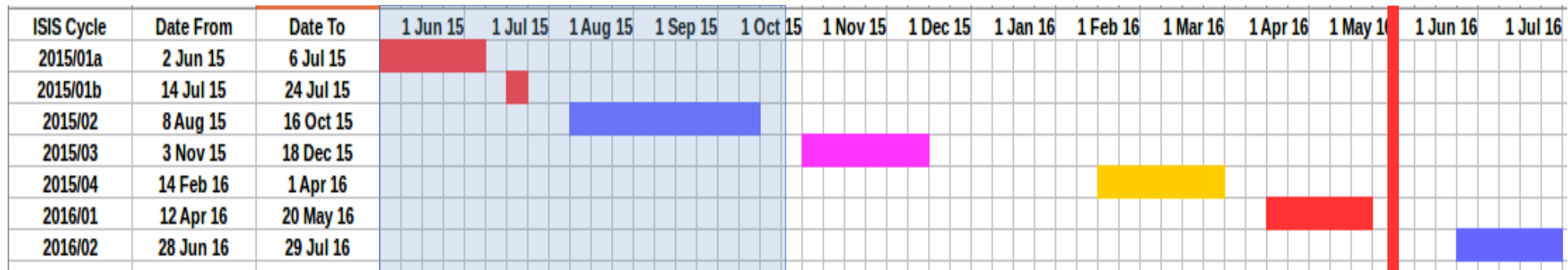# Operations

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- ▶ Running periods and system performance

- ▶ Shifts and shift allocation system

- ▶ Shift Training

- ▶ Operations Management:

    - ▶ MOMs

    - ▶ Duty Coordinators

ISIS Schedule

ISIS Cycle	Date From	Date To	1 Jun 15	1 Jul 15	1 Aug 15	1 Sep 15	1 Oct 15	1 Nov 15	1 Dec 15	1 Jan 16	1 Feb 16	1 Mar 16	1 Apr 16	1 May 16	1 Jun 16	1 Jul 16
2015/01a	2 Jun 15	6 Jul 15														
2015/01b	14 Jul 15	24 Jul 15														
2015/02	8 Aug 15	16 Oct 15														
2015/03	3 Nov 15	18 Dec 15														
2015/04	14 Feb 16	1 Apr 16														
2016/01	12 Apr 16	20 May 16														
2016/02	28 Jun 16	29 Jul 16														

▶ Cycle 2015/01 (June 2015 – July 2015): Magnet installation and commissioning; Tracker commissioning, calibration and alignment studies, PID detector studies;

▶ Cycle 2015/02 (Aug 2015 – Oct 2015) : Magnet commissioning; Tracker commissioning and calibration ; Further development of controls and monitoring systems

Cycle 2015/01

User cycle 2015/01 focussed on :

▶ commissioning and calibrating the tracker

▶ channel element alignment studies

▶ PID detector calibration

Regular night runs coordinated through daily run meetings
Included a run taken with the downstream spectrometer
solenoid (SSD) at half current

Cycle 2015/02

User cycle 2015/02 was focussed on solenoid and focus coil magnet commissioning, and further development and testing
of controls, online reconstruction and online monitoring

Data-taking opportunities were limited, but utilised when they arose. Most data was used to:

▶ further tracker commissioning
▶ study the alignment of the trackers and the magnetic field axes for SSU
▶ study PRY remnant field from magnet energisation
▶ develop the online reconstruction and monitoring systems
▶ SSU E-C-E @ full current run

Data

March 28th – 29th	Ckov momentum scan
April 19th-20th	Beamline studies
April 26th-27th	Beamline studies
June 2nd	Beamline studies
June 19th-27th	Detector alignment (no field)
July 3rd – 4th	Detector alignment (no field)
July 22nd – 23rd	SSD at 1.5 T
September 21st – 22nd	SSU at 1.5 T
September 25th – 29th	Ckov momentum scan
	Magnetic field remnant study
	Beam polarisation measurement
October 7th	4 T in SSU
October 14th	TOF0 alignment

(stolen from Chris R's MPB talk)

Future Cycles

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Cycle 2015/03 (Nov 2015 – Dec 2015) : Expected to be largely focussed on magnet commissioning with (maybe) some running possible towards the end of the cycle.

Cycle 2015/04 (Feb 2016 – Mar 2016) : Production data-taking with Hydrogen absorber. Detailed run plan is in preparation.

Cycle 2016/01 (Apr 2016 – May 2016) : Production data-taking with LiH absorber.

Cycle 2016/02 (Jun 2016 – July 2016) : Possible contingency run period, but delays the start of construction for the next phase of the experiment.

Performance

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- In general, data-taking has been straight-forward, complicated by the intermittent nature of data-taking in last two user cycles.

- Mitigated by :

    - having expert led start-up runs before data-taking occurs (provided notice for data-taking is given)

    - implementing change control procedures for online software during production running

    - having a roll back plan for emergencies

System Performance

System	System Health	Issues
DAQ/Trigger		Rare EMR crate communication issue
Run Control		Some stability issues
Online monitoring & reconstruction		
PID detectors		
Tracker		Calibration needs integration into RC
Conventional magnets		
Decay solenoid PS		A number of small issues which took some time to diagnose and fix

Shifts

▶ 2015/01 : 2 8-hour shifts per day (over-night) + 1 on-call shifter during the day. 159/159 shifts offered and assigned.

▶ 2015/02 : Full 24-hour / 7-day a week shift staffing. 6 8-hour shifts per day. 218/228 shifts offered and assigned.

▶ 2015/03 : 2 on-call shifters from 8 am to 12 pm + small on-site team to help with magnet commissioning when necessary.

We've been trying to fill these from local or nearby resources but may need to call on collaboration to help staff monitoring shifts in November and December

Shift Training

▶ Shifters currently receive training in PPS operation and principles, magnetic field safety, beamline and target operation and control room familiarisation and shift responsibilities when it is possible to do so

▶ All collaborators will take the updated MICE safety induction talk

▶ Shift training is now offered in the 2 days prior to the start of each shift block. Shifters are required to arrive at RAL at least 2 days in advance to sit shadow-shifts and re-familiarise themselves with the system and activities.

▶ Training status is recorded on CHEESE with each collaborators personnel record. This is under the control of the Operations Co-ordinator.

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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	Paul Kyberd
3rd February 2016	2nd March 2016	Ryan Bayes
2nd March 2016	30th March 2016	Ed Overton
30th March 2016	27th April 2016	Melissa Uchida
27th April 2016	31st May 2016	Paolo Franchini

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Duty Co-ordinators

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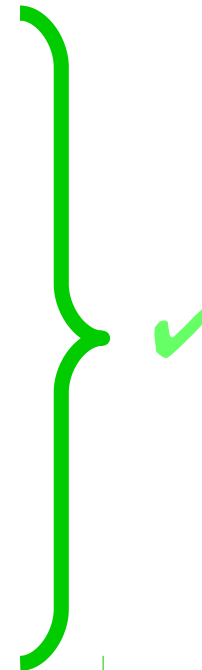
▶ Experience from the last two user cycles indicates a gap in the operations management team.

▶ Need a set of experienced, respected on-site people who are not on-call, but have deep knowledge of the experiment and who have responsibility for the safe execution and scheduling of data-taking and commissioning activities. These *Duty Co-ordinators* are will get safety training from STFC SHE and report to the GLIMOS.

▶ Details need to be teased out – especially the process by which one defines and carries out the transfer between periods of "commissioning" and "data-taking".

▶ V. Blackmore and P. Hodgson have agreed to be Duty Coordinators. Other names are being considered.

Duty Co-ordination

▶ Duty Co-ordinators has delegated authority over all activities in the Hall and MLCR.

▶ They decide if and when a particular activity can proceed safely. Please work constructively with them. There will be a DC phone and number which will go on the expert list, and a DC roster will be developed.

▶ Plan to broaden the scope of the weekly Monday "Ops" meeting to a "Commissioning activities" meeting, chaired by a DC, so that we properly plan out the activities in the Hall for the following week. This should receive and schedule requests for : data-taking, magnet commissioning tasks and maintenance requests. Requires input from all groups working in the Hall. Next meeting is 3pm on November 9th so will aim for this as the first "Commissioning meeting".

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Summary

▶ Data has been taken in each of the previous user cycles to commission the trackers, calibrate the PID detectors and perform alignment and magnetic field remnant studies.

▶ MICE data-taking is now a generally smooth procedure if systems are unchanged. Regular expert-led start-up runs are held before each user cycle to ensure systems are ready. Need to carefully manage online developments during this commissioning period

▶ Shift policy, shift allocation and shift training formats have been rolled out and tested successfully over the last two user cycles.

▶ Operations management bolstered by addition of the Duty Co-ordinators who will focus on scheduling and supervising commissioning activities in the next user cycle.