Muon Campus AIP

Change Request Form

CR#: Cryo005

1) DATE: 5/21/14	2)WBS: Cryo1	3) Originator: Ken Domann KAD

4) WBS Description of Primary Affected Tasks: Cryo1.04.01 Cryo LN2 System and Cryo1.04.06 Cryo Interconnect Piping.

5) Technical Description & Primary Motivation for Change: This change requests approval for two items.
(1) Revise the base M&S from $110,000 to $81,053. This results in a fully burdened decrease of $35,704 in M&S.

(2) Add scope for the additional connection to the nitrogen header in support of g-2 for the Cryo Interconnect Piping. This results in a fully burdened increase of $10,360 in M&S.

This change results in $25,344 being returned to contingency.

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

7) Assessment of Schedule Impact (Use attachments if needed): N/A

8) Secondary Impact & Other Comments: N/A

9) Approvals:

AIP Project Manager:		**Date:** 5/22/14
AIP Project Coordinator:	Mary E	**Date:** 5/22/14
AD Div Director:		**Date:**
Directorate:		**Date:**

Cryo CR005 Material Costs Delta

5/21/2014

UID	WBS	Name	Start	Finish	Current M&S	Replan M&S	Delta	Comments
1	**Cryo1**	**Muon Campus Cryogenics - AIP**	**6/3/13**	**6/22/17**	**$2,564,267**	**$2,543,720**	**-$20,547**	
833	**Cryo1.04**	**Cryogenic plant sub systems**	**6/17/13**	**2/1/16**	**$1,781,027**	**$1,760,480**	**-$20,547**	
1897	**Cryo1.04.01**	**Cryo LN2 system**	**8/30/13**	**9/2/14**	**$160,000**	**$131,053**	**-$28,947**	
2499	Cryo1.04.01.09	Outdoor Installation - LN2 System	6/4/14	7/9/14	$110,000	$81,053	-$28,947	
2686	**Cryo1.04.06**	**Cryo Interconnect Piping**	**7/26/13**	**5/29/14**	**$362,364**	**$370,764**	**$8,400**	
2918	Cryo1.04.06.19	Additional connection to the nitrogen header in support of g-2	5/1/14	5/29/14	$0	$8,400	$8,400	New task

Cryo Cap Pre CR005

	Baseline		Actual		Forecast		CAM	
Control Account	Start	Finish	Start	Finish	Start	Finish	WBS	
Work Package	Cost Set	FY12	FY13	FY14	FY15	FY16	FY17	Cumulative
A1301.02.01.01 Cryo AIP General Project OS - FY13	8/1/13	9/20/13	6/17/13	9/20/13	6/17/13	9/20/13		
	Scheduled	0.00	51.35	0.00	0.00	0.00	0.00	51.35
A1301.02.01.02 Cryo AIP General Project OS - FY14	9/23/13	9/22/14	9/23/13		9/23/13	9/22/14		
	Scheduled	0.00	3.59	128.89	0.00	0.00	0.00	132.49
A1301.02.01.03 Cryo AIP General Project OS - FY15	9/23/14	9/22/15			9/23/14	9/22/15		
	Scheduled	0.00	0.00	3.20	133.89	0.00	0.00	137.09
A1301.02.01.04 Cryo AIP General Project OS - FY16	9/23/15	9/22/16			9/23/15	9/22/16		
	Scheduled	0.00	0.00	0.00	3.28	137.85	0.00	141.13
A1301.02.01.05 Cryo AIP General Project OS - FY17	9/23/16	6/22/17			9/23/16	6/22/17		
	Scheduled	0.00	0.00	0.00	0.00	3.98	123.36	127.34
A1301.03 Cryo Basic Engineering	6/17/13	5/26/17	6/17/13		6/17/13	5/26/17		
	Scheduled	0.00	33.09	234.74	77.84	80.34	53.52	479.53
A1301.04.01 Cryo LN2 system	8/30/13	9/2/14	8/30/13		8/30/13	9/2/14		
	Scheduled	0.00	4.52	442.82	0.00	0.00	0.00	447.34
A1301.04.02 Cryo Gas management system	6/17/13	7/14/14	6/17/13		6/17/13	7/14/14		
	Scheduled	0.00	57.84	178.03	0.00	0.00	0.00	235.87
A1301.04.03 Cryo ODH system	5/5/14	8/26/14			5/5/14	8/26/14		
	Scheduled	0.00	0.00	49.62	0.00	0.00	0.00	49.62
A1301.04.04 Cryo Refrigerator System	6/17/13	2/1/16	6/17/13		6/17/13	2/1/16		
	Scheduled	0.00	149.08	1,128.56	105.12	319.40	0.00	1,702.15
A1301.04.05 Cryo Compressor System	6/17/13	9/23/14	6/17/13		6/17/13	9/30/14		
	Scheduled	0.00	59.45	366.94	0.00	0.00	0.00	426.39
A1301.04.06 Cryo Interconnect Piping	7/26/13	7/30/14	7/26/13		7/26/13	5/29/14		
	Scheduled	0.00	225.59	501.98	0.00	0.00	0.00	727.57
A1301.04.07 Cryo Interconnect Electrical & Controls	6/17/13	5/23/14	6/17/13		6/17/13	5/23/14		
	Scheduled	0.00	46.63	119.53	0.00	0.00	0.00	166.15
A1301.05.01 Mu2e Interface Connection	5/22/14	3/27/17			5/22/14	3/27/17		
	Scheduled	0.00	0.00	69.54	214.73	1,035.76	341.59	1,661.62
A1301.05.02 g-2 Interface Connection	8/19/13	9/20/13	8/19/13	9/20/13	8/19/13	9/20/13		
	Scheduled	0.00	27.20	0.00	0.00	0.00	0.00	27.20
A1301.06 Cryo Safety Documents	10/1/13	9/2/14	10/1/13		10/1/13	9/2/14		
	Scheduled	0.00	0.00	154.53	0.00	0.00	0.00	154.53
A1301.07 g-2 Cryo Checkout	10/31/14	5/22/17			10/31/14	5/22/17		
	Scheduled	0.00	0.00	0.00	71.72	0.00	75.95	147.67
A1301.08 Cryo g-2 Acceptance Tests	9/29/14	10/24/14			9/29/14	10/24/14		
	Scheduled	0.00	0.00	11.72	108.03	0.00	0.00	119.75
A1301.09 Cryo Mu2e Acceptance Tests	3/28/17	4/24/17			3/28/17	4/24/17		
	Scheduled	0.00	0.00	0.00	0.00	0.00	104.33	104.33
Grand Total								
	Scheduled	0.00	658.34	3,390.10	714.61	1,577.32	698.75	7,039.12

Cryo Cap Post CR005

	Baseline		Actual		Forecast		CAM	
Control Account	Start	Finish	Start	Finish	Start	Finish	WBS	
Work Package	Cost Set	FY12	FY13	FY14	FY15	FY16	FY17	Cumulative
A1301.02.01.01 Cryo AIP General Project OS - FY13	8/1/13	9/20/13	6/17/13	9/20/13	6/17/13	9/20/13		
	Scheduled	0.00	51.35	0.00	0.00	0.00	0.00	51.35
A1301.02.01.02 Cryo AIP General Project OS - FY14	9/23/13	9/22/14	9/23/13		9/23/13	9/22/14		
	Scheduled	0.00	3.59	128.89	0.00	0.00	0.00	132.49
A1301.02.01.03 Cryo AIP General Project OS - FY15	9/23/14	9/22/15			9/23/14	9/22/15		
	Scheduled	0.00	0.00	3.20	133.89	0.00	0.00	137.09
A1301.02.01.04 Cryo AIP General Project OS - FY16	9/23/15	9/22/16			9/23/15	9/22/16		
	Scheduled	0.00	0.00	0.00	3.28	137.85	0.00	141.13
A1301.02.01.05 Cryo AIP General Project OS - FY17	9/23/16	6/22/17			9/23/16	6/22/17		
	Scheduled	0.00	0.00	0.00	0.00	3.98	123.36	127.34
A1301.03 Cryo Basic Engineering	6/17/13	5/26/17	6/17/13		6/17/13	5/26/17		
	Scheduled	0.00	33.09	234.74	77.84	80.34	53.52	479.53
A1301.04.01 Cryo LN2 system	8/30/13	9/2/14	8/30/13		8/30/13	9/2/14		
	Scheduled	0.00	4.52	407.12	0.00	0.00	0.00	411.63
A1301.04.02 Cryo Gas management system	6/17/13	7/14/14	6/17/13		6/17/13	7/14/14		
	Scheduled	0.00	57.84	178.03	0.00	0.00	0.00	235.87
A1301.04.03 Cryo ODH system	5/5/14	8/26/14			5/5/14	8/26/14		
	Scheduled	0.00	0.00	49.62	0.00	0.00	0.00	49.62
A1301.04.04 Cryo Refrigerator System	6/17/13	2/1/16	6/17/13		6/17/13	2/1/16		
	Scheduled	0.00	149.08	1,128.56	105.12	319.40	0.00	1,702.15
A1301.04.05 Cryo Compressor System	6/17/13	9/23/14	6/17/13		6/17/13	9/30/14		
	Scheduled	0.00	59.45	366.94	0.00	0.00	0.00	426.39
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	Scheduled	0.00	225.59	512.34	0.00	0.00	0.00	737.93
A1301.04.07 Cryo Interconnect Electrical & Controls	6/17/13	5/23/14	6/17/13		6/17/13	5/23/14		
	Scheduled	0.00	46.63	119.53	0.00	0.00	0.00	166.15
A1301.05.01 Mu2e Interface Connection	5/22/14	3/27/17			5/22/14	3/27/17		
	Scheduled	0.00	0.00	69.54	214.73	1,035.76	341.59	1,661.62
A1301.05.02 g-2 Interface Connection	8/19/13	9/20/13	8/19/13	9/20/13	8/19/13	9/20/13		
	Scheduled	0.00	27.20	0.00	0.00	0.00	0.00	27.20
A1301.06 Cryo Safety Documents	10/1/13	9/2/14	10/1/13		10/1/13	9/2/14		
	Scheduled	0.00	0.00	154.53	0.00	0.00	0.00	154.53
A1301.07 g-2 Cryo Checkout	10/31/14	5/22/17			10/31/14	5/22/17		
	Scheduled	0.00	0.00	0.00	71.72	0.00	75.95	147.67
A1301.08 Cryo g-2 Acceptance Tests	9/29/14	10/24/14			9/29/14	10/24/14		
	Scheduled	0.00	0.00	11.72	108.03	0.00	0.00	119.75
A1301.09 Cryo Mu2e Acceptance Tests	3/28/17	4/24/17			3/28/17	4/24/17		
	Scheduled	0.00	0.00	0.00	0.00	0.00	104.33	104.33
Grand Total								
	Scheduled	0.00	658.34	3,364.76	714.61	1,577.32	698.75	7,013.78