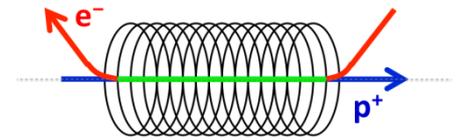
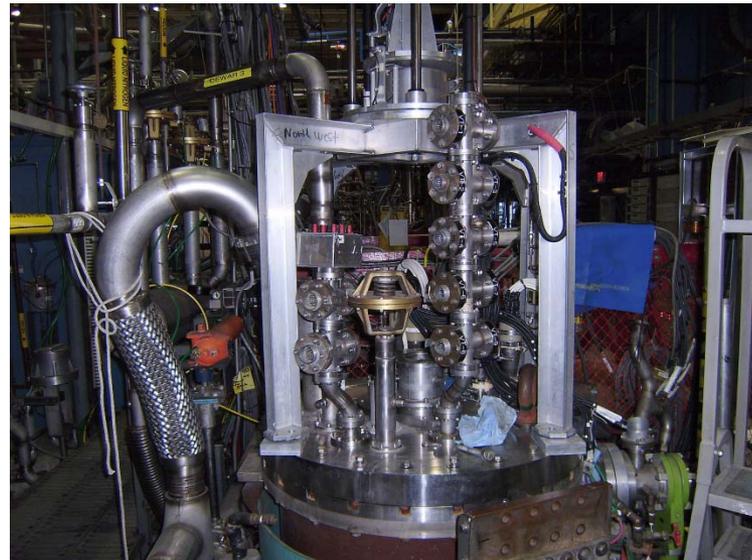


# Electron Lens



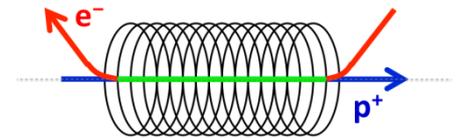
## Electron Lens Superconducting Solenoid Status



Michael Anerella

April 10, 2012

# E-Lens Magnet, Tooling



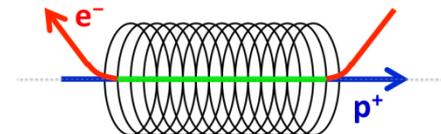
## Magnet

- Cold mass drawings submitted to Central Shops
- Cryostat drawing work continues - (SP/PK/SS)
  - Cryostat pipe thickness? (SS/SP)
- **new heat shield vendor** - requisition submitted, sole source justification submitted, new drawings sent for vendor review - awaiting confirmation / quote (SP/HH)

## Tooling

- Cryostatting, pressure test fixture Mods in CS (PK) - **complete**

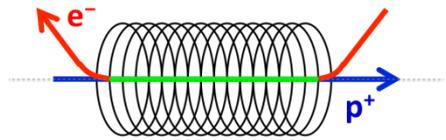
# Main Solenoid Coils



## 2<sup>nd</sup> main solenoid

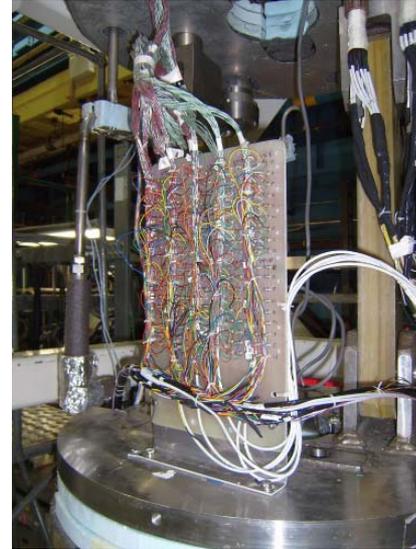
- End sleeve installation complete
- Anti-fringe field coil installation changed to properly orient main solenoid leads
- Wires being prepped for wiring board installation (DM / DC)

# eLens - Cold Test Assembly



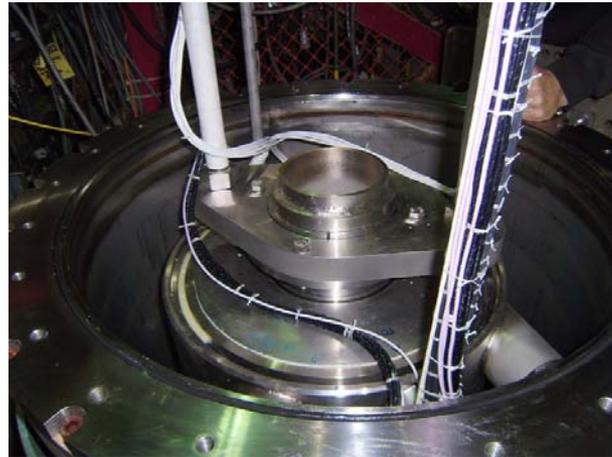
## Magnet #1:

- Wiring complete
- Dewar installation complete 4/4
- Electrical/Programming work continues

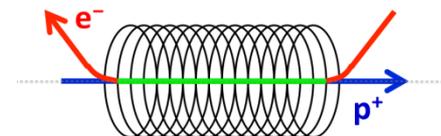


## Magnet #2:

- Diode assembly complete, ready for  $LN_2$  test



# schedule p.1



Task Name	Duration	Baseline Start	Baseline Finish	Actual Start	Actual Finish	% Complete	Predecessors	2013											
								Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan		
1 <b>electron lens solenoid</b>	<b>694.25 days</b>	<b>4/5/10</b>	<b>5/22/12</b>	4/6/10	NA	82%													
2 Preliminary Design	80 days	4/5/10	7/27/10	4/5/10	7/27/10	100%													
3 <b>Final Design</b>	<b>143.75 days</b>	<b>7/28/10</b>	<b>3/4/11</b>	7/28/10	NA	74%	2												
7 <b>Fabrication / Procurement</b>	<b>276 days</b>	<b>7/28/10</b>	<b>8/31/11</b>	7/28/10	NA	28%	2												
11 <b>Magnet #1</b>	<b>448 days</b>	<b>1/21/11</b>	<b>2/10/12</b>	1/24/11	NA	76%													
12 <b>Solenoid Coil Assembly</b>	<b>142 days</b>	<b>2/7/11</b>	<b>5/2/11</b>	3/21/11	NA	88%	7, 88+131												
49 <b>Fringe Field Solenoid Coils</b>	<b>199 days</b>	<b>2/7/11</b>	<b>5/18/11</b>	3/14/11	NA	88%													
90 <b>Block Corrector Coils</b>	<b>152 days</b>	<b>1/21/11</b>	<b>4/7/11</b>	1/24/11	NA	88%	7, 88+120												
107 <b>Yoke Assembly</b>	<b>100 days</b>	<b>5/19/11</b>	<b>7/8/11</b>	10/14/11	NA	88%	12, 80												
123 <b>Vertical Cold Test</b>	<b>46.5 days</b>	<b>7/11/11</b>	<b>9/2/11</b>	3/14/12	NA	33%	12, 107												
124 wiring stand instal and test	15 days	7/11/11	7/21/11	3/14/12	4/3/12	100%													
125 install in dewar	0.5 days	7/22/11	7/22/11	4/4/12	4/4/12	100%	124												
126 300K preparations	8 days	7/22/11	7/29/11	NA	NA	0%	125												
127 cool down to 4.5K	3 days	7/29/11	8/5/11	NA	NA	0%	126												
128 4.5K elect, heater, quench, DC loop	15 days	8/5/11	8/26/11	NA	NA	0%	127												
129 warmup	2 days	8/26/11	8/30/11	NA	NA	0%	128												
130 remove from dewar, test fixture	3 days	8/30/11	9/2/11	NA	NA	0%	129												
131 <b>Cold Mass Assembly</b>	<b>11 days</b>	<b>9/2/11</b>	<b>9/19/11</b>	NA	NA	0%	7, 123												
132 install / weld end volumes	4 days	9/2/11	9/8/11	NA	NA	0%													
133 install / weld port closures	3 days	9/8/11	9/13/11	NA	NA	0%	132												
134 pressure / leak check	3 days	9/13/11	9/16/11	NA	NA	0%	133												
135 cut test port closures	1 day	9/16/11	9/19/11	NA	NA	0%	134												
136 <b>Magnet Assembly</b>	<b>42.5 days</b>	<b>9/19/11</b>	<b>11/14/11</b>	8/4/12	NA	0%	131												
137 install CM insulating blankets	2 days	9/19/11	9/21/11	NA	NA	0%													
138 install outer heat shield	3 days	9/21/11	9/26/11	6/11/12	NA	0%	137												
139 install magnet insulating blankets	2 days	9/26/11	9/28/11	NA	NA	0%	138												
140 install LE vacuum vessel sleeve, tower, He	2 days	9/28/11	9/30/11	NA	NA	0%	139												
141 connect gas cooled leads (10)	3 days	9/30/11	10/5/11	NA	NA	0%	140												
142 connect copper corrector leads (24)	3 days	10/5/11	10/10/11	NA	NA	0%	141												
143 connect instrumentation wires	4 days	10/10/11	10/14/11	NA	NA	0%	142												
144 electrical tests	2 days	10/14/11	10/18/11	NA	NA	0%	143												
145 install cold mass into vacuum vessel	2 days	10/18/11	10/20/11	NA	NA	0%	144												
146 install posts	1 day	10/20/11	10/21/11	NA	NA	0%	145												
147 install inner heat shield	1 day	10/21/11	10/24/11	NA	NA	0%	146												
148 install inner vacuum vessel	1 day	10/24/11	10/25/11	NA	NA	0%	147												
149 install vacuum vessel end plates	2 days	10/25/11	10/27/11	NA	NA	0%	148												
150 install cryo valve, helium lines	5 days	10/27/11	11/3/11	NA	NA	0%	149												
151 connect NLE instrumentation wires	2 days	11/3/11	11/7/11	NA	NA	0%	150												
152 electrical tests	2 days	11/7/11	11/9/11	NA	NA	0%	151												
153 vacuum leak check testing	3 days	11/9/11	11/14/11	NA	NA	0%	152												
154 <b>Final Magnet Test</b>	<b>64 days</b>	<b>11/14/11</b>	<b>2/10/12</b>	NA	NA	0%	153												

Heat shield expected 6/11



#1 cold Test  
3/14-5/17

#1 Assembly complete 8/3/12

# schedule p.2

