MICE Services & Integration

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• *Why do it…..?*

- *Running the Q35s cannot be done because a <u>very minor water flange was missing</u> – we now can't access till ISIS is off*
- *If the entire project has its services properly documented with engineering installation drawings and documentation, less chance of it happening*
- *There is potential for this problem in many other areas*

We are a little late to catch this on phase one, but we must plan better in phase two, because:

- *Greater diversity among the beamline elements*
- *Much higher risk potential, both safety, technical and financial*
- *The Hall will be more crowded*
- *And so on…….*

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How might we manage it?

- – We need to document: 'off detector' services
    - · Largely part of phase one and will hopefully be done anyway (legal requirement for CDM regime)
- – Then we define patch panels and interfaces
- – Then we define and document 'on-detector' services

On-detector services can be done by each subsystem

- – For example:

    Power

    Readout

    Slow controls

    Cooling

    Vacuum

Collect everything as an activity within the Phase Two WBS

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- Mechanical integration of phase two project
  - *The overall MICE baseline layout is very valuable, but it's usefulness is limited:*
    - *It's very crowded*
    - *It's a HUGE CAD file*
    - *There are no dimensions or datums for placement of beamline elements*
    - *The services routes are impossible to envisage*
- It's time we had a 3D CAD assembly of the hall:
  - *External CAD models can be imported*
  - *It's more flexible*
  - *Easier to visualise everything*
  - *Access by (controlled) multiple users is easier*
- But of course it's a significant engineering overhead.

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- *Points for discussion:*
  - *Not as easy as it sounds!*
  - *Engineers are rightly pre-occupied with delivering their detectors, not worrying about cables & pipes*
  - *Could we nominate a contact for each subsystem, (via the MICO?) and then…*
  - *Ask them to submit details of their services*
  - *The WP1 Manager then prepares the CAD assembly and written documentation*
- *It's a bigger job than we think, but essential!*