

DEPARTMENT OF THE NAVY
NAVAL SEA SYSTEMS COMMAND
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WASHINGTON NAVY YARD DC 20376-7026

IN REPLY REFER TO
NAVSEAINST 9310.1C
Ser 05Z/327
12 Aug 2015

NAVSEA INSTRUCTION 9310.1C

From: Commander, Naval Sea Systems Command

Subj: NAVAL LITHIUM BATTERY SAFETY PROGRAM

Ref: (a) OPNAVINST 5100.23G
(b) OPNAVINST 5100.19E
(c) MCO 5100.8
(d) NAVMC DIR 5100.8
(e) SECNAVINST 5400.15C CH-1
(f) NAVSEAINST 5000.8
(g) S9310-AQ-SAF-010, Navy Lithium Battery Safety
Program Responsibilities and Procedures, 15 Jul 10
(h) through (q) - see enclosure (1)

Encl: (1) Additional References (h through q)
(2) Implementation and Auditing Plan: Naval Lithium
Battery Safety Program

1. Purpose. To issue policy and responsibilities concerning the safety of all aspects for all types of lithium batteries, lithium cells, and lithium battery-powered equipment or systems related to design, acquisition, use, maintenance, storage, transportation, and disposal per references (a) through (d). This instruction is a complete revision and should be reviewed in its entirety.

2. Cancellation. NAVSEAINST 9310.1B, and NOSSA ltr 8020 Ser N84/521 of 2 Apr 09.

3. Scope and Applicability. This instruction applies to all Department of the Navy (DO

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(2) Lithium batteries identified and certified

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shipboard applications, NAVAIR concurrence is required if placed on an airframe, etc.

(b) Naval Ordnance Safety and Security Activity (NOSSA) is the Navy's designated authority for weapon systems safety per reference (1). As part of the Weapons System Explosive Safety Review Board process, NOSSA must review and concur with the certification of all lithium batteries used in ordnance and weapon systems.

(2) Exercise technical and certification authority over the design, acquisition, sustainment, and disposal of lithium batteries within the scope of their assigned responsibilities per reference (e).

(3) Establish formal lithium battery safety certification policies and procedures to properly exercise lithium battery safety certification authority. At a minimum, this requires SYSCOMs to have applicable Technical Warrant Holders, or equivalents meeting the requirements of references (e) and wj 0.606 0i5f6 0i5f6 0i5f6)0i006.1wh(pri0i006). As.se pr0.00 (

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lanterns, emergency backup lights, radio communication batteries).

7. Concurrence. The SYSCOMs on distribution have concurred with this instruction.

8. Point of Contact (POC) Information. The POCs for lithium battery safety are:

a. Battery and Battery Monitoring Systems - Ships TWH:
David Cherry, NAVSEA 05Z34, (202) 781-1304,
david.f.cherry@navy.mil.

b. Lithium Battery Safety Program: Joseph Vignali,
NAVSEA 05Z34, (202) 781-5412, joseph.vignali@navy.mil.

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ADDITIONAL REFERENCES (h through q)

- Ref:
- (h) DoD Instruction 5000.02 of 07 January 2015
 - (i) DoD 4160.21-M, Defense Materiel Disposition Manual, 18 August 1997
 - (j) SG270-BV-SAF-010, High-Energy Storage System Safety Manual, issued as enclosure (1) of NAVSEA ltr 9310, Ser 05Z/067, 27 Apr 11
 - (k) SECNAVINST 5100.10
 - (l) OPNAVINST 8020.14A
 - (m) NAVSEAINST 5400.97C
 - (n) NAVSEAINST 5400.111A
 - (o) NAVSEAINST 4120.24
 - (p) NAVSEAINST 4120.8
 - (q) NAVAIRINST 13280.1A

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IMPLEMENTATION AND AUDITING PLAN:
NAVAL LITHIUM BATTERY SAFETY PROGRAM

1. Implementation. SYSCOM-specific lithium battery safety certification programs will be implemented according to the attachment (1) implementation and auditing schedule. NAVSEA will conduct three technical assist meetings with each SYSCOM over the course of a year to understand the implementation of the SYSCOM specific lithium battery safety certification program, including:

- x Establish certification authority selection criteria, and roles and responsibilities (full-time or collateral duty).
- x Create tailored, SYSCOM-specific lithium battery safety certification policies and procedures, to include archiving correspondence, data, and reports.
- x Institute lithium battery safety certification training, internal reviews, and continuous improvement initiatives, as required.
- x Develop processes and measures to assure compliance.

After one year, NAVSEA will conduct an initial lithium battery safety program audit at each SYSCOM, which will measure the effectiveness of each SYSCOM's implementation of their policies and procedures. Attachment (2) provides a preliminary audit plan template for the initial SYSCOM audits. Follow-up audits will occur on a yearly basis thereafter.

2. SYSCOM Actions. Following the attachment (1) schedule, SYSCOMs will develop policies and procedures and assign responsibilities to best assure safe design, acquisition, use, maintenance, storage, transportation, and disposal of their lithium battery systems. The resulting documentation will form the basis for annual lithium battery safety program audits by the DON lithium battery safety program manager (NAVSEA 05Z).

3. Technical Agent Actions. Technical Agents (NSWC Crane and NSWC Carderock Division) will aid SYSCOMs in implementing and executing their lithium battery safety programs. In addition, Technical Agents will incorporate applicable information from this correspondence into the next revision of the Lithium Battery Safety (S9310-AQ-SAF-010) technical manual.

4. Applicability. This enclosure shall be used for the DON lithium battery safety program initiation and audit preparation at each of the SYSCOMs until the information contained within is

Enclosure (2)

incorporated into the Lithium Battery Safety (S9310-AQ-SAF-010) technical manual.

5. Point of Contact (POC) Information: The POC for the lithium battery safety program is Mr. Joseph Vignali, NAVSEA 05Z34, (202) 781-5412, joseph.vignali@navy.mil.

ATTACHMENT 1: IMPLEMENTATION AND AUDITING SCHEDULE

1. Technical Assist 1: Initr

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ATTACHMENT 2: AUDIT PLAN TEMPLATE

In order to assess effectiveness of a SYSCOM's lithium battery safety program certification program, the DON's lithium battery safety program manager (NAVSEA 05Z) will periodically evaluate the following attributes of the approval function within each SYSCOM. This evaluation is a review of policies, processes, controls, and procedures used to perform lithium battery safety certification related tasks. The results will provide all levels of management at NAVSEA and the SYSCOMs with an independent, objective, and constructive evaluation of the effectiveness and efficiency with which lithium battery safety certification responsibilities are being implemented and followed.

Part 1: Lithium battery safety program infrastructure.

1. Lithium battery safety program safety certification authority designation:

- 1.1. Are SYSCOM certification authority designated?
- 1.2. Have certification authority designations been

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3. Lithium battery safety program health:
 - 3.1. Are certification authorities trained on DON and SYSCOM specific lithium battery safety program policies and procedures?
 - 3.2. Does the SYSCOM conduct periodic training to lithium battery safety program stakeholders to learn and/or refresh lithium battery safety program knowledge?
 - 3.3. Does the SYSCOM have a means to determine the effectiveness of its lithium battery safety program policies and procedures, and how well they are executed?
 - 3.4. Does the SYSCOM conduct periodic internal reviews, including prior to lithium battery safety program audits?

Part 2: Execution of SYSCOM specific lithium battery safety program.

4. Compliance to lithium battery safety program requirements:
 - 4.1. Are SYSCOM specific policies and procedures being followed?
 - 4.2. Are adequate records maintained on-site with SYSCOM certification authorities?
 - 4.3. Does documentation indicate that technical requirements specified in the Lithium Battery Safety (S9310-AQ-SAF-010) and High Energy Storage System Safety (SG270-BV-SAF-010) technical manuals have been met for certified lithium battery systems?
 - 4.4. Has a repository for safety certification related information, data, and/or reports been established by the SYSCOM? Are the SYSCOM certification authority and Technical Agents working together to ensure a comprehensive archive of each lithium battery safety certification effort is maintained?
5. Issue resolution:
 - 5.1. Is a process in place to resolve disputes? Is it followed?
 - 5.2. Are issues identified during testing, or with operational lithium battery systems, tracked to completion? Are resolutions documented?

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- 5.3. Are critiques and/or root-cause analyses conducted following lithium battery system incidents? Are reports filed and archived?
- 5.4. Are lessons learned communicated throughout the SYSCOM, and to other SYSCOMs that could benefit?