

Codes and Standards

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I recently returned from the ISO Plenary meeting for TC 197 Hydrogen Systems and the European Hydrogen Association meeting in Grenoble, France. With those meetings behind us and the GRPE Informal Group on Hydrogen having submitted two tank standards to the EC to be issued as directives, there is a great deal of activity in the area of codes and standards. The GRPE Informal Group on hydrogen was also asked to formulate a road map to moving these proposed EC directives to global technical regulations. Global technical regulations (GTRs) would require compliance within two years by member nations party to the agreement including the United States. To date the United States has resisted this move as has Japan.

There are several problems with developing global technical regulations at this time. Since regulations are difficult to change once adopted, any technological advances that do not conform to the regulations will not be commercially pursued. The emphasis on performance standards does not allow for sufficient latitude for real innovation. Another concern is that if the U.S. commits to the process at this time, it will do so before it has developed a consensus position with respect to tanks. Rather than harmonization, you have a process that has a technical regulation developed by the GRPE informal hydrogen group with technical comments by others. This is significantly different than harmonizing existing regulations or standards. Another concern is that global technical regulations are very detailed; in fact they are often even more detailed than standards. Due to this level of detail, it is not clear that standards have a role in technical areas where global technical regulations are being developed. In some respects it is unlikely that standards will be developed in parallel with global technical regulations and then referenced by them. It does not make sense since the expertise exists with those writing the global technical regulations to provide a level of detail at least equal to that the standards writers could provide. There is no reason to care forward two parallel structures with the potential for duplication and overburdening of hydrogen experts. Finally the implication for this is that the U.S. will have to change its approach to codes and standards. In important new areas standards will give way to global technical regulations which will increasingly be cited in codes. Governments with industry support will play the dominant role in setting industry requirements.

The conclusion is inevitable that global technical regulations will dominate the standards process. Vehicles and other equipment manufactured in the U.S. that is shipped to any other country will have to conform to GTR requirements. Since vehicles are often made in the U.S. and shipped to Europe and Japan, in order to export them the manufacturer will have to certify that they conform to the type certification requirements of that country. This could only be done by having such a type of certification procedure in the U.S. I can make the same case for infrastructure. The nozzles, tanks, and pumps used in refueling stations will be shipped internationally and therefore, under its expanded mandate, subject to GTR requirements that U.S. regulation will have to comply with. The same will be true of fuel cells and components for stationary power that are shipped internationally. Overtime will the current system of codes and standards that the U.S. has be transformed to one where type-certifications are mandatory?