STANAG 4518
(Edition 1)

NORTH ATLANTIC TREATY ORGANIZATION
(NATO)

NATO STANDARDIZATION AGENCY
(NSA)

STANDARDIZATION AGREEMENT
(STANAG)

SUBJECT: SAFE DISPOSAL OF MUNITIONS, DESIGN PRINCIPLES AND REQUIREMENTS, AND SAFETY ASSESSMENT

Promulgated on 8 October 2001

Jan H ERIKSEN
Rear Admiral, NONA
Director, NSA

RECORD OF AMENDMENTS

No.	Reference/date of amendment	Date entered	Signature

EXPLANATORY NOTES

AGREEMENT

1. This NATO Standardization Agreement (STANAG) is promulgated by the Director, NSA under the authority vested in him by the NATO Military Committee.

2. No departure may be made from the agreement without consultation with the tasking authority. Nations may propose changes at any time to the tasking authority where they will be processed in the same manner as the original agreement.

3. Ratifying nations have agreed that national orders, manuals and instructions implementing this STANAG will include a reference to the STANAG number for purposes of identification.

DEFINITIONS

4. Ratification is "In NATO Standardization, the fulfilment by which a member nation formally accepts, with or without reservation, the content of a Standardization Agreement" (AAP-6).

5. Implementation is "In NATO Standardization, the fulfilment by a member nation of its obligations as specified in a Standardization Agreement" (AAP-6).

6. Reservation is "In NATO Standardization, the stated qualification by a member nation that describes the part of a Standardization Agreement that it will not implement or will implement only with limitations" (AAP-6).

RATIFICATION, IMPLEMENTATION AND RESERVATIONS

7. Page (iii) gives the details of ratification and implementation of this agreement. If no details are shown it signifies that the nation has not yet notified the tasking authority of its intentions. Page (iv) (and subsequent) gives details of reservations and proprietary rights that have been stated.

FEEDBACK

8. Any comments concerning this publication should be directed to NATO/NSA - Bvd Leopold III, 1110 Brussels - BE.

RATIFICATION AND IMPLEMENTATION DETAILS
STADE DE RATIFICATION ET DE MISE EN APPLICATION

NATION / PAYS	NATIONAL RATIFICATION REFERENCE REFERENCE DE LA RATIFICATION NATIONALE	NATIONAL IMPLEMENTING DOCUMENT DOCUMENT NATIONAL DE MISE EN APPLICATION	IMPLEMENTATION/MISE EN APPLICATION					
			INTENDED DATE OF IMPLEMENTATION DATE ENVISAGEE DE MISE EN APPLICATION			DATE IMPLEMENTATION WAS ACHIEVED DATE EFFECTIVE DE MISE EN APPLICATION		
			NAVY MER	ARMY TERRE	AIR	NAVY MER	ARMY TERRE	AIR
BE								
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DA	FKO MAM3 204.69-S4518 0004929-003 of/du 14.08.00	STANAG	11.01	11.01	11.01			
FR	Décision 074780 dga/insp of/du 27.03.01	STANAG	04.01	04.01	04.01			
GE								
GR								
HU	GUF HAT 1171/8/1999/IV (HK 1/2000) of/du 04.01.00	Not implementing / Ne met pas en application						
IT								
LU								
NL	M2000004892 of/du 05.10.00	3VVKM II	09.00	09.01	09.01			
NO	MAS 103/00/FO/LST/BEE/ of/du 10.08.00	STANAG	10.00	10.00	10.00			
PL								
PO								
SP								
TU								
UK	D/Dstan/12/15/4518 of/du 09.06.00	STANAG	02.02	02.02	02.02			
US	OUSD(A&T) of/du 15.06.01	STANAG	06.01	06.01	06.01	06.01	06.01	06.01

See overleaf reservations(*)/comments (+)
Voir au verso réserves (*)/commentaires (+)

STANAG 4518
(Edition 1)

NAVY/ARMY/AIR

NATO STANDARDIZATION AGREEMENT (STANAG)

SAFE DISPOSAL OF MUNITIONS, DESIGN PRINCIPLES AND REQUIREMENTS, AND SAFETY ASSESSMENT

Annexes:

A. Terms and Definitions
B. International Environmental Legislation
C. Example Demilitarization and Disposal Plan

Related Documents:

AAP-6	NATO Glossary of Terms and Definitions
AECP-1	Mechanical Environmental Conditions to which materiel intended for use by NATO Forces could be exposed
AECPT-100	Environmental Testing - Guidelines on Management Planning
AECPT-200	Environmental Testing - Definitions of Environments
AECPT-300	Climatic Environmental Tests
AECPT-400	Mechanical Environmental Test
AECPT-500	Electrical Environmental Test
AOP-7	Manual of Tests for the Qualification of Explosives for Military Use
AOP-8	NATO Fuze Characteristics Catalogue
AOP-15	Guidance on the Assessment of Safety and Suitability for Service of Munitions for NATO Armed Forces
AOP-16	Fuzing Systems: Design Guides
AOP-20	Manual of Tests for the Safety Qualification of Fuzing Systems
AOP-24	Electrostatic Discharge, Munition Assessment and Test Procedures
AOP-38	Glossary of Terms and Definitions Concerning the Safety and Suitability for Service of Munition, Explosives and Related Products
STANAG 2895	Extreme Climatic Conditions and Derived Conditions for Use in Defining Design/Test Criteria for NATO Forces' Materiel
STANAG 4117	Stability Test Procedures and Requirements for Propellants Stabilized with Diphenylamine, Ethyl Centralite, or a Mixture of Both
STANAG 4147	Chemical Compatibility of Ammunition Components with Explosives and Propellants (Non-Nuclear Applications)
STANAG 4157	Development of Safety Test Methods and Procedures for Fuzes for Unguided Tube Launched Projectiles
STANAG 4170	Principles and Methodology for the Qualification of Explosive Materials for Military Use
STANAG 4187	Fuzing Systems - Safety Design Requirements
STANAG 4235	Electrostatic Environmental Conditions Affecting the Design of Materiel for Use by NATO Forces
STANAG 4239	Electrostatic Discharge, Munition Test Procedures
STANAG 4315	NATO Ageing and Life Time Test Procedures for Munitions
STANAG 4324	Electromagnetic Radiation (Radio Frequency) Test Information to Determine the Safety and Suitability for Service of Electroexplosive Devices and Associated Electronic Systems in Munitions and Weapon Systems

NAMSA (NATO Maintenance & Supply Agency) "Demilitarization Legislation Study, Study into the Effect of Environmental Protection Legislation on Ammunition Disposal, DEMEX Consulting Engineers, Denmark, June 1995".

AIM

1. The aim of this agreement is to standardise design safety principles, design safety requirements and the assessment process for the safe disposal of munitions.

AGREEMENT

2. Participating nations agree to comply with the policies and principles of this STANAG and with applicable related documents listed in this STANAG in designing and modifying munitions. This agreement is applicable to new developments; existing stores subject to major modification, rework, change, or addition of any hazardous component; replenishment purchases, and existing stores being used in a new role. Participating nations agree to procure for military use by NATO Forces munitions purchased off the shelf which have been designed, or will be modified, to comply with this STANAG.

3. The nation developing a munition shall implement the design and assessment principles detailed in this STANAG. Specifically, the nation developing a munition agrees to incorporate acceptable end-of-mission (EOM), end-of-operational-life (EOOL), or end-of-life (EOL) disposal capabilities; to assess the design for its adherence to the guidance provided here; and to document the EOM/EOL disposal processes to be used on the munition.

DEFINITIONS

4. In this STANAG, the term "demilitarization" refers to the act of removing or otherwise neutralizing the military potential of a munition. Such neutralization is to be carried out in a safe, cost effective, practical and environmentally responsible manner. Demilitarization is a necessary step for military items prior to their release to a non-military setting.

5. The term "disposal" refers to end-of-life (EOL) tasks and actions for residual materials resulting from demilitarization operations. Disposal encompasses the process of redistributing, transferring, donating, selling, abandoning, or destroying military munitions.

6. Other specific terms are defined in AAP-6, AOP-38, the related documents listed above, and in Annex A.

GENERAL

7. Growing international awareness of ecological issues and the environmental impact of industrial waste disposal processes have caused member nations to examine programs and processes concerning the demilitarization and disposal of munitions. Contributors of this increased attention include more stringent international environmental legislation such as that listed in Annex B, the desire to preserve natural resources, the desire to reduce waste, and limited space and locations for disposal. Because legislation is likely to become more stringent in the future, plans and processes used in the demilitarization and disposal of munitions will need to be carefully crafted and be reviewed continually in the light of new legislation and advances in technology. The focus of demilitarization and disposal is escalating from using techniques that are safe, efficient and cost effective to ones that are environmentally acceptable, physically safe, free of health hazards, practical, and cost effective. Nations are being urged to move from disposal processes that rely on destruction toward those that maximize the recovery and reuse of component materials.

DETAILED OF THE AGREEMENT

Requirements

8. The policies of national authorities and the international agreements in effect at the time of a munition's development will determine the extent of incorporation of demilitarization and disposal principles and plans into a munition's developmental life cycle. If the national ordnance safety authority of the developing nation approves a munition for service use (in keeping with national environmental legislation) even though a plan has not been developed that meets the intent of this STANAG, that review authority shall clearly document the basis for its approval.

9. Demilitarization and disposal tasks and actions shall be applied to munitions designed for military use or taken into use by the military. Demilitarization does not include the resale of the store in an unchanged condition, other than remarking, but may include the resale of components in their original form following removal during demilitarization. It also excludes any operational task such as Explosive Ordnance Disposal (EOD) and Battlefield Area Clearance, but may apply to munitions recovered during the clearance of ranges or storage sites and subsequently brought into the munition management system. Where all or part of a munition, whether the subject of a demilitarization and disposal plan in accordance with this STANAG or not, is used in the rework or development of another munition, the munition that emerges from the task shall be considered as a new design and shall be subject to the requirements of this STANAG.

10. The process of demilitarization shall result in the removal or neutralization of the military potential of a munition to prevent reuse, misrepresentation or misidentification of the residue for military or terrorist activities. Such actions shall make the item and all its components after disassembly incapable of full or partial functioning, reuse in other weapon systems (e.g., by replacement of fuzes), and shall make the item or its components unidentifiable as a munition.

Demilitarization and disposition process

11. Figure 1 illustrates the demilitarization and disposal process to be followed. A brief description of each step follows Figure 1.

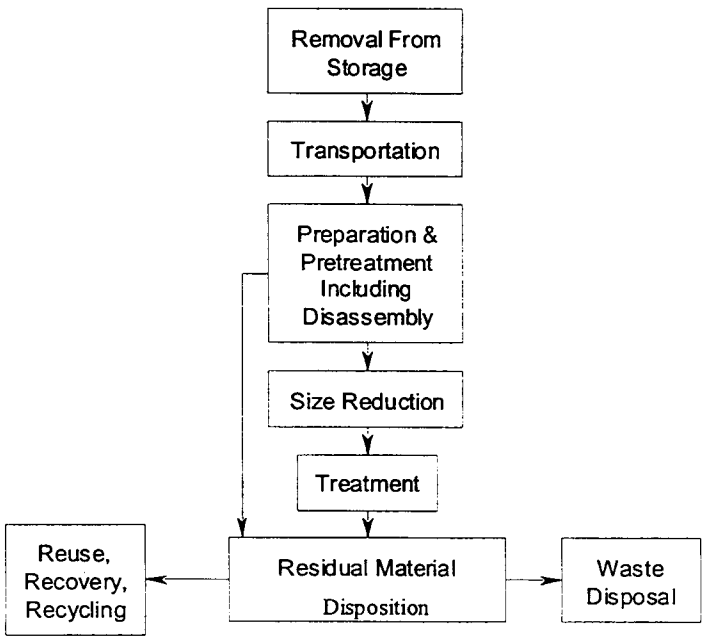

Figure 1. Demilitarization and Disposal Process

a. Removal from Storage: The demilitarization and disposal operation starts with collecting the munitions in suitable lots depending on the type of munition. The munition must be labelled, controlled, and packaged as would be done for any other munition of its type. The munition may then be transported and shipped to the organization or contractor responsible for the demilitarization and disposal operation.

b. Transportation: Depending on the storage location of the munition and the location of the demilitarization and disposal process site, various military or civilian regulations for transportation will need to be followed, especially if the transport involves crossing national or state borders.

c. Preparation and Pretreatment: Munitions to be removed from military service use often involve a variety of materials, some of which are safe and harmless, such as packaging materials and steel casings, and other materials, such as explosives and fuels, that are hazardous. To the extent possible, all harmless materials must be separated from hazardous materials to minimize cost and the total quantity of material needing further treatment. After separation, packaging materials, wood, paper, and metals should be collected for recycling, incineration, or disposal according to the regulations for solid waste. Special attention must be paid to materials that require special treatment and disposal. Munitions should be defused, should have all hazardous materials removed, and should be disassembled into their basic components. The disassembly process will likely follow in reverse order the assembly procedures used in the production of the munitions. All hazardous materials should be identified for treatment by type. For example, igniters, fuzes, batteries, heavy metals (such as lead and mercury), asbestos insulation material, and liquid fuel might result from the disassembly of missiles.

d. Size Reduction: The size and volume of a complete munition can usually be reduced by separating explosive warheads, rocket motors, and other large sections that contain hazardous materials; mechanical sectioning, laser grooving/curling, water jet cutting, cryofracture, washout, or meltout processes are possible techniques. Whatever hazardous material or components containing hazardous material are left must be prepared and transported for treatment.

e. Treatment: According to the type and nature of the hazardous material at hand, special treatment must be carried out as either recycling or as waste handling. Several options for recycling, reuse, and recovery of explosives, metals, and other materials exist. Options that provide the most advantageous cost benefit, such as recovery of explosives for industrial reuse, will usually be chosen. Paragraph 14 lists several techniques for final treatment.

f. Reuse, Recovery, and Recycling: The demilitarization and disposal options resulting in the highest degree of recovery, recycling, and reuse of the most valuable materials will usually be preferred. Because of the release of environmentally harmful by-products from the recovery process, however, the highest degree of recovery is not always the most attractive goal from an integrated environmental point of view. Annex A provides definitions of reuse, recovery, and recycling.

g. Waste Disposal: After completing the preceding steps, cognizant personnel and authorized facilities must dispose of any materials remaining that can not be used or that consist of environmentally harmful substances. Harmless inert substances usually can be disposed of at landfills, but hazardous compounds must be disposed of at controlled landfills or be subjected to special treatment and disposal.

Design Safety Principles

12. To the fullest extent possible, the following design safety principles should be applied during munition development to facilitate demilitarization and disposal using processes that maximize safety and minimize health hazards, negative environmental impacts, and life cycle cost:

a. Select materials that are not inherently toxic and can either be reused, recycled or destroyed with minimum impact on health and the environment at the end of the munition's life.

b. Select materials and design features that will minimize the adverse impact of credible service-life environments and aging on demilitarization and disposal processes and by-products.

c. Select materials and design features that allow old operable stocks to be consumed in training.

d. Configure munitions for safe disassembly and ease of useful material recovery.

e. Configure munitions for ease of component and package re-use or re-cycling.

f. Design munitions to maximize service life.

g. Design munitions to permit significant life extension modifications and, consequently, reduce the need for demilitarization and disposal.

h. Design for ease of alternative munition applications with limited remanufacturing.

Disposal Assessment Process

13. AOP-15 calls for the assessment of the disposal aspects of a munition as part of the overall safety assessment process. During munition development, the following assessment principles shall be used to evaluate proposed demilitarization and disposal design features, processes and plans:

a. Compare the munition design with the demilitarization and disposal design safety principles stated in Paragraph 12.

b. If conformity with those requirements is lacking, the risks involved shall be assessed. If those risks are unacceptable, the design should be changed. Acceptability must be agreed upon by the national military safety authority. Testing may be required to gain adequate confidence in the assessment.

c. Confirm the effectiveness of selected processes by test and analysis.

d. Assess the chosen demilitarization and disposal procedures and EOL actions with regard to personnel safety, environmental consequences, and other substantial risks. The effects of exposure to credible life-cycle environments, of munition degradation and aging, and of environmental factors and human errors during execution of the demilitarization and disposal processes shall be taken into account when making the assessment.

e. Assess the compatibility of the demilitarization and disposal procedures with national and international legislation regarding health, safety, and environmental protection.

Demilitarization and Disposal Techniques

14. This section provides representative techniques suggested by various nations. Their appearance here is not an endorsement of their use. National acceptance of any planned procedure is required.

15. While details of how demilitarization and disposal techniques are implemented or strict requirements for which techniques must be used are not included in this STANAG, some possible size reduction techniques are mechanical sectioning, laser grooving/cutting, cryogenic processes, washout, meltout, and water jet cutting. Annex A gives a short description of each one.

16. All aspects of the demilitarization and disposal process must be carried out in a manner that meets relevant legislation on pollution, emission, and control of contaminated items. All proposals should be economically viable for any products intended for recycling.

17. Methods of treatment might include open burning/open detonation (OB/OD), incineration, oxidation, biochemical or chemical decontamination, photocatalytic neutralization, bio-degradation, chemical conversion, electrochemical reduction, molten salt destruction, open-pit burning, closed detonation, or other environmentally and safety-approved methods that remove the military utility.

18. After treatment, the residual material must be recovered, reclaimed, reused, recycled, sold, or be treated as waste.

19. Because national policies will determine the acceptability of the selected method, a purchasing nation may require the use of a different method than the one accepted in the developing nation.

Demilitarization and Disposal Plan

20. Personnel for new and modified munition development programs shall prepare a demilitarization and disposal plan. Use of the related documents listed in this STANAG are recommended for consideration, when applicable, during the development of a plan. In general, a demilitarization and disposal plan shall include the following information:

a. A functional and physical description of the munition (including quantity), its packaging configuration, and the equipment, processes and procedures planned for safe and environmentally acceptable demilitarization and disposal.

b. A listing of all materials, including the hazardous materials contained in the munition, and their associated hazards.

c. An indication of intent to conduct a hazards analysis on the demilitarization and disposal procedures and EOL actions in accordance with AOP-15 and to include a discussion of the safety and environmental impacts and their associated hazards.

d. Provisions to ensure that, after application of the selected processes, all sensitive materials and items will be neutralized or otherwise rendered inoffensive or be extracted for other uses.

e. The intended destination of liberated hazardous materials.

21. Annex C provides an example format for a demilitarization and disposal plan and the information that might be included.

IMPLEMENTATION OF THE AGREEMENT

22. This STANAG is implemented by a nation when that nation has issued instructions that all future munitions developed or procured for its forces will be designed to comply with this agreement.

TERMS AND DEFINITIONS

1. Terms defined in AAP-6, AOP-38 and referenced STANAGs have been used in this document. Terms specific to this document are defined as follows:

a. Biochemical. A general term referring to chemical reactions in living organisms.

b. Biodegradation. The process of breaking down a hazardous compound into innocuous products by the action of microorganisms or other living species.

c. Chemical Conversion. The changing of one compound into another via chemical reaction.

d. Chemical Decontamination. The process of making any contaminated object, person or area safe for unprotected personnel by chemically destroying, physically removing, sealing in, or otherwise making harmless the contaminating agent on or around it.

e. Closed Detonation. The process of placing a munition in a closed chamber and initiating it with an explosive charge. The evolved gases and solid residues can then be collected and treated in an environmentally safe manner.

f. Conversion. The reclamation of the units or components of a munition for alternative military or non-military uses in the same, modified, or amended form.

g. Cryogenic Exposure. The process of cooling a munition usually in a bath of liquid nitrogen (-196°C). At such temperature, for example, a heavy steel projectile case would become brittle and could more easily be shattered to expose its contents.

h. Demilitarization. The act of removing or otherwise nullifying the military potential of a munition. Such action is to be carried out in a safe, cost effective, practicable, and environmentally responsible manner. Demilitarization is a necessary step for military items prior to their release to a non-military setting.

i. Disposal. The end-of-life (EOL) tasks and actions for residual materials resulting from demilitarization operations. Disposal encompasses the process of redistributing, transferring, donating, selling, abandoning, or destroying military munitions.

j. Electrochemical Reduction. Treatment of organic wastes by generation of highly oxidizing species in an electrochemical cell and using them to oxidize the waste to carbon dioxide and water.

k. Incineration. The controlled burning of solid, liquid, or gaseous combustion wastes to produce gases and solid residues containing little or no combustible material.

l. Laser grooving/cutting. Use of a laser to score a projectile case to a weakened grooved that, in combination with a tearing/breaking process, would bisect the case to expose the filler.

m. Meltout. A process for removing energetic material in which the filler is heated sufficiently to cause it to melt and flow out. Three meltout technologies are: autoclave, steamout, and heating.

n. Molten Salt Destruction. A process in which organic constituents of the waste are converted into non-hazardous substances such as carbon dioxide, nitrogen, and water. Any inorganic constituent of the waste is retained in the molten salt. The destruction of energetic materials waste is accomplished by introducing it, together with oxidant gases, into a crucible containing sodium carbonate mixed with suitable carbonates, chlorides or sulfates of sodium, potassium, lithium, and calcium.

o. Neutralization. The process of making a munition ineffective in its intended application.

p. Open Burning. The burning of explosives and munitions in a metal pan or pit in the external environment, without the control of resulting emissions.

q. Open Detonation. The detonation of explosives and munitions in an external environment without control of resulting emissions.

r. Open-Pit Burning. Burning of material in a pit, often made of concrete, that precludes direct contact with the ground.

s. Oxidation. A treatment method that uses electron loss chemical processes. Such processes are widely used to treat cyanides, pesticides, phenol, and sulfur compounds. Common oxidants used are chlorine or hypochlorites, potassium permanganate, and hydrogen peroxide.

t. Photocatalytic Neutralization. The use of a light emitting source to render a material inactive or ineffective.

u. Recovery. The process of extracting serviceable and economically repairable components and material from excess or surplus munitions.

v. Recycling. The use in a different item of materials recovered from a munition.

w. Reuse. The alternative use of a munition or its components, e.g., change from operational to training use.

x. Washout. The use of an agent, such as hot water, high pressure, solvent, or cryogenic dry wash, to remove energetic material in a munition without destruction of the case metal.

y. Water Jet Cutting. A process of squeezing water through a nozzle to form a thin jet capable of cutting a variety of non-metallic materials. If an abrasive is entrained into the waterjet, the method is called abrasive waterjet cutting. Metallic, or hard materials such as metal plates, ceramics, or glass can then be cut.

INTERNATIONAL ENVIRONMENTAL LEGISLATION

Montreal Protocol.

Relevant UK legislation:

Control of Pollution Act.

Health and Safety at Work Act.

Control of Substances Hazardous to Health.

Relevant US legislation:

DoD 5000.2R

"On the Incineration of Hazardous Waste (94/67/EG)", published PBEG, dated 16 December 1994.

EXAMPLE DEMILITARIZATION AND DISPOSAL PLAN

Purpose

This section shall state that the purpose of the plan is to identify the processes, procedures, and equipment necessary to accomplish the safe and environmentally acceptable demilitarization and disposal of a munition or its components.

a. Give a brief overview of the process being used.

b. Identify areas not covered by the plan, e.g., transportation, incinerator operations, washout operations. Also, identify subassemblies covered in other plans.

Item Description

This section shall describe the physical and functional configuration of the complete item and major components with attached illustrations. The description is to list:

a. All individual parts/components and filling (including explosive components) that are potentially recoverable; include quantities, compositions, and weights.

b. All nonrecoverable elements (including explosive components); provide reasons for being nonrecoverable, and quantities, compositions and weights.

c. All classified items and components; provide the minimum declassification requirements for each.

d. All precious metals and materials; identify quantity of each.

Demilitarization and Disposal Alternatives

This section shall list (and describe briefly) the preferred and alternative methods of demilitarization and disposal of the item(s) addressed by the plan. (NOTE: The National Authority shall provide information on available technology and equipment capability to the preparer. The preparer shall use that information in developing the demilitarization and disposal plan.)

Demilitarization and Disposal Procedures

This section shall describe each alternative method in as much detail as possible. Descriptions should include step-by-step procedures, safety precautions, disassembly diagrams, declassification procedures, component and piece part tables, demilitarization operations, and disposal options.

Demilitarization and Disposal Special Tools and Equipment

This section shall list special tools and equipment required to accomplish the procedure described for the preferred alternative.

Safety Summary

This section shall summarize safety hazards that are inherent in the munition and the precautions and procedures that must be employed during the demilitarization and disposal operation. This section shall also provide an overview of the safety requirements for storage and handling. A table shall be included in this section that identified all of the energetic and hazardous materials in the munition item, the chemical composition of each material, and the material's products of combustion.

Primary Risks. Primary risks are those associated with the munition, components and filling that might affect personnel, environment, or property during handling or exposure.

Ingestion/Adsorption/Inhalation. List all materials that may have a physiological effect on personnel or may damage property or the environment (including flora and fauna). The list shall indicate the physical form of the material (solid, liquid or gaseous), the means of attack, the effect and the protection required.

Trauma Inducing. List all batteries, electrical and electromagnetic generating devices, capacitors, sources of electrical charge, springs under tension or material under compression that can transfer kinetic energy upon release. The list shall indicate the likely energy output, the likely effect and the protection required.

Explosive or Filling Risk. List risks associated with the payload, propulsion system and any energetic (explosive) material. The list shall include any flammable or oxidizing material. Most nations have Explosive Hazard Data Sheets/Records and reference can be made to factors such as toxicity, reactivity and spark sensitivity. Where the filling is not an explosive energetic material, e.g., white phosphorus or CS/CAR/CN, then the criteria for the Ingestion/Absorption/Inhalation risk assessment would apply.

Radioactive or High Energy Emitters. List any risk related to the electromagnetic spectrum, whether from a natural or artificial source, e.g., radioactivity, bright light, coherent light (laser) and microwave. The list shall include details of the physical form of the source, output, effect on personnel, property, and environment and the protection required.

Secondary Risks. Secondary risks are those risks that exist during the process of demilitarization and disposal where the process changes the material; such risks are to be annotated using the same format as for the primary risk. A Secondary Risk will be specific to the disposal method selected and, therefore, there may be more than one Secondary Risk for a particular munition, component or filling. A Secondary Risk may exist in material that was not considered to have a Primary Risk, e.g., a plastic that has no risk in its basic form but produces a toxic concentration of gases if burned. Additionally, risks associated with the waste stream of proposed breakdown or disposal equipment are to be included.

Environmental Significance

This section shall include an analysis describing the environmental significance and impact of each demilitarization and disposal alternative, including a brief overview of the regulations applicable to the preferred demilitarization process. This section shall also list all of the recyclable materials generated by the preferred demilitarization process and identify the waste streams produced by the preferred demilitarization process. This will include the combustion products from the energetic and hazardous materials table.

Reviews

Recognition that most stores, especially those used in training, may have a long storage life, must be addressed by identifying the need for some future reviews(s).

Two situations that would induce the need for future reviews are:

1. The stores undergo physical or chemical changes or minor modification. Even though this change with age is recognized and expected, the rate of change may be different than was originally anticipated. Therefore, a statement that the plan must be reviewed after (x) years or following modification should be considered for inclusion.

2. Environmental or health and safety legislation may change so there is a need to state that the plan must be reviewed in the light of new legislation.

Reference Documents

This section shall list the applicable safety, environmental, technical and other documents used to prepare this plan.