Importance of ISO TS 16111 to current International Regulatory Efforts for Hydrogen and Fuel Cell Devices:

ISO DTS 16111, Transportable Gas Storage Devices – Hydrogen Absorbed in a Reversible Metal Hydride, has been sent out for an expedited voting period (ending September 3rd, 2006) for approval as a Technical Specification. In order to be approved as a Technical Specification, a majority of both ISO TC 197 and ISO TC 58 SC 3 must vote in favor of the document.

The approval of ISO DTS 16111 is critical to the success of several international regulatory efforts related to the transport of metal hydride storage systems. At present, metal hydride storage systems may only be transported by competent authority approval – a lengthy, difficult, and inefficient process that does not ensure consistency across international borders. This method of approval is hindering the commercial progress of the industry, in particular in the area of micro fuel cell power systems.

These next generation hand-held consumer devices usually utilize hydrogen to refuel the on-board micro fuel cell (analogous to charging a battery). There are several advantages that these green products will provide including the availability of more power, longer use time between refueling and fast refueling. With timely introduction of international regulations, codes and standards, these small hydrogen powered fuel cell products will help build consumer confidence in the use of hydrogen as a clean and safe energy source, paving the way for larger, wide spread applications.

In October 2005, the International Civil Aviation Organization (ICAO) Dangerous Goods Panel approved a packing instruction for transport of hydrogen in a metal hydride storage system (UN 3468) by cargo air when in compliance with IEC PAS 62282-6-1 *Fuel cell technologies – Part 6-1: Micro fuel cell power systems – safety*. This standard requires that systems also comply with ISO TS 16111. Consequently, even though the packing instruction is effective January 1st, 2007, it will not be useable until ISO TS 16111 is approved and issued.

Further, at the 29th Session of the UN Subcommittee of Experts on the Transport of Dangerous Goods, a proposal was made for a new UN number and packing instruction for fuel cell cartridges containing hydrogen in a metal hydride. Based on the report of the ISO representative, the Subcommittee decided to defer any decisions on this matter until the December 2006 meeting, as ISO is planning to publish the ISO TS 16111 to make it available for referencing in the UN Model Regulations.

Success of both of these regulatory efforts, which are critical for the commercial success of hydrogen fueled micro fuel cell devices as well as larger hydride tanks and systems, is dependent on approval of ISO TS 16111.

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