

# 2016-11-22-MIPO

CW, PMH, JP, SF, AB, KL, PG, PS, AN

## Agenda

- Actions

**Action CR** to co-ordinate investigation of higher force situations and report to MIPO.

**Action CW** to post forces and magnet sims on new wiki page.

[http://micewww.pp.rl.ac.uk/projects/governance/wiki/Magnet\\_Forces](http://micewww.pp.rl.ac.uk/projects/governance/wiki/Magnet_Forces).

- Review of MICE safety procedures: AN

Events reported to SHE group by AN

- Classified as 'serious' by SHE
- AN filled in a 'serious or potentially serious incident' form. Conclusion was our procedures are OK but there was a lapse in execution.

5 actions on MICE,

- 1 technical analysis of event. CW
- review of safety management. Pre-Christmas. CW, AN, DCs, CMcW etc.
- appoint additional DC
- re-write DC terms of reference such that DC are nominated electrical person.
- Safety signage re pacemakers.

AN considers that the most important is 'review of safety management' which must be external. Duncan Francis to chair - requires documentation package

- Controls review: KL

We have had 2 un-authorized ramps of Match coil power supplies.

Possibilities are

- low-level software
- high level software
- communications.

Commands are not logged. Status is logged – not clear that equipment has not changed status 'on it's own' another possibility to sit beside 'controls system generated un-authorized commands'

Process has started - PO is reviewing PMH code. – Software architecture to be documented.

Cannot stop expt to run review.

- Magnets
  - Mechanical
    - Braces. **Action on CW** to check status of braces.
  - Spectrometer solenoids
    - Status update – SF
      - All running smoothly now – **Action on CW** to label breakers.
      - Smooth ramp up – new GUI needs some improvement.
      - SS magnets first, then FC. JB took notes. JB notes he found run-up useful.
      - No new noise sources.
      - VTs removed from QPS and new limits appear to be sufficient to allow operation.
      - Sympathetic trip should be solved by software mod: addition of 650ms validation time. Not yet validated.
    - Electrical feedthrough 'air/heat provision'
      - Adjusted heater on SSD feedthroughs once ramped to current. Documented in eLog.
      - SF: should re-instate heating to previous settings before ramp-down.
    - Controls - Response to un-authorized ramp.
      - Call MOM.
      - Press 'Pause all' on GUI
      - If not effective then use fast ramp down buttons on power supplies.
      - Hardware current limit is possible.
      - Power supply may have hardware current limit which cannot be set in software. **Action on PMH** to forward spec on hardware current limits to MIPO. Test into shorts. If hardware limit does not exist – contact will be made to DL to address.
      - Action JB** to amend magnet operating instructions to include instruction to 'pause all'
- Focus coil – always ramp FC first.
  - Change limits on FC vessel pressure – JB has advised PMH He level occasionally drops to zero – requires manual reset. Information will be provided for shifters. KL notes that this is additional evidence that a magnet expert on call would be beneficial. **Action on JB** to pursue MEOC
- Magnet settings
  - Measured net force currently is 3.8tons – JC spreadsheet calculates 4.1tons
  - JP has new results for matched beam with high M coil currents but FC at ~50A. **Action JP** to send magnet settings to CR who will forward to full list.
  - **Action on AB** to ask Holger to run JP settings through full model with Ao settings.

- KL current FC has only trained to 114A to date – experts need to decide if a stand alone test of FC1 to higher current >90A.
- JC FC1 in R9 114A probably 120A. 180A in flip mode was achieved.
- KL how do we approach higher force settings? **Action on JB** to post magnet operating history in MICE hall with PRY.
- MIPO decides that nominal '12T' force limit between cold masses.
  
- Hall Water
  - Trench water system
    - Current problem fixed
- H2 system.
  - Cooling, now below 50K.
  - Decision pending on regulating vessel pressure.
  - Danger to burst disc is much reduced due to new relief valves. (previous were wrong)
  - May need to activate heater to force circulation – intention is to test heater this afternoon.
  - If heater does not provide the required circulation, we may flow liquid helium into pre-cooling circuit.

AOB