

Weapons & Explosives safety

Summer 2002

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First Flights of Composite Motor Case

By Chris Lawson, NAVAIR, China Lake

When MAJ Jeff Woods' F/A-18C lifted off from Armitage Field on 26 July, it carried something never before taken aloft by a U.S. aircraft. Attached to the number eight wing station for the first flight ever was a flight-certified all-composite rocket motor case. Composite motors may be used in future versions of air-to-air missiles such as Sidewinder and AMRAAN.

The composite motor case was the product of a Naval Air Systems Command (NAVAIR) initiative to demonstrate the maturity of composite structures technology for tactical missile application. The composite case captive-carry qualification project (C4Q) team designed and fabricated a composite rocket motor case for a representative missile and established a modified flight clearance process for experimental components. The project team is demonstrating the maturity of the technology through captive-carry flight testing of a composite case, short-range, air-to-air missile "blue tube." (The term refers to a piece of hardware that has the same mass properties and aerodynamic characteristics as a live missile of the same variety.)

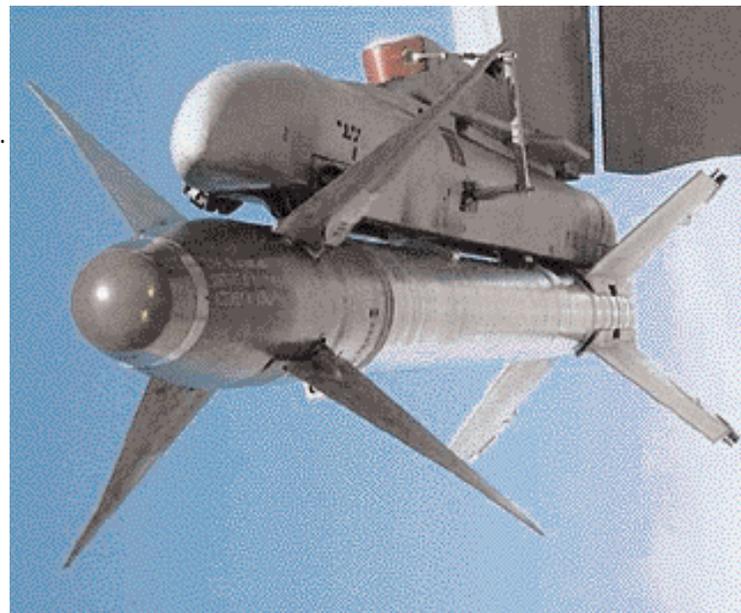
Composite materials are typically made of stiff, high-strength fibers embedded in a common matrix material. In this composite motor

case, carbon graphite fibers are wound in an epoxy base.

Composites are not new to Navy weapons and platforms. The joint standoff weapon (JSOW), for example, has composite-coated metal wings; and the F/A-18 is about 10% composites by weight. The composite motor case is unique. It is the first flight-certified example of a weapon structure in which composites provide the structural integrity of the weapon. Therein lies one of the potential benefits for future weapon designers.

This capability has intriguing potential. Although sensor and guidance systems are developing to the point where "over-the-shoulder" shots are feasible, current motor cases do not have the structural integrity to perform what is essentially an ultra-high-speed U-turn. But a composite case just may.

Composites are stronger and lighter than steel. Decreased weight means trade-off opportunities for engineers. The weight saved can be translated into greater speed and range or reinvested by making the motor smaller



Flight Ready—the composite motor case mounted on an F/A-18 prior to a captive-carry flight.

and increasing the size of the warhead or other components. Additionally, composites resist corrosion and have high resistance to fatigue damage.

First Flights of Composite Motor Case

continued

Potential performance enhancements are secondary to the primary purpose of the composite case: the safety of Navy personnel. Since several tragic shipboard accidents in the 1960s and 70s, the Navy has invested heavily in developing insensitive munitions (IM). The ultimate goal is that all ordnance be impervious to “unplanned stimuli,” such as bullet and fragment impacts, or fires.

Composite motor cases offer excellent IM characteristics. When exposed to intense heat, such as a carrier-deck fire, a standard metal motor case tends to confine the rocket fuel’s reaction. This can lead to a propulsive outcome—a missile shooting across the deck of the ship—or, worse, a detonation.

By contrast, when a composite case is exposed to the same stimulus, the epoxy in the composite softens, and the case can vent at a much lower pressure. If a more energetic reaction does occur, the composite

fragments have very little mass compared to metal, further reducing risk of secondary damage from flying debris.

The C4Q program began in FY98 and was completed at the end of FY01. The program has now met its four goals: to establish the material data requirements for a load-bearing, filament-wound composite case; develop a flight-certification process; build the case; and fly it.

The Navy has many years of experience in composites technology. Approximately 250 composite cases, ranging from 2.75 to 21 inches in diameter, have been fabricated and tested for IM compliance at China Lake’s state-of-the-art composites laboratory.

For more information about the C4Q program, contact Allen Gehris, the IM technology transition program manager, at (301) 342-8045 or gehrisap@navair.navy.mil. 

Celebrating Gene Vickers’ 50 Years of Government Service

*By Bernadette Smith,
NAVSURFWARCEN*

Not many people can say they have given their country 50 years of service. But beginning in 1952 with pledging his allegiance to the United States of America when joining the Marine Corps, retiring from the Marine Corps after 28 years of service, and then continuing as a civil servant for 22 more years and counting, tracks the career path of Mr. Gene Vickers. Vickers, who was born and raised near Wilson, North Carolina, said his devotion to country stems from having “pride in the U.S. since school days and reading and hearing about the military and their contributions.”

Vickers was honored on the second day of the Explosives Safety Inspection meeting held 8-10 April 2002 in Waldorf, MD. After congratulatory words from CAPT Bob Honey, Commanding Officer of the Naval Safety and Security Activity (NOSSA), Vickers was greeted by applause and a standing ovation.

Vickers, while in the Marine Corps, has seen “two wars, a lot of other actions, innumerable exercises, deployments and everything else that goes with it. He showed what it takes to be a Marine, serve our country, protect our country, and defend it,” said CAPT Honey.

After 28 years and 3 months, to be exact, Vickers retired from the Marine Corps and began working at the U.S. Postal Service. Vickers realized almost immediately, however, that sorting mail wasn’t his bag. He was then hired as a physical security specialist at the Naval Sea Support Center, Pacific. In 1986 he relieved the Director of what is now known as ESSOPAC “and the rest, for those who know him,” said CAPT Honey, “is history.” As ESSOPAC Director, Vickers is responsible for managing the ESSOPAC Office with remote offices in Seal Beach, CA and Hawaii. He is responsible for the conduct of explosives safety inspections, reviews, and assistance to all Navy and Marine Corps shore stations and all Navy ships in the Pacific area from the Mississippi River to Diego Garcia in the Indian Ocean.

CAPT Honey commended Vickers’ work ethic and performance and mentioned that Vickers is a major contributor to the Combined Federal Campaign (CFC). CAPT Honey related that someone made the comment to him that a person has a hard time maneuvering in Vickers’ office without tripping, considering the many eagle trophies that he receives for contributing the maximum every year to the CFC.

The Weapons and Explosives Safety newsletter is published quarterly by the Naval Ordnance Safety and Security Activity (NOSSA). Articles and other contributions are welcome. We reserve the right to make editorial changes. Views expressed are those of the authors and not necessarily those of NOSSA.

CAPT Robert M. Honey, USN N00
Commanding Officer, NOSSA

Edward W. Kratovil N09
Executive Director

CDR Gerald Friedman, USN N7
Director, Ordnance Safety and Security

Stephen H. Bennett N71A
Manager, Ashore Safety and Security

Ginger Barron N7124
Publication Coordinator

Bernadette Smith 073BS
Editor

Vickers was at the forefront of the cultural change in the Navy and was instrumental in getting females qualified as Explosives Safety Inspectors, said CAPT Honey. He is also a big supporter in the community.

Looking back on some of the highlights in his career, Vickers has fond memories of being chosen as the Marine Corps Color Standard bearer for New York on Armed Forces Day in 1959. He was promoted to Staff Sergeant (E-5) in the Marine Corps before reaching 21 years old—"could not even buy a beer at that age," said Vickers. Vickers was promoted to Master Gunnery Sergeant with only 18 years of service. In 1978 Vickers introduced a product into the Marine Corps called Breakfree, which is used for cleaning, lubrication, and preservation of weapons. The product was adopted by all services and is still being used today.

Vickers said that the most significant changes he has seen over the years pertain to quality of life issues. The military's attitude toward marriage and families, particularly the Marine Corps, have done almost an about face. For instance, when he first joined the Marine Corps "everyone was told that the Marine Corps did not issue a wife, therefore unless you were an E-4 or above, marriage was out of the question." Vickers said the key to success is total dedication and loyalty to whatever you're doing—staying focused on priorities and anticipating what may happen. His advice to the younger generation—"get your education, establish goals, and go for it." Vickers said he too would have gone for more education were he to do it all over again. "And since I like flying, I would

probably try to get into aviation," Vickers added. Vickers plans to continue working as long as he can, retire, and then travel to places he's never been.

Celebrating Gene Vickers' 50 Years of Government Service

continued



Gene Vickers' 50 years of service to the nation was celebrated at the Explosives Safety Inspection Meeting.

CAPT Honey presented Vickers with his 50 year pin and a plaque that reads "Naval Ordnance Safety and Security Activity takes pleasure in recognizing Marvin E. 'Gene' Vickers in honor of your first 50 years of dedicated service to the nation—March 12, 1952 to March 12, 2002." As he shook Vickers hand, CAPT Honey said, "Gene, congratulations, you're a true patriot." 🇺🇸

The Annual Department of the Navy Explosives Safety Conference was held at NAS Pensacola, FL, 26 through 28 February 2002. Nearly 300 participants attended this year's forum, which was hosted by the Naval Ordnance Safety and Security Activity (NOSSA) and included world-wide representation from the Navy, Marine Corps, Army, Air Force, and Coast Guard. The three-day agenda focused on the Navy's Explosives Safety Program mission of "Providing Ordnance Safety for Our Warfighters."

CAPT Bob Honey, NOSSA's Commanding Officer, welcomed the conference attendees and stressed that the ordnance safety procedures practiced daily during peacetime are even more essential during wartime to maintain safety during this climate of heightened operational tempo. He expressed confidence that the assembled explosives safety experts would continue the Navy's and Marine Corps' success at providing a safe ordnance environment for our operators and promised to be their advocate for explosive safety issues. CAPT

Annual Department of the Navy Explosives Safety Conference

*By Dean Engelhardt,
NOSSA*

Annual Department of the Navy Explosives Safety Conference

continued

Honey offered his “prescription” for success in ordnance operations by employing efforts stressing simplicity, procedural compliance, standardization, training, and supervision.

The conference keynote speaker, Ms. Constance DeWitte, Deputy Assistant Secretary of the Navy for Safety, Office

incumbent on the explosives safety community to embed the precepts of ORM into the service culture and, specifically to these young, inexperienced sailors and marines, to meet the challenge of preserving the integrity and safety of ordnance operations.

Another distinguished speaker at this year’s conference was CAPT David Carey, USN (Ret.). Carey, a North Vietnamese prisoner of war for 5-1/2 years, was invited back to the forum after delivering his inspirational presentation at last year’s conference. Carey spoke to the life-changing events of September 11 and offered some of the coping mechanisms he developed during his ordeal in captivity. In particular, he encouraged the participants not to underestimate their sphere of influence. Everyone can make a difference, and the challenge is to make the choices that will make that difference.



Annual Explosives Safety Conference held at NAS Pensacola Florida, 26-28 February 2002. Seated (lt. to rt.) CAPT Robert Honey, CO NOSSA; CAPT Mike Herb, CNO N411; CAPT Martha Herb, CO NOSSA Naval Reserve Unit.

of the Assistant Secretary of the Navy for Installations & Environment, promised to make the forum’s goals her goals and to be an advocate for obtaining the needed resources for obtaining explosives safety’s objectives.

CAPT Denis Faherty, director of CNO’s Operational Risk Management (ORM) initiative, informed the forum that the Navy and Marine Corps currently have 75,000 “teenagers” in their ranks, many of them working with ordnance. Accordingly, it is

CDR Gerald Friedman, NOSSA’s Explosives Safety and Security Director, closed the conference by thanking the forum participants for their enthusiastic and dedicated participation. He also reminded everyone that next year’s conference would have an expanded format, combining explosives safety and arms, ammunition, and explosives physical security. Next year’s conference will to be at NAS Pensacola, 24 through 28 February. 📧

Locating the Publications You Need Using the NOSSA Website

By Bernadette Smith, NAVSURFWARREN

In the corporate world, the adage “publish or perish” may be an admonishment and reminder for executives to get the annual report to the major stockholders on time. In the literary world, the phrase might express the sentiments of a starving author. To those in the explosives safety community, publish or perish can be taken literally.

Failure to publish and disseminate written safety issues, rules and regulations, lessons learned, and so forth is an open invitation to death and disaster. And of course, neglecting to read and heed the technical manuals, checklists, and standard operating procedures designed to guide explosives safety handlers through their tasks is a

sure fire way to make it to the mishaps statistics.

Thus, OP 4, OP 5, and host of other living documents are continuously being updated and revised, which is why the major explosives safety technical manuals and their current status are listed on the back page of each issue of this newsletter. This listing is a mere sampling of the documentation that is required reading for those who work with explosives. These documents mandate such requirements as explosives safety training, certification, procedures, and working environment. U.S. Sailors, U.S. Marines, other branches of the military, and civilians alike use these documents in their

training, every day tasks, and ordnance supervision as well as to cite references in conducting and participating in explosive safety inspections.

To ensure this documentation is easily accessible, publications related to explosives safety are posted in the explosives safety section of the Naval Ordnance Safety and Security Activity (NOSSA) website. The NOSSA website is an umbrella website in that it supports the NOSSA organization internally and also the various NOSSA programs and external communities that support ordnance safety for the warfighter. The listing of publications on NOSSA's website came into being about two years ago. At that time the explosives safety website developer and user accounts manager, Susie Tanner, was given a list of various publications. Through exhaustive searching and tracking, she rounded up each pub and found either the electronic versions or paper copies. Paper copies were scanned into pdf files and posted on the website.

To access the publications, the NOSSA website is <https://intranet.nossa.navsea.navy.mil>. Select Explosives Safety on the upper right of the screen under Program Sites. On the next screen, select Electronic Pubs. At that point, a user name and password are required. You can request an account online by selecting "Request New User Account" at the bottom of the home page. When applying, use a military e-mail address, not a private e-mail address. Contractors are required to fill out a System Access Request (SAR) form. Your account will be established within 1 to 3 business days. Once you have an account established, please take the time to review and update your user information periodically to ensure it is accurate. To do this, select "Update User Information" on the home page. Please ensure phone numbers and e-mail address are up to date. If employee type is incorrect, please contact webmaster-nossa@navsea.navy.mil.

In addition to the hyperlinks titled, New Additions to the Electronics Publications Page, Updated Publications, and Canceled/Superseded Publications, specific explosive safety publications and instructions that are recommended to support a sound

explosives safety program are listed under the following headings:

- Ashore
- Air Stations
- Marine Corps
- Manufacturing and Research Facilities
- Railroads

Today, there are approximately 115 publications posted on the website. The types of publications that are posted on the website are as follows: Ordnance Publications (OP), NAVSEA and NAVAIR Technical Manuals, Marine Corps Orders (MCO), NAVSEA Instructions, OPNAVINSTs, MIL-HDBKs, NAVSUP, and NAVFAC publications. Tanner is on distribution for these documents. With the oversight of NOSSA's explosives safety website contents manager, Ginger Barron, she maintains status of each publication.

The files are all pdf. The user needs Adobe Acrobat Reader to view the files, which are viewable online or downloadable. Some of the files are very large and may take some time to view online. Downloading may be a better option in these cases.



The NOSSA webmaster, Mary Streeter and Tanner both agree that the most common problem among users of the website is forgotten password. In this case, the user can click on a button, appropriately titled "Forgot your user name or password?" and an e-mail will be sent to him or her with his or her user id and password. If you require further information or have questions regarding the NOSSA website, contact the NOSSA webmaster at webmaster-nossa@navsea.navy.mil. 📧

Locating the Publications You Need Using the NOSSA Website

continued

Aside from posting the latest publications on the website, Susie Tanner, NOSSA website developer and user accounts manager, assists website users with questions regarding the website.

11th Annual Explosives Safety Inspector's Meeting

By Bernadette Smith,
IHD/NSWC

The 11th Annual Explosives Safety Inspector's Meeting, hosted by the Naval Ordnance Safety and Security Activity (NOSSA), was held 8 through 11 April 2002 in Waldorf, MD. Approximately 50 attended. The purpose of the meeting was to discuss processes and improvements related to explosives safety inspections.

The first day of the meeting was open to ESI inspection team members who discussed ESI team procedures and policies. The second day of the meeting, CAPT Bob Honey, Commanding Officer of NOSSA took the opportunity to recognize Explosives Safety Support Office, Pacific (ESSOPAC) Director, Gene Vickers' 50 year of service to his country (see article on page 2).

Over the course of the meeting personnel from various Activities gave presentations covering the gamut of explosives safety topics including Military Munitions Response, naval ordnance transportation, electrical explosives safety, Munitions Rule Implementation Policy, environmental awareness training, and computer based training.

CAPT Michael Herb from the CNO spoke of the resource dilemma within the Pentagon. Herb said that while the explosives safety program is in place for a

compelling reason (the consequences are catastrophic if we fail to follow its precepts and procedures) the reality is that at the same time, we must maintain operational capability. Herb said that the Naval Ordnance Readiness Improvement Process (NORIP) is a high level and increasingly visible group that helps to decide what we want to do, measured against the attendant risk of what we decide to do and the costs of each.

On the subject of the Evaluation Guide, two goals are in the works 1) making necessary improvements to the Evaluation Guide and 2) ensuring the ESI team inspectors maintain appropriate flexibility to ana-

lyze/inspect areas outside of the evaluation guide. The guide is to be used as an "on-hands reference." CAPT Honey remarked that the guide is not to be used like a "rote preflight checklist." While the purpose of the guide is to "maintain credibility and consistency in our inspection process, it does not preclude the experience and knowledge of the team inspecting to the standards of the guide."

Mr. Gary Hogue, NOSSA, discussed changes to NAVSEA OP 5, Revision 7. In addition to various changes, the CD version of OP 5 will have a calculator to provide required intraline separation distances for various Net Explosive Weights (NEW). The paper version will still have tables. On the subject of site approval processing delays, Hogue implored activities to send out complete packages, ensure accuracy of maps, and measure with the scale to avoid delays.

Also speaking on the subject of publications was Mr. John Majka, PHST, NSWC, who said that the Explosives Safety Technical Data Collection (ESTDC) will change its name to Explosives Safety Technical Manual (ESTM). It is scheduled for release in June 2002 and the information may have to expand to two CD ROMs.

Mr. Bruce Tingen of the Navy Crane Center (NCC) discussed the Navy Crane Center's responsibilities and status. NCC is responsible for policy, training, compliance and safety, in-service technical support and acquisition in order to maintain a safe and effective weight handling program. They audit activities, investigate crane accidents and communicate lessons learned. Tingen also presented an 18-minute video regarding the Navy Weight Handling Equipment Program. A copy of the video can be obtained by contacting NCC via their website at <http://www.ncc.navfac.navy.mil>, or DSN: 443-0505 or Comm: 610-595-0505.

MAJ Phil Wahle of the Marine Corps Systems Command Environmental Explosives Safety (EES) Branch explained the EES mission and said that future plans for EES are to be more involved in the ESI process, implement the explosive safety ordnance (ESO) training course, standardize common SOPs, revise OP 5, vol. 3, and implement electronic requests and data submissions. 



CAPT Mike Herb gives CNO view of explosives safety inspections.

<u>COURSE/NUMBER</u>	<u>at DAC</u>	<u>ON-SITE LOCATIONS</u>
AMMO-18 * Basics of Naval Explosives Hazard Control		Computer Based Training (CBT) available on CD-ROM
AMMO-29 Electrical Explosives Safety for Naval Facilities	26-29 Aug 02	23-26 Jul 02 – Waipahu, HI 17-20 Sep 02 – Camp Lejeune, NC CBT to be developed
AMMO-32 Explosives Safety Officers		None 80 HR course is being developed
AMMO-33 Explosives Safety and Environmental Risk Management		13-14 Aug 02 – NAVMAG, Indian Island, WA 19-21 Nov 02, ESSOPAC Host
AMMO-36 Explosives Safety for Naval Facility Planning	None	29 Jul-2 Aug 02 – Honolulu, HI CBT to be distributed Oct 02
AMMO-43 Intermodal Dry Cargo Container/ CSC Reinspection	16-18 Jul 02 17-19 Sep 02	23-25 Jul 02 – Philadelphia, PA 6-8 Aug 02 – Gulfport, MS
AMMO-49 * Naval Explosives Safety Managers/Supervisors Orientation	None	CBT available on CD-ROM
AMMO-51 Naval Motor Vehicle & Railcar Inspection	5-9 Aug 02	CBT to be distributed Jul 02 NOTE: CBT orders can be submitted at www.dac.army.mil/navy
AMMO-62 Technical Transportation of Hazardous Materials	12-23 Aug 02	Equivalent courses covering air shipments are given at: Navy Supply Corps School (NSCS) Athens, GA POC: Tara Gentile DSN: 588-7240; COMM: 706-354-7240 website: www.nscs.com NOTE: Replaces NAVTRANS MGT SCOL, Oakland CA MIL PKG TECH SCOL, Aberdeen, MD DSN: 298-5185 Lackland AFB, TX DSN: 473-3603; COMM: 210-671-3603
AMMO-37 General Transportation of Hazardous Materials	None	16-20 Sep 02 – Crane, IN

* For enhancements to AMMO-18 and AMMO-49 computer-based training courses, written guidance is available to view and print at the DAC Navy website: www.dac.army.mil/navy. If you have further questions regarding CBT courses, please contact Sally Riggins at DSN: 956-8231 or E-mail: sallyriggins@dac.army.mil.

Aviation Ordnance Officer Career Progression (AOOCP)

AOOCP Class 02-06	Level I	10 Jun-19 Jul 02
AOOCP Class 02-07	Level II	12-23 Aug 02
AOOCP Class 02-08	Level I	9 Sep-18 Oct 02
AOOCP Class 02-10	Level I	12 Nov-20 Dec 02

Naval Aviation Schools Command (Located at NAS)
OTS Code 055
181 Chambers Avenue, Suite C
Pensacola, FL 32508-5221
POC: CW05 Timothy Moorehead/ Major Brower
DSN: 922-8626/4230 COMM: 850-452-8626/4230
FAX: 5673

website: www.cnet.navy.mil

FY 02 Course Schedule for Explosives Safety

Requirements for on-site classes must be requested in writing via the offices listed below.

Requests must be submitted a minimum of 50 days in advance of start date.

NAVY ACTIVITIES:

Defense Ammunition Center (DAC)
1C Tree Road, Bldg. 2
ATTN: LT. Brian Patterson, SOSAC-JS (DON Liaison Officer)
McAlester, OK 74501-9053
918-420-8036 DSN: 956 FAX: 8799
E-mail: brian.patterson@dac.army.mil (all lower case)
website: www.dac.army.mil/navy

MARINE CORPS ACTIVITIES:

Marine Corps Combat Development Command
POC: Pat Barton, Code C-463FT
Training and Education Center
2008 Elliott Road
Quantico, VA 22134-5010
703-784-5975 DSN: 278 FAX: 3060
E-mail: bartonp@quantico.usmc.mil

NOSSA POC:

Ginger Barron, Code N7124
301-744-1903
DSN: 354 FAX: 6093/6087
E-mail: barrongb@navsea.navy.mil

ESSOLANT:

NOSSA Explosives Safety Support Office, Atlantic
POC: Mr. Jack A. Kreis
ATTN: N7A
1832 Gilbert Street, Suite 110
Norfolk, VA 23511-3322
757-445-0812/0822, ext. 160 DSN: 565
FAX: 757-445-0772
E-mail: kreisja@ssg.navy.mil

ESSOPAC:

NOSSA Explosives Safety Support Office, Pacific
POC: Mr. Gene Vickers
ATTN: N7P
Box 357093
San Diego, CA 92135-7093
619-545-9560/9562 DSN: 735
FAX: 619-545-9559
E-mail: vickers.gene@essopac.nasni.navy.mil

Other Ordnance Training

DEPARTMENT OF THE NAVY

COMMANDING OFFICER
 NAVAL ORDNANCE SAFETY AND
 SECURITY ACTIVITY
 FARRAGUT HALL, BLDG D323
 23 STRAUSS AVENUE
 INDIAN HEAD, MD 20640-5555

OFFICIAL BUSINESS

Art Stanton, Naval PHST Center NAVSURFWARCEN Det Earle, serves as the NOSSA technical publications manager and is the point of contact for Explosive Safety Technical Manuals. He can be reached on 732-866-2947; DSN-449; FAX-2805, or E-mail: stantonav@phst.navy.mil

Publication No.	Title	Current Change/Revision	Comments
OP 4	Ammunition and Explosives Safety Afloat	Rev. 6, Basic, 15 Sep 99 ACN 1/7, 2/7, & 3/7	Plan to issue Rev. 7, Fall 02
OP 5, Vol. 1	Explosives Safety Ashore	Rev. 7, 15 Jan 01 Chg. 1, 1 May 02	CD issued Jul 02
OP 5, Vol. 3	Explosives Safety, Advanced Bases	Rev. 5, 1 Sep 94	Plan to issue Rev. 6, Fall 02
OP 2173	Approved Handling Equipment for Weapons and Explosives	Rev. 5, 15 Jan 01	Plan to issue Rev. 6, FY-03
OP 3347, Vol. 1/OP 1014	Ordnance Safety Precautions	Rev. 2, Chg. 13, 1 Dec 86 Rev. 3, 15 Aug 72	Plan to issue in Fall 02
OP 3565, Vol. 2	Electromagnetic Radiation Hazards to Ordnance (HERO)	Rev. 11, 1 May 02	CD issued Jul 02
OP 3696	Explosive Safety Precautions for Research Vessels	Basic Chg. 1, 15 Apr 73	Plan to issue Rev. 1, FY-03
S9571-AA-MMA-010	Underway Replenishment Ordnance Equipment and Transfer Units	Rev. 4, 1 May 02	CD issued Jul 02
SG420-AP-MMA-010	Periodic Test Arrangements for Ordnance Handling Equipment	Rev. 3, 1 May 02	CD issued Jul 02
SW010-AB-GTP-010	United States Navy Ammunition Historical and Functional Data	Basic, Chg. 0, 1 Nov 81	Plan to issue Rev. 1, FY-03
SW020-AC-SAF-010	Transportation and Storage Data for Ammunition Explosives, etc.	Rev. 6, 1 May 02	CD issued Jul 02
SW020-AF-ABK-010	Motor Vehicle Driver's and Shipping Inspector's Manual	Rev. 1, 15 Jan 01	Plan to issue Rev. 2, FY-03
SW020-AG-SAF-010 (formerly OP 2165)	Navy Transportation Safety Handbook	Rev. 3, 1 May 02	CD issued Jul 02
SW023-AG-WHM-010 (formerly OP 4461)	On-Station Movement of Ammo and Explosives by Truck and Railcar	Rev. 1, 15 Dec 00	Plan to issue Rev. 3, FY-03
SW023-AH-WHM-010 (formerly OP 4098)	Handling Ammunition and Explosives with MHE	Rev. 3, 1 Dec 00	Plan to issue Rev. 4, FY-03

Status of Explosives Safety Technical Manuals

The Explosives Safety Technical Manual CD-ROM (formerly titled "The Explosives Safety Technical Data Collection" (ESTDC)) was issued July 2002 The Explosives Safety Technical Manual CD replaces the ESTDC CD-ROM.

For a more comprehensive listing of explosives safety publications go to:

<https://intranet.nossa.navsea.navy.mil>

and obtain password access to the Restricted Explosives Safety Website

Questions regarding status and distribution may be directed to: Dawn Lauer on 732-866-2980 or Jeri DiMaggio on 732-866-2976; DSN-449; FAX-2803, or E-mail: lauerdm@phst.navy.mil