



U.S. Department of Energy
Office of Inspector General
Office of Inspections

Inspection Report

National Nuclear Security Administration's
Ability to Meet the Aircraft Requirements
of the Joint Technical Operations Team

DOE/IG-0605

June 2003



Department of Energy

Washington, DC 20585

June 5, 2003

MEMORANDUM FOR THE SECRETARY

FROM:


Gregory H. Friedman
Inspector General

SUBJECT:

INFORMATION: Inspection Report on "National Nuclear Security Administration's Ability to Meet the Aircraft Requirements of the Joint Technical Operations Team"

BACKGROUND

Worldwide events have heightened concerns over terrorist attacks, particularly with regard to the possible use of weapons of mass destruction, including radioactive devices, in such attacks. A recent training exercise in Seattle, Washington, involving a simulated terrorist attack using a radioactive "dirty bomb" highlighted the importance of cooperation and coordination by Federal, State, and local governments in providing a rapid, planned response to a terrorist incident involving a weapon of mass destruction.

A 1995 Presidential Decision Directive requires the United States to develop the ability to respond rapidly and decisively to acts of terrorism. The Department of Energy (Energy) developed the Joint Technical Operations Team (JTOT) to provide a rapidly deployable technical response primarily to terrorist incidents involving nuclear weapons. JTOT consists of two phases: JTOT-1, during which Energy scientists provide technical advice to Department of Defense (Defense) personnel to render-safe a weapon of mass destruction; and JTOT-2, during which a joint Energy/Defense team prepares a weapon of mass destruction for safe transport for final disposition. Within Energy, JTOT activities are managed and executed by the National Nuclear Security Administration (NNSA), which plans to use its assigned aircraft to support deployments of JTOT personnel and equipment.

The specific objective of our inspection was to determine if NNSA could meet the aircraft requirements of Energy's JTOT-1 and JTOT-2 missions.

RESULTS OF INSPECTION

We concluded that NNSA was not prepared to meet its aircraft requirements for JTOT-1 and JTOT-2 missions. We found that:

- NNSA aircraft were not always available to support potential JTOT-1 and JTOT-2 missions;
- There had been no formal contingency planning for those occasions when NNSA aircraft were not available for JTOT missions;



- Energy and Defense officials expressed significantly differing views regarding Energy's intent or obligation to provide aircraft support to Defense for JTOT-2 missions; and,
- If Energy was responsible for providing aircraft support to Defense for JTOT-2 missions, NNSA's aircraft may not be capable of satisfactorily supporting these missions.

Based on these findings, we are concerned that JTOT personnel may not be able to respond as rapidly and effectively as necessary to address a potential terrorist incident. Specifically, given the national importance of the JTOT mission and the necessity of timely arrival of JTOT personnel and equipment at an incident site, uncertainties relating to airlift capability are unacceptable. Therefore, we recommended that NNSA develop a formal agreement with Defense detailing the specific JTOT aircraft responsibilities assigned to each Department; that NNSA establish definitive aircraft requirements for JTOT based on the formal agreement; and, most importantly, that NNSA identify and make available the resources to meet the definitive aircraft requirements.

For national security reasons, we have excluded specific JTOT operational capabilities and details from this report.

MANAGEMENT REACTION

In response to our draft report, NNSA indicated that it would initiate corrective actions. We were informed that NNSA officials met with representatives from the Office of the Secretary of Defense and both parties agreed that a Memorandum of Understanding is appropriate to describe specific JTOT aircraft support and responsibilities. NNSA management said that a formal agreement is anticipated by September 30, 2003. While the formal agreement is being developed, both parties agreed that NNSA is responsible for transporting Energy's JTOT-1 personnel and equipment and that Defense will transport Energy's JTOT-2 personnel and equipment with the Defense component of the JTOT-2 team on military aircraft. Management said that, given its current agreement with Defense, the existing NNSA fleet of aircraft would meet the aircraft requirements for JTOT.

Attachment

cc: Deputy Secretary
Administrator, National Nuclear Security Administration
Under Secretary for Energy, Science and Environment
Director, Office of Aircraft Management
Director, Policy and Internal Controls Management (NA-66)

NATIONAL NUCLEAR SECURITY ADMINISTRATION'S ABILITY TO MEET THE AIRCRAFT REQUIREMENTS OF THE JOINT TECHNICAL OPERATIONS TEAM

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Overview

INTRODUCTION AND OBJECTIVE

A 1995 Presidential Decision Directive (PDD) requires the United States to develop the ability to respond rapidly and decisively to acts of terrorism. Recent worldwide events have heightened terrorist concerns, particularly with regard to the possible use of nuclear weapons of mass destruction. The Office of Inspector General conducted an inspection of selected aspects of the Department of Energy's (Energy's) execution of its responsibilities with regard to the 1995 PDD and other directives.

A rapidly deployable interagency Emergency Support Team was established to respond to foreign and domestic terrorist incidents. Energy's role on the team is to provide technical expertise. Energy developed a Joint Technical Operations Team (JTOT) that would provide rapidly deployable, tailored technical response to, primarily, terrorist incidents involving nuclear weapons. Energy's primary function on JTOT is to provide expert technical advice for operations to render safe and prevent the detonation of a nuclear weapon and, once that has been accomplished, to make it safe for transport. JTOT includes specially trained Department of Defense (Defense) Explosive Ordnance Disposal (EOD) personnel and scientists and engineers from Energy's nuclear weapons complex.

The JTOT mission consists of two phases: JTOT-1, which entails an Energy team joining with a Defense EOD team at an incident site and providing technical advice during life threatening, emergency operations involving a weapon of mass destruction; and JTOT-2, which entails a Defense-Energy team conducting deliberate, advanced technical EOD procedures to prepare a weapon of mass destruction for safe transport and turnover for final disposition.

Within Energy, JTOT activities are managed and executed by the National Nuclear Security Administration (NNSA). NNSA planned to use its assigned aircraft to transport Energy's JTOT-1 and JTOT-2 teams throughout the United States in the event of a domestic weapon of mass destruction incident or to a domestic embarkation point if the incident is in a foreign country. NNSA's available aircraft were a Gulfstream III, which is a high speed/long range aircraft, two DC-9s, and a Lear Jet. We were told that, due to its limited capabilities, the Lear Jet is not a primary JTOT mission aircraft. The planes are maintained and managed by

an NNSA field activity.¹ The specific objective of our inspection was to determine if NNSA could meet the aircraft requirements of Energy's JTOT-1 and JTOT-2 missions.

OBSERVATIONS AND CONCLUSIONS

We concluded that NNSA was not prepared to meet its aircraft requirements for JTOT-1 and JTOT-2 missions. Specifically, we found that:

- An NNSA aircraft was not available at all times to support potential JTOT-1 and JTOT-2 missions.
- There had been no formal contingency planning for those occasions when an NNSA aircraft was not available for JTOT missions.
- NNSA has not dedicated its high speed/long range aircraft to support JTOT-1 missions, and its DC-9s may not be capable of satisfactorily transporting JTOT-1 assets (personnel, supplies, and equipment) to all possible incident sites.
- Energy and Defense officials held differing views on Energy's intent or obligation to provide aircraft support to Defense for JTOT-2 missions.
- If Energy is responsible for providing aircraft support to Defense for JTOT-2 missions, the DC-9s may not be capable of satisfactorily supporting these missions.

We have also included in our report two observations that, although outside the specific objective of our inspection, we believe should be addressed by NNSA.

¹ Energy's Office of Aviation Management and NNSA told us that they are planning to acquire a DC-9-30 aircraft later this year, which they believe will provide greater airlift capability and flexibility to meet Energy's mission requirements, including emergency response. This aircraft has longer range and carries heavier payloads than the current DC-9s. We subsequently learned that the aircraft might not be available for Energy missions until late spring 2004 at the earliest.

Details of Findings

AIRCRAFT AVAILABILITY

We found that an NNSA aircraft was not available at all times to support potential JTOT-1 and JTOT-2 missions. Specifically, during the period October 2000 to October 2002 there were at least 29 days when the Gulfstream III and both of the DC-9s were not available to support a JTOT-1 or JTOT-2 mission, should there have been such a need. The aircraft were unavailable due to scheduled maintenance or equipment problems, or because they were being utilized for other official purposes.

We were told that, in the event of an actual emergency, there would likely be additional pressure on the NNSA fleet to support other non-JTOT emergency response missions, as well as emergency operations of Energy's Office of Transportation Safeguards. However, we determined that there was no written guidance addressing aviation support requirements for JTOT missions. Such guidance would ensure the availability of aircraft for JTOT and establish operational priorities.

CONTINGENCY PLANNING

We also found that NNSA officials had not developed formal contingency plans to address those occasions when NNSA aircraft were not available for JTOT-1 and JTOT-2 missions. When asked how support would be provided in the event of an actual JTOT mission, if an NNSA aircraft was not readily available, NNSA officials cited several possible civilian and military sources for aircraft support. However, we determined that formal plans had not been developed to ensure these sources would be available to provide the required aircraft support in a timely manner.

An NNSA Office of Emergency Operations official advised us that he had developed operational guidance on requesting a military aircraft in the event no NNSA aircraft were available. However, NNSA operational officials in the field were not aware of such guidance. Several field officials told us that, even if a military aircraft and crew were available, it was highly unlikely that it would arrive in time to meet JTOT mission timelines.

AIRCRAFT CAPABILITY FOR JTOT-1

We found that the NNSA had not dedicated its high speed/long range aircraft to support the JTOT-1 mission. In January 1998, Energy officials recommended the purchase of a Gulfstream III based on their conclusion that a mid-size, high-speed, long-range aircraft was necessary to meet emergency response requirements. Available purchase justification documentation makes clear that the aircraft's primary mission was for emergency response purposes, and that it was to be available for dispatch 24 hours per day, 365 days per year, on an exclusive use basis to the home base

field site. We determined that the actual use of the Gulfstream III was inconsistent with the spirit of the initial justification. For example, NNSA's contract with its aviation contractor for aircraft maintenance and operations did not require that the Gulfstream III be maintained in a 24 hours per day, 365 days per year standby status; the Gulfstream III was used by other entities besides the home base field site; and, the primary mission of the Gulfstream III had not been emergency response. Frequently, the aircraft was so far from its home base on trips unrelated to emergency response that it could not have been recalled to support a JTOT-1 mission on a timely basis, even in the event of an emergency. We were advised that the Lear Jet should not be discounted as a backup aircraft to the Gulfstream III, but we determined that it fell short of the Gulfstream III in capabilities. This, in our judgment, made use of the Lear Jet for JTOT purposes highly problematic.

In fact, the primary backup aircraft for the Gulfstream III are NNSA's two DC-9s. We found, however, that the DC-9s are not capable of satisfactorily transporting JTOT-1 assets (personnel, supplies, and equipment) to all possible incident sites. Our review disclosed that the DC-9s do not have the range of the Gulfstream III and, depending on the location of a potential incident, might have to land for refueling purposes. In fact, depending upon the mission, destination and flying conditions, two refueling stops might be necessary. Obviously, this could significantly delay the arrival of Energy's JTOT-1 assets to deal with a potential weapon of mass destruction incident, where time may be of the essence. These circumstances appeared to us to be incompatible with stated JTOT mission requirements.

An NNSA Office of Emergency Operations official advised us that a management decision was made to allow the Gulfstream III to be used by other Energy program offices and used for missions other than emergency response, and that he "would live with" having to rely on a DC-9 or even the Lear Jet to transport JTOT-1 assets. This official expressed the view that this was a prudent management decision and that Energy could not justify the Gulfstream III sitting idle or only being used for short-range trips in anticipation of a possible emergency response mission. While we recognize the complexity of the issues involved in this matter, we believe that a judgment of this importance should be made at the highest levels of the Department based on a careful consideration of JTOT requirements, existing aircraft capabilities, and current threat assessments.

**DIFFERING
VIEWS - -
JTOT-2**

We noted that Energy and Defense held differing views on Energy's intent or obligation to provide aircraft support to Defense for JTOT-2 missions. Specifically, Energy and Defense disagreed over which Department will transport Defense's personnel and equipment for JTOT-2 missions.

PDDs relating to emergency response to terrorism events state that Defense will provide airlift support for emergency response operations. A May 2002 Federal document entitled "Domestic Guidelines" states in the "Department of Energy Technical Crisis Management Capabilities" section that the Energy and Defense components of JTOT-2 will deploy on Defense aircraft. Notwithstanding this information, NNSA officials planned to transport Energy and Defense assets on NNSA aircraft in the event of a JTOT-2 deployment. NNSA officials advised us that they did not believe they could rely on Defense to provide an aircraft to transport the JTOT-2 assets in the event of an actual weapon of mass destruction incident. They told us that Defense aircraft had not always arrived in a timely manner to support JTOT-2 training exercises, and on one occasion the Defense aircraft that was provided broke down on the runway. We also learned that Defense personnel have trained with Energy personnel and have deployed on NNSA aircraft during JTOT-2 exercises and specific missions. NNSA Office of Emergency Operations officials advised us that Energy assumed the responsibility to transport Energy and Defense JTOT-2 assets on NNSA aircraft following a telephone call from the Defense Joint Chiefs of Staff; however, such a discussion was not documented.

Defense officials advised us that in the event of an actual JTOT-2 mission, Defense operations plans require that a Defense aircraft be dispatched to transport the Defense EOD component of JTOT-2. We were also advised that, although it was not in writing, Defense had agreed to transport Energy JTOT-2 assets on the Defense aircraft if requested by Energy.

We were unable to find a written agreement between Energy and Defense assigning responsibility for aircraft support for JTOT-2 missions. We also noted that there were no guidelines describing specific requirements for aircraft support, such as commitment, availability, capabilities, and performance requirements for the deployments.

**AIRCRAFT
CAPABILITY FOR
JTOT-2**

We also found that if Energy is responsible for providing aircraft support to Defense for JTOT-2 missions, the DC-9s may not be capable of satisfactorily supporting these missions.

A Defense official advised us that in a worst-case scenario, it is extremely critical that the JTOT-2 team arrives at the site as soon as possible and with the right equipment. Another Defense official advised us that the on-scene Defense commander would want the entire complement of JTOT-2 equipment transported to the incident site at the same time as the JTOT-2 personnel, so the full range of options would be available to render the weapon of mass destruction safe for transport after it was initially rendered safe.

The primary aircraft designated by NNSA officials to support the JTOT-2 mission are the DC-9s. We were told that each DC-9 is capable of carrying less than one third by weight of the total supplies and equipment. Therefore, the equivalent of three DC-9s would be needed to deploy all the JTOT-2 assets, including containment equipment. We also determined that during October 2000 to October 2002, there were at least 292 days when only one of the two DC-9s was available. Field officials advised that, since one DC-9 cannot transport all the JTOT-2 supplies and equipment, they have been forced to tailor the loads, and have identified what they believe is mission-critical equipment to be loaded on the aircraft. We noted that this approach is contrary to Defense's belief that the entire complement of JTOT-2 equipment should be available.

We also determined that the DC-9s are not capable of reaching many sites within the continental United States without landing to refuel. When departing from its home base under "high and hot" airfield conditions, there are occasions when, due to the weight of the JTOT-2 assets, the DC-9 can only carry a limited amount of fuel.² Consequently, the DC-9 may have to land twice to refuel when en-route to East Coast destinations and at least once if traveling to West Coast destinations. We were told that each refueling stop could add more than an hour to the time of arrival at an incident site. Although the fuel limitations of the NNSA DC-9s would not prevent the JTOT-2 assets from reaching an incident

² The phrase "high and hot" refers to the altitude and temperature at the takeoff location. Factors considered for takeoff include weight of the aircraft, length of the runway, altitude, and temperature. The aircraft weight, which includes passengers, cargo and fuel, is adjusted to compensate for altitude and temperature.

site, the increase in transport time from possible refueling stops does not appear consistent with the 1995 PDD, which requires that emergency response teams have the “ability to respond rapidly.”

OBSERVATIONS

During our inspection, we identified the following issues that, although outside the specific objective of our inspection, warrant further consideration by NNSA:

- NNSA aircraft do not have the capability to allow JTOT personnel in-flight communication of critical sensitive or classified information.
- No agreements exist with military or civilian airfields to provide priority refueling or other support for NNSA JTOT mission aircraft, which could result in further delays by DC-9s under “high and hot” conditions in reaching the site of a possible incident.

RECOMMENDATIONS

We recommend that the Administrator, NNSA:

1. Develop a formal, written agreement with Defense detailing the specific JTOT aircraft support responsibilities assigned to each Department and the specific parameters under which these responsibilities will be performed.
2. Based on the formal, written agreement, establish definitive NNSA JTOT aircraft requirements that are reflective of the JTOT aircraft support responsibilities assigned to the NNSA.
3. Establish clear policy and procedures for the use of NNSA aircraft when other missions conflict with JTOT emergency response requirements.

In addition, we recommend that the Administrator, NNSA, in coordination with the Director, Office of Aviation Management:

4. Take immediate steps to identify and make available the resources necessary to support the definitive NNSA JTOT aircraft requirements.
5. Establish contingency plans for JTOT aviation support when NNSA aircraft are not available.

**MANAGEMENT
COMMENTS**

Management concurred with recommendations 1, 2, 3, and 5. Regarding recommendation 1, NNSA advised that on April 11, 2003, NNSA officials met with representatives from the Office of the Secretary of Defense and agreed that a Memorandum of Understanding (MOU) is appropriate to describe specific JTOT aircraft support and responsibilities. A formal agreement is anticipated by September 30, 2003. Both parties agreed that NNSA is responsible for transporting Energy's JTOT-1 personnel and equipment and that Defense will transport Energy's JTOT-2 personnel and equipment with the Defense component of the JTOT-2 team on military aircraft. The Office of Aviation Management advised regarding recommendation 5, that if support for JTOT-2 were "back in the [Defense] arena," the recommendation would only be applicable to JTOT-1.

Management non-concurred with recommendation 4. NNSA advised that no action is required, as the requirements outlined in recommendation 1 are satisfied with the current fleet of aircraft. The Office of Aviation Management advised that if recommendations 1, 2, and 3 are implemented properly, there would be no reason to make available the resources necessary to support definitive NNSA JTOT requirements.

**INSPECTOR
COMMENTS**

Management has acknowledged the need to clarify the JTOT aircraft support responsibilities with Defense and will formalize aircraft support responsibilities in an MOU with Defense. If the MOU assigns Defense the responsibility to transport JTOT-2 personnel and equipment, including Energy's JTOT-2 personnel and equipment, the concerns regarding the capability of the DC-9s to transport JTOT personnel and equipment will be resolved. However, until the MOU with Defense is finalized and the responsibilities for aircraft support to JTOT clearly delineated, recommendation 4 remains in effect.

Appendix

SCOPE AND METHODOLOGY

We reviewed the PDDs that required the United States to develop the ability to respond rapidly and decisively to terrorism and that directed the establishment of a rapidly deployable interagency Emergency Support Team to respond to foreign and domestic incidents. These directives included:

- PDD 39.
- PDD 62.

We also reviewed applicable JTOT program documentation. These documents included:

- Tab C, “Department of Energy Technical Crisis Management Capabilities,” from the “Domestic Guidelines.”
- Joint Chiefs of Staff Operations Plans 0300 and 0400 (Draft).
- The JTOT Mission Analysis.

We also interviewed Energy, NNSA, and Defense personnel responsible for managing and implementing the JTOT program. In addition, we reviewed documentation on the purchase and use of emergency operations aircraft, including:

- Aircraft manifests.
- The Gulfstream III Aircraft Purchase Justification.
- The aviation support contract.

The fieldwork for this inspection was conducted between August 2002 and March 2003. This inspection was conducted in accordance with the “Quality Standards for Inspections” issued by the President’s Council on Integrity and Efficiency.

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