DEPARTMENT OF THE NAVY
NAVAL ORDNANCE SAFETY AND SECURITY ACTIVITY
FARRAGUT HALL
3817 STRAUSS AVENUE, SUITE 108
INDIAN HEAD, MD 20640-5151

8020
Ser N841/1039
9 Jul 15

From: Commanding Officer, Naval Ordnance Safety and Security Activity
To: President, Naval Postgraduate School, Monterey (MAE/K. Jones)

Subj: REISSUE OF CAPACITY LIMITED LITHIUM BATTERY SITE CLEARANCE FOR NPS

Ref: (a) NAVPGSCOL Monterey ltr 9310 Ser 00AA/329 of 24 Apr 15
(b) NOSSA ltr 8020 Ser N841/1239 dated 11 Aug 14

Encl: (1) NAVSURFWARCENDIV Crane ltr 8020 Ser GXSM/15028 of 29 Jun 15

1. In response to your request of reference (a), the Naval Ordnance Safety and Security Activity (NOSSA) extends the capacity-limited site clearance of reference (b) for lithium ion polymer batteries of less than 300 watt-hours energy capacity in various unmanned aerial systems, unmanned underwater vehicles, and robotics during research efforts by the Naval Postgraduate School, to include marine research vessels. Marine research includes operations involving research vessels from the University National Oceanographic Laboratory System (UNOLS), non-UNOLS marine vessels, buoys, and other marine platforms. The other provisions of reference (b) remain unchanged

2. This recommendation for your approval for use of these batteries is based on the safety review of enclosure (1). Naval Sea Systems Command (SEA-05Z34), Technical Warrant Holder for shipboard batteries concurs with inclusion of marine research aboard Navy-owned UNOLS vessels as documented in enclosure (1).

IN REPLY REFER TO:

8020
Ser GXSM/15028
29 Jun 15

FIRST ENDORSEMENT OF NPS ltr 9310 Ser 00AA/329 of 24 Apr 15

From: Commanding Officer, Naval Surface Warfare Center,
Crane Division
To: Commanding Officer, Naval Ordnance Safety and Security
Activity (N841)

Subj: REISSUE OF CAPACITY LIMITED LITHIUM BATTERY SITE
CLEARANCE FOR NAVAL POSTGRADUATE SCHOOL

Ref: (c) NAVSEAINST 9310.1B
(d) NAVSEA Technical Manual S9310-AQ-SAF-010, Batteries, Navy Lithium Safety Program Responsibilities and Procedures of 15 Jul 10
(e) NOSSA ltr 8020 Ser N841/1273 of 16 Jul 12
(f) NOSSA ltr 8020 Ser N841/1378 of 1 Aug 12
(g) NOSSA ltr 8020 Ser N841/1889 of 20 Oct 12
(h) NOSSA ltr 8020 Ser N841/2012 of 8 Nov 12
(i) NOSSA ltr 8020 Ser N841/157 of 29 Jan 13 Navy LitJ NOSSA ltr 8020 Ser N841/1515 T

2. NPS personnel conduct diverse research efforts using a variety of small UAS, UUV and robotics systems. These systems typically use lithium-ion polymer batteries that are common commercially for use in radio control hobby vehicles such as Thunder Power. References (e) through (k) are previous approvals and extensions issued to NPS for various UAS applications used in flight testing. NPS has established a Standard Operating Procedure (SOP) based on the commonality of lithium polymer batteries used across these and other applications within the scope of their research activities and the hazards associated with their use. The SOP establishes safety guidelines for the selection, design, testing, evaluation, use, packaging, storage, transportation and disposal of lithium batteries at the activity. The SOP has been revised to include two new sections covering shipboard deployments and safety orientation. NSWC Crane has reviewed this SOP and concurs with the documented approaches for mitigating potential battery failures. These approaches include the use of a lithium-ion specific charger with individual cell voltage monitoring and balancing, attended charging operations with separation from other personnel and materials, transport and storage of batteries, detailed inspection procedures including corrosion or other damage criteria for removing batteries from service, use of a flammable locker for storage and charging, and emergency response. The 300 watt-hour limit is based on the definition of a medium size battery as defined in special provision 189 in section 172.102 of 49 Code of Federal Regulations issued by the Department of Transportation.

3. NSWC Crane recommends concurrence with the inclusion of marine research to the previous concurrence issued by reference (b). This recommendation is based on the reasonable battery size limit, use of a standardized procedure with appropriate mitigations against typical lithium ion polymer battery failure modes and behaviors and operator training to that procedure, safety briefing prior to shipboard deployments, safety orientation providing awareness of lithium ion battery hazards, and history of safe operations under previous concurrences.

4. NAVSEA 05Z34 has reviewed the documentation and concurs with the inclusion of marine research for a capacity limited site clearance for lithium ion batteries of less than 300 watt-hours energy capacity used in various UAS, UUV, and robotics systems

Subj: REISSUE OF CAPACITY LIMITED LITHIUM BATTERY [illegible]

[illegible] issued by the [illegible] provided via electr[illegible] reference (1) [illegible] provide [illegible]

5. [illegible] contact is [illegible]

commercial 812-854-5912 [illegible] email at mark [illegible]

DEPARTMENT OF THE NA
NAVAL POSTGRADUATE SCHOOL
1 UNIVERSITY CIR
MONTEREY, CA 93943-5000

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