



**DEPARTMENT OF THE NAVY**  
 COMMANDER SUBMARINE FORCE  
 U.S. ATLANTIC FLEET  
 7958 BLANDY RD.  
 NORFOLK, VA 23551-2492

4720  
 Ser N4072A/04542  
 28 MAY 1998

COMSUBLANT/COMSUBPAC ALTERATION AND IMPROVEMENT (A&I) ITEM

SSN N3200	WC/JSN: EXTY3200	EIC: N/A	SWBS: 671	CAT: B
TRID T0105	WC/JSN: EXTY0105	EIC: N/A	SWBS: 671	CAT: B

From: Commander Submarine Force, U.S. Atlantic Fleet

Subj: ADDITIONAL SUBMARINE CHEMICAL LIGHTS

Ref: (a) CINCLANTFLT/CINCPACFLTINST 4790.3, Joint Fleet Maintenance Manual  
 (b) OPNAVINST 4790.4C, 3-M Manual

Encl: (1) COMNAVSEASYS COM ltr 9664 Ser 03G1/286 of 27 Oct 97

1. ESTABLISHMENT: This A&I item is established per reference (a).
2. PURPOSE: To enhance visibility in a smoke filled compartment.
3. DESCRIPTION: Following the technical guidance of enclosure (1), attach chemical lights to emergency air breathing manifolds, key fire fighting personnel and injured personnel.
4. MATERIAL REQUIREMENTS: Material will be provided by TYKIT.
5. ACCOMPLISHMENT: Designated for Ship's Force / IMA accomplishment. Report completion using the partially filled in OPNAV Form 4790/CK provided in the TYKIT.
6. APPLICABILITY: SSN 637 Class, SSN 642 Class, SSN 645 Class, SSN 688 Class and 726 Class submarines.
7. COMPLETION: After completing this A&I Item, submit a Ship's Configuration Change Form (OPNAV 4790/CK), provided in the TYKIT as described in reference (a), Volume IV, Part I, Chapter 2, and reference (b), Appendix B.

*R. L. Edwards*  
**R. L. EDWARDS**  
 By direction

Distribution: (see page 2)

Subj: ADDITIONAL SUBMARINE CHEMICAL LIGHTS

Distribution:

SNDL Part 1

28K1 SUBMARINE GROUP AND SQUADRON LANT (GRU 2; RON 2, 4, 6, 8, 12,  
16 and 20)

28K2 SUBMARINE GROUP AND SQUADRON PAC (RON 1, 3, 5, 7, 11 and 17)

Copy to:

SNDL Parts 1 and 2

21A1 CINCLANTFLT

21A2 CINCPACTFLT

24G2 SUBMARINE FORCE COMMANDER PAC (N4072)

29N1 SUBMARINE LANT

29N2 SUBMARINE PAC

29Q1 SUBMARINE LANT

29Q2 SUBMARINE PAC

32DD1 SUBMARINE TENDER LANT (AS)

32DD2 SUBMARINE TENDER PAC (AS)

FKP26 SUBMEPP (Codes 1840, 1822)

FA13 SUBMARINE SUPPORT FACILITY LANT (P&E)

FB13 SUBMARINE BASE PAC (SUBASE BANGOR WA only)

FB30 SHIP REPAIR FACILITY (NAVIMFAC PEARL HARBOR (Code 30)

FB45 TRIDENT REFIT FACILITY PAC

FKA1G SEA SYSTEMS COMMAND (PMS 392, 392A2, 05L2, 08D, 08O,  
and 92L23)

FKP1E NAVAL UNDERSEA WARFARE CENTER Division Newport, RI

FKP7 NAVAL SHIPYARD NORFOLK (Code 244 and 1215), NAVSHIPYD PUGET

SOUND, NAVSHIPYD PEARL HARBOR, AND NAVSHIPYD

PORTSMOUTH (Code 1260)

PLANNING YARD PTSMH (Code 280)

FKP8 SUPERVISOR OF SHIPBUILDING GROTON (Code 600) and

NEWPORT NEWS (Codes 158 and E23), AND SUPSHIP SAN DIEGO

(Code 902) only)

FA50 TRF Kings Bay (Code 425)

SUBRONSUPPU New London

SUBRONSUPPU Norfolk

Commanding Officer

Attn: Code 240 NOFORN library

NAVSHIPREPFAC, YOKOSUKA

PSC 473 Box 8

FPO AP 96349-1400

**Subj: ADDITIONAL SUBMARINE CHEMICAL LIGHTS**

**Copy to:(continued)  
SNDL Parts 1 and 2**

**Lockheed Martin Engineering & Sciences Company  
3929 Calle Fortunada  
San Diego, CA 92123  
Attn: Alice Hammond**

**Newport News Shipbuilding Representative  
c/o SUBASE Pearl Harbor  
Pearl Harbor, HI 96860-6500**



**DEPARTMENT OF THE NAVY**

NAVAL SEA SYSTEMS COMMAND  
2331 JEFFERSON DAVIS HWY  
ARLINGTON VA 22242-5160

IN REPLY REFER TO  
9664  
Ser 03G1/286  
27 Oct 97

From: **Commander, Naval Sea Systems Command**  
To: **Commander, Naval Submarine Force, U.S. Atlantic Fleet**  
**(N402A, MMCS Rayburn)**  
**Commander, Naval Submarine Force, U.S. Pacific Fleet**  
**(N4111B, Gary Smith)**

Subj: **ADDITIONAL SUBMARINE CHEMICAL LIGHTS**

Encl: (1) **Proposed Chemical Light Additions for Submarines**

1. Based on Submarine fire fighting tests conducted on the ex-USS SHADWELL in Jun 97, it was determined that the visibility in a smoke filled compartment was enhanced when chemical lights were attached to key fire fighting personnel, to injured personnel, and to emergency air breathing manifolds. In response to this finding, we propose adding chemical lights to the appropriate Allowance Equipage Lists as shown in enclosure (1) and that the outfitting be funded by the Type Commanders. We request that you review and concur with these proposed additions by 21 Nov 97.

2. Our point of contact is Mark Campbell, NAVSEA 03G1, DSN 332-9251, COMM (703) 602-9251, ext 223, Internet address: Campbell\_Mark@HQ.NAVSEA.NAVY.MIL. Our facsimile number is (703) 602-5089.

**S. HERMAN**  
By direction

Copy to:  
NAVSAFECEN(CODE 382(MMCS Fahringer))

## PROPOSED CHEMICAL LIGHT ADDITIONS FOR SUBMARINES

Additional chemical lights are proposed for outfitting aboard submarines for the following uses:

a. Identification of key fire fighting personnel in a darkened or smoke filled environment:

**Recommendation:** Outfit all submarines with two boxes of orange, six inch long, chemical lights (NSN 6260-01-195-9753) to be attached to the Oxygen Breathing Apparatus by tie wraps (NSN 5975-00-984-6582) on key fire fighting personnel. Each box contains 10 chemical lights. Shelf life is four years if wrapper is not removed. Duration of chemical lights is 12 hours. Items to be placed on OBA Allowance Equipage List.

b. Identification of injured personnel in a darkened or smoke filled environment

**Recommendation:** Outfit all submarines with one box of red, six inch long chemical lights (NSN 6260-01-178-5559) to be placed on injured personnel. Box contains 10 chemical lights. Shelf life is four years if wrapper is not removed. Duration of chemical lights is 12 hours. Chemical light would be added to the NFTI Allowance Equipage List

c. Identification of the location of the Emergency Breathing Air Manifolds

**Recommendation:** Outfit SSNs with two boxes and SSBNs with four boxes of green, four inch long chemical lights (NSN 6260-00-106-7478). One chemical light would be attached to each emergency air breathing manifold. Each box contains 100 chemical lights. Shelf life is four years if the wrapper is not removed. Duration of chemical lights is 6 hours. Chemical lights to be attached to the manifolds by tie wraps (NSN 5975-00-984-6582)

<u>Item</u>	<u>Cost/Item</u>	<u># Items/Sub</u>	<u>Cost/Sub (\$)</u>	<u>Total Cost** (\$)</u>
Orange Chem Light	\$8	2	16	1,504
Red Chem Light	\$8	1	8	752
Green Chem Light (SSNs)	\$55	2	110	8,360
Green Chem Light (SSBNs)	\$55	4	220	3,960
Tie Wraps * (SSNs)	\$1.45	3	4.35	331
Tie Wraps * (SSBNs)	\$1.45	5	7.25	130
<b>Total</b>				<b>15037</b>

\* Tie wraps come in boxes of 100.

\*\* Total Cost based on 94 submarines

Enclosure (1)