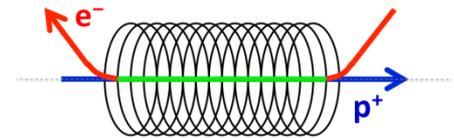
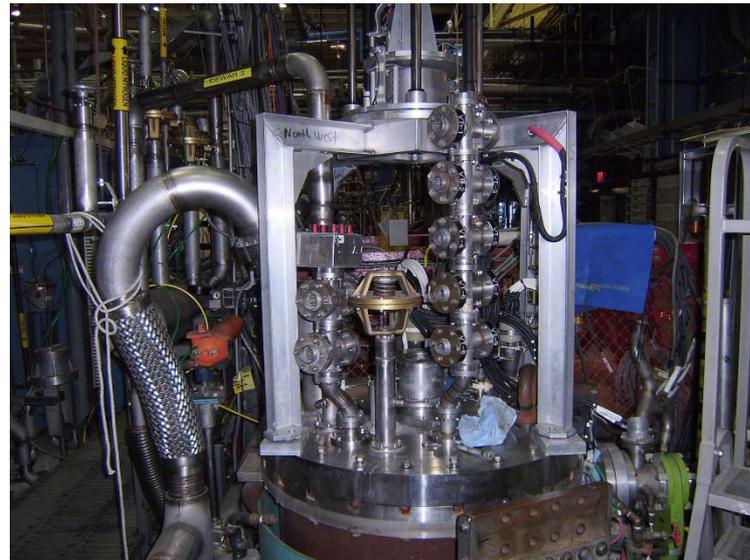


Electron Lens



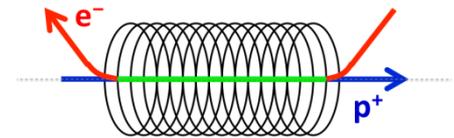
Electron Lens Superconducting Solenoid Status



Michael Anerella

May 22, 2012

eLens - Cold Test Assembly



Magnet #1:

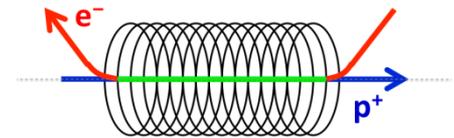
- Double layer #1 unwired, power lead re-attached to layer 3, FF coil reinstalled, wiring complete, cold mass reinstalled in vertical dewar.
- Power supply upgraded.
- Cryogenic system warmed up, wet expander engine pistons serviced, cooldown started

Magnet #2:

- wiring underway
- Diode assembly complete, ready for LN_2 test



E-Lens Magnet, Tooling



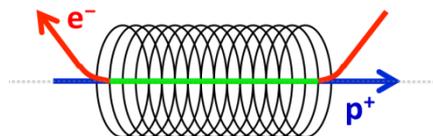
Magnet

- Design work continues - (SP/SS/FC)
 - vertical cold test assy (38010506) - complete
 - insertion assy (38010200) - check print
 - cryostatted assy (38060200) - check print almost done (SS) (detail drawings this week)
 - electro-mechanical assy (3806XXXX) - started (FC) (detail drawings in check)
 - e-lens top assy (3806XXXX)
 - Insertion fixture additions - underway (SS)
- Cold mass parts in CS, due 5/15?
- Cryostat machining ordered, due 6/22
- **new heat shield vendor** - purchase order dispatched, promised delivery date 6/8/12
- **(some) Cryostat parts in CS, due 5/30**

Tooling

- Cryostatting, pressure test fixture Mods (PK) - **1 beam to be made**

schedule p.1

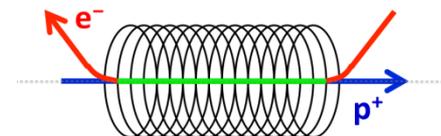


ID	Task Name	Duration	Baseline Start	Baseline Finish	Actual Start	Actual Finish	% Complete	Predecessors	2013											
									May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb		
1	electron lens solenoid	716.75 days	4/5/10	5/22/12	4/5/10	NA	82%		[Gantt bar from May to Feb 2013, 82% complete]											
2	✓ Preliminary Design	80 days	4/5/10	7/27/10	4/5/10	7/27/10	100%		[Gantt bar from May to Feb 2013, 100% complete]											
3	Final Design	143.75 days	7/28/10	3/4/11	7/28/10	NA	74%	2	[Gantt bar from May to Feb 2013, 74% complete]											
7	Fabrication / Procurement	276 days	7/28/10	8/31/11	7/28/10	NA	28%	2	[Gantt bar from May to Feb 2013, 28% complete]											
11	Magnet #1	471.5 days	1/21/11	2/10/12	1/24/11	NA	74%		[Gantt bar from May to Feb 2013, 74% complete]											
12	Solenoid Coil Assembly	142 days	2/7/11	5/2/11	3/2/11	NA	88%	7, 88+181	[Gantt bar from May to Feb 2013, 88% complete]											
49	Fringe Field Solenoid Coils	199 days	2/7/11	5/18/11	3/14/11	NA	88%		[Gantt bar from May to Feb 2013, 88% complete]											
90	Block Corrector Coils	152 days	1/21/11	4/7/11	1/24/11	NA	88%	7, 88+120	[Gantt bar from May to Feb 2013, 88% complete]											
107	Yoke Assembly	100 days	5/19/11	7/8/11	10/14/11	NA	88%	12, 80	[Gantt bar from May to Feb 2013, 88% complete]											
123	Vertical Cold Test	72.5 days	7/11/11	9/2/11	3/14/12	NA	37%	12, 107	[Gantt bar from May to Feb 2013, 37% complete]											
124	✓ wiring stand instl and test	15 days	7/11/11	7/21/11	3/14/12	4/3/12	100%		[Gantt bar from May to Feb 2013, 100% complete]											
125	✓ install in dewar	0.5 days	7/22/11	7/22/11	4/4/12	4/4/12	100%	124	[Gantt bar from May to Feb 2013, 100% complete]											
126	✓ 300K preparations	8 days	7/22/11	7/29/11	4/4/12	4/16/12	100%	125	[Gantt bar from May to Feb 2013, 100% complete]											
127	✓ cool down to 4.5K	3 days	7/29/11	8/5/11	4/16/12	4/19/12	100%	125	[Gantt bar from May to Feb 2013, 100% complete]											
128	4.5K elect, heater, quench, DC loop	10 days	8/5/11	8/26/11	NA	NA	0%	127	[Gantt bar from May to Feb 2013, 0% complete]											
129	warmup	2 days	8/26/11	8/30/11	NA	NA	0%	128	[Gantt bar from May to Feb 2013, 0% complete]											
130	remove from dewar, test fixture	3 days	8/30/11	9/2/11	NA	NA	0%	129	[Gantt bar from May to Feb 2013, 0% complete]											
131	repair	7 days	NA	NA	NA	NA	0%	130	[Gantt bar from May to Feb 2013, 0% complete]											
132	re-installation into dewar	1 day	NA	NA	NA	NA	0%	131	[Gantt bar from May to Feb 2013, 0% complete]											
133	cool down to 4.5K	3 days	NA	NA	NA	NA	0%	132	[Gantt bar from May to Feb 2013, 0% complete]											
134	4.5K elect, heater, quench, DC loop	15 days	NA	NA	NA	NA	0%	133	[Gantt bar from May to Feb 2013, 0% complete]											
135	warmup	2 days	NA	NA	NA	NA	0%	134	[Gantt bar from May to Feb 2013, 0% complete]											
136	remove from dewar, test fixture	3 days	NA	NA	NA	NA	0%	135	[Gantt bar from May to Feb 2013, 0% complete]											
137	Cold Mass Assembly	11 days	9/2/11	9/19/11	NA	NA	0%	7, 128	[Gantt bar from May to Feb 2013, 0% complete]											
138	install / weld end volumes	4 days	9/2/11	9/8/11	NA	NA	0%		[Gantt bar from May to Feb 2013, 0% complete]											
139	install / weld port closures	3 days	9/8/11	9/13/11	NA	NA	0%	138	[Gantt bar from May to Feb 2013, 0% complete]											
140	pressure / leak check	3 days	9/13/11	9/16/11	NA	NA	0%	139	[Gantt bar from May to Feb 2013, 0% complete]											
141	cut test port closures	1 day	9/16/11	9/19/11	NA	NA	0%	140	[Gantt bar from May to Feb 2013, 0% complete]											
142	Magnet Assembly	61.5 days	9/19/11	11/14/11	8/11/12	NA	0%	137	[Gantt bar from May to Feb 2013, 0% complete]											
143	install CM insulating blankets	2 days	9/19/11	9/21/11	NA	NA	0%		[Gantt bar from May to Feb 2013, 0% complete]											
144	install outer heat shield	3 days	9/21/11	9/26/11	6/11/12	NA	0%	143	[Gantt bar from May to Feb 2013, 0% complete]											
145	install magnet insulating blankets	2 days	9/26/11	9/28/11	NA	NA	0%	144	[Gantt bar from May to Feb 2013, 0% complete]											
146	install LE vacuum vessel sleeve, tower, He	2 days	9/28/11	9/30/11	NA	NA	0%	145	[Gantt bar from May to Feb 2013, 0% complete]											
147	connect gas cooled leads (10)	3 days	9/30/11	10/5/11	NA	NA	0%	146	[Gantt bar from May to Feb 2013, 0% complete]											
148	connect copper corrector leads (24)	3 days	10/5/11	10/10/11	NA	NA	0%	147	[Gantt bar from May to Feb 2013, 0% complete]											
149	connect instrumentation wires	4 days	10/10/11	10/14/11	NA	NA	0%	148	[Gantt bar from May to Feb 2013, 0% complete]											
150	electrical tests	2 days	10/14/11	10/18/11	NA	NA	0%	149	[Gantt bar from May to Feb 2013, 0% complete]											
151	install cold mass into vacuum vessel	2 days	10/18/11	10/20/11	NA	NA	0%	150	[Gantt bar from May to Feb 2013, 0% complete]											
152	install posts	1 day	10/20/11	10/21/11	NA	NA	0%	151	[Gantt bar from May to Feb 2013, 0% complete]											
153	install inner heat shield	1 day	10/21/11	10/24/11	NA	NA	0%	152	[Gantt bar from May to Feb 2013, 0% complete]											
154	install inner vacuum vessel	1 day	10/24/11	10/25/11	NA	NA	0%	153	[Gantt bar from May to Feb 2013, 0% complete]											
155	install vacuum vessel end plates	2 days	10/25/11	10/27/11	NA	NA	0%	154	[Gantt bar from May to Feb 2013, 0% complete]											
156	install cryovalve, helium lines	5 days	10/27/11	11/3/11	NA	NA	0%	155	[Gantt bar from May to Feb 2013, 0% complete]											
157	connect NLE instrumentation wires	2 days	11/3/11	11/7/11	NA	NA	0%	156	[Gantt bar from May to Feb 2013, 0% complete]											
158	electrical tests	2 days	11/7/11	11/9/11	NA	NA	0%	157	[Gantt bar from May to Feb 2013, 0% complete]											
159	vacuum leak check testing	3 days	11/9/11	11/14/11	NA	NA	0%	158	[Gantt bar from May to Feb 2013, 0% complete]											
160	Final Magnet Test	64 days	11/14/11	2/10/12	NA	NA	0%	142	[Gantt bar from May to Feb 2013, 0% complete]											

#1 cold Test
3/14-6/25

#1 Assembly
complete 9/6/12

schedule p.2



ID	Task Name	Duration	Baseline Start	Baseline Finish	Actual Start	Actual Finish	% Complete	Predecessors	2013											
									May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb		
168	Magnet #2	590.75 days	4/8/11	5/22/12	10/11/10	NA	60%		[Gantt bar from May to Feb 2013, 60% complete]											
169	Solenoid Coil Assembly	131 days	5/3/11	7/27/11	8/16/11	NA	88%		[Gantt bar from May to Feb 2013, 88% complete]											
207	Fringe Field Solenoid Coils	112 days	5/19/11	8/30/11	8/22/11	NA	88%		[Gantt bar from May to Feb 2013, 88% complete]											
246	Block Corrector Coils	274 days	4/8/11	6/23/11	10/11/10	NA	88%		[Gantt bar from May to Feb 2013, 88% complete]											
262	Yoke Assembly	67.25 days	8/31/11	10/18/11	8/28/12	NA	37%	248, 169, 263	[Gantt bar from May to Feb 2013, 37% complete]											
263	install AFF coils onto support tube	8 days	8/31/11	8/31/11	3/28/12	4/5/12	100%	263	[Gantt bar from May to Feb 2013, 100% complete]											
264	prepare main solenoid leads	3 days	9/1/11	9/6/11	4/9/12	4/11/12	100%	263	[Gantt bar from May to Feb 2013, 100% complete]											
265	assemble main solenoid and corrector	1 day	9/6/11	9/6/11	4/12/12	4/12/12	100%	264	[Gantt bar from May to Feb 2013, 100% complete]											
266	install coils into yoke	1 day	9/6/11	9/6/11	4/13/12	4/13/12	100%	265	[Gantt bar from May to Feb 2013, 100% complete]											
267	install wiring board	4 days	9/21/11	9/22/11	4/16/12	4/19/12	100%	266	[Gantt bar from May to Feb 2013, 100% complete]											
268	corrector polarity checks	1 day	NA	NA	4/20/12	4/20/12	100%	267	[Gantt bar from May to Feb 2013, 100% complete]											
269	wire main solenoid leads (22), vt's (150), d	15 days	9/23/11	9/23/11	5/18/12	NA	0%	268	[Gantt bar from May to Feb 2013, 0% complete]											
270	wire AFF leads (4), vt's (12)	2 days	9/26/11	9/27/11	NA	NA	0%	269	[Gantt bar from May to Feb 2013, 0% complete]											
271	install NLE bus	0.25 days	NA	NA	NA	NA	0%	270	[Gantt bar from May to Feb 2013, 0% complete]											
272	install yoke into helium vessel	2 days	NA	NA	NA	NA	0%	271	[Gantt bar from May to Feb 2013, 0% complete]											
273	install FF coils	1 day	9/28/11	10/4/11	NA	NA	0%	272	[Gantt bar from May to Feb 2013, 0% complete]											
274	wire FF leads (4), vt's (12)	2 days	10/5/11	10/18/11	NA	NA	0%	273	[Gantt bar from May to Feb 2013, 0% complete]											
275	electrical tests	5 days	NA	NA	NA	NA	0%	274	[Gantt bar from May to Feb 2013, 0% complete]											
276	magnetic / polarity tests	3 days	NA	NA	NA	NA	0%	275	[Gantt bar from May to Feb 2013, 0% complete]											
277	Vertical Cold Test	39.5 days	10/19/11	12/13/11	NA	NA	0%	262, 129	[Gantt bar from May to Feb 2013, 0% complete]											
285	Cold Mass Assembly	11 days	12/13/11	12/28/11	NA	NA	0%	277	[Gantt bar from May to Feb 2013, 0% complete]											
290	Magnet Assembly	40 days	12/28/11	2/22/12	NA	NA	0%	286	[Gantt bar from May to Feb 2013, 0% complete]											
308	Final Magnet Test	64 days	2/22/12	5/22/12	NA	NA	0%	280	[Gantt bar from May to Feb 2013, 0% complete]											

Yoke assembly is critical path

#2 cold Test 7/2-8/28

#2 Projected Assembly complete 11/7/12