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DEPARTMENT OF THE NAVY
HEADQUARTERS UNITED STATES MARINE CORPS
WASHINGTON, D.C. 20380



MCO 11320.22
LFF-2-ncs
22 Feb 1984

23 MAR 1984

MARINE CORPS ORDER 11320.22

From: Commandant of the Marine Corps
To: Distribution List

Subj: Fire Protection for Stored Quantities of Lithium Batteries

Ref: (a) CMC Washington DC msg R281402Z Mar 1983 (NOTAL)
(b) National Fire Protection Association Standard No. 10 (NOTAL)
(c) MCO P11000.8B (NOTAL)

1. Purpose. To provide detailed information on fire safety measures and firefighting procedures for lithium batteries.

2. Applicability. This Order is for use by all Marine Corps activities storing lithium batteries.

3. Information

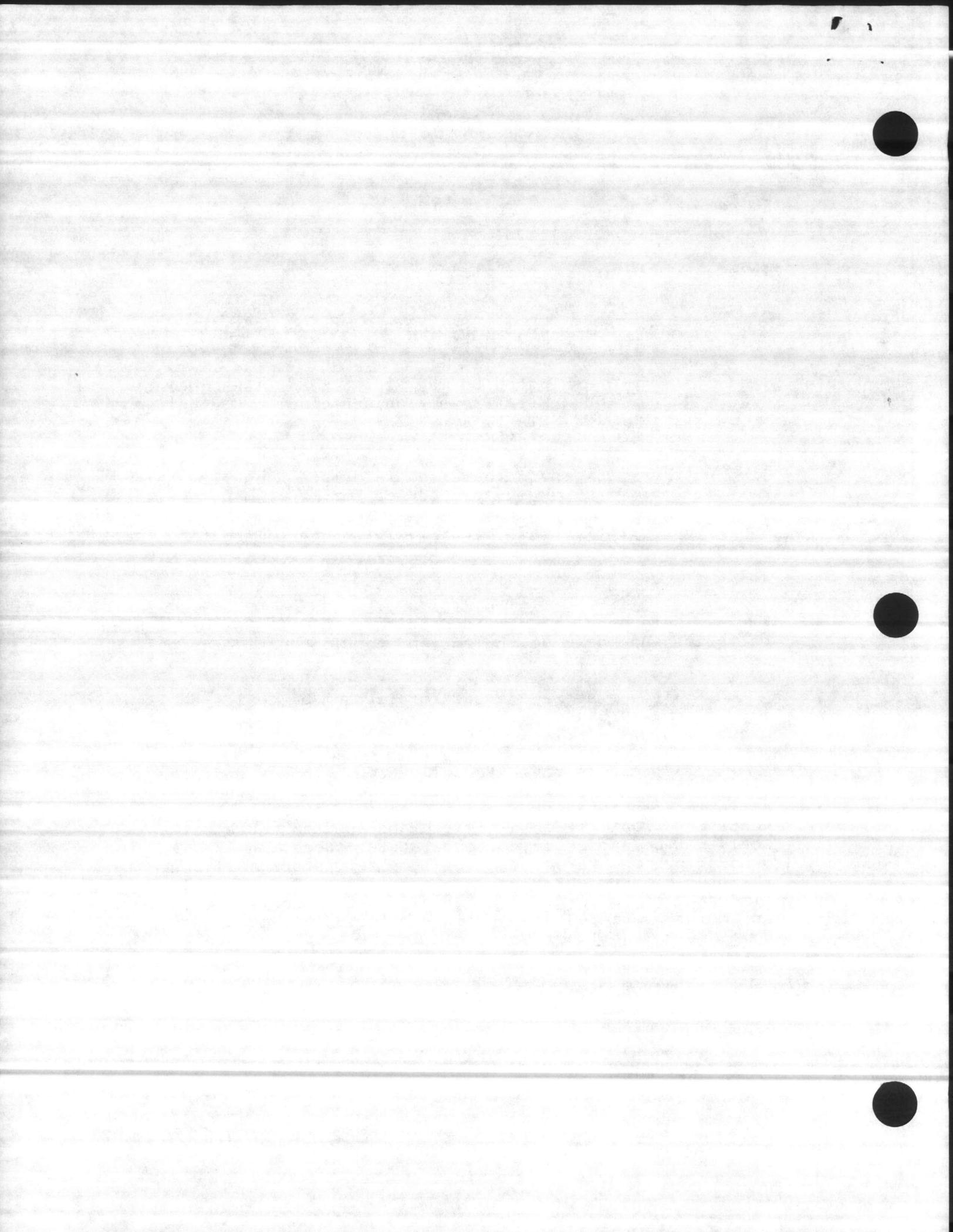
a. Reference (a) provided storage guidelines for lithium batteries and included the fire protection considerations restated as follows:

(1) The storage areas for lithium batteries shall be in a flammable/hazardous material storehouse with sprinkler protection, if available.

(2) Alternative storage options, in descending order are: flammable/hazardous material storehouse without sprinklers; outside storage in a general storage shed (or in ventilated lockers) in a limited access area where batteries would not be subjected to temperatures exceeding 130° F; or a general purpose warehouse (for temporary storage if none of the preceding types of storage facilities are available at the time storage is required). In all cases, when the area is not sprinkler protected, combustible material and more hazardous commodities shall not be stored in the same fire area as the batteries.

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(3) Smoking shall be strictly prohibited and "NO SMOKING" signs posted conspicuously in battery storage areas.

(4) The use of open flame devices shall be restricted to operations under proper supervision and with adequate fire prevention safeguards.

b. Reference (a) required all lithium battery storage areas to be equipped with a class "D" extinguisher, preferably Lith-X-type. Reference (a) further advised that in the event a class "D" extinguisher was not available, a class "A" extinguisher could be used.

c. Subsequently, it has been determined that class "D" fire extinguishers may be less than fully effective for lithium battery fires. This is because the quantity of lithium is small compared to other ordinary combustible battery components and the physical placement of the lithium deep within the battery. Therefore, the requirement of reference (a) for a class "D" fire extinguisher is changed to require a water extinguisher (class "A") with class "D" extinguishers as optional.

4. Action. Activity commanders shall:

a. Ensure lithium battery storage areas comply with this Order and are equipped with water fire extinguishers complying with reference (b).

b. Ensure the following procedures are complied with in the event of a fire involving stored lithium batteries:

(1) Sound the alarm and evacuate personnel from the area.

(2) Immediately summon firefighting services.

(3) Commence firefighting, using a class "A" or class "D" fire extinguisher as a first aid measure and cease first aid firefighting if the extinguisher operator is exposed to dangerous levels of smoke or the fire does not quickly diminish by the application of the extinguishing agent.

(4) After the fire is extinguished, ventilate the area well, before permitting personnel to reenter for cleanup and/or resumption of activity.

(5) Dispose of fire debris as a hazardous waste in accordance with reference (c).

