UNDERSTANDING THE FUDS OE PAE/SI

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Introduction

Federal and state regulators, community leaders, landowners, and local stakeholders have indicated their great concern on how USACE conducts the PAE and SI phases of Ordnance and Explosives (OE) response actions under the Formerly Used Defense Sites (FUDS) Program. There is much confusion and misunderstanding of the policy and methods that USACE uses. I hope to create a better understanding of our procedures. I will not talk about the how and why certain USACE policies and procedures came about. I will talk about what they are and how we incorporate them.

To eliminate any confusion, all Ordnance and Explosives actions are to be proposed as removal projects, not remedial projects, unless extensive groundwater and/or soil contamination is present. For this presentation, I will speak only of OE actions, therefore using the term removal instead of remedial.

OE Program stages

The DERP-FUDS OE Program has three major stages: inventory, study, and removal.

The inventory stage is culminated in the Preliminary Assessment of Eligibility (PAE), which consists of property identification, real estate search to verify previous Department of Defense (DoD) (formerly Department of War) ownership or usage, and the determination of property and project eligibility under the FUDS Program. The PAE is not intended to be equivalent to the CERCLA Preliminary Assessment (PA). A site inspection by the local USACE geographic district is usually accomplished during the PAE. An Inventory Project Report (INPR) is prepared to report the findings of the PAE and the environmental contamination, if

any, for project determination. The INPR consists of a Property (Site) Survey Summary Sheet, a Findings and Determination of Eligibility (FDE) signed by the USACE Division Commander, a Project Summary Sheet, and a Risk Assessment Code (RAC) Worksheet for all OE project sites. The RAC Worksheet will be discussed later in this presentation. The INPR is executed at the local USACE geographic district, reviewed and FDE signed at the USACE division level, reviewed by the Huntsville OE Center of Expertise and Design Center, and approved at the USACE division level. The INPR is given a Safety review and a Quality Technical review at the Huntsville Center resulting in either concurrence or recommendations for change. The local district should forward a copy of the approved FDE to the landowner as well as to the USEPA for NPL projects. In the past no party outside of USACE has had any input to the INPR; no reviews or comments solicited. This has caused some conflict, especially when we have a determination of No Further Action (NOFA) or, under the newer term, No DoD Action Indicated (NDAI). This is being looked into between HQUSACE and EPA. Regulator and other stakeholder involvement in the NDAI decision-making process will be incorporated into our process in the near future. Please keep in mind that a NDAI determination does not mean that the case is closed. It means that no action is contemplated at the present time. An OE response action will be initiated upon discovery of any condition considered hazardous. The approved INPR will become part of the Administrative Record and will be placed in the local information repository after the SI Phase has been completed and an OE response action project started. The approval of a positive INPR authorizes the Huntsville Center to enter into the study stage and prepare an Archives Search Report (ASR) for the site.

The study stage includes the Site Inspection (SI), which is an on-site survey to augment the data collected in the PAE, generate additional historical field data, determine the nature of confirmed or potential OE contamination on-site, and evaluate relative risk. The OE SI is not the same as an SI for other remedial projects in that it does not determine the extent of OE contamination; therefore no intrusive sampling is performed during the OE SI. Many regulators have a difficult time understanding this, but remember, we do not need to know the extent of contamination at this phase of our OE process. Ordnance and Explosives contamination does not migrate as other contaminants do. OE contamination basically has only one migration pathway, soil exposure. OE does not migrate through ground water, surface water or air like other contaminants. The results of the SI are documented in the Archives Search Report.

The ASR compiles information obtained through historical research at various archives and records holding facilities, interviews with individuals associated with the site or its operations, and personal visits to the site. All efforts are directed towards determining possible use or disposal of chemical warfare materiels and conventional munitions and explosives on the site. The ASR includes a RAC Worksheet based on the findings of the ASR, which supercedes or replaces the INPR RAC, and a Project Fact Sheet, which gives a synopsis of the site and the recommended strategy for removal action. ASRs are researched and completed for Huntsville Center by either Rock Island or St. Louis District in accordance with 40 CFR 300.410. A Draft ASR is sent to Huntsville Center for an OE Safety and Quality Technical review. The local geographic district receives a copy of the Draft for review also. After these reviews the Draft ASR and Project Fact Sheet is presented to the Huntsville Center Technical Advisory Group (TAG). The TAG is comprised of subject matter experts that represent the OE Center of Expertise, OE Design Center Project Management, OE Safety, and Engineering Technical Management disciplines. The TAG discusses the ASR, review comments, and Project Fact Sheet and comes to a consensus as to the areas of OE concern and the recommendation of either NDAI or an engineering evaluation and cost analysis (EE/CA) for each area. If the TAG determines anything other than what is presented in the ASR, these changes are reflected in a revised Project Fact sheet. If the TAG changes the RAC, the revised RAC Worksheet will be attached to the revised Project Fact Sheet, which becomes part of the Final ASR package. Upon completion of this process the revised Project Fact Sheet, with RAC, is sent to the local geographic district under a document, which approves and finalizes the ASR. Presently the Draft ASR is only reviewed and coordinated with Huntsville Center and the local district. When exact procedures are worked out and published, public and regulator input will be required and employed during this process. The final ASR will become part of the Administrative Record and will be placed in the local information repository after the SI Phase has been completed and an OE response action project started. The study stage also includes the EE/CA for an OE removal project, which is similar to the remedial investigation and feasibility study (RI/FS) for a remedial project. Intrusive sampling may be conducted during the EE/CA phase.

The OE removal stage consists of removal design, removal action, and recurring reviews. I am not going to talk about this stage because it follows my subject of PAE/SI.

Risk Assessment Code (RAC)

The sole purpose of the Risk Assessment Code is to prioritize the removal action at FUDS. The RAC was developed in accordance with MIL-STD 882C and Army Regulation 385-10, The Army Safety Program. The RAC is based on the best available information resulting from records searches, reports of Explosive Ordnance Disposal (EOD) Detachment actions, field observations, interviews, and measurements. This information is used to assess the risk involved based on the confirmed and potential OE hazards identified at the site. The RAC is composed of two factors: Part I. Hazard severity categories are defined to provide a qualitative measure of the worst credible event resulting from personnel exposure to various types and quantities of unexploded ordnance. These categories are conventional ordnance and ammunition, pyrotechnics, bulk high explosives, bulk propellants, and chemical warfare materiel and radiological weapons. Each category has values assigned to the different types of ordnance according to their severity. The single largest value of each category is marked and added up to provide a total hazard severity value. This value is applied to Table 1 to determine the Hazard Severity Category. Part II. Hazard probability, which is the probability that a hazard has been, or will be, created due to the presence and other rated factors of unexploded ordnance or explosive materials on a FUDS. It is broken down into area (location of OE hazard), extent (distance to nearest inhabited location/structure from OE hazard and number and type of buildings within a 2-mile radius from the OE hazard area), and accessibility (access by humans to OE and site dynamic changes). Each category has values assigned to the different types of area, extent, and accessibility according to their probability. The single largest value of each category is marked and added up to provide a total hazard probability value. This value is applied to Table 2 to determine the Hazard Probability Level. Part III is the Risk Assessment. The results of the Hazard Severity and Hazard Probability values are applied to Table 3, which provides the risk assessment value, or RAC score. The RAC is then used by the Huntsville Center to place the project site, or project area, on a prioritization list for removal action(s). The HQUSACE National OE/CWM Sites Ranking by Risk Assessment Code (Priority List) database is maintained by Huntsville Center. Here is how it works. The project sites are placed on the Priority List using the RAC score, the total hazard severity value and the total hazard probability value, in

that order. The list is then sorted in descending order. HQUSACE, the districts and divisions use the Priority List to place a project on the Annual Workplan. The initial placement of a project on the Priority List occurs at the INPR (PAE) phase using the INPR RAC scores. Following finalization of an ASR the main use of RAC scores is to change the placement of a project on the Priority List, if required. During the time between the ASR and the placement of a project on the Annual Workplan, which can be years, changes in hazard severity and/or hazard probability of a site/area may necessitate the revision of a RAC and therefore change the priority of a project. Once a project is on the USACE Annual Workplan there is no need to revise or change the RAC. For large FUDS the ASR usually divides the site into distinct areas, each with its own RAC. This helps in identifying specific areas of OE concern and the RAC scores establish the priority of OE response actions. It lets the USACE Project Manager at the local geographic district know which area(s) to fund and conduct an OE response action on first. It also helps regulators and stakeholders understand that not all areas of OE concern have the same degree of hazard. For instance, at one project a regulator thought the whole site had a hazard of catastrophic severity because it was RAC 1, and tried to treat every area as such. After explaining that each area had its own RAC score to identify the different severity categories, he understood to treat each area differently.

Time Critical Removal Action (TCRA)

Once an INPR is approved, making a site DERP-FUDS eligible, and a hazardous situation is discovered where there is an immediate threat due to public exposure to OE with the risk of injury or death, a Time Critical Removal Action (TCRA) may be warranted. This can occur at any phase of OE response actions, i.e., the PAE, SI, or EE/CA. TCRAs are removal actions conducted to respond to an imminent danger posed by the release or threat of a release, where cleanup or stabilization actions must be initiated within six months to reduce risk to public health or the environment. A TCRA is intended to address only the imminent safety hazard posed by the presence of OE, not the cleanup requirements that can be deferred for later action during the Non-TCRA process. This usually means that only a situation of OE on the ground surface, where the public could come in contact with it, will have a response action initiated under the TCRA process. When a TCRA situation is discovered, it is reported to the Huntsville OE Center of Expertise and a TCRA Steering Group, immediately meets, discusses the situation, and determines if the situation meets the criteria of a TCRA. The

Steering Group may send a team to the site for further investigation and a report prior to TCRA determination. If a TCRA is warranted, the OE Design Center (Huntsville presently) coordinates with the local geographic district in obtaining TCRA approval and funding. TCRAs are not the recommended OE response action choice by USACE. In the last 4 calendar years 14 sites have been discussed by the TCRA Steering Group with only 7 sites approved. You can see that we do not favor TCRAs.

I hope this has given you a better understanding of the way USACE conducts the PAE/SI phases of OE response actions.