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Report to the Chairman, Subcommittee on Readiness and Management Support, Committee on Armed Services, U.S. Senate

April 2002

MILITARY TRAINING

Limitations Exist Overseas but Are Not Reflected in Readiness Reporting

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United States General Accounting Office
Washington, DC 20548

April 30, 2002

The Honorable Daniel Akaka
Chairman, Subcommittee on Readiness
and Management Support,
Committee on Armed Services
United States Senate

Dear Mr. Chairman:

Rigorous, realistic training is one of the keys to military readiness. All United States military forces, including the approximately 240,000 military personnel stationed outside the continental United States (CONUS), conduct frequent training exercises to hone and maintain their war-fighting skills. About 110,000 U.S. military personnel are stationed in Europe and 130,000 in the Pacific, including the states of Hawaii and Alaska. (See app. I for maps showing the two theaters and what units are stationed there and app. II for a map of each location and its major training areas.) Concerned that growing restrictions by host governments are limiting the training opportunities available to U.S. military forces, you requested that we examine a number of issues related to the ability of non-CONUS-based forces to train. Accordingly, our objectives in this report were to assess (1) the types of training constraints that non-CONUS forces face and whether they are likely to increase in the future, (2) the impact these constraints have had on the ability of military units to meet their training requirements and on their reported readiness, and (3) alternatives that exist to increase training opportunities for these forces. As agreed with your office, we included all U.S. forces based outside the 48 contiguous states in our examination, which includes those based in Hawaii and Alaska. A more detailed description of our scope and methodology is included in appendix III.

This is the first of two assessments we have recently made of training limitations facing U.S. forces. We are also nearing completion of a study of environmental and commercial development issues affecting military training ranges in the continental United States. That report is being conducted at the request of the House Committee on Government Reform and is expected to be completed shortly.

Results in Brief

Non-CONUS combat units are able to meet many of their training requirements but face a variety of training constraints that have grown over the past decade and are likely to increase further. Units have the most difficulty meeting their training requirements for (1) maneuver operations, (2) live ordnance practice, and (3) night and low altitude flying. These difficulties arise because both the European and Pacific units' home-station training locations are not large enough to conduct specific ground maneuvers on a regular basis; are limited in the types of munitions or use of live fire or both; and are restricted in terms of flight hours, altitudes, and electronic frequencies allowed. While some restrictions are long standing, the increase in restrictions facing U.S. forces in many cases is the result of the growing commercial and residential development on or near previously established training areas and ranges. The construction itself, including residential and agricultural development within training ranges, has forced some ranges to close, reduced the training capability at others, and often delayed training on those that remain. Continued growth in land use and competing demands for air space near training ranges is likely to result in further training constraints in the future.

Training constraints have a variety of adverse effects, including (1) requiring workarounds—or adjustments to the training event—that sometimes breed bad habits that could affect performance in combat; (2) requiring military personnel to be away from home more often; and (3) in some instances preventing training from being accomplished. One potential problem with workarounds is that that they lack realism, and the procedures used during the workaround could lead to individuals practicing tactics that may be contrary to what would be used in combat. For example, in actual combat, weapons are armed well before pilots make a final approach to a target; however, in Korea, pilots are not able to arm their weapons until the final approach on its training ranges because of terrain limitations. This causes these pilots to learn inappropriate combat tactics. While all units have to deploy to major training centers, like the Army's Combat Maneuver Training Center in Hohenfels, Germany, to obtain some of their higher-level combined-arms training skills, we found that all non-CONUS units had to deploy to complete training that normally is performed at home station by CONUS units. These units deploy to other locations within the country in which they are stationed (or in the case of Alaska and Hawaii to other locations in the state); to other locations within their theaters; or back to the United States to complete training. While deployments allow the units to complete a great deal more of their training, they result in increased costs and more time away from home. Even with these actions, there are times when the units are not able to accomplish required training or accomplish the training to

such a limited extent that it just minimally satisfies the requirement. However, the adverse effects of training constraints are often not being captured in readiness reporting. Our review of unit readiness assessments for almost all combat units in Europe and the Pacific for the last two fiscal years showed that the impact of limitations and restrictions on training were rarely reflected in unit readiness reports.

U.S. military commands and services are taking a variety of actions to address constraints, such as negotiating with host governments to lessen restrictions on existing training areas, but such actions are often done at an individual-service level and sometimes create unforeseen problems for other services and for existing training capabilities. For example, Air Force pilots at Misawa Air Base in northern Japan are allowed to use a nearby Japanese air base to land their F-16s during inclement weather but are not able to practice for this maneuver because of an agreement reached by local Japanese military officials and a local U.S. Navy official when Misawa was a U.S. Navy installation. Under the agreement, Navy P-3 aircraft were allowed to practice such landings, but U.S. fighter aircraft could not. At the time, the Navy had no fighter aircraft at Misawa, and the limitation did not seem significant. The regional military commands do not have a strategy for coordinating efforts to improve training that could prevent the individual services from pursuing solutions to their training shortfalls that are unintentionally detrimental to other services or that unintentionally sacrifice some training capabilities to improve others.

GAO is making recommendations to improve the quality of readiness reporting to reflect training constraints and to provide for a more holistic approach to addressing training constraints. In written comments on a draft of this report, the Department of Defense stated that it substantially concurred with the contents of the report and its recommendations. A detailed discussion of the department's comments is contained in the body of this report.

Background

Armed forces must be trained and ready in peacetime to deter wars, to fight and control wars that do start, and to terminate wars on terms favorable to the U.S. and allied interest. Historical experiences indicate that there is a correlation between realistic training and success in combat. Hence, training should be as realistic as possible to prepare troops for combat. Service training guidance emphasizes the importance of live fire training to create a realistic combat scenario and to prepare individuals and units for operating their weapons systems.

U.S. forces are required to train for a variety of missions and skills. This training includes basic qualification skills such as gunnery and higher-level unit operational combat skills. Service training requirements typically require the use of air ranges for air-to-air and air-to-ground combat, drop zones, and electronic warfare; live-fire ranges for artillery, armor, small arms, and munitions training; ground maneuver ranges to conduct realistic force-on-force training at various unit echelons; and sea ranges to conduct ship maneuvers for training. To achieve required training, non-CONUS forces use a variety of training areas and ranges that are generally owned by host governments.

Ideally, forces conduct the majority of their required training at home station using local training areas or operating areas. However, non-CONUS forces have historically relied on a combination of instrumented training ranges away from home station, major training centers, CONUS training exercises, and multilateral training exercises with countries within their theater to obtain their required training. This includes the Navy and the Marine Corps, which have no permanently stationed combat forces in Europe and no fixed access to training ranges in the European theater.[1]

We have previously reported that the size of home station training areas available to units varies greatly, particularly between units stationed overseas and those in the United States.[2] For example, we reported that local training areas for units stationed in Germany have historically varied in size from 3 acres to 8,000 acres, with divisional units not always housed at the same location. In the United States, we reported that individual installations vary, but far more land is available and typical installations may vary in size from just under 100,000 acres up to more than one million acres.

While this report's focus is exclusively on training constraints outside CONUS, both we and the Department of Defense (DOD) are examining constraints on CONUS training. At the request of the House Committee on Government Reform, we are reviewing the effects of environmental and

[1] The Navy and Marine Corps deploy forces into the European theater fully trained at their highest state of readiness. Therefore, their objective is to provide "maintenance" or "proficiency" training during their six-month deployment in theater.

[2] U.S. General Accounting Office, *Operation Desert Storm: War Offers Important Insights Into Army and Marine Corps Training Needs* (GAO /NSIAD-92-240, Washington, D.C.: Aug. 25, 1992).

commercial development restrictions on key training areas within the 48 contiguous states and whether DOD is effectively working to address these issues. In addition, DOD is in the process of determining the extent of the training problems at CONUS facilities. DOD's Senior Readiness Oversight Council initiated a sustainable range initiative spearheaded by the Defense Test and Training Steering Group. The initiative's purpose is to develop and recommend a comprehensive plan of action to ensure that the department maintains range and airspace capabilities that support DOD's future training needs. In November 2000, the steering group submitted a sustainable range report to the Oversight Council followed by the publication of nine action plans that addressed eight training-related issues[3] confronting CONUS training and an outreach plan. Currently, DOD's efforts have focused almost exclusively on CONUS training. There is no consolidated DOD-wide listing of non-CONUS training ranges and their associated limitations. Some services have started collecting this information, but a complete inventory is not yet available.

Forces Face Increasing Training Limitations

Unlike CONUS-based forces, which conduct their company level and below training at home-station, none of the permanently stationed non-CONUS combat units are able to meet all their company-level and below training requirements at home station. According to service doctrine, home-station training should support company-level and below training requirements. Non-CONUS combat units have the most difficulty meeting their training requirements for (1) maneuver operations, (2) live ordnance practice, and (3) night and low altitude flying. These difficulties arise because both the European and Pacific units' home-station training locations are not large enough to conduct specific ground maneuvers on a regular basis; are limited in the types of munitions or use of live fire or both; and are restricted in terms of flight hours, altitudes, and electronic frequencies allowed. Some restrictions are long-standing, while others are more recent. In many cases, the increase in restrictions facing U.S. forces is the result of the growing commercial and residential development on or near previously established training areas and ranges. The construction itself, including residential and agricultural development within training ranges, has forced some ranges to close, reduced the training capability at

[3] The report addressed endangered species, unexploded ordnance, frequency encroachment, maritime sustainability, national airspace redesign, air quality, airborne noise, and urban-growth encroachment.

others, and often delayed training on those that remain. Continued growth and host nation concerns may result in further restrictions in the future.

Ground Maneuver Restrictions

In many instances non-CONUS-based units' home-station local training areas are not large enough or are inappropriate for certain operations. To make training as realistic as possible, many exercises require specific terrain or large maneuver areas. However, in both Europe and the Pacific U.S. ground forces lack enough space and/or the appropriate terrain to train at their home stations. Following are several examples of such limitations.

- The Army in Germany has historically had limited local training areas available for units to engage in home-station training. The Army recognizes only 7 of the 61 identified local training areas as having all the characteristics of a local training area. Over the past decade, as part of the Army's practice of being a good neighbor, there has been a shift toward using designated areas as opposed to large open areas on private land, which has further lessened the amount of land available for training. Although, the Army has limited local training areas, it has been able to conduct all its required training using a combination of training areas within Germany. Figure 7 in appendix II is a map showing the locations of major units and training facilities in Germany.

- Army units in Italy also have a limited number of local training areas to conduct home-station training, and for some types of mission training the terrain there is inappropriate for the desired training. Army officials based in Italy said that there were only a few instances where training was constrained at some local training areas. One local training area does not allow the soldiers to train on their High Mobility Multipurpose Wheeled Vehicles. A second local training area is coming under pressure from increased recreational use by the local population. Specifically, during summer 2001, a portion of this training area was completely closed because the area abutting it is becoming increasingly popular for hikers. Army officials expressed concern that they may lose more of the training area in the future. Regarding having the right terrain, while Army units in Italy are expected to operate in wooded areas, soldiers told us that during some exercises they pretended to be moving through a wooded area hiding behind trees when in actuality they were moving through an open field at their local training areas. Figure 8 in appendix II is a map showing the locations of major units and training facilities in Italy.

- In Korea, the Army's local maneuver areas are inadequate in size to support platoon and company training events, which has been a long-standing problem. While the local training areas have always been inadequate to support training events to Army standards, the areas available for training are shrinking as the population in or around the training areas increases. Figure 10 in appendix II is a map showing the locations of major units and training facilities in Korea.

- In Japan, local training areas on Okinawa are too small to support the Marine Corps' maneuver-training requirements. Only small-unit elements can maneuver together. Large force elements that would normally be in close proximity to each other and maneuver together must break into small groups, disperse among the island's training areas, and maneuver independently. Further, maneuver training that ideally would be conducted in a continuous, uninterrupted manner must be started and stopped as units move from one non-contiguous training area to another. Training constraints have further increased as a result of the 1996 Special Action Committee on Okinawa agreement[4], which returned the Yomitan Auxiliary Airfield—the site previously used to conduct parachute drop training—to Japan and terminated nearly all artillery training on the island. Most battalion exercises and parachute drops, which require troops to conduct maneuver exercises after being dropped, have been relocated off Okinawa. Marine Corps officials told us that it is becoming increasingly difficult to obtain maneuver training on Okinawa. Figure 11 in appendix II is a map showing the locations of major units and training facilities in Japan.

Live-Ordnance Restrictions

Many local training areas in both Europe and the Pacific prohibit the use of live munitions or specific weapon systems. DOD officials have repeatedly expressed the need for live-fire to make training realistic preparation for combat. Many live-fire restrictions were implemented because development and population growth near the training ranges reduced the areas available for safety zones and led to noise complaints from nearby residents. Following are examples of such restrictions.

[4] The United States and Japan launched the Special Action Committee process to reduce the training burden on the people of Okinawa and thereby strengthen the Japan-U.S. alliance. The committee was to develop recommendations to realign, consolidate, and reduce U.S. facilities and adjust operational procedures of U.S. forces on Okinawa.

- In Germany, for decades Army unit-level personnel have had difficulty in conducting live fire training at home station except for small arms because of the prohibitions on live fire in those areas. Army units have historically gone to the Grafenwoehr Training Area—the Army in Europe's principal live-fire training area—to conduct live fire training on their major weapons such as tanks and artillery. Regarding Grafenwoehr's sufficiency for future advance munitions, Army officials told us that they plan to upgrade the training area to accommodate all munitions that will be used by Army in Europe units.

- Both the Army and the Air Force in Italy have restrictions on live fire training. There are such restrictions at nine of the Army's ten local training areas and firing ranges. The Air Force's fighter wing in Italy does not have a local air-to-ground range for bombing training although bombing is one of its primary missions. The lack of an air-to-ground range is a long-standing problem and prevents the wing from conducting surface attack training in Italy.

- The two F-15E squadrons in the United Kingdom cannot employ laser-guided bombs on any of their local ranges. Laser-guided bombs are the primary munitions used for air-to-ground attacks by these squadrons. Although these squadrons have regular access to air-to-ground ranges for non-laser-guided bombing, the ranges are not considered quality tactical training ranges that allow pilots to train for identifying and engaging targets. Figure 9 in appendix II is a map showing the locations of the fighter wing and training facilities in the United Kingdom.

- When in Europe, Navy units have limited access to training for live fire combined arms, supporting-arms coordination, and naval gunfire support—all of which are capabilities that the Navy tries to maintain at a certain level while deployed in theater. As a result, they rely on bilateral exercises, use of other country's ranges or North Atlantic Treaty Organization (NATO) exercises to attain training.

- Both the Air Force and the Army in Korea face restrictions on live fire training. The capabilities at Koon-ni, the Air Force's only exclusive-use range, have steadily diminished over time. Prior to 1978, live bombs were dropped on the target island, practice bombs were dropped on the mainland, and strafing was conducted on a scored[5] land target. In 1978,

[5] Scoring is the process of quantitatively measuring training performance.

live bombing was discontinued. Over the years, commercial development has moved within the range's safety easement zone. By 1989, practice bombing was restricted to the target island and in 2000 the scored strafing pits were closed. Figure 1 is a photo of a steel mill constructed within the zone during the time that strafing was still allowed. As of April 2002 only training ordnance is allowed and can only be used over water. For the Army, its live-fire Story Range Complex does not have a safety easement zone sufficient for some of its longer-range weapons, such as the Multiple-Launch Rocket System and the Palladin. In addition, farming and structures—such as houses, a greenhouse, and power lines—lie within the range's boundaries. Army officials said they frequently find farmers on the range, but they are working with the Korean government to fence this range to keep farmers out of those areas. Figure 2 shows a picture of a local farmer harvesting rice inside the impact area at the Story Range. These farmers have to be removed for obvious safety reasons before the Army can use the range, which causes delays in training.

Figure 1: A Steel Mill Constructed in the Safety Easement Area of the Koon-ni Range

Source: GAO.

Figure 2: A Korean Woman Harvesting Rice on Field Inside the Story Range Complex

Source: GAO.

- In Japan, the Navy's ships and aircraft face live-fire restrictions at their local training facilities. The Navy is unable to conduct two of its surface anti-air warfare exercises due to inadequate target support facilities. These exercises are for the Rolling Airframe Missile against a subsonic cruise missile target and for the standard missile against the Supersonic Sea Skimming Target. The Navy ships typically use Farallon de Medinilla, a range about 1,400 miles from Tokyo, to train aircraft in their air to ground deliveries and for surface ship naval gunfire support. Pacific Command officials said that in March 2002, a Federal judge held that the incidental killing of migratory birds at this range violated the Migratory Bird Treaty Act and that a hearing is scheduled for April 30, 2002, to determine if operations at this range will be enjoined. Furthermore, the Pacific Command said that if the Navy loses use of this range, serious degradations in readiness will be expected within six months unless an alternative range is found. In addition, the Navy's carrier air wing faces constraints on its ability to conduct live fire training. Because of the close proximity of the wing's home base at Atsugi (a suburb of Tokyo) to the local population, live munitions are not allowed to be stored at Atsugi or to be carried by aircraft departing the runway. Consequently, the wing's aircraft have to take off from Atsugi, land at another base in Japan to load munitions, and then continue on to other ranges to conduct their live fire training.

- In addition to training constraints on mainland Japan, on Okinawa the Marines have limited live-fire range capabilities at their local training areas. For the Marines, the ranges throughout the island have fixed firing points that do not allow tactical firing. Figures 3 and 4 show examples of the fixed firing points at two of the ranges. As a result, Marines can train to fire in only one direction as opposed to firing in any direction, which would be the most likely situation in combat. While these ranges can help a new Marine become familiar with his weapon, they cannot provide realistic or qualification training. In addition, since the early 1990s, the Marines' ability to conduct artillery firing on Okinawa has steadily diminished and as previously noted was discontinued altogether in 1996. The government of Japan now pays for the Marines to conduct their artillery firing training on the Japanese mainland four times a year. However, Marine Corps officials told us that one of the artillery ranges used on the mainland, Camp Fuji—a co-use training area in northern Japan—is restricted and that artillery is not being trained as robustly as it was on Okinawa.

Figure 3: A Machine Gun Firing Point on Range 7 in Okinawa

Source: GAO.

Figure 4: A Tank Tunnel Firing Point on Range 10 in Okinawa

Source: GAO.

- Land limitations and environmental concerns restrict live fire training in Alaska and Hawaii. In Alaska, the artillery, mortar, and Tube-Launched, Optically-Tracked, Wire Command-Link Guided missile (TOW) firing area at Fort Richardson is unavailable to units 6 months a year (during the warmer months). In addition, the local training areas are insufficient to support cavalry gunnery, air-defense artillery-platoon "Stinger" missile ground-to-air gunnery, TOW, and the MK-19, an automatic grenade launcher. In Hawaii, the Makua live fire range complex on Oahu was closed from September 1998 to October 2001 because of environmental concerns raised by the local population. Consequently, during this time the Army and Marines were unable to conduct company live fire exercises at home station. According to Army in the Pacific officials, the Makua range complex is now open for limited use under the terms of a lawsuit settlement. According to these officials, it is unlikely that the Marines will be able to use this range for the next 3 years because the settlement agreement limits the number of annual training events.

Airspace Restrictions

Forces in both Europe and the Pacific are not able to conduct all their aviation training events using their local training areas due to a variety of airspace restrictions. For aviators in both theaters, air space restrictions limit the ability to accomplish required training; thus limiting pilots and aircrews' proficiency in some areas. Although some restrictions are long-standing, Air Force personnel told us that airspace throughout Europe and the Pacific is becoming increasingly congested, adding to the difficulty in completing training. Following are examples of airspace restrictions.

- The Air Force units stationed in Germany have limited local air space available, and altitude restrictions prohibit flying below 1,000 feet. Airspace is routinely available between 1,000 and 10,000 feet and the Air Force can obtain access to temporary reserved airspace above 10,000 feet,[6] which is allocated to military training flights. The ability to train below 1,000 feet and above 10,000 feet is important because pilots are likely to engage in combat at both low and high altitudes. In addition, flying is limited to the hours between 7 a.m. and 11 p.m.[7] Pilots are also prohibited from flying at supersonic speeds and employing chaffs and flares. The tactical ranges in Germany are limited in that only eight aircraft at a time can use them; this does not allow the pilots to train in a realistic formation.

- Air space restrictions in Italy are a major challenge for the Air Force wing located in Aviano. The wing does not have permanent air space for air-to-air training in Italy. Currently, the wing uses a number of small air spaces over the base and airspace over the Adriatic Sea; however, there is no binding agreement for continued use of this space. Since 1993, the Italian government has limited U.S. military aviation forces in Italy, including both the Air Force and the Army, to 44 sorties[8] per day. According to wing personnel, it is impossible for the Air Force to meet all annual training events within the 44 sorties per day restriction. In addition to sortie limitations, the Air Force is faced with additional restrictions, such as restricted flying hours, which make it difficult to complete night training requirements; hot pit refueling, that is, refueling while the pilot is in the cockpit and the engine is running; employing chaffs and flares; and flying at low altitudes.

[6] Generally, temporary reserved airspace is capped at 24,000 feet; however, on rare occasions it can be extended up to 31,000 feet.

[7] Although the flying hours are usually 7 a.m. to 11 p.m., they may be adjusted for NATO exercises or other events when requests are made to appropriate German authorities.

[8] A sortie is an individual flight by one aircraft.

- For the Air Force, airspace in the United Kingdom is very congested and has restrictions on high altitude and supersonic training, both of which are necessary for pilots to accomplish prescribed air-to-air attacks. Limited night flying hours restrict pilots' ability to accomplish night vision training events. Pilots have limited radio frequencies in which they can operate their electronic equipment. The only air space dedicated for unrestricted air-to-air training—including the ability to fly supersonic, employ chaff/flares, and fly at unlimited altitudes—is at an Air-Combat Maneuvering-Instrumentation (ACMI) range over the North Sea operated by a private contractor. See appendix II figure 9 for the location of the North Sea ACMI range. To gain access to this range, the United States must have a contract that allows it to buy training slots; however, this contract lapsed after fiscal year 2001 because of a lack of funding. Electronic warfare training is also a challenge for the Air Force wing. It does not have access to electronic warfare ranges where it can fly against threat emitters and regularly be exposed to reacting to aircraft system alerts. Lastly, the lack of radio frequencies for uses such as communicating while training and transmitting training telemetry to ground stations is an issue in the United Kingdom and throughout Europe. However, the United Kingdom and Italy have now approved frequencies for the Air Force in Europe's rangeless training technology although there is still a lack of radio frequencies for communicating while training

- In Korea, the ranges used by the Air Force at Koon-ni and Pilsung have several restrictions. Both ranges do not allow flying after 10 p.m. This makes it extremely difficult for pilots to meet night-flying requirements during the summer months. In addition, the physical locations of the ranges restrict the approaches that aircraft can use to enter the ranges and the angles of attack used to engage targets. In both these locations, the airspace has become increasingly congested over time. The construction of the Inchon commercial airport near Seoul and its expected traffic growth will have a negative impact on airspace availability for training at Koon-ni Range in the future.

- In Japan, Air Force and Naval aviators are unable to successfully complete training at home station. The size and capabilities of the Ripsaw Range in northern Japan do not support training for the Air Force wing's mission,[9]

[9] In 1995, the wing's primary mission changed from attacking general targets to suppression of enemy air defenses. The new mission requires extensive training against electronic warfare emitters.

which is suppression of enemy air defenses. The range has only two emitters, and the physical size of the range and airspace will not permit additional emitters. Further, frequency bands are extremely restricted in Japan and additional frequency approval would be very difficult even if the available range space would accommodate adding more emitters. Consequently, while the size and capability of this range has not changed, the wing's mission changed, rendering this range ineffective for current training requirements. For the Navy, prior to 1992, night landing practice was conducted at Atsugi Naval Air Field. However, due to noise complaints generated by the increased population from residential development that abuts the Air Field fence, in 1992 routine landing practice was discontinued at Atsugi. The interim solution has been to have the pilots use Iwo Jima, 674 nautical miles away. The base commander can get approval for night landing practice at Atsugi only if weather prohibits the use of Iwo Jima or if an emergency arises that requires the wing to deploy quickly. Furthermore, because the airspace around Atsugi has become extremely congested, landing patterns cannot be practiced to standard.

- In addition to constraints on mainland Japan, airspace on Okinawa is restricted, creating difficulties for Air Force and Marine Corps pilots. According to Air Force personnel, there is no electronic warfare training capability on the island. The closest range with electronic emitters is the previously discussed Ripsaw Range in northern Japan. Low altitude flying (below 1,000 feet) is prohibited over Okinawa. Good neighbor policies limit flying to between 6 a.m. and 10 p.m. Restrictions imposed to accommodate civilian air traffic have dramatically increased, and Marine Corps officials told us that as a result they cannot fly low altitude air defense missions effectively.

Constraints Adversely Affect Training, but the Effects Are Not Captured in Readiness Reporting

Training constraints have a variety of adverse effects. These include (1) requiring workarounds—adjustments to the training events—that sometimes breed bad habits that could affect performance in combat, (2) requiring military personnel to be away from home more often, and (3) in some instances preventing training from being accomplished. Sometimes workarounds lack realism, and the procedures used during the workaround could lead to individuals practicing tactics that may be contrary to what would be used in combat. While all units have to deploy to obtain some of their higher-level combined arms training skills, we found that all non-CONUS units had to deploy to complete training that normally is performed at home station by CONUS units. While deployments allow the units to complete a great deal more of their

training, they result in increased costs and more time away from home. Even with these actions, units are not always able to accomplish required training or accomplish the training to such a limited extent that it just minimally satisfies the requirement. However, the adverse effects of training constraints are often not being captured in readiness reporting.

Workarounds May Provide Unrealistic Training

Units employ workarounds to mitigate home-station training limitations. Although workarounds are preferable to forgoing the training, they often result in training that is of lower quality or that creates "negative" training. Negative training is practicing procedures in a manner inconsistent with how an action would be performed in combat, which results in developing bad habits. In Europe, in some instances the Army adapts maneuver training to fit the land available and the Air Force flies unrealistic air-to-ground attack training missions. In the Pacific, the Air Force must perform workarounds in Korea and Japan. These workarounds include delaying weapons arming when approaching the training ranges and using substitute signals to replicate threat emitters. Following are examples of such workarounds.

- In Italy, one of the Army's local training areas is not large enough or wooded enough to accomplish its required training. For the unit to perform its required flanking maneuver, it does so in pieces so that the land will accommodate the event. To train on what to do after making contact with the enemy, soldiers told us that a member of the unit would hide behind a pile of sandbags in an open field. The other members move through the open field and at some point the hidden solider playing the role of the enemy initiates contact for the unit to react. This workaround does not provide realistic training, because there is only one possible place the "enemy" can be. Army officials based in Italy said that this local training area is not the preferred place for units to conduct the type of training described and that other training areas are available and used between 150 and 220 times per year.

- Air Force pilots in the United Kingdom have to both simulate air-to-ground attacks using training lasers instead of real lasers and train at different altitudes than they would likely operate at in combat. According to personnel at the fighter wing, training lasers create bad habits, especially for younger, less-experienced pilots, because the training laser has a shorter range, which does not allow for training on the longer range targeting likely in combat. In addition, flying at altitudes that are different than the altitudes likely to be used in combat affects pilots' timing, habit patterns, situational awareness, and engagement times. For example,

because air-to-air missiles have twice the range at high altitude than at low altitude, the inability to train at high altitudes does not allow pilots to practice firing missiles in a realistic combat scenario.

- In Korea, at the Koon-ni range pilots have to delay arming their weapons until final approach. According to Air Force personnel this is negative training because, in actual combat, weapons are armed well before the final approach.

- In Japan, to get practice against more than the two threat emitters at Ripsaw Range, pilots from the fighter wing must employ a "trick file" to fool their aircrafts' on board electronic warfare systems to make the systems think that weather and other civilian radars are threat emitters. While this workaround enables the aircraft's sensors to pick up the radar signals as if they were threat systems, the training is not realistic. The commercial radars are always turned on, making them easy to find. In combat situations, adversaries keep their air defense radars off as much as possible, making them much more difficult to locate.

Deployments Allow Units to Meet Some, but Not All, Training Needs

When units are unable to mitigate their training constraints with a workaround, the next course of action taken is to deploy to complete training requirements. While all units have to deploy to major training centers like the Army's Combat Maneuver Training Center in Hohenfels, Germany to obtain some of their higher-level collective training skills, we found that all non-CONUS units had to deploy to complete training that CONUS units normally conduct at home station. Non-CONUS units deploy to other locations within the country in which they are stationed; in Alaska and Hawaii to training facilities elsewhere in those states; to other countries within their theaters; or back to the United States to complete training. While deployments allow the units to complete a great deal more of their training, they result in increased costs and more time away from home, although both DOD and the Congress are trying to reduce time away from home.

Data we collected from each of the military services' commands in Europe and the Pacific show that in many cases when an entire country's training facilities (including both U.S. and host-country-operated facilities) are considered, or in the case of Alaska and Hawaii all facilities in those states, units are able to meet many of their training requirements. Since some facilities are not located near where units are stationed, Army and Marine Corps ground maneuver units and some Navy aviation units and ships must deploy to training facilities elsewhere in the country or state in

which the unit is based and sometimes to other locations in their theater of operations. Air Force wings, except those in Korea, must deploy outside the country or state in which they are based to complete their training.

The following is a discussion by service of overall training capabilities. Tables 1-4 show each service's training capabilities and how well the Commands believe their training facilities in that country or state satisfy their training needs. At our request, the service commands graded their locations on a high, medium, or low scale. High (H) denotes that units can fully satisfy or satisfy a vast majority of the capability; moderate (M) denotes that most of the capability can be satisfied; and low (L) denotes that very few to none of the training requirements can be satisfied in country or within the state. Because each service has different training requirements, the capabilities being rated vary.

- As shown in table 1, Army units can meet most training needs in country or state. Army units mainly deploy within country or state to obtain maneuver, major gunnery, and combined arms live fire training at the company level or higher. Army units in Germany deploy to Grafenwoehr and Hohenfels training areas on an average of 28 days per year to accomplish this training. Army units in Italy deploy to Grafenwoehr twice a year for about one month and to Hohenfels once a year for about 25 days to accomplish this training. In Korea, Army forces do not deploy away from Korea for training because of their mission. However, units have always had to deploy to larger training areas within country to complete necessary maneuver training. For example, each of the five armor and mechanized battalions in Korea deploy on average about 7 weeks each calendar year for maneuver training and, in total, the division's four aviation battalions deploy for training on average about 2-1/2 weeks each calendar year. Army units in both Hawaii and Alaska deploy within their respective states to accomplish their training requirements. This is particularly true for live-fire combined-arms training. There are no Army combat units permanently stationed in Japan.

Table 1: Army Capability Table

	Army				
Capability	**Germany**	**Italy**	**Korea**	**Hawaii**	**Alaska**
Armor qualification gunnery	H	[a]	H	[a]	[a]
Mechanized qualification gunnery	H	[a]	H	[a]	[a]
Infantry weapons qualification	H	H	H	H	H
Attack helicopter qualification gunnery	H	[a]	M	M	[a]
Lift helicopter qualification gunnery	H	M	M	H	H
Artillery qualification	H	H	M	H	H
Air defense artillery systems qualification	H	M	H	H	H
Engineer qualification	H	**L**	H	H	H
Military Police Qualification	H	M	H	H	H
Squad/platoon live-fire exercises	H	H	H	H	H
Platoon Exercise Evaluation/Army Training Evaluation Program	H	H	M	H	H
Company/Battalion Field Training Exercise	H	M	M	H	H
Nonstandard urban operations training	H	H	H	H	**L**
Mission-Essential Training List training	H	M	H	H	M
Joint training	H	H	H	[a]	H

Legend:
H = All or a vast majority of training needs can be satisfied.
M = Most of the training needs can be satisfied.
L = Very few of the training needs can be satisfied.

[a] Not applicable.

Source: U.S. Army Europe and Pacific Commands' Analysis.

- As shown in table 2, Marine Corps units' ability to meet training requirements are more limited than the Army's. Units must deploy to achieve most of their combined-arms live-fire training requirements. In Japan, on the island of Okinawa, Marine Corps training is largely limited to small arms live-fire and maneuver training at company level and below. Units must deploy off Okinawa to maintain basic skill training. Since 1996, to conduct artillery live fire training, four times a year 150 to 700 Marines stationed on Okinawa deploy to the Japanese mainland for 30 days. Live-fire and maneuver training above the platoon and squad level and any integrated combined-arms live-fire training involving coordinated air and ground assault, also must be conducted away from Okinawa. For each of these training exercises, about 1,000 sailors and marines deploy for 40 days. In Hawaii, Marine Corps forces on Oahu must deploy to the Army's Pohakuloa Training Area on the island of Hawaii, about 200 miles from Oahu, to conduct combined air and ground task-force training. Each deployment lasts between 25 and 30 days and involves a maximum of 2,100 Marines. Prior to September 1998, the Marines would have conducted most of this training at the Army's Makua military training area

on Oahu, lessening both deployment days and cost. Principally because of transportation costs, the Marines estimate it costs $500,000 more per year to train at Pohakuloa than it does to train at Makua. There are no Marine Corps combat units permanently stationed in Europe.

Table 2: Marine Corps Capability Table

	Marine Corps in the Pacific		
Capability	**Japan**	**Okinawa**	**Hawaii**
Marine air			
Electronic warfare	**L**	**L**	M
Inert ordnance	M	M	H
Live ordnance	M	M	H
Stand-off weapons	**L**	**L**	**L**
Air combat maneuvers	M	M	M
Night operations	M	M	M
Supporting arms coordination exercise	M	M	H
Troop lifts	H	H	H
Reconnaissance	M	M	M
Command and control	M	M	H
Chaff and flare expenditure	M	M	H
Marine ground			
Reconnaissance	M	M	H
Ground maneuver	M	M	**L**
Combined arms and supporting arms employment	M	**L**	M
Night operations	M	M	**L**
Command and control	M	M	H
Marine Expeditionary Unit (Special operations capable with Naval Special Warfare)	M	M	M
Amphibious warfare			
Surface assault	**L**	**L**	**L**
Helicopter assault	M	M	**L**
Amphibious reconnaissance	**L**	M	M
Live-fire support	M	**L**	**L**
Live Close Air Support	M	**L**	H
Simulated Close Air Support	M	**L**	**L**
Live demolitions	M	**L**	M

Legend:
H = All or a vast majority of training needs can be satisfied.
M = Most of the training needs can be satisfied.
L = Very few of the training needs can be satisfied.

Source: U.S. Marine Corps Pacific Command's analysis.

- As shown in table 3, Navy units have limited ability to meet training requirements in Japan, including Okinawa. Deployments are often needed to drop live ordnance, obtain proper electronic warfare training, fly at low altitudes, or to participate in combined air and ground forces training. For example, in Japan the carrier wing stationed at Atsugi Naval Air Field in the Tokyo suburbs deploys to maintain certification and qualification for aircraft carrier landings. Since 1992, aircrews have had to deploy to Iwo Jima, about 674 nautical miles from Atsugi, 2 to 3 times per year for this training. It requires between 350 and 500 personnel for a 10-day period to accomplish this training, which must be done prior to each carrier deployment. Because of its remote location and lack of an alternate emergency airfield, practicing carrier landings at Iwo Jima requires a safety waiver. In addition, these aircrews must also deploy to complete air-to-ground warfare training by either going to a target island near Okinawa, nearly 950 nautical miles away, or to Farallon de Medinilla, which is nearly 1,400 miles from Atsugi. For electronic warfare training, Navy aircrews stationed in Japan usually deploy to Pilsung Range in Korea, nearly 650 miles from Atsugi. During our visit to Japan, naval aviators said that it was not uncommon for them to deploy in excess of 200 days per year. There are no ships or carrier air wings permanently stationed in Europe.

Table 3: Navy Capability Table

	Navy in the Pacific		
Warfare area capability	**Japan**	**Okinawa**	**Hawaii**
Anti-air			
Air	**L**	**L**	M
Surface	**L**	M	H
Submarine	[a]	[a]	[a]
Anti-surface			
Air	**L**	M	H
Surface	**L**	M	H
Submarine	**L**	M	H
Undersea			
Air	**L**	**L**	H
Surface	**L**	**L**	H
Submarine	**L**	**L**	H
Mine			
Air	**L**	**L**	H
Surface	**L**	**L**	H
Submarine	**L**	**L**	H
Strike			
Air	**L**	**L**	M
Surface	**L**	**L**	**L**
Submarine	**L**	**L**	**L**
Electronic			
Air	**L**	**L**	M
Surface	**L**	**L**	H
Submarine	**L**	**L**	H

Legend:
H = All or a vast majority of training needs can be satisfied.
M = Most of the training needs can be satisfied.
L = Very few of the training needs can be satisfied.

[a] Not applicable.

Source: U.S. Navy Pacific Command's analysis.

- As shown in table 4, other than in Korea and Alaska, Air Force units have limited ability to train in the locations in which they are stationed. Many units must deploy to the United States to fulfill their live ordnance, electronic warfare, and low altitude flying requirements. For example, they deploy to the United States to participate in combined air and ground

forces training such as Red Flag[10] exercises and to participate in weapons testing exercises. The Air Force wing in Italy relies on deployments to Red Flag and weapons testing and delivery exercises to accomplish required training such as air-to-ground attacks, munitions employment, and low altitude flying because they do not have access to an air-to-ground range. In contrast, for CONUS-based units Red Flag is the culmination of training, not an opportunity to obtain training not available at home station. The Air Force wing in the United Kingdom also deploys to the United States for live fire training using laser-guided bombs and to engage in air-to-ground training on tactical ranges. Additionally, United Kingdom based units rely on deployments to Red Flag exercises or weapons system evaluation programs to complete their electronic warfare training. The Air Force in Europe discontinued use of a joint British and U.S. electronic warfare training range, Spadeadam, in October 2000, and the range is currently available on a pay-as-you-use basis. As a result of the cost, the fighter wing did not utilize this range during fiscal year 2001. Furthermore, a second option, the electronic warfare training range available in Germany, is not utilized on a routine basis because the distance from the United Kingdom to the range requires tanker support to train there, which increases training cost. In Japan, the wing stationed at Okinawa, as in the United Kingdom, doesn't have access to an electronic warfare range. This wing deploys to Ripsaw Range in northern Japan or to Pilsung Range in Korea to perform electronic warfare training. There are no active duty Air Force combat units stationed in Hawaii.

[10] Red Flag is one of the Air Force's premier training events. It provides realistic combat training in an air, ground, and electronic threat environment. It also allows participating units to operate with multiple weapon systems and U.S. allies.

Table 4: Air Force Capability Table

	Air Force						
Capability	**Germany**	**Italy**	**United Kingdom**	**Korea**	**Japan**	**Okinawa**	**Alaska**
Conventional	M	**L**	M	M	H	[a]	H
Tactical	**L**	**L**	**L**	H	M	H	H
Laser-guided bomb	**L**	**L**	**L**	**L**	**L**	[a]	H
Chaff	**L**	**L**	**L**	H	M	H	H
Flare	**L**	**L**	**L**	H	M	H	H
Night flying	**L**	M	M	M	M	H	H
Low & medium altitude	**L**	**L**	H	M	M	**L**	H
Heavy weight	**L**	**L**	M	M	M	[a]	H
Strafe	M	**L**	M	M	H	[a]	H
Live fire	**L**	**L**	**L**	M	**L**	[a]	H
Scorable	M	**L**	M	H	H	[a]	H
Electronic warfare	H	**L**	**L**	M	**L**	**L**	H

Legend:
H = All or a vast majority of training needs can be satisfied.
M = Most of the training needs can be satisfied.
L = Very few of the training needs can be satisfied.

[a] Not applicable.

Source: U.S. Air Force Europe and Pacific Commands' analyses.

Notwithstanding Workarounds and Deployments, Some Training Cannot Be Completed

In some instances certain types of training cannot be completed notwithstanding service efforts. Specifically, the Air Force in both Europe and the Pacific and the Navy in the Pacific are unable to complete all their required training events. Following are examples of training that cannot be completed.

- For the Air Force, individual units report to their command what types of training they were unable to accomplish in an internal document called their "End of Fiscal Year Training Shortfalls Report." The fighter wing in Italy reported that it could not complete its basic surface attack or night close-air-support training and the fighter wing in the United Kingdom reported that it could not accomplish all of its required night flying or electronic combat air-to-ground deliveries in fiscal year 2001. In Korea, fighter squadrons reported that they could not satisfy their night-flying requirements because aircraft are not allowed to fly with their wing lights off. This lowers combat capability because during training it is impossible for pilots to avoid looking at anti-collision or navigation lights, which would not be available during combat. In Japan, the wing stationed on Okinawa is unable to complete its electronic warfare or low altitude training requirements because there is no electronic warfare range near

Okinawa and because low altitude overland flights are not permitted on Okinawa.

- In Japan, five U.S. surface ships stationed in Japan are unable to complete their training requirements because they cannot fire the rolling airframe missile. This adversely affects their readiness. The targets used to qualify this missile cannot be launched and controlled from sites on Okinawa or elsewhere in Japan. According to Pacific Fleet officials, they arranged for alternate targets and the ships needing to fire the Rolling Airframe Missile did so at Farallon de Medinilla and Okinawa in March 2002. Now that this is done, Pacific Fleet officials expect these ships' readiness to increase. The ships are to maintain their currency through simulation.

Readiness Reporting

Our review of unit readiness assessments for almost all non-CONUS combat units in Europe and the Pacific for the last 2 fiscal years showed that most units consistently reported high levels of training readiness. The impact of limitations and restrictions on training readiness were rarely reflected in unit-readiness reports. However, individual services may report these limitations in other ways.

Each month, or whenever a change in readiness occurs, units report their readiness status through DOD's primary readiness reporting system, the Global Status of Resources and Training System. Units report their status in four resource areas, one of which is training. A unit's training readiness status is determined by the present level of training of assigned personnel as compared to the standards for a fully trained unit as defined by joint and service directives. [11]

We analyzed monthly Global Status of Resources and Training System data for fiscal years 2000 and 2001 to see how often non-CONUS combat units were reporting training readiness at high levels and lower levels. Our analysis included units from the Army divisions and Air Force fighter squadrons in Europe and the Pacific, and selected non-CONUS Navy and Marine Corps units in the Pacific. For the units that reported low training

[11] Commanders can assign a training status rating ranging from T-1, meaning most ready, to T-4, meaning least ready. Specifically, a T-1 rating assessment means the unit requires 0 to 14 days to train to proficiency in its wartime mission; a T-2 unit requires 15 to 28 days; a T-3 unit requires 29 to 42 days; and a T-4 unit requires 43 or more days to train to proficiency in its wartime mission. A T-5 rating assessment means that a unit's training proficiency cannot be determined due to special circumstances, such as an inactivation.

readiness, we examined the specific reasons cited for the lowered training readiness and also reviewed the commanders' comments to ascertain whether they attributed any of their training readiness shortfalls to training range or host country restrictions. Anytime a unit is not at level one, it must identify the reason why, and the readiness reporting instruction provides a list of reasons for commanders to choose. There is a reason in the instructions for identifying problems caused by inadequate training areas. In addition, commanders may submit their own remarks on any subject.

Our analysis of unit-readiness reports of combat forces stationed in Europe and for most combat forces stationed in the Pacific showed that during fiscal years 2000 and 2001 these forces rarely reported low combat readiness. In the Pacific, with the exception of U.S. naval forces stationed in Japan, forces rarely reported low training-readiness. Units from both theaters that did report low training-readiness rarely attributed the degradation to inadequate training areas. Rather, other factors were cited such as personnel shortages or operational commitments. Further, in those instances in which Air Force units reported low training-readiness, Air Force commanders' never cited training area limitations or host country restrictions as contributing factors to their low training-readiness. Army and Marine Corps commanders did cite training area limitations or host country restrictions as contributing factors, but only infrequently.

Naval forces stationed in Japan reported low training readiness more often than other forces, but still only a small proportion of the time. Inadequate training areas or ranges were the third most frequently cited reason for the degraded training readiness. Further, when commenting on their units' low training status, commanders of these units often cited the inadequacy of the ranges available to them and other restrictions that limited their ability to train. For example, one unit commander commented that the inability of his fighters to carry live munitions out of Atsugi Naval Air Field was a contributing factor to his lowered training readiness.

The limitations of the Global Status of Resources and Training System are well known in DOD. For the most part, military officials in both theaters and office of the secretary of defense officials told us that the unit readiness report is subjective and is not a vehicle to report training shortfalls and the associated limitations or restrictions. Officials within the office of the secretary of defense also noted that the reporting system does not function as a detailed management information system objectively counting all conceivable variables regarding personnel, training, and logistics. Rather, we were told that it asks commanders to report on

whether or not their units are combat ready or could be combat ready in a comparatively short period of time. However, as noted earlier, the readiness reporting system contains what are called reason codes to indicate the cause of lower reported readiness. These reason codes include inadequate training areas.

There is no overall training shortfalls report that would inform senior DOD leadership of a units' inability to obtain required training. However, individual Air Force units report to their command what types of training they were unable to accomplish and why they were limited in what is called their End of Fiscal Year Training Shortfalls Report. The Army has recently revised its training readiness reporting instructions to make the reporting more objective and the Marine Corps has an initiative underway to improve the accuracy, objectivity, and uniformity of its training readiness reporting, but there are no DOD-wide initiatives to make such improvements.

Service and Command Coordination Is Insufficient When Pursuing Training Alternatives

U.S. military commands and services are taking a variety of actions to address constraints, including (1) negotiating with host governments to lessen restrictions on existing training areas; (2) seeking to work with other countries to create additional training opportunities, such as expanding bilateral exercises to include training that can no longer be conducted at home station; and (3) using technology to create, among other things, transportable training systems designed for training outside the usual training areas. The regional military commands do not have a unified, coordinated strategy for coordinating efforts to improve training that could prevent the individual services from pursuing solutions to their training shortfalls that are unintentionally detrimental to other services or that unintentionally sacrifice some training capabilities to improve others.

Working with Host Governments

In most cases, individual services or unit commanders are working with host countries to lessen restrictions. This results in individual solutions rather than a set of coordinated actions that sometimes adversely affect other services or training capabilities. The following are examples of various alternatives and their effects.

- Both Army and Air Force officials in Italy have a very positive working relationship with their Italian counterparts and the U.S. Embassy's Office of Defense Cooperation. The Air Force is currently working with them to relax the restriction on the number of sorties allowed per day. The Air

Force is restricted to 44 sorties-per-day, which makes it very difficult to accomplish training especially after aircraft were added to the wing. The Air Force is negotiating to increase sorties to 63 per day. U.S. Army helicopters stationed in Italy are restricted to 12 sorties per day and on a weekly basis only 15 of these sorties can be low altitude. The Army needs several helicopters to take-off and land multiple times to execute a training mission, which it views as a single sortie, while under the agreement the Italian government counts each helicopter on the mission as a single sortie. This restriction as currently defined by the Italian government may limit Army helicopters to no more than 1 day of effective training per week. Army personnel said that there was a miscommunication between the Air Force and the Army about the definition of sortie during the initial negotiations.

- In other European countries with long-standing training constraints, actions have been taken to resolve issues. In these cases, the services worked closely with the governments and militaries to address new issues as they surfaced, such as the impact of the foot and mouth disease in the United Kingdom in 2001. In some instances, certain restrictions are the result of political agreements and cannot be opposed. An example of this is the low-altitude training restriction of 1,000 feet above ground level that Chancellor Kohl of Germany and President George H. W. Bush agreed upon.

- Air Force pilots at Misawa Air Base in northern Japan are allowed to use a nearby air base operated by the Japanese Air Self Defense Force when they have to divert their F-16s because of inclement weather. Ideally, the pilots should practice such landings at the air base before they need to use it in an emergency. However, they are unable to practice because of an agreement reached prior to 1985 by local Japanese military officials and a local U.S. Navy official when Misawa was a U.S. Navy installation. Under the agreement, Navy P-3 aircraft were allowed to practice such landings at the air base, but U.S. fighter aircraft could land there only in an emergency. At the time, the Navy had no fighter aircraft at Misawa, and the limitation did not seem significant.

- In Korea, U.S. military officials and American embassy personnel are working with their host government counterparts in a coordinated effort to, among other things, lessen training restrictions and remove residential and commercial development from critical training areas. According to

U.S. military officials in Korea, the resulting Land Partnership Plan[12] was designed to consider the needs of all the services because previously some local commanders had made agreements that met their short-term needs but ultimately sacrificed broader, more long-term U.S. military interests. Under the plan, the United States is to return about 33,000 acres of land it currently uses and reduce its major installations from 41 to 26. In exchange, Korean civilian housing, farming, and commercial buildings are to be removed from the remaining U.S. installations and training areas. The United States is also to receive greater access to Korean-owned-and-operated training areas and ranges. The plan is to be phased in over a 10-year period. The plan has been completed and is awaiting final United States and Korean government approval. If implementation does not begin soon, U.S. Forces Korea estimates that its forces will face training-readiness shortfalls by 2003.

- Army officials in Hawaii recently negotiated with local groups the reopening of the Makua training area on the island of Oahu. The agreement provides training opportunities that satisfy some of the Army's requirements. However, the Army did not include the Marine Corps in the negotiation. According to Army officials in the Pacific, the Army did attempt to include provisions for Marine Corps training requirements in negotiating with the lawsuit plaintiffs, but were unable to reach an agreement that would provide specific training opportunities for the Marine Corps. These Marine units are heavily dependent on Army operated training ranges to meet a sizable portion of their training needs, most notably training for company-level and higher exercises that involve live-fire and combined-arms. Thus, for at least the next three years, Marine units must continue deploying to another training area. This increases time away from home and cost.

Developing New Training Opportunities with Foreign Governments

The theater commands and their service components are working with countries throughout their theaters to develop additional training opportunities. The following are examples of these successful efforts and the problems and drawbacks that they sometimes create.

[12] The Land Partnership Plan is a cooperative U.S.-Korean effort to improve combat readiness, consolidate U.S. installations and training areas, enhance public safety, and strengthen the U.S.-South Korean alliance.

- The Army in Europe is working with eastern European countries to develop training opportunities. For example, in 2000 and 2001, the Army conducted a live-fire and combined-arms exercise in Poland called Victory Strike. According to Army in Europe officials, the exercise allowed them to practice against real world systems and meet training standards by taking advantage of the location, opportunity, time, and space of the Poland ranges. This exercise also allowed the Army to accomplish training that it would not have been able to perform in Germany.

- The Air Force in Europe is working with countries throughout the European theater—including countries in north Africa, such as Tunisia, and new NATO nations, such as Slovakia and Bulgaria—to negotiate developing training ranges or opportunities. It is also coordinating with the Navy in Europe to develop possible joint-use and jointly funded training-range opportunities in Croatia and Slovenia. Further, the services are trying to gain access to training ranges in countries where U.S. forces do not train now, such as the Czech Republic and Croatia.

- According to personnel in some units we visited, units have little input into the design of joint training exercises. While a joint exercise may provide great training for one U.S. service, it may provide little value for another. For example, Air Force personnel stated that the Victory Strike exercise in Poland was not adequately coordinated to maximize their involvement. During the first part, they were not able to communicate with other participants, and they never performed the close air support role that they thought they were there to perform.

- The U.S. Pacific Command supports a number of training exercises with allied and friendly countries in the region. The exercises include Tandem Thrust, a bi-annual bilateral exercise with Australia; Cobra Gold, an annual bilateral exercise with Thailand; and Balikatan, a joint exercise with the Philippines. They provide U.S. forces with access to training areas that (1) permit integrated and combined-arms training that would be difficult to accomplish using only existing U.S.-controlled ranges and training areas and (2) are less restricted than the areas used at their home station.

  Relying on such exercises does have drawbacks. When foreign ranges are used, in deference to host governments and other participants, U.S. forces may not be able to conduct the training in a manner that would provide the quality of training U.S. forces would conduct on their own ranges. According to U.S. Pacific Command and Marine Forces Pacific officials, a few of the exercises had little value because they were basically having to train their foreign hosts on U.S. tactics and were unable to train at a level

needed to accomplish their desired goals. In addition, if U.S. forces must devote time during exercises for training they would typically conduct at home station, they may not conduct as much of the higher-level training needed or conduct it as effectively.

Using Technology

Eliminating certain training restrictions is impossible; and the services are looking to technology, such as simulation training, to possibly provide training that non-CONUS units cannot obtain. Technologies currently exist in the European theater to provide training for individual weapons systems and equipment, such as F-15s, tanks, and Bradley Fighting Vehicles. In the Pacific theater, the use of technology, including simulation, is essential to ensure that U.S. military forces are able to maintain their combat readiness. Training simulators for Europe-based units are available at major training facilities, such as Grafenwoehr, and some home stations. With these additional home-station training options, the units do not have to deploy as frequently. However, the use of technology for training has caused other problems, inadvertent and age-related. Following are examples of the non-CONUS use of technology for training and its effect.

- The Air Force in Europe acquired a rangeless training system called U.S. Air Force Europe Rangeless Interim Training System to allow flexibility in how it uses available airspace for training. Before the system was acquired, aircrews had to train on an instrumented range in order to receive feedback from their training. With the system, aircrews can train in available air space and receive feedback from devices installed in their aircraft. In theory, the new system should make quality air-to-air training easier to accomplish despite the increasing restrictions on available air space. However, this is not the case for the F-15C squadron in the United Kingdom. The Air Force in Europe acquired the system for the F-15Cs in the United Kingdom and terminated the contract for the existing range, which was the best air space available for air-to-air training. Now, actual air-to-air training is more difficult for that squadron to accomplish because of the lack of quality air space. Air Force in Europe officials said that they were unaware that quality air space would be more difficult to schedule when they terminated the existing range contract.

- In Germany, many local training areas are not sufficient for tank maneuvering. The simulator provides an opportunity for solders to become familiar with the procedures while they are at home station. However, units we spoke with said that the simulation available at home station is old and rarely operating. According to Army in Europe officials,

they plan on having these replaced. A mobile trainer is to be fielded in fiscal year 2005.

- In Korea, the Army will be highly dependent upon technology in the form of simulators, such as for tank gunnery; instrumentation systems; and a variety of other systems that are being fielded Army-wide. Using such technology, Army officials will be able to improve their training capabilities for large-unit maneuvers. Additionally, the Army uses portable target systems on Korean ranges to achieve training to U.S. standards. The portable systems will become even more important as the Army forces in Korea expand their previously discussed use of Korean-controlled training areas and ranges.

- In Japan, on Okinawa, an example of technology-based systems includes a portable air-combat maneuvering system known as the Kadena Interim Training System. The system—a pod fitted to the aircraft's wing—is designed to improve the quality of fighter air-to-air training and is "rangeless." It does not need ground-based instrumentation to function and is not dependent on having a fixed range. The system was first deployed at Kadena Air Base on Okinawa, but the Air Force has started deploying additional systems to Osan Air Base in Korea, and it expects to deploy the system to Misawa Air Base in Japan later in 2002. According to officials from Headquarters, U.S. Pacific Fleet in Honolulu, the Navy is also developing a portable air combat maneuvering system for its fighter aircraft and plans to fund the system in 2004. On Okinawa, the Marine Corps currently use marksmanship trainers. The Marines said that they are scheduled to receive three additional training simulators: staff trainers to train Marines in the use of command and control systems; gunnery and tactical trainers for light armored vehicles; and supporting arms call-for-fire trainers. In Japan, the Navy also wants to fund the use of portable antisubmarine warfare ranges and use simulators to maintain currency for the Rolling Airframe Missile as was mentioned earlier.

- In Hawaii, the Pacific Missile Range Facility has developed a computer-simulated target "island" to enable surface ships to do naval surface fire support training.

Lack of a Coordinated Strategy

With the exception of Korea, the regional commands do not have a coordinated strategy for pursuing actions to mitigate training limitations. The norm is for individual services to negotiate solutions for their individual training constraints. In the case of Japan, U.S. Embassy officials in Japan told us that individual service efforts were the recommended

course of action because local service representatives were the most knowledgeable about their issues and should be the ones to resolve them. However, as discussed earlier, a lack of coordination has at times unintentionally been detrimental to another service. For example, we previously described an instance in Japan where a local Navy official negotiated practicing landings at a Japanese airfield that resolved a Navy constraint but did not consider future needs. In the case of Korea, U.S. Forces Korea officials told us that the previously described Land Partnership Plan was designed to consider the needs of all the services because arrangements made in the past by local commanders sometimes sacrificed broader, more long-term military interests. In addition, when the regional commands or an individual service arrange bilateral and multilateral training exercises, they do not always allow all the other military service participants input into the design of the exercise. This lack of coordination has at times not maximized all the services' involvement. As we discussed earlier, this was the case for the Air Force in its participation in an Army exercise in Poland called Victory Strike.

Conclusions

Even though units we visited told us about numerous constraints on their ability to complete required training, units have rarely reported degraded training readiness. This practice undermines the usefulness of readiness reporting. Also, at present, there is no consolidated listing of training constraints for non-CONUS locations. Therefore, senior DOD leadership, such as the Senior Readiness Oversight Council, which monitors the readiness of U.S. military forces, as well as service leadership above the affected commands in Europe and the Pacific, cannot be aware of the extent of training constraints faced by non-CONUS units.

Military services and regional commands are taking a variety of steps to mitigate constraints and increase training opportunities without a coordinated strategy that assures that actions taken by one party do not adversely affect another. Our work shows that actions taken by one part of DOD can in fact adversely affect other parts of DOD. First, individual services, and not regional commands, are pursuing solutions to their training shortfalls with host governments—solutions that may inadvertently be detrimental to other services. Second, commands do not always allow the services much, if any, input into structuring bilateral and multilateral training events. Without their input, training exercises may not focus on obtaining some required training and can unnecessarily favor one service over another. Third, when DOD acquires new technology to improve training capabilities, it is not considering all factors of the training

environment and is thus sacrificing some training capabilities to improve others.

Recommendations for Executive Action

We recommend that the secretary of defense direct the chiefs of the military services in conjunction with the undersecretary of defense, Personnel and Readiness, to develop a report that will accurately capture training shortfalls for senior DOD leadership. This document should objectively report a unit's ability to achieve its training requirements. It should include

- all instances in which training cannot occur as scheduled due to constraints imposed by entities outside DOD as well as all instances when training substitutes are not sufficient to meet training requirements,
- a discussion of how training constraints affect the ability of units to meet training requirements and how the inability to meet those requirements is affecting readiness, and
- a description of efforts to capture training shortfalls in existing as well as developmental readiness reporting systems.

We further recommend that the secretary of defense direct that the war fighting commands, in concert with their service component commands, develop an overarching strategy that will detail the initiatives the command and each service plan to pursue to improve training, such as access to additional host government facilities, participation in bilateral and multilateral exercises, and acquisition of new technology. This strategy needs to be vetted throughout the services to ensure that all factors are taken into consideration and that actions taken to improve training opportunities for one service are not made to the detriment of another service's ability to train or that training capabilities are not lost unintentionally.

Agency Comments and Our Evaluation

In written comments on a draft of this report, DOD stated that it concurred with the content of the report and its recommendations. DOD suggested that our recommendation on reporting training shortfalls be expanded (1) to include both active and reserve training shortfalls and (2) to specify in greater detail what the recommended report should address. Regarding the inclusion of both active and reserve training shortfalls in our recommendation, we agree that conceptually this has merit, but because we did not examine reserve forces' training shortfalls, we are not in a position to include them in our recommendation. We have, however, expanded this recommendation to identify some topics that reporting on

training shortfalls should include. These topics are not meant to be all-inclusive because DOD is in a better position than we to determine exactly what to report. In responding to our recommendation that an overarching strategy be developed to detail initiatives being pursued to improve training, DOD stated that such an effort should help generate a variety of options to ameliorate the current training deficiencies. DOD's comments are reprinted in their entirety in appendix IV.

We are sending copies of this report to the secretary of defense; the secretary of the army, the secretary of the air force, the secretary of the navy, the commandant of the Marine Corps, and the director, Office of Management and Budget. We will also make copies available to others upon request.

If you have any questions, please call me on (757) 552-8100. Key contributors to this report were Steve Sternlieb, Laura Durland, Frank Smith, and Lori Adams.

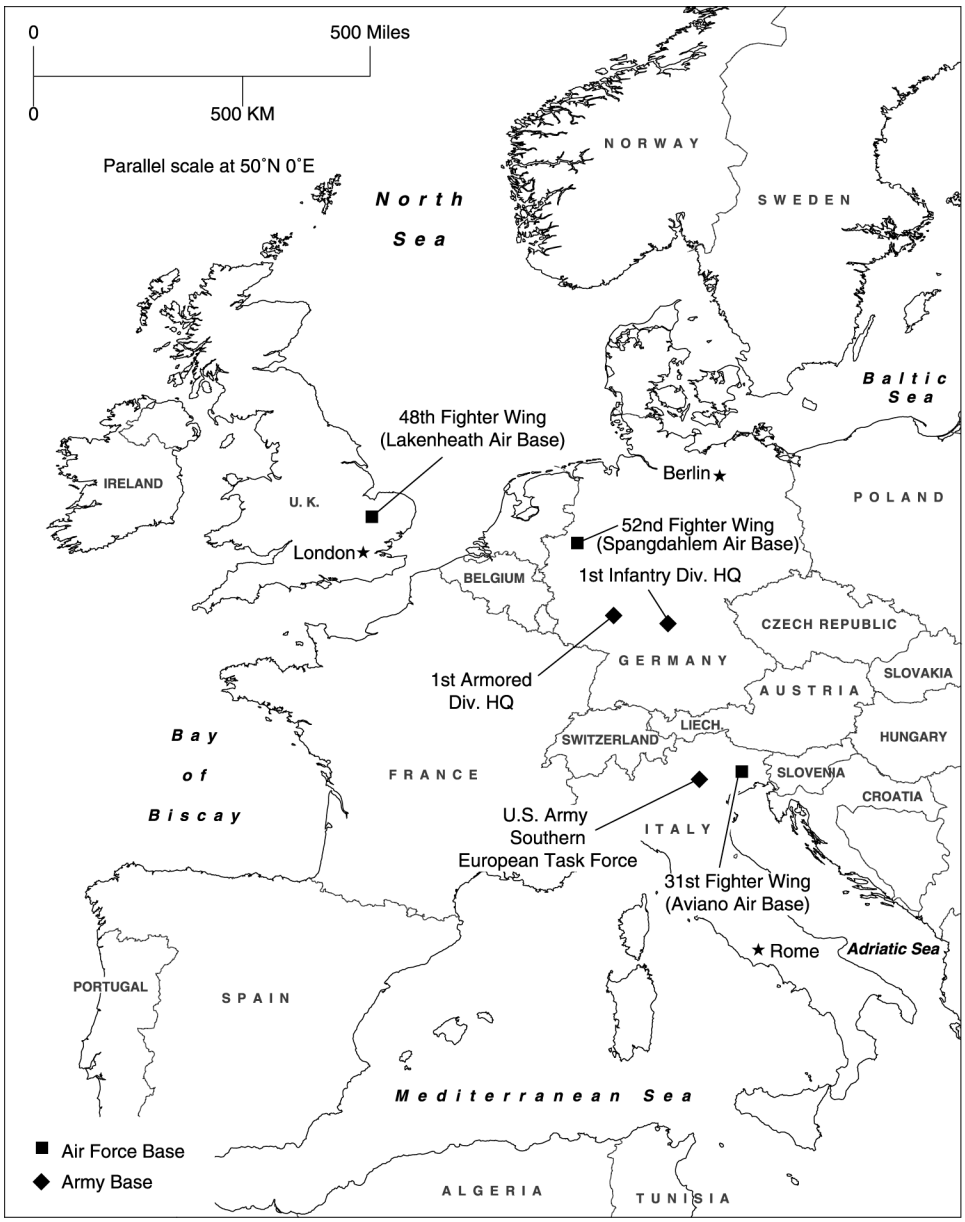
Sincerely yours,

Neal P. Curtin
Director, Defense Capabilities and Management

Appendix I: Location of Major Units and Bases in Europe and the Pacific

In Europe, as shown in figure 5, Army and Air Force units are primarily stationed in Germany, Italy, and the United Kingdom. The Army in Europe has two divisions, the First Infantry Division headquartered at Wuerzburg, Germany, and the First Armored Division headquartered at Wiesbaden, Germany. In addition, the Army's Southern European Task Force is stationed at Vicenza, Italy. The Air Force has three fighter wings in Europe. The 48th Fighter Wing at Lakenheath Air Base, United Kingdom is comprised of F-15Cs and F-15Es; the 52nd Fighter Wing at Spangdahlem Air Base, Germany is comprised of A-10s and F-16s, and the 31st Fighter Wing located at Aviano, Italy, has F-16s.

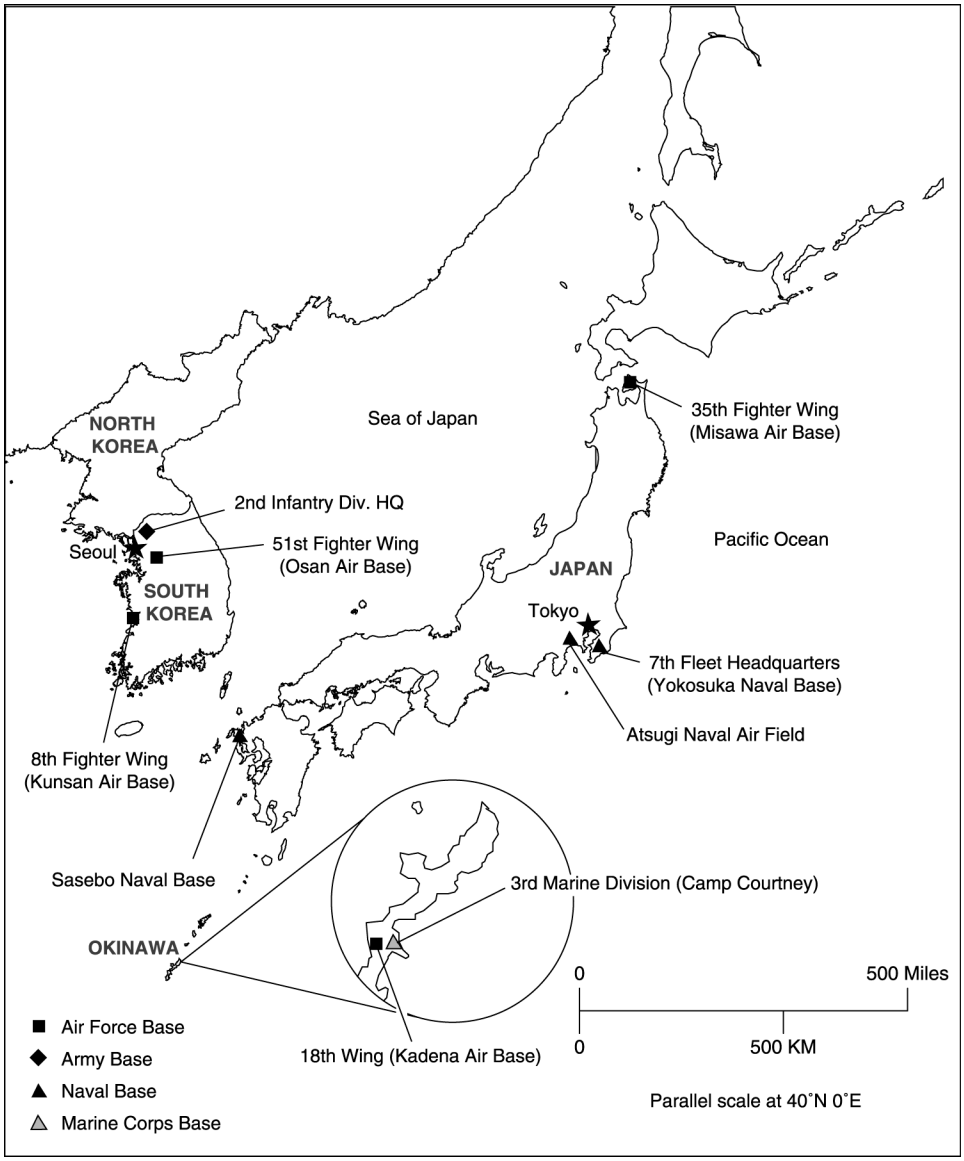
Figure 5: Major Combat Units and Bases in Europe



Source: GAO.

In the Pacific, as shown in figure 6, the Army, Air Force, Navy, and Marine Corps have combat units stationed in Japan and Korea. The Army's 2nd Infantry Division is stationed at Uijongbu, Korea. The Air Force has the 18th Wing at Kadena Air Base on Okinawa, whose fighter aircraft is the F-15Cs. The 35th Fighter Wing at Misawa Air Base in Japan has F-16CJs. In Korea, the 51st Fighter Wing at Osan Air Base has A-10s and F-16s, and the 8th Fighter Wing at Kunsan Air Base has F-16s. In Japan, the 7th Fleet is headquartered at Yokosuka Naval Base; however, there are ships at both Yokosuka and Sasebo Naval Bases. In addition, the Navy has Carrier Air Wing 5 located at Atsugi Naval Air Field, Japan. The Marine Corps' III Marine Expeditionary Force, comprised of the Headquarters, 3rd Marine Division, 1st Marine Aircraft Wing, and 3rd Force Service Support Group is stationed on Okinawa.

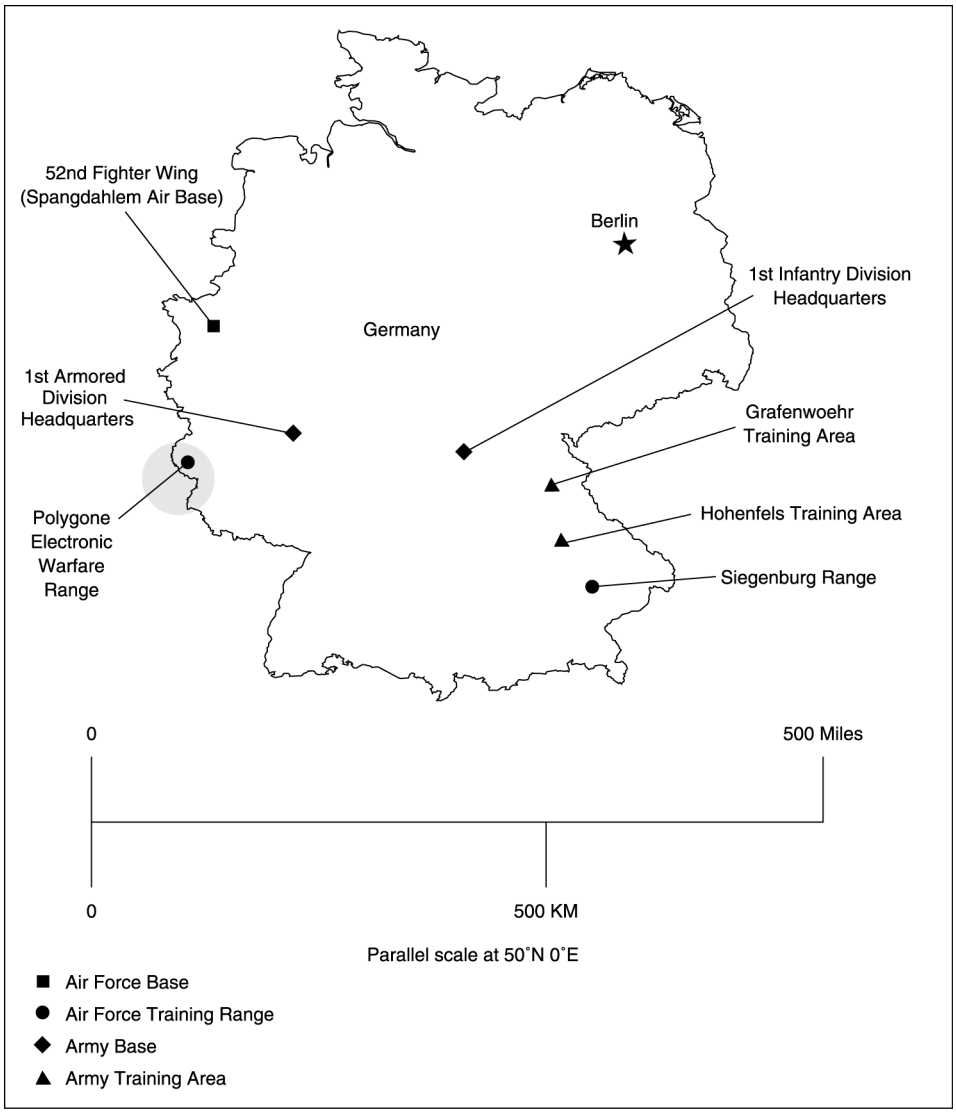
Figure 6: Major Combat Units and Bases in Japan and Korea



Source: GAO.

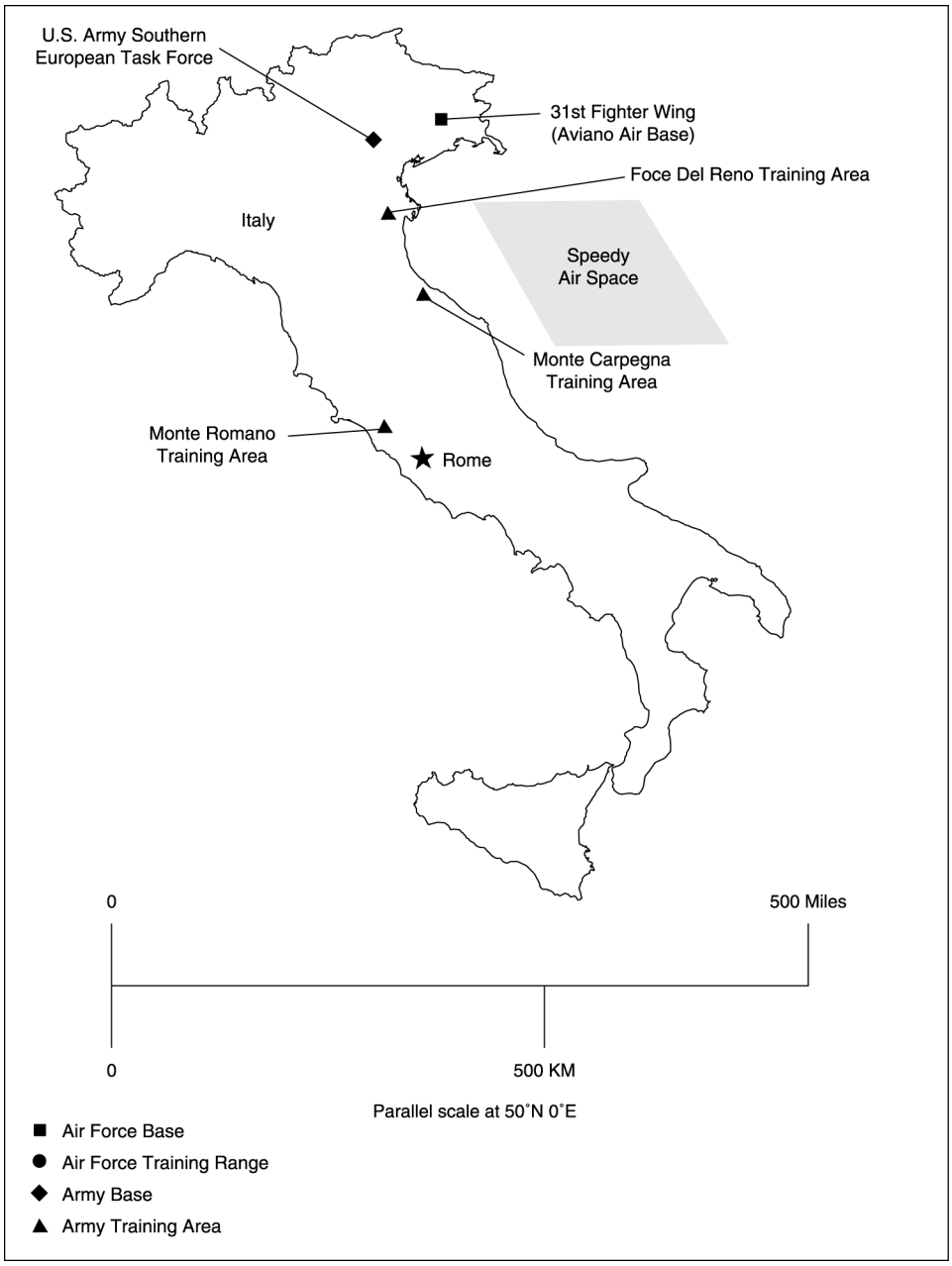
Appendix II: Maps of Individual Countries

Figure 7: Map of Germany Identifying the Locations of Major Combat Units and Major Training Facilities



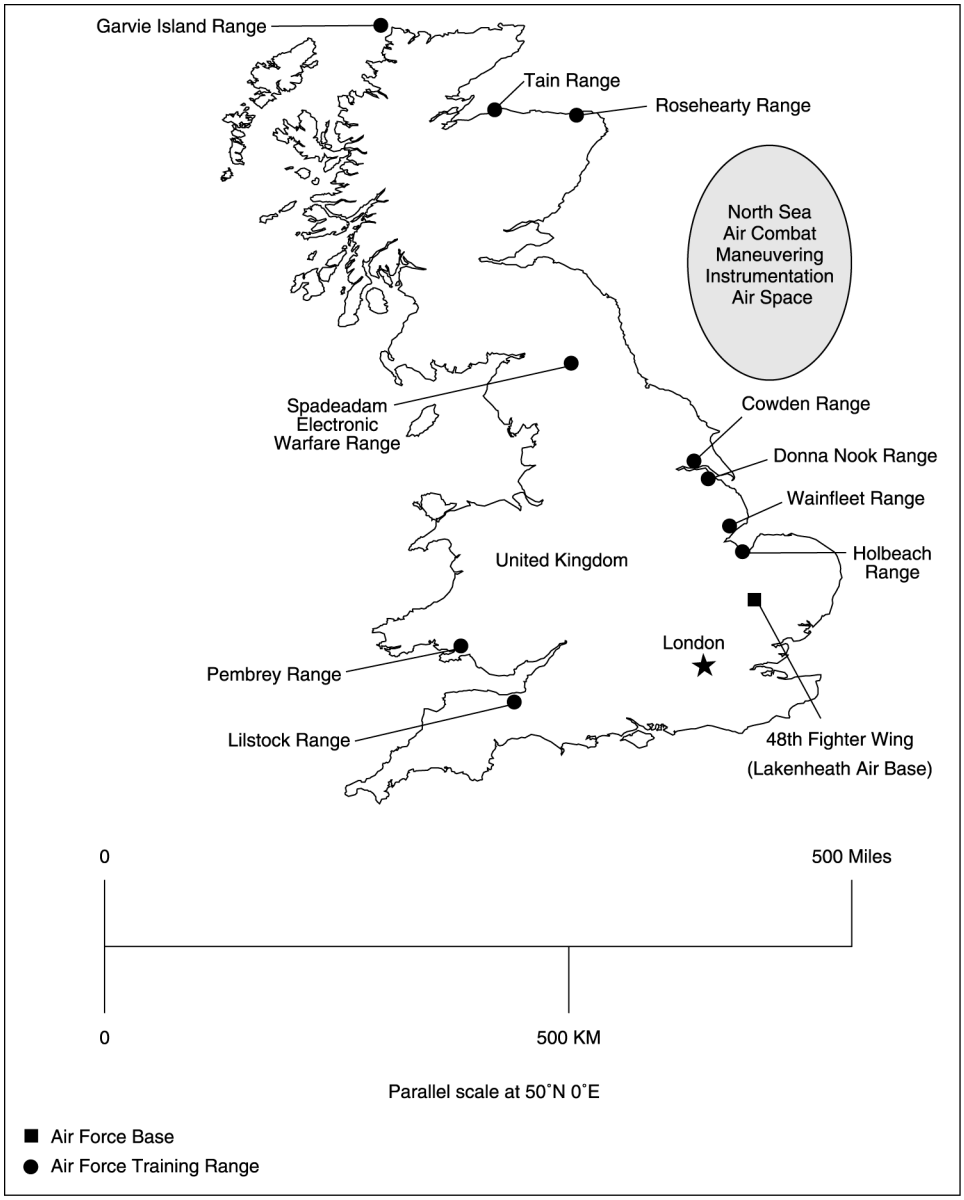
Source: GAO.

Figure 8: Map of Italy Identifying the Locations of Major Combat Units and Major Training Facilities



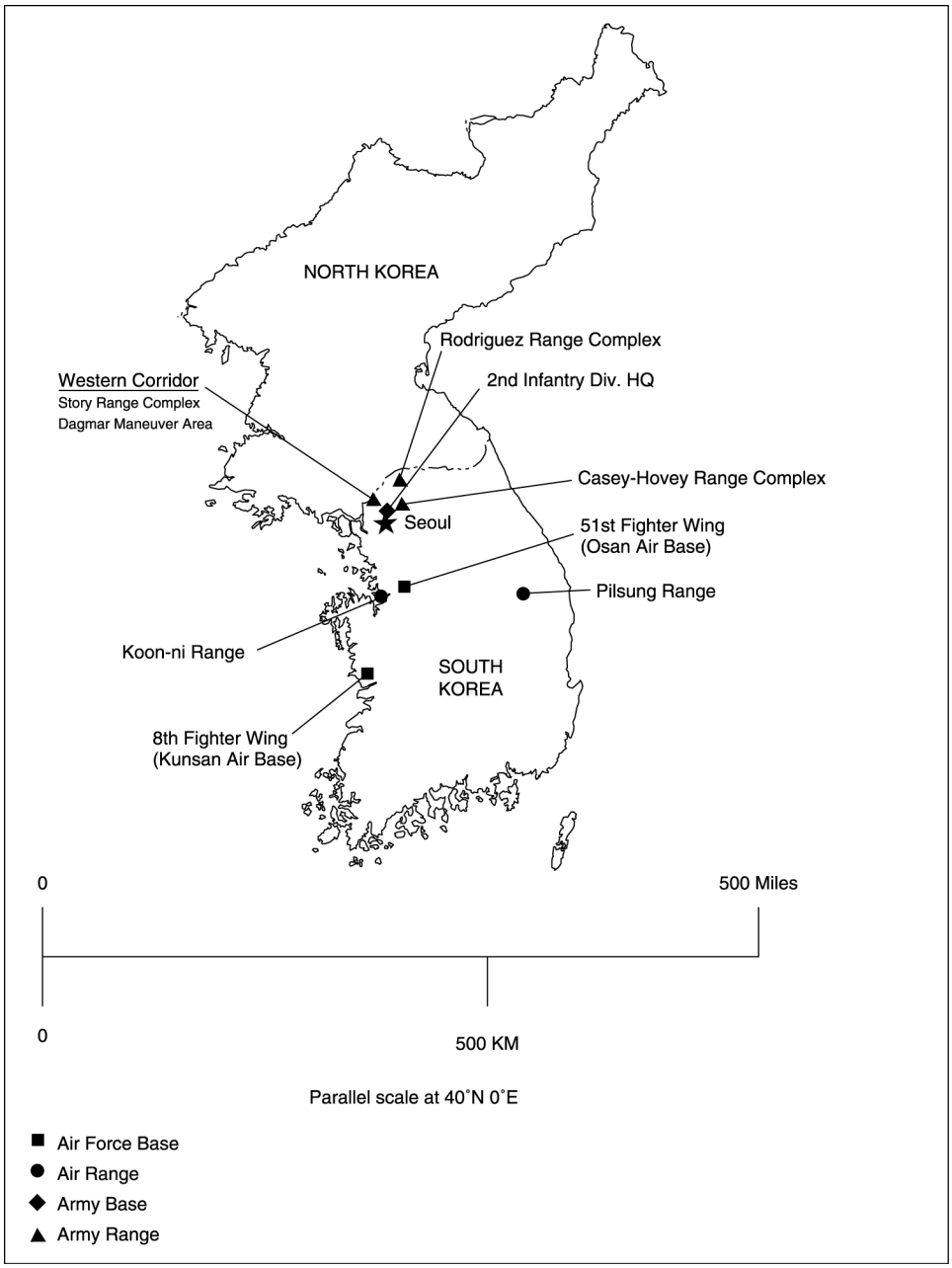
Source: GAO.

Figure 9: Map of United Kingdom Identifying the Location of Major Combat Units and Major Training Facilities



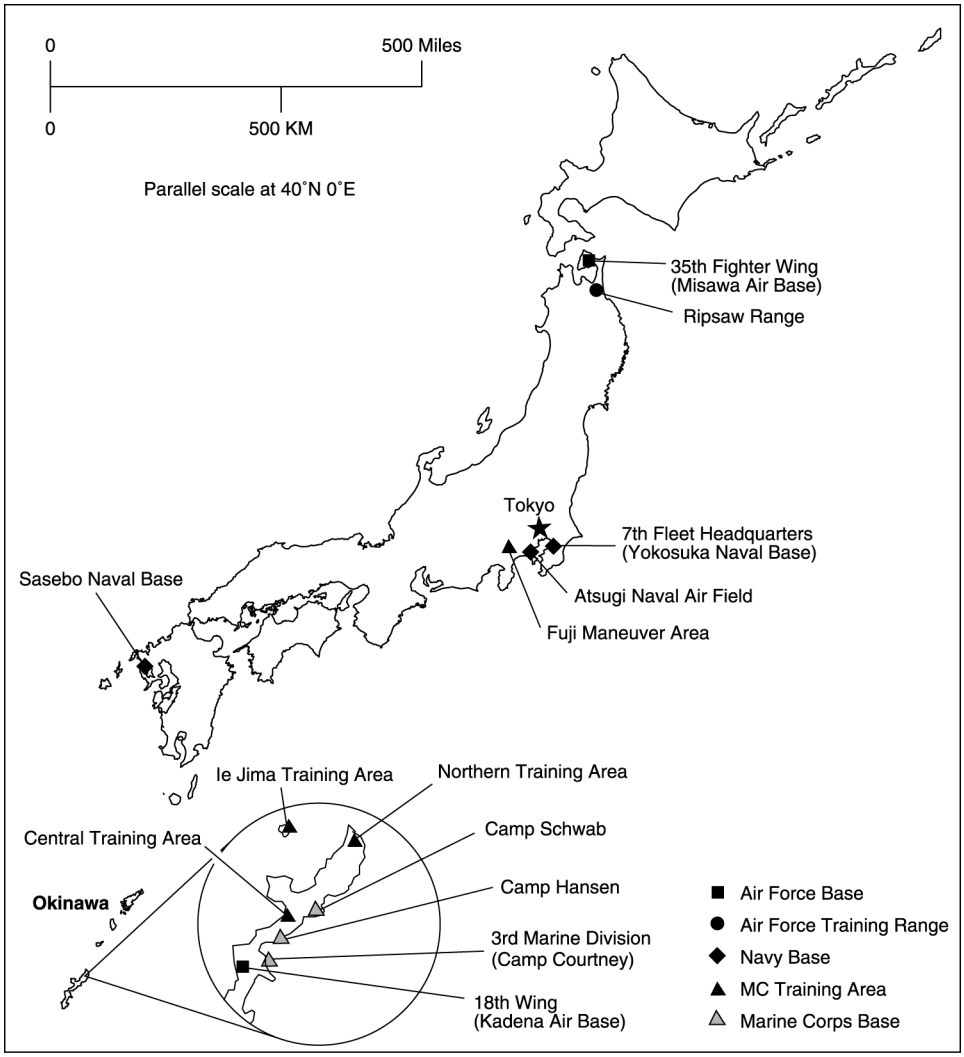
Source: GAO.

Figure 10: Map of Korea Identifying the Location of Major Combat Units and Major Training Facilities



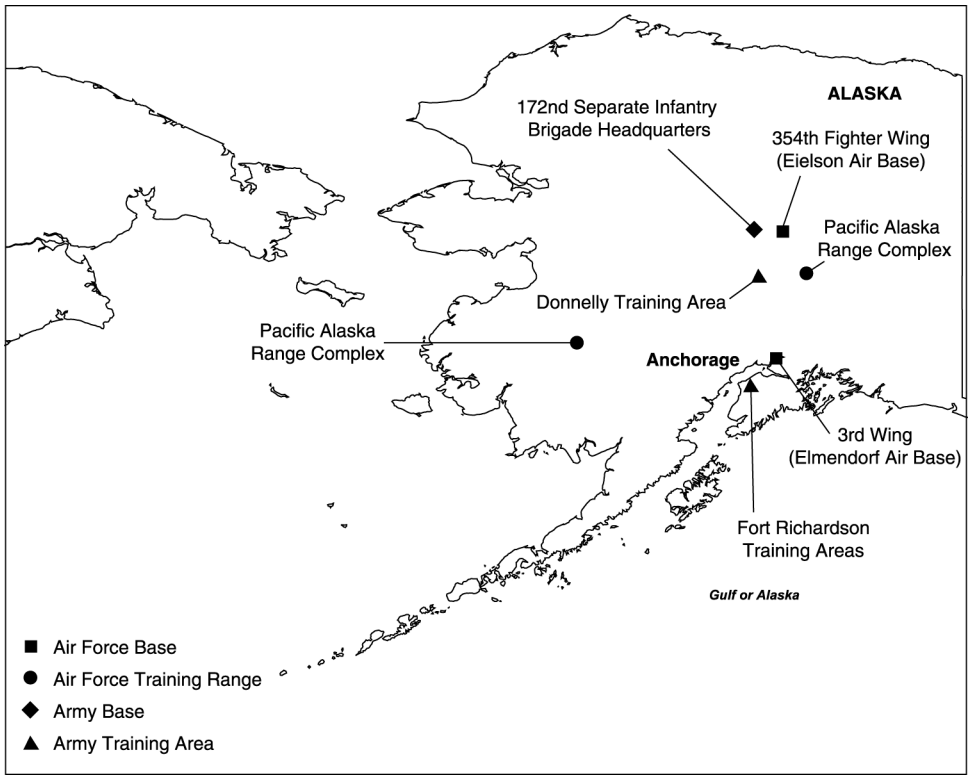
Source: GAO.

Figure 11: Map of Japan, Including Okinawa, Identifying the Location of Major Combat Units and Major Training Facilities



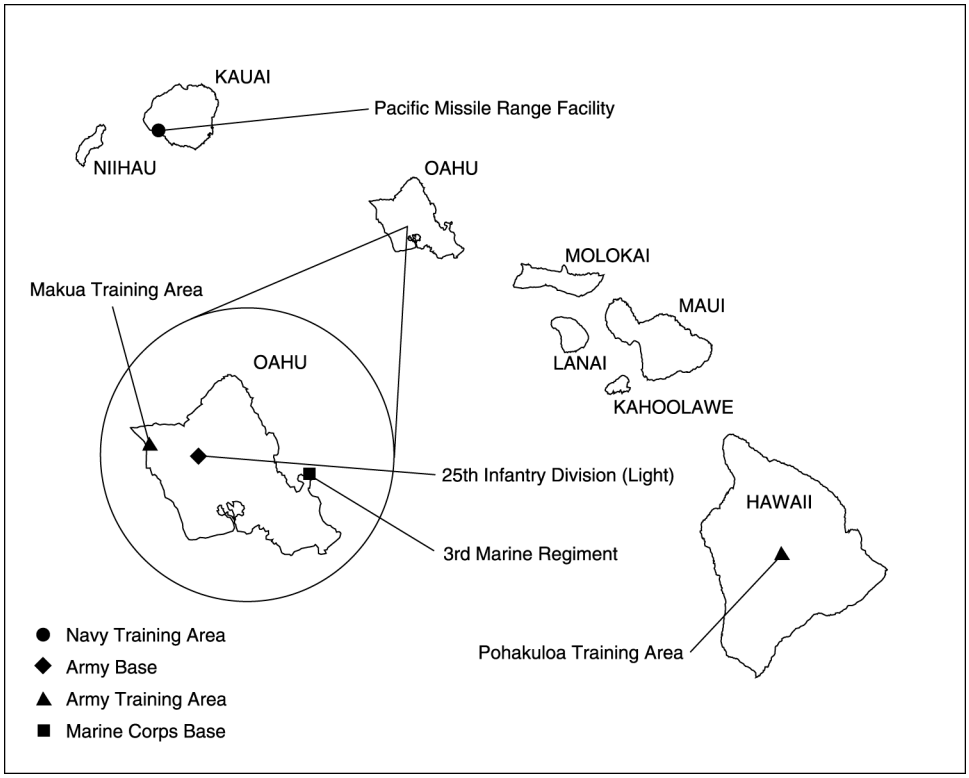
Source: GAO.

Figure 12: Map of Alaska Identifying the Location of Major Combat Units and Major Training Facilities



Source: GAO.

Figure 13: Map of Hawaii Identifying the Location of Major Combat Units and Major Training Facilities



Source: GAO.

Appendix III: Scope and Methodology

To determine the types of training constraints faced by non-CONUS-based units and whether they are likely to increase in the future, we interviewed officials at all levels in DOD from the office of secretary of defense, Personnel and Readiness, to unit-level service representatives from all services in both the European and Pacific theaters. We obtained documentation detailing training shortfalls where available. We conducted interviews with component command representatives from each of the services in both the European and Pacific theaters and headquarters personnel within each service responsible for training range programs. To aid us in systematically collecting country-wide training range capabilities for each service, we developed a training-capabilities data collection table that we asked each of the services' subordinate commands to fill out on how well they were able to meet their training requirements. We included these tables on pages 20-25. We conducted our work in the five major countries in which U.S. forces are stationed-Germany, Italy, Japan, South Korea, the United Kingdom, and the state of Hawaii. We visited a variety of training areas in each location. We did not conduct work involving Vieques, Puerto Rico, because our focus was Europe and the Pacific and the training constraints involving Vieques are well known. Table 5 depicts all the major units and training locations we visited.

Table 5: Units and Locations Visited on This Assignment

Germany	U.S. European Command
	U.S. Army Europe
	U.S. Air Force Europe
	Grafenwoehr Training Area
	Hohenfels Training Area
	Polygone Electronic Warfare Range
Italy	U.S. Army Southern European Task Force
	Aviano Air Base (31st Fighter Wing and Army Helicopter B Company)
	U.S. Navy 6th Fleet
United Kingdom	Lakenheath Air Base (48th Fighter Wing)
	Holbeach Training Range
	U.S. Navy Europe
Hawaii	U.S. Pacific Command
	U.S. Army Pacific
	U.S. Air Force Pacific
	U.S. Marine Corp Pacific
	U.S. Navy Pacific
	25th Infantry Division (Light) Army
	Scofield Barracks Training Area
	3rd Regiment of 3rd Marine Division at Kaneohe
	The Pacific Missile Range Facility on Kauai
	The Makua Military Reservation Training Area on Oahu
	Pohakuloa Training Area on Hawaii
South Korea	U.S. Forces Korea
	8th Army Korea
	2nd Infantry Division Army
	Osan Air Base
	Story Training Range Complex
	Dagmar Maneuver Area
	Koon-ni Training Range
Japan	U.S. Forces Japan – Yokota Air Base
	Misawa Air Base (35th Fighter Wing)
	Atsugi Naval Air Field
	Mt. Fugi Training Center
	Ripsaw Training Range
Okinawa	Kadena Air Base (18th Wing)
	3rd Marine Division - Camp Schwab
	3rd Marine Division - Camp Hansen
	The Marine Corps Central Training Area
	Ie Jima Training Area

To determine the impact that training constraints are having on the units' ability to meet their requirements, we obtained information on such impacts from unit level service representatives from all services in both the European and Pacific theaters. In doing so, where training was not accomplished, we discussed if these shortfalls translated into readiness reporting. To independently assess the impact of training constraints on reported readiness, we obtained and analyzed reported readiness data for the European and Pacific theaters for fiscal years 2000 and 2001 to determine if units had reported any diminished readiness as a result of training limitations.

To determine what alternatives were being pursued by the services to overcome their training shortfalls, we interviewed unit-level and component-command representatives from all services in both the European and Pacific theaters. They provided us data and documentation on what initiatives they are pursuing to alleviate training limitations. We also interviewed embassy representatives from the defense attachés' offices in each of the previously mentioned countries that we visited except Korea to determine what role they play in addressing training limitations.

We conducted our review from June 2001 through February 2002 in accordance with generally accepted government auditing standards.

Appendix IV: Comments from the Department of Defense

THE OFFICE OF THE UNDER SECRETARY OF DEFENSE
4000 DEFENSE PENTAGON
WASHINGTON, DC 20301-4000

PERSONNEL AND READINESS

22 APR 2002

Mr. Neal P. Curtin
Director, Defense Capabilities and Management
U.S. General Accounting Office
Washington, D.C. 20548

Dear Mr. Curtin:

This is the Department of Defense (DoD) response to the General Accounting Office Draft Report GAO-02-525, "MILITARY TRAINING: Limitations Exist Overseas But Are Not Reflected in Readiness Reporting," March 19, 2002 (GAO Code 350081).

The Department appreciates the opportunity to comment on this draft, and substantially concurs with the contents of the report and the recommendations offered within. The Department offers adjustments to the GAO draft recommendations in the enclosure and has provided technical comments separately to GAO for inclusion.

Sincerely,

Paul W. Mayberry
Deputy Under Secretary of Defense
(Readiness)

Enclosure:
As stated

GAO CODE 350081/GAO-02-525

"MILITARY TRAINING: LIMITATIONS EXIST OVERSEAS BUT ARE NOT REFLECTED IN READINESS REPORTING"

DEPARTMENT OF DEFENSE COMMENTS TO THE RECOMMENDATIONS

Now on p. 35.

RECOMMENDATION 1: The GAO recommended that the Secretary of Defense direct the Chiefs of the Military Services in conjunction with the Under Secretary of Defense, Personnel and Readiness, to develop a report that will accurately capture training shortfalls for senior DoD leadership. This document should objectively report a unit's ability to achieve its training requirements. (Page 32/Draft Report).

DoD RESPONSE: Since this report addresses encroachment issues affecting Hawaii and Alaska as well as other ranges overseas, both Active and Reserve training issues should be considered. Recommend that the end of the first sentence in Recommendation 1 be revised to read "...to develop a report that will accurately capture Active and Reserve training shortfalls for senior DoD leadership."

Otherwise, Concur, with the following comment. The recommendation should go further and specify in greater detail what the recommended report should address. For instance, what constitutes a "training shortfall?" As the GAO report already indicates, a "training shortfall" could be when training does not occur as scheduled, or its substitute (or work-around) is not sufficient. The recommended report should also address more of the concerns raised by the GAO. One such concern is developing a way to accurately reflect the training shortfalls in readiness reporting systems. Therefore, the recommended study should not only ask DoD to "objectively report on inability to meet training requirements," but DoD should also be asked to examine how to capture training shortfalls in existing as well as developmental readiness reporting systems.

Now on p. 35.

RECOMMENDATION 2: The GAO recommended that the Secretary of Defense direct that the war fighting commands, in concert with their Service component commands, develop an overarching strategy that will detail the initiatives the command and each Service plans to pursue to improve training, such as access to additional host government facilities, participation in bilateral and multilateral exercise, and acquisition of new technology. This strategy needs to be vetted throughout the Services to ensure that all factors are taken into consideration and that actions taken to improve training opportunities for one Service are not made to the detriment of another Service's ability to train or that training capabilities are not lost unintentionally. (Page 33/Draft Report).

DoD RESPONSE: Concur. This strategy will assist the war fighting commands and the Service component commands to develop an approach that resolves the shortfalls in overseas training. A coordinated effort as such should help generate a variety of options to ameliorate the current training deficiencies.

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