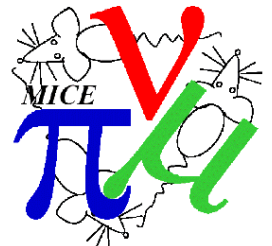




Project Managers Report

CM39 – Oxford

Roy Preece
26th June 2014





Content

- Where are we / Where are we going
 - Dashboard
 - Critical Path
- Step V – Planning
- Communications
 - Dashboard
 - Critical Path / Near Critical
 - Task



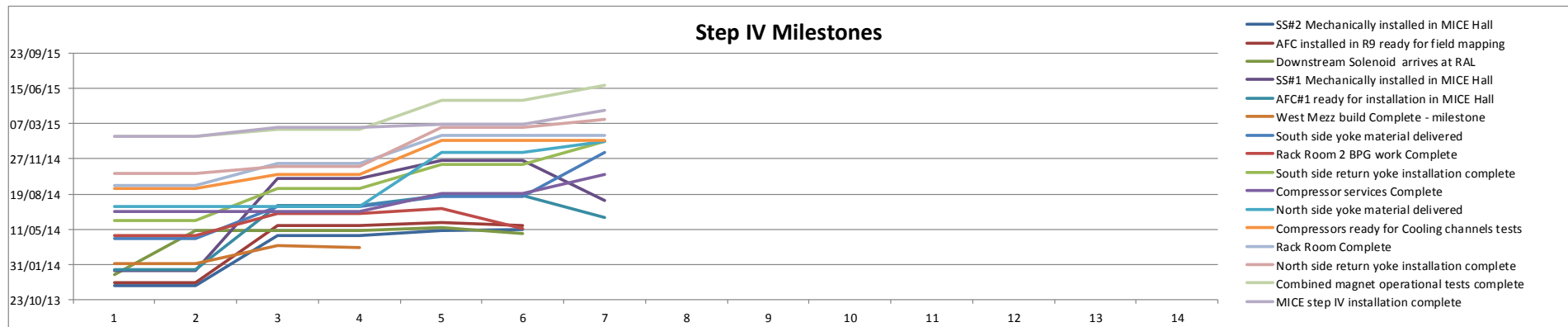


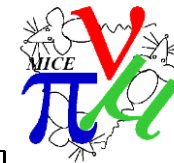
Where are we / Where are we going

	May-13	Oct-13	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15
Step IV Top Level Milestones														
SS#2 Mechanically installed in MICE Hall	02/12/13	02/12/13	24/04/14	24/04/14	07/05/14	09/05/14								
AFC installed in R9 ready for field mapping	10/12/13	10/12/13	23/05/14	23/05/14	30/05/14	23/05/14								
Downstream Solenoid arrives at RAL	03/01/14	08/05/14	08/05/14	08/05/14	16/05/14	30/04/14								
SS#1 Mechanically installed in MICE Hall	13/01/14	13/01/14	01/10/14	01/10/14	21/11/14	21/11/14	01/08/14							
AFC#1 ready for installation in MICE Hall	16/01/14	16/01/14	18/07/14	18/07/14	14/08/14	14/08/14	13/06/14							
West Mezz build Complete - milestone	04/02/14	04/02/14	25/03/14	19/03/14										
South side yoke material delivered	15/04/14	15/04/14	15/07/14	15/07/14	11/08/14	11/08/14	15/12/14							
Rack Room 2 BPG work Complete	23/04/14	23/04/14	24/06/14	24/06/14	09/07/14	12/05/14								
South side return yoke installation complete	04/06/14	04/06/14	03/09/14	03/09/14	12/11/14	12/11/14	16/01/15							
Compressor services Complete	30/06/14	30/06/14	30/06/14	30/06/14	20/08/14	20/08/14	14/10/14							
North side yoke material delivered	15/07/14	15/07/14	15/07/14	15/07/14	15/12/14	15/12/14	16/01/15							
Compressors ready for Cooling channels tests	04/09/14	04/09/14	13/10/14	13/10/14	19/01/15	19/01/15	19/01/15							
Rack Room Complete	12/09/14	12/09/14	13/11/14	13/11/14	02/02/15	02/02/15	02/02/15							
North side return yoke installation complete	17/10/14	17/10/14	05/11/14	05/11/14	23/02/15	23/02/15	18/03/15							
Combined magnet operational tests complete	30/01/15	30/01/15	18/02/15	18/02/15	13/05/15	13/05/15	22/06/15							
MICE step IV installation complete	30/01/15	30/01/15	25/02/15	25/02/15	04/03/15	04/03/15	13/04/15							
Step V Top Level Milestones														
LH2 absorber #2 at RAL (KEK)	28/09/12	28/09/15	28/09/15	28/09/15	28/09/15	28/09/15								
AFC#2 ready for installation in MICE Hall	28/10/13	28/10/13	29/10/14	29/10/14	29/10/14	29/10/14								
Amplifier#2 installation complete	26/08/14	26/08/14	26/08/15	26/08/15	26/08/15	26/08/15								
Cavity & RFCC module #1 delivered to RAL	03/01/17	06/03/18	06/03/18	06/03/18	06/03/18	06/03/18								
MICE step V installation complete	26/06/17	28/08/18	28/08/18	28/08/18	28/08/18	28/08/18								

Schedule being investigated

Change since last update	Reduction	Date	No Change	Date	1 - 2 weeks	Date	2 - 4 Weeks	Date	1-2 months	Date	2+ months	Date	Complete	Date
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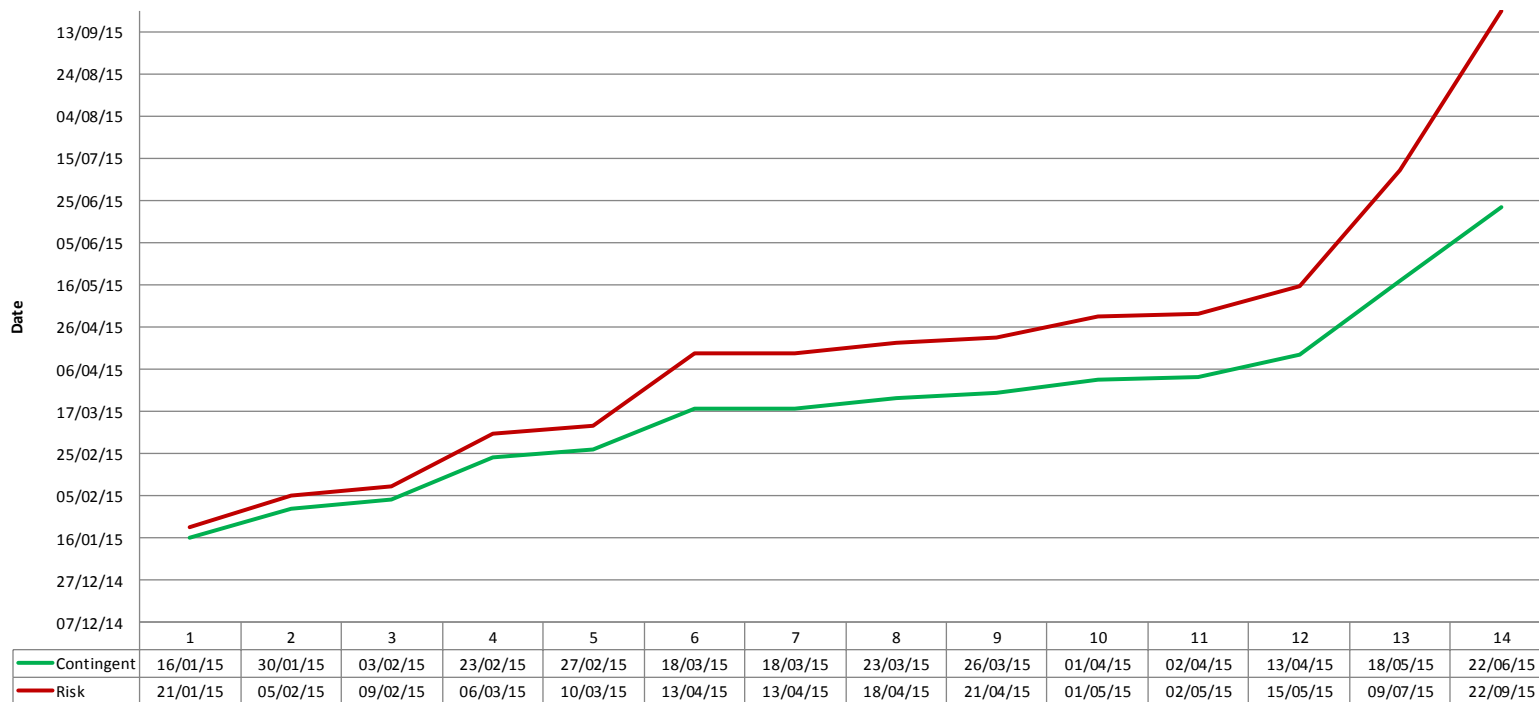




Where are we / Where are we going

Critical Path Task	Finish date with 35% Contingency	Delayed Finish due to Risk Realisation	Risk Level attributed to task	Duration of Risk level (days)	Probability of risk being attracted	Duration delay (Days)	Sequential Delay (Days)
North side yoke frame steelwork delivered	16/01/15	21/01/15	3	20	25%	5	5
Survey Floor & PRY Legs	30/01/15	05/02/15	5	5	25%	1.25	6.25
Cut shim	03/02/15	09/02/15	6	0	0%	0	6.25
Install frame legs (inc drilling plates)	23/02/15	06/03/15	4	10	50%	5	11.25
Survey PRY legs	27/02/15	10/03/15	6	0	0%	0	11.25
Fit North side yoke plates	18/03/15	13/04/15	3	20	75%	15	26.25
North side return yoke installation complete	18/03/15	13/04/15	6	0	0%	0	26.25
Cryostat stands - North side in place	23/03/15	18/04/15	6	0	0%	0	26.25
Move North side cryostats to hall and place in position	26/03/15	21/04/15	6	0	0%	0	26.25
Reform and connect external waveguides to fit from PP to Cryostat - After North PRY installation	01/04/15	01/05/15	5	5	75%	3.75	30
Erect trellis to support external waveguides - After North PRY installation	02/04/15	02/05/15	6	0	0%	0	30
Re-install TOF2, KL, EMR	13/04/15	15/05/15	5	5	50%	2.5	32.5
Spectrometer Solenoid preparation for lattice operation	18/05/15	09/07/15	2	40	50%	20	52.5
Combined magnet operation	22/06/15	22/09/15	2	40	100%	40	92.5

Critical Path Evolution - Baseline, Contingent and Risk



Where are we / Where are we going

Active Milestones



Task Name	Finish	Task Name	Finish
Intrumentation & controls for SS down stream delivered from WANG	30/06/2014	Sign Off / Complete - Compressors Seviles complete	14/10/2014
Instrumentation & controls available from WANG	30/06/2014	Compressors - electrically ready	14/10/2014
Mechanical Modifications to PSS complete	30/06/2014	3 phase mains connections at compressor positions in place?	14/10/2014
Cooling Channel Racks DL tests complete for SS upstream & FC PSU racks	11/07/2014	Framework in place for stack of two compressors	14/10/2014
Finalise electrical/control design Philosophy	18/07/2014	South side yoke frame steelwork delivered	24/10/2014
Sign Off / Complete - Compressor support structures and power	24/07/2014	Electrical & controls available for AFC#1 MICE Hall testing	12/11/2014
SS prep work complete	31/07/2014	Electrical & controls available for SS#2 MICE Hall testing	17/11/2014
Downstream Solenoid & Tracker Assy complete	14/08/2014	Electrical & controls available for SS#1 MICE Hall testing	18/11/2014
Cooling Channel Racks DL tests complete for SS#down stream & energy absorber racks	14/08/2014	Compressors - electrically ready	27/11/2014
SS#2 Mechanically installed in MICE Hall	25/08/2014	South side yoke wall material delivered	15/12/2014
Downstream spectrometer solenoid in place on cooling channel?	25/08/2014	Sign Off / Complete - Compressors ready for operation	13/01/2015
Chilled water piping & flow meters at compressor positions in place?	01/09/2014	North side yoke frame steelwork delivered	16/01/2015
Rack available for tests	10/09/2014	North side yoke material delivered	16/01/2015
DL vac controls rack & software (NW corner) in place around Nov 2014	26/09/2014	South side return yoke installation complete	16/01/2015
Trial connect and reform south side external waveguides?	01/10/2014	South side PRY in place by Mid Oct 2014	16/01/2015
Connect phone dialler?	01/10/2014	Upstream spectrometer solenoid in place on cooling channel?	16/01/2015
Ship back David Adey kit from the US	01/10/2014	Connect 115V transformer to Lid Heater box	23/01/2015
Compressors - electrically ready	06/10/2014	Sign Off / Complete - Rack room 2	02/02/2015
LH2 absorber #2 at RAL (KEK)	08/10/2014	North side return yoke installation complete	18/03/2015
Sign Off / Complete - Compressors Seviles complete	14/10/2014	North side PRY in place by Feb 2015	18/03/2015
Compressors - electrically ready	14/10/2014	MICE step IV installation complete	13/04/2015
3 phase mains connections at compressor positions in place?	14/10/2014	Combined magnet operational tests complete - milestone	22/06/2015





Step V Planning

- Lots of work to do
 - Single cavity test stand - is it possible to do in the Hall?, DL?
 - RFCC construction and shipping
 - Liquid Hydrogen system 2 build and test
 - RF system 2 build and test
- Aspirational date for delivery of the RFCC is September 2016
 - Desire to have the South PRY delivered June 2016
 - This would imply a possible shortening of Step IV running – March 2016.
 - Then when RFCC arrives September 2016, from the prep work can be installed directly in the hall.
 - Completion finishes with the installation of the North side PRY late 2016





Step V Planning

- This date would require a funding bump in the UK
 - Funding is currently flat
- *If extra funding were available*
 - Decommissioning of Step IV would need to be started around 6 months before the arrival of the PRY and RFCC
 - Step IV End – March 2016
 - Step V Construction completed – November 2017
 - *Important to have Operational plan to fit with construction scheduling*

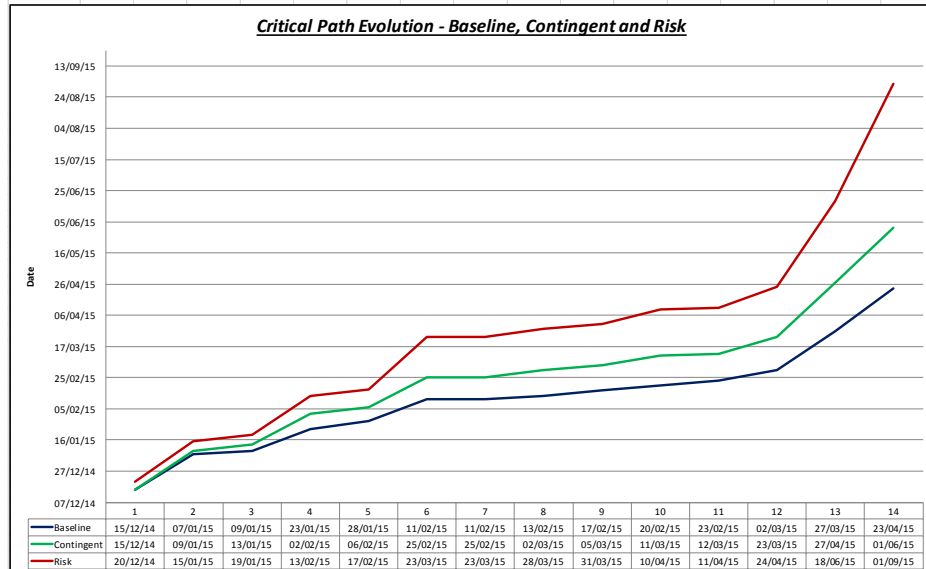
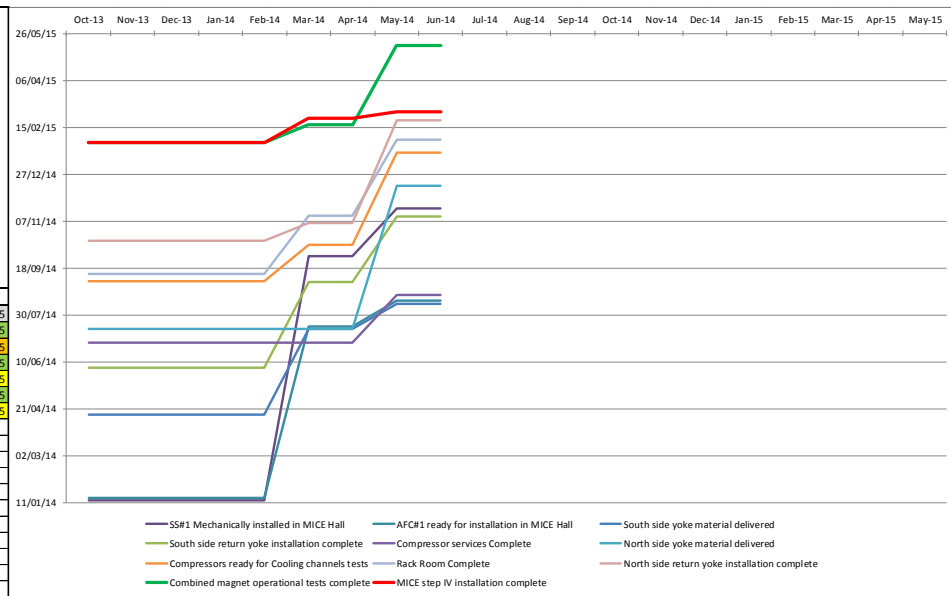




Information communication

Where can you find project information

Days of slip	158	164	117	312	210	43	118	19	161	51	153	137	143	129	103	33
Baseline	02/12/13	10/12/13	03/01/14	13/01/14	16/01/14	04/02/14	15/04/14	23/04/14	04/06/14	30/06/14	15/07/14	04/09/14	12/09/14	17/10/14	30/01/15	30/01/15
Oct-13	02/12/13	10/12/13	08/05/14	13/01/14	16/01/14	04/02/14	15/04/14	23/04/14	04/06/14	30/06/14	15/07/14	04/09/14	12/09/14	17/10/14	30/01/15	30/01/15
Feb-14	24/01/14	23/05/14	08/05/14	01/10/14	18/07/14	25/03/14	15/07/14	24/06/14	03/09/14	30/06/14	15/07/14	13/10/14	12/09/14	17/10/14	30/01/15	30/01/15
Mar-14	24/04/14	23/05/14	08/05/14	01/10/14	18/07/14	19/03/14	15/07/14	24/06/14	03/09/14	30/06/14	15/07/14	13/10/14	13/11/14	05/11/14	18/02/15	25/02/15
Apr-14	07/05/14	30/05/14	16/05/14	21/11/14	14/08/14		11/08/14	09/07/14	12/11/14	20/08/14	15/12/14	19/01/15	02/02/15	23/02/15	13/05/15	04/03/15
May-14	09/05/14	23/05/14	30/04/14	21/11/14	14/08/14		11/08/14	12/05/14	12/11/14	20/08/14	15/12/14	19/01/15	02/02/15	23/02/15	13/05/15	04/03/15
Jun-14				01/08/14	13/06/14		24/10/14		06/01/15	20/08/14	15/12/14	19/01/15	02/02/15	23/02/15	01/06/15	23/03/15
Jul-14																
Aug-14																
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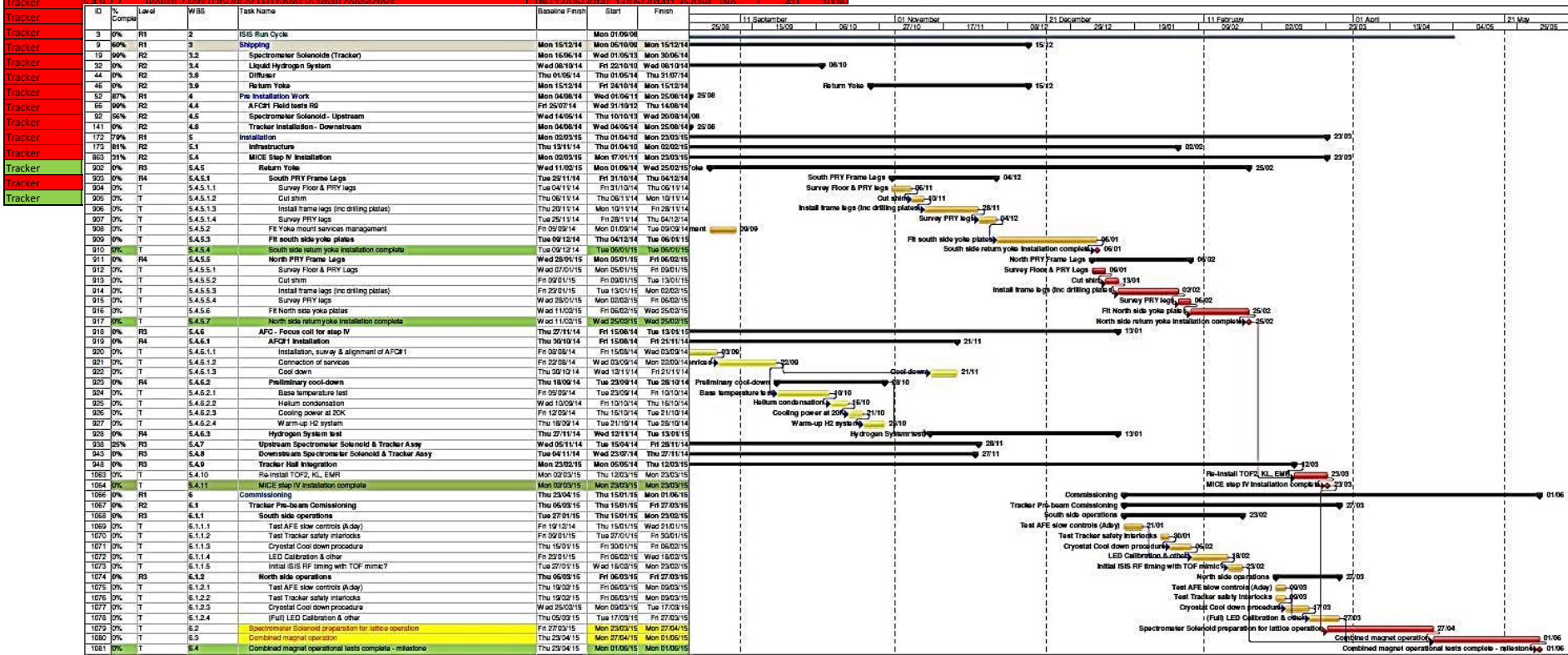


Critical Path Task	Baseline finish date (no contingency)	Finish date with 35% Contingency	Delayed Finish due to Risk Realisation	Risk Level attributed to task	Duration of Risk level (days)	Probability of risk being attracted	Duration delay (Days)	Sequential Delay (Days)
North side yoke frame steelwork delivered	15/12/14	15/12/14	20/12/14	3	20	25%	5	5
Survey Floor & PRY LEGS	07/01/15	09/01/15	15/01/15	5	5	25%	1.25	6.25
Cut shim	09/01/15	13/01/15	19/01/15	6	0	0%	0	6.25
Install frame legs (inc drilling plates)	23/01/15	02/02/15	13/02/15	4	10	50%	5	11.25
Survey PRY legs	28/01/15	06/02/15	17/02/15	6	0	0%	0	11.25
Fit North side yoke plates	11/02/15	25/02/15	23/03/15	3	20	75%	15	26.25
North side return yoke installation complete	11/02/15	25/02/15	23/03/15	6	0	0%	0	26.25
Cryostat stands - North side in place	13/02/15	02/03/15	28/03/15	6	0	0%	0	26.25
Move North side cryostats to hall and place in position	17/02/15	05/03/15	31/03/15	6	0	0%	0	26.25
Reform and connect external waveguides to fit from PP to Cryostat	20/02/15	11/03/15	10/04/15	5	5	75%	3.75	30
Erect trellis to support external waveguides - After North PRY installation	23/02/15	12/03/15	11/04/15	6	0	0%	0	30
Re-install TOF2, KL, EMR	02/03/15	23/03/15	24/04/15	5	5	50%	2.5	32.5
Spectrometer Solenoid preparation for lattice operation	27/03/15	27/04/15	18/06/15	2	40	50%	20	52.5
Combined magnet operation	23/04/15	01/06/15	01/09/15	2	40	100%	40	92.5



Package Name	WBS	Name	%	Start Date	Finish Date	Duration	Critical	Days to Finish Work	% That should be complete
Electrical									
Electrical	5.1.7.1.6.6	Magnet cool down and commissioning	0%	12/06/2014	17/07/2014	5 wks	No	24	31%
Electrical	5.1.7.1.6.7	Commission Data Logger & QD system	0%	17/07/2014	21/07/2014	2.5 days	No	28	0%
Electrical	5.1.7.2.12.1	Assess impact of Yoke on electrical connections to SC magnets	50%	21/04/2014	08/05/2014	13.88 days	No	-46	100%
Electrical	5.1.7.3.35	Disconnect racks and prepare for transport to RAL - SS upstream & FC PSU racks	0%	05/05/2014	13/05/2014	6.24 days	No	-41	100%
Electrical	5.1.7.3.36	Instrumentation & controls available from WANG	0%	30/06/2014	30/06/2014	0 days	No	7	0%
Electrical	5.1.7.4.10	Remove / disconnect existing PSU	0%	11/03/2014	14/03/2014	2.5 days	No	-101	100%
Electrical	5.1.7.4.11	Installation PSU at RAL	0%	14/03/2014	24/03/2014	1.25 wks	No	-91	100%
Electrical	5.1.7.5.2.2.6	Rack available for tests	0%	06/06/2014	06/06/2014	0 days	No	-17	100%
Electrical	5.1.7.5.2.2.7	Test Cooling Channel Vacuum controls rack at DL	0%	16/06/2014	03/07/2014	12.49 days	No	10	41%
Electrical	5.1.7.5.2.2.8	Transport rack to RAL	0%	03/07/2014	07/07/2014	2.5 days	No	14	0%
Electrical	5.1.7.6.8.2	Update rack design	50%	20/06/2014	10/07/2014	13.88 days	No	17	15%
Mechanical									
Mechanical	5.1.3.6.5	Install Compressor Stands	0%	20/05/2014	17/06/2014	20.25 days	No	-6	100%
Mechanical	5.1.3.6.6	Wire Up Isolators in Stands & final water connection	0%	17/06/2014	04/07/2014	13.5 days	No	11	35%
Mechanical	5.1.4.2.11	Complete - Rack room 2 BPG work	0%	09/07/2014	09/07/2014	0 days	No	16	0%
Shipping									
Shipping	3.2.2.2	Instrumentation & controls for SS downstream delivered from WANG	0%	30/06/2014	30/06/2014	0 days	No	7	0%
Spec Sol									
Spec Sol	4.7.3	Vacuum pump down	27%	27/05/2014	01/07/2014	25 days	No	8	77%
Spec Sol	5.4.7.2	Install Virostek plate - replacement	0%	06/05/2014	12/05/2014	4.05 days	No	-42	100%
Spec Sol	5.4.7.3	Clean up area of magnetic components	0%	15/04/2014	17/04/2014	2.7 days	No	-67	100%
Tracker									
Tracker	4.8.9	Survey Tracker location using gauge	0%	20/06/2014	25/06/2014	2.7 days	No	2	60%
Tracker	4.8.10	Build support structure for Coffin	0%	25/06/2014	26/06/2014	1.35 days	No	3	0%
Tracker	4.8.11	Install installation platform	0%	26/06/2014	30/06/2014	1.35 days	No	7	0%
Tracker	4.8.12	Install helium window	0%	30/06/2014	01/07/2014	1.35 days	No	8	0%
Tracker	5.4.9.1.4.5	Global vac pipework in place end June 2014	0%	30/06/2014	30/06/2014	0 days	No	7	0%
Tracker	5.4.9.2.1	Construct 2nd LED box (Drill box, pot fibres & PCB and Solder)	0%	12/05/2014	14/05/2014	2.7 days	No	-40	100%
Tracker	5.4.9.2.2	Deliver 3 cans (0.2uM) of LED fibres in small components	0%	22/05/2014	13/06/2014	15.35 days	No	-41	100%

- Important to know what tasks are running late
- Task that are near to the critical path as well as the critical path tasks
 - Red – Critical Path
 - Orange – Imminent
 - Yellow - Near

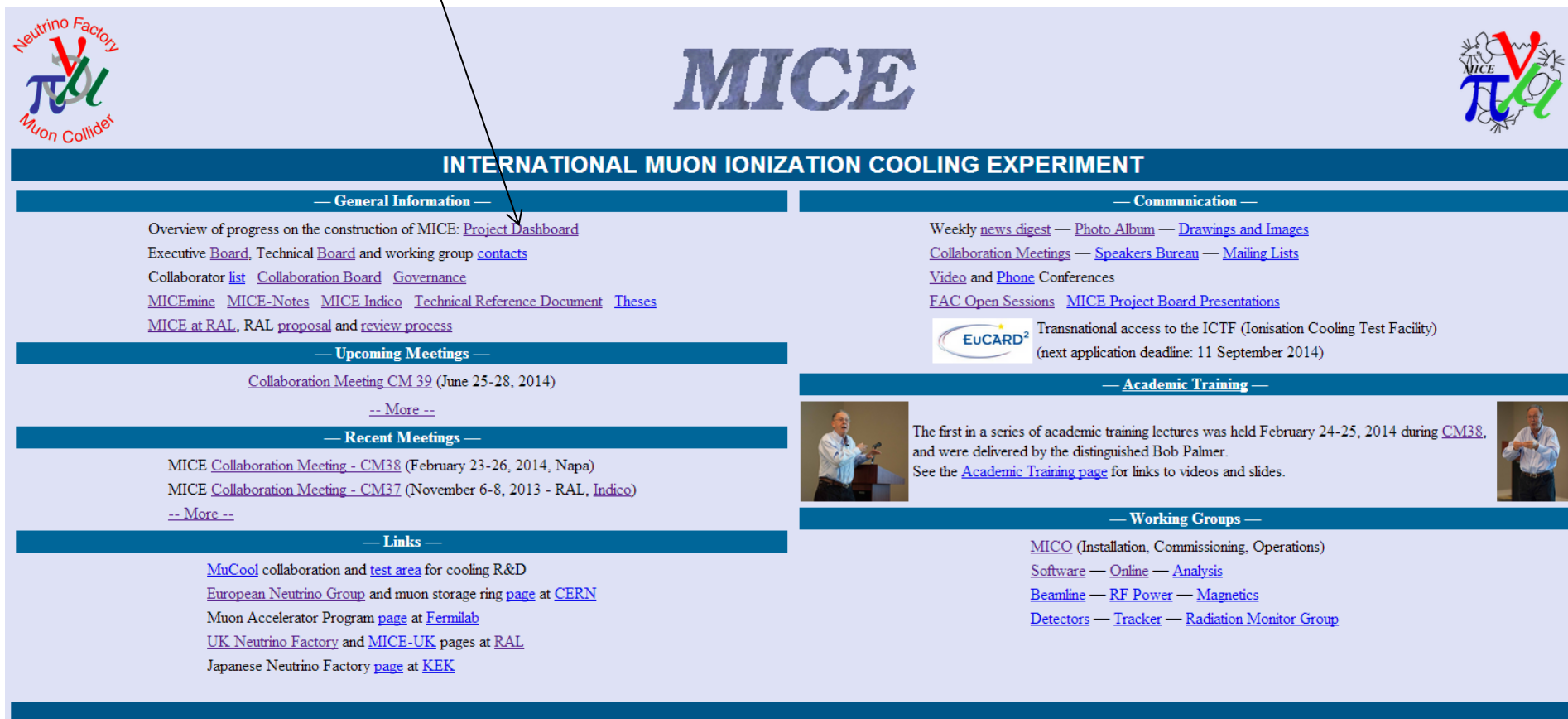


Information communication

Where can you find project information

- On the MICE website - <http://www.mice.iit.edu/>



Dashboard, critical path and task list will be placed under this link




Neutrino Factory
Muon Collider

MICE

INTERNATIONAL MUON IONIZATION COOLING EXPERIMENT

- General Information —**
 - Overview of progress on the construction of MICE: [Project Dashboard](#)
 - Executive [Board](#), Technical [Board](#) and working group [contacts](#)
 - Collaborator [list](#) [Collaboration Board](#) [Governance](#)
 - [MICEmine](#) [MICE-Notes](#) [MICE Indico](#) [Technical Reference Document](#) [Theses](#)
 - [MICE at RAL](#), RAL [proposal](#) and [review process](#)
- Upcoming Meetings —**
 - [Collaboration Meeting CM 39](#) (June 25-28, 2014)
 - [-- More --](#)
- Recent Meetings —**
 - MICE [Collaboration Meeting - CM38](#) (February 23-26, 2014, Napa)
 - MICE [Collaboration Meeting - CM37](#) (November 6-8, 2013 - RAL, [Indico](#))
 - [-- More --](#)
- Links —**
 - [MuCool](#) collaboration and [test area](#) for cooling R&D
 - [European Neutrino Group](#) and muon storage ring [page](#) at [CERN](#)
 - Muon Accelerator Program [page](#) at [Fermilab](#)
 - [UK Neutrino Factory](#) and [MICE-UK](#) pages at [RAL](#)
 - Japanese Neutrino Factory [page](#) at [KEK](#)
- Communication —**
 - Weekly [news digest](#) — [Photo Album](#) — [Drawings and Images](#)
 - [Collaboration Meetings](#) — [Speakers Bureau](#) — [Mailing Lists](#)
 - [Video](#) and [Phone](#) Conferences
 - [FAC Open Sessions](#) [MICE Project Board Presentations](#)
 -  Transnational access to the ICTF (Ionisation Cooling Test Facility) (next application deadline: 11 September 2014)
- Academic Training —**
 - 

The first in a series of academic training lectures was held February 24-25, 2014 during [CM38](#), and were delivered by the distinguished Bob Palmer. See the [Academic Training page](#) for links to videos and slides.


- Working Groups —**
 - [MICO](#) (Installation, Commissioning, Operations)
 - [Software](#) — [Online](#) — [Analysis](#)
 - [Beamline](#) — [RF Power](#) — [Magnetics](#)
 - [Detectors](#) — [Tracker](#) — [Radiation Monitor Group](#)

Information communication

Where can you find project information

- On the MICE website - <http://www.mice.iit.edu/>

Working Group Wikis

Links to each working group area are given below.

MICE Experiment

- **Analysis**
- **Computing and Software** (requires password)
 - **Configuration Database**
 - **MAUS**
 - **Online Group** (requires password)
 - **Accelerator Physics Software**
 - **Controls & Monitoring - (a.k.a. CAM or C&M)** (requires password)
- **Operations**

MICE Construction

- **Decay Solenoid**
- **Magnetic Shielding**
- **R9 Hall Operations**
- **Tracker**
- **Vacuum**

MICE Governance

- **MICE Governance**
 - Collaboration
 - **Executive Board**
 - **Collaboration Board**
 - **MEMO**
 - **MIPO**
 - External
 - **RLSR**
 - **MPB**
 - **UK Oversight Committee**

- Use of the area is developing
 - Software group use it extensively
 - MIPO, MEMO and EB
- Good place to store common information and documents
- Extend for additional working groups
 - Vacuum
 - Magnets
 - Detectors
 -
- Place for the most up to date
 - Schedules
 - Operation plans
 - Presentation pictures
- Association with the log book



Summary

- Progress toward Step IV is extremely encouraging
 - 2/3rd Step IV magnets in the hall – All are on site.
- The whole MICE team is pulling together in our common goal
- We have a program of work and we must work that plan
- We should resist “nice to have” changes to the agreed program
- Lets continue the hard work and have a cooling channel to play with next year.



Questions

