U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety Administration**

East Building, PHH – 32
1200 New Jersey Avenue, Southeast
Washington, D.C. 20590

APPROVAL CA2003070001
(Second Revision)
ISSUED BY THE COMPETENT AUTHORITY OF THE UNITED STATES
Expiration Date: July 30, 2013

1. **APPROVAL HOLDER:** Members of National Electrical Manufacturers Association (NEMA) Members as individual grantees on file with the Office of Hazardous Materials Special Permits and Approvals Rosslyn, VA 22209

2. **REGULATORY AUTHORITY:** 49 CFR 173.185(f) and 172.102(c)(2) Special Provision A55, International Civil Aviation Organization's Technical Instructions for the Safe Transport of Dangerous Goods by Air (ICAO TI) Special Provision A88 and State Variation US 3.

   For shipments outside of the U.S., see paragraph 7.b of this Approval.

3. **SYNOPSIS:** National Electrical Manufacturers Association (NEMA) Members are authorized to offer for transportation prototype lithium cells and batteries in accordance with the conditions of this Approval.

4. **BASIS:** This Approval is issued in response to National Electrical Manufacturers Association (NEMA)'s application dated May 9, 2008.

5. **PERIOD OF VALIDITY AND CONDITIONS OF APPROVAL:** This Approval does not provide relief from any requirements of the Hazardous Materials Regulations or the ICAO TI except as stated herein. This Approval is valid until the posted expiration date or until terminated by the Associate Administrator for Hazardous Materials Safety.

   a. Approved Materials: Only the following material(s) may be transported under the terms of this Approval.

Proper shipping name–Hazardous materials description	Hazard Class/ Division	Identi-fication Number	Packing Group
Lithium battery	**9**	**UN3090**	**II**
Lithium metal batteries*	**9**	**UN3090**	**II**
Lithium ion batteries*	**9**	**UN3480**	**II**

*This description is authorized under the ICAO TI effective January 1, 2009.

b. Safety Controls: Only prototype and low production lithium metal cells and batteries and lithium ion cells and batteries may be transported under the terms of this Approval. ("Low production" is defined as a production run of no more than 100 cells or batteries annually of a particular design.)

c. Testing:

(1) Cells and batteries must be subjected to the following test:

(i) Three cells or one battery must be stored at 55°C for at least 48 hours followed by a short circuit test (connecting a conductor across the positive and negative terminals and maintaining this short circuit for at least one hour after the case temperature has returned to 55°C); or

(ii) If batteries are comprised of cells that have passed all required tests as specified in the "UN Manual of Tests and Criteria", the short circuit test may be conducted at room temperature (approximately 23°C).

(2) Cells and batteries are considered safe to transport under the terms of this Approval if the cells and batteries show no disassembly or fire.

d. Packaging:

(1) Cells and batteries must be protected against short-circuiting, and must be individually packaged in inner packaging and surrounded by cushioning material that is non-combustible and non-conductive.

Cells and batteries must be further packaged in a metal outer packaging that meets Packing Group I performance criteria.

(2) Cells and batteries per completed package must not exceed the following limitations:

(i) LITHIUM ION CELLS AND BATTERIES

CELLS: ≤3g Equivalent Lithium Content(or 40Wh): Not more than 24 per package.
>3g Equivalent Lithium Content(or 40Wh): Not more than 12 per package.

BATTERIES:
≤12g Equivalent Lithium Content (or 150Wh): Not more than 12 per package.
>12g Equivalent Lithium Content (or 150Wh): Not more than 6 per package.

(ii) LITHIUM METAL CELLS AND BATTERIES

CELLS: ≤2g: Not more than 24 per package.
>2g: Not more than 12 per package.

BATTERIES:
≤15g: Not more than 12 per package.
>15g: Not more than 6 per package.

(iii) No single package may contain more than 500g of lithium metal or Equivalent Lithium Content.

e. Marking Requirements: Each package, and overpack if used, prepared under the provisions of this Approval must be plainly marked with the approval number: CA2003070001.

6. **MODES OF TRANSPORTATION AUTHORIZED**: Motor vehicle, cargo aircraft, rail car, and cargo vessel.

7. **SPECIAL PROVISIONS**:

a. A current copy of this Approval must be maintained and made available for examination at each location where materials are packaged and offered for transportation under its authority, and a current copy of this Approval must be carried on board each motor vehicle, aircraft, and vessel used in transportation under its authority.

b. This Approval in no way affects the need to obtain any required authorizations from other agencies of the United States Government or from the competent authorities of countries of transit and destination.

c. NEMA must provide a current list of members by June 30 of each year and at any time upon demand of the Associate Administrator for Hazardous Materials Safety.

d. Any person who offers for transportation or transports the above-described material may do so under the authority of this Approval if all requirements and conditions of this Approval are met.

8. **GENERAL PROVISIONS**:

a. Failure by any person to comply with the terms and conditions of this Approval, the Hazardous Materials Regulations at 49 CFR 171-180, and the ICAO TI may result in the modification, suspension or termination of that person's authority to use this Approval. Failure to comply may also subject that person to penalties prescribed by 49 USC 5123 and 5124. This approval may be modified, suspended or terminated in its entirety if that action is justified in light of changes in circumstances or additional information not available when this Approval was issued. Unless immediate modification, suspension or termination is necessary to avoid a risk of significant harm to persons or property, before action is taken, that person will be notified and provided with an opportunity to show why the proposed action should not be taken.

b. Each "Hazmat employee," as defined in 49 CFR 171.8, who performs a function subject to this Approval must be provided training on the requirements and conditions of this Approval in addition to the training required by 49 CFR 172.700-704.

c. Any person operating under the terms of this Approval must comply with the security plan requirements in 49 CFR 172.800-804 when applicable.

Issued in Washington, D.C.

Dated: 01/15/2010

For Dr. Magdy El-Sibaie
Acting Associate Administrator for Hazardous Materials Safety

Address all inquiries to: Associate Administrator for Hazardous Materials Safety, Pipeline and Hazardous Materials Safety Administration, Department of Transportation, Washington, D.C. 20590. Attention: PHH-32.