Muon Campus AIP

Change Request Form

CR#:DR016		
1) DATE: 6/17/16	2)WBS: DR1	3) Originator: Ken Domann KAD

4) WBS Description of Primary Affected Tasks: Delivery Ring AIP

5) Technical Description & Primary Motivation for Change: The primary purpose for this change is to move out the project end date to allow time for completion of activities that were originally scheduled to be completed long before they were needed for beam commissioning. Some activities that are only required for Mu2e operation are being moved in order to allow for field testing that might interfere with g-2 commissioning if not done during the 2017 shutdown.
Some lengthy activities that are already in progress were split in this change request. This is to allow better tracking of the remaining progress on activities that were lagging behind schedule. The splitting of ongoing activities was intended to be cost neutral.
Extra resources were added to some control accounts such as cable installation and kicker magnet refurbishment because better estimates are available. There is also a cost associated with extending the project end date due to escalation and the required extension of project management.

The budget is increased by $471,007 with a corresponding decrease in contingency.

6) Assessment of Cost Impact (Use attachments if needed): See attachments.

7) Assessment of Schedule Impact (Use attachments if needed): See attachments for changes to baseline dates. No impact to g-2 or Mu2e.

8) Secondary Impact & Other Comments: N/A

9) Approvals:

AIP Project Manager:	Gerald Annala	**Date:** 6/17/16
AIP Project Coordinator:	Mary Ellen	**Date:** 6/21/16
AD Div Director:	S Nagaitsev	**Date:** 6/23/16
Directorate:	S Nagaitsev	**Date:** 6/23/16

Delivery Ring CR016 Schedule Information

UID		Name	Base St	Base Fin	Comments
1	**DR1**	**Delivery Ring AIP**	**10/28/13**	**9/19/17**	**New baseline finish**
2	**DR1.01**	**Delivery Ring Project Management**	**10/28/13**	**9/19/17**	**New baseline finish**
4	**DR1.01.01**	**Delivery Ring Milestones**	**10/28/13**	**9/19/17**	**New baseline finish**
376	**DR1.01.01.02**	**Delivery Ring Interface Milestones**	**4/1/14**	**9/19/17**	**New baseline finish**
377	DR1.01.01.02.04	Delivery Ring AIP Complete (g-2 Interface)	3/31/17	3/31/17	New baseline start & finish
5	**DR1.01.02**	**Delivery Ring Project Management Oversight**	**10/28/13**	**9/15/17**	**New baseline finish**
679	DR1.01.02.06	Delivery Ring Project Management Oversight - FY17	10/3/16	9/15/17	New activity
567	**DR1.01.03**	**Delivery Ring Project Plan Milestones**	**11/1/13**	**9/19/17**	**New baseline finish**
572	DR1.01.03.09	Electrical Infrastructure Upgrades Complete	1/27/17	1/27/17	New baseline start & finish
573	DR1.01.03.10	Magnet Construction Complete	1/27/17	1/27/17	New baseline start & finish
574	DR1.01.03.11	Installation Complete	3/31/17	3/31/17	New baseline start & finish
575	DR1.01.03.12	Project Complete	9/19/17	9/19/17	New baseline start & finish
35	**DR1.03**	**Delivery Ring Electrical Infrastructure**	**1/7/14**	**2/7/17**	**New baseline finish**
373	**DR1.03.02**	**Delivery Ring Electrical Infrastructure Implementation**	**1/7/14**	**1/27/17**	**New baseline finish**
65	DR1.03.02.07	Install electrical upgrades in AP-50 ** Delete **	8/1/16	10/24/16	Deleted
361	DR1.03.02.12	AP-30 Electrical Infrastructure Work Completed	11/23/16	11/23/16	New baseline start & finish
362	DR1.03.02.13	AP-50 Electrical Infrastructure Work Completed	12/30/16	12/30/16	New baseline start & finish
612	DR1.03.02.14	Delivery Ring Finish Electrical Infrast Eng Oversight	7/11/16	1/27/17	New activity
613	DR1.03.02.15	Finish Procure electrical components for AP-50	7/11/16	12/29/16	New activity
673	DR1.03.02.16	Finish Receive electrical components for AP-30	6/1/16	8/26/16	New activity
680	DR1.03.02.17	Budget Adjustment Task	5/2/16	5/31/16	New activity
576	**DR1.03.03**	**Power Distribution Upgrade**	**4/4/16**	**2/7/17**	**New baseline finish**
582	DR1.03.03.02	Issue PO for new transformer	5/2/16	6/3/16	New baseline start & finish
581	DR1.03.03.03	Receive new Transformer	1/27/17	1/27/17	New baseline start & finish
579	DR1.03.03.05	Issue PO for new4-way sectionalizing switch	5/2/16	6/3/16	New baseline start & finish
578	DR1.03.03.06	Receive new 4-way sectionalizing switch	8/1/16	8/18/16	New baseline start
614	DR1.03.03.10	Wait for Availability of Electricians	9/2/16	9/2/16	New activity
615	DR1.03.03.11	Power Panel at North End of AP-30	9/6/16	9/30/16	New activity
616	DR1.03.03.12	Install AP-30 Feeder Cable for Switchers & SCR Supplies	10/3/16	10/7/16	New activity
617	DR1.03.03.13	BR LOTO Switch in AP-30	10/3/16	10/7/16	New activity
618	DR1.03.03.14	Installation of Injection Septa Transformers	10/10/16	10/14/16	New activity
619	DR1.03.03.15	Other Electrical Work for Injection Septa	10/10/16	10/19/16	New activity
620	DR1.03.03.16	Wait for Availability of Electricians	11/23/16	11/23/16	New activity
621	DR1.03.03.17	Decommissioning (Cables in Tray, Panels, Etc.) in AP-50	11/28/16	12/27/16	New activity
622	DR1.03.03.18	Installation of Abort Septa Transformers	11/28/16	12/2/16	New activity
623	DR1.03.03.19	Other Electrical Work for Abort Septa	11/28/16	12/9/16	New activity
624	DR1.03.03.20	Electrical Work for Abort Kicker PS	12/28/16	1/17/17	New activity
625	DR1.03.03.21	Decommission Old Circuits in AP-10	1/18/17	2/7/17	New activity
69	**DR1.05**	**Delivery Ring Instrumentation**	**10/1/15**	**3/31/17**	**New baseline start & finish**
89	**DR1.05.01**	**Instrumentation Design**	**10/1/15**	**3/1/17**	**New baseline start & finish**
270	DR1.05.01.05	Delivery Ring BPM Software Design	6/1/16	1/30/17	New baseline start & finish
587	DR1.05.01.07	Delivery Ring BPM Complete Digital Downconverter Design	6/1/16	7/29/16	New activity
268	DR1.05.01.08	Delivery Ring BPM System Prototyping	1/31/17	3/1/17	New baseline start & finish
537	DR1.05.01.09	Delivery Ring BPM Design and Layout of Top Plate	6/1/16	6/15/16	New baseline start & finish
538	DR1.05.01.10	Delivery Ring BPM Specify cables Top Plate to Transition Board	5/31/16	6/3/16	New baseline start & finish

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UID		Name	Base St	Base Fin	Comments
539	DR1.05.01.11	Delivery Ring BPM Order Cables	6/6/16	7/29/16	New baseline start & finish
540	DR1.05.01.12	Delivery Ring BPM Acceptance test received cables	10/25/16	12/12/16	New baseline start & finish
546	DR1.05.01.15	Delivery Ring BPM Design Bandpass Filter (590 KHz to Operate at Rotation Frequency)	5/31/16	6/2/16	New baseline start & finish
547	DR1.05.01.16	Delivery Ring BPM Simulate & Prototype Bandpass Filter	5/31/16	6/2/16	New baseline start & finish
588	DR1.05.01.18	Delivery Ring BPM Finish Design Digital Filter for Digital Down-Converter	6/1/16	7/29/16	New activity
548	DR1.05.01.19	Delivery Ring BPM Order Components for Filter	8/1/16	8/3/16	New baseline start & finish
90	**DR1.05.02**	**Instrumentation Implementation**	**11/2/15**	**3/31/17**	**New baseline finish**
674	DR1.05.02.02	Delivery Ring BPM Finish Implementation Oversight	6/1/16	3/31/17	New activity
279	DR1.05.02.03	Delivery Ring BPM Electronics purchases	5/2/16	9/21/16	New baseline start & finish
281	DR1.05.02.04	Delivery Ring BPM Refurbish	9/22/16	10/21/16	New baseline start & finish
282	DR1.05.02.05	Delivery Ring BPM Installation	3/2/17	3/31/17	New baseline start & finish
280	DR1.05.02.06	Delivery Ring BPM Documentation	3/2/17	3/31/17	New baseline start & finish
559	DR1.05.02.08	Delivery Ring BPM Install New Input Stage (Connector + Transformer)	9/22/16	11/23/16	New baseline start & finish
560	DR1.05.02.09	Delivery Ring BPM Replace Input Stage Resistors for All Channels	7/12/16	8/22/16	New baseline finish
562	DR1.05.02.10	Delivery Ring BPM Remove & Add Components on Existing Transition Board	5/2/16	5/20/16	New baseline start & finish
563	DR1.05.02.11	Delivery Ring BPM Test Finished Transition Board	11/28/16	12/2/16	New baseline start & finish
564	DR1.05.02.12	Delivery Ring BPM Test Digital Down-Converter System Plate	9/1/16	9/30/16	New baseline start & finish
278	DR1.05.02.13	Delivery Ring BLM Implementation Oversight	7/5/16	2/17/17	New baseline start & finish
277	DR1.05.02.14	Delivery Ring BLM Refurbish ** Delete **	5/2/16	5/27/16	Deleted
275	DR1.05.02.15	Delivery Ring BLM Electronics purchases ** Delete **	5/2/16	5/27/16	Deleted
276	DR1.05.02.16	Delivery Ring BLM Installation ** Delete **	5/2/16	5/27/16	Deleted
590	DR1.05.02.17	Pull Instrumentation Cable in Abort Line	6/6/16	8/31/16	New activity
606	DR1.05.02.18	Delivery Ring BLM Move & Install BLM Chassis & Crates	7/5/16	7/29/16	New activity
607	DR1.05.02.19	Delivery Ring BLM Testing of Ionization Chambers	7/5/16	12/29/16	New activity
608	DR1.05.02.20	Delivery Ring BLM Install Ion Chambers in Tunnel	1/3/17	1/25/17	New activity
609	DR1.05.02.21	Delivery Ring BLM Connect Cabling to Ion Chambers	1/26/17	2/8/17	New activity
610	DR1.05.02.22	Delivery Ring BLM Software Modifications	8/1/16	10/28/16	New activity
611	DR1.05.02.23	Delivery Ring BLM Install Cabling in Relay Racks	8/1/16	8/22/16	New activity
681	DR1.05.02.24	Delivery Ring Instrumentation Budget Adjustment Task	5/2/16	5/31/16	New activity
390	DR1.05.02.25	Delivery Ring Instrumentation Complete	3/31/17	3/31/17	New baseline start & finish
70	**DR1.06**	**Delivery Ring PS**	**4/9/14**	**9/19/17**	**New baseline finish**
73	**DR1.06.01**	**Delivery Ring Pulsed Supplies**	**4/9/14**	**9/19/17**	**New baseline finish**
86	**DR1.06.01.01**	**Delivery Ring Septa Supplies**	**8/15/14**	**9/19/17**	**New baseline finish**
99	**DR1.06.01.01.03**	**Delivery Ring Septa PS Implementation**	**11/12/14**	**9/19/17**	**New baseline finish**
558	DR1.06.01.01.03.05	Delivery Ring Septa PS Assemble & Test Controls Rack ** Delete **	5/2/16	5/27/16	Deleted
107	DR1.06.01.01.03.07	Delivery Ring Septa PS Move to final location ** Delete **	5/2/16	5/27/16	Deleted
106	DR1.06.01.01.03.08	Delivery Ring Septa PS AC installation ** Delete **	5/2/16	5/27/16	Deleted
104	DR1.06.01.01.03.09	Delivery Ring Septa PS Power testing ** Delete **	5/2/16	5/27/16	Deleted
102	DR1.06.01.01.03.11	Delivery Ring Septa PS Assemble & Test HV PS Rack ** Delete **	5/2/16	5/27/16	Deleted
557	DR1.06.01.01.03.13	Delivery Ring Septa PS HV Rack Light Link Construction ** Delete **	5/2/16	5/27/16	Deleted
524	DR1.06.01.01.03.18	Delivery Ring Septa PS Procure Material for Cable/Stripline Interface ** Delete **	5/2/16	5/27/16	Deleted
523	DR1.06.01.01.03.19	Delivery Ring Septa PS Assemble Cable/Stripline Interface ** Delete **	2/3/16	3/4/16	Deleted
629	DR1.06.01.01.03.21	Delivery Ring Septa PS Wait to Receive g-2 HV PS	9/16/16	9/16/16	New activity
630	DR1.06.01.01.03.22	Delivery Ring Septa PS Receive g-2 HV PS Order	9/19/16	9/30/16	New activity
632	DR1.06.01.01.03.23	Delivery Ring Septa PS Build IGBT Switches	6/6/16	6/24/16	New activity

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UID		Name	Base St	Base Fin	Comments
631	DR1.06.01.01.03.24	Delivery Ring Septa PS Procure Two 480V-208V Transformers	6/27/16	7/29/16	New activity
633	DR1.06.01.01.03.25	Delivery Ring Septa PS Refurbish Used Relay Racks	6/6/16	6/24/16	New activity
635	DR1.06.01.01.03.26	Delivery Ring Septa PS Controls Cable	6/6/16	7/15/16	New activity
634	DR1.06.01.01.03.27	Delivery Ring Septa PS Controls Chassis Testing	7/18/16	8/19/16	New activity
636	DR1.06.01.01.03.28	Delivery Ring Septa PS Procure & Install Charging PS Breakers, Summing Plates, Blowers for g-2	6/27/16	8/17/16	New activity
637	DR1.06.01.01.03.29	Delivery Ring Septa PS Procure & Install Charging PS Breakers, Summing Plates, Blowers for Mu2e	6/27/16	8/12/16	New activity
638	DR1.06.01.01.03.30	Delivery Ring Septa PS Prep Req for Mu2e HV Supplies	11/21/16	12/9/16	New activity
639	DR1.06.01.01.03.31	Delivery Ring Septa PS Award PO for Mu2e HV Supplies	12/12/16	12/12/16	New activity
640	DR1.06.01.01.03.32	Delivery Ring Septa PS Receive Additional HV PS's for Mu2e	2/14/17	2/27/17	New activity
641	DR1.06.01.01.03.33	Delivery Ring Septa PS Assemble Charging Controller Chassis & PC Board Assy	6/6/16	7/8/16	New activity
642	DR1.06.01.01.03.34	Delivery Ring Septa PS Charging PS Controller Chassis Test	7/11/16	8/11/16	New activity
644	DR1.06.01.01.03.35	Delivery Ring Septa PS Finish Mechanical Assembly	6/6/16	7/8/16	New activity
643	DR1.06.01.01.03.36	Delivery Ring Septa PS Internal Pulser Cabinet Wiring	7/11/16	7/21/16	New activity
645	DR1.06.01.01.03.37	Delivery Ring Inj Septa PS Move Supplies to Service Bldg	8/22/16	10/24/16	New activity
688	DR1.06.01.01.03.38	Delivery Ring Abort Septa PS Move Supplies to Service Bldg	10/25/16	1/3/17	New activity
646	DR1.06.01.01.03.39	Delivery Ring Septa PS Commission Power Supplies for g-2	10/25/16	2/6/17	New activity
689	DR1.06.01.01.03.40	Delivery Ring Septa PS Commission Power Supplies in Mu2e Mode	8/1/17	9/19/17	New activity
647	DR1.06.01.01.03.41	Delivery Ring Septa PS Design Cable/Strpiline Interface	6/6/16	7/29/16	New activity
648	DR1.06.01.01.03.42	Delivery Ring Septa PS Procure Material for Cable/Stripline Interface	8/1/16	11/14/16	New activity
649	DR1.06.01.01.03.43	Delivery Ring Septa PS Assemble Cable/Stripline Interface	11/15/16	3/15/17	New activity
682	DR1.06.01.01.03.44	Delivery Ring Septa PS Budget Adjustment Task	5/2/16	5/31/16	New activity
391	DR1.06.01.01.03.45	Delivery Ring Septa PS Complete	9/19/17	9/19/17	New baseline start & finish
87	**DR1.06.01.02**	**Inj Kicker PS**	**4/9/14**	**3/3/17**	**New baseline finish**
112	**DR1.06.01.02.03**	**Inj Kicker PS Implementation**	**4/9/14**	**3/3/17**	**New baseline finish**
131	DR1.06.01.02.03.30	Inj Kicker PS Test Pulser & Resonant Charger (don't overlap ET with other systems)	10/3/16	10/28/16	New baseline start & finish
128	DR1.06.01.02.03.33	Inj Kicker PS Assemble Four PFL Frames & Wind (WIP)	8/26/16	8/26/16	New baseline start & finish
381	DR1.06.01.02.03.36	Inj Kicker PS Terminate Cables in Tunnel	1/25/17	3/3/17	New baseline start & finish
124	DR1.06.01.02.03.38	Inj Kicker PS Install PFL Frames	8/29/16	9/19/16	New baseline start & finish
123	DR1.06.01.02.03.39	Inj Kicker PS Install in Service Building	8/29/16	12/21/16	New baseline start & finish
385	DR1.06.01.02.03.41	Inj Kicker PS Install Carmac Interface	9/28/16	12/22/16	New baseline start & finish
118	DR1.06.01.02.03.43	Inj Kicker PS Document	11/3/16	3/3/17	New baseline start & finish
626	DR1.06.01.02.03.45	Inj Kicker PS Procure New Charging Tank Lid	6/27/16	9/23/16	New activity
627	DR1.06.01.02.03.46	Inj Kicker PS Machine New Resonant Charging Pulser Box	7/5/16	7/29/16	New activity
628	DR1.06.01.02.03.47	Inj Kicker PS Fabricate Cables for Component Interconnects	7/22/16	10/28/16	New activity
675	DR1.06.01.02.03.48	Inj Kicker PS Finish Assemble Resonant Charger	6/1/16	9/30/16	New activity
676	DR1.06.01.02.03.49	Inj Kicker PS Finish Assemble Load, Feedthrough & Mounting Box	6/1/16	8/26/16	New activity
683	DR1.06.01.02.03.50	Inj Kicker PS Budget Adjustment Task	5/2/16	5/31/16	New activity
392	DR1.06.01.02.03.51	Delivery Ring Injection PS Complete	3/3/17	3/3/17	New baseline start & finish
88	**DR1.06.01.03**	**Abort Kicker PS**	**7/18/14**	**9/15/17**	**New baseline finish**
148	**DR1.06.01.03.02**	**Abort Kicker PS Implementation**	**10/1/14**	**9/15/17**	**New baseline finish**
660	DR1.06.01.03.02.22	Abort Kicker PS Finish Receive Additional PFLs (Wind & Instl) for DR Abort	6/1/16	8/26/16	New activity
151	DR1.06.01.03.02.25	Abort Kicker PS Receive Additional Cable for Delivery Ring Abort load (WIP)	8/26/16	8/26/16	New baseline start & finish
657	DR1.06.01.03.02.36	Abort Kicker PS Finish Assemble Pulser (don't overlap MT with other systems)	6/1/16	6/14/16	New activity
658	DR1.06.01.03.02.38	Abort Kicker PS Finish Assy Load, Feedthrough & Mounting Bx for g-2 (don't overlap MT with other systems)	6/1/16	8/26/16	New activity
659	DR1.06.01.03.02.39	Abort Kicker PS Finish Install Cable Tray & AC Power	9/1/16	9/30/16	New activity

Delivery Ring CR016 Schedule Information

UID		Name	Base St	Base Fin	Comments
655	DR1.06.01.03.02.41	Abort Kicker PS Procure New Charging Tank Lid	6/27/16	9/23/16	New activity
663	DR1.06.01.03.02.42	Abort Kicker PS Prep Req & Process PO for 2nd Additional loads for running Mu2	7/5/16	7/8/16	New activity
662	DR1.06.01.03.02.43	Abort Kicker PS Award PO for 2nd Additional loads for running Mu2	7/11/16	7/11/16	New activity
661	DR1.06.01.03.02.44	Abort Kicker PS Receive 2nd Additional loads for running Mu2	7/12/16	8/8/16	New activity
654	DR1.06.01.03.02.45	Abort Kicker PS Machine New Resonant Charging Pulser Box	7/5/16	7/29/16	New activity
656	DR1.06.01.03.02.46	Abort Kicker PS Fabricate Cables for Component Interconnects	7/22/16	10/28/16	New activity
528	DR1.06.01.03.02.47	Abort Kicker PS Condition & Measure Load Resistors for Mu2e	8/5/16	9/9/16	New baseline start & finish
162	DR1.06.01.03.02.48	Abort Kicker PS Assemble Resonant Charger for g-2	11/2/16	12/21/16	New baseline start & finish
157	DR1.06.01.03.02.49	Abort Kicker PS Assemble Four PFL Frames & Wind (WIP)	8/26/16	8/26/16	New baseline start & finish
536	DR1.06.01.03.02.50	Abort Kicker Wind PFL Cables (WIP)	8/26/16	8/26/16	New baseline start & finish
154	DR1.06.01.03.02.51	Abort Kicker PS Install PFL Frames	9/1/16	9/30/16	New baseline start & finish
160	DR1.06.01.03.02.52	Abort Kicker PS Test Pulser & Resonant Charger (don't overlap ET with other systems) for g-2	12/22/16	1/25/17	New baseline start & finish
149	DR1.06.01.03.02.53	Abort Kicker PS Document	7/8/16	1/31/17	New baseline start & finish
529	DR1.06.01.03.02.54	Abort Kicker PS Assemble Resonant Charger for Mu2e	12/5/16	1/12/17	New baseline start & finish
531	DR1.06.01.03.02.55	Abort Kicker PS Assemble Load, Feedthrough & Mounting Bx (don't overlap MT with other systems) for Mu2e	1/11/17	5/24/17	New baseline start & finish
532	DR1.06.01.03.02.56	Abort Kicker PS Test Pulser & Resonant Charger (don't overlap ET with other systems) for Mu2e	8/1/17	9/15/17	New baseline start & finish
153	DR1.06.01.03.02.57	Abort Kicker PS Install Kicker Supply in Service Building	10/3/16	1/31/17	New baseline start & finish
382	DR1.06.01.03.02.58	Abort Kicker PS Insert Camac Interface	12/21/16	1/31/17	New baseline start & finish
684	DR1.06.01.03.02.59	Abort Kicker PS Budget Adjustment Task	5/2/16	5/31/16	New activity
393	DR1.06.01.03.02.60	Delivery Ring Abort Kicker PS Complete	9/15/17	9/15/17	New baseline start & finish
74	**DR1.06.02**	**New DC Supplies**	**10/1/15**	**8/26/16**	**New baseline finish**
228	**DR1.06.02.02**	**New DC Supplies Implementation**	**10/22/15**	**8/26/16**	**New baseline finish**
229	**DR1.06.02.02.01**	**New DC Supplies Implementation Injection PS**	**10/22/15**	**8/26/16**	**New baseline finish**
232	DR1.06.02.02.01.05	Procure Injection Install Matls	5/2/16	6/6/16	New baseline start & finish
231	DR1.06.02.02.01.07	Install Injection Primary Power	6/20/16	8/26/16	New baseline start & finish
237	**DR1.06.02.02.02**	**Abort Down Bend PS Implementation**	**10/22/15**	**7/5/16**	**New baseline finish**
240	DR1.06.02.02.02.04	Procure Abort Down Bend PS installation materials	5/2/16	6/6/16	New baseline start & finish
239	DR1.06.02.02.02.05	Install PS for Abort P.S	6/20/16	6/27/16	New baseline start & finish
238	DR1.06.02.02.02.06	Install primary power for Abort PS	6/28/16	7/5/16	New baseline start & finish
251	**DR1.06.02.02.04**	**AP-30 Trim PS Implementation**	**11/5/15**	**7/22/16**	**New baseline finish**
252	DR1.06.02.02.04.07	Install AP-30 trim PS	5/2/16	6/27/16	New baseline start & finish
257	**DR1.06.02.02.05**	**AP-30 Shunts Implementation**	**10/29/15**	**7/22/16**	**New baseline finish**
261	DR1.06.02.02.05.10	Install shunts in AP-30	7/18/16	7/22/16	New baseline start & finish
365	DR1.06.02.02.05.11	AP-30 Shunt Installation Complete	7/22/16	7/22/16	New baseline start & finish
394	DR1.06.02.02.05.12	Delivery Ring New DC PS Complete	6/27/16	6/27/16	New baseline start & finish
75	**DR1.07**	**Delivery Ring Magnets**	**6/2/14**	**12/29/16**	**New baseline finish**
76	**DR1.07.01**	**Delivery Ring Repurposed Magnets**	**10/1/15**	**10/21/16**	**New baseline finish**
287	**DR1.07.01.02**	**Delivery Ring Repurposed Magnets Implementation**	**10/1/15**	**10/21/16**	**New baseline finish**
291	DR1.07.01.02.02	Delivery Ring Repurposed Magnets Procure repair parts	5/9/16	10/21/16	New baseline start & finish
290	DR1.07.01.02.03	DR Repurp Magnets Install new mounting hdwe on magnets	5/9/16	10/21/16	New baseline start & finish
289	DR1.07.01.02.04	DR Repurposed Magnets LCW tubing or ceramic replacement	5/9/16	10/21/16	New baseline start & finish
288	DR1.07.01.02.05	Klixon replacement & magnet lead clean-up	5/9/16	10/21/16	New baseline start & finish
77	**DR1.07.02**	**Delivery Ring Inj C Magnet (1)**	**6/30/14**	**8/22/16**	**New baseline finish**
179	**DR1.07.02.02**	**Inj C Magnet Implementation**	**10/22/14**	**8/22/16**	**New baseline finish**
489	DR1.07.02.02.10	Inj C Magnet Testing Complete	5/26/16	5/26/16	New baseline start & finish

Delivery Ring CR016 Schedule Information

UID		Name	Base St	Base Fin	Comments
490	DR1.07.02.02.11	Inj C Magnet Delivered by TD	8/22/16	8/22/16	New baseline start & finish
366	DR1.07.02.02.12	Inj C Magnet Completed by TD	8/22/16	8/22/16	New baseline start & finish
79	**DR1.07.03**	**Delivery Ring Inj Kicker Magnet Refurbishment (2 production)**	**6/2/14**	**11/15/16**	**New baseline finish**
210	**DR1.07.03.01**	**Delivery Ring Inj Kicker Magnet Desgn**	**6/2/14**	**7/18/16**	**New baseline finish**
664	DR1.07.03.01.04	Delivery Ring Inj Kicker Finish Update kicker magnet drawings	6/1/16	7/18/16	New activity
211	**DR1.07.03.02**	**Delivery Ring Inj Kicker Magnet Implementation**	**12/3/15**	**11/15/16**	New baseline start & finish
665	DR1.07.03.02.02	Delivery Ring Inj Finish Kicker Project Control	6/1/16	11/11/16	New activity
444	DR1.07.03.02.03	Delivery Ring Inj Kicker Prep Req & Process PO for bus, capacitors & other parts	7/19/16	7/20/16	New baseline start & finish
445	DR1.07.03.02.04	Delivery Ring Inj Kicker Award PO for bus, capacitors & other parts	7/21/16	7/21/16	New baseline start & finish
219	DR1.07.03.02.05	Delivery Ring Inj Kicker Receive bus, capacitors & other parts	8/12/16	9/23/16	New baseline start & finish
218	DR1.07.03.02.06	Delivery Ring Inj Kicker Acquire potting material	8/29/16	9/26/16	New baseline start & finish
216	DR1.07.03.02.08	Delivery Ring Inj Kicker Pot magnets & final clean-up	10/10/16	11/4/16	New baseline start & finish
215	DR1.07.03.02.09	Delivery Ring Inj Kicker Final inspection	11/7/16	11/9/16	New baseline start & finish
667	DR1.07.03.02.10	Delivery Ring Inj Kicker Magnet Prepare Beam Tube for Installation	8/12/16	8/23/16	New activity
668	DR1.07.03.02.11	Delivery Ring Inj Kicker Magnet Mount Magnets on Stand	11/10/16	11/15/16	New activity
669	DR1.07.03.02.12	Delivery Ring Inj Kicker Magnet Procure Machined & Plated Outer Plates	7/19/16	8/25/16	New activity
670	DR1.07.03.02.13	Delivery Ring Inj Kicker Magnet Procure Mandrel & Mold for Copper Bus End	7/19/16	10/11/16	New activity
395	DR1.07.03.02.14	Delivery Ring Inj Kicker Magnet Refurbishment Complete	11/15/16	11/15/16	New baseline start & finish
677	DR1.07.03.02.15	Delivery Ring Inj Kicker Finish Tear down & refurbish magnets	6/1/16	10/7/16	New activity
685	DR1.07.03.02.16	Delivery Ring Inj Kicker Budget Adjustment Task	5/2/16	5/31/16	New activity
81	**DR1.07.04**	**DR Mag Septa Magnets (2)**	**10/1/15**	**12/29/16**	**New baseline finish**
200	**DR1.07.04.02**	**DR Mag Septa Magnets Implementation**	**10/28/15**	**12/29/16**	**New baseline finish**
492	DR1.07.04.02.02	DR Mag Septa Magnet New Design Complete	6/20/16	6/20/16	New baseline start & finish
493	DR1.07.04.02.03	DR Mag Septa Magnet Die Procurement Complete	7/5/16	7/5/16	New baseline start & finish
494	DR1.07.04.02.04	DR Mag Septa Magnet Material Procurement Complete	9/16/16	9/16/16	New baseline start & finish
495	DR1.07.04.02.05	DR Mag Septa Magnet Tool-up Complete	9/29/16	9/29/16	New baseline start & finish
496	DR1.07.04.02.06	DR Mag Septa Magnet Wet Stack up Complete	10/7/16	10/7/16	New baseline start & finish
497	DR1.07.04.02.07	DR Mag Septa Magnet Initial Assembly Complete	10/21/16	10/21/16	New baseline start & finish
503	DR1.07.04.02.08	DR Mag Septa Magnet Weld 1st Magnet	11/4/16	11/4/16	New baseline start & finish
504	DR1.07.04.02.09	DR Mag Septa Magnet Weld 2nd Magnet	11/11/16	11/11/16	New baseline start & finish
505	DR1.07.04.02.10	DR Mag Septa Magnet Final Assembly 1st Magnet	11/11/16	11/11/16	New baseline start & finish
671	DR1.07.04.02.11	DR Mag Septa Magnet Final Assembly 2nd Magnet	11/18/16	11/18/16	New activity
498	DR1.07.04.02.12	DR Mag Septa Magnet Testing Complete 1st Magnet	11/18/16	11/18/16	New baseline start & finish
672	DR1.07.04.02.13	DR Mag Septa Magnet Testing Complete 2nd Magnet	12/8/16	12/8/16	New activity
499	DR1.07.04.02.14	DR Mag Septa Magnet Pulsed Septa Magnets Delivered by TD	12/29/16	12/29/16	New baseline start & finish
367	DR1.07.04.02.15	Delivery Ring Magnetic Injection Septa Completed by TD	11/18/16	11/18/16	New baseline start & finish
368	DR1.07.04.02.16	Delivery Ring Magnetic Abort Septum Completed by TD	12/8/16	12/8/16	New baseline start & finish
85	**DR1.08**	**Delivery Ring Installation**	**7/18/14**	**3/31/17**	**New baseline finish**
317	**DR1.08.01**	**Tunnel Installation**	**7/18/14**	**3/31/17**	**New baseline finish**
325	**DR1.08.01.01**	**General Installation**	**10/1/15**	**3/31/17**	**New baseline finish**
296	**DR1.08.01.01.01**	**Generall Installation Design**	**10/1/15**	**10/28/16**	**New baseline finish**
591	DR1.08.01.01.01.03	Generall Installation Finish Design Modifications to LCW system	5/2/16	5/27/16	New activity
592	DR1.08.01.01.01.05	Generall Installation Design Finish Vacuum system modifications	6/1/16	10/28/16	New activity
593	DR1.08.01.01.01.07	Generall Installation Finish Design Create Installation Drawings	6/1/16	7/11/16	New activity
298	**DR1.08.01.01.02**	**General Installation Implementation**	**10/29/15**	**3/31/17**	New baseline start & finish

Delivery Ring CR016 Schedule Information

UID		Name	Base St	Base Fin	Comments
406	DR1.08.01.01.02.01	Prep Req & Process PO for General Install LCW Mat'l ** Delete **	5/2/16	5/27/16	Deleted
407	DR1.08.01.01.02.02	Award PO for General Install LCW Material ** Delete **	5/2/16	5/27/16	Deleted
300	DR1.08.01.01.02.03	Receive General Installation LCW Material ** Delete **	5/2/16	5/27/16	Deleted
301	DR1.08.01.01.02.07	General Installation Procure beam pipe ** Delete **	5/2/16	5/27/16	Deleted
302	DR1.08.01.01.02.08	General Installation Procure vacuum pumps guages & tees	7/18/16	10/28/16	New baseline start & finish
303	DR1.08.01.01.02.09	General Installation Procure Misc Parts	7/18/16	2/1/17	New baseline start & finish
314	DR1.08.01.01.02.10	General Installation Move AP2 line interlocks	8/15/16	10/28/16	New baseline start & finish
315	DR1.08.01.01.02.11	General Installation Re-establish LCW flow - CUB to DR ** Delete **	5/2/16	5/27/16	Deleted
316	DR1.08.01.01.02.12	General Installation Oversight	7/18/16	3/28/17	New baseline start & finish
304	DR1.08.01.01.02.13	General Installation Assemble magnet stands	7/18/16	10/28/16	New baseline start & finish
305	DR1.08.01.01.02.14	General Installation Stake out stands	10/31/16	11/4/16	New baseline start & finish
313	DR1.08.01.01.02.15	General Installation Install beam line to abort	2/27/17	3/31/17	New baseline start & finish
306	DR1.08.01.01.02.16	General Installation Install stands	11/7/16	11/11/16	New baseline start & finish
307	DR1.08.01.01.02.17	General Installation Install magnets	1/3/17	1/24/17	New baseline start & finish
308	DR1.08.01.01.02.18	General Installation Install beam pipe & vacuum equipment	1/25/17	2/7/17	New baseline start & finish
311	DR1.08.01.01.02.19	General Installation Install Klixons	1/25/17	1/25/17	New baseline start & finish
309	DR1.08.01.01.02.20	General Installation Align magnets	1/25/17	2/7/17	New baseline start & finish
310	DR1.08.01.01.02.21	General Installation Leak check	2/8/17	3/14/17	New baseline start & finish
312	DR1.08.01.01.02.22	General Installation Make water connections	2/8/17	2/14/17	New baseline start & finish
584	**DR1.08.01.01.02.23**	**Constrain vertical movements on blind**	**4/4/16**	**7/29/16**	**New baseline finish**
586	DR1.08.01.01.02.23.02	Install vertical motion constraints	7/5/16	7/29/16	New baseline start & finish
678	DR1.08.01.01.02.25	General Installation Finish Receive Stand Parts	6/1/16	7/15/16	New activity
686	DR1.08.01.01.02.26	General Installation Budget Adjustment Task	5/2/16	5/31/16	New activity
318	**DR1.08.01.02**	**Abort Installation**	**7/18/14**	**2/24/17**	**New baseline finish**
326	**DR1.08.01.02.02**	**Abort Installation Implementation**	**7/18/14**	**2/24/17**	**New baseline finish**
330	DR1.08.01.02.02.13	Abort Installation Purchase Abort Fencing	1/9/17	1/23/17	New baseline start & finish
333	DR1.08.01.02.02.14	Abort Installation Install fencing	1/24/17	2/24/17	New baseline start & finish
334	DR1.08.01.02.02.15	Abort Installation Dump Survey	6/24/16	6/30/16	New baseline start & finish
338	**DR1.08.02**	**Cable Installation**	**10/1/15**	**2/23/17**	**New baseline finish**
342	**DR1.08.02.02**	**Cable Installation Implementation**	**5/2/16**	**2/23/17**	**New baseline start & finish**
343	DR1.08.02.02.01	Cable Installation Enter cables into cable database	1/9/17	1/30/17	New baseline start & finish
344	DR1.08.02.02.02	Cable Installation Print cable labels	1/31/17	2/1/17	New baseline start & finish
345	DR1.08.02.02.03	Cable Installation Procure cables	10/3/16	12/21/16	New baseline start & finish
346	DR1.08.02.02.04	Cable Installation Stage cables	6/17/16	1/10/17	New baseline start & finish
347	DR1.08.02.02.05	Cable Installation Install cables ** Delete **	5/2/16	5/27/16	Deleted
594	DR1.08.02.02.06	Cable Installation Install Inj C-Magnet Cable	6/17/16	7/8/16	New activity
595	DR1.08.02.02.07	Cable Installation Install QT303 Cable	7/11/16	8/5/16	New activity
596	DR1.08.02.02.09	Cable Installation Install RF-220 from Abort Kicker to Load	8/8/16	10/10/16	New activity
597	DR1.08.02.02.10	Cable Installation Install AP-30 Shunt Cable	10/11/16	10/17/16	New activity
598	DR1.08.02.02.11	Cable Installation Install Injection Kicker RG-220	10/18/16	10/27/16	New activity
599	DR1.08.02.02.12	Cable Installation Install Injection Septa RG-220	10/28/16	11/7/16	New activity
600	DR1.08.02.02.13	Cable Installation Install HVA05 Load Cable	11/8/16	11/21/16	New activity
601	DR1.08.02.02.14	Cable Installation Install AP-50 Trim Cable	11/22/16	11/29/16	New activity
602	DR1.08.02.02.15	Cable Installation Install Abort Septa RG-220	11/30/16	12/19/16	New activity
603	DR1.08.02.02.16	Cable Installation Install Abort Kicker RG-220	12/20/16	1/9/17	New activity

Delivery Ring CR016 Schedule Information

UID		Name	Base St	Base Fin	Comments
604	DR1.08.02.02.17	Cable Installation Install Motion Control Cable	1/10/17	1/24/17	New activity
605	DR1.08.02.02.18	Cable Installation Install Klixon Cable	1/25/17	2/7/17	New activity
348	DR1.08.02.02.19	Cable Installation Terminate cables	2/8/17	2/21/17	New baseline start & finish
687	DR1.08.02.02.20	Cable Installation Budget Adjustment Task	5/2/16	5/31/16	New activity
349	DR1.08.02.02.21	Cable Installation Make final connections	12/27/16	2/23/17	New baseline start & finish
397	DR1.08.03	Delivery Ring Installation Complete	3/31/17	3/31/17	New baseline start & finish

Delivery Ring CR016 Material Changes

UID		Name	Original M&S	New M&S	M&S Delta	Comments
1	**DR1**	**Delivery Ring AIP**	**$3,359,130**	**$3,530,870**	**$171,740**	
2	**DR1.01**	**Delivery Ring Project Management**	**$88,000**	**$100,000**	**$12,000**	
5	**DR1.01.02**	**Delivery Ring Project Management Oversight**	**$88,000**	**$100,000**	**$12,000**	
679	DR1.01.02.06	Delivery Ring Project Management Oversight - FY17	$0	$12,000	$12,000	New task
35	**DR1.03**	**Delivery Ring Electrical Infrastructure**	**$518,673**	**$551,023**	**$32,350**	
373	**DR1.03.02**	**Delivery Ring Electrical Infrastructure Implementation**	**$304,673**	**$214,823**	**($89,850)**	
65	DR1.03.02.07	Install electrical upgrades in AP-50 ** Delete **	$44,000	$0	($44,000)	Deleted
613	DR1.03.02.15	Finish Procure electrical components for AP-50	$0	$9,350	$9,350	New task
673	DR1.03.02.16	Finish Receive electrical components for AP-30	$0	$12,000	$12,000	New task
680	DR1.03.02.17	Budget Adjustment Task	$0	($67,200)	($67,200)	New task
576	**DR1.03.03**	**Power Distribution Upgrade**	**$214,000**	**$336,200**	**$122,200**	
615	DR1.03.03.11	Power Panel at North End of AP-30	$0	$23,000	$23,000	New task
616	DR1.03.03.12	Install AP-30 Feeder Cable for Switchers & SCR Supplies	$0	$5,000	$5,000	New task
617	DR1.03.03.13	BR LOTO Switch in AP-30	$0	$2,200	$2,200	New task
618	DR1.03.03.14	Installation of Injection Septa Transformers	$0	$20,000	$20,000	New task
619	DR1.03.03.15	Other Electrical Work for Injection Septa	$0	$15,000	$15,000	New task
622	DR1.03.03.18	Installation of Abort Septa Transformers	$0	$8,000	$8,000	New task
623	DR1.03.03.19	Other Electrical Work for Abort Septa	$0	$15,000	$15,000	New task
624	DR1.03.03.20	Electrical Work for Abort Kicker PS	$0	$30,000	$30,000	New task
625	DR1.03.03.21	Decommission Old Circuits in AP-10	$0	$4,000	$4,000	New task
69	**DR1.05**	**Delivery Ring Instrumentation**	**$29,920**	**$45,900**	**$15,980**	
90	**DR1.05.02**	**Instrumentation Implementation**	**$17,920**	**$33,900**	**$15,980**	
279	DR1.05.02.03	Delivery Ring BPM Electronics purchases	$16,920	$30,500	$13,580	
275	DR1.05.02.15	Delivery Ring BLM Electronics purchases ** Delete **	$1,000	$0	($1,000)	Deleted
590	DR1.05.02.17	Pull Instrumentation Cable in Abort Line	$0	$11,200	$11,200	New task
681	DR1.05.02.24	Delivery Ring Instrumentation Budget Adjustment Task	$0	($7,800)	($7,800)	New task
70	**DR1.06**	**Delivery Ring PS**	**$1,521,528**	**$1,613,288**	**$91,760**	
73	**DR1.06.01**	**Delivery Ring Pulsed Supplies**	**$1,371,723**	**$1,463,483**	**$91,760**	
86	**DR1.06.01.01**	**Delivery Ring Septa Supplies**	**$349,500**	**$418,300**	**$68,800**	
99	**DR1.06.01.01.03**	**Delivery Ring Septa PS Implementation**	**$169,500**	**$238,300**	**$68,800**	
524	DR1.06.01.01.03.18	Delivery Ring Septa PS Procure Material for Cable/Stripline Interface ** Delete **	$8,500	$0	($8,500)	Deleted
630	DR1.06.01.01.03.22	Delivery Ring Septa PS Receive g-2 HV PS Order	$0	$96,200	$96,200	New task
631	DR1.06.01.01.03.24	Delivery Ring Septa PS Procure Two 480V-208V Transformers	$0	$6,000	$6,000	New task
633	DR1.06.01.01.03.25	Delivery Ring Septa PS Refurbish Used Relay Racks	$0	$2,400	$2,400	New task
635	DR1.06.01.01.03.26	Delivery Ring Septa PS Controls Cable	$0	$8,000	$8,000	New task
636	DR1.06.01.01.03.28	Delivery Ring Septa PS Procure & Install Charging PS Breakers, Summing Plates, Blowers for g-2	$0	$5,000	$5,000	New task
637	DR1.06.01.01.03.29	Delivery Ring Septa PS Procure & Install Charging PS Breakers, Summing Plates, Blowers for Mu2e	$0	$5,000	$5,000	New task
640	DR1.06.01.01.03.32	Delivery Ring Septa PS Receive Additional HV PS's for Mu2e	$0	$100,000	$100,000	New task

Delivery Ring CR016 Material Changes

UID		Name	Original M&S	New M&S	M&S Delta	Comments
644	DR1.06.01.01.03.35	Delivery Ring Septa PS Finish Mechanical Assembly	$0	$2,000	$2,000	New task
643	DR1.06.01.01.03.36	Delivery Ring Septa PS Internal Pulser Cabinet Wiring	$0	$1,000	$1,000	New task
645	DR1.06.01.01.03.37	Delivery Ring Inj Septa PS Move Supplies to Service Bldg	$0	$15,000	$15,000	New task
688	DR1.06.01.01.03.38	Delivery Ring Abort Septa PS Move Supplies to Service Bldg	$0	$15,000	$15,000	New task
648	DR1.06.01.01.03.42	Delivery Ring Septa PS Procure Material for Cable/Stripline Interface	$0	$8,500	$8,500	New task
682	DR1.06.01.01.03.44	Delivery Ring Septa PS Budget Adjustment Task	$0	($186,800)	($186,800)	New task
87	**DR1.06.01.02**	**Inj Kicker PS**	**$511,923**	**$498,223**	**($13,700)**	
112	**DR1.06.01.02.03**	**Inj Kicker PS Implementation**	**$497,923**	**$484,223**	**($13,700)**	
128	DR1.06.01.02.03.33	Inj Kicker PS Assemble Four PFL Frames & Wind (WIP)	$0	$20,000	$20,000	
626	DR1.06.01.02.03.45	Inj Kicker PS Procure New Charging Tank Lid	$0	$2,500	$2,500	New task
627	DR1.06.01.02.03.46	Inj Kicker PS Machine New Resonant Charging Pulser Box	$0	$5,000	$5,000	New task
676	DR1.06.01.02.03.49	Inj Kicker PS Finish Assemble Load, Feedthrough & Mounting Box	$0	$500	$500	New task
683	DR1.06.01.02.03.50	Inj Kicker PS Budget Adjustment Task	$0	($41,700)	($41,700)	New task
88	**DR1.06.01.03**	**Abort Kicker PS**	**$510,300**	**$546,960**	**$36,660**	
148	**DR1.06.01.03.02**	**Abort Kicker PS Implementation**	**$510,300**	**$546,960**	**$36,660**	
660	DR1.06.01.03.02.22	Abort Kicker PS Finish Receive Additional PFLs (Wind & Instl) for DR Abort	$0	$37,700	$37,700	New task
657	DR1.06.01.03.02.36	Abort Kicker PS Finish Assemble Pulser	$0	$25	$25	New task
658	DR1.06.01.03.02.38	Abort Kicker PS Finish Assy Load, Feedthrough & Mounting Bx for g-2	$0	$375	$375	New task
659	DR1.06.01.03.02.39	Abort Kicker PS Finish Install Cable Tray & AC Power	$0	$19,260	$19,260	New task
655	DR1.06.01.03.02.41	Abort Kicker PS Procure New Charging Tank Lid	$0	$2,500	$2,500	New task
661	DR1.06.01.03.02.44	Abort Kicker PS Receive 2nd Additional loads for running Mu2	$0	$4,300	$4,300	New task
654	DR1.06.01.03.02.45	Abort Kicker PS Machine New Resonant Charging Pulser Box	$0	$5,000	$5,000	New task
157	DR1.06.01.03.02.49	Abort Kicker PS Assemble Four PFL Frames & Wind (WIP)	$0	$28,000	$28,000	
536	DR1.06.01.03.02.50	Abort Kicker Wind PFL Cables (WIP)	$0	$20,000	$20,000	
684	DR1.06.01.03.02.59	Abort Kicker PS Budget Adjustment Task	$0	($80,500)	($80,500)	New task
75	**DR1.07**	**Delivery Ring Magnets**	**$527,000**	**$499,300**	**($27,700)**	
79	**DR1.07.03**	**Delivery Ring Inj Kicker Magnet Refurbishment (2 production)**	**$26,000**	**($1,700)**	**($27,700)**	
211	**DR1.07.03.02**	**Delivery Ring Inj Kicker Magnet Implementation**	**$26,000**	**($1,700)**	**($27,700)**	
669	DR1.07.03.02.12	Delivery Ring Inj Kicker Magnet Procure Machined & Plated Outer Plates	$0	$1,200	$1,200	New task
670	DR1.07.03.02.13	Delivery Ring Inj Kicker Magnet Procure Mandrel & Mold for Copper Bus End	$0	$5,000	$5,000	New task
685	DR1.07.03.02.16	Delivery Ring Inj Kicker Budget Adjustment Task	$0	($33,900)	($33,900)	New task
85	**DR1.08**	**Delivery Ring Installation**	**$365,150**	**$412,500**	**$47,350**	
317	**DR1.08.01**	**Tunnel Installation**	**$292,880**	**$283,650**	**($9,230)**	
325	**DR1.08.01.01**	**General Installation**	**$210,460**	**$197,200**	**($13,260)**	
298	**DR1.08.01.01.02**	**General Installation Implementation**	**$210,460**	**$197,200**	**($13,260)**	
300	DR1.08.01.01.02.03	Receive General Installation LCW Material ** Delete **	$35,000	$0	($35,000)	Deleted
301	DR1.08.01.01.02.07	General Installation Procure beam pipe ** Delete **	$10,000	$0	($10,000)	Deleted
302	DR1.08.01.01.02.08	General Installation Procure vacuum pumps guages & tees	$10,000	$40,000	$30,000	

Delivery Ring CR016 Material Changes

UID		Name	Original M&S	New M&S	M&S Delta	Comments
314	DR1.08.01.01.02.10	General Installation Move AP2 line interlocks	$6,500	$13,880	$7,380	
315	DR1.08.01.01.02.11	General Installation Re-establish LCW flow - CUB to DR ** Delete **	$37,440	$0	($37,440)	Deleted
678	DR1.08.01.01.02.25	General Installation Finish Receive Stand Parts	$0	$60,000	$60,000	New task
686	DR1.08.01.01.02.26	General Installation Budget Adjustment Task	$0	($28,200)	($28,200)	New task
318	**DR1.08.01.02**	**Abort Installation**	**$82,420**	**$86,450**	**$4,030**	
326	**DR1.08.01.02.02**	**Abort Installation Implementation**	**$82,420**	**$86,450**	**$4,030**	
330	DR1.08.01.02.02.13	Abort Installation Purchase Abort Fencing	$1,200	$5,230	$4,030	
338	**DR1.08.02**	**Cable Installation**	**$72,270**	**$128,850**	**$56,580**	
342	**DR1.08.02.02**	**Cable Installation Implementation**	**$72,270**	**$128,850**	**$56,580**	
345	DR1.08.02.02.03	Cable Installation Procure cables	$2,250	$4,000	$1,750	
347	DR1.08.02.02.05	Cable Installation Install cables ** Delete **	$66,770	$0	($66,770)	Deleted
594	DR1.08.02.02.06	Cable Installation Install Inj C-Magnet Cable	$0	$3,000	$3,000	New task
595	DR1.08.02.02.07	Cable Installation Install QT303 Cable	$0	$3,000	$3,000	New task
596	DR1.08.02.02.09	Cable Installation Install RF-220 from Abort Kicker to Load	$0	$22,000	$22,000	New task
597	DR1.08.02.02.10	Cable Installation Install AP-30 Shunt Cable	$0	$10,000	$10,000	New task
598	DR1.08.02.02.11	Cable Installation Install Injection Kicker RG-220	$0	$20,000	$20,000	New task
599	DR1.08.02.02.12	Cable Installation Install Injection Septa RG-220	$0	$25,000	$25,000	New task
600	DR1.08.02.02.13	Cable Installation Install HVA05 Load Cable	$0	$16,000	$16,000	New task
601	DR1.08.02.02.14	Cable Installation Install AP-50 Trim Cable	$0	$6,000	$6,000	New task
602	DR1.08.02.02.15	Cable Installation Install Abort Septa RG-220	$0	$25,000	$25,000	New task
603	DR1.08.02.02.16	Cable Installation Install Abort Kicker RG-220	$0	$30,000	$30,000	New task
604	DR1.08.02.02.17	Cable Installation Install Motion Control Cable	$0	$11,000	$11,000	New task
605	DR1.08.02.02.18	Cable Installation Install Klixon Cable	$0	$2,000	$2,000	New task
687	DR1.08.02.02.20	Cable Installation Budget Adjustment Task	$0	($51,400)	($51,400)	New task

Delivery Ring CR016 Labor Changes

UID	WBS	Name	Original Hours	New Hours	Delta Hours	Comments
1	**DR1**	**Delivery Ring AIP**	**34589**	**36315**	**1726**	
2	**DR1.01**	**Delivery Ring Project Management**	**3129**	**3441**	**312**	
5	**DR1.01.02**	**Delivery Ring Project Management Oversight**	**3129**	**3441**	**312**	
679	DR1.01.02.06	Delivery Ring Project Management Oversight - FY17	0	312	312	New task
		FNAD_ENGNRING_PHYST	0	260	260	
		FNAD_AC_EXP_PHYST	0	52	52	
35	**DR1.03**	**Delivery Ring Electrical Infrastructure**	**862**	**1141**	**279**	
373	**DR1.03.02**	**Delivery Ring Electrical Infrastructure Implementation**	**664**	**775**	**111**	
612	DR1.03.02.14	Delivery Ring Finish Electrical Infrast Eng Oversight	0	103	103	New task
		FNAD_ENGNRING_PHYST	0	103	103	
613	DR1.03.02.15	Finish Procure electrical components for AP-50	0	8	8	New task
		FNAD_ELEC_DESIGN_EN	0	8	8	
576	**DR1.03.03**	**Power Distribution Upgrade**	**48**	**216**	**168**	
615	DR1.03.03.11	Power Panel at North End of AP-30	0	16	16	New task
		FNAD_ENGNRING_PHYST	0	16	16	
616	DR1.03.03.12	Install AP-30 Feeder Cable for Switchers & SCR Supplies	0	8	8	New task
		FNAD_ENGNRING_PHYST	0	8	8	
617	DR1.03.03.13	BR LOTO Switch in AP-30	0	4	4	New task
		FNAD_ENGNRING_PHYST	0	4	4	
618	DR1.03.03.14	Installation of Injection Septa Transformers	0	8	8	New task
		FNAD_ENGNRING_PHYST	0	8	8	
619	DR1.03.03.15	Other Electrical Work for Injection Septa	0	8	8	New task
		FNAD_ENGNRING_PHYST	0	8	8	
621	DR1.03.03.17	Decommissioning (Cables in Tray, Panels, Etc.) in AP-50	0	100	100	New task
		FNAD_ENGNRING_PHYST	0	100	100	
624	DR1.03.03.20	Electrical Work for Abort Kicker PS	0	16	16	New task
		FNAD_ENGNRING_PHYST	0	16	16	
625	DR1.03.03.21	Decommission Old Circuits in AP-10	0	8	8	New task
		FNAD_ENGNRING_PHYST	0	8	8	
69	**DR1.05**	**Delivery Ring Instrumentation**	**1946**	**2266**	**320**	
89	**DR1.05.01**	**Instrumentation Design**	**1205**	**1241**	**36**	
587	DR1.05.01.07	Delivery Ring BPM Complete Digital Downconverter Design	0	20	20	New task
		FNAD_ELEC_DESIGN_EN	0	20	20	
268	DR1.05.01.08	Delivery Ring BPM System Prototyping	20	40	20	
		FNAD_ELEC_DESIGN_EN	20	40	20	
540	DR1.05.01.12	Delivery Ring BPM Acceptance test received cables	60	8	-52	
		FNAD_ELEC_TECH	60	8	-52	
588	DR1.05.01.18	Delivery Ring BPM Finish Design Digital Filter for Digital Down-Converter	0	48	48	New task
		FNAD_ELEC_DESIGN_EN	0	48	48	

Delivery Ring CR016 Labor Changes

UID	WBS	Name	Original Hours	New Hours	Delta Hours	Comments
90	**DR1.05.02**	**Instrumentation Implementation**	**741**	**1025**	**284**	
674	DR1.05.02.02	Delivery Ring BPM Finish Implementation Oversight	0	25	25	New task
		FNAD_ELTN_DESIGN_EN	0	25	25	
280	DR1.05.02.06	Delivery Ring BPM Documentation	80	80	0	
		FNAD_ELEC_TECH	80	40	-40	
		FNAD_ELEC_DESIGN_EN	0	40	40	
560	DR1.05.02.09	Delivery Ring BPM Replace Input Stage Resistors for All Channels	80	120	40	
		FNAD_ELEC_TECH	80	120	40	
277	DR1.05.02.14	Delivery Ring BLM Refurbish ** Delete **	25	0	-25	Deleted
		FNAD_ELTN_DESIGN_EN	25	0	-25	
275	DR1.05.02.15	Delivery Ring BLM Electronics purchases ** Delete **	8	0	-8	Deleted
		FNAD_ELEC_TECH	8	0	-8	
276	DR1.05.02.16	Delivery Ring BLM Installation ** Delete **	68	0	-68	Deleted
		FNAD_ELTN_TECH	68	0	-68	
606	DR1.05.02.18	Delivery Ring BLM Move & Install BLM Chassis & Crates	0	10	10	New task
		FNAD_ELEC_TECH	0	10	10	
607	DR1.05.02.19	Delivery Ring BLM Testing of Ionization Chambers	0	100	100	New task
		FNAD_ELEC_TECH	0	70	70	
		FNAD_ELEC_DESIGN_EN	0	30	30	
608	DR1.05.02.20	Delivery Ring BLM Install Ion Chambers in Tunnel	0	40	40	New task
		FNAD_ELEC_TECH	0	40	40	
609	DR1.05.02.21	Delivery Ring BLM Connect Cabling to Ion Chambers	0	40	40	New task
		FNAD_ELEC_TECH	0	40	40	
610	DR1.05.02.22	Delivery Ring BLM Software Modifications	0	100	100	New task
		FNAD_CT_SRVCS_SPCLST	0	100	100	
611	DR1.05.02.23	Delivery Ring BLM Install Cabling in Relay Racks	0	30	30	New task
		FNAD_ELEC_TECH	0	30	30	
70	**DR1.06**	**Delivery Ring PS**	**20019**	**20335**	**316**	
73	**DR1.06.01**	**Delivery Ring Pulsed Supplies**	**18169**	**18485**	**316**	
86	**DR1.06.01.01**	**Delivery Ring Septa Supplies**	**6800**	**6882**	**82**	
99	**DR1.06.01.01.03**	**Delivery Ring Septa PS Implementation**	**6571**	**6653**	**82**	
558	DR1.06.01.01.03.05	Delivery Ring Septa PS Assemble & Test Controls Rack ** Delete **	280	0	-280	Deleted
		FNAD_ELEC_TECH	280	0	-280	
107	DR1.06.01.01.03.07	Delivery Ring Septa PS Move to final location ** Delete **	112	0	-112	Deleted
		FNAD_ELEC_ASMBY_TECH	80	0	-80	
		FNAD_ELEC_DESIGN_EN	24	0	-24	
		FNAD_ENGNRING_PHYST	8	0	-8	
106	DR1.06.01.01.03.08	Delivery Ring Septa PS AC installation ** Delete **	10	0	-10	Deleted
		FNAD_ELEC_ASMBY_TECH	2	0	-2	

Delivery Ring CR016 Labor Changes

UID	WBS	Name	Original Hours	New Hours	Delta Hours	Comments
		FNAD_ELTN_DESIGN_EN	8	0	-8	
104	DR1.06.01.01.03.09	Delivery Ring Septa PS Power testing ** Delete **	480	0	-480	Deleted
		FNAD_ELEC_ASMBY_TECH	392	0	-392	
		FNAD_ELEC_DESIGN_EN	80	0	-80	
		FNAD_ENGNRING_PHYST	8	0	-8	
102	DR1.06.01.01.03.11	Delivery Ring Septa PS Assemble & Test HV PS Rack ** Delete **	320	0	-320	Deleted
		FNAD_ELEC_ASMBY_TECH	320	0	-320	
557	DR1.06.01.01.03.13	Delivery Ring Septa PS HV Rack Light Link Construction ** Delete **	280	0	-280	Deleted
		FNAD_ELEC_TECH	280	0	-280	
524	DR1.06.01.01.03.18	Delivery Ring Septa PS Procure Material for Cable/Stripline Interface ** Delete **	12	0	-12	Deleted
		FNAD_MECH_ASMBY_TECH	12	0	-12	
523	DR1.06.01.01.03.19	Delivery Ring Septa PS Assemble Cable/Stripline Interface ** Delete **	640	0	-640	Deleted
		FNAD_MECH_ASMBY_TECH	640	0	-640	
632	DR1.06.01.01.03.23	Delivery Ring Septa PS Build IGBT Switches	0	40	40	New task
		FNAD_ELEC_TECH	0	40	40	
633	DR1.06.01.01.03.25	Delivery Ring Septa PS Refurbish Used Relay Racks	0	80	80	New task
		FNAD_MECH_ASMBY_TECH	0	80	80	
635	DR1.06.01.01.03.26	Delivery Ring Septa PS Controls Cable	0	160	160	New task
		FNAD_ELEC_TECH	0	160	160	
634	DR1.06.01.01.03.27	Delivery Ring Septa PS Controls Chassis Testing	0	120	120	New task
		FNAD_ELEC_TECH	0	120	120	
636	DR1.06.01.01.03.28	Delivery Ring Septa PS Procure & Install Charging PS Breakers, Summing Plates, Blowers for g-2	0	80	80	New task
		FNAD_ELEC_TECH	0	80	80	
637	DR1.06.01.01.03.29	Delivery Ring Septa PS Procure & Install Charging PS Breakers, Summing Plates, Blowers for Mu2e	0	80	80	New task
		FNAD_ELEC_TECH	0	80	80	
638	DR1.06.01.01.03.30	Delivery Ring Septa PS Prep Req for Mu2e HV Supplies	0	24	24	New task
		FNAD_ELEC_TECH	0	12	12	
		FNAD_ELEC_DESIGN_EN	0	12	12	
641	DR1.06.01.01.03.33	Delivery Ring Septa PS Assemble Charging Controller Chassis & PC Board Assy	0	80	80	New task
		FNAD_ELEC_TECH	0	80	80	
642	DR1.06.01.01.03.34	Delivery Ring Septa PS Charging PS Controller Chassis Test	0	120	120	New task
		FNAD_ELEC_TECH	0	100	100	
		FNAD_ELEC_DESIGN_EN	0	20	20	
644	DR1.06.01.01.03.35	Delivery Ring Septa PS Finish Mechanical Assembly	0	80	80	New task
		FNAD_MECH_ASMBY_TECH	0	80	80	
643	DR1.06.01.01.03.36	Delivery Ring Septa PS Internal Pulser Cabinet Wiring	0	40	40	New task
		FNAD_ELEC_TECH	0	40	40	
645	DR1.06.01.01.03.37	Delivery Ring Inj Septa PS Move Supplies to Service Bldg	0	120	120	New task
		FNAD_ELEC_TECH	0	100	100	

Delivery Ring CR016 Labor Changes

UID	WBS	Name	Original Hours	New Hours	Delta Hours	Comments
		FNAD_MECH_ASMBY_TECH	0	20	20	
688	DR1.06.01.01.03.38	Delivery Ring Abort Septa PS Move Supplies to Service Bldg	0	120	120	New task
		FNAD_ELEC_TECH	0	100	100	
		FNAD_MECH_ASMBY_TECH	0	20	20	
646	DR1.06.01.01.03.39	Delivery Ring Septa PS Commission Power Supplies for g-2	0	240	240	New task
		FNAD_ELEC_TECH	0	160	160	
		FNAD_ELEC_DESIGN_EN	0	80	80	
689	DR1.06.01.01.03.40	Delivery Ring Septa PS Commission Power Supplies in Mu2e Mode	0	80	80	New task
		FNAD_ELEC_TECH	0	60	60	
		FNAD_ELEC_DESIGN_EN	0	20	20	
647	DR1.06.01.01.03.41	Delivery Ring Septa PS Design Cable/Strpiline Interface	0	100	100	New task
		FNAD_MECH_DESIGN_EN	0	40	40	
		FNAD_MECH_DRAFTER	0	60	60	
648	DR1.06.01.01.03.42	Delivery Ring Septa PS Procure Material for Cable/Stripline Interface	0	12	12	New task
		FNAD_MECH_ASMBY_TECH	0	12	12	
649	DR1.06.01.01.03.43	Delivery Ring Septa PS Assemble Cable/Stripline Interface	0	640	640	New task
		FNAD_MECH_ASMBY_TECH	0	640	640	
87	**DR1.06.01.02**	**Inj Kicker PS**	**5157**	**5567**	**410**	
112	**DR1.06.01.02.03**	**Inj Kicker PS Implementation**	**4469**	**4879**	**410**	
128	DR1.06.01.02.03.33	Inj Kicker PS Assemble Four PFL Frames & Wind (WIP)	240	0	-240	
		FNAD_MECH_ASMBY_TECH	220	0	-220	
		FNTD_MECH_TECH_MNGR	20	0	-20	
628	DR1.06.01.02.03.47	Inj Kicker PS Fabricate Cables for Component Interconnects	0	80	80	New task
		FNAD_ELEC_TECH	0	80	80	
675	DR1.06.01.02.03.48	Inj Kicker PS Finish Assemble Resonant Charger	0	212	212	New task
		FNAD_ELEC_TECH	0	108	108	
		FNAD_ELEC_DESIGN_EN	0	104	104	
676	DR1.06.01.02.03.49	Inj Kicker PS Finish Assemble Load, Feedthrough & Mounting Box	0	358	358	New task
		FNAD_ELEC_TECH	0	59	59	
		FNAD_ELEC_DESIGN_EN	0	55	55	
		FNAD_MECH_ASMBY_TECH	0	244	244	
88	**DR1.06.01.03**	**Abort Kicker PS**	**6212**	**6036**	**-176**	
148	**DR1.06.01.03.02**	**Abort Kicker PS Implementation**	**5524**	**5348**	**-176**	
657	DR1.06.01.03.02.36	Abort Kicker PS Finish Assemble Pulser (don't overlap MT with other systems)	0	12	12	New task
		FNAD_ELEC_TECH	0	6	6	
		FNAD_ELEC_DESIGN_EN	0	2	2	
		FNAD_MECH_ASMBY_TECH	0	4	4	
658	DR1.06.01.03.02.38	Abort Kicker PS Finish Assy Load, Feedthrough & Mounting Bx for g-2	0	358	358	New task
		FNAD_ELEC_TECH	0	59	59	

Delivery Ring CR016 Labor Changes

UID	WBS	Name	Original Hours	New Hours	Delta Hours	Comments
		FNAD_ELEC_DESIGN_EN	0	55	55	
		FNAD_MECH_ASMBY_TECH	0	244	244	
659	DR1.06.01.03.02.39	Abort Kicker PS Finish Install Cable Tray & AC Power	0	14	14	New task
		FNAD_ELEC_TECH	0	7	7	
		FNAD_ELEC_DESIGN_EN	0	7	7	
663	DR1.06.01.03.02.42	Abort Kicker PS Prep Req & Process PO for 2nd Additional loads for running Mu2	0	24	24	New task
		FNAD_ELEC_TECH	0	4	4	
		FNAD_ELEC_DESIGN_EN	0	4	4	
		FNAD_MECH_ASMBY_TECH	0	16	16	
656	DR1.06.01.03.02.46	Abort Kicker PS Fabricate Cables for Component Interconnects	0	80	80	New task
		FNAD_ELEC_TECH	0	80	80	
157	DR1.06.01.03.02.49	Abort Kicker PS Assemble Four PFL Frames & Wind (WIP)	404	0	-404	
		FNAD_MECH_ASMBY_TECH	384	0	-384	
		FNTD_MECH_TECH_MNGR	20	0	-20	
536	DR1.06.01.03.02.50	Abort Kicker Wind PFL Cables (WIP)	260	0	-260	
		FNAD_MECH_ASMBY_TECH	260	0	-260	
75	**DR1.07**	**Delivery Ring Magnets**	**667**	**1040**	**373**	
79	**DR1.07.03**	**Delivery Ring Inj Kicker Magnet Refurbishment (2 production)**	**453**	**826**	**373**	
210	**DR1.07.03.01**	**Delivery Ring Inj Kicker Magnet Desgn**	**200**	**328**	**128**	
664	DR1.07.03.01.04	Delivery Ring Inj Kicker Finish Update kicker magnet drawings	0	128	128	New task
		FNAD_MECH_DRAFTER	0	128	128	
211	**DR1.07.03.02**	**Delivery Ring Inj Kicker Magnet Implementation**	**253**	**498**	**245**	
665	DR1.07.03.02.02	Delivery Ring Inj Finish Kicker Project Control	0	68	68	New task
		FNAD_ENGNRING_PHYST	0	11	11	
		FNAD_ELEC_DESIGN_EN	0	23	23	
		FNAD_MECH_DESIGN_EN	0	34	34	
667	DR1.07.03.02.10	Delivery Ring Inj Kicker Magnet Prepare Beam Tube for Installation	0	40	40	New task
		FNAD_MECH_ASMBY_TECH	0	40	40	
668	DR1.07.03.02.11	Delivery Ring Inj Kicker Magnet Mount Magnets on Stand	0	32	32	New task
		FNAD_ENGNRING_PHYST	0	16	16	
		FNAD_MECH_ASMBY_TECH	0	16	16	
669	DR1.07.03.02.12	Delivery Ring Inj Kicker Magnet Procure Machined & Plated Outer Plates	0	20	20	New task
		FNAD_MECH_DESIGN_EN	0	20	20	
670	DR1.07.03.02.13	Delivery Ring Inj Kicker Magnet Procure Mandrel & Mold for Copper Bus End	0	10	10	New task
		FNAD_ELEC_DESIGN_EN	0	10	10	
677	DR1.07.03.02.15	Delivery Ring Inj Kicker Finish Tear down & refurbish magnets	0	75	75	New task
		FNAD_ENGNRING_PHYST	0	75	75	
85	**DR1.08**	**Delivery Ring Installation**	**4796**	**4922**	**126**	
317	**DR1.08.01**	**Tunnel Installation**	**4128**	**4240**	**112**	

Delivery Ring CR016 Labor Changes

UID	WBS	Name	Original Hours	New Hours	Delta Hours	Comments
325	**DR1.08.01.01**	**General Installation**	**3110**	**3222**	**112**	
296	**DR1.08.01.01.01**	**Generall Installation Design**	**1046**	**1304**	**258**	
591	DR1.08.01.01.01.03	Generall Installation Finish Design Modifications to LCW system	0	38	38	New task
		FNAD_ENGNRING_PHYST	0	6	6	
		FNAD_MECH_DESIGN_EN	0	16	16	
		FNAD_MECH_DRAFTER	0	16	16	
592	DR1.08.01.01.01.05	Generall Installation Design Finish Vacuum system modifications	0	76	76	New task
		FNAD_ENGNRING_PHYST	0	12	12	
		FNAD_MECH_DESIGN_EN	0	32	32	
		FNAD_MECH_DRAFTER	0	32	32	
593	DR1.08.01.01.01.07	Generall Installation Finish Design Create Installation Drawings	0	144	144	New task
		FNAD_ENGNRING_PHYST	0	36	36	
		FNAD_MECH_DESIGN_EN	0	36	36	
		FNAD_MECH_DRAFTER	0	72	72	
298	**DR1.08.01.01.02**	**General Installation Implementation**	**2064**	**1918**	**-146**	
406	DR1.08.01.01.02.01	Prep Req & Process PO for General Install LCW Mat'l ** Delete **	16	0	-16	Deleted
		FNAD_MECH_DESIGN_EN	16	0	-16	
315	DR1.08.01.01.02.11	General Installation Re-establish LCW flow - CUB to DR ** Delete **	120	0	-120	Deleted
		FNAD_MECH_DESIGN_EN	40	0	-40	
		FNAD_MECH_SYSTM_TECH	80	0	-80	
584	**DR1.08.01.01.02.23**	**Constrain vertical movements on blind**	**234**	**224**	**-10**	
586	DR1.08.01.01.02.23.02	Install vertical motion constraints	210	200	-10	
		FNAD_MECH_SYSTM_TECH	105	200	95	
		FNTD_WELDER	105	0	-105	
338	**DR1.08.02**	**Cable Installation**	**668**	**682**	**14**	
342	**DR1.08.02.02**	**Cable Installation Implementation**	**548**	**562**	**14**	
347	DR1.08.02.02.05	Cable Installation Install cables ** Delete **	60	0	-60	Deleted
		FNAD_ENGNRING_PHYST	60	0	-60	
594	DR1.08.02.02.06	Cable Installation Install Inj C-Magnet Cable	0	6	6	New task
		FNAD_ENGNRING_PHYST	0	6	6	
595	DR1.08.02.02.07	Cable Installation Install QT303 Cable	0	6	6	New task
		FNAD_ENGNRING_PHYST	0	6	6	
596	DR1.08.02.02.09	Cable Installation Install RF-220 from Abort Kicker to Load	0	6	6	New task
		FNAD_ENGNRING_PHYST	0	6	6	
597	DR1.08.02.02.10	Cable Installation Install AP-30 Shunt Cable	0	6	6	New task
		FNAD_ENGNRING_PHYST	0	6	6	
598	DR1.08.02.02.11	Cable Installation Install Injection Kicker RG-220	0	6	6	New task
		FNAD_ENGNRING_PHYST	0	6	6	
599	DR1.08.02.02.12	Cable Installation Install Injection Septa RG-220	0	6	6	New task

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UID	WBS	Name	Original Hours	New Hours	Delta Hours	Comments
		FNAD_ENGNRING_PHYST	0	6	6	
600	DR1.08.02.02.13	Cable Installation Install HVA05 Load Cable	0	6	6	New task
		FNAD_ENGNRING_PHYST	0	6	6	
601	DR1.08.02.02.14	Cable Installation Install AP-50 Trim Cable	0	6	6	New task
		FNAD_ENGNRING_PHYST	0	6	6	
602	DR1.08.02.02.15	Cable Installation Install Abort Septa RG-220	0	8	8	New task
		FNAD_ENGNRING_PHYST	0	8	8	
603	DR1.08.02.02.16	Cable Installation Install Abort Kicker RG-220	0	6	6	New task
		FNAD_ENGNRING_PHYST	0	6	6	
604	DR1.08.02.02.17	Cable Installation Install Motion Control Cable	0	6	6	New task
		FNAD_ENGNRING_PHYST	0	6	6	
605	DR1.08.02.02.18	Cable Installation Install Klixon Cable	0	6	6	New task
		FNAD_ENGNRING_PHYST	0	6	6	

Delivery Ring Pre CR016 CAP

CTC		FY13	FY14	FY15	FY16	FY17	Cumulative
DR1.01.02.02 Delivery Ring Project Management Oversight - FY14							
	Scheduled	0.00	202,519.42	0.00	0.00	0.00	202,519.42
DR1.01.02.03 Delivery Ring Project Management Oversight - FY15							
	Scheduled	0.00	5,745.92	172,223.05	0.00	0.00	177,968.96
DR1.01.02.04 Delivery Ring Project Management Oversight - FY16							
	Scheduled	0.00	0.00	5,306.01	194,104.53	0.00	199,410.53
DR1.02 Collider Equipment Removal & Configuration							
	Scheduled	0.00	284,664.11	55,662.49	0.00	0.00	340,326.60
DR1.03 Delivery Ring Electrical Infrastructure							
	Scheduled	0.00	184,257.84	231,245.75	281,514.16	83,765.74	780,783.49
DR1.04 Delivery Ring Controls							
	Scheduled	0.00	337,819.33	57,692.73	2,231.79	0.00	397,743.85
DR1.05 Delivery Ring Instrumentation							
	Scheduled	0.00	0.00	0.00	258,199.67	19,845.37	278,045.03
DR1.06.01.01 Septa Supplies							
	Scheduled	0.00	8,821.22	685,282.98	323,305.54	34,949.54	1,052,359.27
DR1.06.01.02 Inj Kicker Power Supply							
	Scheduled	0.00	230,517.90	535,764.96	419,309.65	16,242.65	1,201,835.17
DR1.06.01.03 Abort Kicker Power Supply							
	Scheduled	0.00	83,910.98	507,491.84	693,673.06	18,348.73	1,303,424.61
DR1.06.02 New DC Supplies							
	Scheduled	0.00	0.00	0.00	384,903.25	0.00	384,903.25
DR1.07.01 Delivery Ring Repurposed Magnets							
	Scheduled	0.00	0.00	0.00	15,690.01	0.00	15,690.01
DR1.07.02 Delivery Ring Inj C Magnet							
	Scheduled	0.00	8,322.95	7,741.38	252,725.88	0.00	268,790.21
DR1.07.03 Delivery Ring Inj Kicker Magnet Refurbishment							
	Scheduled	0.00	1,497.74	0.00	85,156.03	0.00	86,653.77
DR1.07.04 Delivery Ring Magnetic Septa Magnets (1 spare)							
	Scheduled	0.00	0.00	0.00	1,704.31	399,765.42	401,469.73
DR1.08.01 Tunnel Installation							
	Scheduled	0.00	40,477.84	145,057.51	543,621.97	106,598.18	835,755.50
DR1.08.02 Cable Installation							
	Scheduled	0.00	0.00	0.00	168,803.16	7,484.47	176,287.63
Grand Total							
	Scheduled	0.00	1,388,555.25	2,403,468.70	3,624,943.01	687,000.10	8,103,967.06

Delivery Ring Post CR016 CAP

Control Account.WBS (4)		FY12	FY13	FY14	FY15	FY16	FY17	Cumulative
DR1.01.02.02 Delivery Ring Project Management Oversight - FY14								
	Scheduled	0.00	0.00	202,519.42	0.00	0.00	0.00	202,519.42
DR1.01.02.03 Delivery Ring Project Management Oversight - FY15								
	Scheduled	0.00	0.00	5,745.92	172,223.05	0.00	0.00	177,968.96
DR1.01.02.04 Delivery Ring Project Management Oversight - FY16								
	Scheduled	0.00	0.00	0.00	5,306.01	194,104.53	0.00	199,410.53
DR1.01.02.05 Delivery Ring Project Management Oversight - FY17								
	Scheduled	0.00	0.00	0.00	0.00	0.00	64,309.27	64,309.27
DR1.02 Collider Equipment Removal & Configuration								
	Scheduled	0.00	0.00	284,664.11	55,662.49	0.00	0.00	340,326.60
DR1.03 Delivery Ring Electrical Infrastructure								
	Scheduled	0.00	0.00	184,257.84	231,245.75	131,998.19	319,419.45	866,921.24
DR1.04 Delivery Ring Controls								
	Scheduled	0.00	0.00	337,819.33	57,692.73	2,231.79	0.00	397,743.85
DR1.05 Delivery Ring Instrumentation								
	Scheduled	0.00	0.00	0.00	0.00	227,393.34	119,154.96	346,548.29
DR1.06.01.01 Septa Supplies								
	Scheduled	0.00	0.00	8,821.22	685,282.98	190,078.05	272,033.46	1,156,215.71
DR1.06.01.02 Inj Kicker Power Supply								
	Scheduled	0.00	0.00	230,517.90	535,764.96	311,781.27	151,901.61	1,229,965.74
DR1.06.01.03 Abort Kicker Power Supply								
	Scheduled	0.00	0.00	83,910.98	507,491.84	581,513.98	169,199.86	1,342,116.67
DR1.06.02 New DC Supplies								
	Scheduled	0.00	0.00	0.00	0.00	384,903.25	0.00	384,903.25
DR1.07.01 Delivery Ring Repurposed Magnets								
	Scheduled	0.00	0.00	0.00	0.00	14,371.99	1,351.13	15,723.12
DR1.07.02 Delivery Ring Inj C Magnet								
	Scheduled	0.00	0.00	8,322.95	7,741.38	252,725.88	0.00	268,790.21
DR1.07.03 Delivery Ring Inj Kicker Magnet Refurbishment								
	Scheduled	0.00	0.00	1,497.74	0.00	80,136.26	12,144.46	93,778.47
DR1.07.04 Delivery Ring Magnetic Septa Magnets (1 spare)								
	Scheduled	0.00	0.00	0.00	0.00	1,704.31	399,765.42	401,469.73
DR1.08.01 Tunnel Installation								
	Scheduled	0.00	0.00	40,477.84	145,057.51	420,799.30	223,431.72	829,766.37
DR1.08.02 Cable Installation								
	Scheduled	0.00	0.00	0.00	0.00	4,653.06	251,843.82	256,496.88
Grand Total								
	Scheduled	0.00	0.00	1,388,555.25	2,403,468.70	2,798,395.21	1,984,555.16	8,574,974.31