

NATO STANDARD

AMovP-6

**ALLIED MULTI-MODAL
TRANSPORTATION OF DANGEROUS
GOODS DIRECTIVE**

Edition C, Version 1

JULY 2020



NORTH ATLANTIC TREATY ORGANIZATION

ALLIED MOVEMENT PUBLICATION

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NATO LETTER OF PROMULGATION

23 July 2020

1. The enclosed Allied Movement Publication AMovP-6, Edition B, Version 1, ALLIED MULTI-MODAL TRANSPORTATION OF DANGEROUS GOODS DIRECTIVE, which has been approved by the nations in the Military Committee Land Standardization Board, is promulgated herewith. The agreement of nations to use this publication is recorded in STANAG 4441.
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Zoltan GULYÁS
Brigadier General, HUNAF
Director, NATO Standardization Office

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RECORD OF SPECIFIC RESERVATIONS

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BEL	National approvals and waivers for specific deviations on the carriage of Dangerous Goods not authorized by IATA/ICAO, ADR, IMDG, ADN and RID are analyzed on basis of the AMovP-6 (staff level). The education about the AMovP-6 will so be given only to staff's personnel who are dealing with the waiver's process.
DEU	DEU reserves the right to implement all SRDs except SRD 1 (training) due to the fact that the given training standards are not in accordance with national law.
FRA	France reserves the right to implement regulations that are less restrictive than AMovP-6's regulations on its national territory. These regulations will be forwarded to the M&TG-TDGG and recorded in the relevant SRDs as additional (land and maritime) requirements and national (air) deviations.

Note: The reservations listed on this page include only those that were recorded at time of promulgation and may not be complete. Refer to the NATO Standardization Document Database for the complete list of existing reservations.

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Disclaimer

"The use of the principles and techniques given in this document are, in the opinion of the NATO M&TG/TDGG staff, the best available at the time of publication. Adherence to these principles should enhance the safety of DG operations. It does not ensure or guarantee a risk-free situation; neither can the principles cater for every possible situation, which could be encountered. Because of the inherent danger in handling DG, NATO M&TG/TDGG staff cannot be held responsible for any mishap or accident resulting from the use of this document".

CHAPTER 1 GENERAL

1.1. Conditions of Publication Release

Contents of this Allied Movement Publication 6 (AMovP-6) constitute NATO proprietary rights.

The understanding and conditions for the release of this Manual stipulate its use to be for defense purposes only by designated national defense staffs.

The publication or release of this Manual in whole or in part requires prior written NATO approval.

1.2. References

There is a multitude of Standardization Agreements and International Transportation Codes regulating the transport of dangerous goods - which, are based on the UN Model Regulations. The following References are used throughout this AMovP:

1.2.1. International Agreements

1.2.1.1. ADN, Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures

1.2.1.2. ADR, Accord européen relatif au transport international des marchandises dangereuses par route

1.2.1.3. CSC, Convention for Safe Containers

1.2.1.4. IATA DGR, International Air Transport Association Dangerous Goods Regulations

1.2.1.5. ICAO-TI, International Civil Aviation Organization Technical Instructions

1.2.1.6. IMDG Code, International Maritime Dangerous Goods Code

1.2.1.7. RID, Règlement concernant le transport international ferroviaire des marchandises dangereuses

1.2.1.8. SOLAS, The convention for the Safety of Life at Sea

1.2.2. NATO Agreements/Allied Publications

1.2.2.1. STANAG 2617 Allied Logistics Publications for Explosive Safety and Munitions Risk Management (ESMRM) in NATO planning, training and operations

1.2.2.2. STANAG 2236, AMovP-5, Multi-modal issues

- 1.2.2.3.** AOP-38, Glossary of Terms and Definitions Concerning the Safety and Suitability for Service of Munitions, Explosives and Related Products
- 1.2.2.4.** STANAG 3854, Policies and Procedures Governing the Air Transportation of Dangerous Cargo; *parts relating to movement of dangerous goods of STANAG 3854 are superseded by STANAG 4441*
- 1.2.2.5.** AASTP-01, STANAG 4440, Manual of NATO Safety Principles for Storage of Military Ammunition and Explosives
- 1.2.2.6.** AASTP-03, STANAG 4123, Determination of the Classification of Military Ammunition and Explosives
- 1.2.2.7.** AASTP-04, STANAG 4442, Manual of NATO Principles for the application of Risk Analysis to the Storage and Transportation of Military Ammunition and Explosives
- 1.2.2.8.** AASTP-05, STANAG 4657, NATO Guidelines for the Storage, Maintenance and Transport of Ammunition on Deployed Missions or Operations
- 1.2.2.9.** STANAG 2454, AMovP-01, Road Movements and Movement Control
- 1.2.2.10.** STANAG 2455, AMovP-02, Procedures for Surface Movements Across National Frontiers
- 1.2.2.11.** STANAG 2456, AMovP-03, Movements and Transport Documents and Glossary of Terms and Definitions
- 1.2.2.12.** STANAG 2468, AMovP-04 Technical Aspects of the transport of military materials by railroad
- 1.2.3.** Standards-related documents
 - 1.2.3.1.** AMovP-6.1, Dangerous Goods Training
 - 1.2.3.2.** AMovP-6.2, Transport by Road
 - 1.2.3.3.** AMovP-6.3, Transport by Rail
 - 1.2.3.4.** AMovP-6.4, Transport by Sea
 - 1.2.3.5.** AMovP-6.5, Transport by Inland Waterways
 - 1.2.3.6.** AMovP-6.6, Transport by Air
 - 1.2.3.7.** AMovP-6.7, Troops in Fighting Trim
 - 1.2.3.8.** AMovP-6.8, Terms, and Definitions

1.3. National Points of Contact for movement related clearance, routing, and training

1.3.1. The national points of contact will be listed in the SRDs covered by this standard.

1.4. Aim

The aim of this standard is to provide guidance on mitigating the risk regarding security, safety, health and environmental protection when exposing dangerous goods of military forces to public traffic areas. This standard therefore provides guidance and criteria for the safe movement of dangerous goods by all modes of transport based on agreements relating to UN model regulations and based on risk assessment on military inventory which is not covered in the international agreements for movement. The content is designed to give clear information and detail key responsibilities.

1.5. Responsibilities

Countries which implement this standard shall identify to the commanders of their forces who are involved in movement of dangerous goods transport, the responsibilities and duties relating to this standard and the international agreements for movement of dangerous goods. To meet the aim, commanders will implement proper military guidance and measurements to ensure compliance with the international agreements and this standard. They further shall ensure personnel with duties in the movement of dangerous goods are properly trained, e.g. dangerous goods safety advisors, certifiers, packers, drivers, or instructors. Commanders also ensure, all persons engaged in the transport of DG have access to relevant DG regulations referred to herein.

1.6. Applicability

1.6.1. This standard applies to the nations participating in missions tasked by NATO.

1.6.2. NATO members and their partners may apply this standard as their national standard for dangerous goods transport. When transiting the area of non-participating nations local rules of a (non-NATO) host nation will take precedence.

1.6.3. Border crossing: When partnering nations transport their dangerous goods across their borders, this standard shall be applied in relation STANAG 2455, AMovP-2B, specifically section 0506 for road, 0513 by rail, 0523 by inland waterway, 0533 for sea, and 0542 for air. In addition, the general parts of AMovP-2B shall be followed, as applicable.

1.6.4. Users of this standard are invited to inform the Secretary of the M&TG/TDGG through their National Representative when an accident or incident occurs which may require a review of the principles in this standard or when their national regulations have been modified.

1.6.5. The basic principles of this standard support the application of more stringent DG safety standards by visiting forces, when those standards exceed the host nations’.

1.6.6. In different modes of transport carriage of military ammunition and explosives could be done by civilian or military modes of transport. Detailed information for these circumstances are given in the SRDs to this standard.

1.6.7. This Manual is not intended to be a substitute either for international codes, or for national regulations, but should be used in conjunction with them in the planning of DG transportation through Host Nations.

1.7. Scope

1.7.1. The standard applies to activities relating to the preparation, e.g. classification, packing, marking, labeling, and documentation of dangerous goods for transport.

1.7.2. It further includes the identification and use of proper transport asset, the loading and un-loading, and the filling and un-filling of tanks.

1.7.3. It further applies to the temporary storage activities of dangerous goods in transport status.

1.7.4. The transport status begins with the identification/classification of the goods for transport and ends with the unpacking of goods after the transport.

1.7.5. For the purpose of this standard the scope is focused on dangerous goods which are otherwise not regulated or restricted in the civil agreements to enable the rapid and safe movement of those goods for military missions as identified in the respective mode SRD.

1.7.6. The standard contains pertinent NATO- and partnering nation-specific information and guidance which whilst subject to the requirements of civilian (commercial) DG regulations, benefit from specific interpretation. Accordingly, this publication must be used in conjunction with specific modal DG regulations as identified in the AMovP-6 SRDs.

1.8. Explosives Safety and Munitions Risk Management (ESMRM)

Logistics functions including the handling and transportation of military munitions pose inherent and significant risk to the operation / mission. The quantity distance requirement as described in AASTP-1 and AASTP-5 must be considered when handling and transporting class 1 goods. Where compliance with the above publications cannot be met, the ESMRM risk assessment/risk management process described in Allied Logistics Publication (ALP) 16 shall be followed.

CHAPTER 2 CLASS 1 SAFETY REQUIREMENTS

2.1. General: The transportation of ammunition should be limited to minimum requirements. It should be carefully planned, prepared, and executed.

2.1.1. Limitations on transport: Ammunition and explosives should not be laden with incompatible classes of DG, unless otherwise specified in SRDs. There are no legal limitations on Class 1 DG being transported in the same CTU as not regulated general cargo. However, consignors must consider the potential risks in terms of contributing to damage (e.g. fragmentation) and of segregating and clearing the DG in the event of an accident or incident. The amount of dunnage and securing material should therefore be kept to a minimum consistent with load restraint requirements.

2.1.2. Mode, route, and time of ammunition transport should be selected so as to keep risk to an acceptable level.

2.1.3. The following factors should be taken into account, but planning considerations are not limited to:

- a. Operational requirements,
- b. Public safety,
- c. Security,
- d. Efficiency,
- e. The condition of the ammunition,
- f. The time available, and
- g. Environmental protection.

2.1.4. Staff involved in the transportation of ammunition should take every precaution and available safety measure to prevent accidents and potential damage to the ammunition, or to consider arrangements, which will minimize the effects of such accidents, incidents or damage.

2.1.5. Packages damaged during transit. Before the continuation of transport of any packages of ammunition or explosives, which have been involved in an incident or accident, an ammunition expert must certify that they are safe for continued transport.

2.2. Protection for Emergency Services and Public at the Scene of a Transportation Accident

2.2.1. Emergency response. A fire increases the probability of an explosion therefore when a fire is present or is reasonably expected, all effort should be made to commence effective fire suppression and removal of non-involved personnel from the area.

2.2.2. The fire-fighting tasks should be performed in accordance with existing standard operating procedures.

2.3. Hazard Distance

2.3.1. Once it is reasonably certain that cargo, containing Hazard Division 1.1, 1.2, 1.3 or 1.5, has the potential to be engulfed by the fire, all fire-fighting activities should cease and crews should withdraw to the designated safe distance.

2.3.2. Two hazard distances (High risk and Low risk) have been developed to assist the advanced planning of emergency distances by assessing risk to personnel. The distance for evacuating and securing an area is 500metres, however there are a lot of national deviations regarding safety distances in case of an accident or fire containing explosives material. Where a nation has specific rules, they should be detailed in their nation's deviations tables. Where the fire is in contact with the packages no attempt to fight the fire should be attempted. Personnel involved in the incident should evacuate all non-essential personnel to a place of safety. If the load does catch fire evacuate to a safe distance, take cover and lay down expecting an explosion. Refer to AASTP-1, Table T.2, Emergency Withdrawal Distances for Nonessential Personnel, for recommended emergency withdrawal distances.

2.3.3. For more information on risk assessment, see AASTP-5 paragraph 2.7, Risk Management

2.3.4. High Risk Distance. This is the minimum distance between the actual fire and personnel fighting the fire in an emergency situation. This area may, at the discretion of the on-scene commander, include personnel who cannot be evacuated back to the Low Risk Distance. Personnel located in the open (i.e. between the fire and the designated safe minimum distance) can be expected to be injured, possibly seriously, by fragments and debris emanating from the fire. Personnel should be under significant cover and away from glass windows and light constructions, which could possibly collapse as a result of the fire. The danger to personnel will commensurately decrease by increasing the distance from the fire and with the addition of overhead and frontal protection.

2.3.5. Low Risk Distance. This is the minimum distance away from the scene of the fire, for personnel not involved in mitigating the incident, including civilians and emergency services. It is a relatively but not absolutely risk free distance and should therefore be expanded whenever possible. The addition of overhead and frontal cover, except large glass surfaces, increases personnel protection.

2.4. Classification of Ammunition and Explosives

2.4.1. General

2.4.1.1. Ammunition and explosives must be classified in accordance with STANAG 4123.

2.4.1.2. Ammunition and explosives are grouped into six Hazard Divisions: 1.1, 1.2, 1.3, 1.4, 1.5 and 1.6.

2.4.1.3. Ammunition and explosives are also grouped into thirteen compatibility Groups: A to H, J, K, L, N and S.

2.4.1.4. Group I is omitted to avoid confusion between the letter "I" and the Roman numeral "I". Group S is given a distinctive letter since it corresponds to a unique possibility for mixing in transport and storage.

2.4.1.5. The combination of hazard division and compatibility group gives the Classification Code.

2.4.1.6. National Authorities for classification are given in AASTP-3. Nations should specify the scope of authority of the agencies authorized to approve classification of hazardous material class 1. In particular, they should describe if the authorization includes the approval for all modes of transport. See table 2.4.1 below for details.

2.4.2. Subsidiary Hazards

Certain ammunition and explosives carry toxic and / or corrosive hazards associated with DG of Class 6.1 and 8.

2.4.3. Supplementary Hazards

2.4.3.1. Where ammunition and explosives contain supplementary hazards, which are not evident from the hazard classification, compatibility group or subsidiary hazard label, these must also be indicated in the transport documentation. The hazard and emergency measures associated with them must be described separately or advice is immediately accessible.

2.4.3.2. The use of Supplementary Hazard Warning Sheets meets the requirement for roads (paragraph 2.3.2.4) and inland waterways (paragraph 6.4.0.9) and is recommended also for other modes of transport.

2.4.3.3. Explosive articles should be considered having a supplementary risk, when/if (unless tested to be otherwise):

- a. The main charge of the article contains substances reacting hazardously in the atmosphere, in sufficient quantity to present a significant non-explosive hazard.
- b. The contents of the article react hazardously, but not explosively, in an accident situation (fire).
- c. An explosive hazard is present which is not evident from the hazard division, compatibility group, or subsidiary hazard by which the article is labelled.

Table 2.4.1 Hazard Class 1 Classification Approval Authorities

Nation	Institute, (incl. Address)	Mil/ Civ	Road	Rail	Inland Water	Sea	Air
DEU	Federal Office of Bundeswehr Equipment, Information Technology and In-Service Support K 1.3 and/or Wehrtechnische Dienststelle für Waffen und Munition – WTD 91 Am Schießplatz 49716 Meppen Tel.: +49 5931 43-1927 Fax + 49 5931 43-2091	Mil/ Civ	✓	✓	✓	✓	✓
FRA	Délégation Générale de l'Armement - Inspecteur des Poudres et Explosifs 60 boulevard Général Martial Valin 75509 PARIS Cedex	Mil	✓	✓	✓	✓	✓
NLD	Ministerie van Defensie Sectie MCGS Postbus 90822 2509 LV Den Haag MCGS@mindef.nl	Mil	✓	✓	✓	✓	✓
USA	Department of Defense Explosives Safety Board ATTN: DDESB – Policy Development (PD) 4800 Mark Center Drive Suite 16E12, Alexandria, VA 22350 Tel: +01 571 372-6688/6704 Fax: +01 571 372-6752	Mil	✓	✓	✓	✓	✓

2.5. Packaging Standards and Freight Containers

2.5.1. Packaging standards

2.5.1.1. Packaging. It is impractical to prescribe specific materiel for the packaging of ammunition and explosives. Any type of packaging material, detailed in appropriate DG regulations for the type of Class 1 being considered for transportation should suffice - as long as it meets the UN standard for means of containment, or has been

approved by the appropriate National Competent Authority for that purposes as meeting the following requirements:

- a. Be of such strength, construction and character that it does not break open or become defective during the conveyance.
- b. Be made and closed so that spillage of ammunition and explosive is not possible.
- c. Be constructed of such material, which is neither affected by its content nor will form dangerous combinations with it.
- d. This includes fastenings and internal fitments.
- e. Use suitable inner fitments or packing to maintain adequately the safety and serviceability of the ammunition and explosives.

2.6. Acceptance of Intermodal Carriage. When the transport is by road or rail prior to or following Maritime or air carriage, it is acceptable to follow the regulations of ICAO-TI/IATA DGR or the IMDG Code.

2.7. Freight Container

This is an integrated part of AMovP-5. For specifications see mentioned documents.

2.8. Training Standards for the Transport of Dangerous Goods

2.8.1. Aim

2.8.1.1. The aim of this standard is to provide commanders of multinational forces information to assess qualifications of their assigned staff in transport of DG. Further details are contained in AMovP-6, SRD 1, Dangerous Goods Training.

2.8.1.2. The need for multinational interoperability within NATO created the requirement for a better understanding of national training categories. This will allow commanders of multinational forces to select, assign or appoint properly trained personnel for DG related duties. No untrained personnel may execute self-responsible duties identified in DG regulations.

2.8.1.3. In NATO member countries, national training standards have been established and implemented for the training of selected personnel involved in the transportation of DG based on international agreements and national standards. Whilst the national training is well established and implemented for multi-modal transportation of DG, no such training or recognizable international (Alliance) military standards have been established to date. Limited availability of military transport assets necessitates the use of civilian transportation resources in support of military operations.

Consequently, military personnel must be trained in both military specific, as well as in commercial procedures, encompassing civil regulations, governing the transportation of DG.

2.8.1.4. To meet the training standard of a given category, at least the training subjects detailed in AMovP-6, SRD 1, Dangerous Goods Training, Table 1.2.1 must be trained.

2.8.1.5. All successful graduates of a formal DG training course must hold a nationally approved training certificate. The validity for any one of the proposed categories of qualification should be determine by the nations for their functional personnel.

2.8.1.6. National DG training certificates must, if possible, clearly indicate the category of training achieved by the holder, in English, in addition to the official national language.

2.8.1.7. DG qualification obtained at civilian training institutions tend to be limited in scope and do not meet military requirements. Consequently, for those individuals' who obtain their initial training and DG certification at a civilian institution, the TDGG recommends additional/supplementary military DG training to meet military requirements.

2.8.1.8. For personnel newly assigned to a transport of DG function, the TDGG recommends their activities be supervised for a period of time to allow the member to gain the requisite operational experience and practical knowledge prior to allowing his/her autonomous performance of duties.

2.8.1.9. In addition to the relevant training requirements stated in the ICAO-TI TI/IATA-DGR, personnel in the service of the armed forces must successfully complete function specific military transportation of DG training.

2.8.1.10. The TDGG recognizes the variance in national certificate requirements for transport of DG qualifications. This chapter/part provides guidelines in those variances for the (international) military commanders, and does not constitute a waiver for national qualification requirements.

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