



Change Request Form

12 GeV Upgrade

Project Name

Identification

Change Request # 13-006	Title Hall C FY13 Replan	
WBS # 1.4.3	Date 12/7/2012	Date Required 1/31/2013
Originator Name H. C. Fenker		
Item Name	Drawing/Spec #	
Vendor Name	Purchase Order #	

Status

Change Request Status: Approved
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Description and Justification

Description of Proposed Change	
<p>This Change Request is to re-plan near term Hall C activities to ensure proper management and tracking of the work scope. It includes revisions of resource requirements for several fabrication and installation activities, as well as minor schedule and logic changes. It includes the addition of travel and some consultant support for supervision of vendor performance on the five superconducting magnets. A summary is given on the Continuation Page.</p>	
<p>Impact to linked projects? ___ YES <u>X</u> NO WBS / WBS Dictionary Change? <u>___</u> YES <u>X</u> NO (if YES, then include proposed change in this section)</p>	
Justification of Proposed Change	
<p>The re-planning is needed for Hall C to make the P6 project plan accurately reflect the requirements of the project. Some labor estimates and task schedules must be adjusted to reflect detailed planning based on recent experience. This is particularly true for the five superconducting magnets, which require an increase in vendor oversight. Effort is needed to produce manufacturing drawings for installation tooling and fixtures that were not well understood earlier. This includes detailed designs for the interfaces with new and/or existing equipment. Some essential parts needed to build the baseline scope that were not included in prior estimates were added. Installation effort planned earlier for the SHMS is not likely to be able to support the complete assembly of the spectrometer.</p> <p>This CR increases the FY13 BCWS by \$826K but also delays \$1,196K of existing Hall C scope due to FY13 funding constraints. These adjustments cause a net decrease in FY13 of \$370K.</p>	
Impact if Change Request not Approved	
<p>The project plan will not include all needed activities and resources and will not be a useful planning tool. Difficulty will be had in tracking actual progress and earned value against baseline plan. Numerous required activities will be overlooked and/or underfunded. The Primavera schedule will not be a useful planning tool if logic errors are not corrected.</p>	
Change Control Board Member Concurrence G. R. Young	Impact Assessment Assigned To H. C. Fenker

Change Impact Assessment

Technical Impacts

Increased magnet oversight and performance.

Name(s) H. Fenker

Schedule Impacts

The FY13 plan was solidified and existing FY13 work was pushed into the future to meet budget constraints.

This CR does not address the Hall C Critical path; this will be addressed in the rebaseline CR.

Project Milestone (Highest Level Milestones Affected)	Old Date	New Date	Total Float (Before)	Total Float (After)
None				

Name(s) P. Kessler

Cost Impacts (Direct \$K)

FY13: **-\$370K**

FY14: **+\$1,152K**

FY15: **+\$44K**

WBS Number	Labor/Procurement/Expenses	Direct Cost (+ increase; - decrease)	Burdened Cost (+ increase; - decrease)
1.4.3	Labor	+\$266K	+\$298K
1.4.3	Procurement/Expenses	+\$560K	+\$556K
	Change Request Total	+\$826K	+854K

Name(s) P.Kessler

Quality/Safety Impacts

None.

Name(s) H. Fenker

Classification Level

Classification Level: **2**

Control Account Manager H. C. Fenker

Associate Project Manager G. R. Young

PMO Approval K. Krug

Recommendation and Disposition

Implement as described. This CR will draw \$896K (AY\$) from Contingency.

Change Control Board Review (if required)

CCB Rode, Lung, Harwood, Young, Yasky	Date (m/d/yy) 1/17/13
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Final Approval

Class Level 5

Control Account Manager	Date (m/d/yy)
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Class Level 4

Associate Project Manager	Date (m/d/yy)
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Class Level 3

Project Manager C. Rode	Date (m/d/yy) 1/17/13
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Class Level 1-2

Project Customer M. Epps	Date (m/d/yy) 1/24/13
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Continuation Page

WBS: 1.4.3.1 Hall C Magnets- Initial \$14,336K, Final \$15,366K, Delta: \$ 602K

1.4.3.1.2 Q1 Magnet:

Initial \$1,579K, Final \$1,595K, Delta \$16K

Additional travel for vendor interaction on the Q1 magnet (\$6K), and additional scientific consultant manpower for vendor interaction on Q1 (\$10K).

1.4.3.1.4 Dipole Magnet:

Initial \$2,207K, Final \$2,706K, Delta \$499K

Additional travel for vendor interaction on the Dipole magnet (\$14K), including development of coil hardness tests (\$234K) and revised epoxy-impregnation methods (\$250K).

1.4.3.1.5 Magnet Components Procured by JLab:

Initial \$6,120K, Final \$6,207K, Delta \$87K

Additional support of conductor soldering effort at vendor, including material (\$66K) and additional procurement and vendor oversight (\$21K).

WBS: 1.4.3.2 Hall C Detectors- Initial \$1,029K, Final \$1,044K, Delta \$15K

1.4.3.2.3 Noble Gas Cerenkov:

Initial \$194K, Final \$218K, Delta \$24K

Production of manufacturing drawings (\$24K)

1.4.3.2.4 Heavy Gas Cerenkov:

Initial \$220K, Final \$211K, Delta **-\$9K**

Lower estimated cost of gas handling system (-\$9K).

WBS: 1.4.3.3 Hall C Computing- Initial \$43K, No Change

WBS: 1.4.3.4 Hall C Electronics – Initial \$341K, Final \$398K, Delta \$57K

1.4.3.4.1 Fast Electronics:

Initial \$253K, Final \$310K, Delta \$57K

TDC modules actual costs (\$57K)

WBS: 1.4.3.5 Hall C Beamline – Initial \$870K, Final \$638K, Delta **-\$232K**

1.4.3.5.1 Moeller Polarimeter

Initial \$41K, Final \$17K, Delta **-\$24K**

Production of manufacturing drawings (-\$24K).

1.4.3.5.3 Mapping:

Initial \$376K, Final \$174K, Delta **-\$202K**

Need for separate magnet mapper removed (-\$64K), and reduced magnet mapping effort needed to meet field precision needed (-\$138K).

1.4.3.5.4 Scattering Chamber:

Initial \$211K, Final \$205K, Delta **-\$6K**

Higher estimated cost for scattering chamber flanges (\$10K), and reduced estimated cost for valves and spool pieces to connect to beamline (-\$16K).

WBS: 1.4.3.6 Hall C Infrastructure - Initial \$8,195K, Final \$8,580K, Delta \$385K

WBS: 1.4.3.6.2 Support Structure:

Initial \$2,407K, Final \$2,329K, Delta **-\$78K**

Reduction in outside contract engineering support to complete design of support structure (-\$78K)

WBS: 1.4.3.6.3 Shield House :

Initial \$1,000K, Final \$1,032K, Delta \$32K

Additional effort to produce final manufacturing drawings for shield house (\$32K).

WBS: 1.4.3.6.4 Cryogenic System:

Initial \$784K, Final \$913K, Delta \$129K

Additional effort to produce final manufacturing drawings for cryogenics systems interconnections and ties to existing Hall C services and controls (\$129K).

WBS: 1.4.3.6.5 Vacuum System:

Initial \$483K, Final \$523K, Delta \$40K

Additional effort to produce manufacturing drawings for vacuum system parts, based on final vendor designs of magnets (\$40K).

WBS: 1.4.3.6.6 Cabling:

Initial \$63K, Final \$78K, Delta \$15K

Effort needed to terminate new cables for SHMS fast signal readout (\$15K).

WBS: 1.4.3.6.8 Installation:

Initial \$3,453K, Final \$3,701K, Delta \$248K

Additional effort, materials and contract labor is needed to complete the installation of the SHMS. Major tasks requiring added FY2013 effort and/or materials include: rigging, installing, welding and fitting out the support structure (\$169K); cryogenics supports, installation, and modifications to existing system (\$79K).