



**HYDROGEN STANDARDS, CODES AND  
REGULATIONS  
CSA AMERICA UPDATE  
MAY 28 - 29, 2003**

# CSA AMERICA

- ACCREDITED U.S. STANDARDS DEVELOPER
- ADMINISTRATIVE SECRETARIAT TO IEC TC 105 U.S TAG
- SECRETARY TC 105
  - WG 1
  - WG3
  - WG 5
- SECRETARY TC-197
  - WG 7



# CSA AMERICA STANDARDS DEVELOPER PHILOSOPHY



- ADOPT ISO AND IEC STANDARDS AS U.S. STANDARDS
- DEVELOP AND ADOPT NORTH AMERICAN STANDARDS AS U.S. STANDARDS
- DEVELOP AND ADOPT U.S. NATIONAL STANDARDS

# STATIONARY FUEL CELL POWER SYSTEMS ANSI Z21.83-1998



- DESK STANDARD 8-90
- ANSI NATIONAL STANDARD 1998
- RENAMED CSA FC1 IN 2001
- NEW REVISION TO BE PUBLISHED IN AUGUST 2003

# STATIONARY FUEL CELL POWER SYSTEMS CSA AMERICA FC1

- STATIONARY
- 10 MW
- 600 V
- HYDROGEN, NATURAL GAS, LP GAS, METHANOL, ETHANOL, KEROSENE, DIESEL, GASOLINE, ZINC

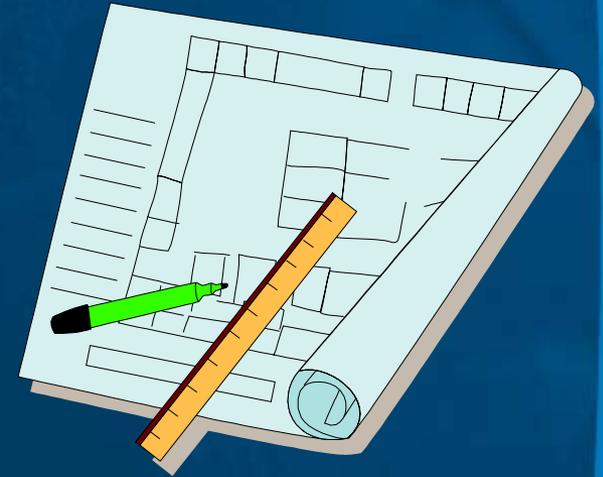
# RESIDENTIAL FUEL CELL POWER SYSTEMS CSA AMERICA FC 2



- DESK STANDARD 1.01
- INTEGRATED INTO FC 1
- FC 1 RESIDENTIAL REQUIREMENTS MAY BECOME FC 2

# PORTABLE FUEL CELL POWER SYSTEMS CSA AMERICA FC 3

- DESK STANDARD 3.01
- FINAL DRAFT COMPLETE
- PUBLICATION AS NATIONAL STANDARD IN AUGUST 2003



# PORTABLE FUEL CELL POWER SYSTEMS

## CSA AMERICA FC 3

- PORTABLE
- HYDROGEN, NATURAL GAS, LP GAS, METHANOL, ETHANOL, KEROSENE, DIESEL, GASOLINE, ZINC, METAL HYDRIDS

# FUEL CELL MODULES

## CSA AMERICA FC 4

- DESK STANDARD 33
- PUBLISHED IN 2000
- IEC/TC105, WG 2 USING DESK STANDARD 33
- INTERNATIONAL STANDARD WILL BE ADOPTED IN U.S. AS FC 4
- U.S. ADOPTION BY 2005



# HYDROGEN GENERATORS

## CSA AMERICA FC 5

- DESK STANDARD 5.99
- PUBLISHED IN 2001
- CURRENTLY BEING UPDATED AND REDESIGNATED FC 5
- FOLLOWS WORK BY ISO/TC-197, WG 9
- NEW ISO STANDARD SCHEDULED FOR 2004
- NEW U.S. NATIONAL STANDARD SCHEDULED FOR 2006



# VEHICLE SYSTEMS AND REFUELING FACILITIES

STANDARD	TITLE	SCHEDULE
HV 2	Fuel Containers	6-04
HV 3.1	Fuel System components	6-04
HV 4.1	NGV Disp. Systems	6-05
HV 4.2	Hoses for Disp. Systems	6-05
HV 4.3	Temp. Comp. Devices for Disp. Systems	12-06
HV 4.4	Breakaway Devices for Disp. Systems	12-06
HV 4.5	Priority and Sequencing for Disp. Sys.	6-07
HV 4.6	Manually Operated Valves for Disp. Sys.	6-07
HV 4.7	Auto High Pressure Valves for Disp. Sys.	1-08
HV 4.8	Fuel Station Compressor Guidelines	1-08
HPRD-1	Pressure Relief Devices for Fuel Containers	6-04
HPRD-2	Fuel System Container Storage	6-05

# Coordination of Hydrogen Standards, Codes and Regulations

## CSA America Participation

### Automotive

- **VEHICLE CONTAINERS**
- Fuel Delivery Storage Containers
- **FUELING DISPENSERS**
- **ON-SITE HYDROGEN PRODUCTION**
- Storage Tanks
- Sensors/Detectors
- Connectors
- **FUELING STATION COMPONENTS**

