

## 4.12 HUMAN HEALTH AND SAFETY HAZARDS

### 4.12.1 Impact Methodology

Numerous federal, state, and local laws regulate the storage, use, recycling, disposal, and transportation of hazardous materials and waste. There are similar laws to prevent and abate wildfires, and their primary goal is to protect human health and safety. The methods for assessing potential human health and safety hazard impacts generally include the following:

- Reviewing and evaluating each of the proposed actions to identify the action's potential to use hazardous or toxic materials or to generate hazardous waste, based on the activities proposed;
- Comparing the location of each proposed action with baseline data on known or potentially contaminated areas (such as potentially UXO-contaminated land);
- Assessing the compliance of each proposed action with applicable site-specific hazardous materials and waste management plans;
- Assessing the compliance of each proposed action with applicable site-specific standard operating procedures and health and safety plans in order to avoid potential hazards;
- Using professional judgment to determine if there are any additional known or suspected potential human health and safety hazard impacts or concerns related to each Proposed Action, based on the status of the range as it is the guidance of the Army restoration program that remedial activities only be conducted on closed or closing ranges and not on active/inactive ranges; and
- Assessing causes of wildfires in conjunction with established wildfire management protocols.

The overall methodology, including data sources and assumptions, used to conduct the human health and safety hazard impact evaluation is consistent with the Army NEPA Manual for Installation Operations and Training (US Army 1998). This manual describes the various types of materials and waste that should be considered to identify potential impacts of proposed actions.

### 4.12.2 Factors Considered for Impact Analysis

Regulatory standards and guidelines have been applied to determine the significance of each proposed action or alternative's potential impact from nonchemical hazards and hazardous materials and waste. Factors considered in determining whether an alternative would have a significant human health and safety hazard impact include the extent or degree to which its implementation would do one of the following:

- Generate either hazardous or acutely hazardous waste, resulting in increased regulatory requirements over the long term;
- Cause a spill or release of a hazardous substance (as defined by Title 40, CFR Part 302 [CERCLA], or Parts 110, 112, 116 and 117 [CWA]);

- Expose the environment or public to any hazardous condition through release or disposal (for example, open burn/open detonation disposal of unused ordnance);
- Require the removal or upgrade of an underground storage tank;
- Cause the accidental release of friable (easily crumbled by hand pressure) asbestos or lead-based paint during the demolition or renovation of a structure;
- Adversely affect the progress of IRP site remediation;
- Expose military personnel or the public to areas potentially containing UXO;
- Endanger the public or environment during the storage, transport, or use of ammunition;
- Adversely affect wildfire danger; or
- Expose the public to electromagnetic fields with cycle frequencies greater than 300 Hz.

In addition to these factors, public concerns expressed during the scoping process were also considered in the impact analysis. These concerns included the impact of the Proposed Action on the public and the environment, specifically training, ammunition and the presence of UXO, and the potential contamination by various hazardous chemicals and materials. The public also expressed concern about wildfires.

#### 4.12.3 Summary of Impacts

Table 4-12 lists the types of human health and safety hazard impacts associated with the Proposed Action, Reduced Land Acquisition Alternative, and the No Action at the installations; general descriptions of the impacts are also provided.

##### ***Proposed Action (Preferred Alternative)***

###### Significant Impacts

There are no significant and unmitigable impacts involving human health and safety hazards from the Proposed Action.

###### Significant Impacts Mitigable to Less than Significant

Impact 1: Ammunition. Recent range studies at both SBMR and PTA have revealed elevated levels of munitions byproducts, such as lead and RDX, above USEPA Region IX residential and industrial PRGs at each installation (the investigation report is included in Appendix M1). As defined in the Military Munitions Rule, ammunition used for its intended purpose on military ranges is not considered a regulated hazardous material. This material, however, is an environmental hazard and is therefore considered significant. In addition, under the Proposed Action, the quantity of ammunition rounds fired during Army training on all Army training ranges in Hawai'i would increase from 16 million to 20 million rounds per year, primarily consisting of small arms munitions. The proposed increased level of training could elevate contamination levels in range soils by 25 percent over the contamination generated

**Table 4-12  
Summary of Potential Human Health and Safety Hazard Impacts**

Impact Issues	SBMR			DMR			KTA/KLOA			PTA			Project-wide Impacts		
	PA	RLA	NA	PA	RLA	NA	PA	RLA	NA	PA	RLA	NA	PA	RLA	NA
Hazardous materials management	⊗	⊗	○	⊗	⊗	○	⊗/○	⊗/○	⊗/○	⊗	⊗	○	⊗	⊗	○
Hazardous waste management	⊗	⊗	○	⊗	⊗	○	⊗/○	⊗/○	⊗/○	⊗	⊗	○	⊗	⊗	○
Ammunition	⊗	⊗	⊗	○	○	○	⊗/○	⊗/○	○/○	⊗	⊗	⊗	⊗	⊗	○
Unexploded ordnance	⊗	⊗	⊗	○	○	○	○/○	○/○	○/○	⊗	⊗	⊗	⊗	⊗	○
General training	⊗	⊗	⊗	⊗	⊗	○	⊗/○	⊗/○	○/○	⊗	⊗	⊗	⊗	⊗	○
Installation restoration program sites	⊗	⊗	○	○	○	○	○/○	○/○	○/○	○	○	○	⊗	⊗	○
Lead	⊗	⊗	⊗	○	○	○	⊗/○	⊗/○	○/○	⊗	⊗	⊗	⊗	⊗	○
Asbestos	⊗	⊗	○	○	○	○	⊗/○	⊗/○	○/○	⊗	⊗	○	⊗	⊗	○
Polychlorinated biphenyls	○	○	○	○	○	○	⊗/○	⊗/○	○/○	○	○	○	⊗	⊗	○
Electromagnetic fields	⊗	⊗	⊗	⊗	⊗	⊗	⊗/○	⊗/○	⊗/○	⊗	⊗	⊗	⊗	⊗	○
Petroleum, oils and lubricants	⊗	⊗	○	⊗	⊗	○	⊗/○	⊗/○	⊗/○	⊗	⊗	○	⊗	⊗	○
Pesticides/herbicides	⊗	⊗	○	○	○	○	○/○	○/○	○/○	⊗	⊗	○	⊗	⊗	○
Biomedical waste	⊗	⊗	○	○	○	○	○/○	○/○	○/○	⊗	⊗	○	⊗	⊗	○
Radon	○	○	○	○	○	○	○/○	○/○	○/○	○	○	○	○	○	○
Wildfires	⊗	⊗	⊗	⊗	⊗	⊗	⊗/⊗	⊗/⊗	⊗/⊗	⊗	⊗	⊗	⊗	⊗	○

This table summarizes project-wide impacts. For installation-specific impacts see Chapters 5 – 8. In cases when there would be both beneficial and adverse impacts, both are shown on this table. Mitigation measures would only apply to adverse impacts.

**LEGEND:**

- ⊗ = Significant
- ⊗ = Significant but mitigable to less than significant
- ⊗ = Less than significant
- = No impact
- + = Beneficial impact
- N/A = Not applicable
- PA = Proposed Action
- RLA = Reduced Land Acquisition
- NA = No Action

by current force training. However, the analysis showed that the areas where the contamination occurs is in areas where the contamination is not running off-site. In addition, the Soldiers will not be conducting foot maneuvers in this area and will not be exposed to the contaminants. Only government personnel or government contractors specifically trained and certified to travel safely in the impact area access the contaminated areas on a regular basis.

In addition, under the Proposed Action, SRTA ammunition would be used at KTA. Although SRTA is considered to be live-fire, it does produce some of the safety risks related to true live-fire training. SRTA would not likely produce a significant wildland fire threat because the ammunition has a plastic tip and does not include the use of tracer rounds. Additionally, the ammunition does not contain lead and would not contaminate the soil. As

discussed in Section 4.2, the Army will restrict access at KTA when training with SRTA ammunition.

The regulatory and administrative measures defined below will reduce the significant impacts from contaminants associated with ammunitions to less than significant.

*Regulatory and Administrative Mitigation 1.* All government personnel or government contractors accessing impact areas will continue to follow OSHA and Army standards and guidelines to minimize health and safety impacts from exposure to any contaminants or ordnance. The general public will be allowed in or near impact areas only at times and in group sizes approved by USARHAW Command. Army-trained and -certified personnel would escort the general public at all times. Access is limited to only those areas deemed safe by USARHAW Range Control.

The Army will undertake additional risk-based investigations as appropriate in the event any active range is closed and transferred out of DoD control. Based on the results of this health risk-based analysis, all remediation necessary to mitigate an imminent threat to human health and the environment would be undertaken at such time.

When the CACTF is active, the Army will establish all prudent measures to prevent unauthorized access within the SDZs for SRTA, which are up to 2,300 feet (700 meters) during training operations. This would help ensure public safety during training.

*Additional Mitigation 1.* No additional mitigations have been proposed.

*Impact 2: Unexploded ordnance (UXO).* Of the 25 percent increase in ammunition under the Proposed Action, only 1.3 percent of the total increase would be from UXO-producing munitions (mortars, artillery, and grenades). UXO could affect the construction of the proposed ranges on SBMR and PTA. Construction would involve moving soils that could be contaminated with UXO from prior activities in the range ordnance impact area. The potential presence of UXO within the construction area could lead to a significant safety impact. Additionally, training operations could contaminate the range with UXO, creating a safety risk to personnel. Maneuver training would be conducted at PTA in the same training area locations as are presently used, excluding the 1,500-acre MPRC area, at the company level. This would typically occur at times when PTA is in full use in support of brigade training exercises, currently twice a year, to increase throughput during times of heaviest use at PTA. Although no live-fire training would be conducted in this area to introduce new UXO, the existing presence of UXO is suspected. It is not considered necessary for EOD specialists to clear UXO because of the minimal degree of UXO suspected.

Although WPAA is part of the former Waikoloa Maneuver Area, which is a Formerly Used Defense Site (FUDS) and supported live-fire training in the past, a risk-based analysis assessed this area as a low probability of UXO exposure. The PTA Trail is also part of this former maneuver area and was considered a medium to high risk of UXO exposure. Construction would be preceded by Army-sponsored surface and subsurface clearance and if necessary followed by ordnance health and safety monitoring during construction in order to reduce potential exposure and impacts from this project. Although UXO presents a

significant impact, USARHAW would follow proper abatement techniques, which would make this impact mitigable. In addition to these mitigation measures, the Army would continue to educate soldiers on how to identify UXO and the proper safety procedures for handling UXO, as explained in Section 3.12. The mitigation measures below would reduce the significant impact to less than significant.

Regulatory and Administrative Mitigation 2. Before the start of any construction activities, the Army will employ qualified personnel to conduct a UXO survey of the proposed construction area. If the risk of encountering UXO is low, then UXO construction support will be used. If the risk of encountering UXO is high, then UXO clearance will be performed to ensure the safety of the site. The Army will document UXO surveys and removal actions in full accordance with applicable laws, regulations, and guidance. The Army will perform UXO clearance activities if rounds are fired outside of designated impact areas or present an immediate threat to human health or safety.

Additional Mitigation 2. No additional mitigations have been proposed.

Impact 3: Installation restoration program sites. Construction and operational activities associated with the Proposed Action would have significant and mitigable impacts on the installation restoration program at SBMR. Additionally, the Proposed Action would affect the TCE monitoring program on WAAF. The proposed Multiple Deployment Facility at WAAF would be in the area of TCE monitoring well MW 2-3, which is used for long-term monitoring of the TCE plume under SBMR. The size of the plume has remained relatively static since its discovery, so long-term monitoring continues as part of the IRP. The mitigation measures below would reduce the significant impact to less than significant.

Regulatory and Administrative Mitigation 3. No mitigation was identified.

Additional Mitigation 3. The Army proposes to build the proposed WAAF facility to incorporate an existing monitoring well into the design, as long as construction does not affect the well by contaminating, destroying, permanently sealing, or otherwise preventing future well sampling. Technicians would have access to this well in order to continue the monitoring program. As the well currently exists within the apron/runway vicinity, the location is not believed to be a significant hindrance because the wellhead could be flush mounted in the apron surface, in a way similar to those at civilian gasoline service stations.

Impact 4: Lead. Potential short-term construction-related impacts could expose workers to lead at the Proposed Action sites. This impact would be relevant at any installation where structures would be renovated or demolished: SBMR, KTA, and PTA. The workers could be exposed to LBP and pipes during demolition or soil grading and excavation at specific project sites. This impact is considered significant but would be reduced to less than significant with implementation of mitigation identified below.

Additionally, berms used to stop projectiles fired at the ranges are expected to contain significant quantities of lead and potentially UXO. Recent range soil sampling activities at SBMR and PTA revealed elevated levels of metals, including lead, in excess of USEPA

Region IX residential and industrial PRGs. Further discussion on findings and potential effects are addressed in Section 4.8, Water Resources, and Section 4.9, Geology, Soils, and Seismology. Construction on existing or former range areas would redistribute lead-containing material from the berms at the new locations. This could release lead to the environment and extend the magnitude of lead contamination in the training area. The presence of lead could cause additional soils to become contaminated due to vehicle and equipment movement and soil erosion. Additional contamination would increase the volume of soil that would need to be remediated in the future. SBMR and PTA could be affected by this impact. The mitigation measures below would reduce the impact to less than significant.

Regulatory and Administrative Mitigation 4. The Army will expand existing programs for lead-based paint (LBP) to any SBCT-related activities that would affect older structures that had the potential use of LBP throughout the installations. Lead is managed in place for existing structures. If the structures are demolished or renovated, a survey is required prior to demolition/renovation and appropriate actions must be taken to prevent the release of LBP into the environment. Construction workers must be properly trained/certified to handle these materials, and any debris must be tested by TCLP and disposed of, according to the results. The Army will retain lead-contaminated soils from existing berms on-site and use the soils in the construction of new berms associated with the UACTF, PTA AALFTR or PTA BAX. If lead-contaminated soils were not reused at the site for new berm construction, contaminated soils would be remediated for lead, in accordance with applicable federal and state standards.

Additional Mitigation 4. No additional mitigations have been proposed.

Impact 5: Asbestos. Potential short-term construction-related impacts could involve the exposure of workers to friable asbestos at some of the proposed project sites. The workers could be exposed to asbestos at any installation where renovation, demolition, or grading would take place: SBMR, KTA, and PTA. This would be a temporary, significant, but mitigable impact.

Regulatory and Administrative Mitigation 5. The Army will expand existing programs for asbestos to any SBCT-related activities that would affect older structures that had the potential use of asbestos through the installations. Asbestos is managed in place for existing structures. If the structures are demolished or renovated, a survey is required prior to demolition/renovation, and appropriate actions must be taken to prevent the release of asbestos into the environment. Construction workers must be properly trained/certified to handle these materials, and any debris must be tested by TCLP and disposed of according to the results.

Additional Mitigation 5. No additional mitigations have been proposed.

Impact 6: Wildfires. The Proposed Action would result in a significant but mitigable wildfire impact at the installations and along the trails and roads. Due to Hawai'i's climate, vegetation, range operations, and rugged terrain limiting accessibility for fire suppression

efforts, there has always been a high risk of wildfire within the subject Army installations. Numerous new ranges would be operated under the Proposed Action, some of which would support live-fire training. The Proposed Action would have significant impacts on the potential to start wildfires because of increased live-fire activities, increased nonlive-fire activities that can still ignite wildfires, and increased transportation of personnel and ordnance in areas infrequently used. A wildfire could damage animal and plant communities and cultural resources and places of traditional importance and could contribute to soil erosion by removing vegetation. However, this impact is mitigable to less than significant.

Regulatory and Administrative Mitigation 6. The IWFMP for Pōhakuloa and O‘ahu Training Areas was updated in October 2003. The Army will fully implement this plan for all existing and new training areas to reduce the impacts associated with wildland fires. Public and firefighter safety is the first priority in every fire management activity. The plan considers the potential need for firebreaks and/or fuel breaks at each installation along with other safety concerns. The plan is available upon request.

#### Less than Significant Impacts

Concerns for impacts on human health were addressed in the analysis for air quality and, in particular, fugitive dust and PM<sub>10</sub>. We determined that impacts on human health associated with fugitive dust and resulting from the Proposed Action would be less than significant (see Section 4.5). The analysis is not duplicated here.

Polychlorinated biphenyls. In the EIS, the Army believed that the impacts from PCBs would be significant with the construction proposed at KTA. Upon further evaluation of the KTA project area, the Army determined that the PCB levels in soil in the proposed construction area are below federally designated health risk standards. The proposed CACTF potentially lies adjacent to the former missile launch facility at KTA, which previously housed the emergency power generator and power distribution transformers. Although the former site has the potential to be preserved as historic, activities around this site and connected to the construction and operation of the new range would have the potential to move soil and release imbedded PCBs to the air and environment. Because the PCBs exist below federally designated health risk standards, if soils were suspended in the air and if personnel, the community, or the environment were exposed to these soils, the impact would be less than significant.

Hazardous materials management. Short-term adverse impacts would be associated with construction activities at the proposed project sites on SBMR, KTA, and PTA. Construction-related activities would require the use of hazardous materials in excess of existing quantities. However, contract specifications control the purchase amounts and use of hazardous materials and require compliance with federal, state, and local requirements and with installation policy on hazardous materials. In addition to general construction materials used for infrastructure, petroleum asphalt would be used in replacing or upgrading the runways and constructing roadways as part of the Proposed Action at WAAF, DMR, KTA, and PTA. Skin contact and breathing mists, fumes, or vapors would be avoided by the construction team. Construction and disposal would be conducted in accordance with federal, state, and local regulations.

Lead-acid batteries would generate power for the proposed FTI sites. The batteries would be managed and stored in the same manner as batteries used at the project installations, which would not create a significant impact.

A new chemical would be used in conjunction with the proposed Stryker training as part of the Joint Biological Point Detection System (JBPDS). A sodium azide ( $\text{Na N}_3$ ) solution is used to preserve suspected biological agent samples during combat maneuvers. This material would be managed through SBMR and is described in more detail in Chapter 5, Section 5.12.

This overall impact is expected to be less than significant because the Army follows strict SOPs for storing and using hazardous materials. In following existing practices, the Proposed Action is not expected to cause the spill or release of hazardous materials or waste. Therefore, no new procedures would need to be implemented to store or use the construction-related or operation-related hazardous materials. Hazardous materials would be handled in accordance with existing regulations and installation-wide hazardous materials management and standard operating procedures.

Hazardous waste management. Construction and renovation of buildings at SBMR, KTA, and PTA, as well as roadway and runway upgrades at WAAF, DMR, KTA, and PTA could temporarily generate small amounts of hazardous waste. Operational activities associated with SBCT that could yield hazardous waste (e.g., the use of lead-acid batteries or the introduction of sodium azide waste to SBMR) would be handled in accordance with the USARHAW hazardous waste management plan and federal and state regulations. The additional hazardous waste generated by SBCT would not significantly increase the total amount of hazardous waste managed and disposed of from the installations. The Army follows strict regulations and SOPs for the temporary storage and disposal of hazardous waste. Hazardous waste associated with construction activities would cease to be generated at the completion of construction.

Ammunition. Although ammunition is the most prevalent hazardous material and waste issue associated with the Proposed Action, the increase would be maintained and managed by the administration in accordance with federal and USARHAW protocol, therefore creating no additional significant impact. With the exception of the increased use of ammunition resulting in an increased release of munition byproducts under the Proposed Action at SBMR and PTA (as discussed above under Impact 1), the rest of the Proposed Action poses a less than significant impact from ammunition. Four new range areas are proposed for SBMR and two proposed range areas for PTA. Each of these facilities would support live-fire training by multiple types of ordnance under diverse training conditions. No new ranges are projected for DMR.

The 105mm cannon on the Stryker MGS and the 120mm mortar are the only new weapons introduced to training as a result of the transformation. These weapons would be used at ranges on SBMR and PTA. The amounts of other weapon systems would also be increased with the elevated level of training associated with Transformation. Although the Proposed Action would generate a significant increase of four million rounds of ammunition per year (an approximately 25 percent increase) due to the elevated level of training and expansion in

military force, the impact of this increase would not be significant, with the exception of the residual contamination released after munition fire, because artillery and ammunition management would not change. Handling and storage methods, disposal protocols, and safety procedures would continue to be conducted in accordance with existing regulations. No new conventions would need to be instated, thus creating a less than significant impact from the increase in ammunition and ordnance.

Other, more significant, ammunition-related issues are discussed in the significant impact and significant impact to less than significant sections, above.

General training. There would be less than significant impacts relating to general training at SBMR, DMR, KTA, and PTA. SBCT actions relevant to this type of activity include military training on training lands outside of developed areas, e.g., the cantonment area. Such training would include non live-fire, mounted maneuver training (using vehicles, such as the Stryker and HMMWV), and other non live-fire dismounted (foot traffic) military training. Most of the non live-fire training by SBCT forces would be similar to that currently being conducted by light infantry brigades. There would be a slight increase in transformed live-fire training that would occur on existing ranges on SBMR and PTA. The increase would be maintained and managed by administration in accordance with federal and USARHAW protocol, therefore creating no additional significant impact. SBCT would increase the level and extent of training in Hawai'i, but training procedures would continue to be managed in accordance with Army protocol.

When troops train at the ranges, safety protocol must be followed in order to protect the public from injury or accidents. SDZs are set up, in accordance with Army Pamphlet 385-64, Ammunition and Explosive Safety Standards. In addition, in order to prevent conflict with recreational activities in areas near the training ranges, land use restrictions are set up to limit access to the areas during range training times. These preventative measures are discussed in further detail in Section 4.2, Land Use. SDZs are included in the design configuration for the proposed ranges at SBMR, KTA, and PTA.

Additionally, similar safety protocol must be implemented to protect Army personnel during range training. Soldiers and officers are given safety manuals with a complete discussion of safety procedures while training. In addition, before training, troops are briefed on range-specific safety measures that may be necessary during the special exercise. Finally, soldiers and officers are provided with field manuals for each specific operation and exercise that give more detailed procedures and protocol to be followed in order to prevent accidents.

Installation Restoration Programs sites. The SRAA is part of the Del Monte NPL site, which the EPA designated as a Superfund site under CERCLA. This Superfund investigation originated at the Del Monte well in Kunia (south of SBMR and the SRAA). The Del Monte farmland parcel just south of SBMR (north of Kunia Village) is included in the NPL study (Figure 5-43). The site includes former USTs and buried drums of chemicals, such as methyl bromide (USEPA 2003), although no chemicals were detected at levels considered to be a threat to human health or the environment or that require cleanup (Rosati 2003). Under an agreement with the EPA, Del Monte conducted a remedial investigation and a baseline

human health risk assessment, and a phytoremediation treatability study and produced an addendum to the remedial investigation report. Based on the results of these studies, the EPA issued a ROD in September 2003 establishing specific remedial actions to rectify the Superfund site. The Army's proposed acquisition of SRAA would in no way interfere with the progress of Del Monte's remedial programs as designated by EPA.

The parcel just north of SBMR (Poamoho Village), to be acquired under the Proposed Action as part of the development of Helemanō Trail, was previously included in the NPL listing but was removed from the Superfund designation in January 2004. This followed several rounds of investigations, resulting in confirmation that the site did not pose a threat to human health or the environment. For these reasons, the proposed acquisition areas are not considered significantly affected by the ongoing Superfund remedial programs.

*Electromagnetic fields.* Operational activities at several proposed projects, such as the FTI sites, could emit EMF, and some current equipment emits various levels of EMF. This would create a less than significant impact at SBMR, DMR, KTA, and PTA. However, since the general public is typically not allowed in areas that could contain EMF hazards from Army equipment and, therefore, would not be inadvertently exposed to EMF, this impact is not expected to pose a significant impact. Signs would be posted around the perimeter of all potentially harmful EMF sources to warn people about the EMF source. DOD Instruction 6055.11 and Army Pamphlet 385-64, as well as other Army regulations pertaining to EMF, would continue to be followed in operating the new facilities to protect personnel. Only trained personnel would work with equipment emitting EMF.

*Petroleum, oils, and lubricants.* Due to the elevated level of training, increased fuel storage and use would be encountered at SBMR and PTA. Based on the number of new vehicles and projected driving frequency during training events, an estimated increase of 83,660 gallons per year of JP-8 fuel would be added to the already existing bulk storage facility on SBMR. Tankers would also be used to carry fuel to the range areas for the vehicles. This number does not include the additional fuel needed for UAV vehicles because design information is confidential, but this number is considered inconsequential due to the fuel efficiency of the UAV.

Construction and upgrades of the roadways and runways at WAAF, DMR, KTA, and PTA would result in less than significant POL impacts. Operating several facilities, such as the proposed Tactical Vehicle Washes on SBMR, KTA, and PTA and the proposed motor pool on the SRAA, would also create less than significant impacts. There are no storage tanks within the project areas, and the only new storage tanks installed as a result of the transformation would be those associated with the motor pool on SBMR, which would be installed and monitored in accordance with existing Army, state, and federal regulations. Under the Proposed Action, 400 wheeled Stryker vehicles would be added to SBMR and would be used there and at DMR, KTA, and PTA. Construction activities could expose additional areas to potential construction equipment leaks, spills, or drips to the environment. Best management practices would be practiced at each of these proposed facilities, and project area personnel would follow USEPA and USARHAW protocol for using and handling hazardous materials, such as POLs. Each facility maintains strict SOPs

and spill contingency plans for hazardous materials and waste, identifying specific operating responsibilities and procedures.

Pesticides/Herbicides. Land acquisition activities would slightly increase the use of pesticides at SRAA and PTA. Although the Proposed Action would generate a slight increase in the amount of pesticides used on these installations in order to maintain the proposed ranges, pest management would continue to be managed by DPW in accordance with the USAG-HI IPMP, and pesticides would continue to be stored at the Pest Control Shop on SBMR and the Environmental Shop on PTA. This impact is considered less than significant.

Biomedical waste. Although the Proposed Action presents an increase of approximately 810 soldiers, 502 spouses, and 1,053 children to be stationed at SBMR, this impact is considered less than significant because the method of management and disposal of biomedical waste would not change. Biomedical wastes generated on SBMR and PTA are delivered outside of the project areas to TAMC and Hilo Hospital, respectively, for temporary storage before being picked up for permanent disposal off-island by DRMO. These facilities are well managed and would be able to handle the increase in waste. A less than significant impact is expected from biomedical waste on SBMR and PTA, with no mitigation required, and no impact is expected on DMR or KTA regarding biomedical waste. Biomedical waste is not addressed in the individual section analyses in Chapters 5 through 8 of this EIS.

#### No Impacts

Radon. Activities associated with the Proposed Action would not have a significant radon effect. Radon occurs in low concentrations in the Hawaiian Islands below EPA's recommended action levels and has not been identified at any of the Proposed Action sites. Therefore, no impact is expected from radon, mitigation would not be required, and radon will not be addressed in the individual installation analyses in Chapters 5 through 8 of this EIS.

### **Reduced Land Acquisition Alternative**

#### Significant Impacts

Significant human health and safety hazard impacts associated with RLA would be largely identical to significant human health and safety hazard impacts associated with the Proposed Action.

#### Significant Impacts Mitigable to Less than Significant

Significant but mitigable human health and safety hazard impacts associated with RLA would be largely identical to significant but mitigable human health and safety hazard impacts associated with the Proposed Action, except as described below.

Unexploded ordnance. Construction of QTR2 at PTA would likely involve moving soils that could be contaminated with UXO from prior activities in the range area. This could present a significant adverse safety hazard. Mitigation for this impact would be the same as for the mitigation identified for UXO impacts under the Proposed Action.

Lead. The potential for lead contamination due to redistributing lead-contaminated soils at PTA Range 8 could cause additional soils to become contaminated due to vehicle and equipment movement and soil deposition. Additional contamination would increase the volume of soil that needs to be remediated in the future. Mitigation for this impact would be the same as the mitigation identified for lead impacts under the Proposed Action.

Wildfires. Construction of QTR2 at PTA would likely increase the amount of live-fire training at PTA, thereby resulting in the potential to increase the frequency of wildfires at PTA, presenting a significant adverse safety hazard. Mitigation for this impact would be the same as the mitigation identified for wildfire impacts under the Proposed Action.

#### Less than Significant Impacts

Less than significant human health and safety hazard impacts associated with RLA would be largely identical to human health and safety hazard impacts associated with the Proposed Action. However, the movement of QTR2 to PTA would increase the impacts of ammunition, training, and construction-related hazardous materials and hazardous waste management at PTA, while reducing those impacts at SBMR. Project-wide impacts would not change.

#### No Impacts

There would be no impacts associated with human health and safety hazards under RLA as pertaining to radon. This no impact discussion would be largely identical to that described under the Proposed Action.

#### **No Action Alternative**

Under the status quo of No Action, hazardous materials, hazardous waste, and wildfire impacts would continue at their current levels and are described below.

#### Less than Significant Impacts

Hazardous materials management. Hazardous materials would continue to be handled in accordance with existing regulations and installation-wide hazardous materials management and standard operating procedures. The Army follows strict SOPs for storing and using hazardous materials.

Hazardous waste management. Hazardous waste would continue to be handled according to existing federal, state, and Army protocol. The US Army follows strict regulations and SOPs for the temporary storage and disposal of hazardous waste.

Ammunition. Live-fire exercises would continue at current levels as a part of current force training. Continued use of munitions by current forces during training could affect the training lands. Neither ammunition handling, storage, nor disposal activities would change with No Action. Existing weapons would continue to be used as part of current force training. Range contamination would continue to accumulate until range closure and remedial cleanup, but there would be no increase in ammunition used, so there would be only consistent levels of ongoing increased contamination.

Unexploded ordnance. No new construction would take place on former ranges under No Action, so there would be no impacts from encountering UXO during construction. No new ranges would be introduced, and the quantity of ammunition used during training would not increase. Because UXO remains a potential presence on ranges, USARHAW EOD specialists would continue abatement procedures to minimize exposing current forces to UXO during training.

General training. Although there would be no SBCT forces training at the project installations under No Action, current forces would continue to train. It is not likely that general training would result in any significant impacts. Current force training would continue to follow existing USARHAW protocol.

Installation restoration program sites. Current force training would continue at current levels on all military installations. The IRP investigations on SBMR, SBER, and WAAF would continue under existing USARHAW protocol.

Lead. Current force would continue live-fire training with lead-containing ammunition at SBMR and PTA. Continued use could increase the volume of soil that needs to be remediated in the future. All live-fire activities that could present a source of lead contamination to the soils would be contained in the existing ordnance impact area, and no new ordnance impact areas would be introduced. Ordnance clearance and cleanup would follow existing federal, state, and Army protocols. There would be no change to training operations at these installations.

Electromagnetic fields. The general public is typically not allowed in areas that could contain EMF hazards from Army equipment and therefore would not be inadvertently exposed to EMF. Signs would continue to be posted around the perimeter of all potentially harmful EMF sources to warn people about the EMF source. DOD Instruction 6055.11 and Army Pamphlet 385-64, as well as other Army regulations pertaining to EMF, would continue to be followed under No Action to protect personnel. Only trained personnel would work with equipment emitting EMF.

Petroleum, oils, and lubricants. The Army would continue to follow federal, state, and Army protocol. Wheeled vehicles would continue to be used by current forces on SBMR, DMR, KTA, and PTA, but Strykers would not be used.

Wildfires. Although additional ranges would not be established and new training procedures would not be adopted under No Action, continued use of Army land for training under No Action would prolong the threat of wildfires. Similar to current activities, future Army activities would be guided by the 25<sup>th</sup> ID(L) and USARHAW Wildfire Management Program, which includes the IWFMP and its FMAs and wildland fire SOPs, all of which are designed to prevent and manage wildfires. Army personnel would continue to practice best management practices during operations. There would be no significant impacts involving wildfires, just the continued potential for wildfires.

No Impacts

There would continue to be no impacts from asbestos, PCBs, pesticides, biomedical waste, or radon under No Action.