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## **U.S. MOVES TO APPROVE FUEL CELLS FOR AIRPLANE USE**

(Arlington, VA, September 20, 2007) The U.S. Department of Transportation today issued a proposed rulemaking to allow passengers to carry and use micro fuel cells and methanol fuel cartridges on-board airplanes to power their laptop computers and other consumer electronic devices. The move would “harmonize” U.S. transport regulations with global regulations adopted by the International Civil Aviation Organization (ICAO) that went into effect on January 1, 2007. A number of other countries, including Canada, China, Japan, and the United Kingdom, have already incorporated the passenger allowance into their national standards.

“For everyone that boards an airplane, safety is of paramount importance. Today’s action by the U.S. DOT is a clear endorsement that fuel cell systems and methanol fuel cartridges can meet the most rigorous safety standards,” said Methanol Institute President and CEO John Lynn. “By clearing this hurdle, travelers the world over will soon no longer fear the dreaded ‘battery low’ warnings on their laptop computers. They will simply pop out an empty methanol cartridge and replace it with a fresh one.”

From the United States to Europe and Asia, fuel cell companies and consumer electronic manufacturers are developing micro fuel cell technologies to power the next generation of laptop computers, cellular phones and other essential modern devices. Using liquid methanol (also known as “wood alcohol”) as a hydrogen carrier fuel, micro fuel cells represent a completely new portable power technology that will significantly increase run times for consumer electronic devices.

On August 13<sup>th</sup>, the Methanol Institute and a broad coalition of methanol fuel cell technology leaders wrote to Vice Admiral Thomas Barrett, Acting Deputy Secretary of Transportation, urging the Department to issue today’s proposed rulemaking in a “timely manner.” The letter noted that the lack of a U.S. passenger allowance, “leaves U.S. and global fuel cell manufacturers confused about how to comply with U.S. regulations and it delays the potential safety benefits fuel cell technologies may offer compared to certain current battery-only electronics products.”

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For the past several years, the fuel cell industry has worked closely with officials from the U.S. DOT's Pipeline and Hazardous Materials Safety Administration (PHMSA), the Federal Aviation Administration (FAA) and other departmental agencies to help educate them about these technologies and familiarize industry with regulatory requirements and processes. We have achieved critical milestones in the six years since commencing work with the DOT on micro methanol fuel cells in 2001:

- a) The December 2004 UN Committee of Experts adoption of model regulations providing the entry and cargo transport instructions for UN 3473, Fuel Cell Cartridges Containing Flammable Liquids;
- b) The November 2005 ICAO Dangerous Goods Panel adoption of the aircraft passenger allowance for micro fuel cell systems using methanol, formic acid and butane fuels. This exception was published in the 2007-2008 ICAO Technical Instructions, effective January 1, 2007; and
- c) International and national design and performance safety codes were developed for fuel cell manufacturing in consultation with the DOT and international transportation authorities. Numerous requirements and tests were developed specifically for safety in transportation and aircraft cabin usage. This four-year effort has completed an internationally recognized safety specification and a final international standard is now pending.

Taken together, these actions establish an international transport regulatory framework capable of supporting the market introduction of methanol fuel cell technologies.

The proposed rulemaking issued by the DOT would allow passengers to carry micro fuel cells in the cabin only – and not stowed in checked baggage – along with up to two spare fuel cartridges per person. Transportation Security Administration (TSA) restrictions will apply to liquid, gel or aerosol fuels as screening checkpoints. The passenger allowance covers five types of micro fuel cell systems, those using direct methanol fuel cells (where the liquid methanol reacts directly with the fuel cell), reformed methanol fuel cells (where the liquid methanol is first converted to hydrogen gas before being fed to the fuel cell), and fuel cells powered by formic acid, butane, and certain borohydride materials with corrosive fuels. The DOT action does not permit the use of hydrogen in metal hydrides and some borohydrides to power fuel cell devices, as these are still under consideration by international authorities.

On December 29, 2006, the U.S. DOT issued a final regulation permitting the cargo transport of micro fuel cells and methanol fuel cartridges that were previously adopted by the United Nations, the International Maritime Dangerous, and the International Civil Aviation Organization. At that time, the DOT noted that the passenger allowance rulemaking would be addressed in a separate proceeding, which was issued today. The DOT will now accept comments on the passenger allowance proposed rules, which must be submitted by November 19, 2007. In addition, the Federal Aviation Administration's Tech Center is currently evaluating the safety risks posed by fuel cell cartridges and fuel cell systems, and this evaluation is expected to be incorporated into the final rule.

**The Methanol Institute serves as the trade association for the global methanol industry.**