

# MICE Shift Proposal

S.Boyd, 11/5/2015

This document presents the proposed algorithm by which shifts will be allocated during the operation of Step IV. The proposed arrangements were agreed by the Executive Board on the 8th May 2015.

## 1 ISIS User Cycles

The ISIS user cycles available for MICE Step IV running are shown in Figure 1. The number of weeks available in each cycle are shown in Table 1.

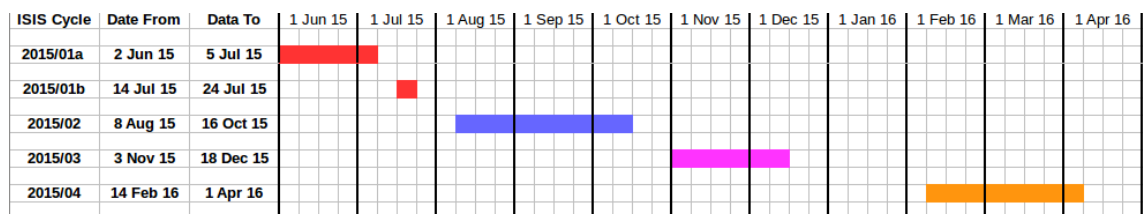


Figure 1: Dates for each of the ISIS user runs in 2015/16.

ISIS Cycle	Date From	Date To	Number of days
2015/01a	2/June/2015	5/July/2015	36
2015/01b	14/July/2015	24/July/2015	10
2015/02	8/September/2015	16/October/2015	39
2015/03	3/November/2015	18/December/2015	45
2015/04	16/February/2016	1/April/2016	45

Table 1: Dates for each ISIS User Cycle.

## 2 Shift proposal

The assumptions underlying the baseline shift proposal are :

- Only one 8-hour data-taking shift per day is run during the magnet commissioning phase in ISIS Cycle 2015/01a. A “reserve” shifter will also be available to allow data-taking at other times if necessary.
- There are three contiguous data-taking shifts per day across all other ISIS User Cycles.
- MOMs do not have to do experimental shifts.
- MOMs obtain shift credit for service as MOM, but this credit is not offset against the load assigned to the institute. The total personal shift load and the institutional loads are calculated only on the basis of the number of active shifters.
- active shifters must fulfill at least half of their personal shift load.
- Wednesdays are reserved for maintenance days. This implies that on Wednesdays the daytime shifts are not filled.

The baseline shift allocation for each institute is shown in Figure 2. The total number of experimental shifts is 936. There are a total of 74 personnel eligible to do shifts, of which 11 collaborators have acted or will act as MOM. The number of active shifters is therefore 63.

The number of 5-shift blocks that is assigned to each institute, and to each active shifter in each institute is shown in the final two columns of the spreadsheet shown in Figure 1. Under the baseline allocation, each active shifter is assigned 3.0 shift blocks over STEP IV of which 2 shift blocks must be sat.

To make shift taking as convenient as possible for overseas collaborators and academics who have other draws on their time (such as teaching obligations) it has been proposed that:

- shift sign-up will be opened to academics and non-UK collaborators one week before the rest of the collaboration. However, the Shift Co-ordinator and Operations Co-ordinator will ensure that shifts are balanced both in expertise and times of day. This may involve a shifter being moved to another shift block by the co-ordinators.
- informal person-to-person shift-block swaps or transfers are allowed, although any change must be registered formally on CHEESE once agreed.

Cycle	Days	Shifts / day	Shifts	# Maintenance Days per week	# MOM Shifts		
2014/03	10	4	40		18		
2015/01a	36	3	98	1	Shift credit for One MOM Shift		
2015/01b	10	6	58		0		
2015/02	39	6	224		#MOM Shifts		
2015/03	45	6	258		0		
2015/04	45	6	258		0		
		<b>Total Experimental shift</b>	936		<b>Total Shifts</b>	936	
		<b># shifts / person</b>			14.8571428571	<b>Shift block length</b>	5
		<b># shift blocks / person</b>			2.9714285714		
Institute	Scientists	RA + Students	MOMs	Total	Shifts / Institute	Shift Blocks per Institute	Shift blocks per active shifter
Belgrade	2	2	0	4	59.43	12	3.0
CERN	0	0	0	0	0.00	0	0.0
IHEP	1	1	0	2	29.71	6	3.0
Osaka	0	0	0	0	0.00	0	0.0
Sichuan	1	0	0	1	14.86	3	3.0
Brookhaven	1	0	0	1	14.86	3	3.0
DL	0	0	0	0	0.00	0	0.0
Iowa	1	0	0	1	14.86	3	3.0
LBL	2	0	0	2	29.71	6	3.0
Liverpool	1	0	0	1	14.86	3	3.0
Milano	1	0	0	1	14.86	3	3.0
Napoli	1	0	0	1	14.86	3	3.0
NIKHEF	1	0	0	1	14.86	3	3.0
Oxford	1	0	0	1	14.86	3	3.0
Pavia	1	0	0	1	14.86	3	3.0
Imperial	4	4	2	10	118.86	24	3.0
RAL	1	0	1	2	14.86	3	3.0
Riverside	1	1	0	2	29.71	6	3.0
Roma	2	0	0	2	29.71	6	3.0
Glasgow	1	1	1	3	29.71	6	3.0
Sofia	2	1	0	3	44.57	9	3.0
Mississippi	3	0	0	3	44.57	9	3.0
Sheffield	1	1	2	4	29.71	6	3.0
Geneva	1	2	1	4	44.57	9	3.0
Strathclyde	1	3	0	4	59.43	12	3.0
Warwick	1	2	1	4	44.57	9	3.0
Brunel	1	2	1	4	44.57	9	3.0
IIT	3	2	1	6	74.29	15	3.0
Femilab	2	3	1	6	74.29	15	3.0
				74	936.00	189	78
					Total Blocks	189	
					Total Shifts	945	
					Shift Imbalance	-9	

Figure 2: Baseline shift pattern.

- at the beginning of production running night shifts will be fully staffed. We will review this policy as running proceeds and the stability of the system is understood.