

Canadian Transportation Fuel Cell Alliance  
Codes & Standards Working Group  
Request for Proposals

**TERMS OF REFERENCE**

**Develop Schematic, Virtual Detailed Hydrogen Fueling Station**

Work Plan - Task 1, Action 1.6

**Objective:**

This action item will develop a generic model for hydrogen fueling stations upon which can be overlaid the results of the work of Codes & Standards activities. The generic model will evolve into practical representations of the actual sites to be built as part of the CTFCA program as details of these are released. These models will have the capability to overlay clearance zones and details of regulatory requirements for each type of component in the station.

**Target Audience**

The target audience is Canadian and anticipated as follows:

- Municipal/City planning departments
- Fire Marshals and Fire Departments
- Provincial and Territorial Fuels Safety Regulators
- Architects and Engineers
- Building and Property owners
- Local citizens groups
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**Scope:**

Create a block diagram or schematic describing hydrogen fuel generation, storage, delivery and dispensing for multiple fuel feedstocks and the corresponding codes and standards. Priority shall be on the Canadian market, however, references to U.S. and international standards should also be included if available. Where market access barriers or regulatory gaps exist, these should be identified. Contact information for the regulators in each province shall be provided. Contact information on Canadian hydrogen installations are desired. The following components should be addressed within the system scope:

- Generation
  - Electrolysis
  - Reformers
    - Natural Gas
    - Methanol
- Storage
  - Liquid Hydrogen
  - Compressed Hydrogen
  - Methanol
  - Natural Gas
- Piping
  - Pressurized (liquid & gaseous fluids)
  - Ambient (liquid & gaseous fluids)
- Electrical Systems
- Compression
- Dispensing
- Pressure Relief

- Venting
- Manufacturers, Integrators and Installers of hydrogen equipment and systems.

**Format:**

All will be considered - Autocad; Graphic (detailed); 3D. There is a preference for a CD and web based format, which will provide multiple web links to hydrogen codes and standards and the sites where they can be sourced.

**Environment:**

The proposal should include new stand-alone hydrogen fueling stations, and existing stations containing dispensing systems for petroleum, diesel, natural gas, and propane. Electrical classification and clearance distances to parking, other fuels, lot lines, sidewalks and public assembly shall be addressed.

**Submissions**

Proposals shall include evidence of sufficient knowledge to provide the technical content and examples of the proposed graphical representation form.

**Proposed Cost**

The proposed cost of the project shall fall within the range of \$40,000 to \$100,000.

**Ongoing Maintenance**

A proposal for ongoing updating of the status of hydrogen codes and standards is also solicited. The cost of ongoing maintenance and updating of the status of hydrogen codes and standards, including frequency shall also be provided along with evidence that this can be fulfilled.

Submissions should be forwarded by September 1<sup>st</sup>, 2003 to:

Ian MacIntyre  
imacinty@NRCan.gc.ca