

GAO

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Armed Services and the House
Committee on Armed Services

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MILITARY PERSONNEL

DOD Needs to Assess Certain Factors in Determining Whether Hazardous Duty Pay Is Warranted for Duty in the Polar Regions




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Highlights

Highlights of [GAO-03-554](#), a report to the Senate Committee on Armed Services and the House Committee on Armed Services.

Why GAO Did This Study

The 109th Airlift Wing, New York Air National Guard, conducts supply missions for scientific research in the polar regions. Most unit members do not spend more than 30 consecutive days in the polar regions. Therefore, they are not eligible for hardship duty pay, which requires more than 30 consecutive days of duty in a designated hardship location. Congress considered legislation in 2002 to make an exception to the 30-day hardship duty pay threshold for polar duty. This legislation was not approved. In addition, the 109th Airlift Wing proposed designating polar duty as a hazardous duty.

The Conference Report accompanying the National Defense Authorization Act for Fiscal Year 2003 directed GAO and DOD to conduct separate reviews of special and incentive pays for polar duty. GAO assessed DOD's rationale for hardship duty pay and the implications of making an exception to hardship duty pay. In addition, GAO assessed the 109th Airlift Wing's justification for hazardous duty pay for polar duty.

What GAO Recommends

GAO recommends that DOD, in conducting its congressionally mandated study of special and incentive pays for reservists performing polar duty, assess certain factors to determine if personnel performing polar duty should receive hazardous duty pay. DOD concurred with this recommendation.

www.gao.gov/cgi-bin/getrpt?GAO-03-554.

To view the full report, including the scope and methodology, click on the link above. For more information, contact Derek B. Stewart (202) 512-5140 or stewartd@gao.gov.

MILITARY PERSONNEL

DOD NEEDS TO ASSESS CERTAIN FACTORS IN DETERMINING WHETHER HAZARDOUS DUTY PAY IS WARRANTED FOR DUTY IN THE POLAR REGIONS

What GAO Found

Hardship duty pay is intended to compensate military personnel assigned to areas for more than 30 consecutive days where quality-of-life conditions are substantially below those in the continental United States. DOD did not support the hardship duty pay legislation on the basis that this pay was not intended to compensate stays of short duration and the legislation circumvented a DOD process designating hardship duty locations and rates.

Granting an exception to the 30-day hardship duty pay threshold for 109th Airlift Wing personnel deployed to the polar regions would result in minimal costs, but this exception could set a precedent for DOD personnel performing other short-term missions and could further increase costs. Had this exception been in effect in 2001-2002, the 109th Airlift Wing estimated the costs would have totaled about \$127,000. The National Science Foundation would incur most of these costs because it reimburses DOD for logistic support in the polar regions. The costs of granting an exception for short-term missions conducted by DOD personnel at other hardship locations are unknown. Based on its review of the intent of hardship duty pay and the implications of granting an exception, GAO believes that an exception to the 30-day threshold is not justified under current DOD policy.

The 109th Airlift Wing justified its proposal for hazardous pay on the basis of extreme working conditions and exposure to medical hazards. For example, maintenance personnel work in temperatures as cold as minus 59 degrees Fahrenheit without the protection of hangars and are exposed to potential medical hazards such as frostbite, hypothermia, and carbon monoxide poisoning. Unit officials expressed concern about the retention of personnel who require additional training for polar operations, but they did not know what impact hazardous duty pay would have on retention. Recent data from exit surveys show that dissatisfaction with pay was not among the most frequently cited reasons for leaving.

The 109th Airlift Wing Operates 10 LC-130 Ski-Equipped Aircraft in the Polar Regions



Source: Department of Defense.

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United States General Accounting Office
Washington, DC 20548

April 29, 2003

The Honorable John W. Warner
Chairman
The Honorable Carl Levin
Ranking Minority Member
Committee on Armed Services
United States Senate

The Honorable Duncan Hunter
Chairman
The Honorable Ike Skelton
Ranking Minority Member
Committee on Armed Services
House of Representatives

Military personnel serving outside the continental United States may perform duty in locations with adverse living conditions. Personnel who spend more than 30 consecutive days in areas designated by the Office of the Secretary of Defense (OSD) as hardship duty locations are eligible for hardship duty pay.¹ OSD has designated 170 hardship duty locations and has authorized a monthly pay rate of \$50, \$100, or \$150, depending on the severity of living conditions. The polar regions of Antarctica and Greenland have been designated as hardship duty locations qualifying for the maximum monthly pay rate of \$150. The 109th Airlift Wing, New York Air National Guard, conducts supply missions in the polar regions in support of scientific research programs sponsored primarily by the National Science Foundation. However, according to a 109th Airlift Wing official, most unit members who perform polar duty do not serve more

¹ Section 305 of title 37 U.S.C. authorizes special pay for uniformed servicemembers performing hardship duty and directs the Secretary of Defense to prescribe regulations implementing hardship duty pay. There are two types of hardship duty pay. "Hardship duty pay for location assignment" is payable to members for duty in a designated hardship location for more than 30 consecutive days. Personnel must be in a designated hardship location at least 31 days to qualify for this pay. "Hardship duty pay for mission assignment" is payable to members who perform investigative or remains-recovery duty in remote, isolated areas such as Vietnam and Cambodia regardless of the time spent on the mission. This report focuses solely on hardship duty pay for location assignment, which hereafter is referred to as hardship duty pay.

than 30 consecutive days and are therefore not eligible to receive hardship duty pay.

With the goal of securing incentive pay for polar duty, the 109th Airlift Wing developed a proposal in 2000 to authorize hazardous duty pay for duty performed in the polar regions. Hazardous duty pay, which is separate from hardship duty pay, is intended as an incentive for personnel to occupy hard-to-fill occupations that involve risky or hazardous duty.² The proposal was submitted to the New York Guard and subsequently brought to the attention of Congress, but it was not provided to the Department of Defense (DOD) for consideration in DOD's process for reviewing personnel compensation proposals. Although the 109th Airlift Wing's proposal addressed hazardous duty pay, Congress considered a legislative provision in 2002 to authorize hardship duty pay, on a prorated basis, for each day of work performed in the polar regions.³ The provision would, in effect, have made an exception to DOD's 30-day threshold requirement and would have increased the monthly rate established by DOD from \$150 to \$240. Although the provision was not approved, the Conference Report accompanying the National Defense Authorization Act for Fiscal Year 2003⁴ directed us to review special and incentive pays for reservists⁵ who perform frequent and continuous duty on ski-equipped aircraft operating in the polar regions while assigned temporarily to locations where conditions are extremely harsh. The Conference Report also directed DOD to include a study of the same issue in a review of reserve component personnel compensation directed by the Senate.⁶ In response to the mandate, we reviewed (1) DOD's rationale for hardship

² Both hardship duty pay and hazardous duty pay are categorized as "special and incentive pays," which are compensation to uniformed servicemembers in addition to their basic pay and allowances. These pays are authorized to help the uniformed services meet specific manpower requirements.

³ House Resolution 4546, National Defense Authorization Act for Fiscal Year 2003, section 615.

⁴ H. Rept. 107-772.

⁵ For this report, we use the terms "reserves" and "reservists" to refer to the collective forces of the Air National Guard, the Army National Guard, the Army Reserve, the Naval Reserve, the Marine Corps Reserve, and the Air Force Reserve.

⁶ Senate Report 107-151 accompanying the National Defense Authorization Act for Fiscal Year 2003 directed the Secretary of Defense to conduct a reserve personnel compensation review aimed at determining the extent to which personnel compensation policies and statutes appropriately address the demands placed on guard and reserve personnel. The results of this review are to be submitted no later than August 1, 2003.

duty pay, including the 30-day threshold; (2) the potential implications, including costs, of making an exception to the 30-day threshold; and (3) the 109th Airlift Wing's justification for granting hazardous duty pay for polar duty. In subsequent discussion with your staff, we agreed to provide an assessment of granting an exception to the 30-day hardship duty threshold for personnel performing duty in the polar regions.

Results in Brief

Hardship duty pay is intended to compensate military personnel assigned to areas where quality-of-life conditions are substantially below those experienced by most personnel assigned in the continental United States. OSD, which establishes and reviews hardship duty pay locations and rates, concluded that personnel on duty in a hardship location for 30 consecutive days or less do not endure the same range of physical hardships experienced by those who are permanently assigned. According to an OSD official, an OSD working group linked the 30-day hardship duty threshold to family separation allowance, which compensates military personnel deployed away from their family for more than 30 consecutive days. OSD did not support the legislative provision to create an exception to the 30-day threshold for missions to the polar regions. OSD asserted that the proposed legislation circumvents DOD's hardship duty location and rate designation process. We found no basis to disagree with the criteria DOD has established for hardship duty pay.

Allowing an exception to the 30-day threshold for members of the 109th Airlift Wing deployed to the polar regions would result in minimal costs, but this exception could set a precedent for DOD personnel performing other short-term missions. The 109th Airlift Wing estimated that granting this exception for its personnel would cost approximately \$125,000 to \$130,000 a year based on past years' deployment trends. The National Science Foundation, which reimburses DOD for 109th Airlift Wing logistic support in the polar regions, would incur most of these increased costs. DOD officials said granting this exception would set a precedent for additional exceptions at other hardship duty locations that, if approved, could increase future hardship duty pay costs. DOD refused a similar request from the Navy in 2002 for an exception to the 30-day threshold for duty on Vieques Island, Puerto Rico. The costs of granting an exception for DOD personnel performing short-term missions conducted at other hardship locations are unknown.

The 109th Airlift Wing justified its proposal for hazardous duty pay for military personnel performing duty in the polar regions on the basis of the extreme working conditions they encounter and their exposure to

potential medical hazards. For example, flight crews routinely conduct takeoffs and landings in remote areas on snow and ice, and maintenance personnel work in temperatures as low as minus 59 degrees Fahrenheit, without the protection of hangars. Furthermore, personnel are exposed to potential medical hazards such as hypothermia, frostbite, carbon monoxide poisoning, ultraviolet radiation exposure, and dehydration. Unit officials also expressed concern about the retention of unit personnel who require additional training for the unit's specialized missions in the polar regions. However, they did not know what impact the proposed hazardous duty pay for polar duty would have on retention. Exit surveys conducted at the unit with separating personnel show that dissatisfaction with pay was not among the most frequently cited reasons for leaving.

Based on our review of the intent of hardship duty pay and the implications of granting an exception, we believe that granting an exception to the 30-day hardship duty threshold is not justified under current DOD policy. Concerning the 109th Airlift Wing's request for hazardous duty pay for polar operations, this report contains a recommendation that DOD, in conducting its congressionally mandated study of special and incentive pays for reservists performing duty in the polar regions, assess certain factors in determining whether personnel performing polar duty should receive hazardous duty pay. In commenting on a draft of this report, DOD concurred with our recommendation.

Background

The National Science Foundation conducts scientific research in the polar regions of Antarctica and Greenland and funds and manages the U.S. Antarctic Program. This program sends nearly 3,000 scientists and support personnel to Antarctica each year to support scientific research in areas such as astrophysics, atmospheric chemistry, biology, earth sciences, ocean and climate systems, and glaciology. The National Science Foundation also chairs an interagency committee to coordinate the scientific research efforts of all federal agencies in the Arctic region, including Greenland. The 109th Airlift Wing is the main provider of air logistic support for National Science Foundation activities in Antarctica. The unit also supports the activities of the National Science Foundation and other agencies in Greenland. Members of the 109th Airlift Wing train on and operate unique LC-130 ski-equipped aircraft that take off and land on snow and ice (see fig. 1). The unit operates 10 LC-130 aircraft.

Figure 1: Ski-Tipped LC-130 Aircraft Operated by the 109th Airlift Wing, New York Air National Guard



Source: Department of Defense.

The 109th Airlift Wing supports U.S. Antarctic Program mission requirements from mid-October to the end of February each year.⁷ It employs 220 full-time Active Guard and Reserve members whose principal task is to support this program. It receives additional support from “traditional” guardsmen, other Active Guard and Reserve members, and military technicians of the 109th Airlift Wing, as well as members from

⁷ Under a 3-year transition period beginning in fiscal year 1997, the 109th Airlift Wing assumed responsibility for operating and maintaining the LC-130 aircraft from the Department of the Navy in support of the U.S. Antarctic Program. The National Defense Authorization Act for Fiscal Year 1996 authorized the Air National Guard to assume the Navy’s role in air logistic support to the National Science Foundation. The Navy had provided support to this program since 1955 when U.S. presence at McMurdo Station, Antarctica, was established. The 109th Airlift Wing began to support the Navy in 1988.

other military units.⁸ Operations are conducted from McMurdo Station, the permanent logistics station for U.S. operations in Antarctica. The 109th Airlift Wing schedules between 450 and 500 flights in Antarctica for the 5-month operational season to meet National Science Foundation requirements. According to the 109th Airlift Wing, personnel typically deploy for a period of 1 to 13 weeks, which includes up to 1 week of travel from New York to Antarctica. These deployments are conducted on a rotational basis. The 109th Airlift Wing maintains a presence of approximately 120 personnel (50 operational, 61 logistic, and 9 support) at McMurdo Station from October to the end of February.

In Greenland, the 109th Airlift Wing performs training missions for unit personnel who will deploy to Antarctica. The unit also performs scientific support missions for the National Science Foundation as well as for the National Aeronautics and Space Administration and European research programs.⁹ Unit operations in Greenland run from mid-March to September each year and are conducted from staging locations at Thule Air Base and Kangerlussuaq. Missions are flown to all parts of the Greenland Ice Cap, northern Canadian locations, and Arctic Ocean camps. The 109th conducts 10 to 12 1-week deployments to Greenland.

Within OSD, the Under Secretary of Defense (Personnel and Readiness) is responsible for DOD personnel policy, including oversight of reserve affairs and military personnel pay and benefits. The Under Secretary of Defense (Personnel and Readiness) leads the Unified Legislation and Budgeting process, which was established in 1994 to develop and review personnel compensation proposals.¹⁰ In addition, the Office of the Under Secretary of Defense (Personnel and Readiness) is conducting the

⁸ Active Guard and Reserve members provide full-time active duty support to Guard, Reserve, and Active Component organizations. Military technicians are dual status active duty members who perform day-to-day management, administration, and maintenance. They are civil service employees of the federal government who must be military members of the unit that employs them.

⁹ The 109th Airlift Wing took over the mission of supporting the Defense Early Warning radar installations located on the Greenland Ice Cap from the Air Force Alaskan Air Command in 1975 and has conducted support for scientific research since 1978.

¹⁰ The Under Secretary of Defense (Personnel and Readiness) chairs biannual meetings, which are attended by the principal voting members from the Office of the Under Secretary of Defense (Personnel and Readiness), including the Assistant Secretary of Defense (Reserve Affairs), the Assistant Secretary of Defense (Health Affairs), and the Assistant Secretary of Defense (Force Management Policy); the Office of the Under Secretary of Defense (Comptroller); the Joint Staff; and the service secretaries.

congressionally mandated review of special and incentive pays for reservists performing duty in the polar regions.

DOD's Rationale for Hardship Duty Pay

Hardship duty pay compensates military personnel on duty for more than 30 consecutive days in harsh or difficult living conditions. The Secretary of Defense has the authority to establish implementing regulations for such pay, including the designation of hardship duty locations and rates.¹¹ Within OSD, the Assistant Secretary of Defense (Force Management Policy) tasked a working group in 1998 to develop hardship duty pay policy.¹² The working group determined that (1) uniformed members who perform duty in designated hardship locations for more than 30 consecutive days are eligible for hardship duty pay and (2) this pay is not intended to compensate for difficult working conditions. According to DOD, personnel assigned to an area for a short period do not endure the same range of physical hardships as those in the area on a long-term basis. According to an OSD official, the working group linked the 30-day hardship duty threshold to family separation allowance,¹³ which compensates members who are away from their families for more than 30 consecutive days. We found no basis to disagree with the criteria DOD has established for hardship duty pay.

OSD, in its appeal submitted in response to the National Defense Authorization Act for Fiscal Year 2003, opposed the legislation creating an exception to the 30-day hardship duty threshold for missions to the polar regions on the grounds that it “unnecessarily circumvents a process that has proven to be a fair and equitable means of setting hardship duty pay location rates worldwide.” The Assistant Secretary of Defense (Force Management Policy)¹⁴ regularly reviews and determines hardship duty locations and rates. In certain instances, the Assistant Secretary of Defense (Force Management Policy) automatically designates hardship duty locations. All installations located on land areas or an ice shelf above 66 degrees 33 minutes north latitude (Arctic region) or below 60 degrees south latitude (Antarctica) are designated as hardship duty locations. For

¹¹ 37 U.S.C. 305.

¹² Hardship duty pay was authorized in 1999 and went into effect on January 1, 2001.

¹³ 37 U.S.C. 427.

¹⁴ This position has been replaced by the Principal Deputy Under Secretary of Defense (Personnel and Readiness).

all other locations, unified commanders with regional responsibilities submit a completed Hardship Duty Location Assessment Questionnaire to the Assistant Secretary of Defense (Force Management Policy), who reviews these requests twice a year. Monthly pay rates for hardship duty are \$50, \$100, and \$150 and are based on the severity of living conditions. Living conditions are placed into three categories: (1) physical environment, which includes factors such as climate and physical and social isolation; (2) living conditions, including sanitation, disease, medical facilities, housing, food, and recreational and community facilities; and (3) personal security, including political violence, harassment, and crime. Hardship duty performed for more than 30 consecutive days in Antarctica and Greenland qualifies at the \$150 monthly rate.

Granting a Hardship Duty Exception for the Polar Regions Could Set a Precedent for Other Short-Term Missions

Allowing an exception to the 30-day hardship duty threshold for members of the 109th Airlift Wing who deploy to the polar regions would result in minimal additional costs. The National Science Foundation reimburses DOD for 109th Airlift Wing logistic support in the polar regions and would incur most of these additional costs. However, allowing this exception could set a precedent for DOD personnel performing other missions lasting 30 days or less. The costs of granting an exception for short-term missions conducted at other hardship locations are unknown.

Estimated Costs of Granting the 109th Airlift Wing an Exception to the 30-Day Threshold

The 109th Airlift Wing estimated that granting an exception to the 30-day hardship duty threshold for unit members deployed to the polar regions would cost approximately \$125,000 to \$130,000 a year based on deployment trends in past years. We did not verify the cost data. In fiscal year 2002, for example, the unit had a total of 1,478 deployments to the polar regions, including 690 to Antarctica and 788 to Greenland.¹⁵ Unit members deployed for a total of 15,846 days, including 11,906 days in Antarctica and 3,940 days in Greenland. According to a unit official, approximately 30 unit members deployed for more than 30 consecutive days. The 109th Airlift Wing estimated that if the exception to the 30-day threshold had been in effect in fiscal year 2002, hardship duty pay costs for that year would have increased by about \$127,000, including

¹⁵ These figures include unit members who deployed more than once to the polar regions. Thus, the total number of individuals deployed was less than the total number of deployments.

approximately \$95,000 for deployments to Antarctica and approximately \$32,000 for deployments to Greenland.

The National Science Foundation would incur most of these increased costs. It directly reimburses DOD for 109th Airlift Wing logistic support performed in Antarctica, including personnel and training costs above and beyond the unit's wartime task requirements. The reimbursements from the National Science Foundation include funding for the 220 full-time Active Guard and Reserve members employed for the polar mission and for all flying training hours required for these personnel to maintain their qualifications. The National Science Foundation reported that the total costs in fiscal year 2002 for the unit's support of Antarctic missions were \$22.7 million. For operations in Greenland, the 109th Airlift Wing is reimbursed by its customers, including the National Science Foundation, based on a rate structure established by DOD for each particular mission. For example, the National Science Foundation reimbursed the 109th Airlift Wing about \$375,000 in fiscal year 2002 for missions in Greenland.

Other military personnel performing short-term assignments in the polar regions would also benefit from an exception to the 30-day hardship duty threshold. For example, the Air Force Reserve's 445th Airlift Wing and the 452nd Airlift Mobility Wing conduct passenger and cargo flights on C-141 wheeled aircraft between Christchurch, New Zealand, and McMurdo Station, Antarctica. An OSD official said information was not readily available on the additional estimated costs of granting the exception for these personnel.

Other Short-Term Missions Could Claim an Exception to the 30-Day Threshold

According to officials within the Office of the Under Secretary of Defense (Personnel and Readiness), allowing an exception to the 30-day hardship duty threshold would set a precedent for other short-term missions that last 30 consecutive days or less. Of the 170 hardship duty locations, 67 locations (39 percent) qualify at the maximum monthly pay rate of \$150.¹⁶ In 2002, DOD refused a request by the Navy for an exception to the 30-day threshold for duty on Vieques Island, Puerto Rico.¹⁷ The Navy stated that security personnel who are deployed to the island on a 14-day

¹⁶ Locations qualifying at the \$150 monthly rate include Kazakhstan, Turkmenistan, and Vietnam.

¹⁷ While DOD rejected the Navy's request for an exception to the 30-day threshold, DOD approved the Navy's request to designate Vieques Island as a hardship duty location.

rotational schedule live in “substandard conditions.” DOD, in turning down the request, stated that “members on a short-term duration tour-of-duty do not endure the range of physical hardships experienced by those who are permanently assigned.” According to an official within the Office of the Under Secretary of Defense (Personnel and Readiness), granting an exception to the 30-day threshold for other short-term missions would result in additional hardship duty pay costs, but these costs are unknown because DOD has not conducted a cost analysis.

Factors Cited as Justifying Hazardous Duty Pay for Personnel Performing Duty in Polar Regions

The 109th Airlift Wing justified its proposal for hazardous duty pay for military personnel performing duty in the polar regions on the basis of the extreme working conditions they encounter and their exposure to potential medical hazards. Unit officials also expressed concern about the retention of unit personnel, but they did not know what impact hazardous duty pay for polar duty would have on retention.

A senior unit official said the unit submitted a proposal in 2000 to the New York Guard seeking modifications to a DOD regulation¹⁸ to designate polar operations as hazardous duty. Hazardous duty pay is a type of incentive pay intended to induce personnel to volunteer for duties that may be hazardous. According to the senior unit official, the New York Guard submitted the proposal to Congress. The proposal was not provided to DOD for consideration in the DOD Unified Legislation and Budgeting process, which reviews personnel compensation proposals. Although the 109th Airlift Wing’s proposal addressed hazardous duty pay, Congress developed a legislative provision in 2002 to grant an exception to the 30-day hardship duty pay threshold. The senior 109th Airlift Wing official said the unit’s justification for hazardous duty pay for polar operations could also be applied to hardship duty pay.

Extreme Operating Conditions and Exposure to Potential Medical Hazards

According to information provided by the 109th Airlift Wing, military personnel performing duty in the polar regions encounter extreme working conditions and face exposure to potential medical hazards. Flight crews routinely conduct takeoffs and landings in remote areas on snow and ice. In zero visibility conditions, they must use emergency whiteout landing procedures. Maintenance personnel work in temperatures as low

¹⁸ DOD Financial Management Regulation 7000.14-R, vol. 7A, ch. 24, “Parachute Duty, Flight Deck Duty, Demolition Duty, Experimental Stress Duty and Others Listed.”

as minus 59 degrees Fahrenheit without the protection of hangars. Operations in these conditions expose personnel to potential medical hazards such as hypothermia, frostbite, carbon monoxide poisoning, and ultraviolet radiation exposure. In addition, the unit indicated that the dry conditions in Antarctica can lead to dehydration and fatigue. A small clinic at McMurdo station is capable of treating minor injuries, but all major injuries and surgeries must be treated in Christchurch, New Zealand. (App. I provides a more detailed description of the conditions in which deployed members operate and their exposure to potential medical hazards.)

National Science Foundation officials acknowledged that the operating environment in Antarctica can be harsh and that employees from all participating agencies and organizations – not just 109th Airlift Wing personnel – face difficult working conditions.¹⁹ They said the National Science Foundation has adopted a variety of procedures that mitigate the hazards faced by U.S. Antarctic Program participants, including scientists, support contractor personnel, civilian federal employees, and DOD civilian and military personnel. National Science Foundation officials said operational improvements were implemented to make Antarctic flight operations safer and to mitigate the impact of the harsh environment on personnel. For example, an emergency divert airfield was established in 2002, and navigational aids and more accurate weather forecasting capabilities have been implemented and remain a high priority.

While duty performed for more than 30 consecutive days in the polar regions of Antarctica and Greenland qualifies for hardship duty pay, duty in the polar regions has not been designated as a hazardous duty. Section 301 of title 37 of the United States Code designates certain duties entitled to hazardous duty pay. These duties include parachute jumps, demolition of explosives, and participation in flight deck operations on an aircraft carrier. Other hazardous duties include exposure to above-normal levels of toxic fuels or propellants, and the handling of chemical munitions. Personnel handling these materials are compensated for the potential for accidental or inadvertent exposure and not for actual detectable exposure to these materials.

¹⁹ The National Science Foundation reimburses its personnel for travel expenses in addition to their regular salary while deployed to the polar regions. National Science Foundation personnel also receive a pay differential equivalent to 25 percent of their regular salary effective on the 43rd day of their deployment and continuing through the end of their deployment. This pay differential is not retroactive.

No Clear Linkage between Retention and Performance of Duty in Polar Regions

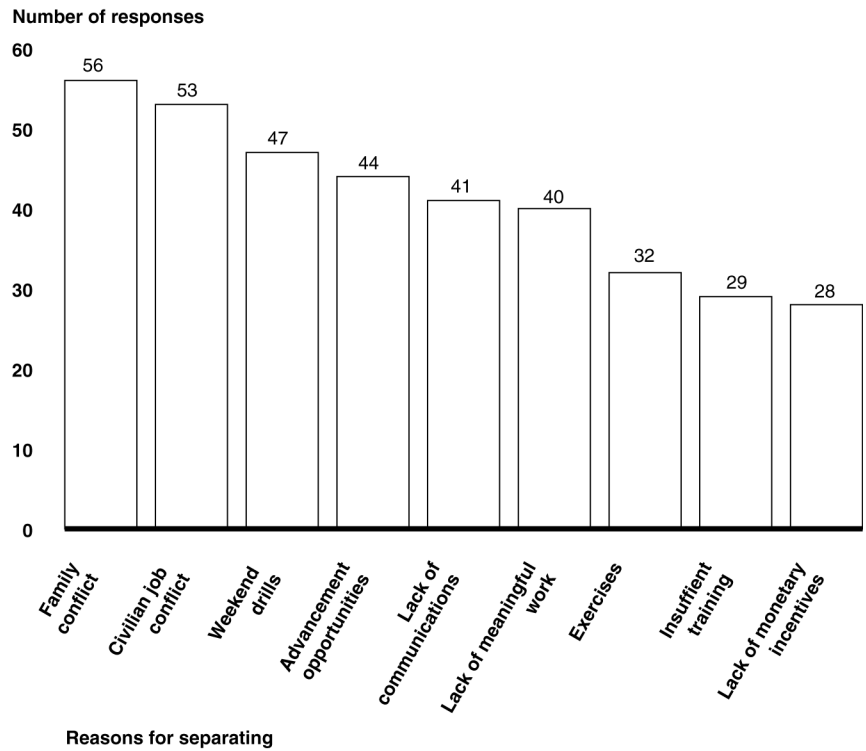
A 109th Airlift Wing official expressed concern over the retention of unit personnel who require additional training for polar duty. Flight crews receive training in Greenland and Antarctica on how to land on and take off from snow and ice and in zero visibility conditions. Flight crews are also required to attend arctic survival training in Greenland where they learn how to survive on an ice cap for extended periods with no heat and limited survival gear. Flight crews typically take 3 years to receive their qualification to fly ski-equipped aircraft. Maintenance personnel attend a maintenance recovery school in Greenland, which teaches basic polar survival skills to enable them to cope with the extreme conditions they confront when they repair aircraft with little support equipment.

A 109th Airlift Wing official said the unit is experiencing a high turnover of Active Guard and Reserve members who directly support polar missions in aerospace maintenance (pay grades E-5 and E-7) and aircraft hydraulics (pay grades E-5 and E-7). For the entire 109th Airlift Wing, the unit has difficulty retaining “traditional” guardsmen in the following critical skills: aerospace maintenance and ground equipment, avionics, and aircraft fuels. Despite retention difficulties in some critical skills, the unit filled 98 percent of the Active Guard and Reserve positions who directly support operations in Antarctica in 2002. The retention fill rate for the entire unit was 97 percent during the same year.

A unit official said it is unknown what impact hazardous duty pay for polar duty would have on retention of unit personnel. Exit surveys conducted with separating personnel show that dissatisfaction with pay is one of several reasons for leaving, but is not the primary separation factor. Between 2001-2003, 165 members left the unit. The most frequently cited separation factors were family conflict, civilian job conflict,²⁰ and weekend drills (see fig. 2).

²⁰ According to a unit official, civilian job conflict would be a separation factor only for traditional guardsmen and for not Active Guard and Reserve members since the latter serve full time.

Figure 2: Main Factors Influencing Members of the 109th Airlift Wing to Leave the Unit (2001-2003)



Source: 109th Airlift Wing, New York Air National Guard.

Notes:

Includes 2003 data as of February 3, 2003.

One hundred sixty-five persons completed the exit survey, and each respondent could give multiple reasons for separating.

The unit cannot track specific mission concerns such as deployments to the polar regions as separation factors. The exit surveys used by the 109th Airlift Wing do not indicate whether an individual's reason for leaving is connected specifically with polar duty. A unit official stated that, based on responses for reasons for leaving, it is possible to "subjectively deduce that length of deployments and distance from home, as in polar deployments, are key factors influencing retention decisions." The exit surveys also do not track separation factors based on personnel categories such as military technicians, Active Guard and Reserve, Active Guard and Reserve who support the U.S. Antarctic Program, and drilling reservists. Based on our discussions with the 109th Airlift Wing concerning the exit

surveys, the unit has modified the exit survey to track deployments to the polar regions as a separation factor.

Conclusions

The hardship duty pay legislation introduced in 2002 — directed at the 109th Airlift Wing — would have created an exception to (1) the 30-day hardship duty pay threshold and (2) the monthly hardship duty rate established by DOD for the polar regions. We believe that granting such an exception for hardship duty pay is not justified under current DOD policy. First, DOD intends for hardship duty pay to compensate military personnel who endure a range of hardship on a long-term basis — defined by DOD as more than 30 consecutive days. Granting this exception could set a precedent for DOD personnel performing other missions that do not meet the 30-day threshold, which could increase hardship duty pay costs. Second, under current DOD policy, hardship duty pay is intended to compensate personnel for harsh or difficult living conditions, rather than for difficult working conditions. However, the 109th Airlift Wing cited the extreme working conditions encountered by personnel deployed to the polar regions.

According to the 109th Airlift Wing, unit personnel are subjected to extreme conditions and are exposed to potential medical hazards while on duty in the polar regions. These factors warrant consideration as part of DOD's review of special and incentive pays for personnel performing duty in the polar regions. In addition, because one of the purposes of hazardous duty pay is to induce personnel to volunteer for duties that may be hazardous, we believe that retention data should also be considered as part of DOD's review. Officials from the 109th Airlift Wing expressed concerns about current retention rates, but they did not know what impact hazardous duty pay for polar duty would have on retention. Exit surveys conducted with separating personnel show that dissatisfaction with pay was not among the most frequently cited reasons that members of the unit provided for leaving. At the time we conducted our review, the 109th Airlift Wing was not collecting retention data related to members who were deployed to the polar regions. Collecting this data would be helpful to target retention incentives to the personnel categories experiencing the highest turnover rates. According to an official of the 109th Airlift Wing, the unit has modified the exit survey it uses to track deployments to the polar regions as a separation factor.

Recommendation for Executive Action

Congress has directed DOD to study special and incentive pays for reservists performing duty in the polar regions. As part of this study, we recommend that the Secretary of Defense direct the Under Secretary of Defense (Personnel and Readiness) to assess certain factors in determining whether personnel performing polar duty should receive hazardous duty pay. These factors are

- the extreme working conditions that military personnel encounter while performing polar duty,
- the exposure of military personnel to potential medical hazards related to polar duty, and
- retention data for military personnel performing polar duty.

Agency Comments

In written comments on a draft of this report, DOD concurred with our recommendation on assessing certain factors to determine whether personnel performing polar duty should receive hazardous duty pay. DOD's comments are reprinted in appendix II.

DOD and the National Science Foundation also provided technical comments that we incorporated as appropriate.

Scope and Methodology

Our review focused on special and incentive pay for DOD personnel performing duty in the polar regions. To develop the information in this report, we interviewed DOD officials in the Office of the Assistant Secretary of Defense for Reserve Affairs, the Office of Military Compensation, and the Air National Guard. We also met with officials at the National Science Foundation. We visited Stratton Air Guard Base, where we interviewed officials from the 109th Airlift Wing, New York Air National Guard. In addition, we reviewed DOD Financial Management Regulations related to hardship duty pay and hazardous duty pay.

To assess DOD's rationale for hardship duty pay, including the 30-day threshold, we reviewed the legislative history concerning hardship duty pay, analyzed DOD policies implementing this pay, and interviewed OSD officials. To assess the potential implications, including costs, of making an exception to the 30-day threshold, we reviewed cost data from the 109th Airlift Wing and interviewed officials from OSD, the 109th Airlift Wing, and the National Science Foundation. We did not verify cost data provided by the 109th Airlift Wing. To assess the justification for

hazardous duty pay for polar duty, we obtained documentation on the 109th Airlift Wing's operational activities and the conditions unit members encounter when deployed to polar regions. We also obtained and analyzed retention data for 109th Airlift Wing personnel performing duty in the polar regions.

We conducted our review from December 2002 to March 2003 in accordance with generally accepted government auditing standards.

We are sending copies of this report to the Secretary of Defense; the Under Secretary of Defense (Personnel and Readiness); the Director, National Science Foundation; and the Director, Office of Management and Budget. In addition, the report will be available at no charge on GAO's Web site at www.gao.gov.

If you or your staff have any questions regarding this report, please call me at (202) 512-5140 or Brenda S. Farrell at (202) 512-3604. Major contributors to this report were Kelly Baumgartner, Thomas W. Gosling, and Timothy Wilson.



Derek B. Stewart
Director, Defense Capabilities and Management

Appendix I: Extreme Operating Conditions and Potential Medical Hazards Encountered by Personnel Deployed to the Polar Regions

The 109th Airlift Wing submitted a proposal in 2000 to the New York Guard seeking to modify the Department of Defense's (DOD) current hazardous duty pay regulation by designating as hazardous duty (1) duty involving frequent and regular participation in flight operations in ski-equipped LC-130 aircraft conducting ski landings and takeoffs on snow in polar locations and (2) duty involving maintenance of LC-130 ski-equipped aircraft as a primary duty in polar locations. The 109th Airlift Wing justified its proposal to designate polar operations as hazardous duty on the basis of two primary factors — difficult working conditions, including cold temperatures, and exposure to potential medical hazards.

Difficult Working Conditions

According to the 109th Airlift Wing, flight crews and maintenance personnel operate and maintain LC-130 ski-equipped aircraft in difficult working conditions. Specific hazards and risks include the following:

- Ski takeoffs include steering with asymmetrical use of the throttles and the rudder only, since use of the nose wheel will cause aircraft damage. The aircraft is highly susceptible to sliding off ski ways in high winds, particularly at low speeds (below 60 knots), when the rudder is not effective.
- Ski landings are performed in extreme, remote areas of Antarctica and Greenland, hundreds of miles from any station or site; on glaciers and open snow locations in areas not surveyed and never before visited by humans; on crevasses that are hidden under snow bridges; and in katabatic winds that often make landing and taxiing on skis extremely difficult.
- Whiteout procedures require flight crews to perform an approach and landing in a designated area in zero visibility weather conditions.
- Ski approaches in bad weather include a lack of external navigation aids to orient the aircraft on approach, flying in weather conditions down to 300 feet above ground and 1 mile visibility, and flying in conditions that can induce extreme vertigo when there is no contrast between the white snow and white clouds.
- Many missions are flown to high altitude elevations. Each year over 250 missions are flown to the South Pole at an elevation of over 9,300 feet. Many missions are flown to camps in Antarctica and Greenland at field elevations greater than 10,000 feet and some as high as 12,000 feet.

- Assisted take-off rockets are routinely used for getting an aircraft airborne on a takeoff from high altitude sites. Aircraft must achieve a higher than normal ground speed to reach the proper indicated airspeed to get enough lift for takeoff due to thin air. The snow at high altitude locations is often unprepared, which creates additional drag and makes it more difficult to build up speed during the takeoff slide.
- Unit personnel fly missions to locations where there is no camp, no personnel, and no equipment, which creates the risk of being stranded. There is no rescue capability at these locations other than another LC-130 aircraft.
- Personnel are exposed to extremely cold temperatures as low as minus 59 degrees Fahrenheit. Wind chills can be as high as minus 100 degrees Fahrenheit.
- All fueling and cargo operations are conducted with engines running, which requires a flight engineer to operate the refueling panel outside for 30 to 40 minutes directly behind running engines. Loadmasters are also outside of the aircraft for periods of 1 to 3 hours off-loading and on-loading cargo from the snow with engines running.
- Cargo loading and unloading are extremely difficult, often with little or no material handling equipment. Two to three hours of manual labor are often required by the flight crews to load and unload cargo in the snow. This activity is extremely hazardous due to the extreme physical exertions required with little oxygen in the atmosphere and exhaust fumes from the aircraft engines.

Potential Medical Hazards

According to the 109th Airlift Wing, polar operations expose 109th Airlift Wing personnel to a variety of potential medical hazards. Potential medical hazards include the following:

- Frostbite and hypothermia — Brief exposure to polar temperatures can have a severe impact. For example, exposed flesh freezes at minus 59 degrees Fahrenheit within 1 minute, with no wind.
- Carbon monoxide poisoning — Aircraft maintenance and unloading activities expose flight crews over a prolonged period to potentially hazardous exhaust fumes.
- Continuous exposure to intense sunlight — Operations during the 5 months in Antarctica are conducted in 24-hour direct sunlight.

**Appendix I: Extreme Operating Conditions
and Potential Medical Hazards Encountered
by Personnel Deployed to the Polar Regions**

Exposure to ultraviolet radiation is greatly increased due to the hazard of the “ozone hole” over the Antarctic continent.

Appendix II: Comments from the Department of Defense



RESERVE AFFAIRS

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17 APR 2003

Mr. Derek B. Stewart
Director, Defense Capabilities Management
U. S. General Accounting Office
Washington, D. C. 20548

Dear Mr. Stewart:

This is the Department of Defense (DoD) response to the GAO draft report GAO-03-554, "MILITARY PERSONNEL: DoD Needs to Assess Certain Factors in Determining Whether Hazardous Duty Pay is Warranted for Duty in the Polar Region," dated April 1, 2003, (GAO Code 350281). I appreciate the opportunity to review and comment on the draft GAO report.

We concur with each of the GAO recommendations, number 1 – 3. However, the supporting data necessary for the assessments is not readily available. Thus, there is the potential for a complex and lengthy analysis phase to collect the appropriate data to support the assessments. Additional costs to conduct the assessments are not anticipated, as current resources appear to be adequate to meet data gathering requirements, given sufficient time.

The DoD comments to the draft report recommendations are provided in the enclosure. Suggested technical changes for clarification and accuracy have been provided separately to the GAO staff.

Sincerely,

A handwritten signature in black ink that reads "T. F. Hall".

T. F. Hall

Enclosure:
As stated



GAO DRAFT REPORT – DATED APRIL 1, 2003
GAO CODE 350281/GAO-03-554

“MILITARY PERSONNEL: DoD Needs to Assess Certain Factors in Determining Whether
Hazardous Duty Pay Is Warranted for Duty in the Polar Regions”

DEPARTMENT OF DEFENSE COMMENTS
TO THE RECOMMENDATIONS

RECOMMENDATION 1: The GAO recommended that the Secretary of Defense direct the Under Secretary of Defense (Personnel and Readiness) to assess the extreme working conditions that military personnel encounter while performing polar duty in determining whether those military personnel should receive hazardous duty pay. (Page 16/GAO Draft Report)

DOD RESPONSE: Concur.

RECOMMENDATION 2: The GAO recommended that the Secretary of Defense direct the Under Secretary of Defense (Personnel and Readiness) to assess the exposure of military personnel to potential medical hazards related to polar duty in determining whether those military personnel should receive hazardous duty pay. (Page 16/GAO Draft Report)

DOD RESPONSE: Concur.

RECOMMENDATION 3: The GAO recommended that the Secretary of Defense direct the Under Secretary of Defense (Personnel and Readiness) to assess the retention data for military personnel performing polar duty in determining whether those military personnel should receive hazardous duty pay. (Page 16/GAO Draft Report)

DOD RESPONSE: Concur.

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