Muon Campus AIP

Change Request Form

CR#:BT006

1) DATE: 8/19/14	2)WBS: BT1.04.01.02.02 & BT1.04.01.03.02.01	3) Originator: Ken Domann

4) WBS Description of Primary Affected Tasks: Beamline PS Implementation & V714 B-2 Magnet

5) Technical Description & Primary Motivation for Change: This change request documents the effect of adjustments to the schedule dates for the above referenced WBS elements.

These changes will help the schedule better reflect resource availability and fix some logic issues. The net effect is to basically push a number of tasks later, the first being the upstream M3 power supplies due to a lack of optics design and power supply adjustments moved to after the magnets are installed and, second, the construction of the V714 B2 magnet stand, which hasn't been designed yet.

The result is an escalation increase of $252 to the Beam Transport AIP budget with the corresponding reduction in contingency. No labor resource or M&S assignments were revised.

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

7) Assessment of Schedule Impact (Use attachments if needed): Although there has been a decrease in float on these activities, the previous Beam Transport completion date of 1/29/16 has been maintained. There are no impacts to any major milestones. See attachment for details.

8) Secondary Impact & Other Comments: N/A

9) Approvals:

AIP Project Manager:		**Date:** 8/19/14
AIP Project Coordinator:		**Date:** 8/19/14
AD Div Director:		**Date:**
Directorate:		**Date:**

Beam Transport CR006 Schedule Changes

UID	WBS	Name	Start	Finish	Float	Comments
700	**BT1.04.01.02.02.03**	**Beamline PS Implementation M3 PS**	**4/6/15**	**9/21/15**	**88 d**	**New start and finish dates**
708	BT1.04.01.02.02.03.01	Beamline PS Implementation Procure Upstream M3 power supplies	4/6/15	7/6/15	88 d	New start and finish dates
707	BT1.04.01.02.02.03.02	Beamline PS Implementation Configure Upstream M3 power supplies	7/7/15	9/21/15	88 d	New start and finish dates
706	BT1.04.01.02.02.03.03	Beamline PS Implementation Procure load cables for Upstream M3	6/1/15	7/6/15	132 d	New start and finish dates
705	BT1.04.01.02.02.03.04	Beamline PS Implementation Procure installation materials for US M3	6/1/15	7/6/15	88 d	New start and finish dates
704	BT1.04.01.02.02.03.05	Beamline PS Implementation Install power supplies for US M3	7/7/15	8/31/15	88 d	New start and finish dates
703	BT1.04.01.02.02.03.06	Beamline PS Implementation Install load cables for US M3	9/8/15	9/21/15	88 d	New start and finish dates
702	BT1.04.01.02.02.03.07	Beamline PS Implementation Install primary power for US M3	9/1/15	9/15/15	92 d	New start and finish dates
701	BT1.04.01.02.02.03.08	Beamline PS Implementation Reterminate reconfigured magnets	9/8/15	9/21/15	88 d	New start and finish dates
709	**BT1.04.01.02.02.04**	**Beamline PS Implementation Other PS**	**9/21/15**	**10/29/15**	**60 d**	**New start and finish dates**
716	BT1.04.01.02.02.04.01	Beamline PS Implementation Adjust I:V714 power supply for new magnet	9/21/15	10/23/15	64 d	New start and finish dates
715	BT1.04.01.02.02.04.02	Beamline PS Implementation Adjust I:F17B3 power supply for new magnet	9/21/15	10/23/15	64 d	New start and finish dates
714	BT1.04.01.02.02.04.03	Beamline PS Implementation Adjust M:HV100 power supply for new magnet	9/21/15	10/23/15	64 d	New start and finish dates
713	BT1.04.01.02.02.04.04	Beamline PS Implementation Adjust M:HV102 power supply for new magnet	9/21/15	10/23/15	64 d	New start and finish dates
712	BT1.04.01.02.02.04.05	Beamline PS Implementation Procure load cables for M:VT101 and M:HT105	9/21/15	10/23/15	60 d	New start and finish dates
711	BT1.04.01.02.02.04.06	Beamline PS Implementation Pull new load cables for M:VT101 and M:HT105	10/26/15	10/27/15	60 d	New start and finish dates
710	BT1.04.01.02.02.04.07	Beamline PS Implementation Terminate load cables for M:VT101 and M:HT105	10/28/15	10/29/15	60 d	New start and finish dates
739	BT1.04.01.02.03	Beamline PS Complete	10/29/15	10/29/15	60 d	New start and finish dates
685	**BT1.04.01.03.02.01**	**V714 B-2 Magnet**	**1/12/15**	**8/4/15**	**19 d**	**New start and finish dates**
615	BT1.04.01.03.02.01.02	Procure magnet stand for V714 B-2 magnet	1/12/15	3/9/15	85 d	New start and finish dates
614	BT1.04.01.03.02.01.03	Final assembly of V714 B-2 magnet stand	3/10/15	4/13/15	85 d	New start and finish dates
613	BT1.04.01.03.02.01.04	Prepare V714 C-Magnet for removal	7/10/15	7/16/15	19 d	New start and finish dates
612	BT1.04.01.03.02.01.05	Survey crew stake out of new magnet stands	6/1/15	6/1/15	51 d	New start and finish dates
611	BT1.04.01.03.02.01.06	Installation oversight and vacuum install	6/1/15	6/19/15	50 d	New start and finish dates
610	BT1.04.01.03.02.01.07	Magnet installation material	6/1/15	6/19/15	37 d	New start and finish dates
609	BT1.04.01.03.02.01.08	Magnet and stand rigging	7/17/15	7/23/15	19 d	New start and finish dates
608	BT1.04.01.03.02.01.09	Algnment of B-2 dipole	7/24/15	7/27/15	25 d	New start and finish dates
607	BT1.04.01.03.02.01.10	Electricians reterminate load cables	7/24/15	7/24/15	26 d	New start and finish dates
606	BT1.04.01.03.02.01.11	Final vacuum work and reconnect magnet	7/24/15	8/4/15	19 d	New start and finish dates

Beam Transport Pre CR006 CAP

CTC	WP		FY12	FY13	FY14	FY15	FY16	Cumulative
A1303.01.02.01 Project Management Oversight FY13								
		Scheduled	0.00	56,415.81	0.00	0.00	0.00	56,415.81
A1303.01.02.02 Project Management Oversight FY14								
		Scheduled	0.00	0.00	139,404.50	0.00	0.00	139,404.50
A1303.01.02.03 Project Management Oversight FY15								
		Scheduled	0.00	0.00	3,360.74	140,642.56	0.00	144,003.30
A1303.01.02.04 Project Management Oversight FY16								
		Scheduled	0.00	0.00	0.00	2,548.83	35,282.17	37,831.00
A1303.02.01 Beam Transport Lambertson (MLAW) Magnet								
		Scheduled	0.00	0.00	295,983.41	0.00	0.00	295,983.41
A1303.02.02.01 Beam Transport Extraction Kicker Magnets (RKB 2)								
		Scheduled	0.00	6,218.93	163,023.76	0.00	0.00	169,242.68
A1303.02.02.02 Beam Transport Extraction Kicker Power Supplies								
		Scheduled	0.00	0.00	32,213.32	368,709.96	81,794.30	482,717.58
A1303.02.02.03 Beam Transport Kicker Loads & Cooling System								
		Scheduled	0.00	6,218.93	389,354.87	37,790.01	0.00	433,363.81
A1303.02.02.04 Beam Transport Recycler Ring Extraction Insert Installa								
		Scheduled	0.00	0.00	426,269.95	186,389.53	203,559.50	816,218.98
A1303.03.01.01 RR to P1 Vertical Bending Dipole ADCW (1)								
		Scheduled	0.00	0.00	24,275.42	0.00	0.00	24,275.42
A1303.03.01.02 RR to P1 Permanent Magnets RQA (4)								
		Scheduled	0.00	0.00	0.00	58,606.21	0.00	58,606.21
A1303.03.01.03 RR to P1 Trim Quad STQB (4+1)								
		Scheduled	0.00	0.00	159,220.31	0.00	0.00	159,220.31
A1303.03.01.05 RR to P1 Vertical Dipole Correctors (1+1)								
		Scheduled	0.00	0.00	8,653.56	0.00	0.00	8,653.56
A1303.03.02.01 RR to P1 Lambertson PS								
		Scheduled	0.00	0.00	50,020.25	10,910.91	0.00	60,931.16
A1303.03.02.02 RR to P1 Vertical Magnet PS								
		Scheduled	0.00	0.00	50,020.25	10,910.91	0.00	60,931.16
A1303.03.02.03 RR to P1 Trim Dipole PS(2)								
		Scheduled	0.00	0.00	26,087.02	0.00	0.00	26,087.02
A1303.03.02.04 RR to P1 Trim Quad PS(4)								
		Scheduled	0.00	0.00	30,932.88	0.00	0.00	30,932.88
A1303.03.03 Beam Transport RR to P1 Instrumentation								
		Scheduled	0.00	0.00	0.00	267,802.03	0.00	267,802.03
A1303.03.04 Beam Transport RR to P1 Installation								
		Scheduled	0.00	0.00	0.00	471,268.04	0.00	471,268.04
A1303.04.01.01.01 Beamline B2 Dipole Magnet (1) (V714 Replacement)								
		Scheduled	0.00	0.00	39,771.00	9,847.54	0.00	49,618.54
A1303.04.01.01.02 Beamline Existing Magnets to be Repurposed								
		Scheduled	0.00	0.00	5,094.81	16,429.91	0.00	21,524.72
A1303.04.01.01.03 Beamline CDA Magnet (F-17C Replacement)								
		Scheduled	0.00	0.00	1,170.09	41,334.02	0.00	42,504.10
A1303.04.01.02 Beamline PS								
		Scheduled	0.00	0.00	13,648.75	215,908.59	0.00	229,557.34
A1303.04.01.03 Beam Line Installation & Mechanical								
		Scheduled	0.00	0.00	86,450.74	378,582.06	0.00	465,032.80
A1303.04.01.04 RR to AP-0 Target Station and RR to M3 Line optics								
		Scheduled	0.00	0.00	67,641.57	0.00	0.00	67,641.57
A1303.04.02 Beam Transport Electrical Infrastructure								
		Scheduled	0.00	0.00	10,433.98	172,202.93	0.00	182,636.91
A1303.04.03 Beamline Instrumentation & Controls								
		Scheduled	0.00	0.00	81,699.13	513,837.44	0.00	595,536.57
Grand Total								
		Scheduled	0.00	68,853.67	2,104,730.31	2,903,721.47	320,635.97	5,397,941.42

Beam Transport Post CR006 CAP

CTC	WP		FY12	FY13	FY14	FY15	FY16	Cumulative	
A1303.01.02.01 Project Management Oversight FY13									
		Scheduled	0.00	56,415.81	0.00	0.00	0.00	56,415.81	
A1303.01.02.02 Project Management Oversight FY14									
		Scheduled	0.00	0.00	139,404.50	0.00	0.00	139,404.50	
A1303.01.02.03 Project Management Oversight FY15									
		Scheduled	0.00	0.00	3,360.74	140,642.56	0.00	144,003.30	
A1303.01.02.04 Project Management Oversight FY16									
		Scheduled	0.00	0.00	0.00	2,548.83	35,282.17	37,831.00	
A1303.02.01 Beam Transport Lambertson (MLAW) Magnet									
		Scheduled	0.00	0.00	295,983.41	0.00	0.00	295,983.41	
A1303.02.02.01 Beam Transport Extraction Kicker Magnets (RKB 2)									
		Scheduled	0.00	6,218.93	163,023.76	0.00	0.00	169,242.68	
A1303.02.02.02 Beam Transport Extraction Kicker Power Supplies									
		Scheduled	0.00	0.00	32,213.32	368,709.96	81,794.30	482,717.58	
A1303.02.02.03 Beam Transport Kicker Loads & Cooling System									
		Scheduled	0.00	6,218.93	389,354.87	37,790.01	0.00	433,363.81	
A1303.02.02.04 Beam Transport Recycler Ring Extraction Insert Installa									
		Scheduled	0.00	0.00	426,269.95	186,389.53	203,559.50	816,218.98	
A1303.03.01.01 RR to P1 Vertical Bending Dipole ADCW (1)									
		Scheduled	0.00	0.00	24,275.42	0.00	0.00	24,275.42	
A1303.03.01.02 RR to P1 Permanent Magnets RQA (4)									
		Scheduled	0.00	0.00	0.00	58,606.21	0.00	58,606.21	
A1303.03.01.03 RR to P1 Trim Quad STQB (4+1)									
		Scheduled	0.00	0.00	159,220.31	0.00	0.00	159,220.31	
A1303.03.01.05 RR to P1 Vertical Dipole Correctors (1+1)									
		Scheduled	0.00	0.00	8,653.56	0.00	0.00	8,653.56	
A1303.03.02.01 RR to P1 Lambertson PS									
		Scheduled	0.00	0.00	50,020.25	10,910.91	0.00	60,931.16	
A1303.03.02.02 RR to P1 Vertical Magnet PS									
		Scheduled	0.00	0.00	50,020.25	10,910.91	0.00	60,931.16	
A1303.03.02.03 RR to P1 Trim Dipole PS(2)									
		Scheduled	0.00	0.00	26,087.02	0.00	0.00	26,087.02	
A1303.03.02.04 RR to P1 Trim Quad PS(4)									
		Scheduled	0.00	0.00	30,932.88	0.00	0.00	30,932.88	
A1303.03.03 Beam Transport RR to P1 Instrumentation									
		Scheduled	0.00	0.00	0.00	267,802.03	0.00	267,802.03	
A1303.03.04 Beam Transport RR to P1 Installation									
		Scheduled	0.00	0.00	0.00	471,268.04	0.00	471,268.04	
A1303.04.01.01.01 Beamline B2 Dipole Magnet (1) (V714 Replacement)									
		Scheduled	0.00	0.00	39,771.00	9,847.54	0.00	49,618.54	
A1303.04.01.01.02 Beamline Existing Magnets to be Repurposed									
		Scheduled	0.00	0.00	5,094.81	16,429.91	0.00	21,524.72	
A1303.04.01.01.03 Beamline CDA Magnet (F-17C Replacement)									
		Scheduled	0.00	0.00	1,170.09	41,334.02	0.00	42,504.10	
A1303.04.01.02 Beamline PS									
		Scheduled	0.00	0.00	10,704.52	213,229.08	5,825.61	229,759.21	
A1303.04.01.03 Beam Line Installation & Mechanical									
		Scheduled	0.00	0.00	83,830.87	381,251.64	0.00	465,082.52	
A1303.04.01.04 RR to AP-0 Target Station and RR to M3 Line optics									
		Scheduled	0.00	0.00	67,641.57	0.00	0.00	67,641.57	
A1303.04.02 Beam Transport Electrical Infrastructure									
		Scheduled	0.00	0.00	10,433.98	172,202.93	0.00	182,636.91	
A1303.04.03 Beamline Instrumentation & Controls									
		Scheduled	0.00	0.00	81,699.13	513,837.44	0.00	595,536.57	
Grand Total									
		Scheduled	0.00	68,853.67	2,099,166.22	2,903,711.54	326,461.58	5,398,193.01	