US LHC Accelerator Project Controlled Milestones

Status Date: 6 Nov 2001

US LHC Accelerator Project Level 1 Milestones

Milestone No.			Baseline Date	Forecast Date	Actual Date
1 - 1		Project Start	1 Oct 1995		1 Oct 1995
1 - 2 C		Decision as to whether or not the U.S. Project includes RF region quadrupoles	1 Jul 2001		20 Jun 2001
1 - 3		Project Completion	30 Sep 2005		

Level 1 Milestone Status:

Revised 1 July 1998

Milestones 1-1 and 1-3 approved as part of the Project Baseline, 15 June 1998.

Milestone 1-2C included and approved in the Implementing Arrangement 1 July 1998

US LHC Accelerator Project Controlled Milestones

Status Date: 6 Nov 2001

US LHC Accelerator Project Level 2 Milestones

Milestone No.		Baseline Date	Forecast Date	Actual Date
	WBS 1.1 Interaction Regions			
2 -1.1- 1	Begin 1st inner triplet quadrupole model magnet	1 Jul 1997		1 Jul 1997
2 -1.1- 2	Complete inner triplet quadrupole model magnet program phase 1	1 Dec 1999		28 Sep 1999
2 -1.1- 3	Complete inner triplet quadrupole model magnet program phase 2	1 Mar 2000		17 Mar 2000
2 -1.1- 4	Place purchase order for HTS power leads	1 Feb 2000		30 Aug 2000
2 -1.1- 5	Begin absorber fabrication	1 Nov 2000		30 Oct 2000
2 -1.1- 6	Complete inner triplet quadrupole prototype magnet program	1 Oct 2001		31 Aug 2001
2 -1.1- 7	Begin interaction region beam separation dipole production assembly	1 Oct 2000		25 Jul 2000
2 -1.1- 8	Begin inner triplet feedbox fabrication	1 Mar 2001	15 Apr 2002	
2 -1.1- 9	Begin inner triplet quadrupole production assembly	1 Nov 2001		1 May 2001
2 -1.1- 10	Complete 1st inner triplet quadrupole magnet	1 Sep 2002		
~~2 -1.1- 11 C~~	~~Delivery of D2 for IR8 left~~	~~1 Apr 2002~~		
2 -1.1- 12	Complete inner triplet feedbox fabrication	1 May 2002	1 Nov 2003	
2 -1.1- 13 C	Delivery of all inner triplet system components for IR8 left (MQX, DFBX, D1, D2)	1 Oct 2003		
~~2 -1.1- 14 C~~	~~Delivery of D2 for IR5 left~~	~~1 Nov 2002~~		
2 -1.1- 15	Complete absorber fabrication	1 Feb 2003		
2 -1.1- 16 C	Delivery of all inner triplet system components for IR8 right (MQX, DFBX, D1, D2)	1 Jul 2004		
~~2 -1.1- 17 C~~	~~Delivery of D2 for IR8 right~~	~~1 Feb 2003~~		
2 -1.1- 18	Complete interaction region beam separation dipole production assembly	1 Mar 2003		
2 -1.1- 19 C	Delivery of all inner triplet sys. components for IR1 left (MQX,DFBX,D2,TAS,TAN)	1 Jul 2004		
~~2 -1.1- 20 C~~	~~Delivery of D2 for IR2 right~~	~~1 Sep 2003~~		
~~2 -1.1- 21~~	~~Begin ionization chamber fabrication~~	~~1 Nov 2003~~		
~~2 -1.1- 22 C~~	~~Delivery of D2 for IR1 left~~	~~1 Dec 2003~~		
2 -1.1- 23 C	Delivery of all inner triplet sys. components for IR5 left (MQX,DFBX,D2,TAS,TAN)	1 May 2005		
~~2 -1.1- 24 C~~	~~Delivery of D2 for IR5 right~~	~~1 Mar 2004~~		
2 -1.1- 25 C	Delivery of all inner triplet sys. components for IR5 right(MQX,DFBX,D2,TAS,TAN)	1 Jun 2005		
2 -1.1- 26 C	Delivery of all inner triplet sytem components for IR2 right (MQX, DFBX, D1, D2)	1 Sep 2004		
2 -1.1- 27 C	Delivery of all inner triplet sys. components for IR1 right(MQX,DFBX,D2,TAS,TAN)	1 Mar 2004		
~~2 -1.1- 28 C~~	~~Delivery of D2 for IR1 right~~	~~1 Aug 2004~~		
~~2 -1.1- 29 C~~	~~Delivery of D2 for IR2 left~~	~~1 Sep 2004~~		

US LHC Accelerator Project Controlled Milestones

Status Date: 6 Nov 2001

US LHC Accelerator Project Level 2 Milestones

Milestone No.		Baseline Date	Forecast Date	Actual Date
2 -1.1- 30	Complete inner triplet quadrupole production	1 Mar 2005		
~~2 -1.1- 31~~	~~Complete ionization chamber fabrication~~	~~15 Sep 2004~~		
2 -1.1- 32 C	Delivery of all inner triplet system components for IR2 left (MQX, DFBX, D1, D2)	1 Mar 2004		
2 -1.1- 33	Interaction Region task complete	30 Sep 2005		
	WBS 1.2 RF Region			
2 -1.2- 1	Begin assembly of 1st dipole model magnet	1 Sep 1999		10 Jun 1999
2 -1.2- 2	Complete dipole model magnet program	1 Aug 2000		8 Nov 2000
2 -1.2- 3	Begin RF region beam separation dipole production assembly	1 Jan 2002		
2 -1.2- 4 C	Delivery of D3, D4 for IR4 right	1 May 2005		
2 -1.2- 5	Complete RF region beam separation dipole production assembly	1 Oct 2002		
2 -1.2- 6 C	Delivery of D3, D4 for IR4 left	1 Oct 2004		
2 -1.2- 7	RF Region task complete	30 Sep 2005		
	WBS 1.3 Superconducting Wire and Cable			
2 -1.3- 1	All cable production support equipment delivered to CERN	1 Sep 1999		28 May 1999
2 -1.3- 2	Complete SC testing facility upgrades	1 Jun 1999		30 Sep 1999
2 -1.3- 3	Series wire and cable testing complete	31 Mar 2005		
2 -1.3- 4	Superconducting Wire and Cable task complete	30 Sep 2005		

Level 2 Milestone Status:

Revised 7 October 1998
CERN controlled milestones included and approved in the Implementing Arrangement 1 July 1998.
Other milestones approved by PM, following poll of the CCB 22 Jan 1999.
Revised 30 Mar 1999 to reflect BCRs 5-11 and to include forecast dates for milestones due by 1 Apr 1999 but not yet completed.
Revised 28 August 2000 per BCR22
Revised 20 September 2001 per BCR 33 and 34
Revised 15 October 2001 per BCR 30
Revised 2 November 2001 per BCR 26 (approved 4 May 01, but milestone 2-1.3-3 was not updated at that time)
Revised 6 November 2001 per BCR 37

Notes

1) CERN approval is required for milestones with suffix "C."
2) Delivery dates are set approximately 6 months before the installation date to allow for acceptance testing at CERN.
3) An inner triplet system consists of all of the equipment for one interaction region specified under WBS 1.1 (see the WBS dictionary in section II.B of the Implementing Arrangement) except the twin-aperture beam separation dipoles D2 and the instrumentation for the absorbers.

US LHC Accelerator Project Controlled Milestones

Status Date: 6 Nov 2001

US LHC Accelerator Project Level 3 Milestones

Milestone No.			Baseline Date	Forecast Date	Actual Date
		WBS 1.1.1 Interaction Region Quadrupoles			
3 -1.1.1- 1		Inner triplet quadrupole (MQX) cold mass conceptual design review	15 Oct 1996		15 Oct 1996
3 -1.1.1- 2		Begin 1st quadrupole model magnet	1 Jul 1997		1 Jul 1997
3 -1.1.1- 3		Quench heaters for model magnet program phase 1 delivered, LBNL to FNAL	1 Jun 1998		1 Jun 1998
3 -1.1.1- 4		Cable and wedges for model magnet program phase 1 delivered, LBNL to FNAL	1 Jun 1998		1 Jun 1998
3 -1.1.1- 5		MQX cryostat conceptual design review	15 Dec 1998		21 Jan 1999
~~3 -1.1.1- 6~~	~~C~~	~~MQX cold mass to cryostat interface specification approved~~	~~1 Mar 1999~~		
3 -1.1.1- 6a	C	MQXB to LQX Cryostat Interface Specification approved	15 Oct 2000		11 Jul 2001
3 -1.1.1- 6b	C	MQXA to LQX Cryostat Interface Specification approved	1 Jan 2001	1 Jan 2002	
3 -1.1.1- 7		Complete model magnet program phase 1	1 Sep 1999		28 Sep 1999
3 -1.1.1- 8		Cable and wedges for model magnet program phase 2 delivered, LBNL to FNAL	1 Mar 1999		15 Jun 1999
~~3 -1.1.1- 9~~	~~C~~	~~MQXB field quality specifications approved~~	~~1 Jul 1999~~		
~~3 -1.1.1- 10~~	~~C~~	~~MQX functional specifications approved~~	~~1 Jul 1999~~		
3 -1.1.1- 10a	C	MQXB Functional Specification approved	15 Oct 2000		23 Apr 2001
3 -1.1.1- 10b	C	LQX Functional Specification approved	1 Dec 2000	1 Jan 2002	
3 -1.1.1- 10c	C	TAS2/3 Functional Specification approved	1 Dec 2000	1 Jan 2002	
3 -1.1.1- 11	C	Inner Triplet Corrector Interface Specification approved	15 Oct 2000	1 Jan 2002	
3 -1.1.1- 12	C	Inner triplet compensation and correction scheme approved	1 Jul 1999		7 Mar 2000
3 -1.1.1- 13		Start production of cable and wedges for prototype and production MQXB	1 Jan 2000		29 Feb 2000
3 -1.1.1- 14		Complete model magnet program phase 2	1 Dec 1999		17 Mar 2000
3 -1.1.1- 15	C	LQX Tunnel Installation and Alignment Specifications approved	1 Jun 2001	1 Jan 2002	
~~3 -1.1.1- 16~~	~~C~~	~~All MQX interface specifications approved~~	~~1 Nov 1999~~		
3 -1.1.1- 16a	C	LQX (Q3) to DFBX Interface Specification Approved	15 Oct 2000		13 Jul 2001
3 -1.1.1- 16b	C	LQX Cold Bore Tube Interface Specification Approved	1 Jan 2001	1 Feb 2002	
3 -1.1.1- 16c	C	LQX to BPM Interface Specification Approved	1 Apr 2001	1 Jan 2002	
3 -1.1.1- 16d	C	LQX to LQX Interface Specification Approved	1 Jun 2001	1 Jan 2002	
3 -1.1.1- 16e	C	LQX (Q1) to Warm Beam Vacuum Interface Specification Approved	1 Jun 2001	1 Jan 2002	
~~3 -1.1.1- 17~~		~~MQX Engineering Design Review~~	~~1 Apr 2000~~		
3 -1.1.1- 17a		MQX Cold Mass Engineering Design Review	1 Apr 2000		13 Apr 2000
3 -1.1.1- 17b		MQX Cryostat Engineering Design Review	1 Nov 2000		7 May 2001
~~3 -1.1.1- 18~~	~~C~~	~~Delivery to FNAL of BPMs~~	Deleted		
3 -1.1.1- 19		Complete prototype magnet program	15 Jul 2001		31 Aug 2001

US LHC Accelerator Project Controlled Milestones

Status Date: 6 Nov 2001

US LHC Accelerator Project Level 3 Milestones

Milestone No.			Baseline Date	Forecast Date	Actual Date
		WBS 1.1.1 Interaction Region Quadrupoles			
3 -1.1.1- 20		MQX Production Readiness Review	15 Jul 2001	1 Feb 2002	
3 -1.1.1- 21		Begin assembly of first MQXB	15 Jul 2001		1 May 2001
3 -1.1.1- 22		Complete production of cable and wedges for production MQXB	1 Jul 2001	31 Jan 2002	
3 -1.1.1- 23	C	Delivery to FNAL of 1st MQXA	1 Mar 2002		
3 -1.1.1- 24	C	Delivery to FNAL of 1st correction coil	1 Nov 2001	1 Jan 2002	
3 -1.1.1- 25		Begin assembly of first MQXA	1 Aug 2002		
3 -1.1.1- 26		IR8 left MQX ready to deliver	1 Mar 2003		
3 -1.1.1- 27		IR8 right MQX ready to deliver	1 Jul 2003		
3 -1.1.1- 28		IR1 left MQX ready to deliver	1 Nov 2003		
3 -1.1.1- 29		IR1 right MQX ready to deliver	1 Dec 2003		
3 -1.1.1- 30		IR5 left and right MQX ready to deliver	1 Apr 2004		
3 -1.1.1- 31		IR2 left and right MQX ready to deliver	1 Aug 2004		
3 -1.1.1- 32		All spare MQX ready to deliver	1 Sep 2004		
3 -1.1.1- 33		Interaction Region Quadrupoles task complete	30 Sep 2005		

US LHC Accelerator Project Controlled Milestones

Status Date: 6 Nov 2001

US LHC Accelerator Project Level 3 Milestones

Milestone No.				Baseline Date	Forecast Date	Actual Date
			WBS 1.1.2 Interaction Region Dipoles			
3 -1.1.2-	1		Beam Separation Dipole Conceptual Design Review (see Note 2)	1 Aug 1998		16 Jul 1998
3 -1.1.2-	2	C	D1,D2 field quality specifications approved	1 Feb 1999		10 Jun 1999
~~3 -1.1.2-~~	~~3~~	~~C~~	~~All D1,D2 functional and interface specifications approved~~	~~1 Jul 1999~~		
3 -1.1.2-	3a	C	Beam separation dipole functional specification approved	1 Jul 2000		15 Jun 2000
3 -1.1.2-	3b	C	D1 interface specification approved	1 Aug 2000		14 Feb 2001
3 -1.1.2-	3c	C	D2 interface specification approved	15 Sep 2000		31 Jan 2001
3 -1.1.2-	4		Superconducting wire for IR dipoles delivered by LBNL to BNL	1 Feb 2000		1 Oct 1999
~~3 -1.1.2-~~	~~5~~		~~Beam Separation Dipole Engineering Design Review (see Note 2)~~	~~1 Mar 2000~~		
3 -1.1.2-	5a		D1 engineering design review complete	15 Apr 2000		19 Sep 2000
3 -1.1.2-	5b		D2 engineering design review complete	15 Sep 2000		19 Sep 2000
~~3 -1.1.2-~~	~~6~~		~~Beam Separation Dipole Production Readiness Review (see Note 2)~~	~~1 Jun 2000~~		
3 -1.1.2-	6a		D1 production readiness review complete	1 Nov 2000		11 Dec 2000
3 -1.1.2-	6b		D2 production readiness review complete	1 Nov 2000		11 Dec 2000
~~3 -1.1.2-~~	~~7~~	~~C~~	~~Delivery by CERN to BNL of all CERN-provided D2 cryostat parts~~	~~1 Jul 2000~~		
3 -1.1.2-	7a	C	Delivery by CERN to BNL of all CERN-provided D1 parts	1 Dec 2000		31 Jan 2001
3 -1.1.2-	7b	C	Delivery by CERN to BNL of all CERN-provided parts for first D2	1 Aug 2000		31 Jan 2001
~~3 -1.1.2-~~	~~8~~		~~Begin assembly of 1st D2~~	~~1 Dec 2000~~		~~25 Jul 2000~~
3 -1.1.2-	8a		D2 1st issue production start	6 Jul 2000		25 Jul 2000
3 -1.1.2-	8b		D2 series production start (balance)	17 Jan 2001		17 Jan 2001
3 -1.1.2-	9		D2 series production complete	7 Feb 2002	1 Oct 2002	
3 -1.1.2-	10		D1 production start	9 Oct 2000		10 Oct 2000
3 -1.1.2-	11		D1 production complete	19 Jun 2001	1 Jan 2002	
3 -1.1.2-	12		Interaction Region Dipole task complete	30 Sep 2005		

US LHC Accelerator Project Controlled Milestones

Status Date: 6 Nov 2001

US LHC Accelerator Project Level 3 Milestones

Milestone No.			Baseline Date	Forecast Date	Actual Date
		WBS 1.1.3 Interaction Region Cryogenic Feed Boxes			
3 -1.1.3- 1		Cryogenic Feed Box (DFBX) Conceptual Design Review	15 Dec 1998		21 Jan 1999
3 -1.1.3- 2	C	DFBX functional specification approved	1 Mar 1999		7 Feb 2000
3 -1.1.3- 3		DFBX interface specification review	1 May 1999		23 Aug 1999
3 -1.1.3- 4	C	DFBX interface specification approved	1 Jul 1999	1 Jan 2002	
3 -1.1.3- 5		Place purchase order for HTS leads	1 Nov 1999		30 Aug 2000
3 -1.1.3- 6		DFBX Engineering Design Review	1 Jul 2000		9 May 2001
3 -1.1.3- 7		DFBX Production Readiness Review	1 Nov 2000	15 Apr 2002	
3 -1.1.3- 8		Begin fabrication of 1st DFBX	1 Dec 2000	15 Apr 2002	
3 -1.1.3- 9		IR1 and IR5 DFBXs ready to ship	1 Sep 2001	4 Apr 2003	
3 -1.1.3- 10		IR2 and IR8 DFBXs ready to ship	1 Feb 2002	16 Oct 2003	
3 -1.1.3- 11		Interaction Region Cryogenic Feed Box task complete	30 Sep 2005		

US LHC Accelerator Project Controlled Milestones

Status Date: 6 Nov 2001

US LHC Accelerator Project Level 3 Milestones

Milestone No.			Baseline Date	Forecast Date	Actual Date
		WBS 1.1.4 Interaction Region Absorbers			
3 -1.1.4- 1	C	TAN and TAS functional specifications approved	1 Jan 1999		15 Jun 2000
3 -1.1.4- 2	C	TAN and TAS interface specifications approved	1 Mar 1999		18 Aug 2000
3 -1.1.4- 3		TAN and TAS Absorber Conceptual Design Review	1 Mar 1999		30 Apr 1999
3 -1.1.4- 4		Instrumentation Conceptual Design Review	1 Nov 1999		5 Oct 1999
3 -1.1.4- 5	C	ISR jacks delivered to LBNL	1 May 1999		12 Mar 1999
3 -1.1.4- 6	C	z-placement of TAN approved	1 Jul 1999		18 Sep 1999
3 -1.1.4- 7	C	TAS support design approved	1 Jul 1999		18 Aug 2000
3 -1.1.4- 8		Interaction Region Absorber Engineering Design Review	1 Jul 2000		18 Sep 2000
3 -1.1.4- 9		Interaction Region Absorber Production Readiness Review	1 Jul 2000		31 Jan 2001
3 -1.1.4- 10		Begin fabrication of TAN and TAS components	1 Aug 2000		30 Oct 2000
3 -1.1.4- 11		Begin assembly of TAN and TAS	1 Dec 2001		
~~3 -1.1.4- 12~~		~~Instrumentation Engineering Design Review~~	~~1 Apr 2002~~		
~~3 -1.1.4- 13~~	~~C~~	~~Ionization chamber functional and interface specifications approved~~	~~1 Jul 2002~~		
3 -1.1.4- 14		Complete assembly of TAN and TAS	1 Nov 2002	3 Jan 2003	
~~3 -1.1.4- 15~~		~~Instrumentation Production Readiness Review~~	~~1 Jul 2003~~		
~~3 -1.1.4- 16~~		~~Begin procurement and fabrication of instrumentation~~	~~1 Aug 2003~~		
~~3 -1.1.4- 17~~		~~Complete fabrication of instrumentation~~	~~1 Jul 2004~~		
~~3 -1.1.4- 18~~	~~C~~	~~Ionization chambers shipped to CERN~~	~~1 Oct 2004~~		
3 -1.1.4- 19		Interaction Region Absorber task complete	30 Sep 2005		

US LHC Accelerator Project Controlled Milestones

Status Date: 6 Nov 2001

US LHC Accelerator Project Level 3 Milestones

Milestone No.		Baseline Date	Forecast Date	Actual Date
	WBS 1.2.1 RF Region Dipoles			
3 -1.2.1- 1	Beam Separation Dipole Conceptual Design Review	1 Aug 1998		16 Jul 1998
3 -1.2.1- 2 C	D3,D4 field quality specifications approved	1 Feb 1999		10 Jun 1999
~~3 -1.2.1- 3 C~~	~~D3,D4 functional and interface specifications approved~~	~~1 Jul 1999~~		
3 -1.2.1- 3a C	Beam separation dipole functional specification approved	1 Jul 2000		15 Jun 2000
3 -1.2.1- 3b C	D4 interface specification approved	1 May 2001	22 Dec 2001	
3 -1.2.1- 3c C	D3 interface specification approved	15 Sep 2001	25 Feb 2002	
3 -1.2.1- 4	Superconducting wire for RF region dipoles delivered by LBNL to BNL	1 Feb 1999		1 Mar 1999
3 -1.2.1- 5	Begin assembly of 1st dipole model magnet	15 Jul 1999		10 Jun 1999
3 -1.2.1- 6	Complete cold test of 1st dipole model magnet	1 Dec 1999		7 Apr 2000
~~3 -1.2.1- 7~~	~~Beam Separation Dipole Engineering Design Review~~	~~1 Mar 2000~~		
3 -1.2.1- 7a	D4 engineering design review complete	15 Apr 2001		28 Jun 2001
3 -1.2.1- 7b	D3 engineering design review complete	1 Sep 2001	1 Apr 2002	
3 -1.2.1- 8	Complete model magnet program	1 Sep 2000		8 Nov 2000
~~3 -1.2.1- 9~~	~~Beam Separation Dipole Production Readiness Review~~	~~1 Jun 2000~~		
3 -1.2.1- 9a	D4 production readiness review complete	15 Jun 2001		28 Jun 2001
3 -1.2.1- 9b	D3 production readiness review complete	15 Oct 2001	1 Jun 2002	
3 -1.2.1- 10	D4 production start	8 Oct 2001	12 Feb 2002	
~~3 -1.2.1- 11 C~~	~~Delivery by CERN to BNL of all CERN-provided cryostat parts~~	~~1 Jul 2000~~		
3 -1.2.1- 11a C	Delivery by CERN to BNL of all CERN-provided D4 parts	1 Jul 2001	12 Feb 2002	
3 -1.2.1- 11b C	Delivery by CERN to BNL of all CERN-provided D3 parts	1 Oct 2001	5 Jun 2002	
3 -1.2.1- 12	D4 production complete	19 Sep 2002	2 Jan 2003	
3 -1.2.1- 13	D3 production start	6 Feb 2002	5 Jun 2002	
~~3 -1.2.1- 14~~	~~First 2 D3s complete~~	~~1 Dec 2001~~		
3 -1.2.1- 15	D3 production complete	21 Mar 2003	19 Jun 2003	
3 -1.2.1- 16	RF Region Dipole task complete	30 Sep 2005		
	WBS 1.2.2 RF Region Quadrupoles			

US LHC Accelerator Project Controlled Milestones

Status Date: 6 Nov 2001

US LHC Accelerator Project Level 3 Milestones

Milestone No.		Baseline Date	Forecast Date	Actual Date
	WBS 1.3.1 Superconductor testing			
3 -1.3.1- 1 C	Complete superconductor testing facility upgrades	1 Jul 1999		30 Sep 1999
3 -1.3.1- 2 C	Begin pre-series testing	1 Mar 1999		1 Oct 1999
3 -1.3.1- 3 C	Begin series testing	1 Mar 2000		10 Jul 2000
3 -1.3.1- 4 C	Series testing complete	31 Mar 2005		
	WBS 1.3.2 SC Cable Production Support			
3 -1.3.2- 1 C	Deliver 4 Cable Measuring Machines (CMM) to CERN	1 Oct 1997		1 Oct 1997
3 -1.3.2- 2 C	Deliver powered Turkshead to CERN	1 Jul 1998		1 Jul 1998
3 -1.3.2- 3 C	Deliver eddy current flaw detector to CERN	1 Jul 1999		28 May 1999
3 -1.3.2- 4 C	Deliver spare CMM measuring heads to CERN	1 Jan 1999		4 May 1999

Level 3 Milestone Status:

Revised 9 October 1998

All level 3 milestones approved by PM, following poll of the CCB 22 Jan 1999.

Revised 30 Mar 1999 to reflect BCR nos. 5-11 and to include forecast dates for milestones due by 1 Apr 1999 but not yet completed.

Revised 15 June 2000 per BCR21

Revised 21 August 2000 per BCR20

Revised 20 September 2001 per BCR 33 and 34

Revised 15 October 2001 per BCR 30

Revised 2 November 2001 per BCR 26 (approved 4 May 01, but milestone 3-1.3.1-4 was not updated at that time)

Notes

1) CERN approval is required for milestones with suffix "C."