

# Safety Standards, Legislation and Codes of Practice for Fuel Cell Manufacture in the UK

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# Codes & Standards in the UK

- Management of Health & Safety in the UK
- Mechanical & Chemical Issues
- Electrical Issues
- Emissions / Effluent
- Fire & Explosion
- Noise & Vibration
- Siting & Licensing
- End of Life Disposal

## Management of H & S in the UK

- HSE & Local Authority
- No Self-Regulation
- LA / Environment Agency - Noise, Gases etc.
- If staffed, plant registered with HSE
- There are NO plants in the UK
- Parallels to GTs

# Mechanical & Chemical Issues

- PRESSURE VESSELS
  - Pressure systems over 0.5 bar
  - European Pressure Equipment Directive (Nov.'99)
- The Machinery Directive (EU - Law)
  - Risk Assessments
  - CE Marking
  - Guarding
- COSHH / CHIPS

# Electrical Issues

- CE Marking
  - Low Voltage Directive (EU - Law)
  - EMC Directive (EU - Law)
- G59/1 Recommendations - Grid Connection
- 400v / 230v / 50 Hz

# Emissions / Effluent

- No Major Concerns
- Steam Plumes
- Disposal of Effluent During Maintenance

# Fire & Explosion

- Potentially Explosive Atmosphere Regs. 1996 (UK Law)
- Explosive Atmosphere Guidelines (EU 1998)
- Ventilation
- Local Fire Authority
- Insurers Must be Satisfied

# Noise & Vibration

- Vibration - No concerns
- Noise at Work Regulations 1989 (UK Law)
- etc.
- Outside - Planning Approval



## Siting & Licensing

- Local Authority / HSE Planning Approval Required
- Local Authority Licence to Operate Outside Working Hours
- Licence from OFFER to Generate Electricity for the Grid

# End of Life Disposal

- No Major Concerns
- Oxidation of Catalysts
- Recovery of Platinum
- Germany - KrW / AbfG 1996 - Recycling Preferred