BY ORDER OF THE
SECRETARIES OF THE AIR FORCE AND ARMY

AIR FORCE JOINT INSTRUCTION 11-204
ARMY REGULATIONS 95-27
11 NOVEMBER 1994

Flying Operations

OPERATIONAL PROCEDURES FOR AIRCRAFT CARRYING HAZARDOUS MATERIALS

This instruction implements AFPD 11-2, *Flight Rules and Procedures*, by prescribing guidance and procedures to inform base support elements of arriving or departing aircraft carrying hazardous cargo. It specifies the special procedures that apply to aircraft carrying nuclear, chemical, or biological research materials. It lists actions to be taken by aircraft commanders, aircrew members, and technical escorts during in-flight emergencies that involve such materials. It applies to nuclear cargo, toxic chemical ammunition, highly toxic substances, hazard division 1.1 through 1.3 explosives, and infectious substances (including biological and etiological materials). In addition, it applies to Class 7 (radioactive materials) which require a yellow III label, inert materials, and all other hazard classes or divisions, except Class 9 and Other Regulated Material (ORM-D), when shipped in quantities of 1,000 pounds or more aggregate gross weight. Only commanders designated in paragraph 5 may supplement this instruction. Send each proposed supplement to the respective Service headquarters for review and approval as follows: Air Force: HQ AMC/XOO; 402 Scott Drive, Unit 3L3, Scott AFB IL 62225-5307. Army: DAMO-FD. Send comments and suggested improvements on AF Form 847, **Recommendation for Change of Publication**, through channels, to HQ AMC/XOO.

★ *SUMMARY OF REVISIONS*

★ This revision incorporates provisions of the *Hazardous Materials Transportation Uniform Safety Act of 1990.*

Section A—General Information

1. Glossary of References, Abbreviations, Acronyms, and Terms. See attachment 1.

2. Background Information. The air transportation of hazardous cargo poses unique problems for military operators. Routine flights that carry hazardous cargo take on a special significance considering the possible repercussions of any mishap. Commanders, support agencies, and aircrews must ensure that the policies and procedures of this instruction are strictly enforced.

3. Cargo Classification. The Department of Defense (DoD) and the Department of Transportation (DoT) hazard classification systems are consistent with the *United Nations Recommendations on the Transport of Dangerous Goods (Orange Book).*

4. Technical Escorts and Couriers. Certain types of hazardous cargo require the presence of a technical escort or courier during air shipment. The designated courier or technical escort is responsible for security, safety, and custody of the cargo movement. This individual has complete jurisdiction over the cargo concerning security safeguards, protection of personnel, and the repair or disposal of containers. The escort is subordinate to the aircraft commander only in matters that pertain to flight safety and operations.

Section B—Procedures and Responsibilities

5. Command Responsibilities. US Air Force major command (MAJCOM) commanders and US Army major command (MACOM) commanders must establish procedures that ensure:

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5.1. Responsible unit personnel send a hazardous cargo advisory message to all affected en route, alternate (if known in advance), and destination stations for each mission that carries the following hazardous cargo:

- Nuclear weapons cargo.
- Toxic chemical ammunition and highly toxic substances.
- Division 6.2, infectious substances (to include etiological and biological material) requiring technical escorts.
- DoD hazard Division 1.1 through 1.3 explosives.
- Inert devices.
- Class 7 (radioactive material) requiring a yellow III label and all other hazard classes or divisions, except Class 9 and Other Regulated Materials (ORM-D), when shipped in quantities of 1,000 pounds or more aggregate gross weight.
- DoD hazard class or division 1.4 explosives (regardless of weight) that transit the United Kingdom, Italy, or Hawaii.

5.2. Responsible unit personnel include the following information in the original hazardous cargo advisory message:

5.2.1. Mission number and type aircraft.

5.2.2. Arrival and departure date, including ZULU time.

5.2.3. Hazard class or division and United Nations (UN) or North America (NA) identification number or line number as applicable including net weight of toxic chemical ammunition and highly toxic poisons.

5.2.4. Net Explosive Weight (NEW)—from agency offering cargo for shipment—or line number (or numbers) from DOE-DNA TP 20-11/Army TM 39-20-11/AFTO 11N-20-11, for hazard Division 1.1 through 1.3, Explosives.

5.2.5. Inert devices (if any).

5.2.6. Special support requirements (security, isolated parking, etc.).

5.2.7. Request for prior permission required (PPR) number, if not already obtained, as required by *DoD Flight Information Publication (FLIP).*

5.2.8. As much advance notice as possible. Address US tenant units for bases not under US control.

5.3. Except for shipments of toxic chemical ammunition, highly toxic substances, Class 7 radioactive material, nuclear cargo, and Division 6.2, infectious substances, the Air Mobility Command (AMC) Military Airlift Interim Reporting System (MAIRS) departure messages prescribed by governing directives fulfill the notification requirements of this instruction if the information requested in paragraphs 5.2.1 through 5.2.5 above is in the message.

5.4. Organizations that take part in daily flight operations that involve hazardous cargo (including ordnance-carrying training missions) do not require separate notification of departure or arrival if the standard operating procedures that apply are in effect at bases within their command. However, if these flights must divert to a base of another command or service, then paragraphs 7.7 through 7.9 apply.

5.5. Appropriate personnel, knowledgeable in their specialty, periodically instruct crews in hazardous cargo notification and emergency procedures, including jettison criteria and limitations.

5.6. Appropriate personnel, knowledgeable in their specialty, brief aircraft commanders and crews for each mission on the following:

5.6.1. Special procedures and requirements for the hazardous cargo being airlifted.

5.6.2. Operational mission requirements, including specific routes (if required).

5.7. Installation commanders are aware that nuclear airlift missions require support second only to presidential and Joint Chiefs of Staff-directed missions as shown in AFR 76-38/AR 59-8, *Department of Defense (DoD) Common User Airlift Transportation.*

6. Installation Commanders. Installation commanders (or commanders of US tenant organizations at bases not under US control) must develop plans that:

6.1. Implement parent command directives regarding movement of hazardous cargo.

6.2. Train base support elements in precautionary measures associated with shipping hazardous cargo, and meet the support requirements of aircraft carrying hazardous cargo.

6.3. Provide priority support to aircraft carrying nuclear cargo. This must include priority air traffic and ground handling (at airfields under US military control, and (where feasible) at civilian or non-US military airfields, during arrival and departure), ground servicing and maintenance, security support, aircrew transportation, billeting, and messing. The commander must also provide an on-scene coordinator who:

- Has the authority to resolve problems, set priorities, and direct employment of resources.
- Has direct communication with the base command post.
- Understands the mission sequence of events.
- Anticipates and corrects problems before they adversely impact the mission.
- Identifies himself or herself to the aircraft commander, courier, and local support element personnel (security police, munitions, maintenance, transient alert, command post, etc.) as the on-scene coordinator.
- Does not perform other functions during the operation.
- Elevates appropriate problems to the installation commander.

- Collects data and provides feedback to appropriate agencies to fine-tune the next operation and improve the written base plan.

6.4. Establish a single point of contact for information and coordination of support efforts concerning nuclear weapons movements. This agency should be staffed 24 hours a day, be capable of contacting the coordinator and all other support agencies immediately, and possess (or have access to) an air or a ground radio capability. *NOTE*: Only those installations supporting nuclear logistics missions require that paragraphs 6.3 and 6.4 be incorporated in a written support plan. Installations required to handle an emergency or weather divert will comply with the intent of paragraphs 6.3 and 6.4.

6.5. Establish checklists to pass hazardous cargo information from the base single point of contact to the coordinator and all affected base support agencies.

6.6. Establish checklists to inform the appropriate rescue coordination center when declaring aircraft carrying hazardous cargo missing or overdue. Ensure checklists include information on the nature of the hazardous cargo and protective measures required to accomplish the rescue.

6.7. Provide suitable areas, adequate ground support equipment, and enough qualified personnel for the security, parking, loading, and offloading of an aircraft carrying hazardous cargo.

6.8. Brief aircraft commander or designated representative per AFJMAN 24-204/TM 38-250/NAVSUP PUB 505/MCO P4030.19F/DLAM 4145.3, *Preparing Hazardous Materials for Military Air Shipment* (formerly AFR 71-4), on all hazardous materials on board, and hazardous materials are identified on air cargo manifest unless exempted by regulation.

6.9. Provide aircrews with a properly completed *Shippers Declaration for Dangerous Goods* for each type of hazardous material on board unless exempted by regulation.

NOTE: See AFJMAN 24-204/TM 38-250/NAVSUP PUB 505/MCO P4030.19F/DLAM 4145.3.

6.10. When an aircraft carrying hazardous cargo lands without the proper advance notice as required by paragraphs 5.1 and 7.7, the installation commander must notify his or her parent command and the pilot's parent command, with an information copy to the Service concerned. The installation commander must obtain and provide documented evidence of the violation of procedures, including (but not limited to) tape transcript of controller's contact with the aircraft, depositions, and cargo manifests (Air Force: HQ USAF/XOO (Air Force Operations Center), HQs USAF/XOOT, or LGTT Wash DC; Army: CSA (Army Operations Center)).

7. Aircraft Commanders. Aircraft commanders must:

7.1. Brief all crew members, couriers, and technical escorts on mission requirements, procedures governing hazardous cargo, notification requirements, and emergency procedures (including jettison).

7.2. Enter "Hazardous Cargo," "Inert Devices" (or both), and the mission number and PPR number in the "Other information" or "Remarks" section of the flight plan unless prohibited by directives that govern the area of operation.

7.3. Refuse to accept any clearance containing noise-abatement procedures that in the aircraft commander's judgment would interfere with flight safety.

7.4. Designate a crew member (the navigator, if one is aboard) to record the coordinates, time, description, and location of abandoned or jettisoned cargo for later use by the proper authorities.

7.5. Provide the information in paragraph 7.4 above to the designated courier or technical escort.

7.6. Contact the base of intended landing at least 30 minutes before arrival to:

7.6.1. Announce that hazardous cargo is onboard.

7.6.2. Verify base receipt of the hazardous cargo advisory message.

7.6.3. Identify any change to the hazardous cargo information or, if notification has not been received, relay the information in paragraph 5.2.1 through 5.2.6. Relay the information to one of the following, listed in order of priority:

- Base operations dispatcher.
- Command post or operations center.
- Control tower.
- Approach control.

NOTE: For civilian fields, relay hazardous cargo information to the airfield manager and request subsequent relay to the airfield fire department.

7.7. Relay the hazardous cargo information to diversion base as soon as possible after diverting.

7.8. Relay the hazardous cargo information to the proper Air Traffic Control Agency when declaring an emergency. In cases where the aircraft commander must choose between communications security and flight safety, safety comes first. The disclosure of classified information, if necessary to avoid endangering the flight, is authorized.

7.9. Differentiate between hazardous cargo and inert devices when relaying hazardous cargo information. Make sure that agencies receiving hazardous cargo information are aware of the appearance and location of inert devices aboard the aircraft, even when the entire load includes inert devices.

Section C—Nuclear Cargo

8. Priority Support. Flights carrying nuclear cargo must be given priority support at all command levels.

The sensitivity of these missions makes it extremely important that both ground and air operations be thoroughly coordinated and smoothly conducted.

9. Notification Requirements. Units that operate aircraft carrying nuclear cargo must comply with the advance notification requirements of paragraph 5 (the advisory message must include line numbers from DOE-DNA TP 20-11/Army TM 39-20-11/AFTO 11N-20-11). In addition, missions must not depart for a station until the aircraft command has confirmed that the destination will provide the support requested in the hazardous cargo advisory message.

10. Coordination by Base Central Point of Contact (Paragraph 6.4). After receiving a hazardous cargo advisory message for aircraft transporting nuclear cargo, the base central point of contact must:

- Notify the coordinator and all affected agencies and determine if support can be provided as requested.
- Inform the unit that sent the message of any activities or restrictions that would adversely impact the mission.
- If necessary, reschedule local activities to avoid conflict with nuclear airlift operations and ground convoys.

Installation commanders or their designated representatives must meet nuclear airlift missions and personally monitor the support provided. The designated representatives must have sufficient rank, knowledge, and authority to affect a safe and efficient operation.

11. US Air Force Special Weapons Overflight Guide (SWOG). Aircraft commanders (including commanders of tanker aircraft while air refueling nuclear-laden cargo aircraft) must comply with restrictions and instructions published in the US Air Force SWOG to fly over foreign areas with nuclear cargo onboard. Aircraft commanders must make sure that jettison coordinates are recorded and reported (Army aircraft must not jettison nuclear weapons).

12. Nuclear Cargo Couriers. A courier (who must be a commissioned or warrant officer) must always accompany nuclear cargo. Couriers must be armed and appointed on orders (or otherwise designated in writing). Couriers must refuse to accept nuclear cargo without proper documentation (DOE-DNA TP 45-51/Army TM 39-45-51/AFTO 11N-45-51 and DOE-DNA TP 45-51C/Army TM 39-45-51C/AFTO 11N-45-51C) and must only accept nuclear cargo or inert devices that have been identified in the hazardous cargo advisory message.

13. Nuclear Cargo Passengers. Do not allow passengers on nuclear airlift missions except when:

- Required in direct support of contingency or emergency plans;
- Designated as official couriers or technical escorts; or
- Authorized by parent command mission directives (Permissive Action Link team transportation aboard nuclear airlift missions must be coordinated with the agency that provides airlift).

14. Nuclear Cargo Mishaps. Report accidents or significant incidents that involve nuclear cargo as required by AFI 91-204, *Investigating and Reporting Mishaps*, (formerly AFR 127-4) or AR 50-5.

15. Two-Man Concept. Aircrew and ground support personnel must observe the procedures and restrictions outlined in AFI 91-104, *Nuclear Surety Tamper Control and Detection Programs*, (formerly AFR 122-4) or AR 385-40 regarding the Two-Man Concept when transporting nuclear cargo. MAJCOM commanders must make sure that MAJCOM directives concerning transportation of nuclear cargo incorporate procedures for implementing and enforcing the Two-Man Concept.

Section D—Chemical Agents/Radioactive Cargo

16. Notification Requirements. When shipping toxic chemical ammunition and radioactive material (Fissile Class III), consigning agencies are required to obtain cargo clearances according to AFJMAN 24-204/TM 38-250/NAVSUP PUB 505/MCO P4030.19F/DLAM 4145.3. Accomplish coordination and clearance before the aircraft leaves. In addition, operating limits must comply with AFJMAN 24-204/TM 38-250/NAVSUP PUB 505/MCO P4030.19F/DLAM 4145.3.

17. Protective Measures:

17.1. **Toxic Chemical Ammunition.** Consigning agencies must provide protective clothing and equipment to aircrews when shipping toxic chemical ammunition (unless supplied by the aircrew parent command). In addition, consigning agencies provide technical escorts and provide these escorts with protective clothing. Responsibilities of technical escorts are outlined in AR 740-32/MCD 4030.25/AFR 136-4, *Responsibilities for Technical Escorts of Dangerous Materials*, and include:

- Brief the crew and advise them of protective measures and required equipment.
- Inspect the cargo periodically during the flight and inform the aircraft commander of any hazardous condition.
- Control and neutralize leaking material and, subject to the aircraft commander's approval,

accomplish emergency decontamination of the aircraft both in-flight and after landing.

17.2. **Hazardous Materials.** Generally hazardous materials, except toxic chemical ammunition, do not require technical escorts. When technical escorts are required, the aircrew and all other personnel aboard the aircraft must have protective clothing comparable with those used by escorts. Aircraft Commanders will establish procedures to periodically inspect the cargo for damage and leakage.

18. Cargo Emergency. In a cargo emergency that involves chemical agents, all personnel onboard the aircraft must don the protective equipment as quickly as possible. The aircrew will eliminate smoke and fumes from the aircraft according to the applicable technical orders. If exposure to any of the hazardous material is known or suspected, all aircraft personnel must report to the flight surgeon as soon as possible after landing. To stop the hazardous material involved from spreading and to limit exposure to it, complete personnel decontamination as close to the scene of exposure as possible. If available on station, a flight surgeon should respond to the aircraft when it lands.

19. In-Flight Emergency. In determining the course of action to take during a potential or actual in-flight emergency, the aircraft commander must:

19.1. Consider the appropriate guidance provided by the Air Force Manual and the recommendations of the technical escort and the aircraft loadmaster, if one is assigned.

19.2. If the emergency warrants, arrange to land at the nearest suitable airfield (preferably military). Use the notification procedures given in paragraph 7.6.3. Immediately after landing, the aircraft commander must:

19.2.1. Contact the command post of the controlling MAJCOM or the proper Service command by the fastest possible means.

19.2.2. Report location and provide all pertinent information regarding the emergency, including whether or not security was compromised.

NOTE: If called for, the command post initiates an OPREP-3/Pinnacle or other appropriate notification to higher headquarters.

20. Jettison Authorization:

20.1. **Toxic Chemical Ammunition:**

20.1.1. Jettison over land is not authorized.

20.1.2. Only if authorized in the movement plan that accompanies the shipment. If authorized, jettison must be at least 12 nautical miles offshore in an open ocean area, preferably beyond the continental shelf. Record the geographic coordinates of the jettison location, but do not transmit the coordinates by nonsecure means.

20.2. **Other Poisons.** Jettison poisons other than toxic chemical ammunition over land or water if essential to flight safety. However, jettisoning poisons over a congested area or water supply is prohibited. Report geographical coordinates of jettisoned poisons as soon as possible, so that the proper agency can maintain positive control over the area.

20.3. **Hazardous Materials in Reportable Quantities.** Hazardous materials identified in Reportable Quantities (RQ) will follow jettison restrictions identified in Section D, paragraph 20.2 above. "RQ" preceding proper shipping name of *Shippers Declaration for Dangerous Goods* or on an air cargo manifest will identify these hazardous materials.

21. Passenger Limitation:

21.1. **Toxic Chemical Ammunition.** Limit passengers to technical escorts, authorized inspectors, and mission essential ground personnel.

21.2. **Hazardous Materials.** Observe restrictions in AFJMAN 24-204/TM 38-250/NAVSUP PUB 505/MCO P4030.19F/DLAM 4145.3.

22. Buddy System. A single person is not given access to toxic chemical ammunition or areas that have these munitions. Aircraft commanders must enforce this policy during flight.

Section E—Infectious Substances/Biological Materials

23. Notification Requirements. Units operating aircraft carrying Division 6.2 Infectious Substances (Biological) cargo must comply with paragraph 5.

24. Degree of Hazard. There is no immediate in-flight hazard connected with biological research materials due to the incubation period involved. Plant quarantine materials are not directly dangerous to a person.

25. Protective Measures. As a rule, a technical escort must be with each shipment of biological research material. This is handled as stated in AR 740-32/MCO 4030.25/AFR 136-4, *Responsibilities for Technical Escorts of Dangerous Materials.*

25.1. The technical escort must brief the aircrew and advise them of any requirements for protective equipment.

25.2. The aircraft commander will insure required protective equipment is readily accessible to all personnel during flight.

26. Cargo Emergency. In a cargo emergency that involves biological research materials, all personnel must don the prescribed protective masks (not necessary for plant quarantine material). Do not ventilate the aircraft

under the usual emergency procedures. Instead, the aircraft should remain aloft (if possible) until the technical escort informs the aircraft commander that the cargo has been secured and the aircraft decontaminated to the extent possible. If the leak is such that the technical escort cannot control or neutralize it, the aircraft commander must land at the nearest suitable airfield (preferably military).

27. Jettison Authorization:

27.1. **Division 6.2 Infectious Substances (Etiologic Material).** Not authorized if material requires technical escort during transportation.

27.2. **Plant Quarantine Material.** Only over open water, at least 100 nautical miles from a major land mass with vegetation. *NOTE*: Technical escorts may authorize jettison of plant quarantine material overland if the material is known to pose no threat to indigenous plants or crops and this action is essential to flight safety.

28. Passenger Limitation. Refer to AFJMAN 24-204/TM 38-250/NAVSUP PUB 505/MCO P4030.19F/DLAM 4145.3.

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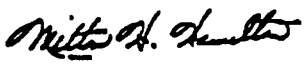

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Attachment
Glossary of References, Abbreviations, Acronyms, and Terms

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Army: Distribution of this publication is made in accordance with the requirements on DA Form 12-09-E, block number 3888, intended for command-level C for Active Army, Army National Guard, and US Army Reserve.

GLOSSARY OF REFERENCES, ABBREVIATIONS, ACRONYMS, AND TERMS

Section A—References

DOE-DNA TP 20-11/Army TM 39-20-1 1/Air Force TO 11N-20-11, (C) *General Firefighting Guidance* (U)
DOE-DNA TP 45-51/Army TM 39-45-51/Air Force TO 11N-45-51, *Transportation of Nuclear Weapons Material*
DOE-DNA TP 45-51C/Army TM 39-45-51C/Air Force TO 11N-45-51C, *Transportation of Nuclear Weapons Material (Military Criteria for Shipment)*
DOE-DNA TP 45-51A/Army TM 39-45-51A/Air Force TO 11N-45-51A, (S) *Transportation of Nuclear Weapons Material (Supplement), Shipping, and Identification Data for Stockpile Major Assemblies* (U)
DOE-DNA TM 45-51B/Army TM-39-45-51B/Air Force TO 11N-45-51B, *Transportation of Nuclear Weapons Material (Supplement), Palletized Cargo*
AFI 13-213, *Airfield Management* (formerly AFR 55-48)
AFPD 21-2, *Nonnuclear and Nuclear Munitions* (formerly AFR 136-1)
AFI 21-205, *Logistics Movement and Handling of Nuclear Cargo* (formerly AFR 136-2)
AFPD 23-3, *Energy Management* (formerly AFR 18-1)
AFI 24-211, *Defense Traffic Management Regulation*
AFJMAN 24-204/TM 38-250/NAVSUP PUB 505/MCO P4030.19F/DLAM 4145.3, *Preparation of Hazardous Materials for Military Air Shipment* (formerly AFR 71-4)
AFI 24-401, *Customs—Europe* (formerly AFR 400-21)
AFI 24-402, *Customs—Pacific* (formerly AFR 400-21)
AFI 24-4001, *Planning and Operations* (formerly AFR 355-1)
AFI 31-101, (C) *Air Force Physical Security Program* (U) (formerly AFR 207-1)
AFI 35-Series (formerly AFR 190-Series), *Public Affairs*
AFI 51-502, *Personnel and Government Recovery Claims* (formerly AFR 112-1)
AFR 76-1, *USAF Logistics Airlift (LOGAIR) Traffic Regulation* (No AFI conversion)
AFR 76-38, *Department of Defense (DoD) Common User Airlift Transportation* (No AFI conversion)
AFI 91-101, *Air Force Nuclear Weapons Surety Program* (formerly AFR 122-1)
AFI 91-104, *Nuclear Surety Tamper Control and Detection Programs* (formerly AFR 122-4)
AFI 91-404, *Investigating and Reporting Mishaps* (formerly AFR 127-4)
AR 740-32/AFR 136-4/MCO 4030.25, *Responsibilities for Technical Escorts of Dangerous Materials* (No AFI conversion)
AFR 160-132, *Control of Radiological Health Hazards* (No AFI conversion)
USAF Foreign Clearance Guide
USAF Special Weapons Overflight Guide
PS 8X-1, *USAF Program, Nuclear Weapons Capability and Equipage*
TO 11A-1-33, *Handling and Maintenance of Explosive Loaded Aircraft*
TO 11A-1-46, *Firefighting Guidance Transportation and Storage Management Data and Ammunition Complete Round Chart*
TO 11C2-1-7, *Chemical/Warfare Bombs*
TO 11N-4-1, *Glossary of Nuclear Weapons Materiel and Related Terms*
TO 11N-20-7, (S) *Nuclear Safety Criteria* (U)
Army Regulation 50-4, *Safety Studies and Reviews of Nuclear Weapon Systems*
Army Regulation 50-5, *Nuclear and Chemical Weapons Material Nuclear Surety*
Army Regulation 50-6, *Chemical Surety Program*
Army Regulation 55-203, *Movement of Nuclear Weapons, Nuclear Components, and Related Classified Nonnuclear Materiel*
Army Regulation 55-355, *Defense Traffic Management Regulation*
Army Regulation 59-8, *Department of Defense (DoD) Common User Airlift Transportation*
Army Regulation 75-15, *Responsibilities and Procedures for Explosive Ordnance Disposal*
Army Regulation 385-11, *Ionizing Radiation Protection*
Army Regulation 385-40, *Accident Reporting and Records*
Army Regulation 385-95, *Army Aircraft Prevention*
Army Regulation 420-90, *Fire Protection*
Army Regulation 700-65, *Nuclear Weapons and Nuclear Weapons Materiel*
TB 385-2, *Nuclear Weapons Firefighting Procedures*
TM 5-315, *Firefighting and Rescue Procedures in Theaters of Operations*

TM 39-20-7, (S) *Nuclear Safety Criteria* (U)
DoD Directive 4540.5, *Movement of Nuclear Weapons by Noncombat Delivery Vehicles (AE)*
DoD 5210.41-M (C), *Nuclear Weapons Security Manual* (U)

Section B—Abbreviations and Acronyms

Abbreviations and Acronyms	***Definitions***
DOE	Department of Energy
DoD	Department of Defense
DOT	Department of Transportation
FLIP	Flight Information Publication
MACOM	Major Command (Army)
MAJCOM	Major Command (Air Force)
NA	North America
ORM	Other Regulated Material
PPR	Prior Permission Required
RQ	Reportable Quantities
TM	Technical Manual
TO	Technical Order
UN	United Nations
US	United States

Section C--Terms

Base Support Elements—Fire department, base security force, medical service, explosive ordnance disposal (EOD), disaster response force (DRF), aerial port activity, and other base elements that would be involved in supporting aircraft that carry hazardous materials.

Biological Research Material—Material generally transported only for defensive laboratory research studies or for captured enemy munitions. Research material usually include tissue samples, sera, and related material. The United States does not maintain a biological weapon capability.

Cargo Emergency—Any condition involving hazardous materials in transit that would endanger personnel or property (see MILSTD-444).

Courier or Technical Escorts—An authorized person designated in writing to accompany a specific shipment of hazardous material and who has in-transit custodial safety and security responsibility for shipment.

Etiologic Material—Agents that cause or may cause disease in humans and the toxins of such agents.

Hazardous Cargo—Hazardous materials in quantities which require their identification on flight plans, messages, and as part of arrival and departure notifications.

Hazardous Materials—Any material that is flammable, corrosive, an oxidizing agent, explosive, toxic, poisonous, etiological, radioactive, nuclear, unduly magnetic, a chemical agent, biological research material, compressed gases, or any other material that, because of its quantity, properties, or packaging, may endanger human life or property. This does not include explosives or other hazardous materials that are integral parts of the aircraft (for example, ejection devices, fuel, including that carried for in-flight refueling, or ammunition when it is loaded in aircraft gun systems).

Inert Devices—Devices not containing hazardous materials, but closely resembling nuclear items or explosive items that are classified as hazardous. Such inert items include those used primarily for testing, demonstrating, or training. (Certain non-WR bombs, warheads, and developmental test units have a permanent marking on an exterior surface denoting "HIGH EXPLOSIVE" or "INERT." Permanent marking is not intended to describe hazards to personnel who are handling or

working on the weapon. Explosive charges, or other hazardous components or materials, may be present in weapons marked "INERT." Verify hazardous materials with the shipper.)

Net Explosive Weight (NEW)—The total weight of all explosive components of an explosive, expressed in pounds, which includes primary explosives, secondary explosives, pyrotechnics, and propellants in a tank, drum, cylinder, or other container. (See DoD Regulation 4500.32R).

Nuclear Cargo—Nuclear weapons, nuclear warheads, and Class II nuclear components prepared for logistics movement.

Plant Quarantine Material—Infected plant material which requires safeguarding to prevent exposure and spread of the disease to noninfected areas.

Toxic Chemical Ammunition—Includes nerve, blister, incapacitating (psychological) or other chemical warfare agents, with or without explosive components. Does not apply to binary chemical weapons when elements are shipped or transported separately.

Toxic Substances—Hazardous materials, other than toxic chemical agents, which pose an inhalation, ingestation, or absorption hazard. Highly toxic substances include Division 2.3, Zone A, poison gases and Division 6.1, packing group (PG)I, poison liquids.

United Nations (UN) Classification—Classification of hazardous materials established by the UN Committee of Experts on the Transportation of Dangerous Goods. Hazardous materials are divided into nine classes based on the chemical and physical characteristics of material and their reaction under conditions. Some materials are further subdivided into divisions to specifically identify the character and predominance of associated hazards. Classifications have been adopted by Department of Defense and Department of Transportation. For specific definitions of each class or division see AFJMAN 24-204/TM 38-250/NAVSUP PUB 505/MCO P4030.19F/DLAM 4145.3.