

# Environmental Standard Operating Procedure

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| Originating Office:<br><b>Natural Resources and Environmental Affairs Office</b> | Revision:<br>18 May 16         | Prepared By:<br>NREA Subject Matter Expert (SME) | Approved By:<br>Patrick Mills<br><i>Patrick Mills</i> |
| File Name: LIT-ESOP  | Effective Date: 1 January 2016 | Document Owner: NREA                             |   |

## Title: Lithium Battery Storage

### 1.0 PURPOSE

The purpose of this Standard Operating Procedure (SOP) is to provide environmental guidelines proper storage of lithium batteries.

### 2.0 APPLICATION

This guidance applies to those individuals who are cleaning weapons aboard Marine Corps Air Ground Combat Center (MCAGCC) Twentynine Palms.

### 3.0 REFERENCES

- Code of Federal Regulations – Title 40, (40 CFR)
- Code of Federal Regulations – Title 29, (29 CFR)
- California Code of Regulations – Title 22, (22 CCR)
- MAVMC 5100.8
- MCO P5090.2A change 3
- MCO P5200.24D
- Navy Occupational Safety and Health (NAVOSH) Incompatibility Compatibility Chart
- Combat Center Order (CCO) 5090.5C, Integrated Contingency and Operations Plans (ICOP) for MCAGCC

### 4.0 PROCEDURE

#### 4.1 Discussion:

The storage and handling of lithium batteries must be properly managed to ensure that uncontrolled release of toxic fumes, fire or explosion does not occur. Uncontrolled releases of toxic gas could result in serious danger to human health and the environment as well as the unnecessary creation of hazardous waste.

To prevent uncontrolled releases of HM, HM must be stored in such a way that will prevent inadvertent contact or mixing of dissimilar materials. HM must be segregated and stored in authorized containers or storage lockers that are compatible with the chemical properties of the materials. Units are responsible for the safe handling of mission essential HM, including the procurement of appropriate HM storage lockers.

#### **4.2 Operational Controls:**

The following procedures apply:

1. Ensure Safety Data Sheet (SDS) is readily available and current for all types of Lithium batteries used or stored within the work site.
2. Ensure all applicable policies and procedures are implemented and adhered to within the storage site.
3. Ensure storage facilities are approved by the MCAGCC Safety and Fire Department. Approval letters must be maintained by the command Safety Officer (or representatives).
4. Ensure lithium batteries are stored separate from any other hazardous material or types of batteries.
5. Battery storage facility temperature must be maintained below 130 degrees Fahrenheit.
6. Thermometers will be placed within each battery storage facility or area to monitor the temperature.
7. Units shall inspect battery storage facilities and areas at least quarterly to assess their serviceability. Request repairs via a work request to the Public Works Division.
8. Signs shall be placed on all four sides of each battery storage facility or area. These signs shall prohibit open flames, eating, drinking and smoking
9. Each battery storage facility or area will be conspicuously marked to warn emergency service personnel of lithium battery contents.
10. Lithium batteries should be inspected **DAILY** for evidence of leakage, excessive heat, or exposure to water. A written record shall be maintained of this task.
11. Lithium batteries will be stacked no more than three high and two inches apart.
12. Accurate inventory of all lithium batteries must be maintained and posted inside the storage facility. This list is to be updated as fluctuations in quantities occur.

#### **NOTICE: IN THE EVENT OF A LISO<sub>4</sub> DISCHARGE, VENTING OR EXPLOSION:**

- Promptly evacuate workspace
- Contact the Combat Center Fire Department by calling 911, or from cellphone 760-830-3333
- Report incident to NREA and MCAGCC Safety Office

#### **4.3 Documentation and Record Keeping:**

The following records must be maintained when storing hazardous materials:

1. MSDS/SDS for all hazardous material being stored.
2. Inspection and training records.

#### **4.4 Training:**

All affected personnel must be trained in this Standard Operating Procedure and the following:

1. Hazard Communication training/Globally Harmonized System.
2. General Environmental Awareness training.

#### **4.5 Emergency Preparedness and Response Procedures:**

Refer to Combat Center Order (CCO) 5090.5C, Integrated Contingency and Operations Plans (ICOP) for MCAGCC.

#### **4.6 Inspection and Corrective Action:**

The Environmental Compliance Coordinator (ECC) shall designate personnel to perform inspections. The ECC shall ensure deficiencies noted during the inspections are corrected immediately. Actions taken to correct each deficiency shall be recorded on the inspection sheet.

### Lithium Battery Storage – Inspection Checklist

|                   |              |
|-------------------|--------------|
| Date:             | Time:        |
| Installation:     | Work Center: |
| Inspector's Name: | Signature:   |

| Inspection Items   | Yes | No | Comments |
|--|-----|----|----------|
| 1. Are SDS's available for all lithium chemistry batteries being used or stored?   |     |    |          |
| 2. Have unit personnel received appropriate level of training?   |     |    |          |
| 3. Are training records maintained and available for inspection?   |     |    |          |
| 4. Are lithium batteries stored in a compatible manner IAW the manufacture's SDS and the NAVOSH Incompatible Materials Chart?                                |     |    |          |
| 5. Are good house-keeping practices being adhered to and employed within the lithium battery storage area?   |     |    |          |
| 6. Is personnel protective equipment (PPE) on hand and serviceable? (Eye protection, Chemical resistant gloves)  |     |    |          |
| 7. Are all lithium batteries stored within shelf life?   |     |    |          |
| 8. Is a compatible (Class "D") fire extinguisher available and functional?   |     |    |          |
| 9. Are all spill kits on hand and serviceable?   |     |    |          |
| 10. Are eyewash stations on hand and serviceable and routinely inspected?  |     |    |          |
| 11. Does the command possess a current authorized user list (AUL)?   |     |    |          |
| 12. Does the command update the AUL as new Materials are introduced into the workplace?  |     |    |          |
| 13. Are Lithium Batteries inspected daily for evidence of leakage, excessive heat, or exposure to water with a log book of the daily inspections maintained? |     |    |          |

| Inspection Items   | Yes | No | Comments |
|--|-----|----|----------|
| 14. Are new batteries stored separately from used batteries?   |     |    |          |
| 15. Are batteries stored 3 high and 2 inches apart to permit air circulation and cooling?  |     |    |          |
| 16. Is there a thermometer in the battery storage facility or area?  |     |    |          |
| 17. Are lithium batteries kept away from direct sunlight or water to prevent exposure?   |     |    |          |
| 18. Are Lithium Storage buildings and areas labeled " <i>Lithium Batteries, No Eating, No Smoking, No Drinking, and No Open Flames</i> "?    |     |    |          |
| 19. Are Lithium batteries stored separately from all other types or chemistries of batteries and hazardous materials?                        |     |    |          |
| 20. Is there an inventory of lithium batteries posted in all lithium battery storage areas and updated as inventories fluctuates or changes? |     |    |          |

**ADDITIONAL COMMENTS:**

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**CORRECTIVE ACTION TAKEN:**

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**Environmental Compliance Coordinator**

Name: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_