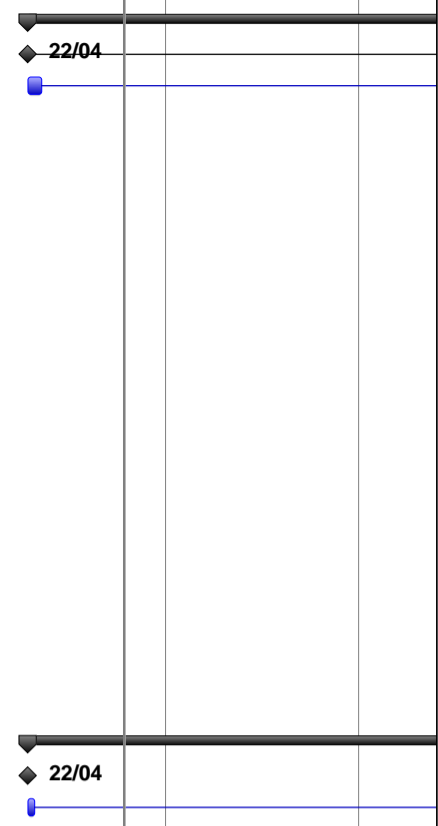


ID	Task Name	Duration	Start	Finish	14 Apr '14		12 May '14		09 Jun '14	
					S	W	S	T	M	F
1	Tracker Hall Integration	241 days?	Tue 22/04/14	Tue 24/03/15						
2	Pre Installation work	139 days?	Tue 22/04/14	Mon 03/11/14						
3	General Maintenance	3 days	Tue 22/04/14	Thu 24/04/14						
4	Gather all Tracker equipment in lab space and do stock check	3 days	Tue 22/04/14	Thu 24/04/14						
5	Get Electronics spares VME/NIM/Instruments?	1 day	Tue 22/04/14	Tue 22/04/14						
6	Cryogenics maintenance	22 days	Tue 22/04/14	Wed 21/05/14						
7	Quote/Book/Wait service with SHI cryogenics	20 days	Tue 22/04/14	Mon 19/05/14						
8	Get spare Aeroquip Helium lines?	1 day	Tue 22/04/14	Tue 22/04/14						
9	Re-gas pressurise compressor with BIP Helium	1 day	Tue 22/04/14	Tue 22/04/14						
10	Mend broken manual pressure valve	1 day	Tue 22/04/14	Tue 22/04/14						
11	Service & clean CCG pressure sensors	2 days	Tue 22/04/14	Wed 23/04/14						
12	Service compressor - New Adsorber?	2 days	Tue 20/05/14	Wed 21/05/14						
13	Service cold heads	2 days	Tue 20/05/14	Wed 21/05/14						
14	Electronics preparation	2 days	Tue 22/04/14	Wed 23/04/14						
15	Buy and connect up rack smoke detector?	1 day	Tue 22/04/14	Tue 22/04/14						
16	Buy another Vesda VLF250 or decide on single pipeline run?	1 day	Tue 22/04/14	Tue 22/04/14						
17	Run in 4 DAQ ISIS 1RF trigger cables from MLCR to Tracker rack	1 day	Tue 22/04/14	Tue 22/04/14						
18	Run in fibres between Tracker rack and Controls & DAQ computers	1 day	Tue 22/04/14	Tue 22/04/14						
19	Test AFEIt boards, upgrade firmware, check location pins before hall installation? (Adey)	2 days	Tue 22/04/14	Wed 23/04/14						
20	Services preparation	139 days?	Tue 22/04/14	Mon 03/11/14						
21	Check Tracker rack & cryo positions and design for cryo stands	1 day?	Tue 22/04/14	Tue 22/04/14						
22	Organise Mains distribution at Tracker rack positions	1 day?	Wed 23/04/14	Wed 23/04/14						
23	Lay cable trays between rack and cryo position	1 day?	Wed 23/04/14	Wed 23/04/14						
24	Arrange BIP grade Helium gas line to Tracker rack	1 day?	Wed 23/04/14	Wed 23/04/14						
25	Global vac pipework in place	0 days	Mon 30/06/14	Mon 30/06/14						
26	DL vac controls rack in place around Nov 2014	0 days	Mon 03/11/14	Mon 03/11/14						
27	Make LED Calibration boxes	6 days	Tue 22/04/14	Tue 29/04/14						
28	Construct 2nd LED box (Drill box, pot fibres & PCB and Solder)	2 days	Tue 22/04/14	Wed 23/04/14						
29	Polish 2 sets (Qty20) of LED fibres in small connectors	1 day	Tue 22/04/14	Tue 22/04/14						
30	Pot & Polish 2x10 sets of LED fibres in PP connectors	1 day	Wed 23/04/14	Wed 23/04/14						
31	Cable up LED box in hall (VME, ethernet, fibres)	1 day	Thu 24/04/14	Thu 24/04/14						
32	LED box hardware & software debug (as not used before!)	2 days	Fri 25/04/14	Mon 28/04/14						
33	Run LED calibration with PMT?	1 day	Tue 29/04/14	Tue 29/04/14						
34	Upstream SpecSol offline activities in hall	14 days?	Tue 22/04/14	Fri 09/05/14						
35	Plan Offline LED Calibration test (PMT vs Full Cryo)	1 day	Tue 22/04/14	Tue 22/04/14						
36	Upstream SpecSol placed in Offline position in hall	0 days	Mon 05/05/14	Mon 05/05/14						
37	Carry out Offline LED calibration test?	5 days	Mon 05/05/14	Fri 09/05/14						
38	Trial connect and reform south side external waveguides?	1 day?	Mon 05/05/14	Mon 05/05/14						
39	Compressors in hall	132 days	Tue 22/04/14	Wed 22/10/14						
40	3 phase mains connections at compressor positions in place?	0 days	Tue 22/04/14	Tue 22/04/14						
41	Chilled water piping & flowmeters at compressor positions in place?	0 days	Tue 22/04/14	Tue 22/04/14						
42	Framework in place for stack of two compressors	0 days	Tue 29/04/14	Tue 29/04/14						
43	Move compressor to hall and place in position	1 day	Tue 29/04/14	Tue 29/04/14						
44	Connect chilled water & mains	2 days	Mon 01/09/14	Tue 02/09/14						
45	Run Helium lines (20M) from compressor to cryostat	30 days	Wed 03/09/14	Tue 14/10/14						
46	Run electrical line (20M) from compressor to cryostat	1 day	Wed 15/10/14	Wed 15/10/14						
47	Connect compressor to DL controls rack	3 days	Thu 16/10/14	Mon 20/10/14						
48	Leak test system	2 days	Tue 21/10/14	Wed 22/10/14						
49	Interlocks (DL box)	142 days	Tue 22/04/14	Wed 05/11/14						
50	DL Tracker cryostat interface box (interlocks) in place in RR2?	0 days	Tue 22/04/14	Tue 22/04/14						
51	Connect up smoke detector sensing pipework	3 days	Fri 24/10/14	Tue 28/10/14						
52	Commission Vesda smoke detector in situ	2 days	Wed 29/10/14	Thu 30/10/14						
53	Get Vesda system officially commissioned & accreditation test	3 days	Fri 31/10/14	Tue 04/11/14						
54	Connect Vesda system alarm relay to DL interface box	1 day	Wed 05/11/14	Wed 05/11/14						
55	Connect 115V transformer to Lid Heater box	1 day	Fri 24/10/14	Fri 24/10/14						
56	Connect up Lid Heater outputs to DL interface box	1 day	Mon 27/10/14	Mon 27/10/14						
57	Connect up Oxford ITC503 to RS232 via Ethernet to DL interface box	1 day	Tue 04/11/14	Tue 04/11/14						
58	Connect Wiener (AFE) mains supply to DL interface box	1 day	Fri 24/10/14	Fri 24/10/14						
59	Use Wiener mains interlock TTL signal?	0 days	Tue 22/04/14	Tue 22/04/14						
60	Tracker racks in hall	3 days	Mon 03/11/14	Wed 05/11/14						
61	Place tracker rack in position in hall	1 day	Mon 03/11/14	Mon 03/11/14						
62	Arrange Helium gas line from Tracker rack to cryo	1 day	Tue 04/11/14	Tue 04/11/14						
63	Ship back David Adey kit from the US	0 days	Mon 03/11/14	Mon 03/11/14						
64	Populate VME crates with modules	1 day	Tue 04/11/14	Tue 04/11/14						
65	Connect fibre between Tracker rack and controls computer	1 day	Wed 05/11/14	Wed 05/11/14						
66	Connect fibre between Tracker rack and MLCR based DAQ computer	1 day	Wed 05/11/14	Wed 05/11/14						
67	Connect 1553 cables from VME module to AFE backplane	1 day	Wed 05/11/14	Wed 05/11/14						
68	South side cryostats install	12 days	Mon 20/10/14	Tue 04/11/14						
69	South side PRY in place by Mid Oct 2014	0 days	Mon 20/10/14	Mon 20/10/14						
70	Cryostat stands - South side in place	2 days	Mon 20/10/14	Tue 21/10/14						
71	Move South side cryostats to hall and place in position	2 days	Wed 22/10/14	Thu 23/10/14						
72	Connect up CCG to MKS gauge in Tracker rack	1 day	Fri 24/10/14	Fri 24/10/14						
73	Connect up Cold head Helium lines with new washers	1 day	Fri 24/10/14	Fri 24/10/14						
74	Connect temperature sensors to Oxford ITC503	1 day	Fri 24/10/14	Fri 24/10/14						
75	Mount 4 x AFEIt PCB's	1 day	Fri 24/10/14	Fri 24/10/14						
76	Connect mains power to Wiener AFE PSU	1 day	Fri 24/10/14	Fri 24/10/14						
77	Cryostat Vacuum system	8 days	Fri 24/10/14	Tue 04/11/14						
78	Connect up new SL80 turbo pump to cryostat	2 days	Fri 24/10/14	Mon 27/10/14						
79	Mount & Connect TD400 turbo controller to Turbo	1 day	Tue 28/10/14	Tue 28/10/14						
80	Connect TD400 Turbo controller to DL vac rack	1 day	Mon 03/11/14	Mon 03/11/14						
81	Mount & Connect 24V for turbo controller at cryostat or DL vac rack	1 day	Tue 04/11/14	Tue 04/11/14						
82	Connect up MKS937 pressure gauge controller trip relay to DL vac rack	1 day	Tue 04/11/14	Tue 04/11/14						
83	Connect Pneumatic fail safe pressure valve behind turbo	1 day	Tue 28/10/14	Tue 28/10/14						

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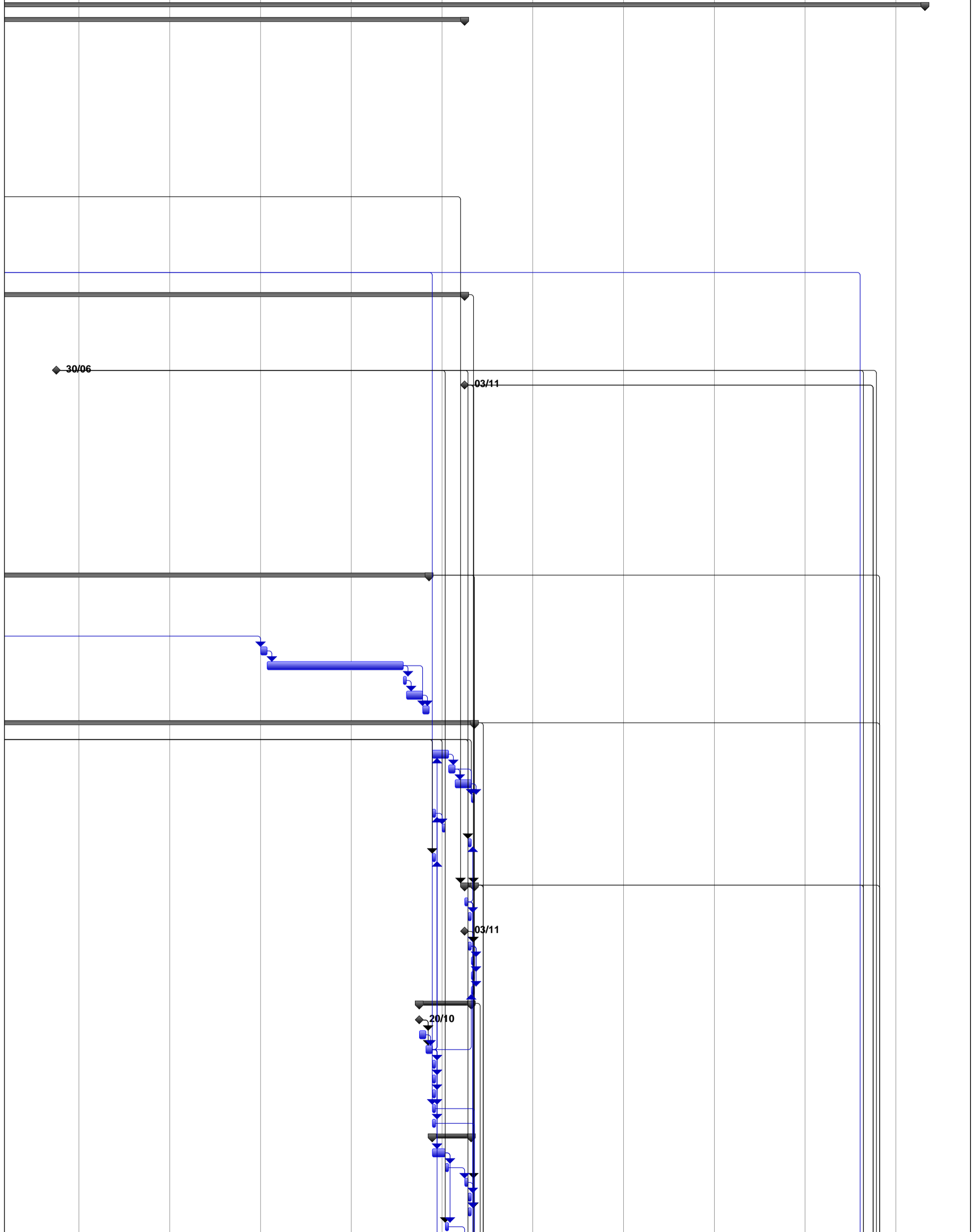
Task		External Milestone		Manual Summary Rollup	
Split		Inactive Task		Manual Summary	
Milestone		Inactive Milestone		Start-only	
Summary		Inactive Summary		Finish-only	
Project Summary		Manual Task		Progress	
External Tasks		Duration-only		Deadline	

ID	Task Name	Duration	Start	Finish	14 Apr '14				12 May '14			09 Jun '14		
					S	W	S	T	M	F	T	S		
84	Connect Pneumatic fail safe through to valve island and onto DL vac rack	1 day	Mon 03/11/14	Mon 03/11/14										
85	Connect Roughing/Backing line to fail safe valve	1 day	Tue 04/11/14	Tue 04/11/14										
86	South side External Waveguides connect	137 days	Tue 22/04/14	Wed 29/10/14										
87	Upstream spectrometer solenoid in place on cooling channel?	0 days	Tue 22/04/14	Tue 22/04/14										
88	Make dark working environment	2 days	Tue 22/04/14	Wed 23/04/14										
89	Connect and reform external waveguides to fit from PP to Cryostat	3 days	Fri 24/10/14	Tue 28/10/14										
90	Errect trellis to support external waveguides	1 day	Wed 29/10/14	Wed 29/10/14										
91	North side cryostats install	91 days	Tue 04/11/14	Tue 10/03/15										
92	North side PRY in place by Feb 2015	0 days	Fri 27/02/15	Fri 27/02/15										
93	Cryostat stands - North side in place	2 days	Fri 27/02/15	Mon 02/03/15										
94	Move North side cryostats to hall and place in position	2 days	Tue 03/03/15	Wed 04/03/15										
95	Connect up CCG to MKS gauge in Tracker rack	1 day	Thu 05/03/15	Thu 05/03/15										
96	Connect up Cold head Helium lines with new washers	1 day	Thu 05/03/15	Thu 05/03/15										
97	Connect temperature sensors to Oxford ITC503	1 day	Thu 05/03/15	Thu 05/03/15										
98	Mount 4 x AFEIIt PCB's	1 day	Thu 05/03/15	Thu 05/03/15										
99	Connect mains power to Wiener AFE PSU	1 day	Thu 05/03/15	Thu 05/03/15										
100	Cryostat Vacuum system	91 days	Tue 04/11/14	Tue 10/03/15										
101	Connect up new SL80 turbo pump to cryostat	1 day	Thu 05/03/15	Thu 05/03/15										
102	Mount & Connect TD400 turbo controller to Turbo	1 day	Fri 06/03/15	Fri 06/03/15										
103	Connect TD400 Turbo controller to DL vac rack	1 day	Mon 09/03/15	Mon 09/03/15										
104	Mount & Connect 24V for turbo controller at cryostat or DL vac rack	1 day	Tue 10/03/15	Tue 10/03/15										
105	Connect up MKS937 pressure gauge controller trip relay to DL vac rack	1 day	Tue 04/11/14	Tue 04/11/14										
106	Connect Pneumatic fail safe pressure valve behind turbo	1 day	Fri 06/03/15	Fri 06/03/15										
107	Connect Pneumatic fail safe to valve island and DL vac rack	1 day	Mon 09/03/15	Mon 09/03/15										
108	Connect Roughing/Backing line to fail safe valve	1 day	Tue 10/03/15	Tue 10/03/15										
109	North side External Waveguides connect	231 days	Tue 22/04/14	Tue 10/03/15										
110	Downstream spectrometer solenoid in place on cooling channel?	0 days	Tue 22/04/14	Tue 22/04/14										
111	Make dark working environment	1 day	Tue 22/04/14	Tue 22/04/14										
112	Connect and reform external waveguides to fit from PP to Cryostat	3 days	Thu 05/03/15	Mon 09/03/15										
113	Errect trellis to support external waveguides	1 day	Tue 10/03/15	Tue 10/03/15										
114	Pre-beam Comissioning	99 days	Thu 06/11/14	Tue 24/03/15										
115	South side operations	12 days	Thu 06/11/14	Fri 21/11/14										
116	Test AFE slow controls (Adey)	3 days	Thu 06/11/14	Mon 10/11/14										
117	Test Tracker safety interlocks	2 days	Thu 06/11/14	Fri 07/11/14										
118	Cool down procedure	5 days	Mon 10/11/14	Fri 14/11/14										
119	LED Calibration (Adey/Overton)	3 days	Mon 17/11/14	Wed 19/11/14										
120	Initial ISIS RF timing with TOF mimic? (Overton)	2 days	Thu 20/11/14	Fri 21/11/14										
121	North side operations	13 days	Fri 06/03/15	Tue 24/03/15										
122	Test AFE slow controls (Adey)	3 days	Fri 06/03/15	Tue 10/03/15										
123	Test Tracker safety interlocks	2 days	Wed 11/03/15	Thu 12/03/15										
124	Cool down procedure	5 days	Fri 13/03/15	Thu 19/03/15										
125	(Full) LED Calibration (Adey/Overton)	3 days	Fri 20/03/15	Tue 24/03/15										
126	Step IV beam commissioning starts : ISIS cycle starts 17th March	0 days	Tue 17/03/15	Tue 17/03/15										



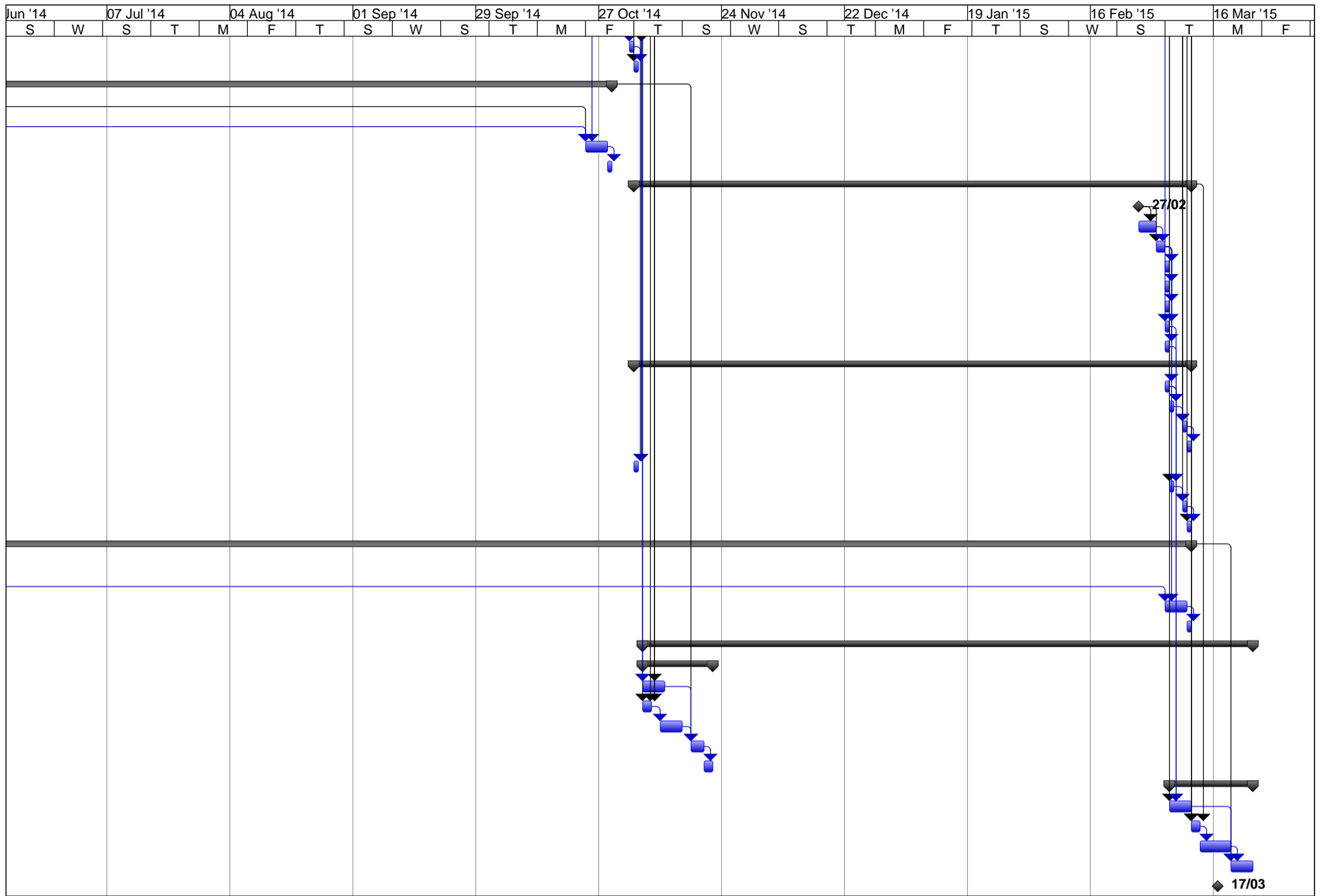
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