Operations
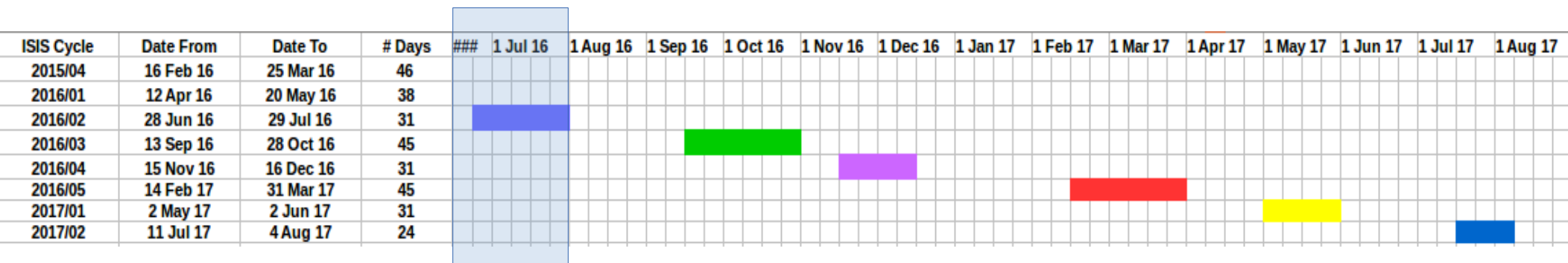
- Running periods

- MOM reports

- Systems performance

- Operations Management:

    - MOMs

    - BLOCs

- Shifts and shift allocation

- Reminder about training

ISIS Schedule

ISIS Cycle	Date From	Date To	# Days	###	1 Jul 16	1 Aug 16	1 Sep 16	1 Oct 16	1 Nov 16	1 Dec 16	1 Jan 17	1 Feb 17	1 Mar 17	1 Apr 17	1 May 17	1 Jun 17	1 Jul 17	1 Aug 17
2015/04	16 Feb 16	25 Mar 16	46															
2016/01	12 Apr 16	20 May 16	38															
2016/02	28 Jun 16	29 Jul 16	31															
2016/03	13 Sep 16	28 Oct 16	45															
2016/04	15 Nov 16	16 Dec 16	31															
2016/05	14 Feb 17	31 Mar 17	45															
2017/01	2 May 17	2 Jun 17	31															
2017/02	11 Jul 17	4 Aug 17	24															

Cycle 2016/02 (Jun/Jul 2016) : Magnet commissioning; Partial or total channel commissioning studies

Cycle 2016/03 (13 Sep/28 Oct 2016): channel commissioning and characterisation and empty absorber physics

Cycle 2016/04 (15 Nov/16 Dec 2016): LiH running

Cycle 2016/05 (14 Feb/31 Apr 2017): LH_2 running

Cycle 2017/01 (2 May/2 June 2017) : M2D running

Cycle 2017/02 (11 July/4 Aug 2017)

MOM Reports - Paolo

- MOM's period: 27/6 - 12/7

- Beam bump

- Mock Run MDR7: 2 shifts

- TOF Calibration (Durga): 1 shift

- Detectors Alignment (Francois): 3 shifts

- Full days of magnet commissioning: 9 days

Principal standing issues

- TOF2 PMT trips at nominal current

- DAQ rollback

- Hall probe 67 not working

- Improve beam line conventional magnets ALH (e.g. trips are not reported)

- Hardware spares need an inventory (hot swappable? present at RAL?)

Cooling Channel

Ran SSU(140A: 2T) - FC(40.0-50.0A) - SSD(140A:2T)

24 hours without incident during which we did a FC scan with a 140 MeV beam

FC – ran beautifully – good documentation and simple enough to be switched on, ramped up and down, and switched off by someone with 10 minutes training.

SSU-SSD also very stable during running. Problem occurred during preparation for changing FC current. Needs a fix.

Nearly 2 orders of magnitude more data with SSU-SSD

for MOMs –
I went 24 hours while taking data, without using the keys

Especial thanks

Pierrick Hanlet
Josef Boehm
Mike Courthold
John Cobb

And all the shift crew who answered the last minute call

Programme

Detector alignment studies, looking for movements following powering of SSU and SSD

Proton absorber study

SSD alignment
SSU-SSD alignment

Momentum scan through the FC at 50A for alignment

140 MeV scan through SSU-FC-SSD

Diffuser Scan with 140 MeV muons and the SSU at 140A

Momentum scan through the SSU at 140A for alignment

Fortunate errors

The focus coil was meant to be reversed, but was not.
Chris discovered this by looking at the data.

At one point the solenoids were in flip mode – Francois was able to identify which solenoid had been reversed.

"Blind" (accidental) tests show that the software is accurate and robust.

MOM report   Paul
            Kyberd

Summary

Problems due to the uncertainty over the magnets meant frequent changes of plan.

But

The replacement of the target computer was achieved efficiently and relatively rapidly. Software problems after restart means there are still modifications to our procedures required

And

Data taking when it happened was characterised by high efficiency and in general good running of the equipment. A lot of data in various configurations

Thanks

Durga Rajaram
Ed Overton
Paolo Franchini
Pierrick
(from Italy)

Experts responded promptly.

Shift crew have been vigilant and careful

MOM report   Paul Kyberd

System Performance

System	System Health	Comment
Tracker	🟩	Left cassette of cryo 4 had a thermal regulation problem
KL	🟩	
CKOV	🟩	
TOF	🟩	TOF2 PMT trips at nominal current
EMR	🟩	
DAQ/Trigger	🟩	Target control computer failed – recovery took 24 hours
Run Control	🟧	Environmental monitoring needs work
OnRec	🟩	
OnMon	🟩	
Conventional Magnets	🟩	Cooling water flow at limit of usability.
Decay Solenoid & PSU	🟩	
Proton Absorber	🟩	

"Oversight Environment"

Clunky phrase: includes software layers (EPICS, ALH), MLCR facilities (& beyond) and the *PEOPLE*. I believe it is NOT "fit for purpose."

Some things aren't monitored, others aren't in the Alarm Handler, some items in the Alarm Handler don't actually alarm (water flow trips). If the computers aren't doing the monitoring then the people *must*, but many are inexperienced and overwhelmed by the training (if they get it). Checklists are an aid, but only if followed – and only a few exist.

It took 6 days before anyone noticed Q2 was dead, with the MLCR running and often staffed.

Less than a week after we covered this at the last VC, I arrived at the MLCR (for other reasons) to find Q6 in a tripped state. It still took 35 minutes to persuade the 2 shifters and MOM to investigate... plenty of time for the issue to escalate. Not the only ocurrence. MICE must allocate sufficient resources

Future work:

- Cleanup of R78 target controls (DL)
- Repeat earth leakage measurements on quads
- Water leaks in magnets: will leave as-is
- Linde Control PC upgrade
- Installation of pressure transducer to monitor high pressure/purity compressed air state from outside MICE Hall
- Extended list in MICEmine #1854

- Chilled water changes – BIG.

MOM Roster

Date From	Date To	MOM
7th January 2015	4th February 2015	Chris Rogers
4th February 2015	4th March 2015	Pierrick Hanlet
4th March 2015	1st April 2015	Yordan Karadzhov
1st April 2015	29th April 2015	Milorad Popovic
29th April 2015	27th May 2015	Paul Hodgson
27th May 2015	24th June 2015	Victoria Blackmore
24th June 2015	22nd July 2015	Ryan Bayes
22nd July 2015	19th August 2015	Paul Hodgson
19th August 2015	16th September 2015	Victoria Blackmore
16th September 2015	14th October 2015	Yordan Karadzhov
14th October 2015	4th November 2015	Melissa Uchida
4th November 2015	2nd December 2015	Ed Overton
2nd December 2015	30th December 2016	Paolo Franchini
4th January 2016	3rd February 2016	<Maintenance Month>
16th February 2016	8th March 2016	Paul Kyberd
7th March 2016	25th March 2016	Ryan Bayes
6th April 2016	28th April 2016	Not required
27th April 2016	25th May 2016	Not required
22nd June 2016	12th July 2016	Paolo Franchini
11th July 2016	29th July 2016	Paul Kyberd
12th September 2016	6th October 2016	Chris Rogers
4th October 2016	28th October 2016	Milorad Popovic
9th November	28th November 2016	Ed Overton
26th November	16th December 2016	Melissa Uchida
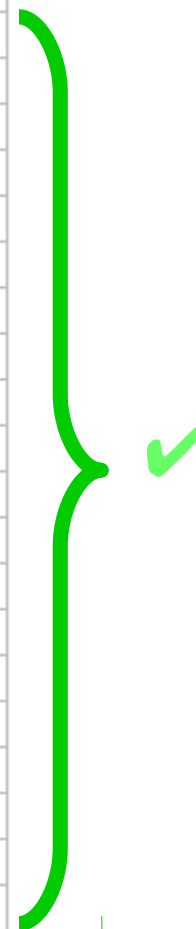
Going to have to go
MOM-hunting for 2017 soon

BLOC roster

Showstopper for March running is lack of trained
    BLOCs and very few volunteers. Piggyback training
    on early March run.

**STILL remains a potential showstopper for autumn
running – nearly had to cancel several shifts
already.**

**Estimate a pool of 5 schedulable BLOCs (and some
reserves) – have 4. Just don't have the local,
experienced people (or many alternative
candidates).**

Proposed next training cycle:

- **ISIS & DSA: (one half-day of) 23rd August**
- **Beamline etc.: (another half-day in) late August**
- **Target/beambump (one half-day in) September**

Shifts

Thank you to every one who signed up and did shifts in the previous user cycle. Shifters were professional, engaged and responsive – and not afraid to call someone at 3 in the morning when there was an alarm. I (but possibly not the expert) would like to encourage this.

Shift logging has been excellent : shift summaries are generally complete and detailed and can be used to track the shift post priori.

Encourage experts to also report to the elog if they have worked on and fixed a problem. This is being done but somewhat more sporadically than I like. Please record details, as the shifters – who will make a summary anyway – will not know them.

Shifts

▶ **2016/02 (Jun/Jul) :** 92 shifts offered / 78 taken up. Short fall led to the cancellation of night shifts so that 16 hour shifts could be maintained (with knock on issues at the end of the cycle)

Those who have done shifts are, to a large extent, the usual suspects.

Of 56 eligible shifters :
   ▶ 22 have done less than half their quota to date
   ▶ 12 have done no shifts at all.
   ▶ 24 have done more than their required quota to date

There is still time – 4/5 more user cycles – please look
at your schedules and identify places to fit your shifts in. Shift lists typically open early to academics & scientists.

Shifts & Training

▶ Remember training.

    ▶ I will usually email you about training a few weeks in advance of your shift.

    ▶ If you have not done shift for more than 6 months you will require refresh training.

    ▶ If you have not done shift for more than 1 year (or at all) then you will require full training

▶ Arrange travel to be available for training on the first week-day preceding the start of your shift.

    ▶ If you start on a weekend, training will be on the preceding Friday

    ▶ If you start on a Monday or Tuesday, training will be on the Monday

Summary

▶ We've taken data with field from all the magnets!

▶ Data-taking was, in general, smooth when uninterrupted.

▶ Shift crews were efficient and reactive. Thanks to all shifters, with special thanks to Kevin and David who had their arms twisted to do some graveyard shifts at short notice.

▶ However, it is clear that there are areas which need improvement; enforcement of online software freeze (very difficult this user cycle), environmental monitors

▶ BLOCs are also, as ever, a concern

▶ Nevertheless, this has been a generally successful user cycle thanks to the hard work of all who contributed

▶ We have lots of interesting data – over to the analysers