

2007 Fuel Cell Seminar
Hydrogen Technologies Permitting
Workshop

Kelvin Hecht

Fuel Cell Codes & Standards
Consultant

MY Experiences

- My background
- Sometimes life is hard
- Sometimes life is unfair
- Lessons learned

My background

- 35 years experience with UTC Power
- Stationary Fuel Cell Standard
- Performance & Installation Standards
- International Standards
- www.fuelcellstandards.com
- Installed systems: 1970's - 2007

Sometime life is hard

- ◆ No standards
- ◆ Standard not recognized
- ◆ No incentives for the AHJ

- ◆ *Local support*

Sometime life is unfair

- Political climate
 - ◆ Manhattan
 - ◆ Westchester County
- Contradicting standards
 - ◆ NFPA 55 & NFPA 52

Lessons learned

- AHJ is the ultimate authority
- Respect local customs
- Be thorough

AHJ is the ultimate authority

- Be respectful of the office
- Provide support that is suggested
 - ◆ Professional Engineer
 - ◆ Consultant (outside expert/local)
- 2007 military hydrogen storage
 - ◆ Hydrogen consultant
 - ◆ Fuel Cell standard consultant

Respect local customs

- Use local support
 - ◆ Con Ed; 14th Street
 - ◆ 4 Times Square
- Use local (qualified) contractors

Be thorough

- Approved components & systems with documentation
- Document siting considerations
- Discuss
 - ◆ Fire prevention - several layers
 - ◆ Fire fighting
 - ◆ Operating procedures/signage
 - ◆ Security/access

Be thorough – FMEA (simple)

- All components on siting drawing
 - ◆ Name, number & function
- Every failure mode
- Failure effect; to the system level
- Frequency; 1, 2 or 3
- Severity; 1, 2 or 3
- Comments; preventive maintenance/procedures

Be Professional