



Office of Energy Efficiency
and Renewable Energy

Advanced Battery Readiness (ad hoc) Working Group

Background

In 1990, it was realized that electric vehicle batteries could encounter a number of regulatory problems. There were no provisions to assure that they could be safely shipped, used safely in vehicles, and properly recycled or reclaimed at the end of their useful life. The Advanced Battery Readiness (ad hoc) Working Group was established to address these issues. Sub-working groups were established to address:

- Battery Shipping,
- In Vehicle Safety, and
- Recycling or Reclamation.

The scope of activities was broadened in 1995 to include high power batteries being developed for the Partnership for a New Generation of Vehicles. Annual meetings are held in Washington, DC.

Accomplishments

- ◆ Obtained regulatory approvals needed to ship advanced batteries. In the early 1990s, obtained approvals for sodium beta batteries. Determined that nickel metal hydride batteries could be shipped under existing regulatory authority. Extended regulatory authority to cover large lithium based batteries in late 1998.
- ◆ Identified and focused attention on in-vehicle safety issues through continued cognizance of Electric Vehicle Forum sponsored by Society of Automotive Engineers. Provided an open forum for identification and interaction on these issues by all parties. Provided draft recommended practices to Electric Vehicle Forum.
- ◆ Maintained a high level of awareness of solid waste and recycling issues for emerging advanced battery industry. Worked to cross-fertilize recycling technology knowledge emerging from other rechargeable battery markets, such as consumer electronics.

Benefits

- ◆ Large advanced sodium beta and nickel metal hydride batteries are routinely shipped worldwide. This is currently being extended to large advanced lithium based batteries.
- ◆ The Society of Automotive Engineers and other international standards organizations have created a family of standards addressing most aspects of advanced battery use in electric and hybrid vehicles. These standards work towards achieving a high level of safety as advanced batteries are increasingly used in electric and hybrid vehicles.
- ◆ Provisions have been made by nickel metal hydride manufacturers for reclamation of their battery manufacturing scrap and for spent batteries.

Future Activities

- ◆ National Renewable Energy Laboratory will conduct updated assessments of advanced battery recycling processes.
- ◆ Annual Working Group meetings will be continued with emphasis on recycling technology and closeout of remaining issues in other areas.

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Contact

Kenneth L. Heitner: (202) 586-2341

