Contents



Jason Tarrant – Integration Engineering

- West Wall Compressors
- MICE Local Control Room & Rack Room 2
- Magnetic Shielding Yoke



West Wall Compressor Move

Why

- Compressor location under south mezzanine platform shown to sit in high magnetic field
- Length limit of ~30m on hoses from compressor to cold heads (unable to place outside MICE Hall)
- West wall relatively uncluttered + opportunity to build mezzanine platform
- Requirements
 - ~30m hose lengths
 - Platform to support compressors, personnel etc.
 - Safe personnel access
 - Compressor handling & installation
 - Equipment delivery & assembly space for MICE experimental devices









West Wall Compressor Move

- What
 - Mezzanine platform on west wall of MICE Hall
 - Reconfiguration of south mezzanine platform stairs
 - Distribution board move
 - Compressor stands (with integrated power)
 - Water services, including water plant relocation
 - Services installation & management
 - PPS reconfiguration
 - Lightweight equipment crane move
 - Some related infrastructure changes
 - Lighting
 - PPS
 - Power cables
 - South west air-con & supply services





Platform, Compressor & Services





Cable trays for compressor hoses & power cables from ground floor compressors



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South Stairs & Distribution Boards







Existing West Wall Services



West wall mezzanine will be at this level between the existing services

Existing high power cable to be moved



Services to be moved or bridged by the west mezzanine



Delivery, Assembly & Handling





West Wall Compressor Move



- When
 - Ready for Compressor installation 7th February 2014





RR2 & MLCR

- Why
 - Same magnetic field problem as compressors but longer services length to move out of Hall to new Rack Room 2 (RR2)
 - Allows operational changes without breaking PPS or disrupting running
 - Current Mice Local Control Room (MLCR) comfortable for 4 people, extend for the 6 that are expected during running
- Requirements
 - Capacity in RR2 & MLCR to eventually house all racks for Step VI running & all personnel required for experimental operations respectively
 - Minimal change to building (cost related and for benefit of ISIS)
 - Fire safe, including services runs
 - Safe access to racks
 - Manage climate: Thermally for RR2 & comfort for operational personnel in MLCR



RR2 & MLCR

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What

- Apertures cut in stairwell walls for cable routing
- Wall to be built under stairwell to enclose cable trays (fire safety)
- Holes to be drilled through MICE Hall wall to allow cable routing from new rack room
- Air management & temperature control
- False Flooring (Computer Flooring) throughout new rack room
- Cable trays for new rack room
- Install services & power distribution
- Corridor wooden false floor replaced with fire safe false flooring
- Door move when MLCR to be built
- MLCR extension: walls, fittings and furnishings





RR2 & MLCR Reconfiguration





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Luke Fry / February 2013

RR2 & MLCR



When

Ready for Running 21st March 2014

ю	0	Task Name	Duration	Start	Finish	Predecessors 3	Successors	Resources	Dec 112 Jan 113 Feb 113 Mar 113 Apr 113 May 113 Jun 113 Jun 113 Aug 113 Sep 113 Oct 113 Nov 113 Dec 113 Jan 114 Feb 114 Mar 114 International sector and the 20 come sector benefits and the sector and the 20 come sector benefits and the sector and the 20 come sector benefits and the 20
1	-	MLCR	296 days	Mon 21/01/18	Fri 21/03/14				
2	-	Design	91 days	M on 21/01/13	Mon 27/06/13				21 days
3	77	Concept Design	5 days	M on 21/01/13	Fri 25/01/13		•	JW, JT, LF	
4		3D Model & Detail Drawing	5 days	M on 28/01/13	Fri 01/02/13	3 5	5, 8	LF, JT	
5	77	Buildings Drawings	30 days	M on 01/04/13	Fri 10/05/13	4 6	6,7	BPG	
6	-	ISIS / Experimental Halls Committee Ap	10 days	M on 13/05/13	Fri 24/05/12	5			186 days
7	-	SHE Approval	10 days	M on 13/05/13	Fri 24/05/13	5 1	10		
8	77	Services installation drawings	30 days	Fri 01/03/13	Thu 11/04/12	4 5	8,11	JW	
9	-	Services management drawings	30 days	Fri 12/04/13	Thu 23/05/13	8 1	11	LF.	2 deys
10	-	TB Approval	1 day	M on 27/05/13	1 on 27/05/13	71	11		
11		Complete	0 days	M on 27/05/13	on 27/05/13	8, 9,10 2	28,13,14		
12	-	Buildings Work (NLCR & RR2)	106 days	Tue 28/05/13	1 on 21/10/13				
13		As bes tos Survey	15 days	Tue 28/05/13	1 on 17/06/13			BPO	
14	-	RFQ	10 days	Tue 28/05/13	N on 10/06/13	11 1	15	BPG	
15	-	Order	3 days	Tue 11/06/13	hu 13/06/13	14 1	16	8PG	
16	_	Contractor Start Date	30 days	Fri 14/06/13	25/07/12	15 1	17		
17	-	Services moves	10 days	Erl 26/07/13	THL 08/08/13	16.1	18.23	Contractor	
								Cashering	
10			20 days	5100 00 MD	10 05 05 12			Contractor	
13		New Sprage etc.	2 days	Pri celestra	10 10 10 10 10			Consistor	
		anagging	5 days	100 100 9/15	M IN 16/09/12	1		BP 0,01, Contractor	
-		Utilite / Rack Room Build's	15 0 8/5	Tue 17/09/13	Man urnun s		~	Contractor	
		Paise Ploor Install	10 days	Tue Dantons	M of 21/10/13	21 2	20	Contractor	
23		Wall chilling to Hall	3 days	Fri 09/08/13	Tue 13/08/12	17 2	24	Contractor	
24		Hall services ducts and channels	5 days	Wed 14/08/13	Tu: 20/08/13	23 2	8	Contractor	
25		Aircon	10 days	Wed 21/08/13	Tue 03/09/13	24 2	26		L4 days
26		Complete	0 days	M on 21/10/13	M of 21/10/13	22,253	32,29,34		
27		Services Management	164 days	Tue 28/06/13	Fr 10/01/14				
28		Order Services Management	60 days	Tue 28/05/13	M on 19/08/13	11 2	19	DL	té days
29		Install cable tray & ductwork	49 days	Tue 22/10/13	Fri 10/01/14	28,263	90	Hall,DL	
30		Sign O ff / Complete	0 days	Fri 10/01/14	Fri 10/01/14	29 1	12,34		
31		MLCR & Raok Room Prep	60 days	Mon 13/01/14	Fri 21/03/14				
32		Install Power & other services	20 days	M on 13/01/14	Fri 07/02/14	30,263	13	Hall	
33		Install Racks	30 days	M on 10/02/14	Fri 31/03/14	32 3	37		
34		Cabling and Networking	5 days	M on 13/01/14	FrI 7/01/14	30,263	15	см	
35		Move Desks & computers	2 days	M on 20/01/14	Tue 01/14	34 3	16	All	
36		Commision	3 days	Wed 22/01/14	Fri 24/01/14	35 3	37	СМ	out
37	-	Sign Off / Complete	0 days	Fri 21/03/14	Fr121/03/14	36,33			
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Projec	t: 017 M	LCR & Rack Room (sta Critical Set)		Broom			Slippere		Project summary
Date:	Thu 21/0	3/13 Task		M lest	ine 🗠		Summary		Roled Up Critical Deadline J
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- Why
 - Though the compressors & racks are protected from magnetic field as described above, there are many other components and systems in the proximity of the Step IV MICE experimental devices that could malfunction in the level of magnetic field that will be produced.

- Requirements
 - Magnetic shielding yoke that sufficiently lowers the level of the magnetic field to enable safe operation of the experimental devices and the infrastructure of the MICE Hall, as well as protecting the ISIS control room.
 - Compatible with the MICE Hall environment, MICE experimental devices, services, maintenance etc.





- What (UK)
 - Change front of south mezzanine to fit around yoke
 - Reconfigure & extend on-device services connections, thus compatible with reduced access when yoke installed
 - Reconfigure cold head hoses & power, vacuum lines and magnet cables & their management to fit with yoke
 - Move Tracker Cryo & extend waveguides if necessary (waveguide = US purchase)
 - Move hydrogen filling station
 - Provide modifications for lower yoke columns into trench and floor on north side, requires significant modifications to false flooring and trench roof
- What (US)
 - Supply Step IV yoke
 - Min 1x installation representative







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- When
 - Work in progress = TBD

