

Potential U.S. International Codes and Standards Initiatives

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The Global Forum on Personal Transportation was a two-day meeting held in mid-November in Dearborn, Michigan. The major focus of the meeting was to provide the U.S. Government with ideas for an upcoming meeting of G8 energy ministers that will be held in Davos, Switzerland next February. After a morning of presentations on various aspects of personal transportation by renowned speakers, the attendees were divided into six groups to develop proposed initiatives through facilitated discussion. The codes and standards group focused on what international activities could be undertaken to facilitate the development of codes and standards required for the introduction of future hydrogen and fuel cell vehicles. Based on the nature of the meeting, the composition of the breakout sessions reflected significant auto industry involvement.

The only requirement placed on discussing the breakout session deliberations was that statements and ideas not be attributed to individuals or organizations. There was no similar requirement placed on the initiatives reported out of the breakout session. The process that was followed was one of brainstorming ideas based on four questions.

- What are the areas where international cooperation is desirable? Are current standards organizations and procedures (e.g., IEA, SAE, ISO) sufficient to address evolving technologies for advanced energy efficient vehicles?
- How do we balance the need to develop codes and standards without excessive delays and the need to not preclude viable technology approaches and alternatives?
- What are the issues and the strategies to prepare for the commercial introduction of fuel cell vehicles? What special issues are related to hydrogen safety and use?
- For advanced energy efficiency vehicles and fuels is there an opportunity for convergence of safety and emissions regulations, and testing and certification procedures?

After brainstorming ideas in each area, each idea was explained and discussed. After discussion, the group voted to select the top four or five ideas that would be developed into potential initiatives. The high priority items were to:

- Reach international agreement on a common certification process for vehicles and implement it;
- Utilize UN ECE WP 29 under the 1998 Agreement to move forward as a vehicle for developing globally harmonized regulations;
- Motivate OEMs and Tier 1 suppliers to sponsor the best experts to develop standards and work objectively; and
- Provide communication and training to local officials concerning safety issues related to advanced vehicle technologies and infrastructure.

Four teams were assembled in the codes and standards session to flesh out the details of each of the four initiatives. To help each team in this task, each team was asked to address the following questions:

- Describe the specific initiative/activities to be accomplished;

- Why is this initiative/activity important (or a good choice) for international collaboration;
- Who needs to be involved (list key participants, partners, allies);
- Identify the first step: What is the best way to get this initiative or activity underway;
- List the essential developmental steps/early milestones/indicators of success; and
- What is a realistic time span to complete this activity?

In discussion of the initiatives, this article will touch upon some of the key elements that went into responding to these questions. After the initiatives were fleshed out, the remainder of the breakout session was spent discussing and polishing the supporting material for the recommendations.

To reach international agreement on a common certification process for vehicles and implement it. The rationale for this initiative is that it is consistent with globalization of regulations and standards. It eliminates differences between major markets' certification processes reducing costs, and the initiative enhances global relevance of R&D. The first proposed step is to establish a collaborative task force for new and emerging technologies with the objective of creating global requirements. The initiative would require the task force to define a list of standards requiring development by December 2003. Once identified, the appropriate bodies would be expected to develop the standards and regulations, and implement the certification process by June 2008.

To utilize UN ECE WP 29 under the 1998 Agreement to move forward as a vehicle for developing globally harmonized regulations. The rationale for this standard is the need to ensure the best safety and environmental practices are adopted. In order to encourage this, governments should support and encourage the participation of technical experts, government regulators, and others in the development of world wide harmonized regulations under the World Forum on Vehicle Regulations. The first steps in this process are to encourage ISO and others to participate in this process and use this participation to encourage standards development organizations to accelerate development efforts. An essential step in this process is to incorporate ISO and IEC standards by reference in global regulations. This is an ongoing process that can be assisted by developing uniform testing requirements.

To motivate OEMs and Tier 1 suppliers to sponsor the best experts to develop standards and work objectively. The rationale for this initiative is that the development of technical standards necessary to globally commercialize hydrogen fuel cell vehicles requires dedicated industry expertise. Personal transportation systems are produced and marketed worldwide. The most important source of technical expertise generally resides with the OEMs and Tier 1 suppliers and they must be involved in development. However, in some instances government and other expertise are required and should be integrated into the standards development process. The first steps in the process are for G8 countries to provide expertise and encourage their OEMs and Tier 1 suppliers to make staff available to members' committees, and for the standards committees to define their need for expertise. These actions should be undertaken as soon as possible.

To provide communication and training to local officials concerning safety issues related to advanced vehicle technologies and infrastructure. The rationale for this

initiative is that all deployment of personal transportation and its supporting infrastructure occurs at a local level. In the United States alone there are over 44,000 different local organizations associated with the permitting and certification process. There are similar needs for relevant and authoritative information on hydrogen and fuel cell vehicles for local officials (building inspectors, fire marshals, and first responders) throughout the world. The methods include: safety videos, a targeted handbook on hydrogen safety, local presentations tailored to local officials by DOE, college level courses with testing and certification, and CD based training. The first step in the process is for DOE to coordinate with NASA and the responsible agencies of other countries such as NRCAN for Canada and METI for Japan to conduct workshops, scope work and solicit proposals. These activities can be conducted over a period of time. No activity should take more than 18 months to implement. Indicators of success would be code adoption by local officials without variance and decreased duration of hydrogen fuel cell project permitting periods.

These proposals were reported out of our session, substantially the way that I have reported them. In the initial reaction from DOE, the first proposal remained in consideration as an initiative from the DOE Secretary to the other G8 ministers. It is easy to fold the next two initiatives into the first one, and it would almost have to be done to make the first proposal consistent with the current international standards and global regulation processes. The final initiative is an activity that could be undertaken by the G8 or as a series of PATH initiatives, if members are interested in fashioning them into a series of educational/technical activities. DOE indicated at the end of the Global Forum on Personal Transportation that it would incorporate all the initiatives proposed in a booklet that would be distributed to all the G8 energy ministers prior to their meeting in mid-February.