

1) BCP Number: NSF-045A	2) BCP Title: LAr COVID-19 Impact May 2021-February 2022			
3) WBS Number: 6.4				
5) Date Submitted to Project Office:				
6) Change Designation:7) BCP WBS Level:Priority []Level 0[] Level 2[]Routine [X]Level 1[X] Level 3[X]	8) Directed Change? Yes [] No [X]	9) Funding Source: NSF		
10) Contact: Penka Novakova Institution: BNL	Email: penka@bnl.gov			
11) Change in response to [X] COVID-19 constraints, []] increased or realized risk(s) or [] effect of un	certainties		
If realized risk(s), list of risk IDs:				
12) Exception to 2-month BCP freeze period				
a) Large procurement updates should be allowed with	thout this restriction []			
b) All technical work that depend on the feedback of	r result from on-going or earlier tasks. []			
c) Changes needed in response to collaboration need	is. []			
d) Changes in response to COVID-19 constraints. [X]			
 13) Change Description: The impacts of COVID-19 for the period May 2021-Febru Delays due to access restrictions or late delivery of Resource increases due to reduced work efficience Only impacts due to COVID-19 are recorded, not impacts 	of components y	ıg		
14) Change Justification:				
This change is needed to keep track of the COVID-19 imp metrics.	acts and to remain able to track the project perf	formance through EVM		
15) Impact of Non-Approval: Earned value management metrics extracted from schedule	e status reports will not be useful to track perfo	rmance.		

16) Impact on Cost Base	eline:		Baseline		Propos			ange
			(AY\$)		(AY\$)		(AY\$)	
			\$19,452,231		\$19,552	,432	\$10	0,202
17) Impact on Cost Base								
						FY25	FY26	Grand Total
After	583,577	1,807,961	2,704,462		3,198,489	6,384,818	1,387,837	19,552,432
6.04.01 FE Electronics	330,882	1,215,392	1,989,978	1,989,921	469,474	157,275		6,152,923
6.04.02 FEB2	123,501	230,517	287,102		2,112,264	3,216,174	844,579	7,465,925
6.04.03 BE Electronics	129,194	362,052	427,382	843,579	616,750	3,011,369	543,259	5,933,585
Before	583,577	2,007,321	4,937,101		4,153,882	5,962,614	278,262	19,452,231
6.04.01 FE Electronics	330,882	1,235,415	3,640,298	409,053	467,883	80,331	100.001	6,163,861
6.04.02 FEB2	123,501	300,654	562,867		2,783,806	2,999,634	123,681	7,399,322
6.04.03 BE Electronics	129,194	471,252	733,936	615,241	902,193	2,882,649	154,581	5,889,047
Grand Total	1,167,153	3,815,282	7,641,563	5,014,762	7,352,371	12,347,432	1,666,100	39,004,663
Diff								
Diff 6.04.01 FE Electronics	-	(20,023)	(1,650,320)	1,580,868	1,592	76,944	-	(10,939)
	- -	(20,023) (70,137)	(1,650,320) (275,765)	1,580,868 146,608	1,592 (671,541)	76,944 216,540	- 720,898	(10,939) 66,603
6.04.01 FE Electronics		,						(10,939) 66,603 44,538
6.04.01 FE Electronics 6.04.02 FEB2 6.04.03 BE Electronics Total 18) Explanation of Impa	- - - net on Cost Baseli	(70,137) (109,200) (199,360) ne:	(275,765) (306,554) (2,232,638)	146,608	(671,541)	216,540	720,898	66,603 44,538
6.04.01 FE Electronics 6.04.02 FEB2 6.04.03 BE Electronics Total 18) Explanation of Impa There is a \$100,202 cost Sum of Value	- - - - - - - - - - - - - - - - - - -	(70,137) (109,200) (199,360) ne: s due to esc	(275,765) (306,554) (2,232,638) alation.	146,608 228,338 1,955,814	(671,541) (285,443) (955,393)	216,540 128,720 422,204	720,898 388,677	66,603
6.04.01 FE Electronics 6.04.02 FEB2 6.04.03 BE Electronics Total 18) Explanation of Impa There is a \$100,202 cos Sum of Value Row Labels	- - - - - - - - - - - - - - - - - - -	(70,137) (109,200) (199,360) ne: s due to esc FRINGE	(275,765) (306,554) (2,232,638) alation.	146,608 228,338 1,955,814 ESC	(671,541) (285,443) (955,393) Grand To	216,540 128,720 422,204	720,898 388,677	66,603 44,538
6.04.01 FE Electronics 6.04.02 FEB2 6.04.03 BE Electronics Total 18) Explanation of Impa There is a \$100,202 cos Sum of Value Row Labels E After	- - - - - - - - - - - - - - - - - - -	(70,137) (109,200) (199,360) ne: s due to esc FRINGE 3 1,240,625	(275,765) (306,554) (2,232,638) alation. OVERHEAD 5 966,215	146,608 228,338 1,955,814 ESC 1,686,628	(671,541) (285,443) (955,393) Grand To 19,552	216,540 128,720 422,204	720,898 388,677	66,603 44,538
6.04.01 FE Electronics 6.04.02 FEB2 6.04.03 BE Electronics Total 18) Explanation of Impa There is a \$100,202 cost Sum of Value Row Labels After 6.04.01 FE Electronics	- ict on Cost Baseli t increase which i Column Labels T DIRECT 15,658,96 4,971,31	(70,137) (109,200) (199,360) ne: s due to esc FRINGE 3 1,240,625 7 516,894	(275,765) (306,554) (2,232,638) alation. OVERHEAD 5 966,215 364,415	146,608 228,338 1,955,814 ESC 1,686,628 300,297	(671,541) (285,443) (955,393) Grand To 19,552 6,152	216,540 128,720 422,204	720,898 388,677	66,603 44,538
6.04.01 FE Electronics 6.04.02 FEB2 6.04.03 BE Electronics Total 18) Explanation of Impa There is a \$100,202 cost Sum of Value Row Labels After 6.04.01 FE Electronics 6.04.02 FEB2	- ict on Cost Baseli t increase which i Column Labels JDIRECT 15,658,96 4,971,31 5,934,19	(70,137) (109,200) (199,360) ne: s due to esc FRINGE 3 1,240,625 7 516,894 1 568,507	(275,765) (306,554) (2,232,638) alation. OVERHEAD 5 966,215 (364,415 (45,964)	146,608 228,338 1,955,814 ESC 1,686,628 300,297 917,262	(671,541) (285,443) (955,393) Grand To 19,552 6,152 7,465	216,540 128,720 422,204	720,898 388,677	66,603 44,538
6.04.01 FE Electronics 6.04.02 FEB2 6.04.03 BE Electronics Total 18) Explanation of Impa There is a \$100,202 cost Sum of Value Row Labels After 6.04.01 FE Electronics 6.04.02 FEB2 6.04.03 BE Electronics	- 	(70,137) (109,200) (199,360) ne: s due to esc FRINGE 3 1,240,625 7 516,894 1 568,507 5 155,224	(275,765) (306,554) (2,232,638) alation. OVERHEAD 5 966,215 364,415 45,964 555,836	146,608 228,338 1,955,814 ESC 1,686,628 300,297 917,262 469,070	(671,541) (285,443) (955,393) (955,393) Grand To 19,552 6,152 7,465 5,933	216,540 128,720 422,204 ,432 ,923 ,925 ,585	720,898 388,677	66,603 44,538
6.04.01 FE Electronics 6.04.02 FEB2 6.04.03 BE Electronics Total 18) Explanation of Impa There is a \$100,202 cos Sum of Value Row Labels ■ After 6.04.01 FE Electronics 6.04.02 FEB2 6.04.03 BE Electronics ■ Before	- 	(70,137) (109,200) (199,360) ne: s due to esc FRINGE 3 1,240,625 7 516,894 1 568,507 5 155,224 7 1,243,867	(275,765) (306,554) (2,232,638) alation. OVERHEAD 5 966,215 364,415 45,964 555,836 969,842	146,608 228,338 1,955,814 ESC 1,686,628 300,297 917,262 469,070 1,568,924	(671,541) (285,443) (955,393) (955,3	216,540 128,720 422,204	720,898 388,677	66,603 44,538
6.04.01 FE Electronics 6.04.02 FEB2 6.04.03 BE Electronics Total 18) Explanation of Impa There is a \$100,202 cos Sum of Value Row Labels ■ After 6.04.01 FE Electronics 6.04.03 BE Electronics ■ Before 6.04.01 FE Electronics	- 	(70,137) (109,200) (199,360) ne: s due to esc FRINGE 3 1,240,625 7 516,894 1 568,507 5 155,224 7 1,243,867 2 520,139	(275,765) (306,554) (2,232,638) alation. OVERHEAD 5 966,215 4 364,415 5 45,964 4 555,836 9 969,842 9 368,212	146,608 228,338 1,955,814 ESC 1,686,628 300,297 917,262 469,070 1,568,924 293,069	(671,541) (285,443) (955,393) (955,3	216,540 128,720 422,204 ,432 ,923 ,925 ,585 ,231 ,861	720,898 388,677	66,603 44,538
6.04.01 FE Electronics 6.04.02 FEB2 6.04.03 BE Electronics Total 18) Explanation of Impa There is a \$100,202 cos Sum of Value Row Labels ■ After 6.04.01 FE Electronics 6.04.03 BE Electronics ■ Before 6.04.01 FE Electronics 6.04.01 FE Electronics 6.04.02 FEB2	- - - - - - - - - - - - - -	(70,137) (109,200) (199,360) ne: s due to esc FRINGE 3 1,240,625 7 516,894 1 568,507 5 155,224 7 1,243,867 2 520,139 1 568,507	(275,765) (306,554) (2,232,638) alation. OVERHEAD 5 966,215 4 364,415 5 455,836 9 969,842 9 368,212 4 5,964	146,608 228,338 1,955,814 ESC 1,686,628 300,297 917,262 469,070 1,568,924 293,069 850,659	(671,541) (285,443) (955,393) (955,3	216,540 128,720 422,204 (422,204 (422,204) (42	720,898 388,677	66,603 44,538
6.04.01 FE Electronics 6.04.02 FEB2 6.04.03 BE Electronics Total 18) Explanation of Impa There is a \$100,202 cos Sum of Value Row Labels After 6.04.01 FE Electronics 6.04.03 BE Electronics Before 6.04.01 FE Electronics	- 	(70,137) (109,200) (199,360) ne: s due to esc FRINGE 3 1,240,625 7 516,894 1 568,507 5 155,224 7 1,243,867 2 520,138 1 568,507 4 155,221	(275,765) (306,554) (2,232,638) alation. OVERHEAD 966,215 364,415 45,964 555,836 969,842 368,212 45,964 555,666	146,608 228,338 1,955,814 ESC 1,686,628 300,297 917,262 469,070 1,568,924 293,069	(671,541) (285,443) (955,393) (955,393) (955,393) (955,393) (955,393) (955,393) (955,293) (9,152) (7,465) (5,933) (9,452) (6,163) (7,399) (5,889) (5,889)	216,540 128,720 422,204 ,432 ,923 ,925 ,585 ,231 ,861 ,322 ,047	720,898 388,677	66,603 44,538
6.04.01 FE Electronics 6.04.02 FEB2 6.04.03 BE Electronics Total 18) Explanation of Impa There is a \$100,202 cos Sum of Value Row Labels ■ After 6.04.01 FE Electronics 6.04.02 FEB2 6.04.03 BE Electronics 8 Before 6.04.01 FE Electronics 6.04.02 FEB2 6.04.03 BE Electronics 6.04.02 FEB2 6.04.03 BE Electronics 6.04.03 BE Electronics	- - - - - - - - - - - - - -	(70,137) (109,200) (199,360) ne: s due to esc FRINGE 3 1,240,625 7 516,894 1 568,507 5 155,224 7 1,243,867 2 520,138 1 568,507 4 155,221	(275,765) (306,554) (2,232,638) alation. OVERHEAD 966,215 364,415 45,964 555,836 969,842 368,212 45,964 555,666	146,608 228,338 1,955,814 ESC 1,686,628 300,297 917,262 469,070 1,568,924 293,069 850,659 425,197	(671,541) (285,443) (955,393) (955,393) (955,393) (955,393) (955,393) (955,393) (955,293) (9,152) (7,465) (5,933) (9,452) (6,163) (7,399) (5,889) (5,889)	216,540 128,720 422,204 ,432 ,923 ,925 ,585 ,231 ,861 ,322 ,047	720,898 388,677	66,603 44,538
6.04.01 FE Electronics 6.04.02 FEB2 6.04.03 BE Electronics Total 18) Explanation of Impa There is a \$100,202 cos Sum of Value Row Labels After 6.04.01 FE Electronics 6.04.02 FEB2 6.04.03 BE Electronics 6.04.02 FEB2 6.04.03 BE Electronics 6.04.02 FEB2 6.04.03 BE Electronics 6.04.03 BE Electronics 6.04.03 BE Electronics 6.04.03 BE Electronics	- - - - - - - - - - - - - -	(70,137) (109,200) (199,360) ne: s due to esc FRINGE 3 1,240,625 7 516,894 1 568,507 5 155,224 7 1,243,867 2 520,138 1 568,507 4 155,221 0 2,484,492	(275,765) (306,554) (2,232,638) alation. OVERHEAD 966,215 364,415 45,964 555,836 969,842 9368,212 45,964 555,666 1,936,057	146,608 228,338 1,955,814 ESC 1,686,628 300,297 917,262 469,070 1,568,924 293,069 850,659 425,197 3,255,553	(671,541) (285,443) (955,393) (955,393) (955,393) (955,393) (955,393) (955,393) (955,20 (19,552) (19,5	216,540 128,720 422,204 042,204 042,204 042,204 042,204 042,204 042,204 042,204 042,204 047 ,663	720,898 388,677	66,603 44,538
6.04.01 FE Electronics 6.04.02 FEB2 6.04.03 BE Electronics Total 18) Explanation of Impa There is a \$100,202 cos Sum of Value Row Labels After 6.04.01 FE Electronics 6.04.02 FEB2 6.04.03 BE Electronics Before 6.04.01 FE Electronics 6.04.03 BE Electronics Grand Total Diff 6.04.01 FE Electronics	- - - - - - - - - - - - - -	(70,137) (109,200) (199,360) ne: s due to esc FRINGE 3 1,240,625 7 516,894 1 568,507 5 155,224 7 1,243,867 2 520,138 1 568,507 4 155,221 0 2,484,492 5) (3,245	(275,765) (306,554) (2,232,638) alation. OVERHEAD 966,215 364,415 45,964 555,836 969,842 368,212 45,966 555,666 1,936,057	146,608 228,338 1,955,814 ESC 1,686,628 300,297 917,262 469,070 1,568,924 293,069 850,659 425,197 3,255,553	(671,541) (285,443) (955,393) (955,393) (955,393) (955,393) (955,393) (955,20 (195,20) (195,20) (195,20) (10	216,540 128,720 422,204 ,432 ,923 ,925 ,585 ,231 ,861 ,322 ,047 ,663 ,939)	720,898 388,677	66,603 44,538
6.04.01 FE Electronics 6.04.02 FEB2 6.04.03 BE Electronics Total 18) Explanation of Impa There is a \$100,202 cos Sum of Value Row Labels After 6.04.01 FE Electronics 6.04.02 FEB2 6.04.03 BE Electronics 6.04.02 FEB2 6.04.03 BE Electronics 6.04.03 FEB2	- - - - - - - - - - - - - -	(70,137) (109,200) (199,360) ne: s due to esc r r fRINGE 3 1,240,625 7 516,894 1 568,507 5 155,224 7 1,243,867 2 520,138 1 568,507 4 155,221 0 2,484,492 5) (3,245 0) (0	(275,765) (306,554) (2,232,638) alation. OVERHEAD 966,215 364,415 45,964 555,836 969,842 368,212 45,964 555,666 969,842 368,212 45,964 555,666 1,936,057	146,608 228,338 1,955,814 ESC 1,686,628 300,297 917,262 469,070 1,568,924 293,069 850,659 425,197 3,255,553	(671,541) (285,443) (955,393) (955,3	216,540 128,720 422,204 ,422,204 ,422,204 ,923 ,925 ,585 ,231 ,861 ,322 ,047 ,663 ,939) ,603	720,898 388,677	66,603 44,538
6.04.01 FE Electronics 6.04.02 FEB2 6.04.03 BE Electronics Total 18) Explanation of Impa There is a \$100,202 cos Sum of Value Row Labels After 6.04.01 FE Electronics 6.04.02 FEB2 6.04.03 BE Electronics Before 6.04.01 FE Electronics 6.04.03 BE Electronics Grand Total Diff 6.04.01 FE Electronics	- - - - - - - - - - - - - -	(70,137) (109,200) (199,360) ne: s due to esc FRINGE 3 1,240,625 7 516,894 1 568,507 5 155,224 7 1,243,867 2 520,138 1 568,507 4 155,221 0 2,484,492 5) (3,245 0) ((0 1 3	(275,765) (306,554) (2,232,638) alation. OVERHEAD 966,215 364,415 45,964 555,836 969,842 388,212 388,212 45,964 555,666 969,842 388,212 45,964 555,666 1,936,057	146,608 228,338 1,955,814 1,955,814 1,686,628 300,297 917,262 469,070 1,568,924 293,069 850,659 425,197 3,255,553) 7,228 66,603 43,873	(671,541) (285,443) (955,393) (955,3	216,540 128,720 422,204 ,432 ,923 ,925 ,585 ,231 ,861 ,322 ,047 ,663 ,939)	720,898 388,677	66,603 44,538

20) Explanation of Impact on Schedule Baseline:

The delays are due to lab access limitations and reduced work efficiency due to COVID-19 constraints.

BCP Number: NSF-045A	BCP Title: LAr COVID-19 Impact May 2021-February 2022			
21) Impact on Scope Baseline:				
Item		Baseline	Proposed	Change
22) Explanation of Impact on Scope Baseline: N/A				
23) Risk Analysis for the proposed change:				
N/A				
24) Explanation of Risk Analysis for the properties of the COVID-19 risk is owned by NSF.	osed change:			
25) Other Impacts: (Health, Safety, Environment, etc.) Safety measures have been put in place everywhere following the locally mandated protocols. The good health of all participating personnel remains our top priority.				
26) Interim or Corrective Actions:				

Acknowledged by Control Account Manager

BCP Number: NSF-045A

27) REVIEW

BCP Title: LAr COVID-19 Impact May 2021-February 2022

PROJECT DISPOSITION – LEVEL 3

U.S. ATLAS HL-LHC Upgrade Project Manager J. Kotcher	Disposi
Janathy Kothy	DATE
U.S. ATLAS HL-LHC Upgrade Deputy Project Manager G. Brooijmans	Disposi
Of Brooijmans	DATE:
U.S. ATLAS HL-LHC Technical Coordinator	Disposi
H. Evans Hawa & hvan	DATE:
U.S. ATLAS HL-LHC NSF Principal Investigator	Dispos
M. Tuts Mily Muchael Pat	DATE:
U.S. ATLAS HL-LHC Project Controls Manager	Dispos
P. Novakova P. Novakovy	DATE:
U.S. ATLAS HL-LHC Risk Manager C. Meyer	Dispos

Mey

U.S. ATLAS HL-LHC L2 Manager Name/Title

U.S. ATLAS HL-LHC Deputy L2 Manager Name/Title

ngAla

U.S. ATLAS HL-LHC L3 Manager Name/Title

Timothy R. Andern, Jr. Q Br

RECOMME	NDATIONS:	
Disposition	[X] Approve	[] Reject
DATE: 3	/16/22	
Disposition	[X]Approve	[] Reject
DATE: 3/1	6/22	
		[] Reject
DATE: 3/16/	/22	
	[]] Approve	[] Reject
DATE: 3/1	6/22	
Disposition	[z] Ammoria	Deiset
	[X] Approve	[] Reject
DATE: 3/16	5/22	
Disposition	[X] Approve	[] Reject
	/16/22	
Disposition	[X] Approve	[] Reject
DATE: 3/1	6/22	
Disposition	[X] Approve	[]Reject
DATE: 3/10	6/22	
Disposition	[X] Approve	[] Reject
A DATE: 3/	16/22	

AGENCY DISPOSITION - LEVEL 1

Б

28) Federal Project Director, BHSO Robert Caradonna	Disposition DATE:	[] Approve	[] Reject	[] Concur
DOE Program Manager Ted Lavine	Disposition	[] Approve	[] Reject	[] Concur
	DATE:			
DOE Acquisition Executive J. Stephen Binkley	Disposition	[] Approve	[] Reject	
	DATE:			
NSF Program Officer Mark Coles	Disposition	[X] Approve	[] Reject	
Mark Coles	DATE:	March 17, 2022		
NSF Grants and Agreements or Contracts Officer TBD	Disposition	[] Approve	[] Reject	
	DATE:			
29) Explanation (If Action is Approved with Conditions, or Not Concurred Upon)				