7.12 HUMAN HEALTH AND SAFETY HAZARDS

7.12.1 Affected Environment

The following section describes the affected environment pertaining to human health and safety hazards as a result of current military actions on KTA.

Hazardous Materials and Waste Management

Hazardous materials and wastes that are used and generated at KTA are regulated by the same federal, state, and Army regulations as at SBMR. The regulations include implementing the current Army hazardous waste standard operating procedures and the Army spill contingency plan. Any hazardous waste that is produced during training exercises at KTA is managed at hazardous waste storage points until the DRMO picks up the waste and ships it directly off-island for proper disposal (Akasaki 2002b).

Specific Health and Safety Hazards

The following sections address specific hazardous materials and wastes that may be used, stored, or transported within KTA, as well as wildfire issues. Hazardous material and wastes consistently affect the environment and often have specific regulations that govern their use, storage, and disposal.

Ammunition

KTA is the second largest training area on O'ahu. This area can support larger scale maneuver exercises (Nakata Planning Group, LLC 2002b, 3). Although remnants of past live-fire training have been found on KTA, no live-fire activities currently take place there. KTA provides the space for infantry and associated support units to maneuver. No live bullets are fired during maneuvers, and blanks are used in rifles and machine guns, along with MILES equipment, provided to allow units to maneuver against the enemy, to engage the enemy, and to receive incoming fire (Garo 2002a).

Installation Restoration Program

There are no IRP sites under investigation on KTA.

Lead

The properties of and regulations for lead are described in detail in Chapter 3, Section 3.12 of this document. No lead surveys have been conducted at KTA, but any future lead survey information will be available on the DPW lead and asbestos database.

Asbestos

The properties of and regulations for asbestos are described in detail in Chapter 3, Section 3.12 of this document. Current asbestos survey information for KTA is maintained on the DPW lead and asbestos database.

To date, the DPW has surveyed for ACM at three structures on KTA, all of which contained nonfriable but no friable ACM, and one of which was set for demolition (USARHAW 2002d).

Polychlorinated Biphenyls

The KTA former transformer site, used in conjunction with the former missile launch facility, consists of two transformer pads at the abandoned generator building on a former Nike missile launch facility within the training area. The site is fairly remote and is accessible only over a rough road that is controlled by a guard shack and gate.

The missile launch facility generator structure consisted of a concrete block building that housed the emergency power generators and two fenced enclosures for the power distribution transformers. The transformers used at this site were of the type that typically contained PCBs in cooling oil.

The US Army, Engineering Services Division, sampled the site on September 12, 1994. Samples of the water and sludge in one of the transformers and the oil in the remaining three transformers were tested for PCB Aroclor congeners or constituents. PCBs were detected in the transformer oil samples and a water/sludge sample. Soil samples were also obtained near the concrete transformer pad, but PCBs were not detected in those samples. Under current site uses, the former transformer site does not appear to pose a significant threat to human health and the environment. However, if hazardous material or waste contamination is present in the surface soil, changes in use could create new and more immediate targets and associated risks.

There are ongoing efforts to assess and remediate possible PCB contamination sources throughout the Proposed Action project area, including KTA. Devices containing regulated levels of PCBs that are on-line are to be replaced with non-PCB devices or refilled and reclassified to non-PCB status, in accordance with requirements outlined in 40 CFR Part 761.30(a)(2)(v). Devices containing regulated levels of PCBs that are off-line are to be removed from the installation and disposed of (PRC 1995, 4).

Between February 4 and 28, 1991, Power Systems Analysis, Inc., conducted a survey to determine the concentration of PCBs in the electrical distribution equipment in Hawai'i military installations. The survey phase of this project included collecting dielectric fluid and recording pertinent data from approximately 1,500 pieces of electrical equipment (USAEHA 1993a, C-5-8). Of the seven samples collected from KTA during this study, none contained PCBs.

Based on historical and ongoing sampling and analysis, devices that are found to contain regulated levels of PCBs are either upgraded to non-PCB devices or are refilled or removed, drained, packaged, and disposed of in accordance with 40 CFR Part 761 (PRC 1995, 4).

Electromagnetic Fields

There is one RAWS on KTA. RAWS require personnel to be on-site only for maintenance and not for operations, and they are typically located in remote wildland areas. The general public typically is not allowed in areas that could contain EMF hazards from Army equipment, minimizing exposure to potential sources of EMF. The standard Army communications equipment at KTA is operated by qualified personnel in accordance with regulatory requirements.

Petroleum, Oils, and Lubricants

Underground Storage Tanks

Only one UST remains in use on KTA, identified as tank KTA-4. Two other USTs, both containing diesel fuel, were removed in 1994 and 1998, in compliance with USEPA regulations.

Appendix K-4 lists all current and permanently decommissioned USTs and LUSTs on KTA. Additionally, Appendix K-4 provides location, responsible party, construction, and content information of all USTs and inspection and remediation status information for all LUSTs. There was one LUST site on KTA; it was remediated and was issued a clean closure status in 1999.

All industrial fueling is conducted from the "super station" at SBMR. Fuels, oils, or other hazardous materials needed for training exercises are brought with the unit to KTA and staged in a temporary storage point. Unused materials are either brought back to SMBR with the unit or are properly stored for pickup and disposal by DRMO-HI.

Aboveground Storage Tanks

There is one 288-gallon AST on KTA, in Building 67, and it is used to store liquid petroleum gas, also known as propane, for hot water heaters. Information on this tank is included in Appendix K-4.

Oil/Water Separators, Wash Racks, and Grease Traps

There are reportedly no oil/water separators, wash racks, or grease traps on KTA, and all maintenance is conducted at SBMR.

Pesticides/Herbicides

The Natural Resources Department is the only pesticide/herbicide user on KTA, where there are no pesticides/herbicides stored. Pest management is covered under the USAG-HI installation pest management plan (Yamamoto 2002).

Wildfires

There is a high risk of wildfires at KTA because rugged terrain in this area limits accessibility for suppression and increases the risk of fires spreading to sensitive native habitat (USARHAW and 25th ID[L] 2001a, 176 and 223-224). Highly flammable fuels adjacent to native plants further increase the risk of fire damage. Fires may start in adjacent areas, such as ridge top subdivisions or at sites within KTA that are accessible to the public. However, fires are typically started by unauthorized use of pyrotechnics, such as hand flares and smoke grenades. KTA is not a live-fire training area, and smoke grenades and other pyrotechnics are permitted in only designated areas. Blank ammunition, SRTA, and pyrotechnics are the only types of ammunition used. KTA depends on the closest responding forces, such as the City and County of Honolulu Fire Department, for first response and immediate Federal Fire Department/Range Control response. There is one RAWS on KTA to aid in determining weather conditions and the threat of wildfires.

KLOA is not a live-fire training area. It depends on the closest responding forces, such as the City and County of Honolulu Fire Department, for first response and immediate Federal Fire Department/Range Control response. There are no RAWS on KLOA to aid in determining weather conditions and the threat of wildfires.

Drum Road is expected to have wildfire characteristics similar to the KTA and KLOA because of its proximity to these areas. Thus the rugged topography of Drum Road constrains fire suppression efforts (USARHAW and 25th ID[L] 2001a, 339). Highly flammable plants adjacent to native plants increase the risk of fire damage. Fires may start in adjacent areas, such as ridge top subdivisions or at sites within KLOA that are accessible to the public.

Seven FMAs are identified in the WFMP (USARHAW and 25th ID[L] 2000a, 7-1 to 7-13). The KTA and KLOA FMAs, once completed, will address wildfire issues at these installations. Also, the KTA and KLOA wildland fire SOPs, once completed, will contain specific methods for handling fires.

7.12.2 Environmental Consequences

Summary of Impacts

This section is a discussion of potential impacts of implementing the Proposed Action and alternatives at KTA and at KLOA, located just south of KTA. Five significant impacts were discovered under the Proposed Action or the RLA Alternative, and all could be mitigated to be less than significant, as follows:

- As KTA has always been a nonlive-fire training installation, the institution of SRTA, although not considered true live-fire, produces a significant impact.
- Construction and demolition at KTA could expose workers to lead-based paint or lead-containing construction materials, creating a significant health and safety risk.
- Construction and demolition at KTA could expose workers to asbestos-containing materials, which could be a significant health and safety risk.
- The proposed CACTF is on a location that formerly contained PCB-contaminated soils. Moving these soils could create a significant impact by releasing the PCBs into the air and exposing construction workers, Army personnel, and the environment.
- Although SRTA is not considered true live-fire ammunition, given the design and material of the ordnance, the potential for wildfire ignition in an already highly susceptible environment, like KTA, would be heightened to a significant threat under the Proposed Action and the RLA Alternative.

Each of these impacts could be reduced to less than significant through mitigation. All other human health and safety issues were identified as being either less than significant or as

having no impact. There are no human health and safety hazard impacts associated with KLOA under the Proposed Action or the RLA Alternative.

Impacts and methodology and significance thresholds are discussed in Chapter 4, Section 4.12.1. Table 7-28 summarizes the potential human health and safety hazards for KTA that have been identified in this analysis.

Table 7-28
Summary of Potential Human Health and Safety Hazard Impacts at KTA/KLOA

Impact Issues	Proposed Action	Reduced Land Acquisition	No Action
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	⊘	⊘	⊙

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

Proposed Action (Preferred Alternative)

Significant Impacts Mitigable to Less than Significant

Impact 1: Ammunition. Blank ammunition, SRTA, and pyrotechnics are the only types of ammunition planned for training at KTA. Because SRTA is technically considered live-fire ammunition and would be conducted at the training area in conjunction with the Proposed Action, this impact is considered significant but mitigable. There would be no live-fire training conducted on KLOA under the Proposed Action.

Regulatory and Administrative Mitigation 1. Although SRTA is considered to be live-fire, it does produce the risk that true live-fire training. SRTA would not likely produce a significant wildfire 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. Although the ammunition would leave a shell casing, units would remove all target equipment and shell casings following training and would make every effort to restore the facility to its condition prior to their use. The Army would produce a site-specific training management plan, which would establish best management practices during training and would identify preventative measures to prevent safety hazards, to ensure security precautions, and otherwise to maintain environmental stewardship and to reduce the impact to less than significant. In addition, the Army would reconfigure and upgrade SDZs on the KTA ranges, using SRTA as needed, to support this pseudo-live-fire training in accordance with Army Pamphlet 385-64, *Ammunition and Explosive Safety Standards,* in order to protect the public from accidents.

Additional Mitigation 1. No additional mitigations have been proposed.

Impact 2: Lead. Construction and demolition activities associated with the Proposed Action could expose workers to airborne lead particulates at the proposed project sites within KTA. The workers could be exposed to LBP and pipes during demolition or soil excavation and grading at specific project sites. Buildings S150 and S151 are proposed for demolition in conjunction with the CACTF, and neither building has been surveyed for the presence of lead.

Regulatory and Administrative Mitigation 2. Before the project would begin, the Army would review the Army lead database to determine the presence of lead in any structures at KTA. Before being altered, any structures involved within the project area that are not on the database would be surveyed and added to the list. If LBP or lead pipes are discovered in a structure, proper cautionary and abatement procedures would be part of contract requirements when renovations are conducted.

The manufacture and use of LBP is prohibited, and no LBP or lead pipes would be used to construct new buildings or structures as part of the Proposed Action, so there would be no significant impacts from lead, and no mitigation would be required during construction. Implementing this mitigation would reduce the impacts to less than significant.

Additional Mitigation 2. No additional mitigations have been proposed.

Impact 3: Asbestos. Construction and demolition activities associated with the Proposed Action could expose workers to asbestos during demolition or grading at specific project sites. Buildings S150 and S151, proposed for demolition as part of the CACFT construction, have not been surveyed for the presence of ACM.

Regulatory and Administrative Mitigation 3. Before the project would begin, the Army would review its asbestos database to determine the presence of asbestos in any structures at KTA. If there were any structures in the project area that were not on the database, they would be

surveyed and added to the list before the project begins. If asbestos is discovered in a structure involved in the project, proper cautionary and abatement procedures would be part of contract requirements when alteration takes place. For example, friable ACM disturbance would be minimized per construction specifications to prevent airborne particulate and to lessen health and safety risks to workers. Implementing this mitigation would reduce the impacts to less than significant.

No ACM would be used as a building material during construction or during SBCT operations, so there would be no significant impacts from asbestos, and no mitigation would be required when using materials during construction.

Additional Mitigation 3. No additional mitigations have been proposed.

Impact 4: Polychlorinated biphenyls. The proposed CACTF at KTA is sited in the vicinity of the former missile launch facility, which housed the emergency power generator and power distribution transformers. The US Army, Engineering Services Division, tested these transformers in 1994 and found PCBs in the cooling oil. Soil samples were obtained from around the concrete transformer pads in 1995. Contrary to previous soil sampling results, PCBs were detected in soil samples around each pad. Due to the remoteness of the site and the lack of personnel in the vicinity of the site, the PCBs in the soils have not been considered a threat, but, with the Proposed Action activities, alterations to the site and increased use could release PCBs from the soils into the air and expose personnel and the environment.

Regulatory and Administrative Mitigation 4. No regulatory or administrative mitigations have been identified.

Additional Mitigation 4. Potential mitigation measures for this impact include further studies to evaluate the status of the chemical attenuation and extent of contamination before the project begins at KTA. If the findings show there is an imminent threat to human health and safety, a remedial cleanup would be implemented to remove contamination prior to CACTF construction. Troops and Army personnel would avoid driving or training on and around the former transformer area until the release had been abated. This mitigation measure is considered likely pending a cost benefit analysis.

Impact 5: Wildfires. There is a high risk of wildfires at KTA. The one training area that would be constructed at KTA under the Proposed Action, the CACTF, would support nonlive-fire training using blank ammunition and live-fire training using only SRTA and no ball or tracer ammunition. Nonlive-fire and live-fire training using SRTA, which still has the potential to ignite wildfires, would increase. Also, following the construction/upgrade of Drum Road, units would transport materials and equipment via military vehicles. Transportation of personnel and flammable or combustible materials, such as fuel or weaponry, could increase the potential for starting a wildfire, especially in areas not previously used frequently, such as Drum Road. A wildfire could damage animal and plant communities, could damage cultural resources, and could contribute to soil erosion by removing vegetation.

Regulatory and Administrative Mitigation 5. The Wildland Fire Management Plan, Pōhakuloa and O'ahu Training Areas, was developed to establish specific guidance, procedures, and protocols for managing wildfires on Army training lands. The Army would update the Wildfire Management Program to address proposed activities in order to minimize wildfires. This would include, but would not be limited to, preparing fire management area and wildland fire SOPs for KTA and KLOA, which would include Drum Road. These updates would be completed before activities associated with Transformation would commence. Additionally, ITAM geographic information systems would monitor the effectiveness of wildfire management activities. Army personnel would practice best management practices in operations, and trained personnel and equipment would be on hand during training activities to respond to wildfires.

To aid in suppressing any wildfires, one dip pond would be constructed on KTA, and, during training, personnel and equipment would be assigned to a dip pond for responding to a wildfire.

This mitigation would reduce wildfire impacts to less than significant.

Additional Mitigation 5. No additional mitigations have been proposed.

Less than Significant Impacts

Hazardous materials management. The Proposed Action would not significantly increase hazardous materials usage at KTA. Short-term impacts would be associated with construction activities at the proposed project sites. Construction-related activities would require the use of hazardous materials in excess of existing quantities. Construction activities of the 3-acre (0.11-hectare) CACTF would consist of demolishing approximately 280 square feet (164 square meters) of facilities, including tactical movement trails, simulated firing points, obstacles, targets, and other infrastructure. Project construction would involve earth movement, grading, and other typical construction activities. Construction of a tactical vehicle wash would involve similar construction activities to provide six wash stations, each to support a 60-foot (18-meter) long by 12-foot (4-meter) wide vehicle. Contract specifications control the use of hazardous materials and require compliance with federal, state, and local requirements and with installation policy on hazardous materials. The US Army follows strict SOPs for storing and using hazardous materials, so no new procedures would need to be implemented to store or use the construction-related hazardous materials. Excess quantities of unused hazardous materials would be removed after construction. Construction issues would not likely result in any significant impacts.

Hazardous materials would be handled in accordance with existing regulations and base-wide hazardous materials management and standard operating procedures. The new facilities would continue to use the existing HMCC facility on SBER. The USAG-HI also conducts routine compliance inspections of all facilities containing hazardous materials to ensure their proper handling, use, and storage. The proposed activities would not introduce a significant impact, and no mitigation would be necessary.

Hazardous waste management. Activities related to the Proposed Action would not significantly affect hazardous waste management. Construction could generate small amounts of hazardous waste. Operational activities associated with the Proposed Action would not significantly affect hazardous waste management. As mentioned in Chapter 5, Section 5.12, the US Army follows strict regulations and SOPs for the temporary storage and disposal of hazardous waste. The SBCT would be required to manage and dispose of hazardous waste generated by operations through DRMO-HI, in accordance with existing regulations and base-wide protocol regarding storage, use, and disposal. Hazardous waste associated with construction activities would cease to be generated at the completion of construction.

The additional hazardous waste generated by the Proposed Action would not result in a significant increase to the total amount of hazardous waste managed and disposed of from the base; therefore, there would be no significant construction-related or operational impacts, and no mitigation would be required.

General training. In conjunction with the proposed CACTF, up to 200 vehicles, including Strykers, HMMWVs, and trucks would be used per exercise at KTA. Collective training exercises would be conducted generally between 90 and 180 days a year. Training activities could expose additional areas to potential leaks, spills, or drips from military training equipment. USARHAW would, during any on-site operational activities within a specific project area, implement SOPs to minimize the potential for spills or other harm to the environment. Targets and security devices would be funded by OPA. UXO cleanup is not required because KTA has supported only nonlive-fire training in the past. As further explained in Chapter 4, Section 4.12 of this document, in order to protect the public during range training exercises, SDZs have been included in the range design, in accordance with Army Pamphlet 385-64, *Ammunition and Explosive Safety Standards*. Additionally, in order to protect Army personnel during range training events, soldiers and officers are given safety manuals, operation-specific field manuals, and range-specific briefings prior to the training exercise, with a complete discussion of safety procedures while training. There would be no significant impacts, and no mitigation would be required.

Electromagnetic fields. Two FTI sites would be constructed at KTA. 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 produced by FTI towers or RAWS. The FTI sites would be appropriately fenced to prevent trespassing and exposure to any harmful EMF. Warning signs would be posted around the perimeter of all potentially harmful EMF sources. DOD Instruction 6055.11 and Army Pamphlet 385-64, as well as other Army regulations pertaining to EMF, would be followed in the new facilities. Only trained personnel would work with equipment emitting EMF. There would be no significant impact to the public from exposure to EMF, and no mitigation would be necessary.

Petroleum, oils, and lubricants. A tactical vehicle wash would be constructed at KTA as a part of the Proposed Action. As described in Appendix D, the water from the proposed wash systems would flow through a water sediment basin, equalization basin, and secondary treatment. Treatment would include oil, grease, and grit removal and organic control. Additionally, OWSs would be provided to treat any residual water that had not gone through

the main system. Oils would be skimmed regularly from the surface of the OWSs, as is the current practice for facilities using OWSs. DRMO-HI would dispose of the waste oil in accordance with federal and Army regulations.

There are no storage tanks within the project areas, and no new storage tanks would be installed as a result of the Proposed Action. Stryker wheeled vehicles would be used on KTA under the Proposed Action, but they would be maintained at SBMR. Construction activities could expose additional areas to potential construction equipment leaks, spills, or drips. During construction within a specific project area, USARHAW would implement the SOPs stated in Chapter 5, Section 5.12 of this document.

Best management practices would be used and construction and operation would follow USEPA and USAG-HI protocol for using and handling hazardous materials, such as petroleum, oils, and lubricants. Each facility maintains strict SOPs and spill contingency plans for hazardous materials and waste, identifying specific operating responsibilities and procedures. The Proposed Action would not pose any significant impacts from POLs, and no mitigation would be required.

No Impacts

Unexploded ordnance. Only blank ammunition and SRTA are permitted for use at KTA. SRTA does not produce explosives projectiles and therefore does not have the potential to introduce UXO on KTA. UXO cleanup is not required because KTA has only supported nonlive-fire training in the past. No UXO clearance would be necessary in the future, so UXO would not pose a threat, and no mitigation would be necessary.

Installation restoration program sites. There are no IRP sites under investigation on KTA, so there would be no impacts, and no mitigation would be required.

Pesticides/Herbicides. Activities associated with the Proposed Action would not affect pesticide management on KTA because this action would not increase the amount of pesticides used on the installation; therefore, there would be no impact, and no mitigation would be required.

Reduced Land Acquisition Alternative

The impacts associated with RLA are identical to those described for the Proposed Action.

No Action Alternative

The current baseline of existing conditions at KTA would continue under the No Action Alternative. Impacts would continue at their current levels with no increase in hazardous material use or waste generation. Hazardous materials and waste management, EMF issues, POLs, and wildfires would continue under existing conditions and therefore would continue to present less than significant impacts. Federal, state, and Army protocol would continue to be followed when managing, handling, and storing hazardous materials and wastes at KTA, including isolating and signing potential EMF sources on the site. Additionally, as non live-fire training would continue at KTA, SRTA would not be used under No Action. Wheeled vehicles would continue to be used, excluding Strykers, and the threat of wildfires would

persist. Army activities would continue to be guided by the 25th ID(L) and USARHAW Wildfire Management Program. There would be no significant hazardous materials and waste impacts introduced to KTA or KLOA under the No Action Alternative.