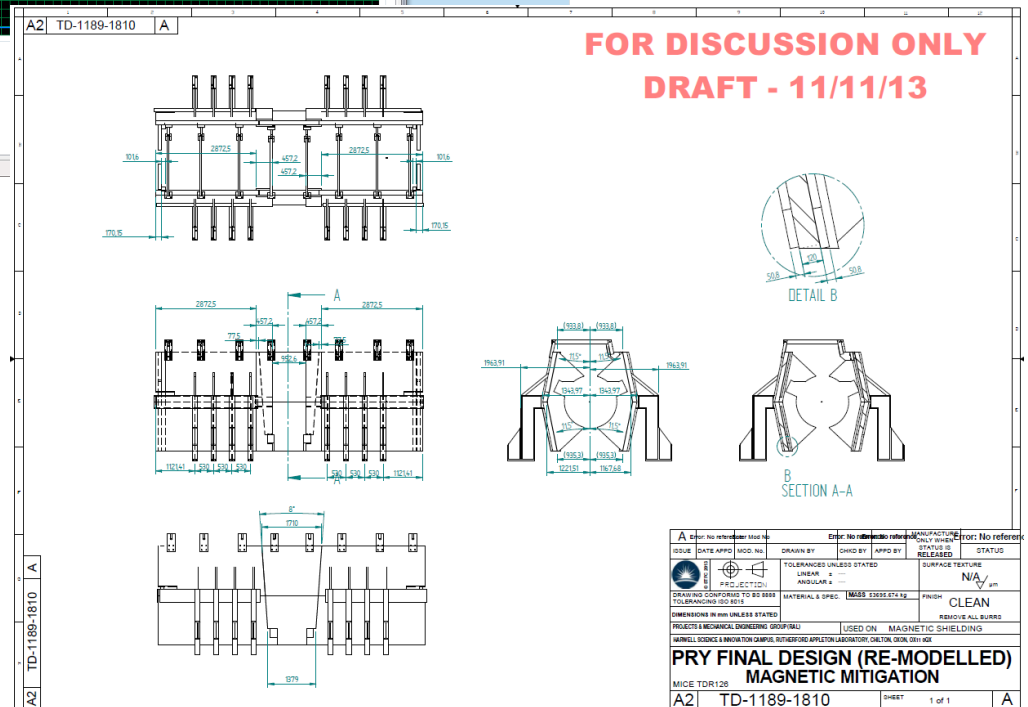
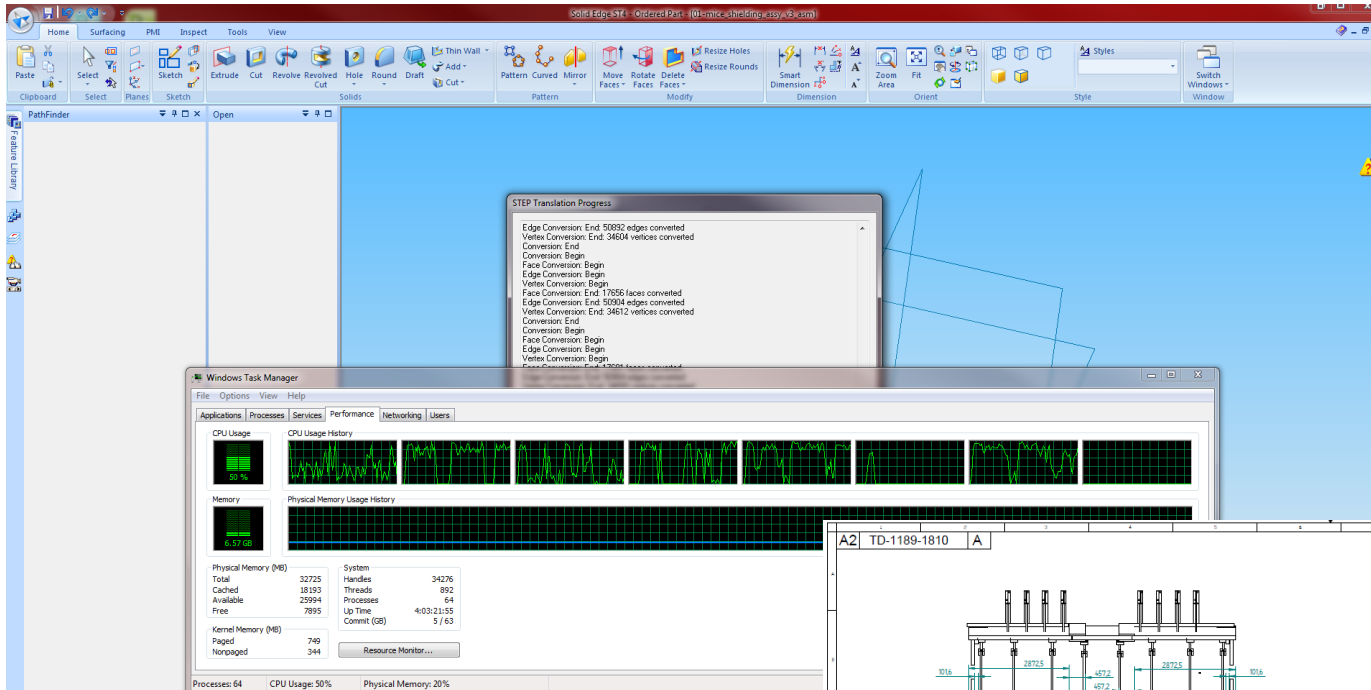


PRY Integration Progress

magnetic field mitigation meeting 26/11/13

Latest Geometry

Steve Plate

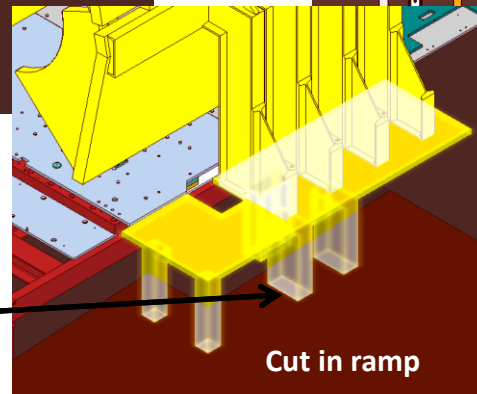
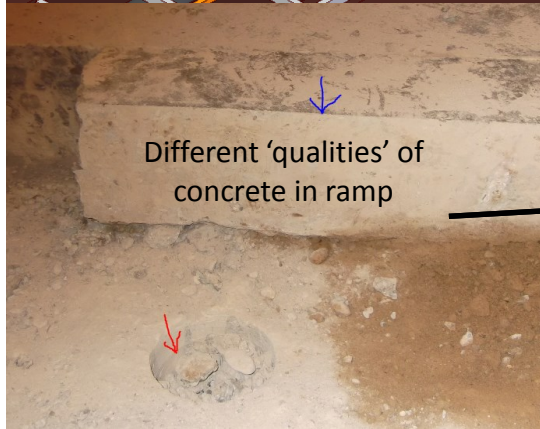
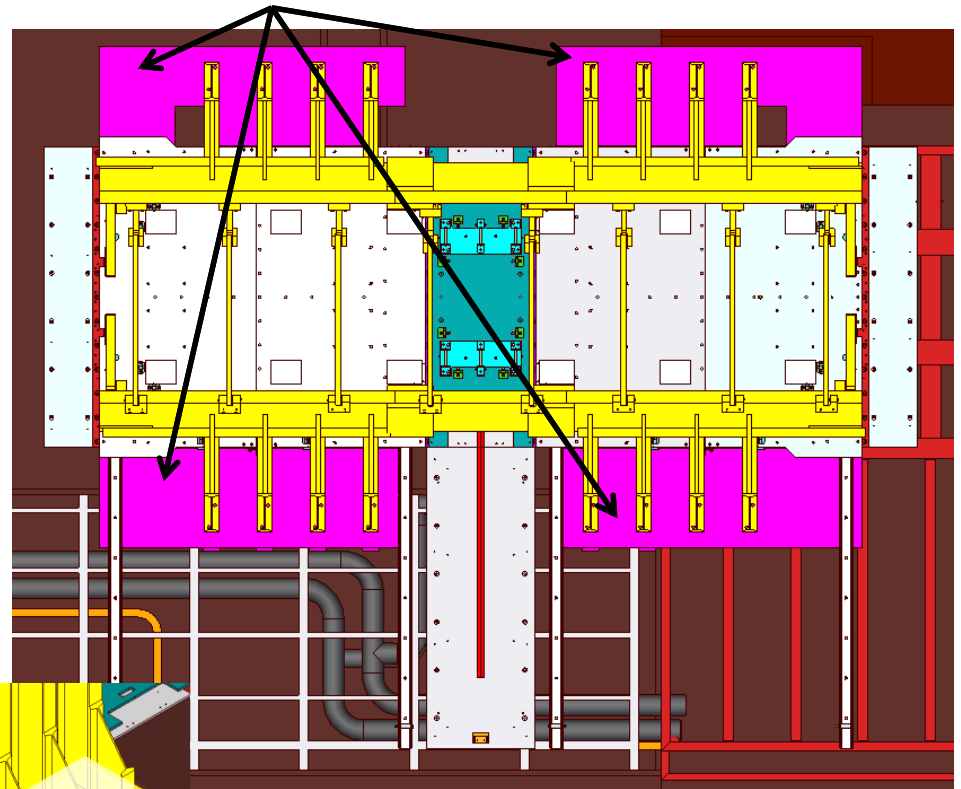
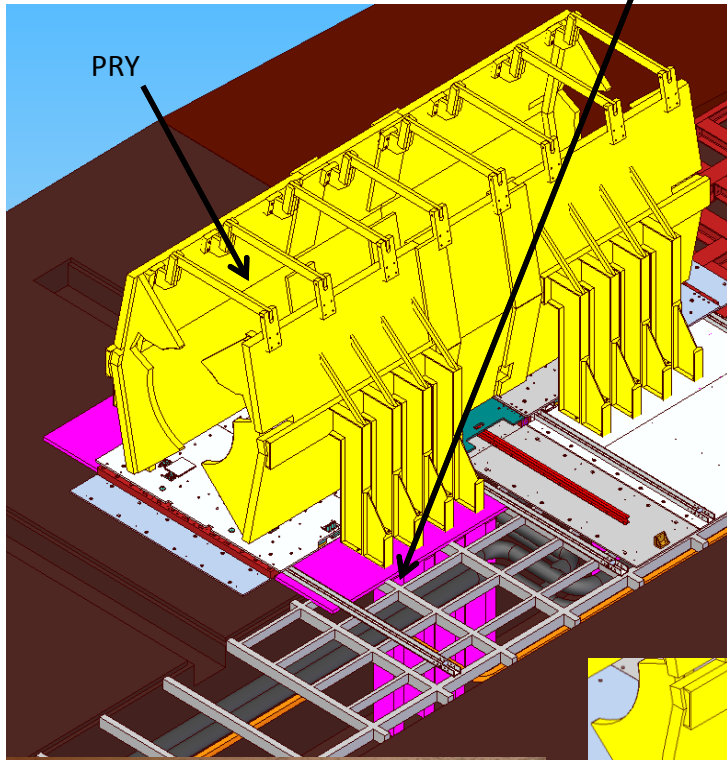


PRY Base/Platform

James Watson

Base/platform for PRY

Base/platform for PRY

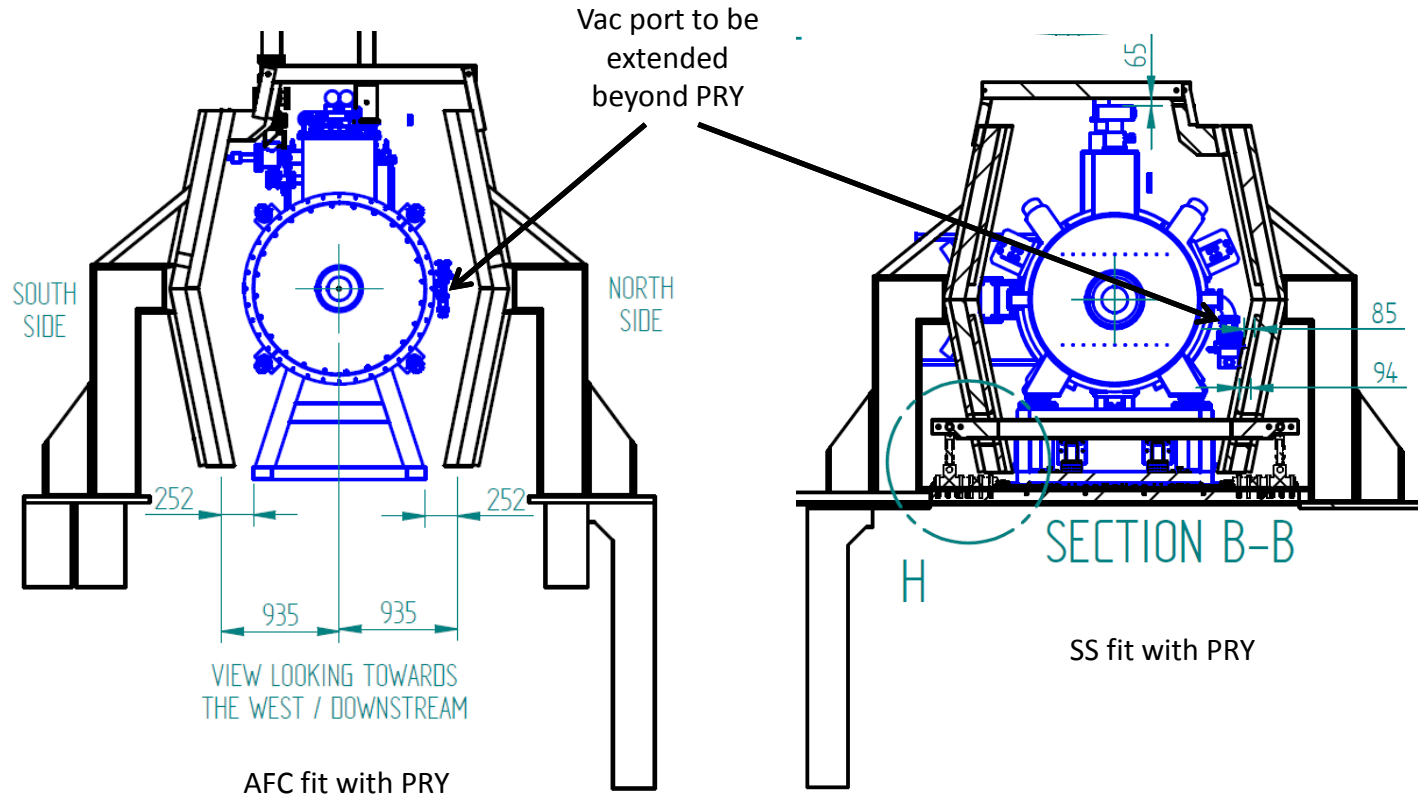


PRY Base

PRY Base Support Positions [1189-](#)
[1924](#)

Floor Quality Tests
[1189-1922](#)

Devices



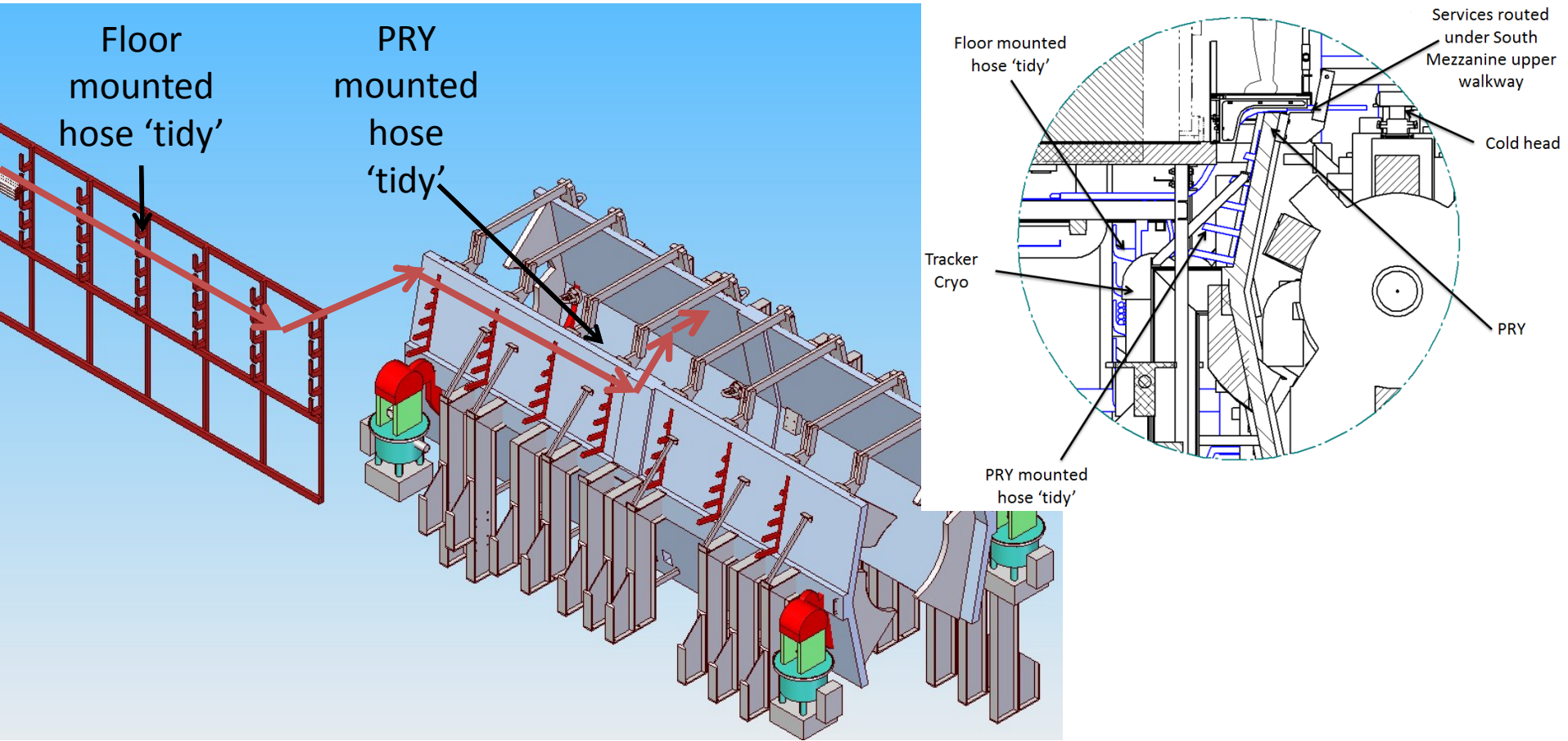
Partial Return Yoke (PRY)

Step IV & Final PRY
1189-1831

AFC with Yoke 1189-1790

Upstream SS with Yoke
1189-1791

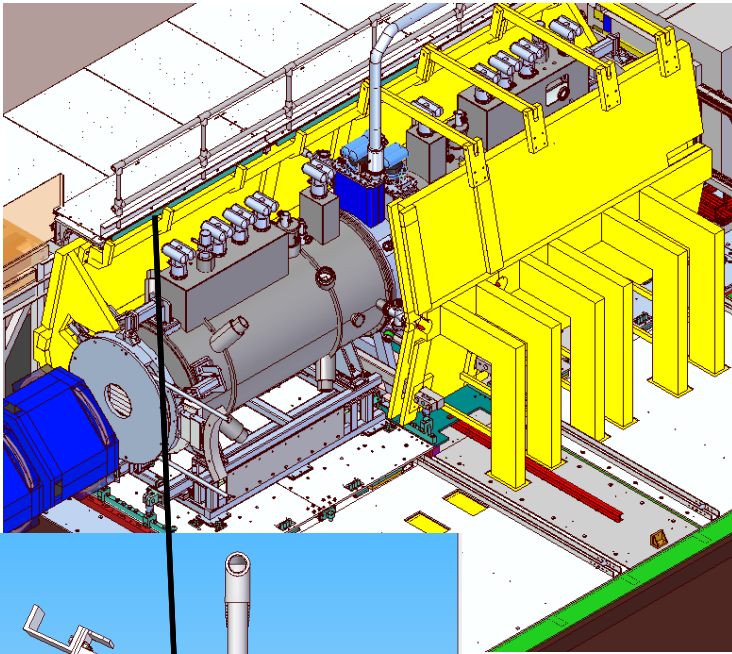
Experiment Services



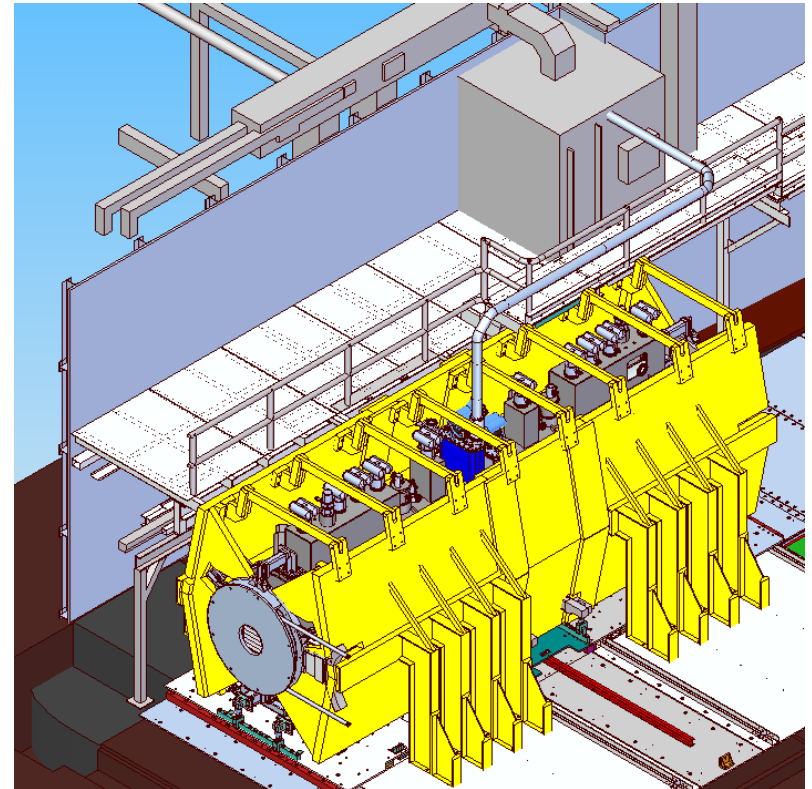
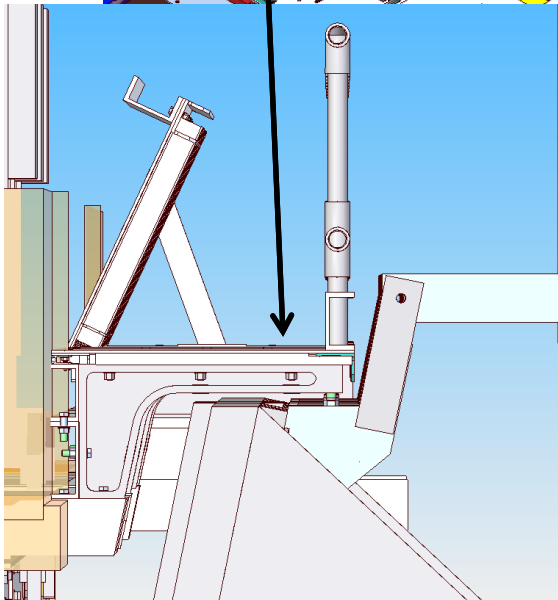
**Partial Return Yoke
(PRY)**

**Services with Yoke
1189-1794**

South Mezzanine



Old design with full length front edge resting on PRY



New design, most of front edge removed and those left are mechanically independent of the PRY

**South Mezzanine -
Yoke Modifications
(2013)**

South Mezz (PRY,
Tracker, Cantilever, Cut)
[was ...1849]= [1189-1897](#)

South Mezz (Cantilever - Cut)
Assy = [1189-1848](#)

Hinged Platform Mod (PRY)
[was ...1859]= [1189-1892](#)

Cantilever Support Step
[was ...1870]= [1189-1895](#)

Simple Stepped Platform Boost =
[1189-1841](#)

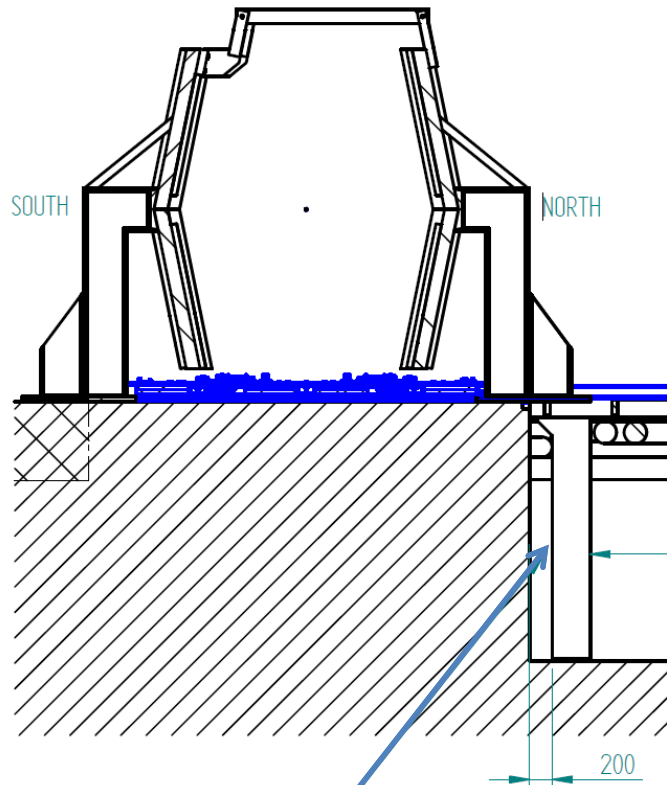
H2 pipes etc



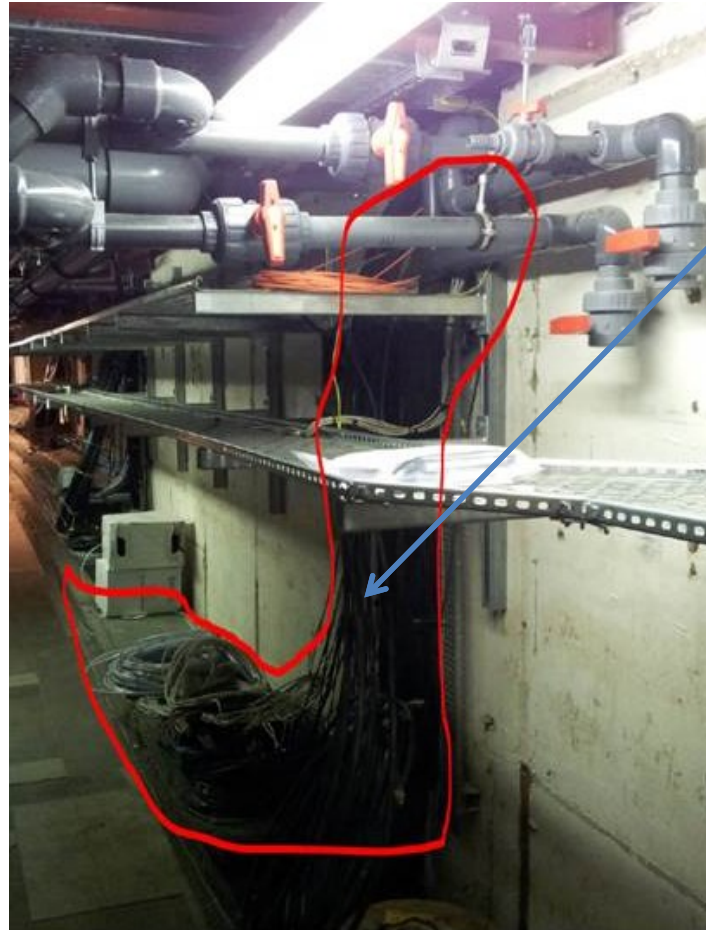
Pipes & frame will need to be removed during PRY assembly and absorber change

These front edge platform sections to be removed at east end

Trench



Reconfigure ISIS Services into this gap



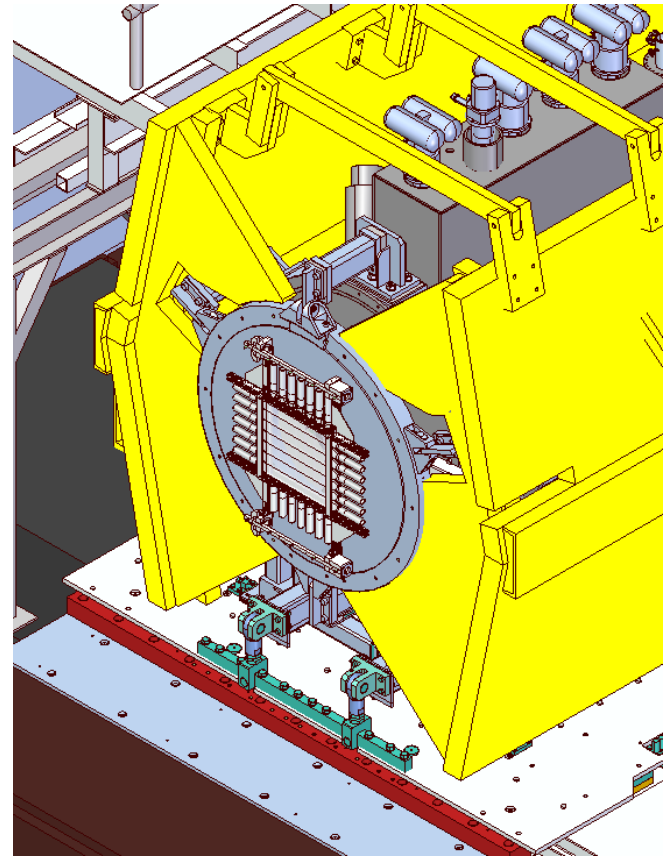
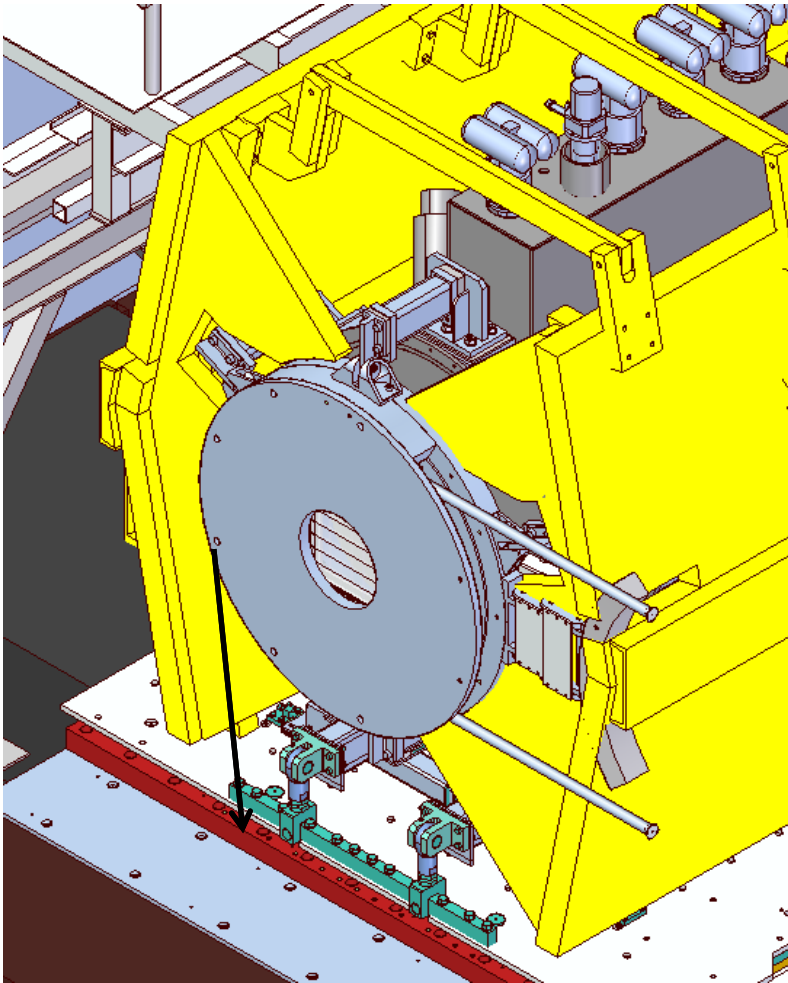
ISIS Services

Partial Return Yoke (PRY)

Trench Services with Yoke [1189-1796](#)

Trench Roof Assembly [1189-1485](#)

ToF Cage



Can ToF 1 be exposed now that PRY in place?

ToF Cage (ToF 1) fit with the PRY, ToF assembly only operational when PRY not in place (also laser tracker nests are not visible?)

Partial Return Yoke
(PRY)

Step IV & Final PRY
1189-1831

Tracker Cryo & Waveguides

Craig Macwaters, Geoff Barber, Adam Dobbs, working on waveguide routing through PRY



Schedule

Leg delivery 19/05/14

South side delivery 19/05/14

North side delivery 01/07/14

Following Schedule Based On...

To RAL

ID	Task Name	Duration	Start	Finish	Predecessors	Successors	Resource Names	Cost	Timeline																				
									Qtr 2, 2013	Qtr 3, 2013	Qtr 4, 2013	Qtr 1, 2014	Qtr 2, 2014	Qtr 3, 2014	Qtr 4, 2014														
									Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	Frame Delivery to RAL	0 days	Mon 19/05/14	Mon 19/05/14		55	BNL	£0.00																					
2	South Side Delivery to RAL	0 days	Mon 19/05/14	Mon 19/05/14		59	BNL	£0.00																					
3	North Side Delivery to RAL	0 days	Tue 01/07/14	Tue 01/07/14		69	BNL	£0.00																					
4	Floor Prep STFC (TD-1189-1771)	153 days	Mon 04/11/13	Wed 04/06/14				£85,000.00																					
5	Design & Analysis	60 days	Mon 04/11/13	Fri 24/01/14				£0.00																					
6	Quote - Order	20 days	Mon 27/01/14	Fri 21/02/14	5	7,11,8,10	JT	£0.00																					
7	Offsite Manufacture - PRY Pads/Base/Platforms	40 days	Mon 24/02/14	Fri 18/04/14	6		Contractor	£20,000.00																					
8	Offsite manufacture roof / Offline moving platforms	40 days	Mon 24/02/14	Fri 18/04/14	6		Manuf	£20,000.00																					
9	Works	73 days	Mon 24/02/14	Wed 04/06/14				£45,000.00																					
10	Cuts in south side ramp & floor	5 days	Mon 24/02/14	Fri 28/02/14	6		Kiers,Contractor	£8,000.00																					
11	Remove Floor Plates, trench roof	10 days	Mon 24/02/14	Fri 07/03/14	6		Hall Team	£0.00																					
12	Laser Tracker Survey & Mark Out for Drilling	5 days	Mon 10/03/14	Fri 14/03/14	10,11		JP	£0.00																					
13	Asbestos Survey & removal	20 days	Mon 17/03/14	Fri 11/04/14	12		Santia	£5,000.00																					
14	Drill & Fit Floor Anchors	5 days	Mon 14/04/14	Fri 18/04/14	13		Contractor,Kiers	£4,000.00																					
15	Fit Pillars & Pads & Plates	10 days	Mon 21/04/14	Fri 02/05/14	14		Contractor,Kiers	£10,000.00																					
16	Strengthen trench roof	10 days	Mon 05/05/14	Fri 16/05/14	15		Contractor,Kiers	£10,000.00																					
17	Fit trench roof / offline moving platforms	5 days	Mon 19/05/14	Fri 23/05/14	16,8		Contractor,Kiers	£8,000.00																					
18	Survey and mark locations for PRY foot fixings	3 days	Mon 26/05/14	Wed 28/05/14	17		JP	£0.00																					
19	Size & fit PRY foot fixings	5 days	Thu 29/05/14	Wed 04/06/14	18		Hall	£0.00																					
20	Inspection- Sign off	0 days	Wed 04/06/14	Wed 04/06/14	19		BPG,JT	£0.00																					
21	Trench Services (not main water move)	60 days	Mon 08/07/13	Fri 27/09/13				£1,000.00																					
22	Design	15 days	Mon 08/07/13	Fri 26/07/13			JT	£0.00																					
23	Start lag	15 days	Mon 29/07/13	Fri 16/08/13	22		-	£0.00																					
24	Works	30 days	Mon 19/08/13	Fri 27/09/13	23			£1,000.00																					
25	Remove cable trays & ISIS Cables	10 days	Mon 19/08/13	Fri 30/08/13			Hall	£500.00																					
26	Move water pipes	20 days	Mon 02/09/13	Fri 27/09/13	25		Hall	£500.00																					
27	Inspection - Sign off	0 days	Fri 27/09/13	Fri 27/09/13	26		JT,ISIS	£0.00																					
28	South Mezz (TD-1189-1460)	123 days	Mon 25/11/13	Wed 14/05/14				£20,000.00																					
29	JT Design	10 days	Mon 25/11/13	Fri 06/12/13			JT	£0.00																					
30	TD Sign Off	0 days	Fri 06/12/13	Fri 06/12/13	29		JT	£0.00																					
31	RFQ, Quote, RFS	15 days	Mon 09/12/13	Fri 27/12/13	30		JT,BPG	£0.00																					
32	Structural engineering review	5 days	Mon 30/12/13	Fri 03/01/14	31		OPUS	£5,000.00																					
33	RFQ, Quote, RFS	15 days	Mon 06/01/14	Fri 24/01/14	32		JT,BPG	£15,000.00																					
34	Order materials / parts & offsite manufacture	60 days	Mon 27/01/14	Fri 18/04/14	33		Regal	£0.00																					
35	Disassemble S. Mezz front edge	3 days	Mon 21/04/14	Wed 23/04/14	34		Regal	£0.00																					
36	Fit TrackerCryo Bridge	3 days	Thu 24/04/14	Mon 28/04/14	35		Regal	£0.00																					
37	Cut horizontal and diagonal beams	2 days	Tue 29/04/14	Wed 30/04/14	36		Regal	£0.00																					
38	Cut 'notch' in south mezz (PRY middle plates)	2 days	Thu 01/05/14	Fri 02/05/14	37		Regal	£0.00																					
39	Fit risers	3 days	Mon 05/05/14	Wed 07/05/14	38		Regal	£0.00																					
40	Re-fit 2x Hinged Platforms	2 days	Thu 08/05/14	Fri 09/05/14	39		Regal	£0.00																					
41	Install Handrails	3 days	Mon 12/05/14	Wed 14/05/14	40		Regal	£0.00																					
42	Sign Off	0 days	Wed 14/05/14	Wed 14/05/14	41	64,60	JT,BPG	£0.00																					
43	Services (TD-1189-1466)	90 days	Mon 19/08/13	Fri 20/12/13				£13,000.00																					
44	Detail investigation & design	10 days	Mon 19/08/13	Fri 30/08/13			JT	£0.00																					
45	Order / manufacture services management	30 days	Mon 02/09/13	Fri 11/10/13	44		JT	£3,000.00																					
46	Fit services management (non-yoke mount)	10 days	Mon 14/10/13	Fri 25/10/13	45		Hall	£0.00																					
47	Manufacture of vacuum pump down extensions	40 days	Mon 28/10/13	Fri 20/12/13	46	48,67	AS Scientific?	£10,000.00																					
48	Await Yoke south side	0 days	Fri 20/12/13	Fri 20/12/13	47		-	£0.00																					
49	Other	120 days	Mon 20/05/13	Fri 01/11/13				£5,500.00																					
50	Remove old magnet cable trays	1 day	Mon 20/05/13	Mon 20/05/13			Hall	£0.00																					
51	Reconfigure H2 unistrut for South Mezz change	3 days	Mon 20/05/13	Wed 22/05/13			Hall	£500.00																					
52	SS Tie-Down design, analysis & modification (TD-1189-1791)	120 days	Mon 20/05/13	Fri 01/11/13			EH?	£5,000.00																					

Floor prep 04/06/14

South mezz changes 14/05/14

Schedule

ID	Task Name	Duration	Start	Finish	Predecessors	Successors	Resource Names	Cost	Qtr 2, 2013		Qtr 3, 2013			Qtr 4, 2013			Qtr 1, 2014			Qtr 2, 2014			Qtr 3, 2014			Qtr 4, 2014						
									Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec			
53	Yoke Installation	370 days	Mon 20/05/13	Fri 17/10/14				£7,000.00	0%																							
54	Design, Manufacture & approval of lifting tooling	120 days	Mon 20/05/13	Fri 01/11/13		57	Contractor	£7,000.00	0%																							
55	Deliver south side frame from storage	1 day	Mon 19/05/14	Mon 19/05/14	1	56	HeavyGang	£0.00	0%																							
56	Remove South Mezz front edge	3 days	Tue 20/05/14	Thu 22/05/14	55	57	Hall	£0.00	0%																							
57	Fit south side frame	6 days	Fri 23/05/14	Fri 30/05/14	56,54	58	BNL,JT,Hall	£0.00	0%																							
58	Fit south side services (frame mount only)	30 days	Mon 02/06/14	Fri 11/07/14	57	63	Hall	£0.00	0%																							
59	Deliver remainder of south yoke to hall from storage	2 days	Mon 19/05/14	Tue 20/05/14	2	60	HeavyGang	£0.00	0%																							
60	Fit south end-side plates (not middles)	20 days	Thu 05/06/14	Wed 02/07/14	59,20,42	65,61	BNL,JT,Hall	£0.00	0%																							
61	Fit south side doublers except top-outers	1 day	Thu 03/07/14	Thu 03/07/14	60	62	Hall,BNL,JT	£0.00	0%																							
62	Fit south V-Plate connections	2 days	Fri 04/07/14	Mon 07/07/14	61	63		£0.00	0%																							
63	Fit Yoke mount services management	10 days	Mon 14/07/14	Fri 25/07/14	58,62	64	Hall,BNL,JT	£0.00	0%																							
64	Re-Fit South Mezz front edge	3 days	Mon 28/07/14	Wed 30/07/14	42,63	65	Hall,BNL,JT	£0.00	0%																							
65	Move Experimental devices into place & fix (assume already on moving platforms)	15 days	Thu 31/07/14	Wed 20/08/14	60,64	67,66	Hall,BNL,JT	£0.00	0%																							
66	Fit south side middles & doublers	3 days	Thu 21/08/14	Mon 25/08/14	65	68,76	BNL,JT,Hall	£0.00	0%																							
67	Fit vacuum pump down extensions to devices	2 days	Thu 21/08/14	Fri 22/08/14	47,65	68	Hall	£0.00	0%																							
68	Fit north side frame	5 days	Tue 26/08/14	Mon 01/09/14	67,66	69	BNL,JT,Hall	£0.00	0%																							
69	Deliver remainder of north yoke to hall from storage	2 days	Tue 02/09/14	Wed 03/09/14	68,3	70	HeavyGang	£0.00	0%																							
70	Fit north side-end plates	20 days	Thu 04/09/14	Wed 01/10/14	69	71	BNL,JT,Hall	£0.00	0%																							
71	Fit north side doublers & middle	3 days	Thu 02/10/14	Mon 06/10/14	70	72	Hall,BNL,JT	£0.00	0%																							
72	Fit S-V-Plate connections	2 days	Tue 07/10/14	Wed 08/10/14	71	73		£0.00	0%																							
73	Fit PRY cross-bars	2 days	Thu 09/10/14	Fri 10/10/14	72	74		£0.00	0%																							
74	Fit SS tie-downs, cut in-fills & fit	5 days	Mon 13/10/14	Fri 17/10/14	73	75	Hall	£0.00	0%																							
75	Inspection - Sign off	0 days	Fri 17/10/14	Fri 17/10/14	74		BNL,JT	£0.00	0%																							
76	Services Installation	50 days	Tue 26/08/14	Mon 03/11/14	66		DL,Hall	£2,000.00	0%																							

South side install 25/06/14

North side install 17/10/14

Services install 26/11/14

All of the above based on realistic timescales, no added contingency