Issue: Cleanup of Unexploded Ordnance (UXO)

Background: Cleanup of UXO on military ranges has the potential to be the largest environmental cleanup program ever to be implemented in the United States. Some ranges each cover 100 to 500 square miles. Many of these properties are Formerly Used Defense Sites (FUDS) where the military has relinquished control and are now being utilized for purposes other than a military range yet still contain UXO. The cleanup of UXO currently involves the application of regulatory authorities including CERCLA and RCRA to military installations that have firing and training ranges. For installations listed on the NPL, the military has pursued a ACERCLA-like@ approach while EPA has insisted that the approach be consistent with CERCLA. EPA is concerned over: 1) failure of Corps of Engineers and Services to comply with existing regulations, both EPA and DoD; 2) failure of Corps and Services to adequately coordinate with Federal, state and tribal regulatory agencies; and 3) disturbing trend for the Services and Corps of Engineers to limit their responses or take ill-advised short-cuts to limit costs (*i.e,* removals rather than remediation). Much of the discussion since 1996 concerning the regulation of the subject ranges focused on the EPA Military Munitions Rule (40 CFR, Part 260, et al., February 12, 1997) where initially, the problems associated with Military Ranges were to be addressed. However, prior to promulgation of this Rule in February of 1997, it was agreed that language pertaining to closed, transferred, and transferring (CTT) Military Ranges would be deferred to the DoD Range Rule, which was withdrawn and not promulgated (See, issue paper on Range Rule).

Current Status: How to effectively manage military ranges? In the midst of traditional chemical hazards, how is unexploded ordnance to be dealt with so that an adequate level of protectiveness is established and maintained? Most UXO now on CTT ranges contains hazardous substances and/or listed or characteristic hazardous wastes. Much of these materials have entered the environment via damaged and decomposed munitions. These dud-fired munitions on older ranges are not typically intact. CERCLA provides the broadest example of regulatory authority that may extend to military ranges. Many of the constituents of military munitions are recognized hazardous substances under CERCLA and listed hazardous wastes under RCRA.

Scope of Problem: EPA estimates that there are up to 16,000 military ranges with UXO in the U.S. potentially affecting thirty to forty million acres of land. Unlike Superfund program sites, many military ranges are measured in square miles or hundreds of square miles. Records pertaining to historical activities on ranges according to the Army Environmental Center are scarce and a comprehensive range identification effort still needs to be completed by the military.

Explosives Safety: The issues at Military Ranges containing UXO differ from those at typical Superfund sites due to the presence of explosive materials. The potential presence of explosives significantly changes how an environmental investigation will proceed. Defining the true nature of the explosives or UXO threats must be addressed first, before standard investigative activities are undertaken to define the extent of hazardous chemical contamination. This will often result in delays for obtaining range or site-wide hazardous chemical sampling data for the development of a comprehensive baseline risk assessment. However, delays in sampling for hazardous chemicals should not preclude: 1) compilation of existing data, 2) explosives and UXO investigations and/or necessary emergency removal activities performed by qualified military Explosives and Ordnance Disposal (EOD) teams, 3) geophysical surveys when determined safe and necessary prior to range-wide remedial investigations and remediation, and 4) remedial activity consistent with CERCLA conducted under appropriate regulatory oversight.

EPA's Federal Facilities Restoration and Reuse Office currently is circulating for comment by FFEO and the Regions a "Guidance for Addressing Unexploded Ordnance at Closed and Transferred Ranges and Other Sites." The purpose of the guidance document is to provide direction to EPA Regional offices overseeing response actions involving military munitions, including UXO. The guidance

builds and elaborates on the joint DoD/EPA *Interim Final UXO Management Principles for Implementing Response Actions at Closed, Transferred, and Transferring (CTTR) Ranges* signed in March 2000. The policy generally addresses situations where the U.S. Army Corps of Engineers (USACE) or a DoD service component will be conducting the response action. In addition, the guidance is also applicable when other Federal agencies have the lead in the investigation and cleanup of UXO.

The draft policy states that regulators= oversight and involvement in all phases of CTTR investigations is crucial to an effective response, both increasing the credibility of the response and promoting public acceptance. The draft policy defines such involvement to include timely coordination between DoD components and EPA, State, or Tribal regulators, and, where appropriate, the negotiation and execution of enforceable site-specific agreements.

The draft policy states that where range investigations and responses are occurring, DOD and the regulator should come together and attempt to reach a consensus on whether an enforceable agreement is needed. Examples provided in the draft policy of situations where an enforceable agreement might be desirable include locations where there is a high level of public concern and/or where there is significant risk The policy directs that specific enforcement questions be routed to FFEO.