PILLAR REPORT - ENVIRONMENTAL QUESTIONNAIRE FOR ARMAMENT STORES

REPORT No: ASP1001.96 (AOC 265.96)

24 July 1996

A Pillar Report is a formal statement by the Australian Ordnance Council of its policy or philosophy on a subject. It is published for the guidance of Australian Ordnance Council staff and the information of organisations of individuals who may deal with the Australian Ordnance Council. It is not an order, or a management instruction, and it imposes no constraints on designers of manufacturers.
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This report was endorsed at a meeting of the Australian Ordnance Council on 24 July 1996.

Report No: ASP1001.96
AOC 265.96 dated 24 July 1996
PRESIDENT

GROUP CAPTAIN W. M^cD. MAYNE, ARMIT, MIEAust, CPEng

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Report No: ASP1001.96
AOC 265.96 dated 24 July 1996
SUMMARY

1. This report publishes a revised AOC Environmental Questionnaire.

2. AOC Proceeding 194.91 is cancelled.
ENVIRONMENTAL QUESTIONNAIRE FOR ARMAMENT STORES

Previous Reports: AOC Proceeding 194.91

INTRODUCTION

1. The AOC provides assessments to the three Services and industry on the safety and suitability for service of weapon systems and explosives. These assessments are based on the results of appropriate trials which include tests to simulate the predicted service environment that the armament store must withstand, from manufacture to target or disposal. This predicted service environment generates a Life Cycle Environmental Profile (LCEP), which in turn is used to generate an Environmental Test Plan (ETP). The store must withstand this simulated service environment without unacceptable degradation, in either safety or performance.

2. The AOC published an Environmental Questionnaire (EQ) as AOC Proceeding 194.91, copies of which were completed by the store’s Service managers to obtain the LCEP. Experience has shown that improvements could be made to the EQ in the areas of format and explanation of terms. The Explosives Environmental and Service Life Advisory Committee (EESLAC) was tasked to draft a revised EQ which incorporated improvements in these areas.

AIM

3. The aim of this Report is to publish a revised AOC Environmental Questionnaire.

DISCUSSION

4. The accurate definition of the likely service environment to which a store or weapon system might be exposed during its manufacture to target or disposal sequence is critical in formulating an ETP. If an environment less severe than that which the store might experience is stipulated, latent defects and failure modes may go undetected. Alternatively, if a more severe environment is defined, then a store or system may be unnecessarily modified or rejected. The rationale behind the use of the EQ is discussed in depth at Reference A.
5. The AOC should be involved early in the procurement cycle to advise on definition of the environment, particularly when overseas organisations are contenders for the supply of an item. Ideally this should take place well before competitive tendering action so that the necessary ETP may be included in the Invitation to Tender. Some or all of the information needed to demonstrate the safety and suitability of the store for the specified Australian environment may then be provided by potential suppliers, possibly leading to an overall reduction in project costs.

6. The questionnaire should be completed and certified by project staff, with assistance from the AOC task Technical Staff Officer, as soon as possible after task placement. The revised EQ is at Enclosure 1. If required, the questionnaire can be provided on disk.

CONCLUSION

7. The Environmental Questionnaire for armament stores to be used by project staff and the AOC is published. AOC Proceeding 194.91 is cancelled.

Approved for Publication:

W.M'D.MAYNE
Group Captain
President, Australian Ordnance Council

Reference:


Enclosure:

1. AOC Environmental Questionnaire

Report No: ASP1001.96
AOC 265.96 dated 24 July 1996
Distribution:

VCDF (Data Sheet Only)
ACDEV
ACMAT-N
ACMAT-A
ACMAT-AF
Engineer in Charge, Environmental Test Facility, ATEA
EOLMSQN (CO)
DWGP-A
DARMENG-N
ATEA (Laboratories and Services Division)
Manager Document Exchange Centre (8 Copies)
Defence Central Library (Technical Reports Centre)
Librarian DSTO Salisbury
Librarian AMRL Melbourne
AMRL (Salisbury, Attn: Mr P. MacDowell)
HQLOGCMD-A (SATO Surveillance)
HQLOGCMD-A (SO2 Ammo)
Manager Armament Surveillance (RAN)
Secretary UK Ordnance Board
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Chairman US DDES B
Chairman USN WSES RB
Director Ammunition Engineering Services (CF)
Head New Zealand Defence Liaison
Technical Project Officer MWDDEA A-79-AS-1254
Technical Project Officer MWDDEA AF-78-AS-7005
NIMIC
ADI Ltd (General Manager, Ammunition Product Development Centre)
AUSTRALIAN ORDNANCE COUNCIL
ENVIRONMENTAL QUESTIONNAIRE

STORE NOMENCLATURE

AOC TASK NO.

CERTIFICATION BY SERVICE AUTHORITIES

The information in this questionnaire represents the expected service environment and is consistent with the approved storage and operational requirements and design specifications for this store.

Signature
Name
Rank
Appointment
Date

Design Approval Authority or
Project Manager / Director

This questionnaire is designed to establish the Life Cycle Environmental Profile (LCEP) that a weapon system or item of explosive ordnance is expected to experience during its life from manufacture to target or disposal. This profile is used by the AOC to determine the necessary trials to simulate those environments. The purpose of this testing is to assess the probable response of the store and its container to natural and induced environmental conditions representative of those likely to be experienced in service. This questionnaire should be completed with the assistance of AOC staff.
Background Information

1.1 Store nomenclature or description:
(To include build standard or modification state, where known)

1.2 What is the UN Classification of the store and/or its components, if known?

1.3 Is a UN Classification required? Y / N
Complete an application for UN classification (TGI 39). Note that additional testing may be required to confirm the classification code.

1.4 1.4.1 In what country is the store designed?

1.4.2 In what country is the store manufactured and by whom?

1.5 What other countries use the store?
Provide any environmental or safety data from overseas sources.

1.6 Which of the Services are likely to use the store?

1.7 Are prototype development drawings available? Y / N

1.7.1 Drawing Numbers and Titles

1.8 Are ‘sealed’ drawings available? Y / N

1.8.1 Drawing Numbers and Titles
1.9  Does the store have detachable components?  Y / N

1.9.1  At what stage of the life cycle will they be assembled to constitute a complete store?

*Note: If the individual components will at any stage be stored or deployed in different environmental conditions than the complete store annotate when this is the case throughout the remainder of the questionnaire.*

1.10  Is there a practice or blank version of the store?  Y / N

*Note: If the practice or blank version will at any stage be stored or deployed in different environmental conditions than the operational version annotate when this is the case throughout the remainder of the questionnaire.*

1.11  What is the next higher assembly of the item?

*eg. in the case of a fuze, what projectile or weapon is it fitted to; in the case of rounds or missiles, what type of gun or launcher is used.*

1.12  Are range safety templates available, or are they required?

1.13  If the store is for training purposes what is the required safe operating distance?

1.14  Which land based Service firing ranges, if any, will be used for:

1.14.1  the operational version of the store?

1.14.2  the practice version of the store?

1.15  Is there, or might there be, software used to control any safety critical function?  Y / N
**Packaging Information**

**Primary Packaging**

*Primary packaging is the smallest package unit, exclusive of integral casings, used to contain and transport the store or stores.*

2.1 Is the store and/or components to be packaged at any time during its life cycle?  Y / N

2.1.1 Describe the packaging. *(Include UN package code)*

2.1.2 Drawing Numbers? _______

2.2 Is the primary packaging used to contain:

2.2.1 the entire store?  Y / N

2.2.2 individual sections or components of the store?  Y / N

2.3 What is the orientation of the store within the packaging?

**Secondary Packaging**

*Secondary packaging is any packaging unit holding more than one primary package and in which the primary packaged stores spends a significant proportion of its life.*

2.4 Is the store to be packaged in larger units i.e. secondary packaging?  Y / N

2.4.1 Describe the packaging.

2.4.2 Drawing numbers? _______

2.5 Describe the through-life storage configuration.
Service Life and Environment

3.1 What areas outside of Australia will the store be required to be in storage or operate in?

Note that the default environment for testing will be the ADF’s likely operating environment, as described in higher Defence policy such as the Defence White Paper. AOC staff can provide advice on the extremes of this environment if necessary.

3.2 What is the duration for which the store is required to remain safe and suitable for service?

3.2.1 Service life (service life is a combination of storage life and operational life)?

3.2.2 Operational or training conditions (ie operational life)?

3.2.3 If the store is an aircraft installed store, what is its required installed life?

3.3 Are stores or explosive components which become over-age to be:

3.3.1 expended in training? Y / N

3.3.2 demilitarised? Y / N

3.3.2.1 describe how:

3.3.3 disposed of? Y / N

3.3.3.1 describe how:

3.4 What are the store’s ‘render safe’ requirements?
3.4.1 Does it have a capability for:

3.4.1.1 self destruction? Y / N

3.4.1.2 self neutralising? Y / N

3.5 For unused stores in a field or operational environment are they: (circle all choices that apply)

a) destroyed, discarded, demilitarised etc; (if different from 3.3 describe how)
b) returned to field store;
c) repacked in secondary or primary packing (if unpacked) and returned to unit store;
d) repacked in secondary or primary packing (if unpacked) and returned to depot via unit;
e) repacked and returned direct to the depot;
f) other: __________________________

3.6 How many times could the store be re-issued from the

3.6.1 depot store? _____

3.6.2 unit store for field deployment? _____

3.6.3 field store? _____
**Logistics Transport**

**Road Transport**

*Road transport includes transport between the manufacturer, depot and unit but does not include transport in the field by vehicles such as armoured personnel carriers, tanks or amphibious craft.*

4.1 Complete this table for each vehicle type used to transport the store by road.

<table>
<thead>
<tr>
<th>Vehicle Type</th>
<th>Transport Phase</th>
<th>Sealed Roads</th>
<th>Unsealed Roads</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Package State</td>
<td>Package State</td>
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<tr>
<td></td>
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<td>Distance (km)</td>
<td>Distance (km)</td>
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</tbody>
</table>

Transport Phase:  
I = Manufacturer to Depot,  
II = Depot to Unit.

Package State:  
A = Primary,  
B = Secondary,  
C = Unpacked.
Air Transport

Air transport includes transport between the manufacturer, depot and unit but does not include circumstances where the store is installed in an aircraft or carried internally or externally by an aircraft in an operational or training mission.

4.2 Complete this table for each aircraft type used to transport the store by air.

<table>
<thead>
<tr>
<th>Aircraft Type</th>
<th>Transport Phase</th>
<th>Maximum Duration</th>
<th>Package State</th>
<th>Max. Altitude Unpressurised</th>
<th>Max. Altitude Pressurised</th>
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</tbody>
</table>

Transport Phase: I = Manufacturer to Depot, II = Depot to Unit.
Package State: A = Primary, B = Secondary, C = Unpacked
Sea Transport

*Sea Transport includes transport between manufacturer, depot and unit but does not include circumstances where the item is stored on a combat, training or supply vessel, troop carrier or landing craft.*

4.3 Complete this table for each ship type used to transport the store by sea.

If the store is transported as deck cargo state the additional protection provided, if any (eg ISO container).

<table>
<thead>
<tr>
<th>Ship Type</th>
<th>Transport Phase</th>
<th>Maximum Duration</th>
<th>Package State</th>
<th>Stowed or Deck Cargo</th>
<th>Additional Protection</th>
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</table>

Transport Phase:  I = Manufacturer to Depot, II = Depot to Unit.
Package State: A = Primary, B = Secondary, C = Unpacked
Rail Transport

4.4 Complete this table if the store is transported by rail.

<table>
<thead>
<tr>
<th>Transport Phase</th>
<th>Distance, km (max)</th>
<th>Geographic Areas</th>
<th>Package State</th>
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</tbody>
</table>

Transport Phase: I = Manufacturer to Depot, II = Depot to Unit.
Package State: A = Primary, B = Secondary, C = Unpacked

Other Methods of Transportation

4.5 Will the store be transported by any other means?

4.5.1 Method?
4.5.2 Distance?
4.5.3 Packaged state?
4.5.4 Geographic areas?
4.5.5 Transport phase?

4.6 On the plan view of a generic land sea or air vehicle below, tick all of the orientations in which the store may be transported:

T = Transverse
V = Vertical
L = Longitudinal
Field Transport in Surface Vehicles

Field transport includes transport in the field by vehicles such as armoured personnel carriers, tanks or amphibious craft (amphibious craft should also be included in the storage at sea section), and includes use as installed equipment.

If the store could be transported in a mobile/towed launcher (eg field or air defence artillery) or on trolleys or other ground support equipment (eg transfer of bombs or missiles to aircraft), it should be included in this section.

5.1 Complete this table for all situations where the store is transported over land during field or operational use.

<table>
<thead>
<tr>
<th>Vehicle Type</th>
<th>Wheeled/ Tracked</th>
<th>Distance (km)</th>
<th>Terrain / Surface</th>
<th>Package State</th>
<th>Stowage: Horizontal, Vertical, other</th>
<th>Position: Front, Rear Sides, Internal/External</th>
<th>Purpose or Ad Hoc Racks: Give Details</th>
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</table>

Package State: A = Primary, B = Secondary, C = Unpacked
Aircraft Use and/or Carriage

This section covers circumstances where the store is installed in an aircraft, carried internally or externally by an aircraft in operational or training missions, including helicopter slung loads. This section does not cover air transportation to depots or unit stores.

6.1 Complete this table for all situations where the store experiences an airborne environment other than transport.

<table>
<thead>
<tr>
<th>Aircraft Type</th>
<th>Total Flying Time (h) /Sorties</th>
<th>Internal or External</th>
<th>Positions in/on Aircraft</th>
<th>Mounting Method or Racks used</th>
<th>Subject to Arrested Landing: Y/N</th>
<th>Environmental Protection: In-Flight</th>
<th>Package State</th>
<th>Max dB Acoustic Noise</th>
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</thead>
<tbody>
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</table>

Package State:  A = Primary,  B = Secondary,  C = Unpacked

6.2 Provide details of the known or maximum required vibration environment of the store at the aircraft position where it will be located.

6.3 Will the store experience free fall at or after launch?  Y / N
6.4 What temperature extremes will the store experience during flight?
   Include any known details of aerodynamic heating

   6.4.1 Maximum Temperature and duration?

   6.4.2 Minimum Temperature and duration?

6.5 Provide details of the operational and training flight profiles including duration, air speed and altitude. Include ferry flights.

<table>
<thead>
<tr>
<th>Mission Type:</th>
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<tbody>
<tr>
<td><strong>Altitude</strong></td>
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<tr>
<td><strong>Duration</strong></td>
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<th>Mission Type:</th>
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<tbody>
<tr>
<td><strong>Altitude</strong></td>
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<td><strong>Duration</strong></td>
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<th>Mission Type:</th>
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<tr>
<td><strong>Altitude</strong></td>
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<td><strong>Duration</strong></td>
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<th>Mission Type:</th>
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<tbody>
<tr>
<td><strong>Altitude</strong></td>
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<tr>
<td><strong>Duration</strong></td>
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</tbody>
</table>
Storage on Land

7.1 Complete this table for all types of storage conditions that the store will encounter on land.

*Storage on land includes all types of storage facilities the store could encounter in depot, unit or field conditions. It includes storage at the manufacturer.*

*Air-conditioned facilities are those which have a controlled environment of temperature and humidity, whilst temperature controlled facilities are subject to normal humidity fluctuations.*

*A good quality storehouse is one in which the inside temperature would be expected to remain reasonably constant over a 24h period, but would follow seasonal changes. It would normally be constructed of solid brick or a similar material, and would have adequate ventilation.*

*A thin walled storehouse is one in which the inside temperature would be expected to follow, but not exceed, daily fluctuations. It would normally be of light construction, with adequate ventilation and give complete protection from sun and rain.*

<table>
<thead>
<tr>
<th>Storage Type</th>
<th>Temperature &amp; Humidity</th>
<th>Depot, Unit or Field</th>
<th>Package State</th>
<th>Geographic Areas</th>
<th>Duration in Areas (Total)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Conditioned: Specify Temperature ($^\circ$C) and Humidity (%)</td>
<td></td>
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<tr>
<td>Temperature Controlled: Specify Temperature ($^\circ$C)</td>
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</tr>
<tr>
<td>Good Quality Storehouse</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Thin Walled Storehouse</td>
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<tr>
<td>Unventilated Temporary Storage: eg tents</td>
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<tr>
<td>No Climatic Protection</td>
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</table>

Package State:     A = Primary, B = Secondary, C = Unpacked
Storage and Use on Ships

Storage on Ships includes circumstances where the item is stored on a training or supply vessel, troop carrier or landing craft or combat vessel. It also includes support craft, tenders, lighters, patrol boats and submarines but does not include transport between manufacturer, depot and unit.

8.1 Complete this table for all storage conditions that the store may encounter at sea.

Fitted storage facilities include, for example, ready-use lockers and loaded launchers. If the store is stowed in more than one type of ship or magazine, provide the maximum and minimum temperatures that the store is likely to experience.

For position on ship, detail below or above the waterline, and forward, aft or midship.

<table>
<thead>
<tr>
<th>Types of Ship</th>
<th>Air Conditioned Magazine</th>
<th>Forced Draft Ventilation</th>
<th>Fitted Storage Facility</th>
<th>Deck Cargo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature (°C) &amp; Humidity (%) (cst)</td>
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<tr>
<td>Package State</td>
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<tr>
<td>Position on Ship</td>
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<tr>
<td>Use of Purpose Designed Racks?</td>
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<tr>
<td>Describe Racks</td>
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<tr>
<td>Duration in Ship Max at one time</td>
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Package State: A = Primary, B = Secondary, C = Unpacked
8.2 Provide details of the known or maximum required vibration environment of the store as positioned in the vessel.

8.3 Could the store be subject to underwater shock? Y / N

8.3.1 Where is the most likely position of the store during the shock (e.g., magazine, ready use locker etc)? *(Include store orientation)*

8.3.2 Are the stowages on resilient mounts?

8.3.3 What is the most likely package state of the store during the shock?
Other Operational Environments

9.1 Will the store be subjected to high forces of acceleration (e.g. ground, sea or air-launched missiles or captive aircraft flight)? Y / N

9.1.1 Provide details of known or required forces.

9.2 Is the store required to operate under water or buried below ground (e.g. land and sea mines and torpedoes)? Y / N

9.2.1 What is the maximum operating or launch depth required?

9.2.2 What is the maximum duration required under water or below ground?

9.2.3 What geographic areas are involved?

9.3 Will the store be air-dropped?

9.3.1 From what height?

9.3.2 What is the package state of the store?

9.3.3 Describe any additional protection used.
9.4 If the store will be lifted at any time during transport and handling (eg by a crane, into a ship from a lighter, onto or off a jackstay, or onto an aircraft manually or using a machine (eg MJ1), list for each case:

<table>
<thead>
<tr>
<th>Lifting Device or Method</th>
<th>Packaged State</th>
<th>Additional Protection Provided</th>
<th>Maximum Height Lifted (m)</th>
<th>Action to be taken with Dropped Stores</th>
</tr>
</thead>
<tbody>
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Package State: A = Primary, B = Secondary, C = Unpacked

9.5 Will the store experience vibration or shock as a result of firing a gun (aircraft, ship or artillery)?

9.5.1 What type of gun?

9.6 Will the store experience temperature shock due to sudden changes in the environment (eg submarine launched weapon, air launched weapon)? Y / N

9.6.1 Provide details of the temperature change and duration of the change.
Environment Exposure

10.1 Provide details of exposed environments that the store may experience. Include details of any protection provided.

<table>
<thead>
<tr>
<th>Solar Radiation</th>
<th>Dust/Sand/Mud</th>
<th>Salt Spray</th>
<th>Rain</th>
<th>Fuel/Oil (Specify Type)</th>
<th>Other Contaminants (Specify)</th>
<th>Immersion in Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duration of Exposure</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Package State</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geographic Areas</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protection Provided</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Life Cycle Phase</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Life Cycle Phase:  I = Transport, II = Storage, III = Operational Use
Package State:     A = Primary, B = Secondary, C = Unpacked

10.2 Is the store required to survive prolonged exposure to high temperatures such as a round of ammunition held in a hot gun chamber or a fire extinguisher cartridge close to power plants in aircraft? Y / N

10.2.1 situation?
10.2.2 maximum temperature?
10.2.3 maximum duration?
**Abnormal Hazards and Events**

11.1 Is the store required to be an Insensitive Munition (IM) IAW DI(G) LOG 07-10.

11.2 Complete this table for all occasions where the store could be exposed to fire:

*The configuration describes the state of the store ie all up round, components etc.*

<table>
<thead>
<tr>
<th>Configuration of Store</th>
<th>Liquid Fuel Fire</th>
<th>Other Fire Directly on Store or Packaging</th>
<th>Fire in an Adjacent Compartment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Package State</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials in Fire ie. Fuel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Response Required to be Known? Y / N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Known Fire Hazards of Store (eg smoke, fumes)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firefighting / Emergency Time Available</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Package State: A = Primary, B = Secondary, C = Unpacked

11.3 Is the store required to survive the following effects of a nuclear environment:

11.3.1 Gamma Rays or X - Rays? Y / N

11.3.2 Electromagnetic Pulse (EMP)? Y / N
11.4 Complete the following table if the store could encounter any of the following impacts or shocks during its life cycle.

*The anticipated hazard is the weapon or event which would cause the effect.*

*The configuration describes the state of the store ie all up round, components etc. Note whether the store is protected by other structures (such as a ship’s hull or turret of an AFV).*

<table>
<thead>
<tr>
<th></th>
<th>Bullet Impact</th>
<th>Fragment Impact</th>
<th>Shaped Charge Jet</th>
<th>Detonation of an Adjacent Store</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anticipated Hazard</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Store Configuration</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Package State</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Package State: A = Primary, B = Secondary, C = Unpacked
11.5 Complete the following table if the store could encounter an electromagnetic environment at any time during its life cycle:

<table>
<thead>
<tr>
<th>Anticipated Hazard</th>
<th>Electrostatic Charge</th>
<th>Lightning</th>
<th>Service Electromagnetic Environment</th>
<th>Induction of Transient Energy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Store Configuration</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Packaged State</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Package State:  
A = Primary,  
B = Secondary,  
C = Unpacked

Note whether there is any protection from the electromagnetic environment during handling (such as loading) or when loaded (in launchers or on aircraft).

11.5.1 Does the store contain an Electrically Initiated Explosive Device? Y/N
# Pillar Report - Environmental Questionnaire for Armament Stores

<table>
<thead>
<tr>
<th>3a. AR Number</th>
<th>3b. Report Number</th>
<th>3c. Type of Report</th>
<th>4. Task Number</th>
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</thead>
<tbody>
<tr>
<td>AR-009-144</td>
<td>265 96</td>
<td>PILLAR</td>
<td>270</td>
</tr>
</tbody>
</table>

**5. Security Classification**

<table>
<thead>
<tr>
<th>S (Secret)</th>
<th>C (Conf)</th>
<th>R (Rest)</th>
<th>U (Unclass)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>U</td>
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</tbody>
</table>

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**18. Abstract**

1. This report publishes a revised AOC Environmental Questionnaire.

2. AOC Proceeding [94,9] is cancelled