



International Codes & Standards

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U.S. TAG ISO TC 197

Introduction

- International Regulations (Codes)
- International Standards
- Where we are and where we might be going

Distinction Regulations / Standards

- **Regulations:**

- Are compelling
- Usually laws or based on them, made or initiated by political bodies
- Objective frequently protection of workers of the public from dangers

- **Standards:**


- No legal requirement
- Support the free exchange of goods and services
- Made by the interested parties

EIHP2 – H2 Regulations & Standards for Road Vehicles

Approval of Road Vehicles

- Vehicle manufacturer's in both Europe and the USA must meet legal requirements before a vehicle can be approved and registered for use.
- Vehicle manufacturer's need uniform legal requirements throughout the world to speed development and reduce costs.

	<u>Approval procedures</u>	<u>Legal Requirements</u>	<u>Goal for Future Legal Requirements</u>
Europe:	Type Approval	ECE Regulations or EC Directives or	Global Technical Regulations
USA:	Self-Certification	FMVSS	



Two Pathways to Present a Proposal for a Regulation

UN-ECE

REGULATIONS

Secretary General of the UN

Economic Commission for Europe
Inland Transport Committee
ITC

Working Party 29 (WP29)
New Vehicles Construction

GRPE
Groupe de Rapporteurs de
Pollution et des Emissions

EC

DIRECTIVES

EU Council and EU Parliament

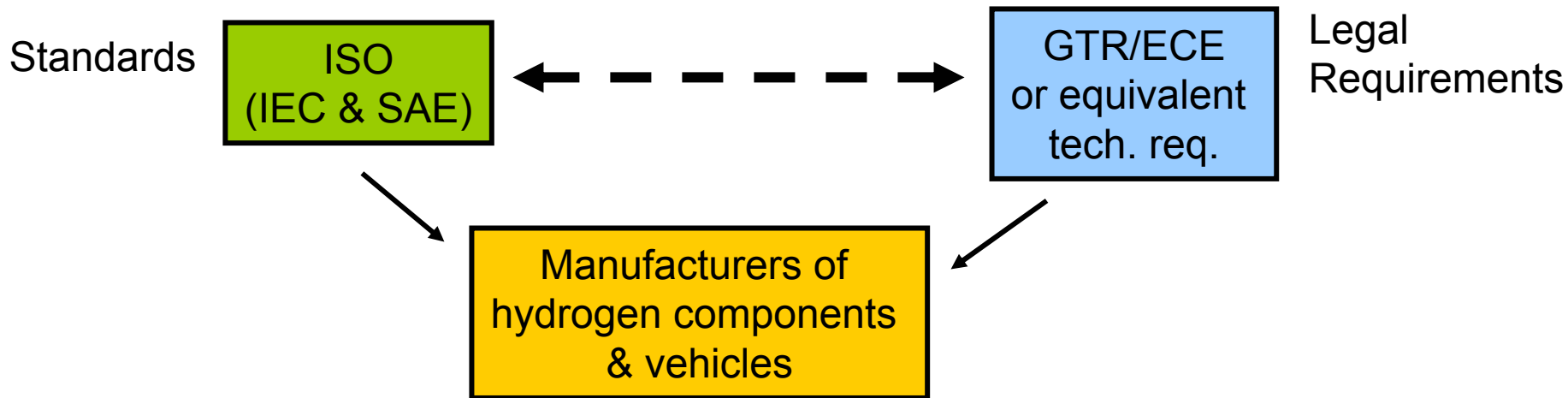
European Commission

Motor Vehicle Working Group

MVEG
Motor Vehicle Emission Group

EIHP2 – H2 Regulations & Standards for Road Vehicles

Desirable Future Scenario for Regulations & Standards



- Legal requirements should be created only where necessary
- No standards should be created for subjects where legal requirements are necessary
- Standards are necessary for communication between industries
- Standards are not required for the whole vehicle
 - What would be the benefit of such standards?
 - Why should such standards be created only for hydrogen vehicles?

International and European Standards

	General	Electrical	Other
World	ISO	IEC	...
Interface	Vienna Agreement		...
EU	CEN	CENELEC	...

International Hydrogen Standards

ISO TC 197 “Hydrogen Technologies”

WG	Topic
1	Liquid hydrogen — Land vehicle fuel tanks
2	<i>Tank containers for multimodal transportation of liquid hydrogen</i>
3	<i>Hydrogen fuel — Product specification</i>
4	<i>Airport hydrogen fuelling facility</i>
5	Gaseous hydrogen blends and hydrogen fuels — Service stations and filling connectors
6	Gaseous hydrogen and hydrogen blends — Land vehicle fuel tanks
7	<i>Basic considerations for the safety of hydrogen systems</i>
8	Hydrogen generators using water electrolysis process
9	Hydrogen generators using fuel processing technologies
10	Transportable gas storage devices — Hydrogen absorbed in reversible metal hydrides

International Fuel Cell Standards

IEC TC 105 “Fuel Cells“

WG	Topic
1	Terminology
2	Fuel cell modules
3	Stationary fuel cell power plants — Safety
4	Performance of Fuel Cell Power Plants
5	Stationary Fuel Cell Power Plants — Installation
6	Fuel cell system for propulsion and auxiliary power units (APU)
7	Portable fuel cell appliances — Safety and performance requirements

Questions for the U.S.

- Should the U.S. engage in the GTRs process before it develops a consensus on hydrogen and fuel cell codes and standards
- Does the current international system reflect the relative importance of markets being served?
- Would GTRs require new regulatory mechanisms to be set up in the U.S.?
- Should GTRs be used to harmonize existing requirements or create new ones?

Possible Futures

- Never agree on GTRs and let ISO and IEC write standards and the ECE continue to do European requirements
- Have the GTR process dominate with or without defined roles for ISO and IEC
- Develop a GTRs but have trading blocks harmonize the GTRs rather than countries
- Global relevancy where national standards are reconciled in large part based on market size
- Development of a new initiative or agreement
- No international agreements

Decision Points

- There will be a decision in the fall at the GRPE meeting on whether to move forward on tank standards as a ECE regulation or a GTR. The U.S. and Japanese votes on this question are critical.
- The Energy Secretary is hosting a ministers meeting in Nov. on his International Partnership for the Hydrogen Economy
 - A major issue in the initiative is hydrogen and fuel cells codes and standards