

### CHAPTER 3 ESTABLISHING AN INSTITUTIONAL CONTROL PROGRAM

3-1. Introduction. The establishment of an institutional control program is an important component of a comprehensive risk management strategy for an OE contaminated property. This chapter will discuss how institutional controls fit into the risk management approach and thereby, provide a level of protection for the local community from OE hazards. This chapter will also discuss how local stakeholder involvement is crucial to the establishment of a successful institutional control program.

3-2. Risk Management. Risk management is used by the government when OE risk remains at a site. The risk management approach is designed to encourage meaningful stakeholder participation, foster long-term community commitment to the institutional control program, and provide government support for community needs. Risk Management consists of:

a. Risk Minimization Consistent with Community Needs. This component of risk management focuses on minimizing the physical OE threat by removing as much of the ordnance as is practical considering the needs of the community. This process occurs during the EE/CA and removal action phases of the OE response process. Consideration should also be given to the possibility of engineering controls, such as caps or other barrier-like structures to directly minimize the existing hazards. Frequently, maintenance is required to ensure effectiveness of any risk minimization strategy that is selected.

b. Residual Risk Management. Managing the residual risk by encouraging local initiatives is the essence of institutional control planning. The local community is encouraged to become actively involved in developing local initiatives to implement institutional controls. Local initiatives are institutional controls for which the local authorities agree to support and provide long-term enforcement. The federal government does not have the authority to enforce local initiatives; however, it can encourage the local community and pledge its support to provide leadership, expertise, resources and a continuing long-term review of the implemented institutional control program.

c. Recurring Review. Monitoring the effectiveness of all elements of the implemented project is the basic nature of recurring review. At a minimum all projects must be reviewed every five years. The frequency of review must be a design element that is site-specific. The recurring review elements are a clear indication that the federal government provides a long-term commitment to managing residual risk at sites contaminated by OE. Recurring review provides the opportunity to respond to problems that develop over time, renew the communities understanding of the ordnance problem, refresh commitments necessary to effectively protect the communities from ordnance hazards, re-evaluate the effectiveness of the institutional control program, and to ensure productive use of the land resources.

3-3. Developing Site-Specific Objectives. To effectively manage long-term residual risk at an OE site, the government needs to encourage meaningful stakeholder involvement. Coordination with local officials and other stakeholders is essential to identifying site-specific objectives for the institutional control program. This coordination involves listening to community officials about their form of government, discovering what local programs exist, and uncovering the community's needs for addressing the ordnance problem. This section discusses the steps required to establish site-specific objectives. Table 3.1 summarizes these steps.

Table 3.1 Steps Required to Establish Site-Specific Objectives
<ul style="list-style-type: none"><li>• Determine the problems requiring change.<ul style="list-style-type: none"><li>- Site history</li><li>- Types of activities</li><li>- Types and quantities of munitions</li><li>- Current and future land use</li></ul></li><li>• Identify types of reuse allowed.</li><li>• Determine the type of activities to be restricted.</li><li>• Determine site-specific restrictions.</li></ul>

3-4. Determine the Problems Requiring Change. The first step in establishing site-specific objectives is to identify the specific problems associated with OE at the site. To do this, both the historical use of the site and current/future land uses should be evaluated.

a. The history of the site should be reviewed to evaluate the type(s) of activities that occurred at the site, as well as the type(s) and quantity(ies) of munitions used.

(1) Type of activities. Activities that may result in the presence of OE include: ammunition plants; storage, test, impact, and training areas; and bombing or target ranges. These different uses will result in differing distributions of OE, both horizontally and vertically.

(2) Type and quantity of munitions. The type and quantity of munitions used at a site may have varied over the life of the site, depending on changing missions and technology. One site may therefore include numerous types of munitions. OE may include bombs, artillery, mortar, aircraft cannon or tank-fired projectiles, dispensed munitions, submunitions, rockets, guided missiles, grenades, general demolition materials, bulk explosives, pyrotechnics, torpedoes, mines, small arms ammunition, and chemical/biological munitions. In addition to the differing types of munitions, it must also be determined

whether chemical agents were used at a site. In the case of chemical rounds, the propellants, explosives and pyrotechnics (PEP) as well as the chemical agent fillers included in munitions may pose a hazard. Just as with the types of activities, the horizontal and vertical distribution of OE will vary for differing types of munitions.

b. Current and Future Land Use. The current land use and reasonably anticipated future land use of the property and surrounding area should be considered when developing the specific objectives for a site. This information will aid in identifying the particular risks of exposure to OE at the site. For example, the risk to be controlled will vary depending on whether the site is currently developed or undeveloped and whether it is located in a sparsely populated or densely populated area. Consultation with local government agencies and the local citizenry will help reveal reasonably anticipated future use. The following information and resources may be helpful in evaluating the current and future land use:

- (1) Zoning laws;
- (2) Zoning maps;
- (3) Comprehensive community master plans;
- (4) Population growth patterns and projections (e.g., Bureau of Census projections);
- (5) Accessibility of site to existing infrastructure (e.g., transportation and public utilities);
- (6) Institutional controls currently in place;
- (7) Site location in relation to urban, residential, commercial, industrial, agricultural and recreational areas;
- (8) Federal/state land use designation (e.g., national parks, state recreational areas, governmental facilities providing extensive site access restrictions, such as DOD facilities);
- (9) Historical or recent development patterns;
- (10) Cultural factors (e.g., historical sites, Native American religious sites);
- (11) Natural resources information;
- (12) Environmental justice issues;
- (13) Location of on-site or nearby wetlands;

- (14) Proximity of site to a floodplain;
- (15) Proximity of site to critical habitats of endangered or threatened species; and
- (16) Geographic and geologic information.

3-5. Identify the Type(s) of Reuse Planned. The types of reuse planned at a site may be stated in broad categories such as residential, commercial, industrial, recreational, agricultural, etc. Depending on site-specific characteristics, it may be more effective to be more specific than these broad categories. The historical use of the site and the clearance depth used for any previous cleanup activities should be considered when identifying the types of reuse planned.

3-6. Determine the Type(s) of Activities to be Restricted. In addition to addressing the types of appropriate reuse of an OE-contaminated site, it may be necessary to also address specific activities that are not planned. This may include prohibitions or restrictions on excavation, drilling, or disturbance of soil. A restriction on excavation or drilling, for example, may require an OE clearance prior to any field activities.

3-7. Determine Site-Specific Requirements. Site-specific restrictions may be developed based on the nature and extent of the OE contamination, the current and proposed future land use, and the nature of activities performed in the area. Site-specific restrictions may also be developed based on special characteristics of the surrounding area. For example, several other programs exist that use institutional controls to address site-specific characteristics requiring special restrictions. Appendix D includes a description of several programs that, in addition to being examples of institutional control programs, may also provide additional avenues to restrict future use at OE-contaminated sites. For example, development of an OE site that encompasses wetland areas may be restricted by wetlands regulations as well as by an institutional control program designed specifically to address the OE contamination.

3-8. Checklist for Establishing Site-Specific Objectives. Appendix E contains a checklist addressing issues related to establishing site-specific objectives in an institutional control program. The district's real estate division is another resource for additional examples of site-specific objectives that may be applicable to a site.