

COMMUNITY INVOLVEMENT GUIDANCE FOR MUNITIONS RESPONSE SITES



Vieques Island, Puerto Rico

FINAL REPORT JANUARY 2011

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The Association of State and Territorial Solid Waste Management Officials (ASTSWMO) is an organization supporting the environmental agencies of the States and Territories (States). ASTSWMO's mission is to enhance and promote effective State and Territorial programs for waste and materials management, to encourage environmentally sustainable practices and to affect relevant national waste and materials management policies. This document was prepared by the ASTSWMO Federal Facilities Research Center's Community Involvement Focus Group. The mission of the Focus Group is to identify issues of common interest, encourage improved partnerships between States, Communities, and Federal agencies, and produce issue papers and other products as necessary to promote State interest on issues affecting public information and community involvement at cleanups across the country.

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1.0 INTRODUCTION

In 2007, the ASTSWMO Community Involvement Focus Group surveyed State Federal Facilities Managers to assess the status of community involvement programs at federal facilities. State responses indicated the need for improved community involvement strategies and State-Federal coordination, particularly at facilities within the Military Munitions Response Program (MMRP). In response to the results, the Focus Group developed this guide for State Federal Facilities Managers.

The Defense Environmental Restoration Program (DERP) established the MMRP in September 2001. MMRP sites are unique from both a policy and technical perspective, and they represent one of the most challenging groups of environmental investigations and cleanups that military and regulatory officials face. Regulators are often forced to make decisions based on limited historical information and empirical evidence, and the risks presented at MMRP sites may be more significant than other hazardous waste sites. Risks are usually driven by the potential exposure to unexploded ordnance (UXO), discarded military munitions, and chemical warfare munitions (CWM) constituents. UXO are of particular concern and are classified as the most dangerous category of military munitions due to their potential to cause catastrophic or fatal injury to individuals who come into contact with items onsite and/or items transported off-site.

Some communities perceive little risk from munitions, and in some cases, items are collected as trophies or decorative purposes. For example, in 2008, a Civil War relic collector in Chester, Virginia, was killed attempting to disarm a cannonball in his driveway. His family had often watched him perform the same procedure on other Civil War ordnance. A removal action was performed to dispose of the stockpile of munitions at the man's home requiring an evacuation of surrounding houses for two days that drew significant media coverage. Other communities may view risks as being significantly greater than actual conditions, particularly when children are involved.

This guidance is intended to assist State Managers with conducting successful community involvement activities at munitions response sites (MRSs) by outlining the regulatory framework, roles, responsibilities, and special challenges faced by State regulators at these sites. Case studies are provided to illustrate these challenges and provide a set of lessons learned. Principles and guidelines outlined herein may also be of benefit to Local and Federal government managers in their community involvement planning.

Communities all have unique characteristics that may make some of these recommendations more or less relevant depending on a wide number of factors. There is no standard approach to community involvement. Project managers are encouraged to work with communities to determine the best approach for each individual site.

2.0 MMRP REGULATIONS AND POLICIES

Military munitions cleanups are addressed under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and, in some cases, under the Resource Conservation and Recovery Act (RCRA). The DERP addresses the cleanup of Department of Defense (DoD) hazardous waste sites consistent with the requirements of CERCLA. In September 2001, DoD established the MMRP within DERP to identify and respond to environmental and explosive safety hazards posed by munitions and explosives of concern (MEC) and munitions constituents (MCs) at closed, transferred, or transferring (CTT) ranges. Military munitions cleanups under RCRA are clarified in EPA's 1997 Military Munitions Rule.

The September 2001 *Management Guidance for DERP* contains DoD policy for both the MMRP and community involvement. MRSs under the MMRP are located on formerly used defense sites (FUDS), base realignment and closure (BRAC) installations, and active installations (operational ranges not included). The U.S. Army Corps of Engineers (USACE) is responsible for managing the FUDS Program, which includes the investigation and cleanup of sites that were contaminated while under the jurisdiction of DoD or its predecessors. The Air Force, Army, Navy, and Marine Corps are responsible for cleanups on BRAC and active installations under its control.

The military Services manage and implement their own munitions response programs in accordance with the DERP Management Guidance. Each service of DoD and the USACE are governed by their own set of internal MMRP goals and policies, which may differ significantly from branch to branch based in part on previous experiences and differences in how each service utilized ranges. Other Federal agencies, such as the Bureau of Land Management (BLM) and U.S. Forest Service (USFS), and other Federal agencies owning land, have their own responsibilities when munitions are present on properties under their jurisdiction.

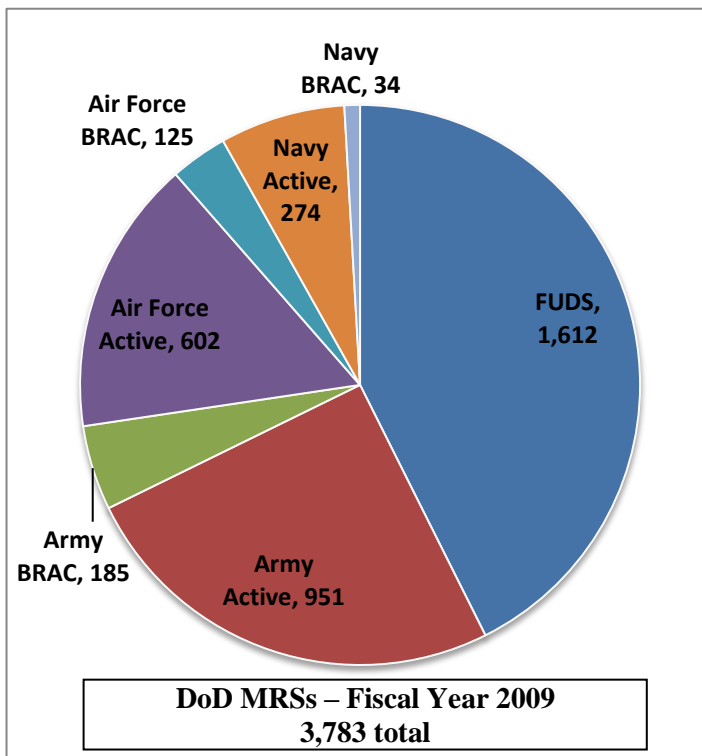
All of these cleanup programs include community involvement requirements, which may be different depending on the specific legal framework of the site. This complex legal landscape can be difficult even for experienced regulators to navigate, much less the average citizen. In some cases, multiple Services have often used different areas of the same site and are, therefore, covered under different policies and regulations. Sometimes these areas overlap and legal disputes arise regarding which party is responsible for the cleanup. Disputes at sites that are on the National Priorities List (NPL) are generally resolved through the dispute resolution process defined in Federal Facilities Agreements or Memorandums of Understanding. Within the FUDS program, USACE may use the potentially responsible party (PRP) process to resolve these disputes, but it is lengthy and often results in significant delays during cleanups.

Due to the sheer number and diversity of the policies governing MRSs, it is impossible to address them all within the scope of this guidance. Regulators are encouraged to refer to Appendix A of this guidance for additional sources of information. Understanding the framework of regulations and policies is critical to State managers; however, community outreach should not focus on these regulatory details. A community may not be concerned

whether a cleanup was performed under MMRP or Installation Restoration Program (IRP) if they do not find the results satisfactory. Ultimately, the goal of these regulations and policies is to ensure that public health and the environment are protected.

3.0 ROLES AND RESPONSIBILITIES

The majority of MRSs are current or former DoD facilities. As of Fiscal Year 2009, there were 3,783 MRSs in the United States and its Territories. Of these, 1,612 were FUDS under the responsibility of the USACE; 1,136 were Army active or BRAC; 727 were Air Force active or BRAC; and 308 were Navy active or BRAC.¹ By design, the majority of military ranges and other installations that handle or handled munitions were originally constructed in remote locations. Today, due to expanding development encroaching on these facilities, communities are being exposed to risks associated with munitions and their constituents, posing a significant and continuing issue in communities and regions where they are found.



People who live, work, study, and exercise on or near military ranges, munitions burial sites, and contaminated sites often have crucial information about these areas and play an important role in contributing to the military's response. By providing clear information to communities on the general purpose and scope of the MMRP process, and by providing opportunities for dialogue among stakeholders, regulators and DoD can design and implement effective community involvement programs that benefit from understanding all viewpoints.

Roles and responsibilities for the various government agencies typically involved in munitions response cleanups are summarized below.

3.1 Department of Defense

As the responsible party and lead agency at most MRSs, DoD's primary role in community involvement under the MMRP is to coordinate and collaborate with all stakeholders to ensure public safety and a well-informed public, as well as to identify and address community concerns. Because of its traditional mission, DoD typically has the most resources and technical expertise to address MRSs. DoD is also responsible for the implementation and maintenance of land use controls (LUCs). Reasons for using LUCs may include: health or safety concerns due to

¹ [Appendix C, Fiscal Year 2009 DERP Annual Report to Congress.](#)

munitions or munitions constituents remaining on site, site security for property and equipment, and safety concerns during construction.

DoD has the responsibility to work with States, local communities, and current landowners to design, implement and complete appropriate munitions responses at all MRSs. Each service has its individual policies and guidance regarding cleanup and community involvement at MRSs. The [ASTSWMO 2008 State Munitions Resource Guide](#) and [ASTSWMO 2008 MMRP Fact Sheet](#) provide information and resources documenting how each service implements munitions response actions.

Under DERP, each of the services is required to develop and implement a Community Involvement Plan (CIP). A formal CIP is developed if a removal action is expected to extend beyond 120 days from the initiation of the on-site removal action, or if a Remedial Investigation/Feasibility Study (RI/FS) is needed. The CIP is developed from information gathered in interviews with impacted stakeholders, including landowners, residents, interest groups, military and regulatory representatives. The Plan serves as the foundation for the community involvement process at MRSs, detailing specific outreach and involvement activities that facilitate mutual understanding of interests and concerns, and provides for dialogue among the diverse interests representing the community.

It is important that a comprehensive community involvement program be developed, and that it meets the needs of stakeholders and fulfills the requirements of laws, regulations, and policies. One valuable tool for encouraging dialogue at many sites is the Restoration Advisory Board (RAB). A RAB is a tool that complements, but does not replace, community involvement programs. RABs may not be appropriate for all sites, but where they are, DoD is encouraged to utilize a RAB as a forum for promoting communication among various stakeholders regarding cleanup and other MRS issues. Guidelines for establishing RABs can be found in Chapter 4 of the [2009 ASTSWMO Community Involvement Resource Guide](#).

The benefits of RABs in promoting dialogue among all stakeholders include:

1. Primarily comprised of community representatives with diverse interests, as well government stakeholders;
2. Co-chaired by a representative of the community and a representative of the military service involved;
3. Create their own mission statements and operating procedures;
4. Co-chairs set the agenda, meeting times, and locations;
5. Provide a regularly scheduled forum for timely discussion of issues and concerns;
6. Members review and comment on draft documents and reports; and
7. Members may serve as unofficial liaisons to other community members.

RABs allow both community and military concerns to be understood earlier in the process, facilitating more productive and collaborative discussions about issues and solutions. As progress is made toward a cleanup proposal, many community concerns can be addressed,

making the final proposal more likely to be supported. If the community has no interest in establishing a RAB, the installation should continue to implement a comprehensive community involvement program. The RAB Rule requires the military to assess community interest in establishing a RAB every two years while restoration activities are ongoing. Community interest can also be reevaluated anytime if: requested by a regulatory agency or governmental body; an event occurs that may increase community interest; or an installation closes or transfers property to the community.

3.2 State and Federal Regulators

The cleanup process outlined for MRSs is similar to the CERCLA process, although some may fall under RCRA. MMRP cleanup sites are often designated as Federal-lead, with EPA, and sometimes Federal land managers, primarily responsible to ensure that a protective remedy is implemented. The State environmental regulatory agency is responsible to ensure a protective remedy at State-lead sites.

Continuous involvement of State and Federal environmental regulators in community involvement will lead to expedited regulatory concurrence which shows the public that the process is working.

3.2.1 States

At State-lead MRSs, State environmental officials conduct oversight of DoD activities. States are often able to assess specific local community information needs regarding MRSs, and can assist federal agencies in getting the appropriate information out to stakeholders where and when it is most needed. States may own or control portions of an MRS and, therefore, may also be required to complete MMRP projects or participate in them. State regulators also coordinate with local governments and first responders (e.g. State police bomb squad, local law enforcement, and ordnance and explosive waste handling Emergency Response Teams).

Even the most thorough MMRP cleanup can have some uncertainty about whether all former munitions are discovered and removed. For instance, removal actions may not go to the depth that a practice bomb may have penetrated the land, or some munitions might not be found immediately. In these instances, LUCs are put in place to protect the public. When a site requires a LUC, State agencies have the responsibility to ensure they remain in place and are protective of public health. The State provides site-specific information to the public in order to ensure users are aware of the potential dangers, appropriate actions to take should they find a suspicious item, and restrictions in place for redeveloping the area. LUCs and public education reduce the potential for someone to enter or dig in the area or handle an item inappropriately. States and municipalities also need to make LUC documentation available to individuals attempting to redevelop or excavate a property that may have the potential to compromise any LUCs in place.

3.2.2 U.S. Environmental Protection Agency

The U.S. EPA is the Federal regulatory agency ensuring compliance with all Federal laws and regulations. The Agency sets national community involvement policy and serves as a resource to DoD, States, and communities. EPA recommends that the Lead Agency responsible for conducting and overseeing a munitions response action take steps to identify and address the issues and concerns of all stakeholders and that community involvement programs should be developed and implemented in accordance with applicable EPA and DoD policies.²

3.3 Local Government

Local governments can build public confidence and assure the safety of their citizens by:

1. Providing compliance with zoning regulations;
2. Evaluating new building permits and zoning applications;
3. Notifying DoD, EPA, and the State environmental agency of any land use changes;
4. Compiling an inventory of sites with LUCs;
5. Scheduling regular inspections of LUCs; and
6. Sharing inspection results and any LUC agreements with the community.

Only with widespread public confidence in the prescribed mechanisms and motivations of decision-makers will LUCs be acceptable as an alternative to removal of contamination. Local government decision-makers who agree to such alternatives must have credibility with the public, State, and Federal agencies. Building public confidence can be accomplished by ensuring a well-informed public.

² [EPA Munitions Response Guidelines, July 2010](#)

4.0 ENGAGING STAKEHOLDERS

Property owners and local communities have a right to be informed and involved about all environmental concerns in their area. The cleanup process appears straight-forward, but when one factors in the need to explain the different services, funding priorities, and processes used, it can become confusing. Too often the last task assigned or planned is informing the general public, specifically the local community, about the site. Early communication and coordination with stakeholders is the key to long-term successful remediation and closure of MRSs.

Negative publicity over perceived inadequate responses can undermine a remedy, if an interested public does not feel they have a meaningful role in the process. The keys to effective public participation are:

- Providing opportunities for the public and other stakeholders to get involved early,
- Participating on a continuing basis, and
- Remaining involved over the long term.

Although key decisions regarding these cleanups may be made in the State Capitol, the Pentagon, or the U.S. Congress, it is important for the community to have a clear understanding of national and State policies in order to influence those decisions.

A RAB may be the appropriate forum for dissemination of information and on-going dialogue about sites and are generally open to the public. The knowledge and credibility gained by participating in a RAB or other public forum can strengthen mutual understanding of stakeholder interests and concerns for consideration in final decisions. For instance, before a project is finalized, the community can provide valuable information about local history and conditions that might impact the remedy.

Local communities should be an integral part of the community involvement and decision-making process because they are directly affected by actions related to the management and cleanup of MRSs. In order to ensure a meaningful community involvement program is in place, agencies should develop a comprehensive strategy at the beginning based on interviews with all interested parties. Information gathered during these interviews will provide the information necessary to develop and implement an effort that identifies stakeholders and their interests, as well as appropriate communication and involvement tools and approaches to meet the informational and involvement needs of stakeholders. In addition to EPA, States and other Federal agencies may need to be included on the community involvement team as different reports and processes are used to document activities designed to inventory, classify, and prioritize sites. When applicable, other stakeholders could include: local community members, local governments, Indian Tribes, Federal land managers, private property owners, business owners, citizen advisory teams and private citizen groups.

5.0 APPLYING COMMUNITY INVOLVEMENT PRINCIPLES AT MMRP SITES

DoD is responsible for involving the public and government agencies throughout the MMRP process. Like many Federal and State environmental programs there are widely accepted mechanisms to involve stakeholders in decisions and inform them about conditions and actions at CTT ranges.

Applying the principles of early and frequent public involvement is a core part of the DoD MMRP process. Many lessons have been learned that demonstrate the benefits of engaging in an informative and inclusive community involvement process including:

- “More public trust upfront” vs. “No involvement = No trust”
- Meaningful and substantial involvement of stakeholders eases the learning curve of an unfamiliar process and its associated terms, players, and requirements
- “Knowledge is power” vs. “Lack of knowledge = lack of control” (and sense of vulnerability)
- Community needs and informational concerns can be addressed in the appropriate stage of the process
- Improved public safety and fewer injuries
- Community members become part of the team for education and solutions
- Community members can provide additional historical information about the site to make cleanup activities more efficient
- Improved trust and credibility for all agencies through early and continuous involvement of project stakeholders.

All of this, if done correctly, produces noticeable results and cost savings.

Of the many basic principles of conducting community involvement activities, the three principles discussed below – two-way communication, coordination of stakeholders, and training and education – are important components specific to the challenges faced at MRSs

5.1 Two-Way Communication

As with any site cleanup, it is important to communicate with the impacted community and to receive timely feedback from all concerned parties. The Lead Agency should consult first with State and Federal regulators to determine the needs of the stakeholders. It is essential to know the stakeholders in order to understand what information is important to them. Topics to address with the public prior to beginning the project should include an explanation of who the involved parties are, what process will be undertaken, why different aspects of the project are occurring, and when activities will be occurring. An effective community involvement program can be customized to best fit the needs of the stakeholders ranging from full, long-term comprehensive community involvement programs to basic notification or status updates. Once the public has

contact information for key individuals involved in the project and they know how to get information, the community involvement program will likely have a more manageable outcome.

Public awareness is an important element in managing explosive hazards and their potential impacts on human health and safety. When UXO are discovered on a site, it can create an immediate or unexpected situation that must be dealt with promptly. The community should be made aware of the situations that may occur when a preliminary assessment/site investigation (PA/SI) or notification cannot take place until the safety or security threat has been minimized or abated. The important role of the Explosive Ordnance Disposal (EOD) personnel cannot be overemphasized. If the public learns that actions are being taken to alleviate or prevent a safety concern that they were unaware about, it can bring about a heightened level of curiosity and concern. If the public is not provided with the facts, they will energize to take control of a situation. Undue alarm can be avoided when clear, concise information along with a point of contact is given to the public before EOD personnel arrive on the scene. It is critical that the project team notify nearby residents and listen to their concerns when EOD operations are taking place, especially ones that could involve “blow in place” activities.

Citizen input is typically limited to contributions at public meetings and to written comments on proposed Federal actions. However, other approaches are currently being developed including individual interviews of interested stakeholders and citizens, informational poster sessions, downloading electronic mail responses from the public directly into a content analysis software program, public land reuse workshops, and online public comment submissions. Emphasis should be placed on person-to-person communication through door-to-door campaigns, surveys, booths at fairs, and similar techniques. However, these activities will not be effective unless communities are well informed.

The first information presented to the public is critical in sustaining future interest. Agencies should develop educational materials with technical information in a format easily readable by community members. As part of the required CIP, alternative methods of public outreach should be considered, such as:

- Special-issue newsletters;
- Community potluck dinners;
- Radio broadcasts;
- Non-English-language publications;
- Church group meetings; and
- Dedicated public websites;

After the initial outreach, it is vital that the public get feedback from the agencies on how their comments and suggestions affect agency decisions and actions.

5.2 Coordination of Stakeholders

It is beneficial to bring all possible stakeholders together including any potential end users, if known. Many lessons have been learned that demonstrate the benefits of engaging early on in an informative and inclusive process.

As with other types of sites, it is important to not consider “the public” as a single unit. The interests, concerns, and expectations among internal (on-installation) and external (off-installation) stakeholders may be very different. Parents of local schoolchildren, local business owners, police and fire officials, or school officials, etc., may all have different interests, knowledge, and risk perceptions with MRSs. When a MRS is accessible by the public, the coordination piece is one of high importance to ensure that people are aware that potentially dangerous munitions are present.

Federal agencies that share ownership of MMRP lands should establish interagency teams to develop integrated, comprehensive communication strategies for public involvement and cleanup goals. When technical project planning (TPP) meetings are scheduled, community leaders and other organizations that are integral to the community should be extended an invitation to participate or be briefed about the purpose of the MMRP effort. By doing so, duplication of efforts can be avoided and the available skill sets of local team members can be maximized.

The distinction between agencies is not clear to the public, and this can be exacerbated by the complex regulatory structure governing MRSs. Public input into the process could be diluted by multiple public meetings on the same topic. All public information materials should be available from all participating agencies and the availability of such materials should be publicly advertised. To the extent practicable, customized informational materials should be jointly developed and presented in one format. Having joint publications, although at times difficult to agree upon, gives an unwritten approval that all key agencies are amenable to the information being presented. A public meeting where an interagency team is involved should provide information in a unified, organized manner, with clear and consistent key messages to all stakeholders.

5.3 Training and Education

Public education is an important component of managing MRSs and their potential impacts on human health and safety. Public education is necessary in the event that someone encounters a previously undetected UXO item. Therefore, safety education such as DoD’s preferred consistent national message, the 3 Rs (Recognize, Retreat and Report), is critical. At some sites, it is technically and economically impossible to remove all MEC located throughout the site. In such a situation, educating the public about procedures to follow upon encountering MEC will help prevent accidents and will also give the public control over protecting themselves from explosive hazards. In addition, when sites will not be addressed for some time, it is important to inform the community about the maintenance of LUCs.

Education about the hazards associated with MEC should be available to everyone in the community, with special attention paid to those who reside, work, and play at or near affected areas. Public education should be directed at both the adults and children of the community and should be reinforced on a regular basis. However, a balance must be found between addressing explosives safety and alarming the public. The types of information conveyed to the public should include a minimum of the following items:



DoD's 3 Rs Message

- Any MEC item poses the risk of injury or death to people in the vicinity;
- MEC can be found anywhere – on the ground surface or partially or fully buried;
- MEC can be found in any state – fully intact or in parts or fragments;
- MEC encounters should be reported immediately – either to site EOD personnel or, if they are not available, the military provost marshal or the local law enforcement agency;
- Site history and maps showing approximate border of the site in relation to popular landmarks that stakeholders can easily recognize; and

Additional training on the variety of MRSs (chemical demonstration, rocket ranges, bomb targets, etc.) and how they compare in cleanup processes is helpful so that the public understands why a chosen method is preferred over another at their site. Notification protocols for anticipated discoveries can help manage the response. In addition, it is helpful to have blow-in-place (BIP) protocols clearly communicated prior to conducting the site investigation. Oftentimes, the local community may have a lack of experience or expertise in addressing MRSs. Without glossaries or detailed explanations for presentations, the practices of using technical terms and bureaucratic acronyms reveal serious limitations in understanding MRSs for the general public. Layman's language should be used rather than acronyms whenever possible, especially since the differences between many commonly used terms can be quite subtle.

The following approaches have been used successfully at MRSs:

Online safety program

These programs are developed to assist in the annual ordnance safety certification process for residents and visitors. The program includes a description of the types of ordnance hazards that may potentially exist, an automated dig permit application, an online graphic glossary of historical ordnance locations and schematics of the most commonly found ordnance types, emergency procedures, and a database to record the training records of everyone who has taken the online training.

Ordnance safety videos

Shown to new visitors or future residents before they are allowed to work, train, or reside near the site. These videos introduce UXO safety and may educate viewers on a number of topics, including safety requirements for construction personnel; locations of munitions sites and clearance activities; ordnance descriptions; safety protocols; access restrictions and warning signs; and emergency procedures. Examples include [DoD's "3'Rs" Educational Video](#) and the [White Sands Missile Range UXO Safety Video](#)

Ordnance education programs

Incorporated into the educational system at the lower grades to educate and protect local children. Examples include coloring books, posters, and cartoon videos. A collection of these materials are available online at [DoD's DENIX webpage](#) and at the [U.S. Army Environmental Command's MMRP Safety Education webpage](#).

Land Use Controls

LUCs are legal and administrative measures that can be used to protect the community from UXO risks on a given property. By restricting the use, certain activities and/or access to properties, LUCs minimize, manage or eliminate the potential for human exposure, thereby mitigating risks. Examples of LUCs that can be effective outreach tools at MRSs include deed notices or restrictions to ensure that future purchasers of property are aware of potential risks on the property, and signage for restricted and non-restricted property posted on or around properties.

For a collection of training and educational materials that State Managers may view, download and use to assist in conducting community involvement activities, visit the [DoD DENIX 3Rs Explosive Safety Program Homepage](#).

6.0 CASE STUDIES

As previously stated, there should not be a fixed approach to community involvement. Project managers are encouraged to work with communities to determine the best approach for each individual site. This section illustrates several approaches that have been taken when conducting community involvement activities at munitions response areas and sites. Included are sites that each present unique challenges, emerging issues and examples of successful community involvement strategies implemented by DoD, States, EPA, and other Federal agencies.

6.1 Atlantic Fleet Weapons Training Area, Vieques and Culebra, Puerto Rico³

The Atlantic Fleet Weapons Training Area (AFWTA) on Vieques and Culebra islands are located east of the main island of Puerto Rico. The U.S. Navy operated the AFWTA from the 1940s to 2003 and conducted training activities that included naval gunfire training, air-to-ground training, ground warfare, and amphibious training. By 2003, all land administered by the Navy had been transferred to various parties, including the municipality of Vieques, the Commonwealth of Puerto Rico, and the U.S. Fish and Wildlife Service (FWS).

On June 13, 2003, the governor of Puerto Rico designated the lands and waters in and around Vieques and Culebra that were impacted by military activities of the DoD as the facilities with the highest priority for the remediation activities under CERCLA, and requested of U.S. EPA that this area be included on the NPL. The process to include AFWTA on the NPL for the Vieques portion was completed by EPA on February 11, 2005; however, the Culebra portion was postponed to allow the completion of a Memorandum of Agreement between Puerto Rico and USACE. On August 17, 2005, the USACE and the Puerto Rico Environmental Quality Board (PREQB) signed the Culebra Project Management Plan. The plan defines the scope of work, schedule, and cost for the initial work to be accomplished in Culebra to identify, locate, and, as appropriate, remove remaining surface munitions from the former range area, allowing the Federal government to move forward in clean-up efforts.

This section discusses the community involvement efforts undertaken by PREQB in cooperation with other regulatory agencies, the Navy and the USACE, in order to help the community understand the cleanup process and the safety measures in place should munitions be found in public areas. The following activities are examples of different community involvement activities that can be implemented in other federal facilities sites that are contaminated with munitions:

Munitions and Explosives of Concern Treatment Alternatives Workshop

On August 30, 2005, EPA and PREQB conducted training in order to provide the community of Vieques a better understanding of the MEC issues. A description of the types of munitions and

³ Vieques is remediated under Navy MMRP site and Culebra is remediated under FUDS MMRP.

UXO in Vieques was presented along with an overview of how the disposal of these items has been conducted in Vieques and at other federal facilities.

Human Health Risk Assessment Workshop

On June 10, 2006, the Navy and PREQB conducted training to explain the Human Health Risk Assessment process that the Navy and the regulatory agencies follow at the Vieques Superfund Site. This training was requested by members of the RAB and members of the community looking for a better understanding on the decision-making process between the agencies.

MEC Management Training

In February 2007 and February 2008, PREQB, in conjunction with the USACE and FWS, hosted MEC Management Training for the residents and first responder agencies of Culebra (i.e., Puerto Rico Police, Culebra Fire Department and the Emergency Services).



MEC Management Training

The purpose of the training was to improve the safety of the residents of Culebra by increasing the knowledge of first responders. The training provided the tools on how to respond when a MEC has been reported, including how to request emergency assistance from Navy EOD and what to do until the military experts arrive to the area.

Information Sessions

Several meetings have been conducted in order to have an open dialogue with members of the community, representatives of regulatory agencies, and PREQB technical consultants. The purpose of these information sessions is to address the concerns of the community with respect to the status and the cleanup process of the Vieques and Culebra islands.

Restoration Advisory Board

A Technical Review Committee (TRC) was formed in 2001 to provide a forum for discussing the investigation and cleanup of Vieques. In 2004, the TRC was expanded into a RAB, to involve more community members in the cleanup planning process. This group of interested

Vieques residents and government representatives provides a valuable link between the Navy, EPA, PREQB and the local community.

Bulletins

PREQB publishes a Vieques Bulletin on its web page every two months, which include activities conducted at the site during that period. Bulletins are available on the PREQB website at: <http://www.gobierno.pr/JCA/Biblioteca/Publicaciones/BoletinVieques>

For additional information on community involvement and cleanup activities at the sites, visit the Navy's Vieques Island Webpage and USACE's Culebra Webpage at:

- <http://public.lantops-ir.org/sites/public/vieques/default.aspx>
- <http://fuds.saj.usace.army.mil/Culebra.htm>

UXO Awareness

On August 11, 2007, the Navy, FWS, and PREQB conducted a public activity at the main entrance to the beaches that are open to the community and tourists. The purpose of this activity was to deliver safety messages to the community in general and to follow the 3 Rs if munitions are found in public areas. The activity also emphasized the need to create awareness in the community concerning trespassing issues in the Live Impact Area (LIA). To attract community members, the activity included music, munitions displays, bottles of water with the 3 Rs slogan, bags, and information stations with personnel from different agencies interacting with the public.

Vieques Child Fair

In July 2008, the Puerto Rico Department of Health invited the Navy, EPA, and PREQB to participate in a child fair at the Vieques Municipality Hospital. All agencies accepted the invitation and communicated the safety message to children that attended the fair. In order to attract the attention of the children, participating agencies had colorings books with crayons, pencils and information packages to educate them on munitions response activities. The Navy also allowed children the opportunity to try the equipment that the Navy uses to detect UXO and munitions debris. The Department of Health provided snacks and lunch to the kids and different artists performed during the day.

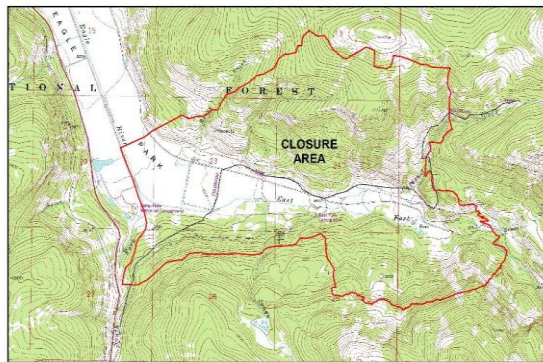


Vieques Child Fair

6.2 Camp Hale Military Munitions Project, Colorado

The Camp Hale FUDS Project area is located on approximately 200,000 acres (312 square miles) of the White River National Forest in west-central Colorado. The area around Camp Hale is one of Colorado's premier areas for outdoor recreation (skiing, hiking, camping, and biking). Camp Hale was established in 1942 to provide winter and mountain warfare training during World War II (WWII). Throughout WWII, the Army tested a variety of weapons and equipment (i.e. anti-tank rockets, recoilless rifles, rifle grenades, hand grenades, high explosive and illumination mortars, artillery, practice anti-tank land mines, and small arms) at Camp Hale. In 1966, Camp Hale was transferred to the USFS, and in 1998, Camp Hale was established as a FUDS. Subsequent site investigations identified residual ordnance, especially in East Fork Valley.

In 2000, the USFS closed approximately 1,400 acres of the valley because potentially hazardous munitions were found. In 2001, a time-critical removal action was performed to assure that there were no military munitions hazards along the Colorado Trail/Continental Divide National Scenic Trail. Additional surface clearance of 500 acres around the Camp Hale Memorial Campground occurred in 2003. Although the USFS reopened a portion of the trail and campground, there remains a concern that users will disregard the closure order and access hazardous areas within the project area. The 2007 site inspection report recommended proceeding with remedial investigation when funding becomes available. In 2009, the Colorado Department of Public Health and Environment (CDPHE) reached agreement with USACE to develop an Interim Risk Management Plan (IRMP) and conduct focused visual surveys in areas of immediate concern to the State. The objectives of the IRMP are to: 1) inform users that MEC exist at Camp Hale; 2) instruct users on how to respond when suspected MEC is encountered; and 3) ensure that a formal MEC response is in place.



CAMP HALE CLOSURE AREA 

Summary of Community Involvement Activities

On August 24, 2000, the USFS issued a news release announcing the closure of 1,400 acres because of residual munitions. Numerous news articles and press releases followed. In February 2002, public meetings were held in Vail and Leadville, Colorado. Over 40,000 meeting announcements were sent out to communities around the project area. Seven community members attended the Vail meeting and 24 attended the Leadville meeting. Attendees were surveyed and the results of the survey indicated that fact sheets would be the best way to provide public information and that the community should form a RAB.

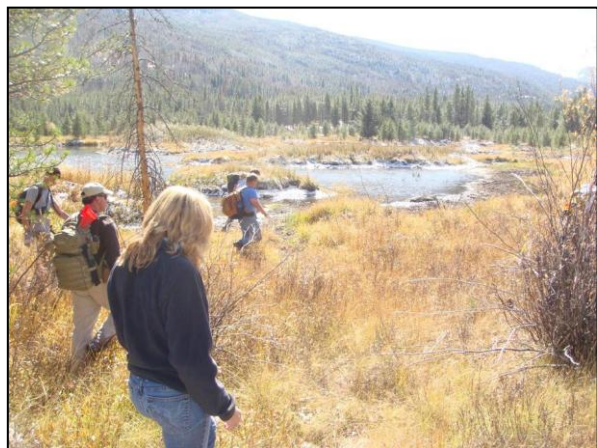
During 2003, a representative group of 46 individuals were interviewed in order to identify and understand the concerns, communication methods required, and needs of all land users in the area. The majority of interviewees had concerns about water issues and safety related to the military munitions. Most thought that they were fairly well informed from newspaper articles, USFS communications, radio, and/or word of mouth. Seventy percent of respondents indicated they would go to the USFS if they wanted information about the area. As part of the process, a CIP was completed.

In September 2009, USACE's contractor and CDPHE conducted additional interviews to gather information for the communication strategy portion of the IRMP. Many of the 2003 interviewees were contacted by phone to determine if responses from six years ago remain valid. Face-to-face interviews were conducted with several outfitters in the area. These interviewees indicated they do conduct activities off-trail, and have found old C-ration cans, metal parts, and ammunition boxes, but nothing that appeared to be intact, live munitions. Interestingly, many of the outfitters believe that if things were going to blow up, they would have done so by now, which is not accurate.

Community Involvement Successes and Lessons Learned

The following are examples of the many successful community involvement activities undertaken and lessons learned at Camp Hale:

- **Extensive interviews.** In 2003 and 2009, interviews provided valuable information about stakeholder concerns and interests. This intense, upfront effort is needed and provides site-specific communication tips. For instance, outfitters and institute personnel said it would be useful to have information they can incorporate into their guide notes, safety briefings, and trip orientation presentations. One interviewee suggested signage at trail heads, and information posted at campground entrances. He said this information should include pictures and be put in context to reduce confusion. Others suggested providing information at USFS district locations and to user organization newsletters.
- **Communication.** For routine information, people prefer to receive information electronically by email and from web sites. For urgent information, people prefer phone calls. Direct mailings and formal public meetings may play a less prominent role in communications. However, managers still need to utilize tools identify and reach internet-averse



Camp Hale Investigation

stakeholders.

- **Local Community Involvement.** The local community is willing to participate in the distribution of information if it is in a compatible format. For instance, the local guides and outfitters could include UXO information in their safety talks if they were given talking points such as factsheets. Camp Hale user groups (i.e. guides, outfitters, fishing organizations, etc.) also have their own information distribution system, which should be tapped into as an additional communication tool.
- A CIP only works when it is implemented. In 2009, many stakeholders were unaware of the munitions issues at Camp Hale. Those who are informed did not believe the site posed significant risk.
- Incorrect information is hard to dispel. For example, people generally thought of Camp Hale as the area with buildings and not the other 300 square miles of land. People didn't think that old munitions would explode; they didn't know that munitions can become more unstable with time.

For additional information on community involvement and cleanup activities at the site, visit the CDPHE Camp Hale webpage at <http://www.cdphe.state.co.us/hm/camphale.htm> and the Camp Hale Military Munitions Project website at <http://www.camphale.org/index.htm>.

6.3 Clam Harvesting and Processing, Atlantic Coast

An emerging issue of concern in U.S. coastal States is underwater MEC. On the Atlantic Coast, recent discoveries of munitions during and after clamming operations have encouraged DoD and States to conduct outreach to local communities and industries regarding potential hazards associated with clam dredging, harvesting and processing. Clam harvesting and processing operations occur off the Mid-Atlantic and Northeast coasts of the United States. After clams are processed, clamshells are often transported to other locations for storage and use in surfacing driveways, parking areas, and landscaping.

In 1919, DoD Components began dumping conventional and CWM into U.S. waters. DoD established procedures for proper sea disposal of munitions, which included documenting specific locations of disposal sites, and defining minimal depths and distance from shore requirements. DoD continued sea disposal until 1972 when Congress passed legislation prohibiting the practice. According to recent research, there are 33 known “approximate locations of munitions disposals” and one unknown location on the Atlantic Coast.⁴

⁴ [Chapter 10, Fiscal Year 2009 DERP Annual Report to Congress.](#)

Since 2004, munitions have been detected at clam processing plants and in driveways at private properties in Delaware, Maryland, Massachusetts, New Jersey and Virginia. The first documented case and most publicized incidents have occurred in Delaware. In the summer of 2004, a 75 millimeter (mm) artillery shell from World War I, filled with mustard gas in solid form, was discovered in a Delaware clamshell driveway. Three bomb disposal technicians from Dover Air Force Base dismantled the shell to see its contents and were burned by mustard gas, one being hospitalized with large blisters on an arm and hand.

In 2005, the USACE determined that the clamshell material and UXO found in this driveway and others were dredged off the coast of New Jersey and processed at a Delaware clam processing plant. Investigators also discovered UXO at the processing plant and transportation vehicles. In response to the findings, the Delaware Department of Natural Resources and Environmental Control ordered the processing plant to cease and desist all transportation and delivery of clamshell products until a screening system was in place. Since the development of an advanced screening system at the plant, 137 conventional munitions and eight CWM 75 mm projectiles have been retrieved.

USACE conducted MEC investigations at stockpiles and properties with known EOD responses as well as properties where clamshells were delivered from stockpiles with EOD responses. After a 911 call or EOD response to investigate a driveway, USACE meets with the property owner, answers questions, and obtains Right of Entry (ROE). The actual investigation includes establishing a grid network, conducting magnetometer sweeps & anomaly investigations, and repairing any damage. Examples of items being found include French VB rifle grenades, Mark II hand grenades, 37 mm projectile, MEC components, and 75 mm chemical munitions. When munitions are discovered, there is an initial EOD recovery and the EOD Team responds to the property.

As of this report's publication date, the most recent high-profile incidents occurred in and near Massachusetts. In April 2010, a clam processing facility in Massachusetts discovered over 100 hand grenades on a clam boat that returned from dredging near Long Island. The State police bomb squad and a U.S. Navy EOD team were quickly notified and transported the grenades off-site for detonation. In June 2010, a clam boat picked up approximately 10 canisters of mustard

What do these munitions look like?

Here is a sample of the munitions that could be mixed with clamshells used for paving. Not all munitions will be a readily identifiable shape and may have the appearance of a rusty piece of steel.



French Viven-Bessiere rifle grenade, found in clamshells.



Mark II grenade found in clamshells.

USACE Project Information Fact Sheet, 2006

gas during a dredging operation. One fisherman was hospitalized due to exposure. Federal agencies, including the DoD, U.S. Coast Guard, and National Oceanic and Atmospheric Administration, regional States, and local agencies were notified and established a command center to respond to community concerns and provide technical assistance.

What's next?

The Army is currently taking steps to determine the location of all crushed clamshells that may inadvertently contain munitions. As these locations are identified, steps will be taken to investigate these sites and remove all munitions found. USACE, Baltimore District (CENAB), has been tasked to work closely with media, property owners, and regulators to investigate properties, conduct fact finding investigations, and provide safety assistance as needed. CENAB does this by communicating and coordinating with State and local officials, utilizing a public information plan, project information sheet, toll free number (1-800-434-0988), and media events. Their most recent [Clamshell Munitions Project Information Fact Sheet](#) was created in 2006. The fact sheet conveys the 3Rs message, provides a brief history of the issue, basic munitions response definitions, and contains pictures of UXO found in the region.

The DoD continues to research and identify possible or known sea disposal sites that may pose a risk to the public and marine environment. Its latest archival research results are presented in the [Fiscal Year 2009 DERP Annual Report to Congress](#). Safety materials and posters specific to the maritime industry are also available on the [DENIX UXO Safety Page](#).

7.0 CHALLENGES FOR STATES

Successful community involvement at MRSs requires active participation of DoD staff, State regulatory staff, and members of the community. Unfortunately, States are often limited on the amount of resources that they can dedicate to a project. Funding and resource limitations often contribute to the following challenges:

Dependence upon DoD

States depend upon DoD to do a thorough site history, including records research and interviews with former staff and local communities. Knowledge of a site's history is very important in determining the appropriate cleanup work. If a State suspects that the DoD's site history report is incomplete, States rarely have the resources to independently verify the adequacy of DoD's investigation.

In addition, many States depend on the DoD to fund their participation in site work. The extent of State participation is usually negotiated as part of the Defense/State Memorandum of Agreement (DSMOA). Budget limitations can sometimes lead to insufficient funding for community involvement from DoD, with little to no money available from individual States. Because building a knowledgeable and trusting relationship with the community can be very time consuming, States may not have sufficient funding to complete the job.

Differing philosophies and interpretations of public involvement by States and DoD

Although DoD directives and policies outline the need for community participation at MRSs, the DoD and States may disagree about when or how community involvement should begin. States and DoD may also disagree on who are the appropriate stakeholders. An MRS with multiple DoD Components operating on-site may consider stakeholders as being State and Federal regulators only at the initial stage. There is also a possibility that States and DoD may disagree on the roll of advisory teams and the timing of their participation.

Multiple participating DoD Components

Another challenge occurs when multiple DoD Services share in the responsibility, but each has its own procedures for determining the classification scheme of ranges and the associated funding sources and means of contracting. Due to this added level of internal DoD coordination, there can be hesitancy to brief the public on a process that may not be clear or may result in any additional reporting or activity.

Balancing information needs

Community Involvement Coordinators generally believe the early, often, and continuous approach is best. However, there is recognition of a double edged sword – one side advocating

for the presentation of MMRP information upfront along with its associated timeframe and results and the other side cautioning against raising potential undue public concern.

Emerging contaminants

Increasingly, products that historically have been considered safe are now becoming potential threats to the environment and lack an accepted health standard. Although this is a universal concern as many of these products are or were in widespread use, MRSs often have a unique history with a corresponding unique list of emerging contaminants such as, tungsten, nitramines, trinitrotoluene (TNT) and perchlorate.

Emerging contaminants present a challenge to States because there is limited and/or highly debated information about their toxicity. States oftentimes do not have the resources to stay current and informed on emerging contaminants. Because the toxicity of the contaminants may be highly debated, it is both challenging to communicate the potential risk to the community and to reach agreement with the DoD on necessary response actions.

Risk communication

Unlike other environmental cleanups, remedial actions at MRSs often cannot be assumed to completely mitigate risks. Current limitations in technology prevent investigators from being 100% certain that all explosive items have been identified and removed from practice ranges or other areas where munitions can be found below ground surface. Regulators cannot present reliable statistics of risk (i.e., a 1 in 100,000 chance of developing cancer) and communities can perceive risks differently depending on local cultural factors. As a result, special consideration to risk management and risk communication is required at sites where removal actions have occurred in comparison to more traditional environmental cleanups. These differences in the level of uncertainty regarding cleanups can compound the already difficult task of community involvement at MRSs.

Public engagement

Keeping communities informed regarding MRSs will always represent a challenge to Local, State, and Federal regulatory agencies. The community is a diverse group that includes landowners, residents, workers, environmental groups, business associations, politicians, and others. These groups have different interests, competing agendas, and different preferences for involvement. The traditional communication tools (public notices, meetings, and comment periods) may not engage members of the community. Multiple communication methods should be utilized to reach as many stakeholders as possible and the effectiveness of your communication strategy should be continually assessed and adjusted accordingly. As the concerns and informational needs of your stakeholders are constantly changing, your communication strategy must be periodically updated and revised to ensure continued long-term effectiveness.

8.0 FINAL RECOMMENDATIONS AND CONCLUSIONS

Like Superfund and other State-lead investigation and cleanup programs, measures are in place in the MMRP to inform and involve the public. Public involvement is a requirement and officials are responsible for listening to various stakeholders, engaging in honest dialogues, and helping to educate the public. If regulators and the public are involved meaningfully, schedules can be coordinated to meet the aggressive deadlines imposed by Congress. If done correctly, public involvement at MRSs could result in noticeable cost savings.

Despite the challenges that MRSs present to community involvement, it is possible to find the necessary tools to accomplish the mission and help prevent accidents or unnecessary exposure to possible hazards at these sites. For example, when dealing with environmental cleanup and property reuse, most citizens need assistance to become effective participants in dialogues about site characterization, treatment methods, thresholds, margins of safety, etc. Educating the public requires time, energy, and money; however, it is money well spent to ensure that the public's interests have been taken into consideration and acknowledged from the beginning. Given the expedited schedule the DoD has been tasked with, addressing MRSs through one organized community involvement team, such as a RAB, is the preferred method in getting to know the community. Using existing advisory teams is also helpful. Greater public safety and confidence in MMRP projects can be maintained if a community has a mechanism for understanding what is happening at their site and for having a voice in key decision points. The continuous involvement of State and Federal regulators, along with the public, will likely lead to expedited regulatory concurrence.

All communities have unique characteristics that may make some of these recommendations more or less relevant, depending on a wide number of factors, because there is no standard approach to community involvement. Therefore, DoD project managers are encouraged to work with communities, local regulatory agencies, and other stakeholders to determine the best approach for each site.

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APPENDIX B: ACRONYM LIST

AFWTA	Atlantic Fleet Weapons Training Area
ASTSWMO	Association of State and Territorial Solid Waste Management Officials
BIP	blow in place
BLM	Bureau of Land Management
BRAC	Base Realignment and Closure
CDPHE	Colorado Department of Public Health and Environment
CENAB	U.S. Army Corps of Engineers, Baltimore District
CERCLA	Comprehensive Environmental Response, Restoration, and Liability Act
CIP	Community Involvement Plan
CTT	closed, transferred, or transferring
CWM	chemical warfare munitions
DERP	Defense Environmental Restoration Program
DoD	Department of Defense
DSMOA	Defense State Memorandum of Agreement
EOD	Explosives Ordnance Disposal
EPA	Environmental Protection Agency
FUDS	Formerly Used Defense Sites
FWS	Fish and Wildlife Service
IRMP	Interim Risk Management Plan
IRP	Installation Restoration Management Program
LIA	Live Impact Area
LUC	land use control
MC	munitions constituent
MEC	munitions and explosives of concern
mm	millimeter
MMRP	Military Munitions Response Program
MRS	munitions response sites
NPL	National Priorities List
PA/SI	Preliminary Assessment/Site Investigation
PREQB	Puerto Rico Environmental Quality Board
PRP	potentially responsible party
RAB	Restoration Advisory Board
RCRA	Resource Conservation and Recovery Act
RI/FS	Remedial Investigation/Feasibility Study
ROE	Right of Entry
States	States and Territories

TNT	trinitrotoluene
TPP	technical project planning
TRC	Technical Review Committee
USACE	U.S. Army Corps of Engineers
USFS	U.S. Forest Service
UXO	Unexploded ordnance
WWII	World War II