



Hydrogen System Update

CM32

10th February 2012

S Watson



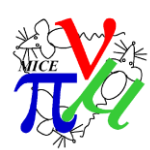
Science & Technology
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Outline

- i. Safety Review outcome
- ii. Progress
- iii. Schedule





Safety Review outcome

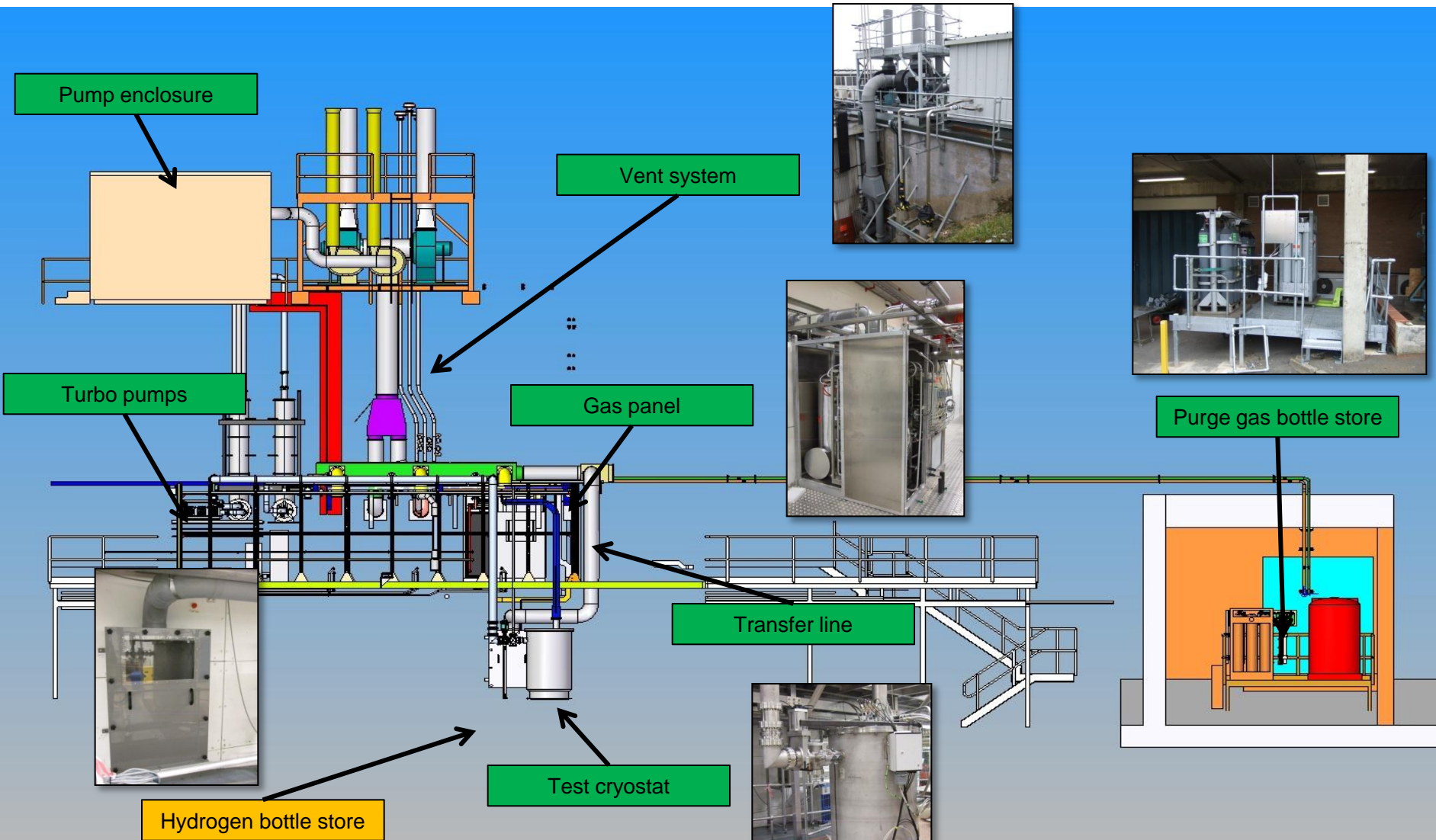
Recommendations

- **Director-level safety responsibility**
 - Prof David Wark, RAL PPD
- **Tertiary containment**
 - Argued our original stance that secondary containment plus elimination of ignition sources is acceptable
- **Safety Integrity Level re-assessment**
 - Implementing interlock redundancy to downgrade system to SIL 1
- **Fire strategy**
 - Fire strategy needs review to improve prospects of saving equipment in event of a fire

A working group from **MICE**, **ISIS** and **SHE** will be formed to supervise the action being taken.







Progress - construction





Progress - commissioning

Vacuum system commissioning

- Vacuum pumps and turbo pump operating 
- Gauges now reading and logging correctly 
- Cryostat vacuum reached 1.5×10^{-5} mbar after 2nd N₂ purge = OK 
- Gas panel pumps down satisfactorily 

Ready for operation





Schedule – construction work

- Pressure testing of RAL-installed lines – tomorrow
- X-ray inspection of in-situ welds - 12th March
- Commissioning of heater-chiller unit
 - Coolant delivery – 21st March
 - Control system commissioning - 23rd March
- H2 regulator
 - Delivery - 28th March
 - Installation and commissioning - 30th March





Schedule - milestones

- March 12th
 - Helium verification testing
- March 26th
 - Ready for hydride bed charge
 - Hydrogen testing (4 weeks, **hall shut**)
 - Failure simulations (6 weeks)
- May 15th
 - Hydrogen testing completed
- June
 - Decommissioning of R&D system

