Air Force Noncombat Operations: Lessons From the Past, Thoughts for the Future

R. Lempert, D. Lewis,
B. Wolf, R. Bitzinger
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R. Lempert, D. Lewis, B. Wolf, R. Bitzinger

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In the years ahead, it is likely that the traditional military roles of American air power—nuclear deterrence, conventional combat, and combat support operations—will increasingly be joined in importance by a host of noncombat operations ranging from disaster relief to “AWACS diplomacy.” While in the past the Air Force has been able to conduct such activities successfully with its existing forces, budget cuts and growing demands may require that the Air Force explicitly consider the requirements for such operations in the future.

This Note documents the first phase of a multiyear study that will examine the likely future scope of Air Force noncombat operations and recommend the capabilities the Air Force must nurture to be successful in these areas. This Note focuses on the rich history of Air Force noncombat operations during the Cold War as a basis for understanding how such operations might be performed in the future. The information presented here will be used in follow-on research to develop challenging scenarios for future Air Force noncombat operations and to determine what policy options could improve the USAF’s capability to perform these operations in the future.

This work was sponsored by the Director of Plans, HQ USAF (USAF/XOX) as part of the project, “Expanding USAF Missions,” a division-level effort under RAND’s Project AIR FORCE and should be of interest to all those concerned with the restructuring of the Air Force and the future roles of military power.
SUMMARY

While the collapse of Soviet military power has greatly lessened the risk of large-scale war between the major industrial powers, it has not yet made the world more peaceful. The majority of the world's people live in areas where the lingering effects of bad government, ethnic hatred, economic hardship, population pressures, and environmental degradation continue to threaten social chaos. The United States will likely find its security concerns increasingly focused on areas where the social order has frayed. These changing concerns will demand new roles for the U.S. Air Force—such as providing the services of Airborne Warning and Control System (AWACS) or Joint Surveillance Target Attack Radar System Surveillance aircraft to friendly countries, transporting United Nations or allied peacekeeping troops, training allied air forces, providing air refueling services, performing counternarcotics operations, providing disaster relief, and participating in multinational police actions in areas of civil chaos.

This Note documents the first phase of a multiyear study of the challenges posed by future Air Force noncombat operations. Our goal here is to understand the lessons that can be learned from past noncombat operations. The 1992 phase of the project will use this material to develop a series of scenarios to explore the limits and the potential future envelope of Air Force noncombat operations. The final phase of the project, in 1993, will provide specific policy guidance for better posturing the Air Force to perform the noncombat operations that the United States may require in the emerging international environment. This Note focuses on noncombat operations that involve aircraft. We do not, for instance, examine noncombat uses of Air Force space assets or humanitarian assistance (such as routine medical care or technical training) that Air Force personnel might provide to civilians near their bases at home or abroad.

While many Air Force noncombat operations provide only transportation—carrying surplus medical supplies or ferrying United Nations troops to peacekeeping zones—numerous operations make use of a broader range of Air Force capabilities. The first part of this draft surveys over 500 operations conducted by Air Force aircraft since the end of World War II; the vast majority are noncombat, and nearly half of these involved more than transport. For instance, a growing trend during the 1980s was to deploy AWACS aircraft to improve the defense capabilities of friendly forces and to show American commitment to an ally. The Air Force also performed hundreds of emergency response operations in which it had to deploy the accoutrements of civil order—communications, handling facilities, and
command structure—to replace what had been destroyed during natural disasters or civil unrest.

This Note also examines fifteen case studies in greater detail to provide better understanding of how well the Air Force performed these noncombat operations. We found that the Air Force

- Generally performed these operations successfully
- Was not limited by a lack of the necessary aircraft or personnel in any of the cases we considered
- Was often limited by the available infrastructure at the receiving end of operations and the availability of supplies at the sending end.

The case studies also suggest why the U.S. government called upon the Air Force in particular, and its military services in general, to perform these operations instead of a private-sector organization. An understanding of these reasons is important to estimate the demand for future Air Force noncombat activities. The U.S. called on its military services because they

- Are uniquely trained and equipped for hazardous duty
- Often provide a political and/or strategic benefit when used in humanitarian endeavors
- Are able to bring with them a complex web of capabilities and organizational structures that can be put into place in areas where the ordinary civil institutions may not be functioning because of man-made or natural disasters.

Each of the United States’ military services provides these benefits. The Air Force, however, is specifically equipped with assets that are quickly available and that can reach anywhere on the globe.

In the past, the Air Force has provided the United States with important noncombat capabilities to deal with a host of problems from security to natural disasters. In the future, the nation may increasingly wish to call upon the Air Force for such purposes. Many requirements for noncombat operations are synergistic with Air Force combat potential. Noncombat operations can provide valuable training. They may exercise overseas basing agreements and joint operations with allied military forces. Many planned Air Force
investments, such as the C-17 with its rough runway capabilities and self-contained unloading equipment, will aid both combat and noncombat operations.

Our case studies suggest, however, that the Air Force may have to pay attention to the particular requirements of noncombat operations and protect and develop specific capabilities if it wishes to perform the full range of noncombat operations presented to it in the future. In the past, the Air Force has generally had sufficient force structure to perform all the noncombat operations it could conceivably have been called upon to perform. As long the Air Force retains sufficient airlift; refueling; command, control, communications, and intelligence; and other assets necessary to support significant numbers of U.S. forces abroad, the Air Force is likely to retain sufficient force structure to perform any noncombat operation on the scale of those in the past. It is possible however, that the demands of the new international environment may call for massive civil airlifts of the size previously approached only by the Berlin Airlift. For instance, the Air Force might be called upon to supply hundred of thousands of people in ethnic enclaves surrounded by hostile populations in the Balkans or millions of citizens of Russian cities during a long winter. Even if its force structure is sufficient, the Air Force may need to make special provisions for some of the training, specialized equipment, infrastructure, and institutional arrangements to support noncombat operations. For instance, the Air Force might find it important to develop, in conjunction with the Army, Navy, and OSD, better records of where surplus supplies are kept and of what emergency personnel are available to respond to disasters. Noncombat operations are likely to stress the Air Force's ability to operate in areas with primitive airfields and inadequate local facilities. The requirements for noncombat operations are not likely to be fully met in the future without explicit attention from the Air Force as it charts its way out of the Cold War world.
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1. INTRODUCTION

Operation Provide Comfort—the emergency airlift of food and medicine to the refugees who fled Saddam Hussein’s troops—followed closely on the heels of Operation Desert Storm. The war which began with a spectacularly successful air assault against Iraq’s military capability ended with allied airpower providing food and protection to the unfortunate victims of a failed revolt against Hussein’s government. Far more than being merely “humanitarian” assistance, the operation was necessary to secure the victory and the political foundation of a future peace. Provide Comfort made clear that the U.S. Air Force (USAF) is capable of providing services critical to the U.S. government that go well beyond combat. As if to accent this point, just weeks following the war a second major airlift captured the world’s attention in May 1991, when the United States led a relief effort for tens of thousands of cyclone victims in Bangladesh.

USAF is no stranger to noncombat operations. In fact, its noncombat activities have been far more numerous than its combat ones, averaging over a dozen operations per year since the end of World War II. USAF noncombat roles have always been important to the United States, serving purposes as broad as demonstrating the United States’ good will (such as relief efforts after the Bangladesh Typhoon) to advancing vital foreign policy goals (such as supporting the Afghan resistance with medical and military supplies, or even more critically, the Berlin Airlift). Nonetheless, during the years of the Cold War, such operations were seen as incidental to the USAF’s primary combat orientation. Although this perspective has not limited the USAF’s ability to carry out these operations in the past, it may prove to be a more serious constraint in the future. First, as budgets decline, the USAF may lose significant noncombat capabilities that might easily or inexpensively have been saved. Second, the scale or scope of noncombat operations might increase as the U.S. fleshes out its role in the emerging international environment.

This Note is part of a larger, multiyear study whose thesis is that noncombat operations may play a significantly larger role in supporting U.S. national security policy in the years ahead and that, in this time of declining budgets, the USAF may find it advantageous to protect and even expand its ability to perform such operations. The rapid withdrawal of Soviet influence is only the most dramatic of a number of important trends that are transforming the environment in which the USAF operates. Urged on by the explosive changes in information technology, the political consequences of economic and social integration among the modern industrial nations—long delayed by a century of
domestic upheavals and bitter ideological conflict—seem to be taking deep root. While the likelihood of conflict among liberalized countries is greatly diminished, the majority of the world's people live in areas where the lingering effects of bad government, poverty, population pressures, and environmental degradation continue to threaten social chaos. The changes in information technology have raised expectations and created a sense of relative deprivation in the poorer areas of the world. The liberal market-oriented democracies, led by the United States, may find their security concerns increasingly focused on areas where the social order has frayed. The USAF in the future may be deployed to chaotic, often dangerous areas, where the operation is as much to help civilians as it is to defeat combatants.¹

In fact, the U.S. government will call upon the USAF to do only those noncombat operations it is capable of doing. In the next few years of budget-forced restructuring, the USAF will pay particular attention to its combat capabilities. But the institution will also be faced with the decision of expanding or contracting what it can do in the noncombat area. If the need for such operations is expanding, the USAF may find it advantageous, even as budgets and resources decrease, to protect or expand its noncombat capabilities as the ones most likely to be required. In later reports, this study will explore the trends in more detail and make specific recommendations as to what noncombat opportunities are likely to expand, what the USAF might do to meet them, and what synergies and conflicts there might be between future combat and noncombat capabilities. In this Note, however, we focus on learning from the noncombat operations the Air Force has performed during the years of the Cold War. Our goal is to gain a deeper understanding of the noncombat operations the Air Force performed in the past to support our work on what USAF might be called upon to do in the future.

¹For a discussion of the expanding roles of military humanitarianism, see Weiss and Campbell, (1991).
2. MORE THAN TRANSPORT: USAF NONCOMPAT OPERATIONS 1947–1989

Since the end of the Second World War, the USAF has fought in three wars—Korea, Vietnam, and Iraq—and in seven smaller combat operations—the invasion of the Dominican Republic (1965), the rescue of the crew of the Mayaguez (1975), the attempted rescue of the hostages in Iran (1980), the invasion of Grenada (1983), the attack on Libya (1986), the Tanker War in the Persian Gulf (1988), and the invasion of Panama (1989).\footnote{It is interesting to note that the frequency of combat missions increased during the 1980s. Of the seven smaller engagements since 1947, five occurred over the last eleven years.} While involved in these battles and standing ready for others, the USAF has also continuously conducted operations that do not directly involve hostilities. Figure 1 shows an annual tally of over 500 overseas USAF operations from 1947 to 1989.\footnote{The record of Air Force missions on which the discussion in this section is based comes from Department of the Air Force (1990). These data do not include routine training and supply operations, humanitarian missions within the United States, most space-available transport, and classified missions.} There was much year-to-year variation, with a clear peak of activity during the Kennedy and early Johnson administrations. Since the middle of the Vietnam War, the USAF has averaged roughly one operation a month. When combat occurs, its success is clearly vital for U.S. national interests. But, as we will show below, the USAF provided a wealth of other services to the United States during the Cold War. This record provides a rich basis for an understanding of the noncombat roles the USAF might play in a post–Cold War world.

The first step is to make clear what we mean by Air Force noncombat operations. Except for humanitarian assistance, which has a statutory basis,\footnote{As discussed in Section 3, the current statutory basis for humanitarian assistance by the U.S. military dates from the mid-1980s and defines four types of such missions—delivery of excess government property to needy recipients; transport of privately donated cargo on a space-available basis (referred to as “Denton space-available transportation” after its Congressional sponsor); disaster relief, in which the USAF transports personnel and material to stricken areas at home or abroad; and “Title 10” Humanitarian Assistance, in which USAF personnel stationed abroad can provide a loosely defined range of services to the local population, “incidental to authorized operations,” such as health care and assistance in constructing rudimentary roads and other public infrastructure. Humanitarian assistance does not, however, exhaust the range of noncombat activities U.S. military forces routinely carry out, so these statutes do not provide a full basis for definitions.} there are few standard definitions. Since humanitarian assistance does not exhaust the range of noncombat activities the U.S. military routinely carries out, we have developed our own taxonomy. The U.S. Air Force conducts three general types of activities:
Figure 1—USAF Operations, 1947-1989

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- **Combat operations** are those in which USAF aircraft are involved in fighting.
- **Military operations** are those in which USAF aircraft project military capability short of actual combat, support other U.S. or allied forces in combat or in projecting force, or help maintain U.S. or allied military capability.
- **Civil operations** are those in which USAF units are engaged in activities unrelated to the use or maintenance of combat capability.⁴

For our purposes, USAF noncombat operations are all those operations that do not involve USAF weapon-carrying aircraft. In practice, this usually means those in which U.S. support aircraft—transports, AWACS, and tankers—play the leading role. Virtually all civil operations, many military operations, and even some combat operations carried out by the U.S. military are noncombat missions for the USAF.⁵ The reader should note that the term “operations” as used in this Note refers not to individual sorties, but rather to a set of USAF activities that accomplishes some goal of interest to national-level policymakers. Thus, one operation may contain any number of sorties needed to accomplish its task.

As Figure 1 shows, military operations short of combat have been a significant fraction of USAF activity since 1947, with particularly intense activity in the 1960s and 1980s. Such operations can span a range of intensity, from full-scale shows of force, to “presence” operations, to aid to allied air forces. At the upper end of intensity, shows of force are intended to stop or change the behavior of an adversary without going to war. A classic example is the Cuban Missile Crisis, in which the naval blockade and deployment of land and air strike forces to Florida bases helped convince the Soviets to withdraw their nuclear missiles from Cuba. On several occasions, raising SAC alert levels and deploying squadrons of combat aircraft have provided the U.S. government with flexible, far-reaching, and rapidly responding shows of force.

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⁴We should note that our categories differ from those used in the USAF database from which we gathered our listing of missions (Department of the Air Force, 1990). The database divides USAF activities into the categories of combat, presence and shows of force, air movements of national influence, and humanitarian. The third and forth categories are distinguished from one another in that the former have overt political overtones, while the latter are performed largely for goodwill. This division is ambiguous, since it is often difficult to know the primary intent of the decisionmakers who authorize a particular mission, and most Air Force missions have political ramifications. To take an obvious example, there have been many severe earthquakes in the Soviet Union, but the first the Air Force responded to was in 1988, as the country flung itself open to the West. We instead prefer to differentiate missions by the type of activity involved.

⁵For instance, not all the U.S. combat operations between 1947 and 1989 involved Air Force weapon-carrying aircraft. In the Dominican Republic invasion and the attempted Iranian hostage rescue operation, Air Force transports carried personnel and combat vehicles from the other services. In the tanker war, Air Force tankers and E-3A AWACS provided missions support to U.S. Navy fighter-bombers in attacks on enemy units.
More modest deployments of U.S. military power are more frequent than these large-scale and threatening shows of force. Such "presence" operations are intended to demonstrate American commitment to an ally, display a willingness to act if a situation heads in an unfavorable direction, or convey a general reminder of American military strength. While the U.S. Navy is traditionally associated with "showing the flag," the USAF's rapid response and global reach make it useful for such operations. In addition to advantages in mobility, the deployment of land-based aircraft often has more political impact than the deployment of naval forces. Because land-based aircraft are less easily withdrawn, they represent a more significant U.S. commitment.  

In addition to demonstrating U.S. military force and a willingness to use it, military operations also include efforts to aid the military forces of allied countries. USAF units have participated in joint training exercises, provided transport for allied troops or United Nations peacekeeping forces, or offered tanking or reconnaissance support to allied air forces.

Civil operations make up the bulk of USAF activities as is clearly shown in Figure 1. These operations range from providing relief supplies to earthquake victims, to flying the ailing relatives of foreign leaders to the U.S. for medical treatment, to delivering food to famine stricken areas, to spraying insecticide to combat infestations, to evacuating U.S. nationals from areas of explosive civil unrest. Many counternarcotics operations are civil, but are little discussed here because there was not much military involvement before 1989. Civil operations are often called humanitarian, but few are conducted solely for that reason. While there is rarely an explicit political objective involved, civil operations usually are motivated in part by a desire to engender a feeling of goodwill that can be called upon latter. A successful example is the emergency delivery of earthquake relief supplies to Algeria in 1980. Soon after, Algeria took the lead in negotiating the release of U.S. hostages in Iran.

In addition, civil operations are often intended to enhance the political and economic vitality of countries friendly to the United States. A survey of the regions where the United States most frequently offered aid suggests that it was provided to those countries in which the United States has a significant interest in stability and development—Europe and Japan in the 1950s, Southeast Asia in the early 1960s, the Middle East in the 1980s, Central and South America throughout the Cold War, and the Soviet Union in the late 1980s. Finally, civil operations can be a vehicle for subtle reminders of U.S. power. A classic example is Operation Safe Haven, the evacuation of refugees after the failed 1956 Hungarian revolt. The United States had stood idle when the Soviets crushed the Hungarian uprising, but then

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used its Air Force and Navy to carry 10,000 people from the edge of the Iron Curtain to the United States. The Eisenhower Administration thus contrasted its generosity with communist cruelty, while demonstrating the ability of the United States to transport thousands of troops in the other direction. (See Appendix B.)

Virtually all the civil operations\(^7\) in our sample and about one-third of military operations were noncombat operations. The common perception is that these operations primarily provide transportation, but nearly two-thirds of the noncombat operations included in Figure 1 involved USAF activities well beyond transporting material or personnel. Figure 2 divides the military and civil noncombat operations into two types of activities:

- **Logistics operations**, in which USAF activity is confined to procuring, maintaining, and transporting material, facilities, and personnel
- **Direct operations**, in which the USAF carries out activities in addition to those included as logistics.

and further divides civil operations into two categories:

- **Emergency operations**, which arise rapidly in the wake of natural disasters, such as earthquakes, or civil emergencies such as rioting,
- **Routine operations**, in which the operation schedule is largely under U.S. control.

As will become apparent from the discussion below, routine operations are often, but not always, logistics operations. Emergencies frequently involve the broader range of USAF activities, which we describe as direct operations.

Logistics operations are the most frequent military noncombat operation, with 46 operations shown in Figure 2. Military logistics includes the numerous instances in which USAF personnel provide assistance with maintenance or training to allied air forces. A large number of routine activities in this area are not included in the USAF database. The bulk of the activity shown is transporting troops and military supplies, sometimes U.S., often foreign. For instance, during a 1964 hostage rescue, U.S. air transports carried Belgian troops into the Congo. During the 1958 crisis in Lebanon, U.S. aircraft supported British

\(^7\)Not all, however. During the 1950s and 1960s, fighter aircraft were used on several occasions to spray insecticide to stop infestations, usually in the Middle East.
troops in Jordan. After the Suez Crisis in 1956 and after the Camp David Accords, U.S. airlifters helped move United Nations peacekeeping forces into the Sinai. During a 1960 rebellion, the U.S. carried United Nations troops to the Congo. While other nations also conduct such operations, the USAF has the largest military airlift capability in the world. If the international community becomes more involved in armed peacekeeping efforts, this may be an area of increased activity in the future.

It is perhaps surprising that direct military operations can be done by support aircraft alone. Nonetheless, a small but growing number of operations fall in this category. Of the 29 operations shown in Figure 2, 13 involved the deployment of AWACS surveillance aircraft, either alone or in support of allied combat forces. Some of these operations also involved tankers. For instance, the U.S. deployed both AWACS and tankers to support the U.S. Navy and the allied Arab air forces during the 1988 tanker war in the Persian Gulf. In 1981, the U.S. sent an AWACS to Egypt to escort President Sadat's plane on a trip to the Sudan, to protect the leader from potential attack by Libyan forces. Although there were direct military noncombat operations using RF-101s in Southeast Asia in the years preceding the Vietnam War, the bulk of these operations occurred during the 1980s with the advent of the AWACS. AWACS aircraft have proved to be particularly useful tools for deployment in presence operations, or to augment allied combat potential, because they provide a real military capability without deploying weapon-carrying aircraft into a politically sensitive
area. This, too, may be an important growth area in the future, particularly since the soon-to-be deployed JSTARS can perform an analogous role.

Civil operations, too, often provide more than transport. The emergency operations shown in Figure 2 typically include time-urgent situations in which the USAF cannot rely on the civilian infrastructure for support. This is particularly true in the case of natural disasters, because the civilian infrastructure on the receiving end of the operation may be damaged. For instance, when the USAF conducts a routine operation to deliver medical supplies to a poor nation, it will generally deliver those supplies to a representative of the U.S. ambassador upon arrival. However, in responding to the 1985 Nicaraguan earthquake, the USAF needed to provide its own control tower, communication gear, distribution system, and command structure to deliver relief supplies to the victims of the quake. In the next section, we will examine specific cases to understand in greater detail what the USAF does in these civil emergency, direct operations.

The summary data presented here must be used cautiously, because the database it was drawn from is not a complete listing of USAF operations during the Cold War. For instance, Figure 2 suggests that the majority of civil operations are emergency operations. However, the numerous one- or two-aircraft operations in which the USAF delivers surplus government property or privately donated property as piggyback cargo are not included in this database. Also not included are the instances in which USAF personnel stationed overseas aided the local population with medical care, public infrastructure construction, and the like. Nonetheless, emergency operations involve the bulk of USAF civil activities that use more than one or two aircraft.

It is also interesting to note, again cautiously, the trends over time underlying the aggregate figure presented in Figure 2. The number of overseas emergency operations reached a peak in the 1960s and 1970s of about nine operations per year, and dropped during the 1980s to about six operations per year. This decrease is likely due to political and economic changes in many of the areas in which the United States conducts these emergency operations. Economic development in Europe and East Asia reduced the need for outside help. The rise of anti-Western governments in the Middle East reduced the interest in U.S. help. It is interesting to speculate about how the demand for emergency operations will change in the future. If the U.S. and the rest of the international community retain a strong interest in the fate of the late Soviet Union and its constituent republics, broad regions of Eurasia may be added to the list of areas where the USAF will respond to natural or man-made disasters. Operation Hope, which delivered food and medical supplies to cities in the former Soviet Union last winter, may have only been an initial example.
3. AN OVERLAY OF CIVIL ORDER: LESSONS FROM CASE STUDIES

What do USAF noncombat operations involve, those which are more than transport? This question is crucial to understanding the role the USAF might play in such operations in the future and to helping the USAF understand what it needs to do to preserve the necessary capabilities. This section presents our examination of 15 case studies of USAF noncombat operations during the Cold War to shed light on these questions. Our choices focus on two of the operation categories that may be growth areas in the future and in which we believe the scope and character of USAF noncombat operations are most surprising—military logistics and civil emergency direct operations.

The 15 cases we considered are listed below. All but the third case are civil emergency, direct operations. These cases demonstrate that, even in this relatively narrow category of activity, USAF noncombat operations are exceedingly diverse and that each one can call upon the USAF to carry out a broad range of activity. These cases also suggest that one of the most important services the USAF provides in civil emergencies is rapid delivery of the accoutrements of civil order—food, shelter, health care, and communication—almost anywhere in the world where natural or man-made disasters have incapacitated the existing civilian structures. Such insights can be useful in understanding the potential roles for USAF noncombat missions in the future. Each case is described at length in the appendices. Details are discussed as needed throughout this section. In contrast to the operations discussed in the previous section, the cases include both overseas and domestic civil-emergency operations.

1. **Operation Hayride.** During the winter of 1948–1949, severe blizzards blocked roads and railways in the Rocky Mountains, threatening hundreds of thousands of sheep and cattle with starvation. For two months, the USAF airdropped hay to starving livestock.

2. **Operation Safe Haven, Hungarian Refugee Evacuation.** After the Soviets crushed the 1956 Hungarian revolt, tens of thousands of refugees poured into Austria. The USAF transported over 6,000 to new homes in the United States.

3. **Operation New Tape, Congo Airlift.** When civil war broke out in the Congo after its independence in 1960, the USAF evacuated foreign nationals and ferried in UN troops to halt the fighting.
4. **Hurricane Camille.** One of the largest hurricanes on record hit the U.S. Gulf Coast in August 1969. Local USAF units at Keesler AFB helped the communities with preparations for the storm's arrival. After the storm passed, airlift units assembled rescue, relief, and recovery assets from throughout the country.

5. **Rapid City Flood.** In June 1972, a dam collapsed, devastating Rapid City, South Dakota. Within hours, USAF units using nearby Ellsworth AFB provided search-and-rescue personnel, transport for evacuation, and medical supplies and shelters for the victims.

6. **Jonestown Massacre.** In 1974, 900 members of the Jonestown settlement in Guyana committed mass suicide after members of the colony murdered visiting representative Leo Ryan and his staff. The USAF ferried in rescue, medical, and mortuary personnel and equipment.

7. **MGM Grand Hotel fire.** In 1980, helicopter units from nearby Nellis AFB helped rescue victims trapped in the burning MGM hotel in Las Vegas.

8. **Evacuation of Ferdinand Marcos.** In 1986, a popular revolution trapped Philippine President Marcos in his palace. As part of a U.S. effort to encourage Marcos to relinquish power peacefully, USAF units evacuated the leader and his family from the country in the face of potentially hostile crowds.

9. **Chernobyl.** In 1986, the Chernobyl nuclear power plant in the Soviet Ukraine suffered a catastrophic meltdown. USAF reconnaissance units collecting and analyzing air samples over Europe and the Pacific were the U.S. government’s key sources of information on the dispersal of radiation from the crippled reactor.

10. **Search for Representative Mickey Leland.** In 1989, an aircraft carrying Representative Leland and staff disappeared on a fact-finding operation in Ethiopia. The USAF led a major search and rescue operation, which eventually recovered the victims’ remains.


We address two primary questions about these cases: What did the USAF do well and do poorly in conducting these operations? Why did the U.S. government call upon the USAF to perform these operations? The answers to the first question will help the USAF understand what capabilities it needs to protect to undertake such operations in the future.
The second question focuses attention on what needs there may be for such operations in the coming years.

We do not offer a quantitative analysis, but rather a set of insights gleaned from an examination of the 15 cases. We did not have analytic measures of effectiveness to judge the performance of USAF units assigned to noncombat operations. We also did not examine the number of potential operations the USAF failed to perform during this period, either because it was not prepared, was not capable, was not asked, or refused. We did not assess whether other organizations, either inside the government or private firms under contract to the government, could have performed these tasks better. Finally, while it is clear that the Army and occasionally the Navy had important roles to play alongside the USAF in many of these cases,\(^1\) it is not clear these roles are always discussed in detail in the official USAF histories the study used.

Nonetheless, the 15 cases provide an accurate and useful picture of the humanitarian operations the USAF has performed in the past. The story emerges that, over the last 45 years, the U.S. government has regularly needed to deploy and evacuate personnel and supplies into and out of regions that have often been distant, inaccessible, and dangerous. Such needs may arise suddenly and require a rapid response. Seldom does a task entail only transport. It is usually necessary to establish an entire infrastructure—ground transport, medical facilities, air traffic control, etc.—at the receiving end. The cases suggest that the USAF has generally performed these operations well. In the past, it has rarely if ever been limited by force structure or by lack of personnel in successfully completing its noncombat operations. The Air Force’s most difficult hurdles have been meeting demands for rapid, coordinated involvement of far-flung assets, operating at often primitive and ill-prepared airfields, and finding and gathering the necessary supplies.

**HOW WELL DID THE USAF DO?**

**Strengths**

The cases suggest that the USAF has performed its noncombat operations well. Many of the same qualities the Air Force brings to combat operations enhance its noncombat capabilities. The USAF has robust airlift and is able to organize and conduct large, complex operations. It places a premium on readiness, rapid response, global reach, heavy lift, sustainability, and the capacity to go where other services cannot.

Quick Response. A critical factor for most of the noncombat operations we considered was a quick-response capability. This is particularly true for the disaster relief and search and rescue operations which constitute over half of such operations. In the case studies, the USAF was successful in bringing its resources to bear in a very short time. As Figure 3 shows, in eleven of the fifteen cases the USAF began operations within 24 hours after it was first asked to respond. This was true even for unpredictable disasters where there was no advanced warning of the location and the extent of the operations.

The USAF was able to act quickly because it often had units at a high state of readiness able to reach the site of the emergency. In several of the domestic cases, such as the MGM fire and Rapid City Flood, the USAF base was part of the affected community. In most of the overseas cases, the availability of overseas bases played a role in the USAF's quick response. The Marcos evacuation used units from nearby Clark Air Base. The Leland search was assembled by the Joint Rescue and Recovery Center in Ramstein AB in Germany. In those instances when the response time was longer, it was caused by political constraints—for instance difficulty in obtaining agreement to allow U.S. military aircraft to fly into Soviet Armenia.

Global Reach. The USAF was successful at transporting material and personnel to virtually any region of the globe. Some of the cases from the days of propeller-driven aircraft
required long, complex routes. For instance, the 1960 Congo operation used 52 airfields in 33 countries for refueling, maintenance, and diplomatic entry or exit, as well as loading and unloading. Extended range and airborne refueling have greatly minimized this problem. In the 1989 Armenian earthquake, C-141s flew directly from the United States into the Soviet Caucasus. Refueling was also important for shorter-range craft. In the Jonestown case, three HH-53 helicopters flew the 2000 miles from the United States to Guyana, each refueling five times in the air. The USAF's forward bases also played an important role. Overseas bases were used in most of the foreign cases we considered.

**Flexibility.** Frequently, the USAF ran into unexpected difficulties but was usually able to adapt. In Operation Safe Haven, bad weather halted operations at three key airfields for several days. The USAF was able to adjust its operational plans and regain its schedule when the field reopened. Primitive conditions at Yerevan's airfield complicated the Armenian earthquake relief effort. The runways appeared insufficient to handle C-5s, so these aircraft had to transfer their cargo to C-141s at Turkey's Incirlik Air Base. The lack of mechanical loading equipment meant that aircraft had to be unloaded by hand.

**Big Enough for the Job.** Noncombat operations tend to be small compared to other USAF operations. Figure 4 shows the total aircraft used and number of sorties for each case. Most involve only a few tens of aircraft and a few tens of sorties. Some of the cases, such as the 1960 Congo Airlift and the response to Hurricane Camille, represent the largest operations of their type ever conducted, involving roughly a hundred aircraft and several hundred sorties. In Operation Hayride, the biggest of our cases, 356 aircraft flew 2462 sorties. (Operation Hayride is not shown in Figure 4.) Many USAF noncombat operations have been larger than those considered here. Operation Provide Comfort flew 38,000 tons of supplies in 4,338 sorties to Kurdish refugees from April to June 1991. Operation Provide Hope carried 2,274 tons of food and medical supplies to eleven former Soviet republics during two weeks of February 1992. The U.S. airlift to Israel during the 1973 Yom Kippur war carried 11,000 tons in two weeks. The world’s largest peacetime airlift is the Berlin Airlift, which carried an astonishing 2.3 million tons of supplies in nearly 280,000 sorties in the fifteen months between June 1948 and September 1949. (See Table 1.)

Nonetheless, the size (overall tonnage carried) and intensity (tonnage carried per day) of noncombat operations is generally small compared to combat operations. Combat is rare, but when it occurs, the scale of operations can be immense. The Vietnam and Korean wars

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involved 5 million and nearly 1 million sorties, respectively. Only the Berlin Airlift approaches these operations in scale. The USAF’s airlift capacity is built primarily to fulfill wartime requirements. Not surprisingly, our 15 case studies suggest that the USAF has rarely been limited by force structure or number of available personnel when conducting noncombat operations. It is interesting to note in this context, that in the Berlin Airlift, the most serious constraint on the rate at which material could be delivered was the capacity of the available airfields in Berlin, not the number of available aircraft. On the airlift’s busiest day, the “Easter Parade” of April 16, 1949, the USAF delivered 12,941 tons, falling just short of its goal of landing one aircraft every minute for 24 hours at Berlin’s Tempelhof airfield.
Weaknesses

The USAF has rarely, if ever, been limited in performing civil operations by the availability of aircraft. Rather, the weaknesses have been in the infrastructure on the receiving end of the operation, available supplies and infrastructure on the U.S. end, and a variety of bureaucratic and institutional constraints. In none of the cases did these problems cause the USAF to fail, but some of the operations could have run more quickly and effectively than they actually were.

Infrastructure on the Receiving End. The USAF often had significant difficulties using the often primitive or damaged foreign airfields. The problems included space constraints, limitations on the size and weight of aircraft that could be accommodated, lack of mechanical equipment for unloading palletized cargo, the lack of sufficient air traffic control, and the failure of local authorities to grant permission for particular USAF aircraft to land, which happened in the case of the Jonestown Massacre. In many cases, the operations were slowed; after the Mexico City earthquake, the lack of compatible forklifts meant that planes were unloaded by hand. In other cases, the USAF was forced to bring certain equipment and supplies with them, including all-terrain forklifts, special lubricants, potable water, and food.

Poor terrain and other conditions in the delivery areas of many foreign countries often made it impossible to distribute goods by ground. After the Yugoslavian earthquake, the USAF had to use trucks to transport materials over 100 miles from the nearest usable airfield. A common solution was to use USAF assets to transport Army helicopters into the area. At Jonestown, helicopters landed in areas that could not accommodate fixed-wing aircraft. In the search for Congressman Leland, helicopters were used to lower pararescue personnel into jungle, where neither planes nor helicopters could have landed.

Finally, in the Chernobyl case, the sampling program seriously taxed the ability of the USAF data analysis lab to produce data as fast as the samples were delivered.

Infrastructure on the Sending End. Delays were sometimes caused by the inability of the USAF and relief organizations to find available emergency supplies quickly. The U.S. armed forces are permitted to transfer surplus equipment (tents, blankets, transport) to domestic and international disasters, but there is no centralized system for determining where these supplies are stored and for facilitating their easy access.

Command and Communications. Communications problems of various sorts were reported during several past USAF noncombat operations (e.g., Camille, Yugoslavia, Jonestown, and the Leland operations). In some cases, such as during the Yugoslav operation, these problems were related to inadequate communications links out of the country, so that even the local U.S. Embassy had difficulty informing the U.S. government of
the state and needs of the emergency situation. In others, such as in the Congo and in Nicaragua, communications facilities at the airfields themselves were inadequate, causing confusion and disrupting relief operations.

Although not apparently a major or continual problem, some USAF noncombat operations suffered from the lack of a clear-cut, interservice command structure. During extended Nicaraguan relief operations, for example, there was a dispute between U.S. Southern Command (USSOUTHCOM) and USAF SOUTHCOM (USAFSOC) over who should have primary responsibility for controlling airlift operations. This command dispute spilled over into other areas, such as who should have control over U.S. Army CH-47 Chinook helicopters flying inside Nicaragua (USAFSOC, USSOUTHCOM, Readiness Command, and Tactical Air Command were all involved in coordinating the use of the CH-47s). In addition, there were instances in other USAF noncombat operations in which military-civilian and even intraservice coordination was weak. During the Hurricane Camille relief operation in 1969, communications between military and civilian agencies were poor because of the destruction of civilian communications. In the case of Jonestown in 1974, the inability to mix USAF Reserve aircraft and aircrews with active-duty aircraft and aircrews hampered operations. Many of these problems seemed to have been overcome to a large degree in recent years by the establishment of joint command structures and clearly defined legal authority for many noncombat operations (see below).

**Weather Forecasting.** In some noncombat operations, there was inadequate weather forecasting. While this was most frequent in the earlier cases, before the widespread availability of satellite-based weather forecasting, it also happened during the 1980s. During the extended Nicaraguan earthquake relief operation, for example, reliable forecasting was spasmodic. The Jonestown operation would also have run more smoothly with expanded weather reconnaissance.

**Financial arrangements.** Funds for USAF civil operations were sometimes irregular or even nonexistent. After the Chernobyl disaster, the USAF Technical Applications Center (AFTAC) was tasked to document the release of radioactivity and to provide data that could be passed on to civilian authorities. AFTAC did so, but it had to cover expenses out of its unobligated funds and by cutting back on other training and routine sampling operations. Similarly, at least some of the costs incurred by the USAF Reserve in fighting Hurricane Camille could not be reimbursed, as there were no provisions to cover such a contingency.
WHY THE USAF?

It is clear why the U.S. government would call upon the USAF, and its military services in general, an operation involving combat or the threat of force. But civil operations raise an important question: Why was the USAF chosen instead of some other public or private organization? This question is important for thinking about the role the USAF might play in civil operations in the future. To answer it, we will discuss the statutory authority for humanitarian operations, the chains of command by which the U.S. government decides to order its military services to participate in such activities, and the characteristics that made the USAF a useful participant in civil operations.

The DoD currently has legal authority to task the USAF and its sister services to carry out four types of humanitarian operations: disaster relief, in which DoD may use its assets in disaster relief activities; Excess Property Program, in which surplus, nonlethal DoD property can be distributed to recipients worldwide; Denton Space Available Transportation, in which DoD may transport privately donated cargo at no cost to the donor on a space-available basis; and Title 10 Humanitarian/Civic Assistance, in which U.S. forces may participate in training and construction projects in their regions of responsibilities.5

The bulk of what this Note defines as civil emergency operations falls under the legal category of disaster relief. DoD participation in foreign disaster relief is generally controlled by the U.S. Agency for International Development Office of Foreign Disaster Assistance (AID/FDA). Any DoD involvement is requested by AID/FDA, and any DoD costs are reimbursed by AID. The only authority DoD has to expend its own funds for disaster assistance is that a local commander may act on his own authority to preserve or save lives in a local emergency. In the typical case, a disaster declaration is initiated by the U.S. ambassador in the stricken country. AID/FDA makes the official declaration, which immediately releases $25,000 in response funds. AID can request DoD assistance by contacting the Secretary of Defense's Office of Humanitarian Affairs (OSD/HA), which in turn requests the Joint Chiefs to activate the J-4 Logistics Readiness Center (J-4/LRC). OSD/HA forwards written approvals from senior Defense Department officials to the Director of J-4/LRC, who tasks, directs, and accesses the various service assets, such as USAF airlift, as required. DoD transportation costs are often more expensive than civilian alternatives, and thus AID is often reluctant to call on DoD assistance.

DoD participation in domestic disaster relief is controlled by the Federal Emergency Management Agency (FEMA). The governor of a stricken state can request help from the

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5Kuntz and Shuey (1987).
Federal government, and the President directs a response. Once FEMA has taken control of a declared national disaster, it can request DoD assistance. An on-site military liaison officer reports to the Defense Office of Military Support (DOMS), which can task USAF and other service assets. In addition, base commanders have limited authority to respond to local disasters on their own initiative, as was done, for example, during the MGM Fire.

The Excess Property Program is the most common of what this Note defines as civil routine operations carried out by DoD. The Secretary of Defense has the authority under permanent law (Sec. 2547 of Title 10 U.S.C.) to donate nonlethal excess DoD property to foreign governments and to other recipients for humanitarian purposes. The Excess Property Program was created in the FY 1986 Defense Authorization Act because of Congressional interest in providing humanitarian assistance to the Afghan rebels. Transportation and other related costs of the program are funded in the yearly Defense authorization. In FY 1987, this funding was $10 million per year. The funded transportation, which is generally carried out by the USAF, is a key portion of this authority. Before this law, the DoD could legally transport items at the request of another Federal agency on a reimbursable basis, and many government agencies, including the military services, have had the authority to donate excess equipment for charitable purposes. Before the current law, however, the financial cost of DoD transport often proved prohibitive.

The DoD Humanitarian Affairs Office coordinates the Excess Property Program. The Political Military Affairs Office in the State Department prepares a directive to the DoD Office of Humanitarian Affairs, which in turn tasks the necessary service headquarters to carry out the operation. Although the official directive must come from the State Department, OSD/HA coordinates the program in practice. Requests for supplies come from the State Department, U.S. Embassies, members of Congress, and private organizations and individuals who have cleared their requests through the appropriate U.S. Embassy. Once a request is received, an OSD/HA representative visits the potential recipient country to meet with government and in-country U.S. officials. If an agreement is reached, DoD notifies the State Department, which issues the formal directive to make the donation. OSD/HA then coordinates the specific arrangements with the appropriate contacts in the recipient country and with the appropriate U.S. military service(s). OSD/HA also issues orders to the services to carry out the transfer of materials, with the provision that they do not interfere with any

7Kuntz and Shuey (1987).
DoD military operations. When the shipment arrives in the recipient country, it is transferred from DoD custody to that of a State Department representative.

The Denton Space Available Transportation program is a second means for the DoD to use military transport to deliver humanitarian aid. The Secretary of Defense has the authority to task service assets to transport privately donated humanitarian cargo on a space-available basis at no cost to the donor. Section 402 of Title 10 of the USC made this authority permanent. Originally introduced in FY 1985 and restricted to Central America, the authority was made worldwide the following year. The goods must be suitable for humanitarian purposes and in usable condition; there must be a legitimate need; and they cannot be distributed directly or indirectly to any group or individuals engaged in military or paramilitary activity. The program has been used mostly for Central America and has been used to transport medical supplies, clothing, educational materials, vehicles, and construction equipment.

The State Department has formal control over this program but has delegated operational duties to Agency for International Development’s (AID’s) Bureau of Food for Peace and Voluntary Assistance (AID/FVA). A private group must petition AID/FVA in Washington, which initially screens the goods and donor for suitability. AID/FVA then obtains clearances from the respective State Department and AID regional bureaus, the host government, and the U.S. embassy. Upon arrival in the host country, the materials can be turned over to State Department or AID officials, the host government, or to appropriate international or private organizations. In practice, once shipments by a particular organization to a particular country have been approved by AID, the organization can make requests directly to OSD/HA.

The Title 10 Humanitarian Assistance program authorizes DoD to spend a certain proportion of its operations and maintenance funds to allow its forces deployed overseas to provide humanitarian and civic assistance that is “incidental to authorized operations.” There has been no official definition of “incidental,” but such activities include providing medical, dental, and veterinary care in rural areas, rudimentary construction of roads, construction of basic sanitation and other public facilities. This authority was first enacted in FY 1985, in response to a General Accounting Office report that claimed USSOUTHCOM forces were illegally participating in such activities. The funding limit under this program was $16.4 million from FYs 1987 to 1991. Starting in FY 1990, each CINC must budget, defend, and protect funds for this program in the Program Objectives Memorandum cycle.

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8Kuntz and Shuey (1987).
Projects must promote the security interests of the United States, enhance the specific operational readiness skills of the armed forces who participate, not duplicate other U.S. government programs, and serve the basic social and economic needs of the host country. OSD/HA is working to merge the Title 10 Humanitarian program with the Excess Property Program.

Projects under this program are initiated by the regional military commander in coordination with the U.S. ambassador and AID operation director. Projects are cleared by OSD/HA and then ASD/ISA. Final approval comes from the State Department's Political-Military Bureau and AID's Bureau of Program and Policy Coordination. State Department approval is required by law.

These humanitarian and civic assistance programs are distinct from the military civic action programs that DoD has participated in under the Foreign Assistance Act and the Arms Export Control Act, under the purview of the Defense Security Assistance Agency. Civic assistance programs primarily use indigenous military forces, although U.S. forces can provide training, technical advice, and some equipment. For instance, military civic action programs were a key piece of the Kennedy Administration's Alliance for Progress in Latin America. DoD special-operations forces have also been given authorization to participate in humanitarian assistance programs under a chain of command that does not flow through OSD/HA.9

Once the Department of Defense becomes involved in a civil operation, the USAF's ability to carry personnel and equipment quickly over long distances provides a unique and important set of capabilities. For instance, after the Armenian earthquake, the USAF carried 513 tons of supplies and over 200 passengers to and from a remote and devastated region nearly 10,000 km from the United States. In large-scale domestic emergencies, such as the San Francisco earthquake and Hurricane Camille, the USAF was instrumental in carrying supplies and emergency personnel from around the country to the disaster sites. The Navy and Army do have important roles in such operations, and a significant number of these operations use assets and personnel from one or more services. The Army often provides personnel, ground equipment, and helicopters for transportation between airfields and distribution sites. The Navy can carry out search-and-rescue operations near coastal areas, as it did in the evacuation of foreign nationals from Liberia during the 1990 civil war. In those domestic disasters that only required a small number of assets, such as the MGM fire, only the proximity of a USAF base made the USAF, rather than the Army or Navy, the

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service of choice. Nonetheless, for large-scale domestic emergencies and the bulk of international ones, only the USAF can provide the necessary speed and reach of transport.

But why does the U.S. government choose any military organization, as opposed to a civilian group, to perform civil operations? Many countries and most domestic localities have emergency response teams. Numerous commercial air-transport companies can, and often do, play a useful role. For instance, civilian airlines, such as Sabena, Air France, and Alitalia, joined the USAF in transporting UN troops to the Congo in 1960. The case studies selected suggest four important capabilities military services can provide in civil operations.

First, the military, particularly the USAF, has assets that are quickly available. The available assets are often aircraft and sometimes excess military supplies. The military airlift force is sized for wartime requirements and therefore almost always has capacity that can be diverted to noncombat operations. A portion of its aircraft is always ready for rapid response. In contrast, commercial carriers usually employ their entire fleet and cannot easily or quickly reschedule aircraft. Local emergency services can be overwhelmed by large disasters. The USAF also can provide specialized equipment, such as the air-sampling capabilities needed in the aftermath of Chernobyl, or such as reconnaissance assets used in the Leland search and after the San Francisco earthquake.

Second, military forces are uniquely trained and equipped to deal with hazardous duty. For example, Philippine President Marcos was evacuated from his palace by helicopters flying, without lights and using night-vision equipment, over a crowd described as “a little on the ugly side.” Operation Hayride was perilous work in stormy and freezing weather. Airman were roped to bulkheads to avoid falling from the open doors of their planes.

Third, the U.S. government can sometimes gain a political benefit by using military assets to perform civil operations. For example, at the time Congressman Leland’s plane disappeared, Ethiopia was in the process of breaking its ties with the Soviet Union. Allowing U.S. military units to search for Leland was an opportunity for the Ethiopian government to demonstrate a new friendliness towards the United States. Similarly, the Soviet willingness to allow military aircraft to respond to the Armenian earthquake was a sign of friendship. The political benefit of Safe Haven was mentioned previously, and it is likely that the U.S. offer of asylum to President Marcos was made considerably more convincing by a U.S. military escort to back it up.

Finally, and perhaps most importantly, military forces bring with them a complex web of capabilities and organizational structures that can be put into place in areas where the ordinary civil institutions may not be functioning as a result of man-made or natural
disasters. The Nicaraguan earthquake devastated the local infrastructure. In response, the USAF brought in mobile field hospitals, construction vehicles to clear damaged structures, and communications equipment. USAF personnel assisted with air traffic control when the control tower at Managua’s civil airport was destroyed. Helicopters from both the USAF and Army set up a distribution network throughout Managua and its suburbs, and U.S. military personnel assumed responsibility for coordinating food distribution around Managua. In the Jonestown operation, the residents had committed mass suicide. The military units deployed to the area provided mortuary services and transport for nearly a thousand bodies. In each case, the USAF brought along with it a military operation to replace a fractured civil infrastructure. The equipment for such functions as communications and transport were clearly important. But more fundamentally, the USAF, often in conjunction with the Army, was able quickly to set in place a functioning command structure that could help the local civilian authorities assess the situation, plan a response, and put it into effect. This ability, one that military organizations are designed to do in the most stressing of circumstances, is one that civil organizations cannot often provide in the wake of a disaster.
4. LOOKING AHEAD

The existence of an independent USAF has been concurrent with the Cold War, and air power as a military instrument came of age during a century dominated by global conflicts between the major industrial powers. In the decades ahead, the USAF will clearly have to adapt to a different world from any it has experienced. The traditional roles of air power will continue to be important, but it is likely that new areas will become relatively more important. AWACS and JSTARS diplomacy, transporting UN or allied troops, training allied air forces, providing refueling services, and participating in counternarcotics operations and in multinational police actions in regions of civil chaos are all areas in which the United States could increasingly use the USAF in the future.

Given the potential importance of such areas of operation, the USAF may decide that, even in this time of severely declining budgets, it may wish to protect or augment its noncombat capabilities. If so, its past noncombat operations offer valuable lessons. The first question is whether the USAF need worry about the size of its force structure for noncombat operations. Over the last 45 years, only one noncombat operation, the Berlin Airlift, came close to being constrained by the USAF force structure or the number of available personnel. This history suggests that, as long as the United States maintains sufficient airlift capacity to deploy and supply large numbers of troops abroad, the USAF will be sufficiently large to handle any civil contingencies of the scale handled in the past. One can imagine, however, situations in which the United States might find it necessary to carry out enormous civil airlifts in the future—for instance, to supply an ethnic enclave in the Balkans or the Caucasus that is under UN protection but is cut off from the outside world by hostile neighbors, to deliver food to dozens of Russian cities to stave off famine, or to enable a mass migration of refugees on the scale of that which occurred after the partition of India in 1947. Whether the USAF will be generally sufficient for all the noncombat operations in the future hinges in part on whether the United States becomes involved in massive civilian airlifts as part of its responsibilities in the post-Cold War world.

Whatever the scale of future operations, the USAF will likely need to worry about the training, specialized equipment, infrastructure, and institutional arrangements to support such operations. The USAF will continue to need access to emergency equipment and surplus supplies. Its needs could expand to require access to a broad range of specialized equipment and personnel, both military and civilian. For instance, if a Chernobyl-like disaster occurred in the future, the USAF could be called upon to do more than track the
radiation clouds. The USAF might find it necessary to bring in specialists from around the world to contain the disaster quickly. The USAF might find it important to develop, in conjunction with the Army, Navy, and OSD, better records of where surplus supplies are kept and of what emergency service personnel are available to respond to disasters.

Noncombat operations are also likely to continue to stress the USAF's ability to operate in areas with primitive airfields and inadequate local facilities. They will continue to require the USAF and its sister services to be able to provide rapidly the communications, distribution, medical facilities, and perhaps even security to take over where local institutions have failed or been destroyed. For some operations, the USAF may need to establish units to project security perimeters around its expeditionary bases in potentially hostile areas. For others, it may need to procure aircraft capable of short-field, high-altitude take offs and landings. Many operations will continue to require the USAF to be enmeshed in interactions with foreign civilians and in political complications.

While noncombat operations may require some unique investments, most are synergistic with the USAF's combat potential. Units that provide base security when deployed overseas would be useful in many combat-related deployments. Many noncombat operations, especially disaster response, provide valuable training. Conducting such operations overseas can test interoperability with the other U.S. services and with allied military forces. In a world where the U.S. will have fewer overseas bases, noncombat operations might allow the USAF to exercise base access agreements, which would smooth the process of gaining access in military emergencies.

Many of the investments the USAF has already planned will also aid its noncombat potential. The C-17, with its rough-runway capabilities and self-contained unloading equipment, would make it easier to operate from primitive airfields. The widespread deployment of GPS receivers and satellite communications gear on airlift aircraft will also lessen the USAF's physical dependence on the local infrastructure.

The overseas challenges that the United States and its military services will face in the years ahead are likely to be very different from the main missions of the past. As the USAF plans the force structure, modernization, and training that will carry it through the first decades of the post-Cold War world, it would do well to explicitly consider the potential demands of its noncombat roles. Past USAF noncombat activities provide a valuable, initial guide to the operations that lie ahead. The next phases of this study will focus on the noncombat operations the USAF may face in the coming years and suggest how the USAF can best prepare itself to meet these challenges.
Appendix A
OPERATION HAYRIDE

BACKGROUND

Eighteen snowstorms in twenty-seven days hit the Rocky Mountain and upper Great Plains states during December 1948 and January 1949. Temperatures dropped as low as \(-40^\circ\text{F}\), roads and railways were blocked; and ranges and ranches were covered with so much snow that hundreds of thousands of sheep and cattle were threatened with starvation.\(^1\)

The 2151st Rescue Unit at Lowry AFB, CO, began to air-drop food and medicine to stranded travelers and isolated residents on January 3, 1949. For the next ten days, the unit flew C-47, C-82, L-5, and H-5 aircraft over snow-covered portions of Colorado, Wyoming, and Nebraska.\(^2\) However, this aid was not enough, and, on January 11, 1949, Governor Val Peterson of Nebraska phoned SAC Commander General Curtis Lemay and requested assistance. The request was eventually relayed to General Harry A. Johnson of the 10th Air Force, who decided to use the 10th Air Force Domestic Emergency Team.\(^3\) A team commander was appointed, and various air bases were alerted.\(^4\) Working with the 5th Army, the 10th Air Force team conducted airdrops of food, medicine, and livestock feed for several days.\(^5\) However, by January 15th, the snow was slackening, and nearly all of the air assets that had been alerted returned to normal operations.\(^6\)

By January 22nd, however, new snowstorms were raging in Nebraska. Governor Peterson wired 10th Air Force Headquarters requesting the return of the Emergency Team. This marked the real beginning of Operation Hayride.

TASKING

For the first several days of Operation Hayride, the USAF appears to have been the only U.S. service involved. Curiously enough, its “tasking” seems to have been accomplished not by order of the President, the Secretary of Defense, or the JCS, but through the request of Nebraska’s governor. However, this changed on January 29, 1949, when Governor Peterson called President Truman and informed him that Nebraska’s emergency relief funds

\(^{1}\text{Haulman, n.d., p. 1.}\)
\(^{2}\text{Haulman, n.d., p. 1.}\)
\(^{3}\text{Tenth Air Force (1948–1949), p. 181.}\)
\(^{4}\text{Tenth Air Force (1948–1949), pp. 185–186.}\)
\(^{5}\text{Haulman, n.d., p. 2.}\)
\(^{6}\text{Tenth Air Force (1948–1949), pp. 185–186.}\)
were depleted. The President then designated the snow-crippled western states as a disaster area. The Secretary of the Army was made the representative for all Federal relief in the emergency zone, and the Secretaries of the USAF and Navy were directed to give full support to the Army. The former chose General Lewis A. Pick to command the operation. General Pick decided that the 10th Air Force operation should be part of the larger operation, called "Disaster Force Snowbound." Army commanders were authorized to call upon the appropriate USAF commanders in their Army area for assistance.\(^7\)

**OPERATIONS**

After the start of "Hayride" but before the beginning of "Snowbound," Headquarters, USAF, invoked the Domestic Emergency Plan, placing all C-82 aircraft and crews on a six-hour alert effective January 25. All Continental Air Command air forces were directed to be prepared to furnish all available C-47 and C-46 aircraft at the request of the Commanding Generals of the 4th and 10th Air Forces. "The Air Rescue Service, Strategic Air Command, and Air Materiel Command all took positive action to aid the Continental Air Command.\(^8\)"

Additionally, the 1st, 9th, 12th, and 14th Air Forces were ordered to furnish a list to Continental Air Command Headquarters of all equipment usable for snow removal that they did not need for their own use at the time. Aircraft from the 9th Air Force were operationally transferred to the 4th and 10th Air Forces.\(^9\) At the same time, the 10th Air Force Liaison Officer set up a central control office at Lowry AFB.\(^10\) The head of the 10th Air Force Domestic Relief Emergency Team exercised command over all air-relief operations in the snowbound states: Colorado, Wyoming, South Dakota, and Kansas.\(^11\) The 4th Air Force operated in Nevada, Utah, Arizona, and Idaho.\(^12\) The 10th Air Force was not the sole possessor of operational control; the Adjutant General's office in each of the affected states screened requests for relief from the towns, ranches, and farms and coordinated the requests with the 10th Air Force Team Commander.\(^13\)

Once Snowbound started, the USAF's Hayride became part of the larger operation. Air Division Hayride coordinated all requests for relief through the Army before assigning missions to the air operational bases. Simply stated, this prevented duplication of Army and

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\(^8\)Continental Air Command (1949), p. 5.

\(^9\)Continental Air Command (1949), p. 5.

\(^10\)Continental Air Command (1949), pp. 4–5.


USAF efforts and assured USAF crews that they flew dangerous missions only because less risky ground alternatives were not available.\textsuperscript{15} The degree of contact between the USAF and Army is indicated by the movement of 10th USAF Field Headquarters to 5th Army Field Headquarters at Omaha, Nebraska.\textsuperscript{16} However, intra-USAF organization does not appear to have changed. USAF and Civil Air Patrol planes operated under 10th Air Force jurisdiction.\textsuperscript{17}

**RESOURCES**

Operation Hayride was the largest emergency relief operation ever to take place within the continental United States (Continental Air Command, 1949, p. 2). Tables A.1 and A.2 give some idea of the scope of the operation. A total of 356 Air Force and CAP aircraft

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<th>Aircraft Type</th>
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<td>C-82</td>
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<td>22</td>
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<tr>
<td>T-6</td>
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<td>7</td>
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<td><strong>Total</strong></td>
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<td><strong>2462</strong></td>
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**SOURCE:** Continental Air Command (1949), p. 9.

\textsuperscript{16}Continental Air Command (1949), p. 6.
\textsuperscript{17}Continental Air Command (1951), p. 3.
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<tr>
<td>Total</td>
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</table>


<sup>a</sup>Items carried by Civil Air Patrol

<sup>b</sup>Items carried by the 2151st Air Rescue Service

flew 2462 sorties, carrying or dropping some 4780 tons of supplies and evacuating 1128 persons. Nearly 2500 participated in the operation: 452 officers, 1410 airmen, and 605 civilians. The Air Force furnished the following relief supplies: 100 canvas cots, 304 blankets, 520 board feet of lumber, 700 feet of 16-gauge wire, 20 pounds of nails, 141 articles of clothing, and 200 cases of rations.

The ultimate funding sources for this operation are unclear. Nebraska appears to have paid at least part of the cost. President Truman at one point allocated $300,000 for rescue work from his emergency fund, then asked for a $1,000,000 disaster-relief
appropriation. Western Congressmen asked for and got an additional $500,000 from Congress.18

RESULTS

Operation Hayride lasted from January 22 through March 15, 1949. One military source states: "It would be impossible to estimate the number of human beings saved and the numbers of cattle, sheep, and wildlife preserved."19 The Secretary of the United Stockman's Association said, however, that Hayride saved 80 to 90 percent of the livestock in the stricken states.20

The basic tasks of the USAF in Operation Snowbound were

- To fly food and medicine to snowbound ranchers and isolated communities
- To ferry supplies and snow-clearing equipment to ground personnel
- To drop tons of hay to starving cattle, sheep, and other livestock.21

Other tasks included surveying road conditions and communications lines and conducting evacuations.22 Rescue flights bringing fodder to livestock took second place to providing food and fuel to isolated people, such as those trapped on snowbound trains.23

The USAF had neither the planes nor the time to feed all the cattle in the area a sufficient amount of food over an extended period of time. It would have required 500 C-47 loads of hay to feed the 100,000 cattle in Nebraska alone. Therefore, the strategy the 10th Air Force used was to drop the minimum amount of hay necessary to prevent starvation to as many head of cattle as possible. Had the roads not cleared when they did, much of the livestock would have starved despite the 10th Air Force's efforts.24

The haydrop was cold and perilous work. Airmen were roped to bulkheads to keep from falling out the open aircraft doors.25 Assisted by guides, hay was dropped directly to herds or to farmers, who gathered it up and fed it to their stock.26

22Tenth Air Force (1949), Appendix, p. 2.
The CAP was used extensively to contact isolated farms, ranches, and communities. The light CAP aircraft were able to accomplish many missions beyond the capabilities of the heavier USAF aircraft.\textsuperscript{27} Other non-Air Force agencies involved included the Army, American Red Cross, County Agriculture Agents, and state governors.\textsuperscript{28}

There were no USAF fatalities, but one Air National Guard pilot, one CAP pilot and his observer, and one shepherd were killed.\textsuperscript{29}

By February 4, conditions had begun to improve in Nevada, and it was possible to release the aircraft from the operation in Utah. Conditions became worse in Wyoming, but then began to improve in all areas after February 15. The operation was terminated on March 15.\textsuperscript{30}

The following problems were encountered by the participants in Operation Hayride:

- **Communications difficulties.** Many of these were solved, but the director of communications for the operation recommended that, in future emergencies, the 10th Air Force communications chief be given authority to contact the USAF Director of Communications directly on many matters instead of going through channels.\textsuperscript{31}

- **Maintenance activity.** It was very difficult to adequately prepare planes and crews flying in from warm climates; it was therefore recommended that only aircraft and airmen stationed within the area be used or that planes be equipped for frigid-weather missions.\textsuperscript{32}

- **Supplies.** It was recommended that authorization to drop accountability for aircraft spares should be extended by the USAF in future relief assignments, because this would expedite the delivery of parts with a minimum of red tape.\textsuperscript{33}

- **Planning.** A lack of domestic emergency plans was noted. Such plans did not exist prior to the disaster, and political considerations hindered progress toward achievement of such plans during the disaster.\textsuperscript{34}

\textsuperscript{27}Tenth Air Force (1949), p. 191.
\textsuperscript{28}Fifteenth Air Force (1949), p. 60.
\textsuperscript{29}Tenth Air Force (1949), p. 196; and Continental Air Command (1949), p. 12.
\textsuperscript{30}Continental Air Command (1949), p. 12.
\textsuperscript{32}Tenth Air Force (1949), pp. 200–201.
\textsuperscript{34}Tenth Air Force (1949), pp. 203–204.
• Weather Service. During the first part of Operation Hayride, the 62nd Troop Carrier Group had difficulty obtaining adequate weather forecasts for at least part of its area of operation.35

A 10th USAF report states that, in sum, Operation Hayride presented two challenges: It tested both the USAF’s operational efficiency and the ability of its personnel to work with personnel from other services and with civilians, including officials and “John Does.”36 One advantage was that helicopter (and presumably fixed-wing) pilots and maintenance personnel gained useful experience through the mission.37

While the USAF has flown many humanitarian missions, this one was unusual in two respects. One was the scope and length of the operation; the other was the “haydrop” to livestock. Overall, the USAF seems to have performed its task quite well.

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37Tenth Air Force (1949), Appendix, p. 3.
Appendix B

OPERATION SAFE HAVEN: EVACUATION OF HUNGARIAN REFUGEES

On Sunday, November 4, 1956, the Soviet Army launched a major assault against Hungary to crush the week-old rebellion that had swept the communist-controlled government from power. During the first day of the Soviet invasion, 50,000 Hungarians were killed or wounded in Budapest. Within 24 hours, 6,000 people had fled across the border into Austria—the start of an exodus that would exceed 100,000 refugees by the end of the month. The Austrian government quickly appealed to the UN High Commission on Refugees for assistance. Despite the distraction of a concurrent, major war in the Middle East, the international response was swift. It was unable, however, to keep pace with the growing flight of Hungarians into Austria.

By November 16, 24 countries had agreed to accept 63,000 refugees, and the International Committee on European Migration (ICEM) was chartering trains and commercial aircraft to move them to their destinations, mostly in Europe. The United States was readying the Camp Kilmer Army base in New Jersey to process the 5,000 individuals it had pledged to accept. But a week later, thousands of Hungarians were still flowing daily into Austria, five times faster than the ICEM could ship them out. The 12 reception centers and 63 camps hastily set up to deal with the refugees were running out of space. The New York Times reported in a front page article on November 23 that

Austria found herself with an unmanageable and virtually uncountable number of refugees from Hungary. Far-sighted plans have been abandoned. Make-shift plans are inadequate. Coordination is collapsing.

Rumors sweeping through the camps further complicated the situation. Some refugees refused to leave Austria because they believed that by accepting temporary accommodations in Western Europe they would forfeit their opportunity to emigrate to the United States.

On December 1, President Eisenhower announced that the United States would quadruple its quotas and accept 21,000 Hungarian refugees (6,500 as permanent residents under the Refugee Relief Act of 1953 and 15,000 as special parolees under Presidential

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1The information in this first section is taken from November and December 1956 editions of the New York Times.
Eisenhower, emphasizing the need for the "utmost practical speed" in relieving pressure on the Austrian government, directed Secretary of Defense Wilson to work out arrangements for transporting the refugees to the United States. On December 6, the President formally announced plans to transport those Hungarians to enter the country as parolees: 10,000 by military airlift and 5,000 by Navy sealift. The ICEM would transport the 6,500 to enter under the Refugee Relief Act. Operation Safe Haven, the largest military humanitarian effort since the Berlin Airlift, commenced five days later when the first USAF C-118 left Munich Riem Airport with 199 Hungarian refugees bound for the United States.

**TASKING**

President Eisenhower took a deep personal interest in the fate of Hungarian refugees and was well aware of their plight in Austria. On November 29, the President appointed Tracy S. Voorhees, a former Under Secretary of the Army, as his Special Representative for Refugee Problems. On December 1, Eisenhower issued his directive to Defense Secretary Wilson to work our arrangements for transporting refugees to the United States. The same day, the Military Airlift Transport Service (MATS), a joint USAF-Navy service led by USAF Lt Gen. Joseph Smith, the commander of the Berlin Airlift, convened a rapid planning meeting to produce plans for a potential airlift of Hungarians. The meeting appears to have been hastily called, since at least one key participant, Gen. George Dany, Commander of the 1611th Air Transport Wing at McGuire AFB in New Jersey and later Task Force Commander of Operation Safe Haven, received orders the same day to travel to Washington to attend. In addition to General Dany, the planning meeting at MATS Headquarters was attended by Gen. Albert Wilson, Deputy Chief of Staff for Operations, and Atlantic Division (ATLD) staff personnel.

The official ATLD history reports that neither the White House nor the Department of Defense had given the ATLD planners a firm figure for the number of Hungarians to be airlifted or specified how many would be carried by commercial carriers chartered by MATS. Thus, the ATLD planners used the maximum-case scenario and by day's end had determined that ATDL was capable of transporting all the refugees the United States was willing to admit. Their plan called for use of the USAF's entire complement of C-118s and the C-121 Super Constellations of Charleston AFB's 1608th Air Transport Wing. The former would be diverted from their usual trans-AFB's 1608th Air Transport Wing.
African cargo runs. Tactical Air Command would be directed to divert their C-124s to cover these routes, and MATS would charter commercial carriers to meet the remaining lift requirements.

On December 2, General Dany placed the 1611th Air Transport Wing personnel on alert status, and Gen. Emery Wetzel, Commander, Atlantic Division, gave similar orders throughout ATLD. With the exception of those aircraft supporting Strategic Air Command (SAC), the C-118s and C-121s for the upcoming airlift were given "absolute top priority in maintenance support." Concurrently, the USAF publicly announced in Washington that it was ready to carry out a "dramatic airlift" to carry all the Hungarian refugees to freedom. The service announced that it had sent plans to Voorhees in the White House describing how 1000 refugees could be airlifted daily and that 150 four-engine transport planes were already alerted to perform the mission. In a front-page article, the New York Times reported that the White House favored using the Navy, in addition to the USAF, to facilitate immigration processing of the refugees enroute, and to "heighten the drama of the U.S. effort."

On December 5, in the late afternoon, Washington time, ATLD received a warning order from Headquarters MATS, which it transmitted to the field units. The order directed ATLD to transport approximately 7000 refugees and established that approximately 2500 would be carried by commercial contract carriers. The remainder of the 15,000 would be carried by the Navy. In Vienna, on the same day, relief officials publicly criticized the U.S. decision to use military transports to move the refugees. The officials claimed to have already arranged transportation for the subjects of the U.S. air and sealift and doubted that the military operation would be faster or less expensive. They were also wary of new agencies interfering with the now complex organization that had been transporting the refugees for about a month. The ICEM officials claimed that the U.S. airlift and sealift would force them to cancel most of fourteen commercial flights they had already booked and reduce the number of refugees they had already planned to move by mid-December. ICEM was forced instead to quickly arrange ground transportation to carry refugees to USAF and Navy embarkation points in Germany. While resigned to the U.S. decision, the ICEM officials had two requests. First, they asked that the airlift embarkation point be switched from Frankfurt to Munich to reduce ICEM's land transportation costs and to shorten the ride for the refugees. Second, they asked the United States not to use Navy ships to transport refugees. They argued it would look bad for the United States to load refugees on troop

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5Atlantic Division (1956), p. 2.
ships, since Canada was already booking space on Cunard Liners to carry the Hungarians it was admitting.

On December 6, President Eisenhower officially announced his directive for Operation Safe Haven. He directed MATS to move 10,000 Hungarian refugees by air from Munich to McGuire AFB in New Jersey, where they would be processed at Camp Kilmer and be turned over to voluntary relief agencies. The USAF was authorized to use its own aircraft and to charter civilian craft as necessary. The Navy was authorized to transport 5,000 refugees from Bremerhaven in Germany in three troop ships, leaving Europe at a rate of one per week starting on or about December 21. The President asked the ICEM to transport the refugees to Munich and Bremerhaven. The operation, estimated by the administration to cost $12 million, would be supported by funds appropriated through the Mutual Security Act for discretionary use by the President, some of which was specifically earmarked to aid refugees from communism. The President also announced he would ask the new Congress to grant permanent resident status to the Hungarians entering the country as special parolees.

It is clear that the USAF was directly ordered by the President of the United States to play the dominant role in transporting these Hungarian refugees to their new homes. What is unclear from the available USAF and newspaper accounts is why President Eisenhower came to this decision. Was Eisenhower convinced that the USAF was necessary to relieve the pressure on Austria speedily, because commercial aircraft or ships, whether chartered through the ICEM or by the U.S. government, were insufficient or more expensive? Or was the President convinced that the drama, and hence the political effect, of admitting 20,000 refugees would be heightened if the refugees arrived in USAF planes rather than commercial charters?

There is partial evidence for each of these views. The situation in Austria was clearly critical in November 1956. The camps were nearly overflowing, and the Austrian government was pleading for help. It is certainly plausible that the President saw the USAF as a way to break the back of the crisis quickly. It is also possible that the President did not trust the organization skills of the ICEM\(^6\) or believed that using U.S. military transport would facilitate the immigration processing of refugees. The administration used a similar argument to support the often-criticized decision to use the U.S. Army's Camp Kilmer as the entry point for 5,000 refugees who arrived on ICEM-organized flights before the start of Operation Safe Haven.

\(^6\)During the operation, the commercial aircraft chartered by MATS could not keep their schedule as well as the military aircraft. Atlantic Division (1956), p. 9.
On the other hand, the pleas coming from Vienna in the weeks before Operation Safe Haven were not for more transportation, but for larger immigration quotas and for speedier processing by immigration officials. In the last days of November, American consular officials were working around the clock to process refugees and were not keeping up with the flood. If the December 5 statement of the ICEM officials is to be believed, the transportation problems were under control, and Operation Safe Haven forced them to cancel already scheduled flights. In addition, the White House decision to divide the lift between the USAF and Navy suggests that political, not operational, considerations might have been paramount. The rapid December 2 announcement that the USAF was ready to perform the entire lift on its own, coming on the heels of the President's initial call for action, certainly suggests that the USAF saw a public relations advantage in transporting the refugees. The front page headlines they received in the New York Times suggest they were correct.

President Eisenhower had a well-deserved reputation for not being easily swayed by his military brass. It is not likely the USAF could have convinced him to grant a publicity coup unless he saw some benefit in it for the United States. Operation Safe Haven was structured to receive a great deal of publicity; if that was one of Eisenhower's goals, he succeeded. Each aircraft carried a reporter, and numerous dignitaries, including Vice President Nixon, visited the embarkation and arrival bases during the course of the operation. President Eisenhower had his personal plane, Columbine III, bring four refugee families to the United States on Christmas Day. On the first day of the operation, Voorhees personally requested the first Safe Haven aircraft be detained for several hours on their next-to-last stop so that they could arrive together at McGuire AFB, during daylight. The first refugees were met by large crowds of VIPs and news correspondents, and each passed through a reception line that included Voorhees and the governor of New Jersey. Each refugee received a personal letter in Hungarian extending President Eisenhower's welcome.

It is not possible to resolve why the President called upon the U.S. military to bring the Hungarian refugees to America, and why he divided the responsibilities between the Air Force and Navy, without a more detailed look at the decisionmaking process in the White House. To understand whether the ICEM was capable of handling the refugees with commercial charters would require delving into the archives of that organization. It is clear, however, that whether the USAF was really needed to transport Hungarians to the United States, or whether USAF participation was largely designed to enhance the drama and hence

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7The aircraft was in Europe after taking Prime Minister Nehru to London after his visit to Washington.
the political effect of the operation, the USAF was called upon to perform a high-visibility mission that the President believed was important to the national interest.

RESOURCES

Operation Safe Haven was the responsibility of the Atlantic Division of MATS. ATDL provided most of the personnel, assets, and commanders to run the operation, which was spread across bases in Europe, Atlantic, and the eastern United States.

To understand the structure ATDL created for Operation Safe Haven, it is best to start with the flow of aircraft and refugees. The refugees were taken under the supervision of the ICEM in Vienna and remained the ICEM's responsibility until they arrived at the Munich Riem Airfield. They traveled from Vienna to Salzburg by train, were processed, and then were bused to Munich. Some were processed in Vienna and sent directly to Munich by train. At McGuire AFB in New Jersey, the refugees deplaned and then were bused to nearby Camp Kilmer for processing and dispersal to private relief agencies.

Safe Haven used three types of military aircraft, C-118 Liftmasters; C-121 Lockheed Super Constellations; and R6Ds, naval versions of the C-118. The C-118s and R6Ds flew from McGuire to Ernest Harmon AFB for refueling; to Prestwick for a crew change; to Rhein Main, where they held until needed; to Munich where they loaded refugees, back to Prestwick for a crew change; to Ernest Harmon for refueling; and then to McGuire to offload their passengers. The Super Constellations started from their base at Charleston AFB in South Carolina, flew to Lajes for refueling, to Rhein Main for a crew change, to Munich to board refugees, to Lajes for refueling, and to McGuire to offload their passengers. They then returned either to Charleston or to Europe, as required. ATDL was also responsible for exercising supervisory, administrative, and operational control over the DC-4, DC-6, and L-749A commercial aircraft they chartered. These aircraft generally travelled from Munich to McGuire via Keflavik Airport, Iceland; Gander Air Base, Newfoundland; or Shannon Air Base, Ireland. Finally, in addition to the aircraft actually used in Safe Haven, ATDL was given control of the TAC C-124 transports that were committed to assist ATDL in meeting its normal transportation requirements during the course of the operation.

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8Atlantic Division (1956), p. 6.
10The eleven airlines that provided aircraft were Slick Airways, Trans Caribbean Airways, U.S. Overseas Airways, General Airways, Pan Am, TransOcean Airlines, Capitol Airways, Los Angeles Air Service, Great Lakes Airlines, Flying Tigers Airlines, and Trans World Airlines.
General Dany, the task-force commander, exercised operational control over the airlift in Europe. Dany's deputy commander was Col Rufus K. Ward, commander of the 1602d Air Transport Wing at Prestwick Air Station in the UK. The chief MATS units committed to Safe Haven were the 1608th and 1611th Air Transport Wings. The 1611th, General Dany's Wing, provided the C-118 and R6D aircraft—configured to carry 58 and 60 passengers, respectively—and their crews, as well as additional maintenance personnel for Prestwick, Ernest Harmon AFB, and Rhein Main Air Base. The 1608th provided the C-121 aircraft—each configured to carry 72 passengers—and their crews, as well as additional maintenance personnel for Rhein Main and Lajes Field. The 1602d Air Transport Wing, Colonel Ward's command, provided the control team at Munich, in-flight meals for the refugees, flight plans, navigational information, and operational control of flights in progress. This Wing also repositioned mobile maintenance aircraft that became available after the completion of the November airlift that put the United Nations peacekeeping force in place in the Sinai. The 1604th and 1605th Air Base Wings were charged with providing the normal facilities and services at their home bases in Germany.

General Dany, as the ATLD task-force commander, had to coordinate with a number of other organizations involved in the operation. ICEM had responsibility for the refugees until they were turned over to ATDL in Munich. USAFE provided logistical and communications support, and its Office of Information Services handled the considerable number of news correspondents and press releases involved in the operation. The U.S. Army supplied barracks to the ICEM to house refugees in Munich before they embarked on their planes. The American ambassador to Austria kept watch over the transit of refugees from Vienna, while the American Red Cross provided toys for children on the flights. General Dany also had to coordinate with local German officials.

RESULTS

Operation Safe Haven was a tremendous success. The 9700 refugees were transported to the United States on schedule with no accidents or loss of life. The publicity was extensive and laudatory. From December 11, 1956 to January 2, 1957, MATS aircraft flew 6393 refugees in 107 westward flights and MATS chartered commercial aircraft flew 3307 refugees in 46 flights.\(^\text{11}\) Four flights were special aeromedical evacuations. Called "Storklifts," they

\(^{11}\text{Atlantic Division (1956). Of the 107 westward flights by ATLD aircraft, 74 used C-118 or R6D aircraft and 33 used C-121 aircraft.}\)
carried injured refugees and pregnant women and their families.\textsuperscript{12} Each Safe Haven flight was accompanied by at least one news reporter. The flights carried 175 observers overall. The biggest difficulty the operation faced was the weather. From December 12 to 15, high winds disrupted operations at Prestwick and over the Azores. On December 18 and 19, heavy fog shut down Munich Riem Airport, and fog remained a menace through December 28. The operation fell behind schedule, but was able to catch up by December 27. The high quality of the Safe Haven organization made this relatively easy to accomplish by relaxing the requirements on the operations. The goal was to carry 500 refugees a day,\textsuperscript{13} set by the limits of the Munich holding facilities (700 people), a maximum processing rate of 500 persons per day at Camp Kilmer, the requirement for daylight arrivals at McGuire, and the requirement to avoid backlogged aircraft at Rhein Main. After these requirements were relaxed, the rate grew to a maximum of 984 refugees on December 24, including those who traveled on the president's personal plane. It was necessary to stand down for the last two days of 1956 to relieve the backlog at Camp Kilmer. The last Safe Haven flight was on January 2, 1957.\textsuperscript{14}

Safe Haven generated a great deal of favorable publicity for the USAF. Reporters, often two, accompanied every flight and interviewed refugees on their way to America. Newspaper, magazine, radio, and television reporters from the United States, England, Norway, France, Denmark, Germany, Italy, Switzerland, and the Netherlands covered the operation. The official safe haven operation report states that the close scrutiny brought many commendations for the MATS system and that the “coverage afforded the operation by an exceptionally understanding and friendly press did much toward increasing the prestige of the USAF.”\textsuperscript{15}

Operation Safe Haven was the largest military humanitarian operation since the Berlin Airlift, and one of the largest airlifts of civilians undertaken by the USAF. Even so, the judgment of those who carried it out was that the operation did not stress the capabilities of MATS. The service felt it could have handled an even larger operation. Since Safe Haven, the USAF has conducted roughly a half dozen similar operations in which large numbers of

\textsuperscript{12}Architect (1956), p. 9.

\textsuperscript{13}It is interesting to note that this is only slightly more than a single 747 can carry on a typical flight from Frankfurt to New York.

\textsuperscript{14}During the first week of January 1957, the U.S. government decided to admit additional Hungarian refugees into the country. A smaller and more slowly paced MATS airlift, Safe Haven II, operated until June 30, 1957 carrying 4,654 refugees, 3,791 on ATDL aircraft and 863 on commercial charters.

\textsuperscript{15}Atlantic Division (1956), p. 10.
foreign nationals were evacuated, generally from an area of civil war or unrest. It is interesting to note that such opportunities might become more likely. Increasingly, commentators foresee mass migrations of refugees as one of the new security problems of the future.

The USAF was not the only option available to President Eisenhower to bring the Hungarian refugees to the United States. Commercial charters and surface ships participated in the operation and could have carried out the entire task. It is not clear why the President chose the USAF to play the dominant role, though there are several potentially good reasons. The USAF was likely the fastest and most reliable option. Alternatively, the most important factor in the President's mind might have been the drama with which the USAF could carry out its task. The United States had to sit idly by while the Soviets brutally crushed the Hungarian rebellion. The dramatic airlift of those who escaped probably did much to emphasize the United States' contrasting generosity and at the same time emphasized the worldwide reach of its military power.

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16Examples include Operation KINDERLIFT V in July 1957, which flew over 2,000 children between Berlin and West Germany; a September 1965 airlift of 1,000 noncombatants from Dacca, East Pakistan, during the Indo-Pakistan War; and the June 1967 evacuation of U.S. citizens and other nationals from Libya after rioting broke out during the Six Day War.

Appendix C
OPERATION NEW TAPE: THE 1960 CONGO AIRLIFT

BACKGROUND

When the Congo gained its independence from Belgium in June 1960, severe internal struggles broke out. Belgium flew in troops to restore order, but these troops met Congolese opposition. The Congo's leaders then requested United Nations (UNs) forces to replace the Belgian troops. The UN responded and asked member nations to provide aid. The United States volunteered to provide airlift.\(^1\) United Nations troops had to be transported from 15 nations to the Congo and had to be resupplied. Food and emergency equipment were also to be picked up from locations in Europe and Africa and flown to the Congo. Refugees were to be flown to European cities.\(^2\) Conditions in the Congo were chaotic; on one occasion, eight USAF personnel were beaten by a mob.\(^3\)

TASKING

The White House tasked the DoD with the mission, and the DoD tasked the USAF. The USAF was almost certainly selected because it was the only service with the requisite lift capability.

The objective of the tasking appears to have been threefold: (1) help pacify the Congo by transporting UN troops, (2) aid the Congo's populace by transporting food and medical supplies, and (3) evacuate refugees. At its outset, the tasking must have been quite urgent, because there was no prior planning.\(^4\) There appears to have been relatively little notice. On July 8th, aircraft were dispatched to Furstenfeldbruck, Germany, to await orders for a possible airlift of U.S. troops. The airlift actually began on July 14th.\(^5\) The effort lasted from July 1960 through June 1964, but this report will deal with operations in the first three months, when a strong surge of activity took place.

The focal point of the airlift was the Congo, but flights came into that country from numerous locations. Troops were airlifted from 14 nations: Canada, Congo, Ethiopia, Ghana, Guyana, India, Ireland, Liberia, Mali, Morocco, Pakistan, Sudan, Tunisia, and the

\(^1\)C. Watkins (1960), p. 2.
\(^3\)Air Force Times (1960), p. 5.
\(^5\)322nd Air Division (1960), p. 5.
United Arab Republic. In all, 52 airfields in 33 countries were used during the first three months of the operation alone. Some of the fields were loading and unloading points, while others were used for refueling and maintenance, diplomatic entry or exit of a country, or stops for operational reasons, such as aircraft limitations.6

The level of effort was high, at least initially. By October 3, 1960, 506 sorties had been flown; 20,073 passengers and 3,337 tons of cargo had been transported; and 4,128,216 nautical miles had been flown.7 The bulk of this activity was conducted within the first two months, with 10,962 flying hours in July and 10,336 in August, compared to approximately 2,300 in September.8 The operation was supported by 110 aircraft.9

Other services, such as the Army, had at least minimal involvement; other countries, such as those that provided airfields, were also involved. The Army sent a communications team of three officers and 37 enlisted men to Leopoldville.10 Even the UN became involved by helping waive visa requirements at the beginning of the operation and, along with the Joint Chiefs of Staff (JCS), obtaining blanket diplomatic and overflight clearances from many countries.11 Other NATO Air Forces and civilian airlines assisted the USAF in obtaining maps, radio frequency charts, and other flight publications.12 Some countries, such as Canada, even contributed lift assets. However, these seem to have been under UN, not U.S., control.13 Finally, civilian airlines, such as Sabena, Air France, and Alitalia, also conducted lift operations.14

OPERATIONS

On July 18th and 19th, four Military Air Transport Service (MATS) Squadrons, Provisional, and MATS Maintenance Squadrons, Provisional, were organized under the MATS Transport Wing, Provisional (Europe). This organizational arrangement was initially scheduled to last for 30 days, but was later extended for an indefinite period of time. For administrative control and logistics support, the wing was attached to the Eastern Transport Air Force branch of MATS, but operational control was delegated to the Commander in Chief of USAF, Europe (CINCUSAFE). Operational control was subsequently delegated to the

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8322nd Air Division (1960), p. 3.
14Smith (1960).
322nd Air Division at Evreaux, France, which was also involved in New Tape.\textsuperscript{15} This division had three squadrons of C-130s that would be used in Operation New Tape.\textsuperscript{16}

At least some control was further delegated to the CALSUs (field command units), which were sent to all airfields where troops and cargo were to be loaded or unloaded. The CALSU at Leopoldville was composed of operations, aerial port, maintenance, and medical personnel. The CALSUs were responsible for directing and controlling aircraft operations at their staging bases, in compliance with instructions from 322nd Air Division headquarters in Evreaux. Thus, the Leopoldville CALSU was required to maintain and refuel aircraft; load and unload aircraft; provide housing, messing, and medical facilities for crew members; and conduct final coordination of airlift operations in the Congo between the UN, the American Embassy, the Belgian Army, the Congolese authorities, and the 322nd Air Division headquarters.\textsuperscript{17} This task was difficult to do until mobile single-sideband radio sets were installed at key points several days after the beginning of the airlift.\textsuperscript{18}

The 322nd was not the ultimate command authority, of course. The CINCUSAFE and the Joint Chiefs of Staff would at times make decisions, which were generally received at 322nd Command headquarters within two hours of the request.

RESOURCES

The 322nd Air Division contributed 46 C-130s; 60 MATS C-124s were also used.\textsuperscript{19} Some of the MATS planes belonged to the 1602nd Air Transport Station at Chateauroux Air Station, France, while others were drawn from MATS bases around the world. MATS personnel were also drawn from bases around the world.\textsuperscript{20}

The United States contributed 20 jeeps and 1000 tons of food-stuffs.\textsuperscript{21} However, these were probably not USAF assets. The USAF and Army contributed communications equipment to the U.S. efforts.\textsuperscript{22} The USAF also set up permanent maintenance terminals at Wheelus AFB in Libya, Kano in Nigeria, and Leopoldville.\textsuperscript{23}

\begin{flushleft}
\textsuperscript{15}1602d Air Transport Wing (1960), p. 18.
\textsuperscript{17}Watkins (1961), p. 29.
\textsuperscript{18}Watkins (1961), pp. 22, 28.
\textsuperscript{21}Dupuy (1960), p. 13.
\textsuperscript{22}Witze (1960), p. 28.
\textsuperscript{23}Witze (1960), p. 28.
\end{flushleft}
RESULTS

On July 8, a general alert was called, and seven aircraft were dispatched to Furstenfeldbruck, Germany to await orders for a possible airlift of U.S. troops. On July 14, an airlift of flour and Tunisian troops to Leopoldville began. From this time until the middle of August, crews were operating continuously, airlifting troops and supplies from such distant places as Ethiopia, Egypt, India, Pakistan, Ireland, Nigeria, and Austria into the Congo. In all, cargo was delivered from 21 countries. Troops and supplies were flown in, and refugees were flown out. A conservative estimate indicates that 5,000 refugees were evacuated on the return trips.

These passengers and cargo were carried great distances. A comparison with the route of the Berlin airlift is instructive. That lift was a 110-mile haul over a well-instrumented lane of navigational aids, while the typical Congo run was 15,000 miles, with almost no navigation facilities at the African end. Some missions ran as long as 23,300 miles round trip. C-124s required 44 hours for the round trip from Chateauroux, France, to the Congo and 55 hours if they flew around the African horn along the coast. C-130s required 33 hours.

The units faced some serious difficulties. For example, there were no reliable communications at first. This meant that, at the outset, the men in Africa did not know when to expect flights. After a pilot was 500 miles south of Wheelus, he had almost no contact by radio, and location of an aircraft south of Kano, Nigeria, could be affirmed only through combined radio and telephone hookups. More positive control was not possible until the 322nd moved USAF and Army radio equipment into Kano. Moreover, throughout New Tape and other Congo operations, aircrews routinely flew into unmapped or incorrectly mapped territory with only the assistance of low frequency and often unreliable radio beacons. In many cases, ground-to-air radio service was substandard. Most crews operated without controller contact, because air traffic agencies were widely scattered, understaffed, or nonexistent. The few fields with tower and approach facilities more often than not operated during daylight hours only.

Charts and information about instrument facilities and approach procedures were inadequate. Necessary maps had to be scrounged from French, British, and Belgian sources.

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The requirement for navigation kits grew from 60 to 100 and then to 175. Certain airports were saturated if more than two or three planes were on the ground at the same time. At other fields, no information was available about the fuel supply, or misinformation was deliberately given out.\textsuperscript{30}

Still other problems stemmed from the use of the piston-powered C-124. Flights in this aircraft took 1.5 times as long as in the more modern C-130. Pressurized, the C-130 flew high above weather that handicapped the C-124. Additionally, the C-130 could operate at top efficiencies from airports where the C-124 was handicapped by runway length, temperature, or a combination of the two. Finally, the C-130 consistently hauled bigger loads than the C-124.\textsuperscript{31} Both types of planes, however, were handicapped by inadequate parking, refueling, maintenance, tower facilities, and weather forecasts.\textsuperscript{32} (This last problem was attributable to a lack of teletype communications with USAFE at certain fields; where such communications did not exist, reports from the SAC weather center at Torrejon, Spain, could not be received.)\textsuperscript{33} Still, the deficiencies of the C-124 were obvious enough to lead the commander of the 322\textsuperscript{nd} to call for the replacement of the C-124.

A relatively minor but undoubtedly annoying problem was engendered by language barriers, which prevented airlifters from explaining the function of onboard latrines to African troops. Moreover, many of these soldiers were on their first flight ever and became airsick. Aircraft required a thorough cleansing after four- to five-day missions in the Congo. Because the only available disinfectant also paralyzed olfactory nerves, the 1602\textsuperscript{nd} Air Transport Wing at Chateauroux developed a substance that cleaned aircraft without inhibiting the crews’ sense of smell.\textsuperscript{34} A more serious language problem involved air-to-ground communications; four bilingual traffic controllers had to be assigned to the Leopoldville tower.\textsuperscript{35}

The C-130s and C-124s used in New Tape supported that operation almost exclusively; this doubled the workload at Dreux AFB, where three squadrons of C-119s were forced to pick up the slack. Strenuous demands were also made on maintenance and supply, as C-119 and C-130 parts were given new priority and expedited throughout the supply system. A civilian maintenance team of 80 men from Warner-Robins Air Materiel Area, Georgia, was

\textsuperscript{30}Witze (1960), pp. 26, 28.
\textsuperscript{31}Witze (1960), p. 28.
\textsuperscript{32}Watkins (1961), p. 25.
\textsuperscript{33}Watkins (1961), pp. 23, 25–26, 32.
\textsuperscript{34}Matthews and Ofansky (1986), p. 18.
\textsuperscript{35}Watkins (1961), p. 25.
flown to Evreaux to augment the 317th Consolidated Aircraft Maintenance squadron. Additional teams were flown in from U.S. bases in Europe.\textsuperscript{36}

There was some intramural squabbling, which may have resulted partly because of the increased workload. For example, one MATS Support Squadron initially refused to support some of the aircraft used in New Tape unless the Wheelus CALSU provided them with 24 persons to service Congo airlift aircraft. This request was refused, and the MATS Squadron stopped servicing the aircraft until ordered to so by higher headquarters.\textsuperscript{37}

The workload also resulted in short crew rest times, particularly early in the operation when aircrews were flying crew days of 30 to 40 hours, then given 12 hours of rest and sent out on another mission.\textsuperscript{38}

Finally, there must have been at least some apprehension regarding personal safety after the crew of a C-124 was attacked in Stanleyville by a mob.\textsuperscript{39} Surprisingly, there do not seem to have been any casualties as a result of aviation accidents during this operation.\textsuperscript{40}

\textsuperscript{36}Watkins (1961), p. 21, 29.
\textsuperscript{37}Headquarters United States Forces in Europe (1960).
\textsuperscript{38}Watkins (1961), p. 22.
\textsuperscript{39}1607th Air Transport Wing (1960), pp. 68–70.
\textsuperscript{40}1602d Air Transport Wing (1960), p. 24.
Appendix D

HURRICANE CAMILLE

BACKGROUND

The head of the United States Weather Service when Camille struck called the hurricane “the greatest storm of any kind that has ever affected this nation.”1 Beginning as a patch of clouds off the North African coast, Camille successively escalated to a low pressure trough, a storm, and a hurricane with 160 mph winds.2 After visiting destruction on Cuba and feinting toward the Florida Panhandle, Camille moved northwest and came ashore on the Mississippi coast. Although the area of maximum force was near Gulfport, Mississippi, the Mississippi, Louisiana, and Alabama coastal areas were all affected. Landfall occurred about 10:00 p.m. on August 17, 1969. High winds, driving rain, and tornadoes caused heavy damage, virtually demolishing Gulfport and other localities, and causing numerous casualties.3 Ultimately, Camille left over 250 dead and caused $1.5 billion in property damage in Mississippi and other states.4

TASKING

The Air Weather Service was tasked to track Camille even before it became a hurricane.5 On the afternoon of August 17, a few hours before landfall, the Air Force Advisor to the Mississippi Wing, Civil Air Patrol (CAP), contacted the 3rd Air Force Reserve (3rd AFRR) and asked for permission to use the resources of the Pascagoula, Biloxi, and Gulfport squadrons to assist the civil authorities with evacuating people from low-lying areas and in establishing shelters. The Region Commander and the 3d Army were notified of the request, and CAP assistance was authorized. Additionally, the 3rd AFRR Command Post was activated, and contact was established with the Command Posts at 3d Army, Air Force Reserves (AFRES), Military Airlift Command (MAC), ATC, TAC, and Keesler AFB.6

After Camille made landfall, Secretary of Defense Melvin Laird ordered that military resources be coordinated and employed to assist in the emergency area.7 The President

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declared 24 counties in Mississippi a "major disaster area" pursuant to the provisions of PL 81-875, as amended, on August 18, 1969. Requests for USAF assistance were then initiated by the Civil Defense Directors of Gulfport, Biloxi, and D'Iberville, Mississippi.

The objectives of the various taskings differed. The objective of the weather service tasking was to track and obtain data about the storm so that accurate predictions about its course and power could be made. The purpose of the prelandfall tasking was to assist civil authorities with precautionary and preparatory activities. The purpose of the postlandfall activities was rescue, relief, and recovery. The last tasking—postlandfall activities—lasted from August 17, 1969 to September 10 of that year.

The USAF was clearly selected for the first task—tracking the storm—because that is part of the mission of the Air Weather Service. This tasking was not exclusive, however; the Navy and the ESSA also surveyed the storm. The USAF was probably selected for the second task—precautionary and preparatory activities—because it was geographically convenient, as Keesler AFB was within the area where the storm was ultimately to do significant damage. The USAF was seemingly selected for the third task—rescue, relief, and recovery—in part because it had lift capability and in part for reasons of proximity.

Many other organizations participated in the effort. All U.S. services participated, including the Army, which is the primary agency responsible for DoD support to civil authorities in a natural disaster. Other agencies participating included Civil Defense, the General Services Administration, the Labor Department, the Coast Guard, the Department of Transportation, the Federal Aviation Administration, the Department of Health, Education, and Welfare, and the Agriculture Department. The CAP participated as well.

ORGANIZATION

Prior to Camille's landing, the 3AFRR was designated primary region for coordinating and reporting relief operations in support of the disaster area. Maj Gen Thomas E. Moore, Keesler AFB Commander, was appointed as the on-scene commander to coordinate USAF participation. The 3AFRR and HQ AFRES received numerous requests for airlift and supply support. Keesler AFB provided shelter for some 19,000 military and 7,000 dependents, Civil Service employees, and some local civilians. Keesler AFB also provided all available

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personnel, supplies, and equipment not required for its own recovery and support to assist the civilian community.\textsuperscript{14}

The 3d AFRR coordinated efforts of the Mississippi CAP Wing. The wing efforts were in direct support of the civil community, as it provided airlift of supplies, personnel, and aerial surveillance of the area. The wing also provided emergency communications support, delivered food and clothing to stranded victims, and searched for injured and dead.\textsuperscript{15}

The official reports and histories do not state why the above named units were chosen. However, it seems logical to presume that they were geographically close to the storm and had the requisite capabilities.

\textbf{RESOURCES}

The following aircraft were employed: 16 C-141s, at least 46 C-124s, five C-118s, four C-133s, one C-121, four C-119s, seven C-130s, one C-123, and one C-47.\textsuperscript{16} These aircraft came from the following units:

- The 375th Aeromedical Airlift Wing
- Military Airlift Wings: The 116th, 436th, 437th, 438th, 442d, and 445th
- Tactical Airlift Wings: The 316th, 317th, 343h, and 440th
- Military Airlift Groups: 116th, 118th, 137th, 146th, 164th, 165th, 170th, 172d, 901st, 904th, 911th, 915th, 916th, 917th, 918th, 921st, 937th, 940th, 942d, 945th
- Tactical Airlift Groups: 910th, 922d, 926th.\textsuperscript{17}

It is not possible to delineate precisely which materials were provided by the USAF and which were not. However, some materials were clearly provided by the USAF; these were typically medical and personal emergency items. The 3AFRR processed 102 line items of medical supplies, including water purification tablets, sterile water, narcotics, human remains bags, Merthiolate, tetricaine ointment, disinfectants, and snakebite serum. Personal support items supplied included emergency rations, cots, blankets, batteries, fuel, oil, and tents.\textsuperscript{18} In addition to these items, Keesler AFB provided generators, disposable oxygen tanks, and buses to aid recovery operations.\textsuperscript{19}

\textsuperscript{16}Haulman (n.d.), p. 1.
\textsuperscript{17}Haulman (n.d.), p. 1.
\textsuperscript{19}Department of the Air Force (1969), Part IIB, p. 3.
Although it is not clear exactly how many USAF personnel participated in the hurricane Camille efforts, a number of USAF commands were represented. In addition to the units noted above, units of the Air Weather Service were represented. Additionally, Keesler AFB provided thousands of personnel every day for clean-up duties alone; an estimated 737,991 manhours were expended.\(^{20}\) Other personnel included pilots, crews, shelter staffers, vehicle drivers, doctors, nurses, medical technicians, litter bearers, communications technicians, electricians, and plumbers.\(^{21}\)

At least some of the USAF costs could not be reimbursed because there was no provision for reimbursement of USAF Reserve flying hours expended in support of natural disaster operations, despite the fact that the Commander, AFRES, was required to use the capabilities of such forces to the maximum in disaster operations.\(^{22}\)

**OPERATIONS**

As noted above, USAF operations began with the efforts of Air Weather Service pilots, along with pilots of the Navy and ESSA, to track the storm that became Hurricane Camille. These efforts, which included penetrating the hurricane's eye, were sufficiently successful that the notice provided was deemed to have saved many lives. Two USAF pilots were awarded the Distinguished Flying Cross for their efforts.\(^{23}\)

The USAF took other useful actions before Camille reached the U.S. mainland. An hourly weather watch was established; key staff personnel were alerted; a structure for coordinating relief activities was set up; aircraft were evacuated; civilians were evacuated from low-lying areas; and some civilians were sheltered at Keesler along with military personnel and their dependents. Property was secured; radio equipment was installed; and extra food was issued at Keesler.\(^ {24}\)

After Camille hit, the focus was initially on stabilizing the situation. A variety of activities took place. For example, on the 18th of August, the day after Hurricane Camille hit, the following events took place at Keesler AFB: Food was cooked for hospital patients; new patients were admitted to the Medical Center; supplies were furnished and transported to Civil Defense; arrangements were made to transport 600 patients to various hospitals; 580 personnel were sent on clean-up details (the number was to grow in succeeding days); and

\(^{21}\)Department of the Air Force (1969), Part IIA-C.
\(^{22}\)Department of the Air Force (1969), Part V, p. 3.
generators, disposable oxygen tanks, and litter bearers were provided to civil recovery operations.

The activities of the 3d AFRR, not surprisingly, centered around lift. Requests were processed and missions were tasked in the days after the hurricane landed. Rations were moved from Dobbins AFB to Keesler. Patients were moved from the VA hospital by the 375th AAW, and "Prime Beef" teams were airlifted to the disaster area. Generators and water were also brought in. Other items airlifted included clothing; antivenom serum; tractor-trailers, tractors, and other vehicles; laundry units; sheetrock; tape; paint rollers; beddings; blood plasma; and dogs.25

Other commands flew similar missions. TAC carried sheet metal, various types of trucks and rolling stock, communications vehicles, transportable laundries, mortuary teams, hospital teams, telephone trucks, cement and other construction materials, passengers, pumps, general cargo, generators, and relief supplies. MAC carried a similar cargo, including trucks, buses, rations, generators, electric saws, acid, human remains bags, a line construction vehicle, a cable trailer, a power wagon, a mobile tower, a fuel trailer, tractors, bulldozers, forklifts, and dry ice.26

By mid-September 1969, at least 85 USAF cargo aircraft of nine types had participated in Hurricane Camille emergency relief missions, delivering more than 5900 tons of vehicles, electric generators, clothing, medicine, food, power saws, and other relief supplies to southern Mississippi from at least 15 AFBs across the United States. During the emergency, USAF planes also airlifted 3900 passengers, including hospital patients and relief workers.27

RESULTS

Although operations were generally successful, some problems were encountered. The more important problems included the following:

- Poor communications between Keesler AFB and civilian agencies due to the destruction of civilian communications
- The lack of an overall DoD commander who could coordinate the efforts of all services

27Haulman (n.d.), p. 4.
• The lack of a chain of command from the disaster area to the local Army Area
  EOC, which is the primary agency responsible for DoD support to civil authorities
  in a natural disaster
• A lack of legal authorization for the USAF to use unmobilized National Guard
  units
• The existence of different service directives implementing federal statutes and
  executive orders
• The lack of a priority system for airlift; all requests were listed as urgent.  

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Appendix E
THE RAPID CITY FLOOD

BACKGROUND

On the night of June 9, 1972, a heavy storm dumped up to 6 inches of rain in two
hours on areas of the Black Hills of South Dakota.¹ Up to 10 inches fell in less than 24
hours. Rapid Creek, a stream running through the center of Rapid City, S.D., overflowed its
banks, burst the Canyon Lake dam, and devastated Rapid City. Services, such as gas, water,
electricity, and communications, were lost for varying periods. By the end of the second day,
the death toll had reached 110, and between 25 and 30 percent of Rapid City was destroyed.
(The toll was eventually to reach 238 dead.) Surrounding communities, such as Box Elder,
Keystone, and Black Hawk, also suffered. Shortly before midnight on the 9th of June,
Governor Richard F. Kneip requested aid from Ellsworth AFB, which had not been affected
by the flooding because of its placement on a high plateau.²

TASKING

Proximity definitely played a part in tasking. One USAF News Release states: “With
the exception of an encampment of the South Dakota National Guard, Ellsworth was the
closest military installation capable of committing emergency support. . . .”³ Governor
Kneip, who made the request for assistance, may also have believed that particular USAF
assets, such as helicopters, would be useful. Perhaps because the tasking was per request
and not by command of a higher authority, a specific set of tasking objectives does not appear
in the records. Operations had three somewhat overlapping phases, however: rescue, relief,
and recovery. Presumably, objectives differed with the phase. In the rescue phase, the first
priority was undoubtedly to save lives, and the second was to prevent property damage. The
situation was initially urgent, with the USAF being called in “even as flood waters swept
through the town.”⁴ The effort lasted from the 9th of June to the 10th of July 1972.⁵

¹Newsweek, June 19, 1972, pp. 28–29; Time, June 19, 1972, p. 18.
²LaPorte (1972), Exhibit 2.
⁵LaPorte (1972), Exhibit 2.
It is difficult to characterize the level of effort, which appears to have differed depending upon the times and the assets involved. For example, initial support during the first ten hours consisted of the following:

[Immediate life-saving resources in the form of personnel for search and rescue, boats with motors, water purification tablets and blankets, portable generators for emergency power, centrifugal pumps, water tankers, helicopter support for rescue and reconnaissance, military Task Force Commander stationed in Rapid City/Pennington County Emergency Control center to monitor/control military resources and assure request [sic] for assistance were processed immediately. Housing and feeding victims, made homeless during the first few hours of the disaster, was required.6

The "emergency relief operations phase" and, later, the "recovery phase" followed the "emergency/impact phase" (the first ten hours). There are no indications of what percentage of base resources was used in each phase; however, even after the emergency/impact phase, the level of effort was nontrivial.

The U.S. Army Corps of Engineers also participated in the operation. So did South Dakota State National Guardsmen who were on active duty training and remained on federal status.7 The number of Guardsmen involved differs with the source; the New York Times puts the figure at 2,500.8 The Navy and the Army also participated, as did the Small Business Association (probably focusing their efforts on the recovery phase), the Salvation Army, and state and local agencies (city and county employees being heavily involved in the rescue efforts).9 No foreign governments appear to have been involved in the operation.

OPERATIONS

While the USAF played an important role in postflood efforts, it did not have overall command of these operations. Overall command rested with the civilian authorities, not the USAF, which was "requested to provide equipment, materials and approximately 125 personnel to civil authorities."

Governor Kneip’s aid request was made to Colonel Barnett, 821st Combat Support Group Commander.10 Barnett presumably organized or designated someone to organize the USAF effort.

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6 LaPorte (1972), Exhibit 2.
7 Johnson and Nelson (1972), p. 117.
The USAF did play some role in coordinating efforts, however. There was a military Task Force Commander stationed in the Rapid City/Pennington County Emergency Control Center "to monitor/control military resources and assure request [sic] for assistance" were processed immediately.\(^{11}\) The Ellsworth AFB rescue effort was coordinated from the "Consolidated Command Post."\(^{12}\) The USAF Hospital "coordinated the entire medical logistics including supply of vaccines, solutions, and other medical supplies to aid centers and hospitals."\(^{13}\) Although the South Dakota National Guard controlled helicopter rescue missions performed by USAF pilots, "final operational control" was "in the hands of the 28th [Bombardment Wing] Commander."\(^{14}\)

The USAF also coordinated efforts among its subordinate commands. For example, the 442nd Tactical Airlift Wing "was tasked by higher headquarters" to airlift pipe to Ellsworth AFB to restore water service.\(^{15}\) Aircraft of the 945th Military Airlift Group brought emergency food service vehicles to Ellsworth.\(^{16}\) Other USAF units also participated; their efforts had to be supervised by higher authorities. Additionally, the Ellsworth base command post "coordinated with various agencies."\(^{17}\)

**RESOURCES**

A variety of USAF Resources was used to combat the flood disaster. The primary contributor was Ellsworth AFB, home of the 28th Bombardment Wing, 44th Strategic Missile Wing, and 821st Combat Support Group. Through June 17, the Ellsworth contributions included:

- Over 3200 personnel
- Over 300 vehicles and associated equipment
- Twelve helicopters, which made 49 sorties, flew 77.6 hours, rescued 14 residents, and carried 231 passengers and 7250 pounds of cargo (Helicopter missions included search and rescue, bringing patients to the hospital, ferrying medical supplies to the flood area, and giving VIP visitors an aerial view of the disaster.)

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\(^{11}\)LaPorte (1972), p. 1.
\(^{13}\)Headquarters, 44th Strategic Missile Wing (1972), p. 3.
\(^{14}\)Carter (1972), p. 10.
\(^{15}\)442nd Tactical Airlift Wing (1972).
\(^{16}\)442nd Tactical Airlift Wing (1972).
\(^{17}\)LaPorte (1972), Volume I, p. 17.
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- The use of numerous base facilities, including the hospital, laundry, guest house, and dining hall
- Support that included medical services, supplies, and food.

The following, more detailed, descriptions highlight the variety of resources used. Equipment used included heavy cranes, radio-controlled vehicles, centrifugal pumps, portable generators, a flatbed, portable light units, a 2000-gallon water truck, buses, station wagons, sedans, passenger trucks, a dump truck, a tractor, tractor-trailers, loaders, a pumper, bulldozers, and clamshells. Civil engineers from the 821st Civil Engineering Squadron and the 821st Transportation Squadron provided operators for this equipment.18 Special Services provided boats to aid in the rescue and recovery of bodies, as well as towels, cups, and other items.19 The 821st Supply Squadron furnished blankets and hard hats to clean-up crews.20 The base hospital sent typhoid and tetanus vaccines to inoculation centers and gave medical supplies to local facilities.21

Ellsworth AFB personnel also provided services. Base personnel served refugees meals in the mess hall and delivered meals to Rapid City.22 Three truckloads of laundry were processed the first day of business; this work continued 16 hours a day for several days.23 The 821st Supply Squadron handled a supply distribution point on base.24 Food services personnel, the 821st Communications Squadron, the office of information, billeting, and the base exchange/commissary also provided valuable services.25 Many of these services were provided on a volunteer basis. Volunteers manned special equipment and helped in a variety of circumstances.26 For example, members of the 821st WAF squadron answered phones, typed, provided child care, gave typhoid injections, sorted clothes, filled out sheets on the dead, and served food and coffee.27 Helicopter pilots also volunteered their time, as did

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18 Headquarters, 44th Strategic Missile Wing (1972).
19 Headquarters, 44th Strategic Missile Wing (1972).
20 Strategic Air Command (1972).
21 Strategic Air Command (1972).
26 LaPorte (1972), Disaster Annex, Volume I, p. 17.
27 LaPorte (1972), Disaster Annex, Volume I, pp. 15–16.
"unknown numbers of 28th Bomb Wing personnel." There were nearly 1500 Ellsworth volunteers. Other USAF locations providing help included Richards–Gebaur AFB, Missouri; Hill AFB, Utah; Bergstrom AFB, Texas; and Scott AFB, Illinois. Pipe was delivered by a C-130 Hercules of the Air Force Reserve Wing, 442nd Tactical Airlift Wing, Richards-Gebaur AFB. Mobile canteens were later delivered by the same unit. A C-124 from Hill AFB in Utah was sent to O'Hare airport in Chicago to pick up three additional mobile canteens and fly them to Ellsworth. Other services also provided assistance, with help coming from Ft. Carson, Missouri; Ft. Huachuca, Arizona, and Alameda NAS, California. For example, a C-118 with 14,000 pounds of clothes, cooking utensils, and tools flew from Alameda NAS to Ellsworth AFB, where 11 personnel sorted and distributed the items. Cost totals for this operation are not indicated in official USAF histories. Ellsworth AFB reported $57,834.31 in expenses, of which $14,401.56 were reimbursable.

RESULTS

The USAF effort undoubtedly helped save lives, conserve property, and improve the conditions of the survivors. USAF personnel were recommended for the Airman’s medal for risking their lives to save flood victims. Providing generators to hospitals, and fresh water and food to flood victims may also have saved lives. Evaluating the USAF effort more precisely is difficult because no simple measures of effectiveness can be applied.

The only “lesson learned” that USAF documents discuss is that agencies working with items donated by the public should closely monitor the quantity of such items coming into disaster sites, to prevent the significant oversupply of items that occurred in this case. One other lesson is that USAF personnel make willing and effective volunteers, and this capability can perhaps be used in other settings.

29Headquarters, 44th Strategic Missile Wing (1972).
3128th Bombardment Wing Message, p. 17.
32Johnson and Nelson (1972), pp. 119–120.
33Johnson and Nelson (1972), p. 120.
34Headquarters, 44th Strategic Missile Wing (1972).
35LaPorte (1972), Disaster Annex, Volume I, Exhibit 15.
36Headquarters, 44th Strategic Missile Wing (1972).
Appendix F
JONESTOWN-RELATED OPERATIONS

BACKGROUND

In 1974, the charismatic Reverend Jim Jones and approximately a thousand followers established a settlement in Guyana near the town of Port Kaituma. After a promising start, conditions at the settlement, Jonestown, degenerated. Allegations of forced labor, maltreatment, and involuntary detention were made.\(^1\) On November 18, 1978, Congressman Leo Ryan and a delegation that included members of the press arrived to investigate conditions at Jonestown. The visit took a tragic turn when members of the colony attacked the Ryan party as it was preparing to depart Guyana. Several people, including Ryan, were killed; others were injured. The scope of the tragedy was widened immeasurably when Jones convinced the members of his colony that this event would mean the end of Jonestown and that mass suicide was the only possible course of action. More than 900 people either killed themselves or were murdered.

Initially, the U.S. military commanders in the Joint Chiefs of Staff were only aware that Ryan's party had been attacked, and needed to be rescued. The JCS therefore tasked Military Airlift Command (MAC) and the U.S. Southern Command (USOUTHCOM) with a medical rescue mission for Ryan's party.\(^2\) The mission's objective was to carry the dead and wounded members of Ryan's party to Howard AFB in the Canal Zone for "medical treatment, mortuary services, honors and onward movement to the US."\(^3\) While this rescue mission was being flown, the National Military Command Center (NMCC) informed MAC of the possibility that a mass suicide had taken place at Jonestown.\(^4\)

TASKING

On November 20, at 8:21 CST, the JCS sent out an Execute Order tasking USCINCSO to establish a Joint Task Force (JTF) that would return an estimated 400 dead Americans from Guyana to the United States.\(^5\) This estimate was revised upward to 900 during the

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\(^1\)United States Southern Command (1978), p. 45.

\(^3\)United States Southern Command (1978), p. 45. It eventually turned out that two missions had to be flown, because the bodies of the dead had not been brought to Georgetown at the time the initial mission was flown. See Little, Keil, and Barnes (1979), p. 77.


\(^5\)Little, Keil, and Barnes (1979), p. 77.
course of the mission. The mission was urgent, if only because the bodies would decompose rapidly in the hot, humid climate of Guyana.\textsuperscript{6} A one-week duration was expected.\textsuperscript{7} USINCSO was also tasked to provide supplies and equipment to the government of Guyana to increase its capability to assist in the rescue and recovery effort.\textsuperscript{8} USSOUTHCOM was to head the JTF, which USREDCOM and MAC were to support.\textsuperscript{9} USINCREDE was directed to prepare a “Medevac Helicopter Platoon Minus,” a medical clearing platoon, graves registration teams, and a Joint Communications Support Element.\textsuperscript{10} CINCMAC was directed to supply airlift as required.\textsuperscript{11} The Chief, USAF Mortuary Services, was tasked to “direct, coordinate and execute the return, identification, processing, casketing, storage and shipment” of remains.\textsuperscript{12} The Aerospace Rescue and Recovery Service (AARS) was tasked to move three HH-53 helicopters to Guyana.\textsuperscript{13}

The JTF itself was composed of 22 USAF officers and 96 enlisted personnel, 46 Army officers and 156 enlisted personnel, and one Navy officer.\textsuperscript{14} The JTF’s total strength varied, but reached a high of 69 officers and 227 enlisted personnel on November 24th. The JTF operated between November 20 and November 27, 1978.\textsuperscript{15}

OPERATIONS

MAC got the bulk of the USAF action. The USAF initially ordered MAC to provide three HH-53 helicopters and two HC-130 tankers for deployment to Georgetown, Guyana, via Roosevelt Roads, Puerto Rico.\textsuperscript{16} MAC then presumably tasked subordinate commands, such as the Aerospace Rescue and Recovery Service (ARRS), although, as noted above, the ARRS also seems to have been tasked directly by the JCS.

It was MAC’s job to airlift medical clearing and evaluation teams, graves registration teams, and the Joint Communication Support Element.\textsuperscript{17} The 437th Military Airlift Wing was tasked with returning the bodies from Guyana.\textsuperscript{18} MAC also airlifted most of the support

\textsuperscript{6}United States Southern Command (1978), p. 47.
\textsuperscript{7}Military Airlift Command (1978), Supporting Documents, Vol. VII, Document 44, p. 3.
\textsuperscript{8}United States Southern Command (1978), p. 47.
\textsuperscript{9}Military Airlift Command (1978), p. 85.
\textsuperscript{11}United States Southern Command (1978), p. 47.
\textsuperscript{12}Michaud (1978), p. 57.
\textsuperscript{14}Armed Forces Journal International, January 1978, p. 42.
\textsuperscript{18}Shumake (1978), pp. 1, 2.
equipment, including equipment belonging to the ARRS. This arrangement was a departure from past ARRS practice.\textsuperscript{19} The MAC wing at Dover AFB (436th MAW) was responsible for the receipt, processing, identification, and security of the remains.\textsuperscript{20} MAC also provided weather reconnaissance support.\textsuperscript{21}

The ARRS got a sizeable chunk of MAC’s action. The 39th ARRW was given operational control of the ARRS segment of the mission.\textsuperscript{22} The ARRS was evidently responsible for operating the three HH-53 helicopters after their arrival in Guyana.\textsuperscript{23} ARRS was also to transport 23.5 tons of material in a war readiness spares kit (WRSK) from McClellan AFB to Eglin AFB, and C-141s were to complete the delivery of the C-130 and HH-53 WRSKs to Roosevelt Roads, Puerto Rico, and Timehri Airport, Guyana, respectively.

ARRS regular and reserve forces were tasked as follows:

- The 55th ARRS would deploy three HH-53s through Roosevelt Roads Naval Station, Puerto Rico, to Georgetown, Guyana. Helicopter maintenance personnel would travel with the helicopter aircrews.
- The 1550th ATTW and the 305th ARRS (AFRES) would provide enroute tanker support with HC-130s.
- The 41st ARRS would preposition three HH-53 aircrews at Roosevelt Roads Naval Station by shuttle on a WC-135 from the 55th WRS.

On arrival at Georgetown, ARRS forces would be under the operational control of the JTF Commander.\textsuperscript{24}

The 21st Air Force also played a role in the Jonestown operation. This unit was tasked by MAC for three aircraft to transport aluminum transfer cases (for bodies) to Guyana.\textsuperscript{25} Apparently the 21st Air Force had the authority to hold up part of this force temporarily until it was known whether the force would be needed.\textsuperscript{26} The 21st Air Force also tasked a Security Police unit.\textsuperscript{27}

\textsuperscript{19}Farnham (1978).
\textsuperscript{21}Little, Keil, and Barnes (1978), p. 81.
\textsuperscript{22}Prince (1979), p. 1; Crotty (1978), p. 46.
\textsuperscript{24}Military Airlift Command (1978), p. 78.
\textsuperscript{26}Manning (1978), Supporting Documents (Handwritten account).
\textsuperscript{27}Manning (1978), Supporting Documents (After Action Report on Guyana Deployment).
The logic behind the above tasking seems fairly straightforward. The mission did not call for combat capability, but called for lift, rescue, and associated services. MAC and its subordinate command, the ARRS, were therefore the best commands to use. It must once again be stressed that, once on the ground in Guyana, the USAF assets were apparently subordinated to the JTF.

RESOURCES

MAC lift aircraft included C-141s and a C-130. The C-141s were flown by 307 crew members, who logged 678 flying hours on 58 missions. The C-130 was crewed by five people who logged 15 flying hours on one mission.28 MAC active personnel also included a 43 person Air Lift Control Element (ALCE) and four security personnel. Reserve MAC airlift personnel included 14 Aeromedical Evacuation Squadron Personnel and 21 crew members who flew two HC-130-HHs used for aerial refueling of helicopters. Additionally, there were three aerial post personnel located at Dover, Delaware. Forty-five crew members logged 100 flying hours on an Air National Guard C-130.

The ARRS also provided personnel and aircraft. The aircraft included

- Three HH-53s flying 218 hours
- Five HC-130s flying 156 hours
- One WC-134 flying 18 hours
- One WC-130 flying 7 hours.

Another subordinate MAC command, the Audiovisual Service, provided nine personnel. Finally, Dover AFB personnel performed embalming duties (60), clean up (30), and dental identification (3). There were 54 people performing perimeter security at Dover AFB and 26 performing other security duties. Additionally, volunteers from the 436th MAW, along with 18 FBI fingerprint experts, 35 members of the Air Force Institute of Pathology, more than 25 dentists and dental technicians from various Air Force bases, and 36 Army graves registration personnel augmented the mortuary staff of Dover AFB.29

Other USAF resources included 96 transfer cases from Richmond, Va., 72 transfer cases from Oakland, CA, and 72 transfer cases from Hill AFB, Utah. Additionally, 800 body bags were provided.

Total cost to the USAF was $2,885,265. This sum was repaid to the USAF by the State Department Agency for International Development (AID).

OPERATIONS

Within four hours after the Execute Order was given, the first C-130 aircraft carrying elements of Headquarters, U.S. Joint Task Force, South departed Howard AFB, CZ, for Guyana. A second C-130 with the remainder of the headquarters personnel and most of its equipment departed about an hour later. These sorties were followed by a U-21, which had been requested by the GG; a C-141 carrying a UH-1H, an OH-58, communications equipment, and fuel; and another C-130 carrying the remainder of the supplies and equipment requested by the GG. A JTF headquarters was established at Georgetown. The next day, elements of the USJTF arrived in Jonestown. Several hours after the JTF elements arrived, the Eglin AFB Air Rescue helicopters flew in.30

The helicopters’ journey was itself a saga. Within three and a half hours from receipt of the order to execute, three HH-53s escorted by an HC-130 (for refueling) were en route to Guyana.31 The helicopters, which stopped briefly at Roosevelt Roads, P.R., traveled 2200 miles and were refueled five times each.32 The refueling was facilitated by another C-130 that met the helicopters en route.33 The helicopters arrived in Guyana approximately 20 hours after their initial launch. Some 12 hours later, the first was on its way to Jonestown.34 On landing at Jonestown, the crew members were met with a grisly sight: a large pile of bodies. Initially, the number of bodies was estimated at 400. That estimate was revised, however, as bodies were found underneath others. The HH-53s shuttled back and forth between Jonestown and Timehri International Airport. Severe ground refueling limitations necessitated air refueling despite marginal weather conditions. Fuel demands required precise navigation over dense, uninhabited, jungle.35

Advanced body decomposition also presented problems. A strong odor made the task of collecting the bodies extremely unpleasant and body bags leaked. The potential for disease necessitated washing the helicopters after each trip.36 The helicopters averaged three sorties, three air refuelings, and over 10 hours of flying daily.37 Night operations were

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barred, except over Georgetown. Approximately 50 to 60 bodies were carried per sortie. After completion of activities in Guyana, the helicopters returned to Eglin AFB without incident.

Because the body bags were inadequate containers, transfer cases had to be collected and flown to Georgetown by other MAC flights. The initial increment of transfer cases was airlifted to Georgetown from Hill AFB, Utah; Richmond, Va; and Travis AFB, Calif. Nine other C-141 missions were flown to bring transfer cases to Guyana.

After the helicopters completed their work, the C-141s carried the dead on their last leg of the journey, to Dover AFB. Nine C-141 missions were flown within approximately three days. The Guyana segment of the operation lasted approximately one week, except for a small force left behind at JCS direction.

Upon their arrival at Dover AFB, the remains were brought to the mortuary, where they were removed from transfer cases and logged in. Remains were subjected to identification procedures, e.g., dental x-rays, and personal effects were removed (if needed for evidence). The remains were then moved into the preparation room for embalming, wrapping, and casketing. A total of 915 bodies (four of them belonging to Congressman Ryan's party) were airlifted.

RESULTS

The specifics of the tasking were achieved: All 911 Jonestown colony members plus the dead and wounded members of Rep. Ryan's party were airlifted to the United States, where the remains were processed for burial. No U.S. armed forces members were killed or wounded during this operation, and a total of 603 passengers and 690.5 tons of cargo were carried during the operation. Nonetheless, problems occurred and recommendations were made, some to correct problems and some in anticipation of future situations. Problems encountered included the following:

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39 Little, Keil, and Barnes (1978), p. 79.
40 Little, Keil, and Barnes (1978), p. 52.
44 Air Force Manpower and Personnel Center History (1978).
- 66 -

- The ARR/S deployment assumed timely MAC airlift support, but support was not received until later than had been originally calculated.47
- The active and reserve aircrews inability to fly each other's aircraft resulted in difficult problems for operations personnel.48
- Coordination was lacking between various military and civilian authorities during the processing of information at Dover AFB. This led to "needless duplications and unfounded rumors."49
- There was duplicative numbering and inadequate tagging of the remains, as well as a failure to provide a site sketch of Jonestown. All of these tasks allegedly should have been performed (or been performed better) by Army personnel in Guyana. Failure to perform them adequately made identification of the remains in Delaware difficult. Additionally, the failure to secure documentation, such as death certificates, created problems with Delaware officials.50

The following recommendations were made:51

- The entire ARR/S mobility plan should be revised "based on the experiences during the Guyana contingency."52
- DoD agencies should be indoctrinated in MAC operations. The JTF director originally was not familiar with MAC ALCE operations and did not want to approve deployment of the original ALCE package due to the 250-man in-country limit imposed by the JCS. Similar problems could occur in the future.
- MAC personnel should become more familiar with a classified communications asset they failed to fully utilize.
- Early information should be given by one point of contact to the units being tasked.
- Aircraft management at the unit level will help prevent situations in which having too many individuals in crew rest takes away some of the people necessary for flight planning.

50Crotty (1978), pp. 7–8.
• Consideration should be given to the early deployment of maintenance crews before aircraft leave the home station so as to better insure maintenance crew rest.
• Mobility equipment authorization should include items necessary for bare-base operations, such as tents.
• Weapons should be in operational condition before departure from the home station.
• Early deployment of the mission commander and his staff is recommended to facilitate movement through any enroute stops and at the forward operating location.
• Rules of engagement should be set as early as possible.
• Prearranging route stops for such purposes as the storage of weapons and crew medications is recommended, to facilitate crew rest.
• Information provided by weather reconnaissance will need expansion.
• Transportation should be provided on future missions, as crews may not always be within walking distance of aircraft parking.
• The Communications Service should be tasked for communications gear. (This was done on subsequent deployments.)
• Unless there are international political considerations or other overriding factors, mission planning for the return flight should remain in the hands of the deployed forces.

On the positive side, one report stated that

The decentralization of authority and decisionmaking to the mission commander proved to be effective. The deployment of the mission commander to the same location as the JTF commander expedited the mission. The importance of providing self-sufficient communications and self-sufficient base support were emphasized. The dependence of ARRS on MAC airlift support and weather reconnaissance support were confirmed.\textsuperscript{53}

On the whole, the Guyana operation was probably summed up best by the mission commander, who stated “Everything worked and worked well. One would be hard pressed to improve it significantly.”\textsuperscript{54}

\textsuperscript{53}Little, Keil, and Barnes (1978), p. 81.
Appendix G

THE MGM FIRE

BACKGROUND

Shortly after 7:00 a.m. on November 21, 1980, an electrical fire began in the MGM Grand Hotel in Las Vegas.\(^1\) The fire started in the attic above the ground-floor delicatessen and raced through the ground floor. Thick, black smoke, some of it poisonous, billowed upward through the hotel's 26 stories. About 3500 guests and employees were in the hotel at the time. As the smoke spread, people began to make their way to the hotel roof. Ultimately, hundreds of people would be rescued from the roof by USAF and civilian helicopters.

The first helicopter on the scene was a civilian craft belonging to the Las Vegas Police Department's Air Support Unit.\(^2\) This helicopter began to take people off the roof and was joined within thirty minutes by three other civilian helicopters, one an air ambulance and two from helicopter-for-hire companies. By the time the USAF helicopters arrived, between 250 and 300 people had been taken off the roof.\(^3\) Evidently, military helicopters were considered useful, because the Las Vegas metropolitan police requested assistance from the Nellis AFB consolidated command post shortly after the fire began.

TASKING

There was no "tasking" in the usual sense of the word, because the mission request came from civilian authorities who could not direct the use of USAF assets. The USAF seems to have been "selected" for the mission because of its helicopters and their proximity.

Both rescue and firefighting appear to have been among the mission's objectives, as aircrews, firefighters, doctors, and disaster preparedness personnel all participated in the mission.

The rescue portion of the mission was clearly urgent. The first helicopter lifted 17 minutes after the Nellis Command Post was contacted by civilian authorities, while helicopters from another unit whose pilots were quartered in downtown Las Vegas managed to begin lifting 40 minutes after Nellis was contacted.\(^4\) Although the firefighting mission may also have been deemed urgent initially, the firefighters were used to evacuate bodies

\(^1\)Time (1980).
\(^3\)Ruhl (1981), p. 5.
from the hotel and to man a municipal fire station. The former task at least may not qualify as "urgent."

The effort involved close cooperation between the USAF and civilian authorities. Las Vegas helicopter police served as traffic controllers for both civilian and military aircraft.\(^5\) One helicopter commander stated, "I don't think it would have gone any smoother if we had all sat together and had a three hour briefing and planned it as an exercise."\(^6\) The use of Nellis firefighters to man a local civilian fire station during the fire attests to the cooperative nature of the operations. Other services were not involved. Civilian participation seems to have been restricted to Las Vegas and perhaps Clark County personnel.

**OPERATIONS**

There is little available information regarding the USAF command structure in this case. Clearly, the command-post personnel were able to order the helicopters into the air. The command-post personnel may also have given orders to the firefighters. It is not clear whether one USAF commander was responsible for all of the USAF personnel on the scene, or whether the three helicopter units, the Nellis firefighters, and other USAF personnel were operating independently of a centralized USAF command. The USAF neither organized nor ran the helicopter rescue operation; this was done by civilian authorities.\(^7\)

The helicopter units were called upon to aid in rescue operations at the hotel. These units were undoubtedly requested in order to increase the number of helicopters assisting in a rescue operation whose duration was uncertain because the extent to which the fire had penetrated the upper stories of the hotel was not initially known. Nellis firefighters also participated in the efforts. It is not known why they were requested. However, there are few cities near Las Vegas, so Nellis AFB may have had the largest force of firefighters to call upon. Approximately 30 MGM fire victims were brought\(^6\) to the Nellis AFB hospital.

**RESOURCES**

The following Nellis resources were provided for this operation:

- 104 litters
- 210 blankets
- 44 body bags

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\(^8\) Thomason (1980).
• Three firefighter suits
• One 1.5-ton truck
• Two 0.5-ton trucks
• One P-12 fire truck
• One 5000-gallon refueler truck
• Fourteen self-contained breathing apparatus units
• Three CH-3 aircraft
• Seven UH-1N aircraft.\footnote{Thomason (1980), pp. 1–2. All other sources, including a memo attached to the report, state that 6, not 7, UH-1Ns were involved.}

The three CH-3s were from the 302nd Special Operations Squadron, normally based at Luke AFB, Arizona. Three of the UH-1s were from the 20th Special Operations Squadron, based at Eglin AFB in Florida. These squadrons had been participating in Operation Red Flag at Nellis. The last three UH-1s were from Detachment 1, 57th Fighter Weapons Wing, based at Indian Springs Auxiliary Field in Nevada, about 40 miles from Nellis.\footnote{Dunwoody (December 1980), p. 2; Ruhl (1980), p. 5.} It should be noted that these units were TAC units, not members of the Aerospace Rescue and Recovery Service, although one of the units had started its existence as a rescue unit.\footnote{Ruhl (1981), pp. 6, 8.} It is unclear which units furnished the remainder of the equipment, although some of it may have been furnished by the Department of Energy. (See below.)

Personnel included 39 aircrew members from the units named above. Other personnel included 40 Nellis firefighters, two doctors, the disaster preparedness personnel, and the command-post personnel who participated.\footnote{Thomason (1980), p. 1.} About 100 USAF personnel participated. These personnel had various skills. Some, like the “flight engineers,” from the 20th and 302d, were both expert mechanics and trained rescuers.\footnote{Ruhl (1981), p. 6.}

RESULTS

The helicopters hoisted 20 individuals from the upper floor balconies and moved 90 from the roof to a parking lot on the ground.\footnote{Dunwoody (December 1980), p. 2.} Other sources say 108 were rescued, 93 from the roof and 15 from the balconies.\footnote{302nd Special Operations Squadron (1980), p. 2.} The UH-1Ns made 38 trips back and forth to the
Detachment 1, 57th FWW shuttled two hundred rescue workers to and from the MGM Grand, and carried more than 60 bodies from the hotel roof. This unit also airlifted an unknown quantity of compressed air bottles and air packs from a Department of Energy facility at Mercury, Nevada, to the disaster scene. One account summarizes the effort in these terms: "Initially, the choppers took up firemen, paramedics, medical supplies, rescue personnel, and various kinds of equipment. They brought back those exhausted." The firefighters conducted a room-to-room search and evacuated over 75 fatalities. Other firemen, along with a pumper, replaced Las Vegas firefighters at one fire station; these Nellis firefighters ended up fighting a transformer fire.

One lesson learned is that military exercises may sometimes have side benefits to civilians; only the CH-3s of the 302nd were equipped with the hoists used to lift people off balconies. Had Red Flag not been occurring at Nellis, the 302nd would not have been available. Another lesson is that military and civilian personnel can work very well together and that the military can be integrated into at least some civilian efforts. A third lesson is that improvisation is sometimes necessary to gain maximum benefits from military equipment. The hoist the 302nd used had to have a tie line attached so that it could be thrown to someone on a balcony by a flight engineer sitting on the hoist. This course of action was necessary because of balcony overhangs. A related lesson is that those USAF units may have equipment that is better suited to rescue efforts than equipment carried by civilian units. A last lesson is that USAF units other than those belonging to the ARRS can be useful in rescue missions; the broader implication of this lesson is that various components of the USAF may be able to fly missions for which they were not specifically designed, although the two Special Operations units appear to have had training that would aid them in operations of this type.

Interestingly enough, the lesson the military seems to have drawn from this episode is that this fire brought home the importance of helicopters in rescuing victims from tall buildings. It was a one-time task. Another service or agency might have been able to accomplish the task, depending on how it was equipped and how close it was to Las Vegas.

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16 302nd Special Operations Squadron, p. 11.
17 Dunwoody (December 1980), p. 2. It is not clear that was the same equipment described above; if so, it was not Air Force equipment, but (presumably) DOE equipment. Another source simply states that Detachment 1 offloaded "medical equipment." Ruhl (1980), p. 3.
19 Yivisker (1980).
20 Yivisker (1990), p. 5.
Appendix H
THE EVACUATION OF FERDINAND MARCOS

BACKGROUND

On February 7, 1986, Presidential elections were held in the Philippines. On February 15, the National Assembly declared that President Marcos had won with 54 percent of the vote. His opponent, Corazon Aquino, charged widespread fraud and, on February 16, announced a nonviolent campaign to overthrow the government. Civilian and military supporters of the Marcos government began to defect. On February 22, Defense Minister Juan Ponce Enrile and Lt. Gen. Fidel Ramos, Vice Chief of Staff of the Armed Forces, joined the opposition and seized two military camps near Manila. Thousands of Filipinos ringed the camps to ensure that Marcos could not retake them without significant civilian bloodshed.

The situation was potentially chaotic and dangerous, with hostile action against anyone associated with Marcos a possibility. On the 25th of February, Marcos decided to relinquish his rule. He had previously been given assurances by the U.S. government that he would be welcome in the United States.1 At 7:15 p.m. (Manila time) on that date, the United States Ambassador to the Philippines informed Washington that the Marcoses had decided to leave the Presidential Palace.2

TASKING

The State Department did the tasking for this mission. Tasking for the first part of the mission—flying the Marcos party from a park near the Presidential palace to Clark AFB—came from the U.S. Embassy.3 Tasking for the second part of the mission—flying Marcos from Clark to Anderson AFB in Guam, then to Hickam AFB in Hawaii—probably came directly from the State Department itself.

The USAF was probably tasked with the evacuation of Marcos because of the proximity of USAF assets at Clark AFB. Curiously enough, however, an Army General, Brigadier Teddy Allen, was in command of the Clark-to-Anderson-to-Hickam leg of the operation. Allen’s role may have been due to the fact that he was Chief of the Joint United States Military Advisory Group in the Philippines.4 The evacuation was clearly urgent.

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1Gwertzman (1986).
2Gwertzman (1986).
especially the initial segment, which was performed at night, with a hostile crowd outside of the palace, and with Marcos fearing a rebel attack. Within two hours of the time that the U.S. embassy informed Washington of Marcos’ decision to leave, helicopters were taking Marcos and his party to Clark AFB. Marcos’ poor health and the turbulent political conditions probably also made the Clark to Guam to Hickam leg a matter of some urgency. The flight from Clark to Guam was a “short-notice mission,” performed by a flight crew that had “minimal crew rest.” The entire operation was “planned, executed, and completed” in approximately 78 hours.

The initial objective of the operation was to get Marcos from the Presidential Palace to Clark. After it was determined that Marcos would not be staying in the Philippines, the next objective was to transport him to Guam. It was not initially known where Marcos would go after he landed in Guam. After it was determined that Marcos would be proceeding to the United States, getting Marcos to Hickam became the operation’s objective. The maintenance personnel of the 31st ARRS made a strong effort, as three of the five helicopters used in the evacuation were not ready the day before. However, relatively few units participated in the evacuation.

Although the operation was performed with USAF assets, an Army General was in command during most of the operation. Moreover, agencies other than the USAF participated in the operation, perhaps because it was politically sensitive. No other governments appear to have been involved in the operation.

OPERATIONS

The command structure set up for the Marcos rescue operation does not appear to have been an exclusively USAF structure, since it was headed by an Army general for at least part of the time. Moreover, as noted above, agencies other than the USAF participated in the operation, and played a part in decisionmaking. Insofar as the USAF command structure is concerned, it seems logical that the 31st ARRS was tasked with the helicopter movement of Marcos to Clark because the unit had a night-vision capability and so was able to fly without lights, thus avoiding encounters.

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5Gwertzman (1986).
6Gwertzman (1986); Francis X. Clines (1986).
RESOURCES

Equipment and personnel were engaged from the Philippines to Hickam. In the Philippines, the first unit to take part was composed of mechanics from the 374th Tactical Airlift Wing (TAW), who readied three helicopters for the evacuation operation. This was on the 24th of February, the same day that MAC forces under the command of Col Frank Cardile began to plan the Marcos evacuation. On February 25th, five HH-3Es of the 31st ARRS were used to make the evacuation. A 364th TAW C-130 operated over Manila Bay to provide radio relay.

While Marcos and his party slept at Clark, the 374th TAW equipped an aeromedical C-9 Nightingale with two litters and 36 seats. This was necessary because Marcos suffered from kidney disease. A C-141 was also configured to serve as the second aircraft needed to support the Marcos evacuation. The C-141 was crewed by personnel from the 20th Military Airlift Squadron of the 437th MAW. After Marcos arrived at Guam, his entire party was placed aboard the C-141 to avoid a landing on Wake Island, where there was a vocal anti-Marcos community. Personnel from the 605th Military Airlift Support Squadron prepared the C-141 for the final leg of its journey by equipping it with additional seats.

While this process was taking place, the Marcos party was greeted by the Commander of the Third Air Division and the Commander, Naval Forces Marianas. Following this, the Marcos party used guest facilities at Anderson AFB, Guam, and also shopped without charge at the Base Exchange (BX). A crew from the 443d MAW flew the C-141 from Guam to Hawaii.

The ultimate funding sources for this operation are uncertain. The funding costs for the aircraft that flew in support of Marcos would have cost the State Department $183,580.90. An agency outside the U.S. government would have had to pay $198,769.10. As of April 23, 1987, no one had paid the charges. Additionally, the Marcos party ran up a bill for $12,256.19 at the Anderson BX in Guam and a larger bill at Hickam. The Anderson BX passed its bill along to the State Department.

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18Third Air Division, Jan-Dec 1986, p. 179.
RESULTS

The evacuation of President Marcos was conducted quite efficiently, especially in view of the following:

*There was little time to plan the operation.* Events moved quite rapidly in the Philippines, and it was not until February 24, one day prior to the operation, that planning began. As one USAF document notes, the Marcos evacuation is “a prime example” of a situation where the “user” did not provide much notice of his need for support.21 As a result, some expedited maintenance had to be done on helicopters.

*The helicopter evacuation was conducted at night under potentially hazardous circumstances.* Using night vision and no lights, the helicopter crews flew a total of four sorties to the park across from the Presidential Palace, where the evacuation began.22 Other sorties were made to the American embassy to pick up people and luggage; some of this activity was done under the nose of a crowd that “appeared to turn a little on the ugly side.”23

*The highly charged political atmosphere made the mission more difficult.* In addition to the fact that the C-9 could not be used, because a Wake landing was not deemed wise, other difficulties were encountered. Some were with the Marcos party itself. Some of the party had handguns in their possession, and two of the party at one point requested that they be returned to Manila. Anti-Marcos demonstrators and a potentially hostile press that Marcos wanted to be shielded from added to the difficulties of the mission.

In spite of these complications, the USAF appears to have performed well in evacuating Marcos. The Marcos evacuation was by no means the only one of its kind; “Baby Doc” Duvalier had been evacuated only a couple of weeks earlier. Given the potential for fast-changing political circumstances, it seems likely that Marcos will not be the last deposed leader to be carried to safety by the USAF.

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Appendix I

CHERNOBYL: WORLDWIDE AIR SAMPLING AFTER THE NUCLEAR DISASTER

BACKGROUND

The Chernobyl nuclear power plant in the Soviet Ukraine suffered a catastrophic meltdown in the early morning of April 26, 1986. The consequent explosion and fires ejected much of the reactor's nuclear material into the atmosphere. The outside world did not learn of the disaster until April 28, when Swedish officials first detected the radiation from the debris clouds passing over their country. While the Soviet government soon confirmed the accident had occurred, accurate and detailed information was not forthcoming.

TASKING

As winds carried the radioactive debris over Scandinavia and Europe, the Chernobyl disaster became a major political concern in the West. The Reagan White House directed Lee Thomas, the director of the Environmental Protection Agency (EPA), to coordinate all U.S. government responses. A key need was information about the extent of the disaster and the health dangers it posed. Since the USAF routinely carries out worldwide air sampling missions, it was the natural candidate to play the lead Department of Defense role. The Air Force Technical Applications Center (AFTAC) at Patrick AFB, FL, was tasked to document the release of radioactivity and to provide data that could be passed on to civilian authorities.

OPERATIONS

AFTAC organized an operation that, over the next eight days, performed 44 sampling missions over Central Europe, the Far East, and the U.S. Pacific Coast to trace the movements of the radioactive clouds. Run from a command center at Patrick AFB, the operation called primarily upon the 41st Rescue and Weather Reconnaissance Wing, based at McClellan AFB, California. The 41st was a natural choice, since the primary missions of its 54th and 55th Weather Reconnaissance Squadrons (WRSs) were to collect air samples for meteorological forecasts and the detection of nuclear weapons tests. A team of meteorologists at Patrick AFB daily predicted the movements of the radioactive clouds to aid the operational planning.

RESOURCES

The first WC-135 from the 55th WRS left McClellan AFB for a sampling mission near Scandinavia less than 24 hours after the Chernobyl disaster was first detected in the West.
This aircraft, joined by a second, subsequently flew ten missions from RAF Mildenhall, UK, taking samples over the Norwegian Sea, Central Europe, and the Mediterranean.

The initial operations focused on Europe, but as the debris clouds spread east, the weight of effort shifted to the Pacific. WC-135s and WC-130Es from both the 54th and 55th WRS, based at McClellan AFB and Andersen AFB in Guam, flew sampling missions near Japan, Alaska, and the U.S. Pacific coast, operating out of their home bases and from Yokota AB, Japan, and Eielson AFB, AL. Two specially equipped B-52s from Carswell, AFB, TX, also flew sampling missions over the U.S. coast. During the operation, C-141 transports flew eleven missions to carry the samples, consisting of 2,000 pound packages of tanks of compressed air, from Alaska, England, and Japan to the AFTAC analysis laboratories at McClellan. C-21 transports carried the B-52 samples from Carswell to McClellan.

The operation cost roughly $2 million: $1.3 million in extra flight costs and $0.7 million in lab fees and overtime pay. AFTAC covered the expenses with its unobligated funds and by subsequently cutting back on training and routine sampling missions.

RESULTS

In the days after the Chernobyl accident, AFTAC was the key source of data for the U.S. government on the movements of radiation from the crippled reactor. The operation went smoothly and was the largest atmospheric sampling operation since 1961. The main difficulties included concerns about landing aircraft with potential radioactive contamination at foreign airfields, initial confusion about the classification of information gleaned by aircraft often used for Limited Test Lab Treaty verification missions, and the stress placed on the AFTAC laboratories. In operating around the clock for over a week, the labs were stretched to the limits of their surge capabilities. Nonetheless, the operation provided a valuable service to the U.S. government that was not available through any other means.
Appendix J
THE SEARCH FOR MICKEY LELAND

BACKGROUND

On the morning of Monday, August 7, 1989, meteorological conditions at Addis Ababa airport were poor. After suffering a two-hour weather delay, a de Havilland Twin Otter carrying Representative Mickey Leland (D-Tex.) departed into heavy rain and low cloud cover at 10:30 a.m. local time.\(^1\) The U.S. Embassy had chartered the plane from the Ethiopian Relief and Rehabilitation commission to take Leland, chairman of the House Select Committee on Hunger, over more than 200 miles of mountainous terrain to the Fugnido refugee camp, about 20 miles south of Dembidollo and about 20 miles east of the Sudanese-Ethiopian border.\(^2\) After takeoff, the pilot, a former Ethiopian Air Force colonel described by the U.S. charge d’affaires as “the best bush pilot” in Ethiopia, modified the original flight path to a more northerly route to avoid bad weather.\(^3\) The last radio contact with the plane occurred about 30 minutes after takeoff.\(^4\)

Leland’s plane was subsequently reported to be missing, and the U.S. Embassy in Ethiopia passed this information along to President George Bush. Search-and-rescue (SAR) forces began to respond hours after the President was notified that Congressman Leland was missing.\(^5\) The mission therefore presumably originated in the White House.

Political conditions in Ethiopia at this time were in flux. The Soviet Union was in the process of letting go its client states, especially insofar as financial aid was concerned. One Congressman stated soon after the Leland crash that the “Soviets have said they were cutting Ethiopia off.”\(^6\) Ethiopia, whose relations with the United States had been hostile for years, saw in the Leland search an opportunity to demonstrate friendliness toward the United States. An indicator of how far Ethiopia was willing to go to demonstrate its goodwill was provided by its allowing U-2 overflights despite the fact that U-2s were commonly used in intelligence gathering.\(^7\)

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\(^{1}\)Perlez (1989a); Perlez (1989b).
\(^{2}\)Perlez (1989a); Manegold and Clift (1989).
\(^{3}\)Perlez (1989a); Perlez (1989b).
\(^{4}\)Perlez (1989a).
\(^{5}\)Thompson (1989).
\(^{6}\)Schweid (1989).
\(^{7}\)Perlez (1989b).
TASKING

It is difficult to trace the tasking in this matter. The mission originated in the White House, which presumably contacted the Defense Department, which controls the country’s military assets, including the USAF. The USAF was presumably selected because it controlled assets essential to the mission; in fact, no other service probably had the necessary assets.

The objective of the mission was to find Mickey Leland and his party. The urgency was great, since those missing might have been injured or suffering from exposure. During the first two days of the search, “back-to-back ten-hour sorties” were flown.\(^8\) One participant stated “Twenty hours of work a day was common . . .”\(^9\) The operation—at least the U.S. component—lasted from August 9, 1991, when USAF assets were sent to Ethiopia, to August 24, 1991, when a C-135 flew Congressman Leland’s body from Andrews AFB to Houston, Texas.

The operation largely took place within Ethiopia, though a small part of the mission, the ferrying of Leland’s body to Houston, occurred in the United States. Additionally, because the U.S. assets used were not based in Ethiopia, part of the operation involved flying these assets from bases in Britain, Germany, and the United States to Ethiopia.

The level of effort was large for an operation of this type. Presidential spokesman Marlin Fitzwater termed the search “the largest, most comprehensive undertaking in recent memory.”\(^10\) This statement seems to be exaggerated, unless Fitzwater was only speaking of rescue missions. Nonetheless, a number of assets were used, including one U-2 reconnaissance aircraft; one C-5 Galaxy; an EC-130 command, control, and communications aircraft; four HC-130 search-and-rescue aircraft; four MH-60 Pave Hawk helicopters, and one C-135, which carried Leland’s body to Houston. Personnel participating included aircrews, maintenance personnel, pararescuers, a medical team, a communications group, security police, a supply team, weather specialists, and members of audiovisual and personnel units.

No other U.S. military service participated. However, a National Oceanographic and Atmospheric Administration (NOAA) satellite was used to monitor potential distress signals from areas where the Leland party’s plane might have landed.\(^11\) Also, forensic experts from both the Armed Services Institute of Pathology and the Federal Bureau of Investigation helped identify the bodies at Addis Ababa airport.\(^12\) Two Congressmen accompanied the

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\(^8\) Thompson (1989).
\(^10\) Halloran (1989).
\(^12\) Rhodes (1989).
party. Ethiopia was also very much involved in the search, sending out 1000 foot-trackers and allowing more than 170 U.S. military personnel into the search area. The Ethiopians included police, security officials, and farmers. Eleven Ethiopian pilots in various aircraft searched for Leland on the first day he was reported missing. There was apparently a good deal of coordination between the Ethiopians and the Americans.

**OPERATIONS**

U.S. European Command and MAC assets in Africa were placed under the operational control of the U.S. Central Command, headquartered at McDill AFB, Florida. Maj Gen James F. Record, director of operations at U.S. Central Command (USCENTCOM), was the on-scene commander in Ethiopia. The SAR force was apparently assembled by the Joint Rescue and Recovery Center at Ramstein AB, West Germany.

A wide variety of units participated in the operation. Assignment appeared to be made at least partially for functional reasons; i.e., a pararescue unit was used because of the rough country. The Joint Rescue and Recovery Center organized the SAR force. The use of such assets as the U-2 was probably coordinated by a different authority, perhaps Major General Record.

**RESOURCES**

The following equipment was used in this operation:

**EQUIPMENT USED**

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Place of Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 MH-60 Pave Hawk helicopters</td>
<td>Eglin AFB, FL</td>
</tr>
<tr>
<td>1 C-5</td>
<td>Dover AFB, DE</td>
</tr>
<tr>
<td>2 C-141s</td>
<td>McGuire AFB, NJ</td>
</tr>
<tr>
<td>1 C-141</td>
<td>Charleston AFB, SC</td>
</tr>
<tr>
<td>4 HC-130s</td>
<td>RAF Woodbridge, UK</td>
</tr>
<tr>
<td>1 EC-130</td>
<td>Keesler AFB, MI</td>
</tr>
<tr>
<td>1 U-2</td>
<td></td>
</tr>
<tr>
<td>1 C-135</td>
<td>Andrews AFB, MD</td>
</tr>
<tr>
<td>3 MH-60s*</td>
<td></td>
</tr>
<tr>
<td>2 HC-130s*</td>
<td></td>
</tr>
<tr>
<td>Transfer cases</td>
<td>Rhein Main AB</td>
</tr>
<tr>
<td>At least one comm. satellite</td>
<td></td>
</tr>
</tbody>
</table>

NOTE: *Prepped, but not used.

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RESULTS

This operation was successful as Mickey Leland's aircraft was located and the bodies of Leland and his fellow crash victims were recovered. No deaths were suffered by forces engaged in the operation.

According to one after-action report, which is quoted in part by a unit historian, lessons learned included the following:

- Search and Rescue efforts of this magnitude will require access to dedicated satellite communications. In the Leland search, a SATCOM link was established, as was a link-up to the USAF Global Weather Satellite System.\(^{17}\)
- Large, continuing military SAR operations may require a defense communication system, since embassy communications systems may be incapable of handling the traffic.
- Timely and informative briefings must be provided to prevent misconceptions. (Congressman Leland's staff was, at one point, dissatisfied with the operation's progress.) At the same time, operational aspects should not be discussed by Congressmen (or, presumably, other civilians) until they have been briefed and have participated in an orientation flight.
- Audiovisual documentation is invaluable.\(^ {18}\)
- Helicopters may be better than planes in searching densely forested, hilly terrain; Leland's craft was spotted by a helicopter, which arrived in Ethiopia after searches by U.S. and Ethiopian planes. The planes attempted to locate the Leland party by making "emergency transponder locator sweeps."\(^ {19}\) U-2 and satellite coverage was inhibited by cloud cover.\(^ {20}\)

The expertise of the USAF personnel may have been valuable in shortening the length of time the search took: One source states that a "mission that could have taken weeks was done in days" because the search coordinators "armed with a little information and good instinct" carved "a smaller search area out of a huge block of terrain."\(^ {21}\) The pararescue personnel were important in recovering the bodies because of the 60-degree slope and rough

\(^{17}\)Thompson (1989).
\(^{18}\)Wohlever (1989); Halloran (1989).
\(^{19}\)Wohlever (1989).
\(^{21}\)Rhodes (1989).
terrain of the crash site. Aerial refueling capability was a prerequisite to keeping the helicopters in the air for ten-hour missions.\textsuperscript{22}

The task was not routine, but it certainly was not unique. As early as 1930, the USAF searched for missing pilots. This particular search was not, of course, a continuing task, although similar searches will no doubt be conducted in the future. It is improbable that another service or agency could have done the task, at least as thoroughly and quickly, because of a lack of assets.

\textsuperscript{22}Thompson (1989).
Appendix K

EARTHQUAKE DISASTER RELIEF

This section examines the role and activities of the USAF in directing relief to victims of five earthquakes: Yugoslavia (July 1963), Nicaragua (December 1972), Mexico (September 1985), Soviet Armenia (December 1988), and San Francisco (October 1989).

BACKGROUND

The Yugoslav earthquake measured 6.0 on the Richter scale and struck mainly in Macedonia, around the city of Skopje. It left at least 2,000 people dead and another 200,000 homeless. The USAF humanitarian airlift, designated “Operation Blueboy,” lasted for 13 days and transported 455 tons of medical supplies—including a 120-bed U.S. Army mobile field hospital—trucks, trailers, jeeps, tents, blankets, and 410 passengers in 33 separate sorties. The airlift involved units from the 1607th and 1611th Air Transport Wings, the 317th Troop Carrier Wing, and the 52nd Troop Carrier Squadron, employing 26 C-130s, four C-124s, and three C-135s.

The Nicaraguan temblor measured 6.3 and killed 7,000 people and left 200,000 without shelter. The USAF airlifted over 1,938 tons of equipment and more than 2,000 passengers in nearly 300 sorties over a 38-day period. Airlifted equipment included two mobile field hospitals, heavy construction vehicles (to demolish half-fallen structures), food, purified water, fuel, generators, medical supplies, tents, blankets, and communication equipment. Units from the 60th, 62d, 63d, 436th, 437th, and 438th Military Airlift Wings; the 317th Tactical Airlift Wing; and the 24th Special Operations Squadron of the USAF Southern Command took part in the relief operations. Their aircraft included three C-5s, 28 C-141s, eight C-130s, two UH-1s, one C-118, and one C-123. In addition, U.S. Army Chinook helicopters were employed.

The twin Mexican earthquakes measured 8.1 and 7.5 on the Richter scale, killing 4,700 and leaving 40,000 homeless. Over a ten-day period, the USAF flew 22 relief missions to Mexico, transporting more than 360 tons of cargo and ferrying 290 passengers. Items airlifted included firefighters and other rescue personnel (including 16 specially trained rescue dogs to sniff out trapped victims), fire-fighting helicopters, trucks, medical supplies, generators, blankets and sleeping bags, and various other rescue equipment. The operation involved the 60th, 63d, 89th, 437th, 438th, and 445th Military Airlift Wings and the 136th,
146th, 317th, and 463d Tactical Airlift Wings, using a total of four C-5s, 11 C-141s, five C-130s, and two C-21s.

The earthquake in Armenia (6.9 on the Richter scale) was by far the worst of the lot, resulting in over 50,000 deaths and more a half million left without shelter. The USAF humanitarian operation lasted 30 days and flew 29 sorties, airlifting 513 tons of supplies and transporting over 200 passengers in and out of Armenia. The USAF carried several seriously injured children and young adults to the West for urgent medical treatment. Relief cargo included medical supplies, food, bottled water, clothing, tents and modular shelters, plastic sheeting, blankets, heaters, and a dozen pickup trucks. USAF units involved in the Armenian airlift were the 105th and 172d Military Airlift Groups; the 433d, 436th, 437th, 438th, 439th, and 459th Military Airlift Wings; and the 375th Aeromedical Airlift Wing. Five C-5s, 14 C-141s, and one C-9 aircraft were employed in the relief effort.

In contrast, the 1989 San Francisco quake, which measured the same as Armenia’s, killed less than 200. Altogether, around nine USAF aircraft flew relief and rescue missions for the Federal Emergency Management Agency (FEMA) over a three-day period, along with providing a host of other services. The 939th Aerospace Rescue and Recovery Group (ARRG) in Portland, OR, sent two HC-130s and a H-1 helicopter to the Bay area, carrying with them 21 pararescuemen, two flight surgeons, and a specialized communications van. The 437th Military Airlift Wing stationed at Charleston AFB, SC, transported drinking water and portable generators, using a single C-141. The 126th Medical Company stationed at Mather AFB outside of Sacramento contributed UH-1 helicopters for reconnaissance and medical evacuation missions. A C-9 from the 89th Military Airlift Wing at Andrews AFB flew several government and congressional leaders from the Washington, D.C. area to northern California. A C-5 from Travis AFB (north of Oakland) was used to transport a fire truck and heavy rescue equipment to Monterey; Travis also opened its runways to commercial air traffic after San Francisco’s airport was closed, and the air base hosted an Army National Guard medical unit set up to treat civilian and military injuries (although it was never used). A SAC U-2 from Beale AFB was employed to take high-altitude reconnaissance photos of the Bay area for use by FEMA. Finally, the USAF placed three C-141s and three C-5s at bases around the United States at the disposal of FEMA, and Travis, McClellan, and Mather AFBs were designated as receiving and staging areas for relief efforts. In the end, however, the services of neither the aircraft nor the bases were required.
TASKING

Of the five operations, four were foreign and one was domestic, and assigning USAF assets to relief missions varied accordingly. In the case of the foreign assistance operations, the precise origins of the missions differed:

- **Yugoslavia**: President Kennedy personally made an offer of assistance to the Yugoslav authorities.
- **Nicaragua**: The Nicaraguan President relayed his request for relief through the U.S. Ambassador in Managua, who then relayed it to the State Department.
- **Mexico**: The Secretary of State received a request for aid from the Mexican Ambassador to the United States.
- **Armenia**: The Soviet government openly appealed for U.S. (and global) disaster relief assistance.

Nevertheless, once the offer of U.S. assistance had been made and accepted, the procedure for tasking the USAF was similar in each of the four cases. The Department of Defense would usually receive a request from the Office of Foreign Disaster Assistance (OFDA) at the State Department to aid in providing humanitarian airlift for the rescue and relief effort. OFDA would also direct the specific type of relief (medical supplies, shelter, food, etc.) to be airlifted, based on requests received from indigenous authorities.

The Office of the Secretary of Defense would then approve DoD support, and the Joint Chiefs of Staff would direct a particular command to transport relief supplies and rescue operations. In the case of each of the four foreign humanitarian airlift operations, the following services or commands were given responsibility for organizing the airlift:

- **Yugoslavia**: Military Air Transport Service (MATS) and the U.S. Air Forces, Europe (USAFE).
- **Nicaragua**: Readiness Command, which in turn assigned relief missions to Military Airlift Command and U.S. Southern Command.
- **Mexico**: Military Airlift Command and U.S. Southern Command.
- **Armenia**: Logistics Resource Division of the JCS (J4-LRC).

Relief efforts for the San Francisco earthquake were coordinated through FEMA. Shortly after the quake occurred, the Secretary of Defense activated the Directorate of Military Support, part of the U.S. armed forces' command structure for responding to
domestic emergencies. All subsequent FEMA requests for military aid and assistance were coordinated through this directorate.

In all five cases, the USAF was tasked with a particular mission, since the effort mainly involved the speedy delivery of relief supplies to remote locations. All the foreign destinations, for example, were inland and thus unreachable by ship; at the same time, overland routes were generally unreliable (e.g., Mexico) or too distant (Armenia). In addition, in the foreign operations, the United States did not have any existing infrastructure (e.g., military bases or ports) for handling the assistance. Thus, the USAF was the only service capable of providing timely disaster relief assistance in what were nonroutine relief missions.¹

The San Francisco earthquake, of course, was an exception. There are several military installations—Air Force, Army, and Navy—in the vicinity of the Bay area, and most offered their services to the relief effort. At the same time, nonmilitary disaster relief was organized very quickly, and the assistance of the military was not greatly required.

Although the USAF had most of the responsibility for the relief effort, all five were joint missions—with other U.S. services, with other U.S. government agencies, and with foreign authorities:

- In Yugoslavia, the USAF cooperated with the State Department and, in particular, with the U.S. Army (transporting, for example, a U.S. Army field hospital and other army-provided supplies, as well as airlifting U.S. Army trucks and personnel, who then drove the relief supplies from Belgrade to Skopje).
- In Nicaragua, the USAF again transported army supplies, equipment, and personnel, while all USAF operations in flying relief to the country were placed under the U.S. Southern Command and, while in-country, were under the direct command of a U.S. Army colonel. USAF UH-1 helicopters were employed to scout out landing sites in the Managua suburbs, which U.S. Army Chinooks then used to ferry in supplies. The USAF also cooperated with Nicaraguan authorities, assisting in air traffic control at Managua's civil airport after the control tower had been destroyed. Finally, at the request of the Nicaraguan President, a U.S.

¹The decision to airlift supplies for the Mexican relief operation, rather than having the Army transport them overland, was due as much to political reasons as to the urgency of the situation and the supposed poor conditions of the roads. Mexico has not forgotten General Pershing's "invasion" in 1916 and would probably not like to see U.S. military vehicles driving once again through its countryside.
military group also assumed advisory responsibility for coordinating food
distribution around Managua.

• In Mexico, the USAF worked with the State Department to transport essential
personnel and equipment between the United States and Mexico. The USAF
airstlifted U.S. Forestry Service firefighters and their equipment. It also ferried
Mexican and U.S. officials to tour the disaster area, including First Lady Nancy
Reagan.

• In Armenia, the USAF cooperated with the State Department’s OFDA and the
Agency for International Development (AID) in transporting OFDA/AID-provided
supplies to the disaster area. The USAF transported private relief supplies and
DoD excess property (e.g., four-wheel-drive trucks and field tents) made available
by the Secretary of Defense. The USAF also aided Project HOPE doctors (who
had set up a hospital in Armenia) in the medical evacuation of children and
young adults in need of urgent medical attention in the West. (In addition, the
USAF had considered bringing in its own airlift control element [ALCE], as it did
in Nicaragua, but this idea was dropped on the grounds that communist officials
would probably not permit the operation of a foreign communications facility.)

• In San Francisco, the USAF and other services were placed at the disposal of
FEMA, as directed by the Secretary of Defense. They also provided services to
local earthquake relief organizations (flying helicopters, setting up a hospital,
etc.).

Furthermore, since in most cases the missions required mainly the airlifting of
supplies and personnel, the USAF Military Airlift Command (MAC) was the primary element
the USAF employed in these operations. MAC (or in the case of Yugoslavia, MATS) was used
in all five relief efforts, and it performed the bulk of the work. Still, in most cases, MAC
worked alongside other USAF commands or services. In Yugoslavia, USAFE was involved in
the relief operation, while in Mexico and Nicaragua the U.S. Air Force Southern Command
was also engaged; in both instances, this involvement was because the particular disaster
area fell within the territory of these particular commands. In the case of the San Francisco
earthquake, elements of the Aerospace Rescue and Recovery Service, the Strategic Air
Command (i.e., a U-2 flying reconnaissance missions for FEMA), and even the Air Training
Command were employed in the relief operations.
OPERATIONS

It is interesting to note that all four foreign operations used civilian airports for receiving relief supplies: Belgrade in Yugoslavia; Las Mercedes in Managua, Nicaragua; Benito Juarez International in Mexico City; and Zvartnots in Yerevan, Armenia. Furthermore, all these operations (and especially MAC) relied greatly upon mobilized reservists from both the Air National Guard (ANG) and the AFRES.

Operation Blue Boy was the first time that the USAF ever flew a relief mission to a communist country, Yugoslavia. Meanwhile, the Armenian relief operation marked the first time that camouflaged foreign aircraft were permitted to operate in Soviet airspace without requiring that a Soviet navigator be onboard.

In cases where the request for USAF assistance came from the Office for Foreign Disaster Assistance (as in Mexico and Armenia), USAF operations and nonreturnable military supplies (e.g., blankets, food, fuel) were reimbursed by AID. Supplies were also provided by AID and by the DoD (supplies considered to be nonlethal excess property). Finally, as in the case of Armenia, the USAF transported private relief supplies and received private monetary donations to help pay for the materials. In the domestic relief operation, San Francisco, the DoD appeared to absorb whatever extra expenses (which were probably minor) were incurred.

Of the five, two—Nicaragua and Armenia—could be considered to be “big” missions. In San Francisco, the military relief effort, although appreciated, was hardly utilized. Yugoslavia and Mexico were mostly “one-shot deals”: Each aircraft flew a single sortie, offloaded its cargo, and usually departed immediately. Neither operation lasted longer than two weeks. In contrast, the Nicaraguan and Armenian relief efforts were massive or complex or both and hence required much greater organization. The Nicaraguan airlift, for example, lasted over a month, consisted of nearly 300 individual sorties carrying nearly 2,000 tons of supplies and 2,000 passengers, and involved several U.S. government and military organizations.

The Armenian relief effort was complicated by the remoteness of the disaster area, by the distance that U.S. relief operations had to travel to get there, by the relative primitiveness and chaos of the receiving stations, and by the fact that this was a communist country. For example, the USAF was at first reluctant to fly C-5s directly into Armenia’s airport at Yerevan, since it was uncertain whether its runways could accommodate aircraft of such weight and size. Thus, C-5s coming from U.S. airbases had to fly to Incirlik Air Base in
Turkey, where their cargo was transloaded onto C-141s, which then flew into Yerevan (C-141s from the United States flew directly into Armenia).\(^2\)

Other problems worthy of special note included:

In Yugoslavia, communications were weak. The USAF was forced to rely heavily upon telephone and teletype equipment at the U.S. Embassy in Belgrade, which was already overtaxed. More significantly, the USAF was unable to fly directly into earthquake disaster area in southern Yugoslavia. Instead, it had to fly into Belgrade and drive supplies overland hundreds of miles to Skopje. Furthermore, it had to fly in the trucks to make the drive, meaning fewer supplies could be brought in.

In Nicaragua, the lack of coordination between USSOUTHCOM and USAFSO (USAF SOUTHCOM) led to a dispute over who should have primary responsibility for controlling airlift operations. This also affected control of U.S. Army Chinooks, and USAFSO, USSOUTHCOM, REDCOM, and TAC all attempted to involve themselves in coordinating the use of CH-47s. There also appeared to be a breakdown in the accountability and control of requested items, in particular, getting materiel to the relief personnel who had requested them, even though these items had already been shipped to Nicaragua. In addition, some Army-supplied equipment had been improperly prepared for airlift (e.g., the cubic displacement, weight, and center of gravity were not marked on items to be airlifted), delaying their transport.

Local ground communications were hindered by earthquake outages, especially at the Managua airport, in handling airlift operations. Handlers often had to share frequencies with Spanish-speaking communicators, leading to confusion. Using special air-ground communications equipment for ground-ground communications was deemed unsatisfactory.

In Mexico, the unloading of supplies and equipment at the Mexico City airport was limited by lack of compatible offloading equipment for MAC aircraft, while the U.S. Embassy lacked compatible parts for USAF/MAC all-terrain forklifts. As a result, personnel were forced to break down pallets and unload by hand, taking hours instead of minutes. In addition, many smaller but useful supplies (cold and warm weather gear, oil, hydraulic fluid, gloves, tape, filters, etc.) proved difficult to obtain in country.

In Armenia, the main problem was the lack of mechanical equipment to offload pallets from the MAC aircraft; as in Mexico, therefore, the pallets had to be broken down and unloaded by hand, a time-consuming chore. In addition, the Yerevan airport was difficult to fly into, given that it is in a mountainous area (a 13,500-foot mountain was located only 25

\(^2\)Later, near the end of the Armenian airlift, one C-5 did fly directly into Yerevan.
nautical miles from the airport), and cloud cover sometimes obscured the view. Finally, Soviet air traffic control differed from what USAF pilots were used to, using meters and kilometers instead of miles, millimeters instead of millibars, different kinds of altimeter settings, etc.

No problems appeared to hinder the San Francisco operation.

Overall, however, no major hitches occurred, and the activities of the USAF in all five earthquake relief operations appeared to go well. There was undoubtedly confusion at times during these taskings and certain shortfalls; in particular, the lack of sophisticated unloading equipment was a significant hindrance in at least two cases. But overall the resourcefulness and professionalism of the USAF appeared to shine through. It helped a great deal, of course, that at least some developed infrastructure, i.e., hardened runways and air traffic control, was in place to aid the airlift, but even in cases where this was not always available, the USAF was able to improvise: transporting supplies by truck from Belgrade to Skopje after the Yugoslav earthquake, for instance, or bringing in its own air traffic control into Nicaragua.

RESULTS

All five earthquake relief operations could be deemed a success for the USAF in that it was able to respond quickly to the crisis and begin deliveries of essential supplies and personnel to the disaster area, sometimes within 24 hours of the first tremor. It is doubtful that any other service or agency could have carried out such a task, especially the role of massive, rapid airlift. This is all the more remarkable, since most of these disaster sites were unfamiliar and/or distant territory for USAF operations. In many cases, the USAF and sister services had to overcome significant logistical obstacles to aid the disaster relief. The fact that they were able to move so much of the right materials (bulldozers to clear roads, firefighting equipment to put out fires, shelters, medicines, etc.) in such a timely manner is a further indicator of the USAF's success in accomplishing these missions. Particularly in the two larger operations, Nicaragua and Armenia, the USAF effort appeared to be well-organized and comprehensive. In the San Francisco earthquake, in fact, the efforts of the USAF (and other services) appeared to be more than was needed.

It is doubtful that any other service or agency could have carried out such a task, especially the role of massive, rapid airlift. If there is one great lesson to be learned from examining these five cases, it is that the USAF is able to mount a significant and timely airlift to just about anywhere on the globe.
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