

**COMMITTEE OF EXPERTS ON THE TRANSPORT OF  
DANGEROUS GOODS AND ON THE GLOBALLY  
HARMONIZED SYSTEM OF CLASSIFICATION  
AND LABELLING OF CHEMICALS**

Sub-Committee of Experts on the  
Transport of Dangerous Goods

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Item 4 of the provisional agenda

**ELECTRIC STORAGE SYSTEMS**

Report of the informal working group on Energy storage systems

Transmitted by the United States of America

1. An informal working group met to discuss the concepts presented in 2009/26 and Inf.37. Based on the discussion in plenary, the working group was asked to consider the merits of the work suggested in these documents and define the scope for consideration. This includes assessing the risk posed by these articles in transport and how current regulatory provisions address the risks.
2. The group identified the various devices that could be considered under this discussion. They include:
  - (a) Fuel Cell systems – four hazard classes. Many in the group felt that fuel cell cartridges should not be included in this discussion since the cartridges are only a means of containment for dangerous goods and do not pose an electrical hazard.
  - (b) Lithium Batteries – four entries of Class 9
  - (c) Batteries – wet. Alkaline or acid – including non-spillable (Class 8), and sodium (4.3). Sodium batteries are transported non-activated.
  - (d) Batteries – dry cell. Alkaline, nickel metal hydride, nickel cadmium, etc.
  - (e) Ultracapacitors – Class 9 being considered
3. The group defined three categories of hazard posed by electric storage devices:
  - (a) Chemical hazard based on the electrolyte or material contained within the article
  - (b) Electrical hazard based on electric storage – depends on state of charge
  - (c) Both chemical and electrical hazard

4. Within these three categories, the group discussed considering the possibility of defining an order of precedence (ie, in which cases does the electrical hazard take precedence over the chemical hazard). Along these lines, the representative from RECHARGE agreed to develop a matrix that identifies the consequences of mechanical damage and/or electrical short circuit in relation to the three categories of hazards discussed by the group. RECHARGE will coordinate the development of an analytical risk tool that the group can consider for the next session. Interested delegates were encouraged to work with RECHARGE on this document. It was decided the analytical matrix will be submitted as a working paper for the December 2009 UN session.

5. Based on this assessment, the group should be able to evaluate if there are common risks and consolidate relevant text or amend provisions of the UN Model Regulations as appropriate.

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