

NORMALIZATION OF EXPLOSIVES SAFETY REGULATIONS BETWEEN U.S. NAVY AND AUSTRALIAN DEFENCE FORCE

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ABSTRACT

Global positioning of forces and joint operations with U.S. allies places armed U.S. Navy (USN) ships, as well as U.S. Navy and U.S. Marine Corps (USMC) aircraft, at allied ports and airfields. U.S. forces must currently adhere to the explosives safety requirements of the host nation, unless the U.S. has control of the real estate, as under a Status of Forces Agreement (SOFA); in the later case, the Navy processes site approvals through the Department of Defense Explosives Safety Board (DDESB). When site approvals are not in place, event waivers must be issued.

The U.S. Navy has partnered with the Royal Australian Navy (RAN), the Australian Director of Ordnance Safety (DOS), and the DDESB over the past two years to reach a consensus on the normalization of explosives safety regulations. This effort has demonstrated that the Australian licensing process (based on NATO criteria) is equivalent to, or more restrictive than, U.S. criteria for the same applications.

The Chief of Naval Operations (CNO) submitted a request to the DDESB in December 2009, for USN ships, as well as USN and USMC aircraft, to operate in Australia under Australian Defence Force (ADF) criteria, at licensed locations, without the need to request DDESB site approvals or issue event waivers. This initiative also enhances U.S. interoperability with allied nations and may provide opportunities for similar ventures with other nations that have comparable safety programs. The final DDESB acceptance of this request should be completed prior to the final presentation paper submission date.

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14. ABSTRACT

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NORMALIZATION OF EXPLOSIVES SAFETY REGULATIONS BETWEEN U.S. NAVY AND AUSTRALIAN DEFENCE FORCE

Background

U.S. Navy (USN) ships and aircraft, and U.S. Marine Corps (USMC) aircraft operate from allied ports and airfields throughout the world, with the need to handle ammunition and explosives (A&E). The DoD 6055.09-STD requires that all locations where Department of Defense (DoD)-titled A&E are stored or handled be authorized by a Department of Defense Explosives Safety Board (DDESB) site approval. This would require that site approvals be prepared for each port and airfield, in each country where A&E would be handled. This significant task would require that data bases be maintained and enforced by the USN for each base in each country, with maps and technical data, as well as a process to ensure the site approval conditions are maintained and enforced. This process is accomplished at bases located on land that is under U.S. control, such as Japan, Korea, and Diego Garcia. At these locations, DDESB site approvals are maintained, or deviations issued under Department of the Navy (DON) procedure.

This process can only be fully executed at locations where the USN has full control over the land where the A&E is stored or handled. To meet the requirements of DoD 6055.09-STD, the USN and USMC must issue repetitive event waivers for each A&E operation at all other locations worldwide.

Discussions

The USN and the Royal Australian Navy (RAN) began discussions in 2006, with the intent of creating an acceptance policy that would allow USN ships and aircraft to operate under Australian Defence Force (ADF) criteria at licensed locations and locations operating under ADF deviations. This is the same concept that is applied to other nations' ships and aircraft operating at USN and USMC activities. To accomplish this goal, it was realized that the USN and the RAN would need to demonstrate that the ADF criteria was enforced by a robust and aggressive explosives safety program, comparable to what the DDESB expects of each U.S. Service program.

The first step was to compare and document the differences between DON criteria in explosives safety documents – Naval Sea Systems Command (NAVSEA) OP 4 and OP 5, Explosives Safety Afloat and Ashore, to Australian criteria in Defense Explosives Ordnance Safety Manual DEOP 103, North Atlantic Treaty Organization (NATO) Allied Ammunition Storage and Transport Regulation (AASTP)-1, Manual of NATO Safety Principles for the Storage of Military Ammunition and Explosives, and Australian/New Zealand Standard AZ/NZS 1768:2007 “Lightning Protection”. This initiative was enhanced by the assignment of two RAN officers to the Naval Ordnance Safety and Security Activity (NOSSA) in 2008, under an internship program, which resulted in a

paper prepared by one of the RAN officers, comparing the criteria between the USN and the RAN, as well as how the criteria is applied.

Following completion of the comparison paper, the USN made a formal presentation to the DDESB Staff during January 2009. The DDESB then provided the ADF Explosives Ordnance Branch an update on this initiative during a trip to Australia in March 2009. This was followed by a joint work effort between NOSSA and the DDESB Staff to compare DoD 6055.09-STD with DEOP 103 and OPSMAN 3, and AASTPA-1, as well as evaluating the licenses for explosive operations at the Darwin Explosives Handling Areas and Royal Australian Air Force (RAAF) Tindal, using the siting criteria of DoD 6055.09-STD. The conclusion of this comparison was that the Australian criteria provided the same level of personnel protection as U.S. DoD criteria, with more conservative separations in some cases, as most distances are based on NATO AASTP-1. Because AASTP-1 does not address port or airfield explosives safety criteria, the ADF has developed this criteria in OPSMAN 3 and DEOP 103. Currently there is duplication between these two documents; however, the two documents are being consolidated into one document that all the Services will use.

While there are many similarities between U.S. and Australian criteria, there are some subtle differences, such as the application of the Combatant Exemption for ships carrying A&E for on-board weapons, aircraft, and troops. Both country's criteria allow combatant ships to remain loaded with A&E, without having to apply explosives safety quantity distance (ESQD) arcs, unless there is A&E handling involved. Under USN criteria, only the amount of A&E being handled at one time is used to calculate EQSD arcs, while ADF criteria considers the amount being handled, as well as the amount in open shipboard magazines and launchers involved in the handling evolution. Since the RAN currently has no amphibious warfare ships, they have not adopted the Combatant Exemption for amphibious ships; therefore, USN amphibious ships will operate under cargo ammunition ship criteria for the present time.

Summation

The DDESB issued a letter of approval to the Chief of Naval Operations (CNO) on 20 May 2010, which allows USN and USMC ships and aircraft to operate at ADF-licensed locations for a one-year trial period. Although the initial USN request was also for operations at Australian locations operating under deviations, that portion was not accepted by the DDESB. Included in the trial period are the following stipulations:

1. USN amphibious ships treated as cargo ammunition ships.
2. USN will inform DDESB if waivers are requested.
3. Diplomatic clearance requests with Australian Government continued.
4. USN will track each ship/aircraft operation.

Acceptance of the trial period provides several benefits for the USN, USMC, and RAN that include:

1. Eliminates repetitive event waivers when no criteria violation exists.
2. Increases interoperability with Australian forces.
3. Parallels the same authorization applied to allied nation's ships and aircraft operating at U.S.-controlled facilities.
4. Creates opportunities for similar arrangements with allied nations that possess robust explosives safety programs.



***NORMALIZATION OF EXPLOSIVES SAFETY
REGULATIONS BETWEEN
U.S. DEPARTMENT OF DEFENSE AND
AUSTRALIAN DEFENCE FORCE***



U.S. Forces Deploy Throughout the World

DDESB criteria:

- All locations where U.S.-titled ammunitions and explosives are handled or stored require DDESB site approval.
- Does not recognize explosives safety regulations of other countries.
 - Allied nations operate at U.S. ports and airfields under U.S. criteria, or U.S. Service-issued deviations.



U.S. Forces Deploy Throughout the World

Ports and Airfields Under U.S. Control:

- Site-approved by DDESB or
- Operate under U.S. Service-issued deviations (examples – Japan, Korea, Diego Garcia)

Ports and Airfields Not Under U.S. Control:

- Event waivers issued for each operation (examples – Singapore, Australia, United Kingdom, Thailand)



Plan for Normalization of Criteria

Initiated:

- 2006 discussions between U.S. Navy (USN) and Royal Australian Navy (RAN)

Goal:

- Allow USN ships and aircraft to operate under Australian Defence Force (ADF) criteria at licensed locations or under Australian deviations



USN Initiatives

Evaluate ADF criteria and safety program

- RAN officers' internship at NOSSA – 2008
- Product – Comparison paper
 - NAVSEA OP 4 & 5 – Explosives Safety Afloat and Ashore
 - DEOP 103 – Defense Explosives Ordnance Safety Manual
 - AASTP-1 Manual – NATO Safety Principles for the Storage of Military Ammunition and Explosives
 - Australian Standard 1768:2007 Lightning Protection

Communications with Australian agencies (RAN, ADF and Directorate of Ordnance Safety (DOS))

- COMPACFLT briefs to RAN



USN Initiatives (cont'd)

USN presentation to DDESB (Jan 09)

DDESB briefed ADF Explosives Ordnance Branch on Navy proposal – Mar 09

DDESB Staff and NOSSA – Joint comparison

- Compared – DEOP 103 & OPSMAN 3 with AASTP-1 and DoD 6055.09-STD
- Evaluated Darwin Explosives Handling Areas and RAAF Base Tindal under DoD 6055.09-STD.

CONCLUSION:

- **Australian Criteria – Same level of personnel protection as U.S. DoD - generally more conservative – distances based on NATO ASSTP-1**



Australian – U.S. Criteria Comparison

Examples

Combatant Exemption

- U.S. – ammunition on-board does not generate quantity distance (QD) - only amount being handled
- Australian – ammunition on-board does not generate QD - amount being handled combined with open magazines and launchers
- U.S. – Amphibious ships are combatants
- Australian – No amphibious ships
- U.S. amphibious ships – QD for cargo ammunition ships



Conclusion

DDESB approval letter for 1-year trial period (20 May 2010)

- USN and USMC ships and aircraft can operate as ADF-sited locations
- USN amphibious ships – treated as cargo ammunition ships
- USN will inform DDESB if waivers are requested
- Diplomatic clearance requirements with Australian Government continued
- USN will track each ship/aircraft operation



Benefits

Eliminates repetitive event waivers when no criteria violations exist

Increases interoperability with Australian forces

Parallels the same authorization applied to allied nation's ships and aircraft operating at U.S.-controlled facilities

Creates opportunities for similar arrangements with allied nations that possess robust explosives safety programs



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PROVIDING ORDNANCE SAFETY FOR THE NAVAL ENTERPRISE