



# Project Manager's Report

Colin Whyte

# Overview

1. Liquid H<sub>2</sub>
2. Trackers
3. Superconducting magnets
4. ISIS 2017/03.

# H2 system

## LH2 project complete

Was fully operational – satisfyingly boring.

- Slightly slower to fill than desired.
- Data-taking excellent
  - All Flip and solenoid mode data with LH2 full completed
    - M2 off & M2 on – no issues with M2 itself
    - SSD pressure rises with M2 on when main coil field above 2T. SSD magnet is stressed.
  - Two flip mode settings complete with LH2 empty
- unitl....
  - ISIS problems, early end to cycle.

# Trackers

## Hardware

Dave Adey – Melissa Uchida, Paul Kyberd, Chris Hunt on

- Increased number of dead channels.
- Temperature margin reduced.
- Extensive work required for manual re-calibration x2.
- Regulation set point on 1 cassette required after ISIS2017/02.
- Manual re-cal for only 1 cryostat. – in progress

## Software

- Adam Dobbs moving on – replaced by
  - Paolo Francini, Durga Rajaram
  - Chris Hunt
- Software ‘features’ – solutions devised

# Superconducting magnets

SS magnet re commissioned 9<sup>th</sup> to 18<sup>th</sup> August  
Magnet run-up for data-taking ran to plan.

- No problems during ISIS 2017/02
- Adsorber change 1<sup>st</sup> and 2<sup>nd</sup> November
  - SSU CC5 poor performance - compressor change?

FC magnet – no current problems except  
slight leak from helium volume into insulation  
volume. Not currently problematic

# Data-taking

- 2/3<sup>rds</sup> shifts full
  - excellent response from shifters.
- Please make sure MiceAdmin know about your accommodation requirements – early.
- Aim generally 1M, 1M, 2M triggers at 3,6,10mm emittance
- Hard to accelerate schedule without magnet ramps in the middle of the night.
- Some risk as we have never achieved extended run of daily magnet changes.

ISIS User Cycle 2017/02: detailed MICE run plan							Version 4
Date	Day	Magnet Expert	Shift	Absorber	SSD/M2	Activity	Shift blk
30 Oct-13	Monday		08:00			D5 cooldown	
31 Oct-13	Tuesday		08:00			S5 magnet adsorber change. AC maintenance. Conventional magnet crate reset	
01 Nov-13	Wednesday		08:00			S5 magnet adsorber change. AC maintenance	
02 Nov-13	Thursday		08:00				
03 Nov-13	Friday		00:00			Review alarms, Magnets: MoM 'ramp to zero' GUI test	
04 Nov-13	Saturday		00:00				
05 Nov-13	Sunday		00:00				
06 Nov-13	Monday		00:00				
07 Nov-13	Tuesday		00:00				
08 Nov-13	Wednesday		00:00			AC maintenance	
09 Nov-13	Thursday		00:00			Expert led start	
10 Nov-13	Friday		00:00				
11 Nov-13	Saturday		00:00				
12 Nov-13	Sunday		00:00				
13 Nov-13	Monday		00:00			Expert led start-up	
14 Nov-13	Tuesday		00:00	LH2 empty	OFF		
15 Nov-13	Wednesday		00:00	LH2 empty	OFF	Ramp to 2017-02-3; LH2 M2/c; data taking	
16 Nov-13	Thursday		00:00	LH2 empty	OFF	Soli-mode, 2017-02-3; data taking	
17 Nov-13	Friday		00:00	LH2 empty	OFF	Flip-mode, 2017-02-3; data taking	
18 Nov-13	Saturday		00:00	LH2 empty	OFF	Flip-mode, 2017-02-4; data taking	
19 Nov-13	Sunday		00:00	LH2 empty	OFF	Soli-mode, 2017-02-4; data taking	
20 Nov-13	Monday		00:00	LH2 empty	OFF	Soli-mode, 2017-02-5; data taking	
21 Nov-13	Tuesday		00:00	LH2 empty	OFF	Soli-mode, 2017-02-5; data taking	
22 Nov-13	Wednesday		00:00	LH2 empty	OFF	Soli-mode, 2017-02-6; data taking	
23 Nov-13	Thursday		00:00	LH2 empty	OFF	Soli-mode, 2017-02-6; data taking	
24 Nov-13	Friday		00:00	LH2 empty	OFF	Soli-mode, 2017-02-6; data taking	
25 Nov-13	Saturday		00:00	LH2 empty	OFF	Soli-mode, 2017-02-6; data taking	
26 Nov-13	Sunday		00:00	LH2 empty	OFF	Soli-mode, 2017-02-6; data taking	
27 Nov-13	Monday		00:00	LH2 empty	OFF	Soli-mode, 2017-02-6; data taking	
28 Nov-13	Tuesday		00:00	LH2 empty	OFF	Soli-mode, 2017-02-6; data taking	
29 Nov-13	Wednesday		00:00	LH2 empty	OFF	Soli-mode, 2017-02-6; data taking	
30 Nov-13	Thursday		00:00	LH2 empty	OFF	Soli-mode, 2017-02-6; data taking	
01 Dec-13	Friday		00:00	LH2 empty	OFF	Soli-mode, 2017-02-6; data taking	
02 Dec-13	Saturday		00:00	LH2 empty	OFF	Soli-mode, 2017-02-6; data taking	
03 Dec-13	Sunday		00:00	LH2 empty	OFF	Soli-mode, 2017-02-6; data taking	
04 Dec-13	Monday		00:00	LH2 empty	OFF	Soli-mode, 2017-02-6; data taking	
05 Dec-13	Tuesday		00:00	LH2 empty	OFF	Soli-mode, 2017-02-6; data taking	
06 Dec-13	Wednesday		00:00	LH2 empty	OFF	Soli-mode, 2017-02-6; data taking	
07 Dec-13	Thursday		00:00	LH2 empty	OFF	Soli-mode, 2017-02-6; data taking	
08 Dec-13	Friday		00:00	LH2 empty	OFF	Soli-mode, 2017-02-6; data taking	
09 Dec-13	Saturday		00:00	LH2 empty	OFF	Soli-mode, 2017-02-6; data taking	
10 Dec-13	Sunday		00:00	LH2 empty	OFF	Soli-mode, 2017-02-6; data taking	
11 Dec-13	Monday		00:00	LH2 empty	OFF	Soli-mode, 2017-02-6; data taking	
12 Dec-13	Tuesday		00:00	LH2 empty	OFF	Soli-mode, 2017-02-6; data taking	
13 Dec-13	Wednesday		00:00	LH2 empty	OFF	Soli-mode, 2017-02-6; data taking	
14 Dec-13	Thursday		00:00	LH2 empty	OFF	Soli-mode, 2017-02-6; data taking	
15 Dec-13	Friday		00:00	LH2 empty	OFF	Soli-mode, 2017-02-6; data taking	
16 Dec-13	Saturday		00:00	LH2 empty	OFF	Soli-mode, 2017-02-6; data taking	
17 Dec-13	Sunday		00:00	LH2 empty	OFF	Soli-mode, 2017-02-6; data taking	
18 Dec-13	Monday		00:00	LH2 empty	OFF	Soli-mode, 2017-02-6; data taking	
19 Dec-13	Tuesday		00:00	LH2 empty	OFF	Soli-mode, 2017-02-6; data taking	
20 Dec-13	Wednesday		00:00	LH2 empty	OFF	Soli-mode, 2017-02-6; data taking	
21 Dec-13	Thursday		00:00	LH2 empty	OFF	Soli-mode, 2017-02-6; data taking	
22 Dec-13	Friday		00:00	LH2 empty	OFF	Soli-mode, 2017-02-6; data taking	
23 Dec-13	Saturday		00:00	LH2 empty	OFF	Soli-mode, 2017-02-6; data taking	
24 Dec-13	Sunday		00:00	LH2 empty	OFF	Soli-mode, 2017-02-6; data taking	
25 Dec-13	Monday		00:00	LH2 empty	OFF	Soli-mode, 2017-02-6; data taking	
26 Dec-13	Tuesday		00:00	LH2 empty	OFF	Soli-mode, 2017-02-6; data taking	
27 Dec-13	Wednesday		00:00	LH2 empty	OFF	Soli-mode, 2017-02-6; data taking	
28 Dec-13	Thursday		00:00	LH2 empty	OFF	Soli-mode, 2017-02-6; data taking	
29 Dec-13	Friday		00:00	LH2 empty	OFF	Soli-mode, 2017-02-6; data taking	
30 Dec-13	Saturday		00:00	LH2 empty	OFF	Soli-mode, 2017-02-6; data taking	
31 Dec-13	Sunday		00:00	LH2 empty	OFF	Soli-mode, 2017-02-6; data taking	

# Data Plan

ISIS User Cycle 2017/02; detailed MICE run plan

Version 4

31-Oct-17

Date	Day	Magnet Expert	Shift	Absorber	SSD(M2)	Activity	Shift blk	Comment
30-Oct-17	Monday		08:00			DS cooldown		
31-Oct-17	Tuesday		08:00			SS magnet adsorber change. AC maintenance. Conventional magnet crate reset		
01-Nov-17	Wednesday		08:00			SS magnet adsorber change. AC maintenance		
02-Nov-17	Thursday		08:00					
03-Nov-17	Friday		00:00			Review alarms, Magnets: MoM 'ramp to zero' GUI test		
04-Nov-17	Saturday		00:00					
05-Nov-17	Sunday		00:00					
06-Nov-17	Monday		00:00					
07-Nov-17	Tuesday		00:00					
08-Nov-17	Wednesday		00:00			<b>AC maintenance</b>		
09-Nov-17	Thursday		00:00			<b>Expert led start</b>		
10-Nov-17	Friday		00:00					
11-Nov-17	Saturday		00:00					
12-Nov-17	Sunday		00:00					
13-Nov-17	Monday		00:00			<b>Expert led start-up</b>		
14-Nov-17	Tuesday		00:00	LH2 empty	OFF			
ISIS Start 8am		LH2 empty 2 settings	08:00	LH2 empty	OFF	Ramp to 2017-02-3; 140 MeV/c data taking		
	16:00		LH2 empty	OFF	Flip-mode, 2017-02-3; data taking			
15-Nov-17	Wednesday		00:00	LH2 empty	OFF	Flip-mode, 2017-02-3; data taking		
	08:00		LH2 empty	OFF	Switch to 2017-02-4; 140 MeV/c data taking			
	16:00		LH2 empty	OFF	Flip-mode, 2017-02-4; data taking			
16-Nov-17	Thursday		00:00	LH2 empty	OFF	Flip-mode, 2017-02-4; data taking		
	08:00		LH2 empty	OFF	Switch to 2017-02-5; 140 MeV/c data taking			
	16:00		LH2 empty	OFF	Soln-mode, 2017-02-5: data taking			
17-Nov-17	Friday		00:00	LH2 empty	OFF	Soln-mode, 2017-02-5: data taking		
	08:00		LH2 empty	OFF	Switch to 2017-02-6; 140 MeV/c data taking			
	16:00		LH2 empty	OFF	Soln-mode, 2017-02-6; data taking			
18-Nov-17	Saturday		00:00	LH2 empty	OFF	Soln-mode, 2017-02-6; data taking		
	08:00		LH2 empty	OFF	Ramp magnets down			
	16:00		LH2 empty	OFF				
19-Nov-17	Sunday		00:00	LH2 empty	OFF	Straight tracks		
	08:00		LH2 empty	OFF				
	16:00		LH2 empty	OFF				
20-Nov-17	Monday		00:00	LH2 empty	OFF			
	08:00		LH2 empty	OFF	Switch to 2017-02-1; 140 MeV/c data taking			
	16:00		LH2 empty	OFF	Soln-mode, 2017-02-1; data taking			
21-Nov-17	Tuesday		00:00	LH2 empty	OFF	Soln-mode, 2017-02-1; data taking		
	08:00		LH2 empty	OFF	Switch to 2017-02-2; 140 MeV/c data taking			
	16:00		LH2 empty	???	Soln-mode, 2017-02-2; data taking			
22-Nov-17	Wednesday		00:00	LH2 empty	???	Soln-mode, 2017-02-2; data taking		
	08:00	LH2 empty	???	Ramp magnets down				
	16:00	LH2 empty	???					
23-Nov-17	Thursday	00:00			???			
	08:00				???			
	16:00				???			
24-Nov-17	Friday	00:00			???			
	08:00				OFF	Ramp magnets		

Absorber change

Shift blk 1

Shift blk 2

# Data Plan



# Data Plan

24-Nov-17	Friday	Absorber change	08:00 16:00	???	???	???	
25-Nov-17	Saturday	LiH empty, 3 solenoid 2 flip.	00:00 08:00 16:00	Empty Empty Empty	OFF OFF OFF	Ramp magnets Soln-mode, 2017-03-1; data taking Magnet change	
26-Nov-17	Sunday		00:00 08:00 16:00	Empty Empty Empty	OFF OFF OFF	Soln-mode, 2017-03-2; data taking Magnet change	
27-Nov-17	Monday		00:00 08:00 16:00	Empty Empty Empty	OFF OFF OFF	Soln-mode, 2017-03-3; data taking Magnet change	
28-Nov-17	Tuesday	LiH M2 empty	00:00 08:00 16:00	Empty Empty Empty	OFF OFF ON	Flip-mode, 2017-03-3; data taking Magnet change	
29-Nov-17	Wednesday		00:00 08:00 16:00	Empty Empty Empty	ON ON ON	Flip-mode, 2017-03-4; data taking Magnet change	
30-Nov-17	Thursday		00:00 08:00 16:00	Empty Empty Empty	ON ON ON	Flip-mode, 2017-03-4; data taking Change magnets	
01-Dec-17	Friday	LiH field off	00:00 08:00 16:00	Empty Empty Empty	ON ON ON	Flip-mode, 2017-03-3; data taking Magnet change	
02-Dec-17	Saturday		00:00 08:00 16:00	Empty Empty Empty	ON ???	Soln-mode, 2017-03-2; data taking Ramp down	
03-Dec-17	Sunday		00:00 08:00 16:00	Empty Empty Empty	???	LIH field off	
04-Dec-17	Monday	LiH M2 empty	00:00 08:00 16:00	Empty Empty Empty	???	LIH field off Ramp to soln-mode, 2017-03-2	
05-Dec-17	Tuesday		00:00 08:00 16:00	Empty Empty Empty	???	Soln-mode, 2017-03-2; data taking Ramp down	
06-Dec-17	Wednesday		Absorber change	00:00 08:00 16:00	???	???	
07-Dec-17	Thursday	LiH M2	00:00 08:00 16:00	LiH LiH LiH	???	Magnet change	
08-Dec-17	Friday		00:00 08:00 16:00	LiH LiH LiH	ON ON ON	Flip-mode, 2017-03-3; data taking Magnet change	
09-Dec-17	Saturday		00:00 08:00 16:00	LiH LiH LiH	ON ON ON	Flip-mode, 2017-03-4; data taking Magnet change	
10-Dec-17	Sunday	Absorber change	00:00 08:00 16:00	LiH LiH LiH	ON ON ON	Soln-mode, 2017-03-1; data taking Magnet change	
11-Dec-17	Monday		00:00 08:00 16:00	LiH LiH LiH	ON ON ON	Soln-mode, 2017-03-2; data taking Ramp down	
12-Dec-17	Tuesday		00:00 08:00 16:00	Transition	???	???	
13-Dec-17	Wednesday	Wedge	00:00 08:00 16:00	Wedge Wedge Wedge	ON ON ON	Magnet change	
14-Dec-17	Thursday		00:00 08:00 16:00	Wedge Wedge Wedge	ON ON ON	Soln-mode, 2017-03-1; data taking Magnet change	
15-Dec-17	Friday		00:00 08:00 16:00	Wedge Wedge Wedge	ON ON ON	Soln-mode, 2017-03-2; data taking Magnet change	
16-Dec-17	Saturday	Contingency	00:00 08:00 16:00	Wedge Wedge Wedge	ON ON ON	Flip-mode, 2017-03-3; data taking Magnet change	
17-Dec-17	Sunday		00:00 08:00 16:00	Wedge Wedge Wedge	ON ON ON	Flip-mode, 2017-03-3; data taking Magnet change	
18-Dec-17	Monday		00:00 08:00 16:00	Wedge Wedge Wedge	ON ON ON	Flip-mode, 2017-03-4; data taking Magnet change	
19-Dec-17	Tuesday	ISIS off	00:00 08:00 16:00	???	???	???	
20-Dec-17	Wednesday		00:00 16:00	???	???	???	

Sf  
Shift blk 3  
Shift blk 4  
Shift blk 5  
Shift blk 6  
Shift blk 7