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# WSESRB

(WEAPON SYSTEM EXPLOSIVES SAFETY REVIEW BOARD)

## AND NAVY SMALL ARMS

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13. ABSTRACT (Maximum 200 words) <i>This report</i> Provides a general overview of information about the responsibilities and procedures of the Weapon System Explosives Safety Review Board (WSESRB). Provides information about the need for WSESRB review of Navy small arms including weapons, mounts, ammunition and ancillary equipment. This document is intended as an informational supplement to the guiding instructions and directives. Refer to the controlling documents for specific procedures and information. <i>References.</i>				
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# WSESRB

# AND NAVY SMALL ARMS

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**SUMMARY:**

Tests intended to demonstrate the safety and acceptability of weapons for shipboard use must be approved by the Weapon System Explosives Safety Review Board (WSESRB).

Specific information concerning WSESRB functions in the Navy Weapon System Safety Program is contained in NAVSEAINST 8020.6C. The WSESRB reviews safety aspects of weapon or explosive systems and makes recommendations to the responsible Naval Command or Program Manager. The WSESRB shall review every weapon system and item of explosive ordnance for compliance with safety directives before a system advances to the next stage of development or before test, prototype or production units are introduced to the fleet.

This document provides an informational supplement to instructions and directives about the responsibilities and procedures of the WSESRB.

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# 1. REFERENCED DOCUMENTS:

1.1. The following instructions and directives are referenced:

1.1.1. NAVSEAINST 8020.6C: Navy Weapon System Safety Program<sup>1</sup>, [describes WSESRB responsibilities and procedures; provides guidelines for submission of WSESRB data package].

1.1.2. OPNAVINST 8023.2C: U.S. Navy Explosives Safety Policies, Requirements, and Procedures<sup>2</sup>, [describes WSESRB function as DON explosive safety authority; Program Managers will implement Naval Weapon System Safety Program per NAVSEAINST 8020.6C Para 6.b.(1)-(5); appoints NAVSEASYSOM as technical authority for weapon system safety].

1.1.3. OPNAVINST 5100.24A: Navy System Safety Program<sup>3</sup>, [Describes modification of existing OR, DOP, NDCP; safety requirements; Requires hazard control analysis for Naval facilities conducting loading, renovation or disposal operations involving high explosives, propellants or pyrotechnics].

1.1.4. MIL-STD-882B: System Safety Program Requirements<sup>4</sup>, [requires Program Manager to begin a system safety approach ensuring overall safety of weapon system and installation aboard Navy craft; safety requirements].

1.1.5. NAVSEAINST 8010.5A: [requires meeting weapon operational requirements with the least sensitive material available].

1.1.6. OPNAVINST 8010.13B: Department of the Navy's Policy on Insensitive Munitions (IM)<sup>5</sup>, [requires meeting weapon operational requirements with the least sensitive material available].

1.1.7. OPNAVINST 5000.42C: Research, Development and Acquisition Procedures<sup>6</sup>, [WSESRB meeting 1 equivalent to

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<sup>1</sup> NAVSEAINST 8020.6C: Navy Weapon System Safety Program, 04 April 1988, (OPR 652), 15p. [IHS S075-1889]. hardcopy available: [NAVSEAINST 8020.6C OPR 652, SER 00/2296, 4 APR 88].

<sup>2</sup> OPNAVINST 8023.2C: U.S. Navy Explosives Safety Policies, Requirements, and Procedures; (Department of the Navy Explosives Safety Policy Manual), 29 January 1986, (OP-411F4), 54p. [IHS U055-3948].

<sup>3</sup> OPNAVINST 5100.24A: Navy System Safety Program, 3 October 1986, (OP-09F), 3p. [IHS U073-1027].

<sup>4</sup> MIL-STD-882B: System Safety Program Requirements, 01 July 1987, 122p. [IHS E318-2317].

<sup>5</sup> OPNAVINST 8010.13B: Department of the Navy's Policy on Insensitive Munitions (IM), 27 June 1989, (OP-354), 5p. [IHS U104-2340].

<sup>6</sup> OPNAVINST 5000.42C: Research, Development and Acquisition Procedures, 10 May 1986, (OP-098), 55p. [IHS U089-0162].

Milestone I; WSESRB meeting 2 equivalent to Milestone II; WSESRB meeting 4 equivalent to Milestone III; Program Managers will implement Naval Weapon System Safety Program per NAVSEAINST 8020.6C Para 6.b.(1)-(5)].

1.1.8. NAVSEAINST 9070.5A: Design Reviews of Naval Sea Systems Command Acquisition Programs; Policy and Procedures for<sup>7</sup>, [WSESRB meeting 1 equivalent to Preliminary Design Review; WSESRB meeting 2 equivalent to Critical Design Review; Program Managers will implement Naval Weapon System Safety Program per NAVSEAINST 8020.6C Para 6.b.(1)-(5)].

1.1.9. NAVSEAINST 8020.5B: Qualification and Final (Type) Qualification Procedures for Navy Explosives (High-Explosives, Propellants, and Pyrotechnics)<sup>8</sup>, [Requires explosives to be qualified before use in a weapon development program; Program Managers will implement Naval Weapon System Safety Program per NAVSEAINST 8020.6C Para 6.b.(1)-(5)].

1.1.10. NAVSEAINST 8020.8: Department of Defense Explosives Hazard Classification Procedures<sup>9</sup>, [Requires generation of data and a hazard classification before ALP or AFP of a weapon].

1.1.11. NAVSEAINST 8010.1A: Assessment of Ammunition Processing Lines for Compliance with Technical Requirements<sup>10</sup>, [Requires NAVPROENG CEN review of operating lines, procedures and QA for Naval facilities conducting loading, renovation or disposal operations involving high explosives, propellants or pyrotechnics].

1.1.12. DOD-STD-2105: Hazard Assessment Tests for Navy Non-Nuclear Ordnance<sup>11</sup>, [Requires addressing the rationale for test and test parameter selection].

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<sup>7</sup> NAVSEAINST 9070.5A: Design Reviews of Naval Sea Systems Command Acquisition Programs; Policy and Procedures for, 13 May 1983, (SEA-004/TDW), 12p. [IHS S045-0386].

<sup>8</sup> NAVSEAINST 8020.5B: Qualification and Final (Type) Qualification Procedures for Navy Explosives (High-Explosives, Propellants, and Pyrotechnics), 16 May 1988, (OPR 06G), 18p. [IHS S075-1871].

<sup>9</sup> NAVSEAINST 8020.8: Department of Defense Explosives Hazard Classification Procedures, 01 September 1982, (SEA-06H), 49p. [IHS S043-2148].

<sup>10</sup> NAVSEAINST 8010.1A: Assessment of Ammunition Processing Lines for Compliance with Technical Requirements, 5 March 1979, (SEA-642), 6p. [IHS S075-1844].

<sup>11</sup> DOD-STD-2105: Hazard Assessment Tests for Navy Non-Nuclear Ordnance, 9 September 1982, 18p. [IHS E306-3896].

## 2. NAVAL EXPLOSIVES SAFETY PROGRAM:

The Naval Explosives Safety Program is an important component of the Primary Program Areas (Submarine and Diving, Surface, Shore, and Aviation) and extends into several of the Specified Support Areas of the Navy Safety Program, as set forth in OPNAVINST 5100.8F. It applies to all personnel, civilian and military, assigned to duties in any part of DON where explosives are or may be present<sup>12</sup>. The policies and procedures of the Naval Explosives Safety Program are described in Enclosure (1) of OPNAVINST 8023.2C "U.S. Navy Explosives Safety Policies, Requirements, and Procedures".

The Naval Explosives Safety Program is guided by the explosives safety standards established by the Department of Defense Explosives Safety Board (DDESB). The DDESB advises the Secretary of Defense and each Department of Defense (DOD) component concerning hazardous conditions associated with the handling, transportation, and storage of explosives and ammunition<sup>13</sup>. Explosive safety standards applicable for naval use and observance are published in appropriate Naval Sea Systems Command (NAVSEASYS COM) publications, primarily in OPNAVINST 8023.2C Enclosures (2) through (4) and in: NAVSEA Ordnance Pamphlet 4; NAVSEA Ordnance Pamphlet 5, Volumes 1 and 2; NAVSEA Ordnance Pamphlet 2165; NAVSEA Ordnance Pamphlet 3347; and OPNAVINST 8023.21C<sup>14</sup>.

The purpose of the Naval Explosives Safety Program is to ensure reasonable safety and enhance operational readiness by reducing to a minimum the possibility of injury, loss of life, and property damage<sup>15</sup>.

The Naval Explosives Safety Program includes explosives safety studies, surveys, reviews and explosives mishap investigations and reports. These are conducted as part of the Naval Explosives Safety Improvement Program (NESIP) established by CNO. Actions include reviews by the AMHAZ Handling Review Boards<sup>16</sup>, and detailed surveys conducted by the Naval Sea Support Centers<sup>17</sup>. Reviews by the WESERB are of particular importance<sup>18</sup>.

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<sup>12</sup> OPNAVINST 8023.2C: Explosives Safety; Enclosure (1), 6.a.

<sup>13</sup> OPNAVINST 8023.2C: Explosives Safety; Enclosure (1), 2.c.

<sup>14</sup> OPNAVINST 8023.2C: Explosives Safety; Enclosure (1), 5a.

<sup>15</sup> OPNAVINST 8023.2C: Explosives Safety; Enclosure (1), 4.

<sup>16</sup> OPNAVINST 8023.13F.

<sup>17</sup> OPNAVINST 8020.8H.

<sup>18</sup> OPNAVINST 8023.2C: Explosives Safety; Enclosure (1), 5b; 7.a.(1); 7.a.(6).

### 2.1. TECHNICAL AUTHORITY:

The Commander, Naval Sea Systems Command (COMNAVSEASYSKOM), is the Department of the Navy's technical authority on explosives safety. Under the supervision of DCNO (Logistics) (OP-04), COMNAVSEASYSKOM is tasked by DCNO Logistics (OP-04) to establish and issue technical standards and criteria, provide technical guidance and assistance to all components of the Department of the Navy, and to furnish technical advice and evaluations to CNO in those problem areas where operational requirements conflict with technical requirements. COMNAVSEASYSKOM directs and coordinates the efforts of all technical offices in regard to explosives safety, prepares data as necessary to analyze program effectiveness, and serves as a central point-of-contact for the Naval Systems Commanders for explosives safety matters<sup>19</sup>.

COMNAVSEASYSKOM shall incorporate appropriate explosives safety criteria in the design of weapons systems, explosive systems, and materials developed or procured under COMNAVSEASYSKOM cognizance, and shall submit the systems and materials to the WSESRB for explosives safety review<sup>20</sup>.

COMNAVSEASYSKOM shall approve explosive systems and materials under COMNAVSEASYSKOM cognizance after explosives safety recommendations of the WSESRB have been implemented. Where WSESRB safety recommendations cannot be implemented, ensure that the Program Manager documents the rationale therefore<sup>21</sup>.

COMNAVSEASYSKOM shall assure, through the WSESRB, that required explosives safety features are specified for weapons systems, non-weapon explosive systems, facilities, and ship installations. Deficiencies and recommended solutions shall be documented<sup>22</sup>.

## 3. WSESRB DESCRIPTION:

The Weapon System Explosives Safety Review Board (WSESRB) reviews the explosives safety of weapons or explosive systems. The WSESRB makes appropriate recommendations to the cognizant Naval Systems Commander or Program Manager responsible for the system or material under review. The WSESRB also approves for full production systems and materials considered for use by the Navy. The WSESRB is headed by a representative of COMNAVSEASYSKOM and includes representatives from appropriate Systems Commands and other commands as necessary. The WSESRB has

<sup>19</sup> OPNAVINST 8023.2C: Explosives Safety; Enclosure (1), 6.b.

<sup>20</sup> OPNAVINST 8023.2C: Explosives Safety; Enclosure (1), 7.a.(1).

<sup>21</sup> OPNAVINST 8023.2C: Explosives Safety; Enclosure (1), 7.a.(2).

<sup>22</sup> OPNAVINST 8023.2C: Explosives Safety; Enclosure (1), 7.a.(6).

a permanent secretariat. The policies and procedures of the WSESRB are described in NAVSEAINST 8020.6<sup>23</sup>.

**3.1. WSESRB SECRETARIAT:**

COMNAVSEASYSYSCOM shall provide, from the explosives safety community within NAVSEASYSYSCOM, the chairman, secretariat, and administrative support for the WSESRB, and ensure additional representation as necessary. Personnel assigned to the WSESRB shall be experienced in explosives safety matters and have no responsibilities for procurement or development of the item under review<sup>24</sup>. The secretariat is located in SEA-06G.

**3.2. WSESRB TECHNICAL SUPPORT ACTIVITY:**

The Naval Surface Warfare Center, Dahlgren (NAVSWC/DL) shall act as the principal activity for technical support to the WSESRB. NAVSWC/DL shall review submitted documentation packages and provide summaries to WSESRB members. NAVSWC/DL shall maintain records as specified by the WSESRB.<sup>25</sup>

## 4. WSESRB POLICIES AND PROCEDURES:

**4.1. PROGRAM MANAGER RESPONSIBILITIES:**

Program Managers shall incorporate appropriate explosives safety criteria in the design of weapons systems and explosive systems and materials developed or procured under their cognizance, and submit the systems and materials to the WSESRB for explosives safety review<sup>26</sup>.

Program managers shall approve explosive systems and materials under their cognizance after the explosives safety recommendations of the WSESRB have been implemented. Where WSESRB safety recommendations cannot be implemented, the rationale for non-compliance must be documented<sup>27</sup>.

**4.2. SHIPBOARD INSTALLATIONS:**

WSESRB safety certification must be obtained before initial delivery of test, prototype, or production units to the Fleet<sup>28</sup>.

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<sup>23</sup> OPNAVINST 8023.2C: Explosives Safety; Enclosure (1), 2.b.

<sup>24</sup> OPNAVINST 8023.2C: Explosives Safety; Enclosure (1), 7.a.(6).

<sup>25</sup> NAVSEAINST 8020.6C: Navy Weapon System Safety Program, 4.e.(1); 4.e.(4); 4.e.(6).

<sup>26</sup> OPNAVINST 8023.2C: Explosives Safety; Enclosure (1), 7.f.(1).

<sup>27</sup> OPNAVINST 8023.2C: Explosives Safety; Enclosure (1), 7.f.(2).

<sup>28</sup> NAVSEAINST 8020.6C: Navy Weapon System Safety Program, 5.e.

**4.3. DATA PACKAGE FORMULATION:**

A program may request assistance from the responsible command WSESRB member, the Secretariat located in SEA-06G, or the technical support activity, NAVSWC/DL<sup>29</sup>. For specific instructions concerning documentation for WSESRB presentations, refer to NAVSEAINST 8020.6C Enclosure (2): "Guidelines for Submission of Data Package".

**4.4. NWSCC INTERFACE WITH WSESRB:**

A Point of Contact to schedule presentations to the WSESRB is: Paul Wright, NAVSEA Safety Office, SEA-665, AV 332-2080, (202) 640-2080.

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<sup>29</sup> NAVSEAINST 8020.6C: Navy Weapon System Safety Program, 2.

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Weapons Design Engineering Project Manager