



**Muon Campus AIP**  
**Change Request Form**

CR#: Cryo010

1) DATE: 12/04/14	2) WBS: Cryo1	3) Originator: Ken Domann <i>KAD</i>
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4) WBS Description of Primary Affected Tasks: Muon Campus Cryogenics AIP

5) Technical Description & Primary Motivation for Change: This change request reduces the Total Cost of the Cryo AIP from \$9,737,269 approved in the original Project Plan in June 2013 to the new total of \$9,545,352. This reduction of \$191,917 will be applied to contingency. This action was directed by the Fermi Directorate in order to free funds and budget for the Mu2e cavity work that has been added to the RRF AIP scope.

6) Assessment of Cost Impact (Use attachments if needed): 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:	<i>L. Williams</i>	Date: 12/4/14
AIP Project Coordinator:	<i>Mary C C</i>	Date: 12/15/14
AD Div Director:	<i>S. Nagler</i>	Date: 12/12/14
Directorate:	<i>S. Nagler</i>	Date: 12/12/14

Cryo Pre CR010 CAP

Control Account		FY12	FY13	FY14	FY15	FY16	FY17	Cumulative
A1301.02.01.01 Cryo AIP General Project OS - FY13	Scheduled	0.00	51,346.42	0.00	0.00	0.00	0.00	51,346.42
A1301.02.01.02 Cryo AIP General Project OS - FY14	Scheduled	0.00	3,594.05	129,557.05	0.00	0.00	0.00	133,151.10
A1301.02.01.03 Cryo AIP General Project OS - FY15	Scheduled	0.00	0.00	2,134.07	30,214.73	0.00	0.00	32,348.80
A1301.02.01.04 Cryo AIP General Project OS - FY16	Scheduled	0.00	0.00	0.00	3,106.86	128,186.95	0.00	131,293.81
A1301.02.01.05 Cryo AIP General Project OS - FY17	Scheduled	0.00	0.00	0.00	0.00	3,675.39	116,470.08	120,145.47
A1301.03 Cryo Basic Engineering	Scheduled	0.00	33,093.96	236,082.70	70,985.99	71,268.80	49,000.83	460,432.28
A1301.04.01 Cryo LN2 system	Scheduled	0.00	4,514.95	409,013.92	0.00	0.00	0.00	413,528.87
A1301.04.02 Cryo Gas management system	Scheduled	0.00	57,841.53	178,224.26	0.00	0.00	0.00	236,065.78
A1301.04.03 Cryo ODH system	Scheduled	0.00	0.00	49,757.63	0.00	0.00	0.00	49,757.63
A1301.04.04 Cryo Refrigerator System	Scheduled	0.00	149,077.19	1,134,055.74	157,480.87	313,192.75	0.00	1,753,806.54
A1301.04.05 Cryo Compressor System	Scheduled	0.00	59,453.27	367,138.94	0.00	0.00	0.00	426,592.21
A1301.04.06 Cryo Interconnect Piping	Scheduled	0.00	225,594.62	512,339.28	0.00	0.00	0.00	737,933.91
A1301.04.07 Cryo Interconnect Electrical & Controls	Scheduled	0.00	46,627.36	119,526.30	0.00	0.00	0.00	166,153.66
A1301.05.01 MU2e Interface Connection	Scheduled	0.00	0.00	70,813.93	206,847.51	1,009,844.31	312,773.87	1,600,279.62
A1301.05.02 g-2 Interface Connection	Scheduled	0.00	27,198.92	0.00	0.00	0.00	0.00	27,198.92
A1301.06 Cryo Safety Documents	Scheduled	0.00	0.00	155,311.42	0.00	0.00	0.00	155,311.42
A1301.07 g-2 Cryo Checkout	Scheduled	0.00	0.00	0.00	65,416.12	0.00	69,534.72	134,950.84
A1301.08 Cryo g-2 Acceptance Tests	Scheduled	0.00	0.00	11,968.50	102,502.33	0.00	0.00	114,470.83
A1301.09 Cryo MU2e Acceptance Tests	Scheduled	0.00	0.00	0.00	0.00	0.00	97,719.37	97,719.37
Grand Total	Scheduled	0.00	658,342.28	3,375,923.74	636,554.41	1,526,168.20	645,498.87	6,842,487.50

**Cryo Post CR010 CAP**

Control Account		FY12	FY13	FY14	FY15	FY16	FY17	Cumulative
A1301.02.01.01 Cryo AIP General Project OS - FY13	Scheduled	0.00	51,346.42	0.00	0.00	0.00	0.00	51,346.42
A1301.02.01.02 Cryo AIP General Project OS - FY14	Scheduled	0.00	3,594.05	129,557.05	0.00	0.00	0.00	133,151.10
A1301.02.01.03 Cryo AIP General Project OS - FY15	Scheduled	0.00	0.00	2,134.07	30,214.73	0.00	0.00	32,348.80
A1301.02.01.04 Cryo AIP General Project OS - FY16	Scheduled	0.00	0.00	0.00	3,106.86	128,186.95	0.00	131,293.81
A1301.02.01.05 Cryo AIP General Project OS - FY17	Scheduled	0.00	0.00	0.00	0.00	3,675.39	116,470.08	120,145.47
A1301.03 Cryo Basic Engineering	Scheduled	0.00	33,093.96	236,082.70	70,985.99	71,268.80	49,000.83	460,432.28
A1301.04.01 Cryo LN2 system	Scheduled	0.00	4,514.95	409,013.92	0.00	0.00	0.00	413,528.87
A1301.04.02 Cryo Gas management system	Scheduled	0.00	57,841.53	178,224.26	0.00	0.00	0.00	236,065.78
A1301.04.03 Cryo ODH system	Scheduled	0.00	0.00	49,757.63	0.00	0.00	0.00	49,757.63
A1301.04.04 Cryo Refrigerator System	Scheduled	0.00	149,077.19	1,134,055.74	157,480.87	313,192.75	0.00	1,753,806.54
A1301.04.05 Cryo Compressor System	Scheduled	0.00	59,453.27	367,138.94	0.00	0.00	0.00	426,592.21
A1301.04.06 Cryo Interconnect Piping	Scheduled	0.00	225,594.62	512,339.28	0.00	0.00	0.00	737,933.91
A1301.04.07 Cryo Interconnect Electrical & Controls	Scheduled	0.00	46,627.36	119,526.30	0.00	0.00	0.00	166,153.66
A1301.05.01 Muze Interface Connection	Scheduled	0.00	0.00	70,813.93	206,847.51	1,009,844.31	312,773.87	1,600,279.62
A1301.05.02 g-2 Interface Connection	Scheduled	0.00	27,198.92	0.00	0.00	0.00	0.00	27,198.92
A1301.06 Cryo Safety Documents	Scheduled	0.00	0.00	155,311.42	0.00	0.00	0.00	155,311.42
A1301.07 g-2 Cryo Checkout	Scheduled	0.00	0.00	0.00	65,416.12	0.00	69,534.72	134,950.84
A1301.08 Cryo g-2 Acceptance Tests	Scheduled	0.00	0.00	11,968.50	102,502.33	0.00	0.00	114,470.83
A1301.09 Cryo Muze Acceptance Tests	Scheduled	0.00	0.00	0.00	0.00	0.00	97,719.37	97,719.37
Grand Total	Scheduled	0.00	658,342.28	3,375,923.74	636,554.41	1,526,168.20	645,498.87	6,842,487.50