

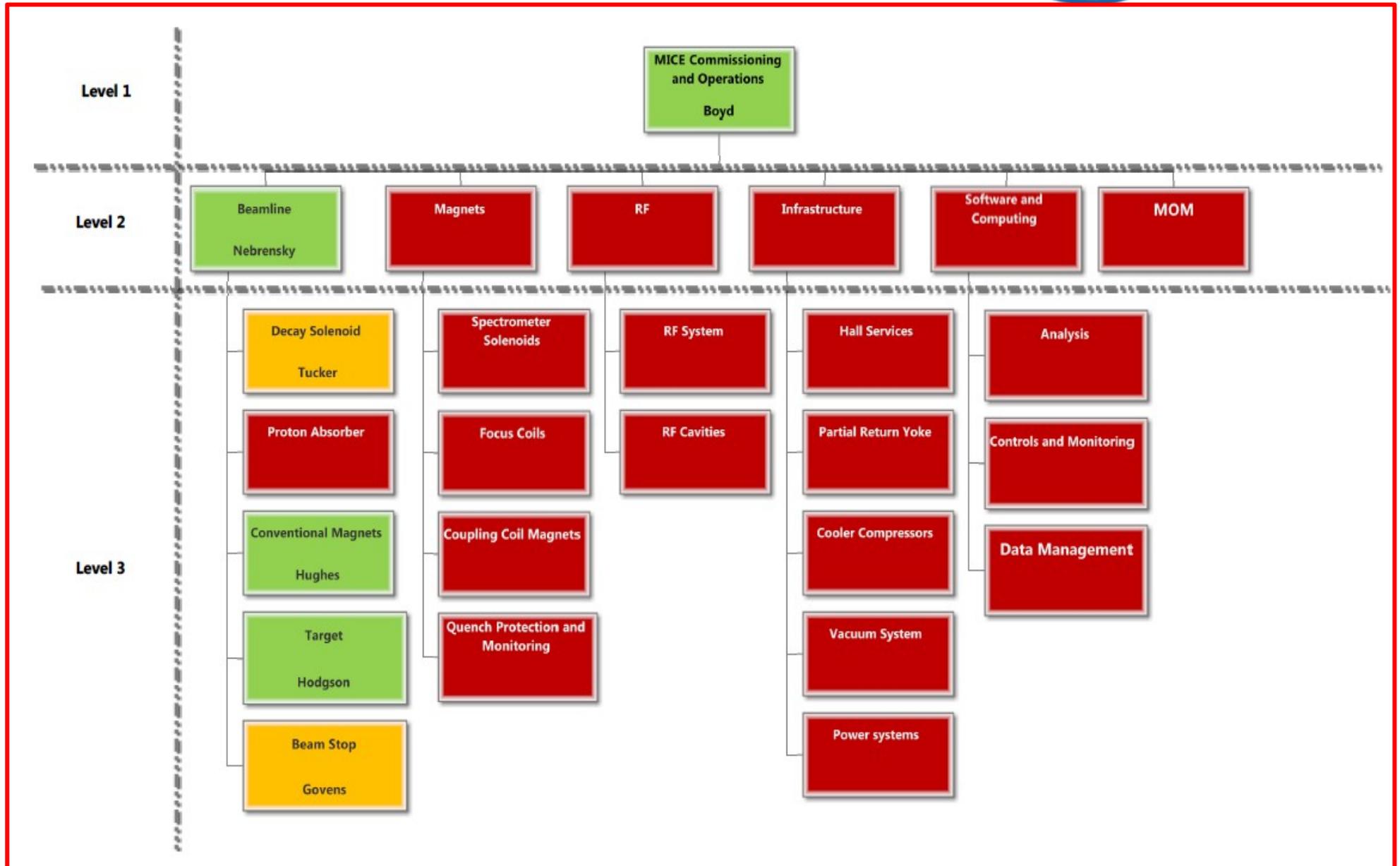
MICE Operations

- ▶ Purpose of the Operations Group
- ▶ Organisation and Staffing
- ▶ Changes to operations
 - ▶ Role and Responsibility of the MOM
 - ▶ Shift Training and allocation
- ▶ Discussion

Purpose

- ▶ The goal of the operations group is to ensure that Steps IV and later happen on schedule.
- ▶ This implies making certain that
 - ▶ The work and systems in the Hall operate appropriately
 - ▶ ISIS and MICE work together to provide technical support
 - ▶ management and oversight of data taking is effective
 - ▶ we know what data to take, and when to take it

Operations and Commissioning



Hall Team

John Governs is now the Hall Manager and leads the Hall team. They are responsible (and in charge) of all work that goes on in the Hall

The Hall team includes technical leads covering RF, magnets, cryo and ancillary plant. Most have been identified.

These posts will be incorporated in (and managed by) ISIS technical teams so that the wider ISIS resources are available

ISIS Support

- ▶ Operations will require continual technical support from ISIS
- ▶ Technical leads will work with resources from the ISIS Operations Group

| Function/Title | FTE | Band | ISIS Structure | ISIS Group |
|------------------------|------------|------------------|----------------|----------------------------------|
| MICE Hall Manager | 1.0 | E ¹ | IAC/AEG | Accelerator Engineering |
| RF Engineer | 1.0 | D ¹ | IAC/INJ | Linac RF |
| Vacuum | 0.1 | E ¹ | IEO/SENV | Sample Environment Cryogenics |
| S/C Magnets | 0.5 | | | |
| Cryogenics | 0.2 | | | |
| Mechanical Engineering | 0.2 | D/E ² | IAC/AEG | Accelerator Engineering |
| Ancillary Plant | 0.8 | | | |
| Mechanical Craft | 0.1 | B-C | IAC/AEG | Accelerator Engineering |
| Accelerator Physics | 0.1 | D-F | IAC/SYNCH | Accelerator Physics |
| Controls | 0.5 | D-F | IEO/CON | Target Controls |
| Electrical/Interlocks | 0.5 | C-E | IAC/OPS | Accelerator Operations |
| Conventional Magnets | 0.3 | D-E | IAC/EEG | Electrical Engineering |
| S/C Magnets | 0.5 | D-E | IEO/SENV | Sample Environment Cryogenics |
| Design | 0.1 | D-E | IDD | Accelerator Design |
| Heavy Gang/logistics | 0.1 | B-D | IEO/TGT | Target Operations |
| Total | 6.0 | | | |

Mice Operations Manager Role

- ▶ The MOM is a role that is crucial to the smooth running of MICE. They are a contact point between ISIS, MICE Operations and Shifters.
- ▶ It has evolved into a sort of catch-all secretariat. A person who goes to all meetings, checks the MICE systems, is responsible for all things that go on in the Hall (and elsewhere), including safety issues, and generally runs around
- ▶ In discussion with current MOMs we have decided to try to better define the responsibilities of the MOM
- ▶ We do not want to be too prescriptive – we should trust the MOM to know what to do, when and how, or to bring the issue up with the Co-ordinator or relevant people if they don't.

Nature of the role

- ▶ The primary responsibility of the MOM is to oversee day-to-day operations and ensure that the operations plan is carried out
- ▶ There is a concern that the MOM is responsible for safety in the Hall. Beyond being aware of safety issues, this is no longer the case. Safety in the Hall is the responsibility of the Hall Manager and the Project Engineer & GLIMOS
- ▶ Problems with the MOM itself should be address to the Operations Co-ordinator (i.e. me)

What the MOM is responsible for

- ▶ The MOM will be involved in developing a run plan based on the Operations plan (together with the Mice Ops Co-ordinator)
- ▶ The MOM will be responsible for carrying out that run plan, including ensuring that risk assessments and method statements for the running period are available
- ▶ The MOM will be responsible for liaising with ISIS and making sure that what we want to do is done in accordance with ISIS requirements.

What the MOM is not responsible for

- ▶ The Hall walk-around. This is now the responsibility of the Hall Manager and his team – as much as possible should be into monitored and archived.
- ▶ Ensuring annual safety and maintenance checks are done
- ▶ Ensuring MICE electrical authorisations are up-to-date
- ▶ Ensuring Hall PPE requirements are sufficient
- ▶ Ensuring that all work in the Hall is performed safely
- ▶ Ensuring detectors are calibrated / surveys are analysed etc

Tenure and MOM pool

Currently MOMs are being drawn from a pool of about 10 people – currently:

Ray Gamet, Yagmur Torun, Paul Soler, Victoria Blackmore, Adam Dobbs, David Adey, Chris Rogers, Durga Rajaram, Ryan Bayes, Yordan Karadahov, Pierrick Hanlet, Ian Taylor, Melissa Uchida, Andy Nichols

They have done a brilliant job. My concern is that we are relying too much on a small, reasonably local, crew.

In recent months it has become difficult to find a MOM. Hopefully this is a problem of transition.

Changes to MOM pool

I would like to

- ▶ enlarge the pool of trained MOMs
- ▶ negotiate with the pool to select a small team of 6 (?) people, who will act as MOMs for one year. Such a team ensures some continuity over a year.
- ▶ At the end of each year, the members in the team will be offered a choice to continue or to leave the active team.
- ▶ Each MOM will, ideally, serve one month + one week overlap with the previous MOM.
- ▶ No MOM should serve more than twice in one year and there should be at least 5 months between tenures
- ▶ Those who are now on the list should indicate whether they want to remain.
- ▶ I am especially interested in hearing from new people

MOM Recognition

- ▶ Being a MOM is an important role in the experiment and takes up a lot of time.
- ▶ I would like to recognise the MOM role somehow
- ▶ Currently the MOM will be credited a shift credit for every day that they are MOM.
- ▶ The MOM role will, of course, appear on CVs
- ▶ What else?

MOM Rotation to July



| From | To | MOM |
|------------------------|------------|----------------|
| March 31st | April 13th | Adam Dobbs |
| April 14 th | April 27th | Ray Gamet |
| April 28th | May 11th | Adam Dobbs |
| May 12th | May 25th | Melissa Uchida |
| May 26th | June 8th | Paul Soler |
| June 9th | June 23rd | Ryan Bayes |
| June 24th | July 6th | Ryan Bayes |

Manning the experiment

Personnel required to be present, or contactable, when taking data

- ▶ MOM
- ▶ MICE Beamline On-call (BLOC)
- ▶ An online expert
- ▶ A near-online (online reconstruction) software expert
- ▶ Shift team
- ▶ Subsystem Experts

Subsystem Experts

- ▶ All running experiments provide experts for their individual subsystems.
- ▶ There have been times on MICE when experts have not been contactable. We shouldn't allow this.
- ▶ Each system (TOF, Tracker, EMR, Cerenkov) should field an on-call expert at all times when the detectors are running. The MOM should be aware when the expert is changed.
- ▶ An expert list will be maintained by the MOM.
- ▶ Ideally the expert should be local

Shifts

- ▶ A policy on shift credit and quote is being developed by Alain.
- ▶ Unlike particle physics experiments, MICE does not tend to run continuously, although STEP IV could involve more stable running.
- ▶ However, shifters should be available during times when MICE is likely to run. Whether shifters are needed will be decided by the MOM.
- ▶ How many do we need?
 - ▶ 2 shifters per shift to ensure that the MLCR is not left empty by shifters at any time
 - ▶ Each shift is at most 8 hours long
 - ▶ Do we run for 24 hours (6 shifters) or 12 hours (4 shifters)? Affects travel plans.

Shift allocation

- ▶ Overseas collaborators need to know that they are doing a shift at least one month in advance. This implies that we need to understand the operational plan well in advance (more later)
- ▶ Particle physics experiments run continuously and generally use shift self-allocation and tracking software.
- ▶ ISIS User Runs are known in advance. Let's assume that in Step IV we run continuously. If planned well in advance, I think we can use shift self-allocation.
- ▶ We need a named shift co-ordinator who can implement an online shift management system

Shift make-up and procedure

- ▶ Each 2-man shift is composed of an experience *shift-leader*, and another shifter
- ▶ A shift-leader must have completed at least 3 shifts
- ▶ New shifters must under-take 2 shadow shifts before the start of their shift period.
- ▶ The experiment can undergo a number of changes between different running periods. Even an experienced shifter may not be familiar with new routines. I think that if a shifter has not done a shift for more than 6 months they should also do a shadow shift to be aware of the changes.
- ▶ This is especially important for STEP IV

Operations Planning

- ▶ To meet the Step IV deadline and ensure smooth running of the experiment we need to have an operational plan with at least a 6 month time horizon.
- ▶ That is, if we want to take data in Summer (?) we need to plan it now.
- ▶ Such a plan requires input from everyone – detector groups (what sort of calibration runs do you need? Survey? etc) , Physics (what data do we take), Beamline & Target (ISIS activation checks, ...), Reference run requirements, ...
- ▶ The MEMO would like to start to develop this with a planning meeting in late March.

Operations Planning

- ▶ April 4th – 6th 2014 – Beam bump tuning and double dip target rate test. Also DAQ test if the decay solenoid can be used
It would be good to include as many subsystems as possible in the DAQ test

Needs a running plan (target plan exists)

MOM/BLOC/Shifters required

Experts need to be available if the DAQ test proceeds

- ▶ 29th June 2014 – Activation test with double dip rate

MOM/BLOC/Shifters required

Could also take data if required

- ▶ Are we going to be in a position to do a full field-off data run before the long shutdown? What else do we want to do?

- ▶ What about commissioning? What staffing do we need for this?

Summary

- ▶ New operations structure is being defined
- ▶ Hall team is taking over all matters to do with the Hall
- ▶ MOM Role is being refined. The MOMs have been consulted and a document outlining MOM responsibilities is available
- ▶ We need to be able to plan the manning of the experiment well in-advance. A shift allocation and tracking system should be installed.
- ▶ Discussions on the operations plan is beginning