

Interleaving Commissioning, Maintenance and Operations at Step IV

Paul Hodgson

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The MICE Operational Modes

- The MICE experiment operates in two distinct modes
 - Commissioning Mode
 - Equipment is being installed and commissioned in the experimental hall
 - Operations Mode
 - Normal data taking during ISIS user runs
- These different modes can occasionally conflict

The Duty Coordinator Role

- The Duty Coordinator (DC) role can be summarised as follows:
- To run the experiment on a day to day basis in a **safe** manner, as defined above, working with the GLIMOS and the MICE Operations Manager. The Duty Co-ordinator is not required to be an STFC employee, but is trained in specific areas where required. The Duty Coordinator is expected to be present in the MICE control room at all times if 24/7 commissioning and maintenance is in operation.
- The role of the DC has been defined in order to minimise conflicts between the MICE operational modes and ensure **safe** operation of the experiment

MICE Operational Organisation

- A full description of the MICE operational model can be found at:
 - <http://micewww.pp.rl.ac.uk/projects/safety-reviews>
- This model describes the two operational modes and defines how they interact
 - Defines the DC role and authority
 - Defines the formal handover between the 2 modes
 - Working pattern and hours
 - Interactions with staff and the organisation

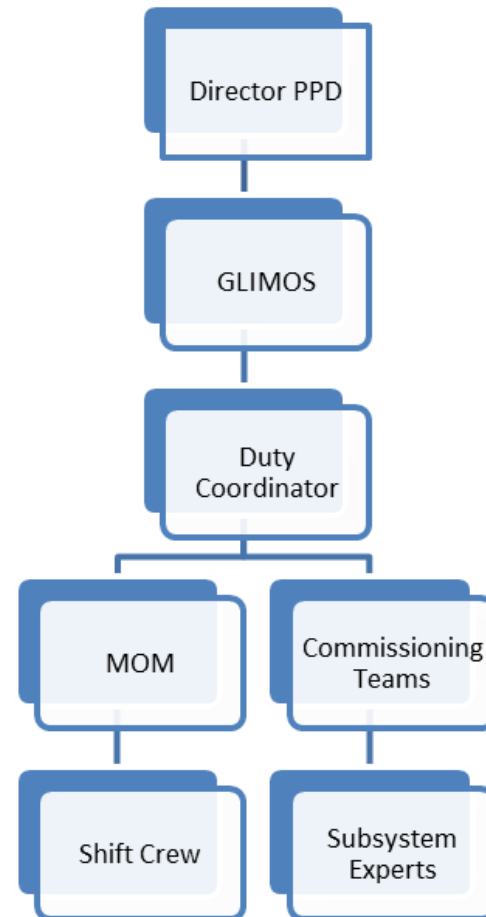
The Basic Organisational Chart

Operations Mode

Data taking with the MOM in charge

Commissioning Mode

Work in the Hall with the DC in charge



MICE and Safety

- The MICE Experiment is unusual for STFC in that:
 - The majority of MICE's active participants are visiting scientists
 - Who are not necessarily well versed in STFC Health and Safety culture, and
 - May not be properly acquainted with the many Health & Safety systems operating at the RAL/ISIS site
 - Visiting scientists bring their own experimental hardware and are responsible for it....
 - Working on it themselves, using the standards and approach employed by their home institutions, and
 - Are sometimes unaware of the relevant STFC expectations & controls for such work
 - Working hours and shift patterns cannot be predicted long in advance
 - The experiment contains a few unusual and high safety hazard considerations:
 - Liquid hydrogen
 - RF
 - Ultra-confined spaces and potentially oxygen deficient atmospheres
 - Close proximity of magnetic fields and cryogenic operations to all of the above

The DC Role and Safety

- The DC is a crucial component in enforcing STFC safety policy at the local level
- They are required to be present at the MICE Hall whenever commissioning activities are taking place
- They are required to have undertaken the STFC [Safety For Technical Managers course](#)
- They are formally appointed in writing by the Director of PPD, Dave Wark, who carries overall responsibility for the MICE experiment at STFC

The DC Role and Safety

- The DC has the delegated authority to veto any work in the MICE hall if they deem it to be unsafe
- There is a formal handover procedure between MOM and DC
- The DC remains on call during operations
- Can switch between MOM and DC control rapidly to allow longer interventions in the hall during nominal data taking periods

MICE Safety Governance

- The MICE-ISIS Safety Committee, chaired by John Thomason, meets about every six weeks, or more frequently when required
 - The DC and GLIMOS have a standing invitation
 - It covers all detailed matters of MICE safety
 - Usual standing agenda, with actions issued & followed
- Specialist technical safety-critical topics are managed by specific Working Groups:
 - Liquid Hydrogen – chair, John Thomason
 - RF – chair, Mark Keelan
- Both of these groups report to the MICE-ISIS Safety Committee

Current Status of the DC System

- There are currently 3 DCs in post
 - Paul Hodgson
 - Victoria Blackmore
 - Craig Macwaters
- There is a DC rota with coverage extending through 2016
- The interleaving of DC/MOM and Commissioning/Ops is working well

Summary

- The implementation of the DC/MOM system has enhanced coordination between the operations and commissioning phases of the experiment
- The lines of communication are now much clearer
- The implementation of the STFC SHE safety framework within MICE is now more robust with a DC either on call or at the hall when required