an off-ramp for CERCLA?

We have struggled with that, and have not resolved it. For example, if you have an MEC site, you will almost always need some sort of long-term institutional controls and we have drafted language to that effect we will recommend for inclusion in the draft guidance document. If that were the case, when would it truly be a no action site? These are questions that we are still working on.

Comment: (Meehan) To me, this supplements the other things that are out there but I do not see this as making a decision on NOFA because you are not looking at some of the other elements.

Comment: (Woolford) But relative to explosive safety, is there no action because we are certain that there is no more explosive hazard? It would need to be narrowly defined to relate to explosive safety.

Addressing Critical Infrastructure, Ecological and Cultural Resources

The work group members explained that they were concerned about how to address these issues because they do not address human risk/potential impacts to people. We have proposed instructing teams to look at them in terms of presence or absence (rather than scoring) and if present, then instruct teams to address them in the CERCLA analysis (nine criteria). The degree to which the presence of these resources attract to people is addressed in another input factor (proximity of additional receptors and/or accessibility).

Comment: (Aquino) We are concerned about getting tribal reaction concerning this. Anecdotally tribes should be as or more concerned with these situations, but getting the feedback

can be difficult, and TASWER can help with that. The TASWER conference is a potential vehicle and we would also suggest being involved in some other conferences as forums for communication.

How will it be made public?
It will either be published as a joint document from all the groups, or one agency will publish it with all of the groups' logos and information on it. We could also do a notice of availability in the Federal Register and could publish in trade publications.

Comment: (Meehan) We would like to see the package out as joint document.

The whole group agreed with this comment that the preference is for a joint document.

Comment: (Woolford) We would hope that the States, through ASTSWMO, would be able to be part of the document release as they've been so involved in the development. EPA will take the lead in getting it through the Federal Register.

Comment: (Meehan) You may want to look into Fort. A.P. Hill as a possible pilot test site. They have a lot of interesting situations and they are used regularly by the Boy Scouts of America. There are newer families of ordnance there which might make an interesting comparison.

Doug Maddox thanked the executive sponsors for coming for this briefing and explained that the workgroup had talked about getting together again in August, and maybe holding another briefing like this for the executive sponsors at that time.

Munitions and Explosives of Concern Hazard Assessment (MEC HA) Initiative

Executive Sponsor Briefing

March 30, 2005

Purpose of this Briefing

- Overview – Why a MEC HA?
- Relationship to MRSPP
- Progress to Date
- Outreach Efforts and Next Steps
- Emerging Policy Issues

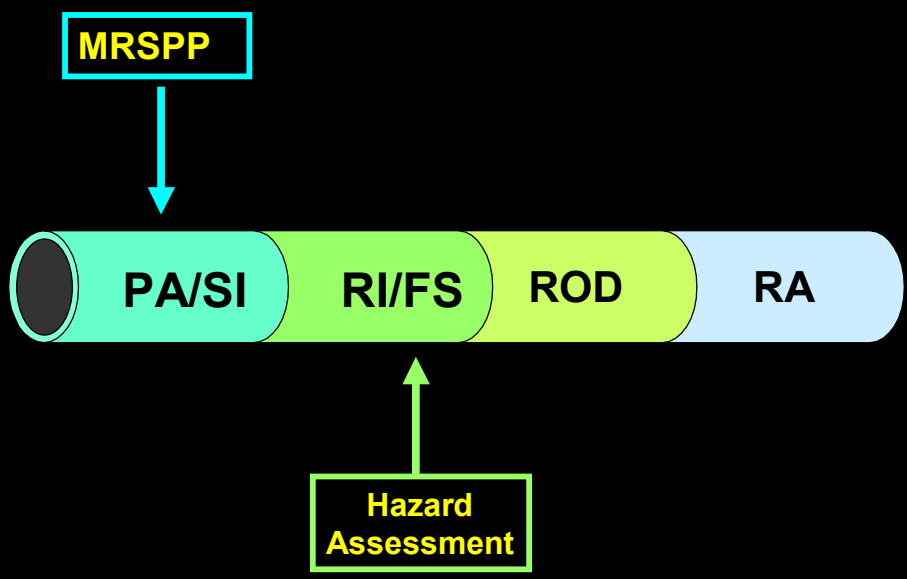
Why a MEC HA ?

- CERCLA & NCP require "risk assessment"
- Traditional risk assessment methods not applicable to MEC hazards
- Need for consistent method under CERCLA for MEC response actions
- *Emphasis* for EE/CA, RI/FS analysis to support remedy selection

Relationship Between the MEC HA and the MRSPP

- MRSPP Supports Programmatic Goals
  - *Provides relative priority for each Munitions Response Site, based on overall risks*
  - *Allows sequencing decisions to consider Other Factors (e.g., programmatic, environmental justice, development)*
- MEC HA Supports Site Specific Decisions
  - *Removal & Remedial Actions*
  - *Land Use Activities*

CERCLA PROCESS



Work Group Underlying Principles

- Support the management of uncertainty
- Rely on input factors compatible with the MRSPP
- Utilize a relative hazard assessment approach

Work Group Underlying Principles (cont.)

- Connection to the Conceptual Site Model
- Support early decision making
- Support communication with stakeholders.

What will the MEC HA Provide ?

- Consistent framework for developing a site-specific hazard assessment
- Assistance in managing uncertainty
- Facilitate site-specific land use activity decisions

What will the MEC HA Provide ? (cont.)

- Evaluation of hazard management choices – response actions
- Support hazard communication
- Build confidence in decision making process

Work Group Progress

- Issue Papers
- Framework Papers
- Draft Framework
- Execute Outreach Plan

Issue Papers

- Review of Existing Methods
- Purpose of MEC HA
- Role of Uncertainty
- Probabilistic Risk
- Input Factors
- Analysis of Response Alternatives
- MEC HA as Communication Tool

Framework Papers

- Performance Objectives
- Comparison of MRSPP to MEC HA
- Input Factors
- Structure and Output
- MEC HA in the CERCLA Process

MEC HA Framework

- Includes scoring, weighting, and combining input factors
- Uses a relative numeric approach, similar to the approach used in the EHE module of the MRSPP
- The organization of the structure follows the severity, accessibility and sensitivity components.

MEC HA Framework (cont.)

The functional relationships addressed in the MEC HA are:

- ***Severity***: The potential severity of the result should an MEC item function.
- ***Accessibility***: The likelihood that a receptor will be able to interact with an MEC item.
- ***Sensitivity***: The likelihood that an MEC item will function should a receptor interact with it.

Relationship to Conceptual Site Model (CSM)

- The CSM components (source, pathways, receptors) are addressed by the MEC HA
- MEC HA organization follows the Hazard Assessment functions
  - Recognizes the fundamental differences from human health risk assessment
  - Focus on the functions of the MEC HA

MEC HA Outputs

- The Output Categories for the MEC HA are based on relative numeric scores
- Score Range is from 115 to 1000
- Score Range is broad enough to differentiate between hazard categories
- Uses a different range than the MRSPP

MEC HA Outputs

The Output Categories for the MEC HA are:

- ***Category 1:*** Sites with the highest hazard potential under current use conditions.
- ***Category 2:*** Sites with a hazard potential under current use conditions.
- ***Category 3***: Sites compatible with current uses, but not with more intrusive future uses.
- ***Category 4***: Sites compatible with current or future uses.

MEC HA Outputs

The Output Categories Scores for the MEC HA are:

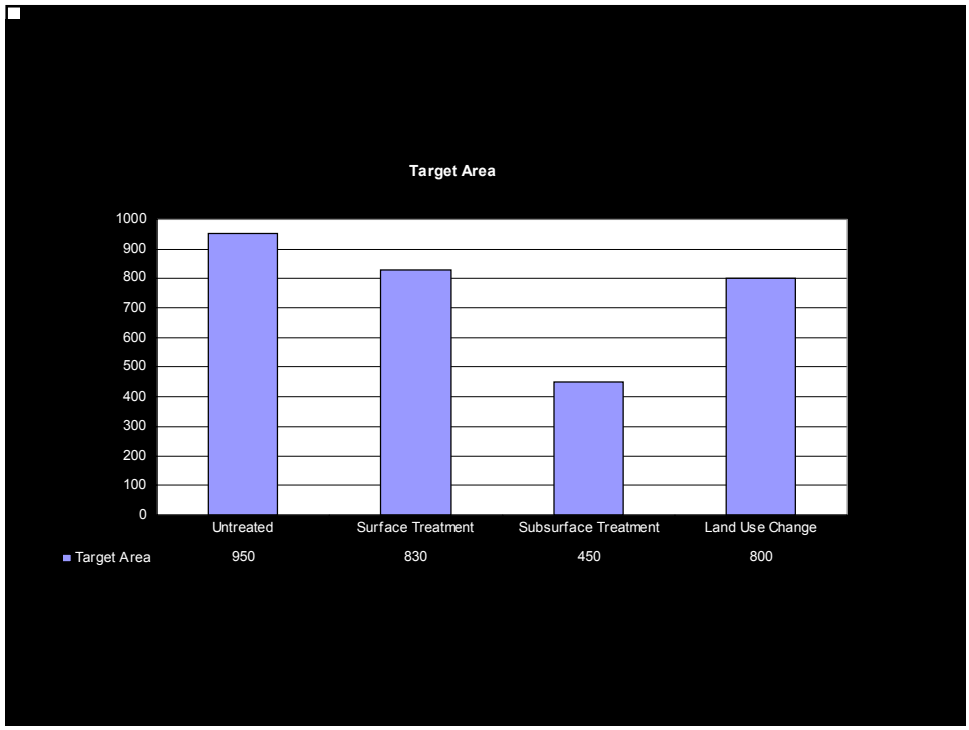
- ***Category 1:*** ***860 - 1000***
- ***Category 2:*** ***720 - 855***
- ***Category 3:*** ***475 - 715***
- ***Category 4:*** ***115 - 470***

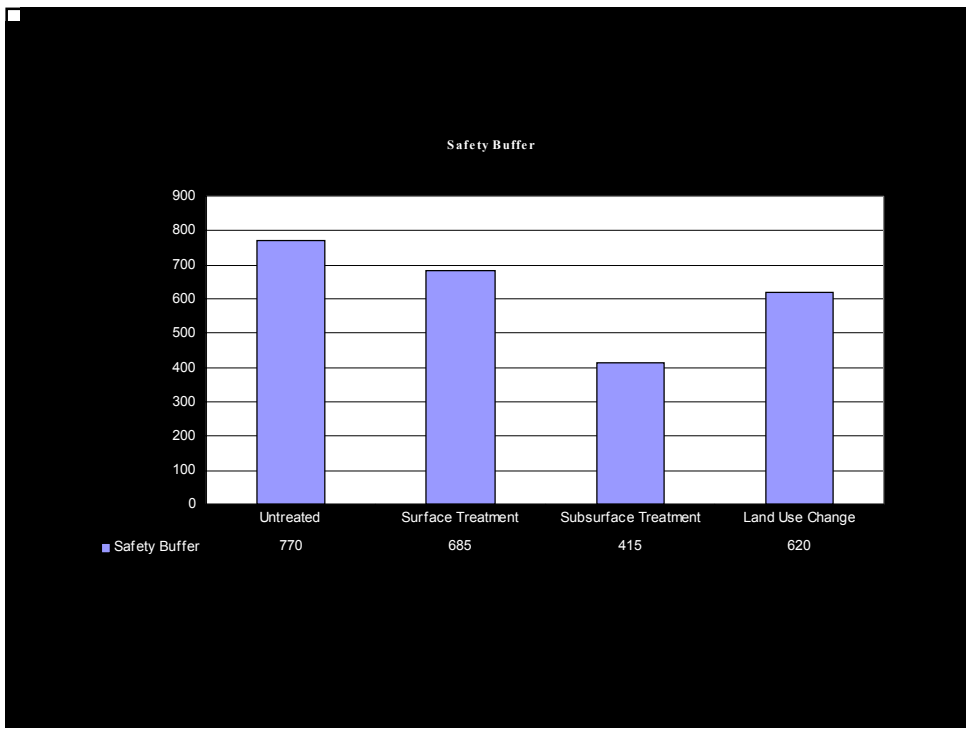
SCORING EXAMPLE

- Former mortar training area (60 mm and 81mm)
  - Two MRSs: Target Area, Safety Buffer.
- Current Use: popular hiking/back packing area.
  - Intrusive activities include trail maintenance and digging latrine pits.
- Cultural resources near or in the target area.
- No physical access restrictions.

REMOVAL OR REMEDIAL ALTERNATIVES

- ***No Action***
- ***Surface Treatment***
- ***Subsurface Treatment***
- ***Land Use Activity Change***


Target Area
1000
900
800
700
600
500
400
300
200
100
0
Untreated
Surface Treatment
Subsurface Treatment
Land Use Change
Target Area
950
830
450
800


Safety Buffer
900
800
700
600
500
400
300
200
100
0
Untreated
Surface Treatment
Subsurface Treatment
Land Use Change
Safety Buffer
770
685
415
620

Outreach Plan

- The Outreach Plan includes:
  - Munitions Response Committee involvement
  - Opportunities for Stakeholder involvement.
  - Schedule for informational briefings.
  - Identification of outlets such as websites, fact sheets, and mailing lists.
  - www.epa.gov/fedfac/munitions

Next Steps

- Stakeholder Workshop
- Draft Framework Public Review
- Pilot Test Framework
- Draft Guidance in Summer/Fall 2005

Emerging Policy Issues

- Role of MEC HA for NOFA
- Approach for Critical Infrastructure, Cultural, Tribal, Ecological Resources
- Severity, Accessibility, Sensitivity structure instead of traditional CSM structure
- Importance of Activity versus Land Use

Questions ?

Table 1: Performance Criteria for Framework Elements

Framework Element	Criteria	Characteristic(s)
Input Factors	Input factors can be clearly and unambiguously defined.	Transparency; Consistency
	The values for input factors are easy to determine or estimate.	Efficiency; Transparency
	The ranges of possible input factors values encompass all likely values for that factor.	Representativeness; Transparency; Sensitivity
	Input factors included in the framework add to the functionality of the MEC HA process – each factor contributes to assessing the level of hazard for a site, and only the factors necessary to perform the assessment are required.	Efficiency; Accuracy; Sensitivity
	Input factors included in the framework address all site characteristics that may lead to explosive hazards – the input factors are sufficient to completely describe the hazards.	Accuracy; Sensitivity; Representativeness
Structure	The scores and weights assigned to input factors reflect the relative contribution of each factor to the overall site hazard level.	Accuracy; Transparency; Representativeness
	The method(s) used to combine input factors to assess the site-specific hazard level is easy to understand and implement.	Transparency; Efficiency
	The method(s) used to combine input factors to assess the site-specific hazard level accurately captures the effects of the interactions between input factors.	Accuracy; Representativeness; Sensitivity
	The scores, weights and combination method(s) are defined clearly and unambiguously.	Consistency; Transparency
Output	Output values are descriptive of the site hazard level.	Accuracy; Representativeness; Transparency
	The number of output levels is sufficient to reflect the relative impacts of different remedial alternatives and differences in choices of land use, as well as to allow differentiation between sites.	Accuracy; Sensitivity; Representativeness

Table 2: Relationship of Input Factors to CSM Categories

Explosive Hazard Component	Input Factor	CSM Based Input Factor Category
Severity	Filler Type	Source
	Distance of Additional Potential Receptors to Explosive Hazard	Receptor
	Proximity of Critical Infrastructure to Explosive Hazard	Receptor
	Proximity of Cultural Resources to Explosive Hazard	Receptor
	Proximity of Ecological Resources to Explosive Hazard	Receptor
Accessibility	Site Accessibility	Interaction
	Potential Contact Hours	Receptor
	Amount of MEC	Source
	Minimum MEC Depth Relative to the Maximum Intrusive Depth	Source/ Interaction
	Migration Potential	Interaction
Sensitivity	MEC Category	Source
	MEC Size	Source

Table 3: Input Factor Maximum Scores and Resulting Weights

Explosive Hazard Component	Input Factor	Maximum Scores	Weights
Severity	Type of Filler	100	10%
	Distance of Additional Potential Receptors to Explosive Hazard	30	3%
Component total		***130***	***13%***
Accessibility	Site Accessibility	80	8%
	Total Exposure Hours	120	12%
	Amount of MEC	180	18%
	Minimum MEC Depth/ Maximum Intrusive Depth	240	24%
	Migration Potential	30	3%
Component total		***650***	***65%***
Sensitivity	MEC Category	180	18%
	MEC Size	40	4%
Component total		***220***	***22%***
Total Score		**1000**	**100%**

Table 4: MEC HA Scoring

Input Factor	Category or Value	Score		
		Untreated	Surface MEC Response	Subsurface MEC Response
Filler Type	High Explosive	100	100	100
	Incendiary	80	80	80
	Spotting Charge	80	80	80
	Propellant	20	20	20
Distance of Additional Potential Human Receptors to Explosive Hazard	Within MRS or hazardous distance of the MRS boundary	30	30	30
	Outside of the hazardous distance	0	0	0
	Non-HE filler type	0	0	0
Proximity of Critical Infrastructure to Explosive Hazard	Within MRS or hazardous distance of the MRS boundary	Yes		
	Outside of the hazardous distance	No		
	Non-HE filler type	No		
Proximity of Cultural Resources to Explosive Hazard	Within MRS or hazardous distance of the MRS boundary	Yes		
	Outside of the hazardous distance	No		
	Non-HE filler type	No		
Proximity of Ecological Resources to Explosive Hazard	Within MRS or hazardous distance of the MRS boundary	Yes		
	Outside of the hazardous distance	No		
	Non-HE filler type	No		
Site Accessibility	Full accessibility	80	60	15
	Moderate Accessibility	55	25	10
	Limited Accessibility	15	10	5
	Very Limited Accessibility	5	5	5
Potential Contact Hours	Many Hours	120	90	30
	Some Hours	70	50	20
	Few Hours	40	20	10
	Very Few Hours	15	10	5
Amount of MEC	Target area	180	120	30
	OB/OD area	180	140	30
	QA function test range	165	90	25
	Burial Pit	30	30	10
	Maneuver areas	115	15	5
	Storage	25	10	5
	Explosive-related industrial facility	20	10	5
	Firing points	75	10	10
	Safety buffer areas (Range safety fans and OB/OD kick-out areas)	30	5	5
Minimum MEC Depth Relative to the Maximum Intrusive Depth	MEC located on surface	240	#N/A	#N/A
	MEC located subsurface, intrusive depth overlaps	220	220	220
	MEC located subsurface, intrusive depth does not overlap	25	25	25
Migration Potential	Possible	30	30	10
	Unlikely	10	10	10

Input Factor	Category or Value	Score		
		Untreated	Surface MEC Response	Subsurface MEC Response
MEC Category	UXO with sensitive fuzing	180	180	180
	UXO with normal fuzing	110	110	110
	DMM with category 1 fuzes	105	105	105
	DMM with category 2 fuzes.	55	55	55
	Unfuzed DMM	45	45	45
MEC Size	Small	40	40	40
	Large	0	0	0
Minimum Possible Score		140	120	115
Maximum Possible Score		1000	890	655