

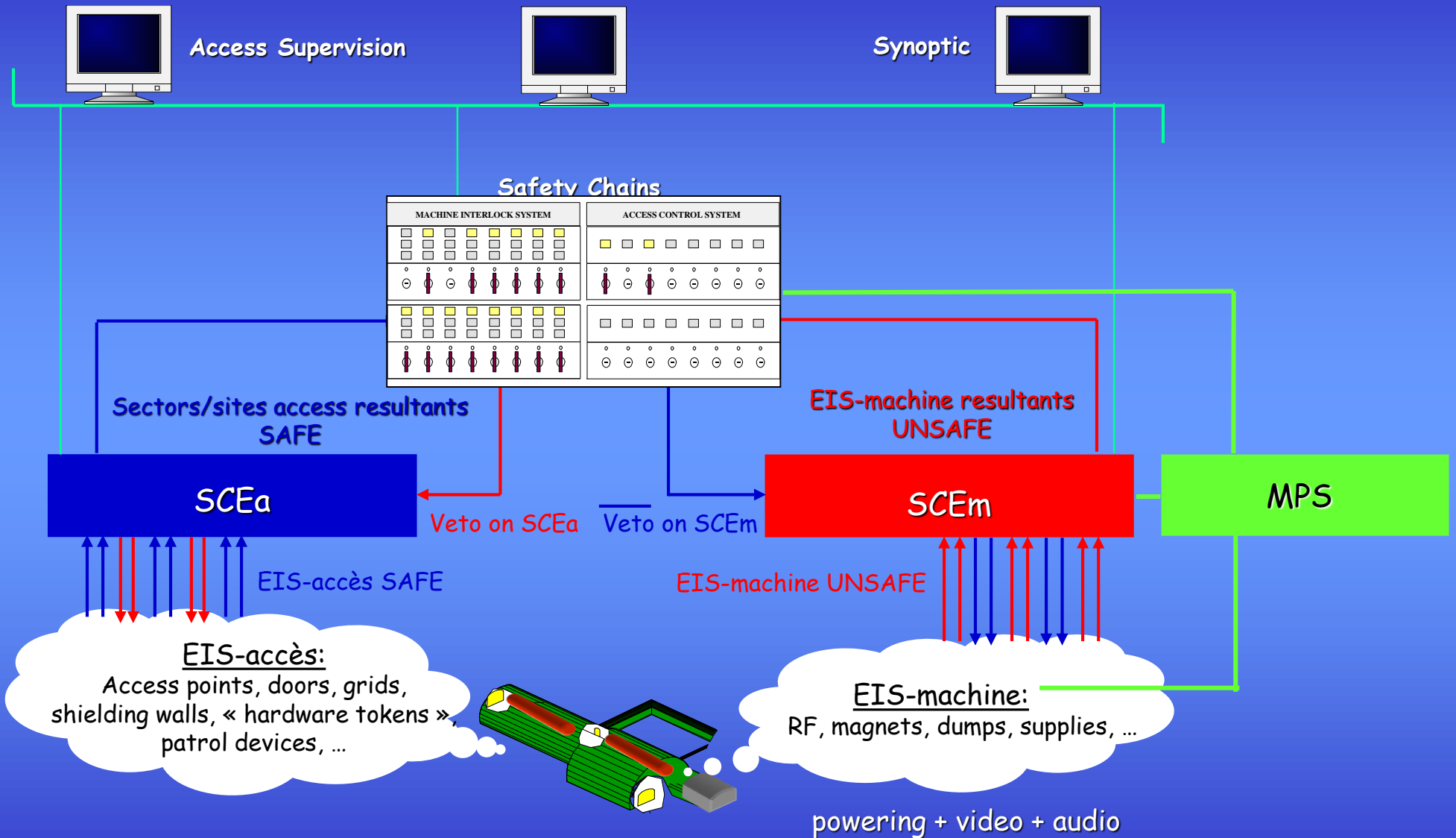
LHC-MPWG

LHC Access Control

Planning & Deadlines

E. Cennini / ST-AA-AC

LHC ACCESS & MACHINE SAFETY SYSTEMS



- ⊗ Access control program application
- ⊗ Databases
- ⊗ MMI
- ⊗ Integration to the communication networks

- ⊗ Synoptic, event logging, diagnostics
- ⊗ Injectors operation informations
- ⊗ MMI

SUPERVISION
LAYER

- ⊗ Definition of the SGCI
- ⊗ Technology used ?
- ⊗ Safety chains definition (kind, number, future evolution) ?
- ⊗ Operator interface
- ⊗ Design, prototyping of the SGCI (central safety keys ?!)

⊗ Definition, design, configuration of the control network (hardware links, communications)

- ⊗ Definition of the SCEa
- ⊗ Elaboration of the areas/site resultants
- ⊗ Technology used ?
- ⊗ Cabling, connections (redundancy)

- ⊗ Definition of the SCEm
- ⊗ Elaboration of the equipment resultants
- ⊗ Technology used ?
- ⊗ Cabling, connections (redundancy)

CONTROL
LAYER

- ⊗ Definition/identification/location of the EIS-accès
- ⊗ Global, local and test areas definition
- ⊗ Detailed functional description of the EIS
- ⊗ Cabling, connections (redundancy)

- ⊗ Definition/identification/location of the EIS-machine
- ⊗ Location of the control systems (MPS, ?)
- ⊗ Detailed functional description of the EIS
- ⊗ Cabling, connections (redundancy)

EQUIPMENT
LAYER

MILESTONES - DEADLINES - GENERAL PLANNING

MAIN MACHINES MILESTONES

SPS

SPS : TT40 Extraction Tests (mid 03)

CNGS

CNGS : TT41 injection Tests (March/April 05)

CNGS Closed (May 05)

CNGS : First Beam (31/5/05)

LHC

LHC : TI8 injection Tests (Q1-2004)

LHC : Sector Tests (1/4/04 => 30/09/04)

LHC : Ring Closed (31 December 2005)

LHC : First beam(1 February 2006)

LHC : TI2 injection Tests (march 06)

LHC : First collision (1st april 2006)

LHC : SD (1st may 2006 => 31 july 2006)

LHC : Physics run (01/08/06 => 28/02/07)

LHC : Lead ion run (01/03/07 => 12/04/07)

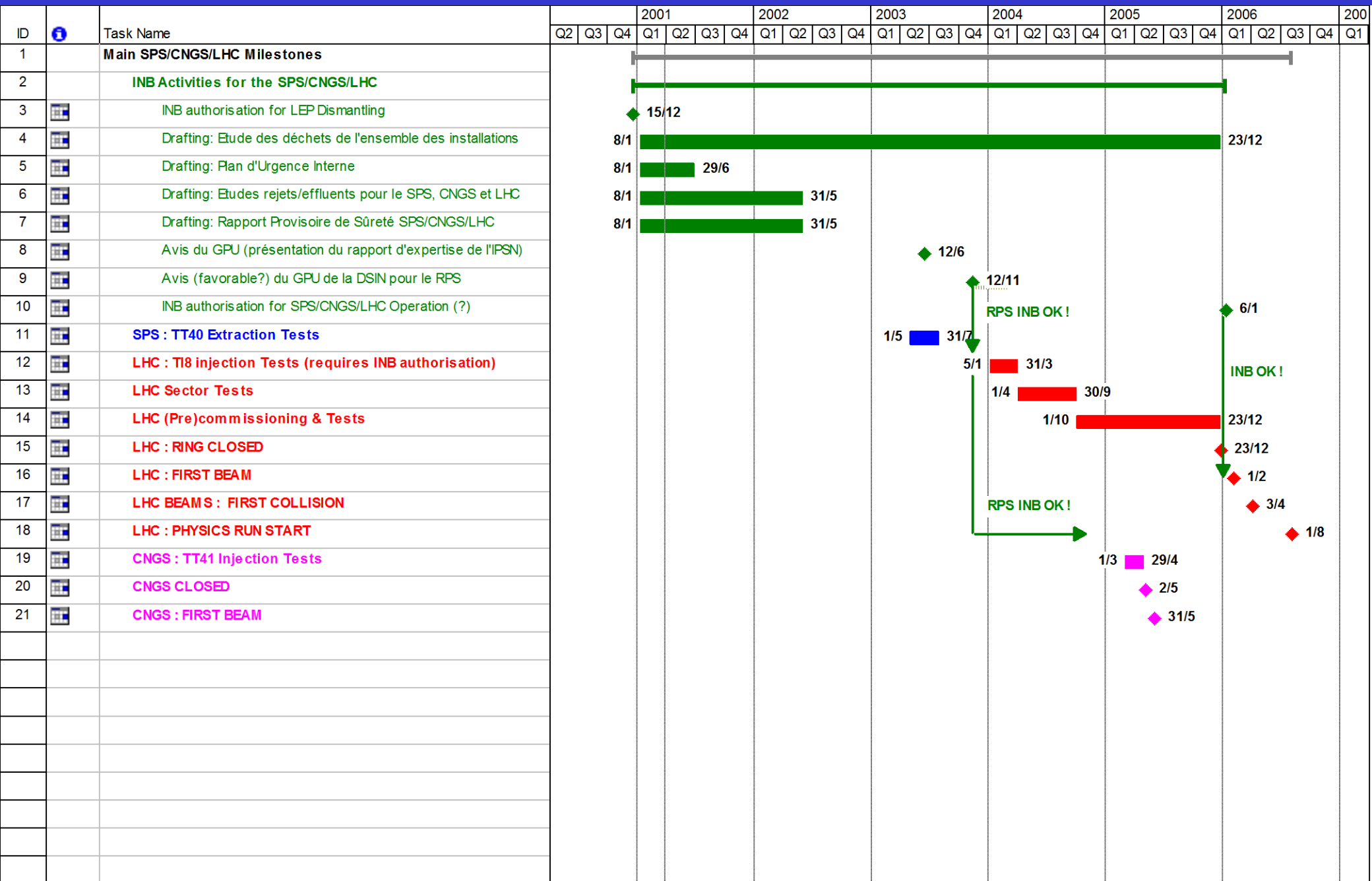
MAIN SPS SAFETY SYSTEMS MILESTONES

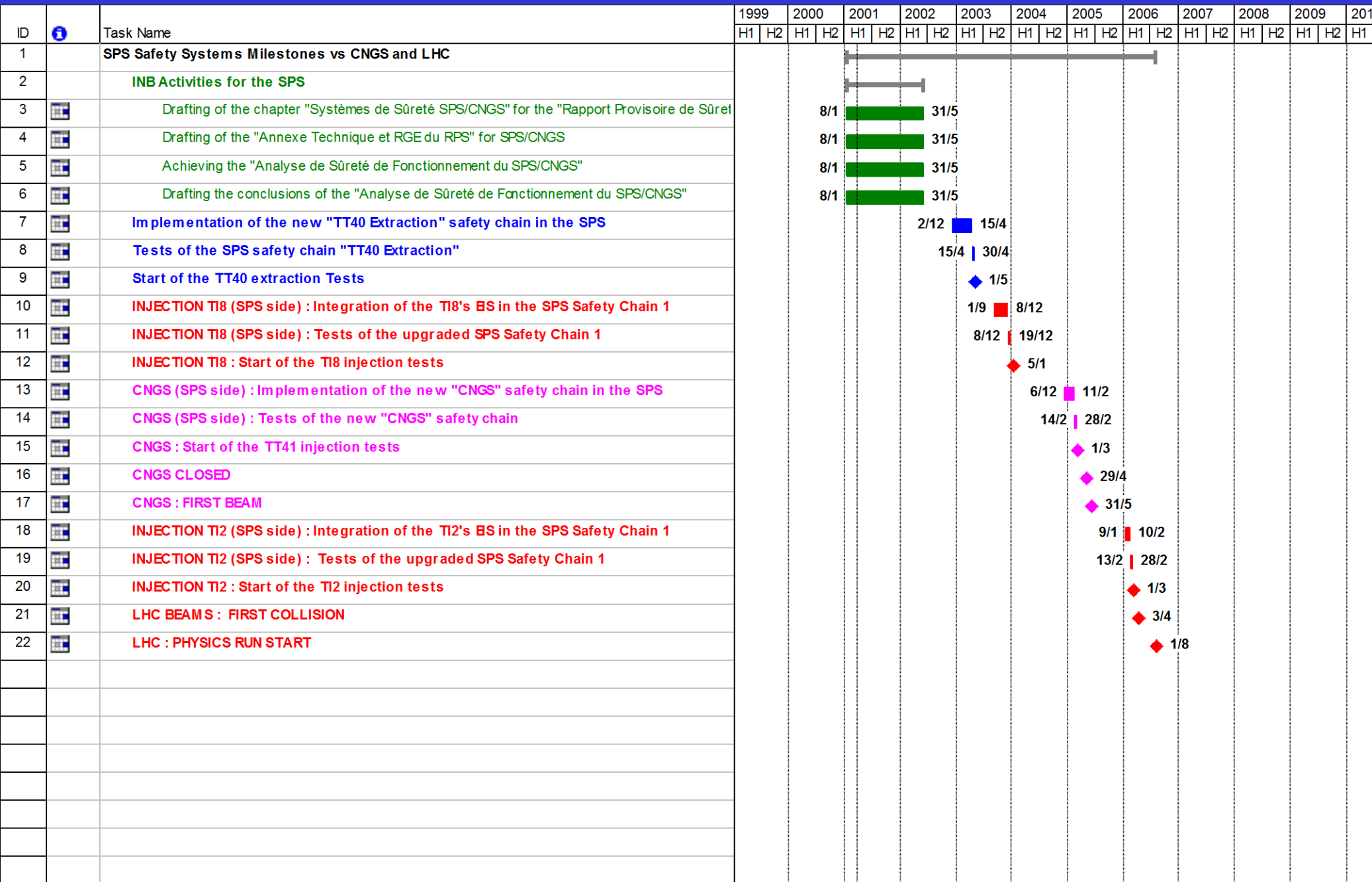
MAIN LHC SAFETY SYSTEMS MILESTONES

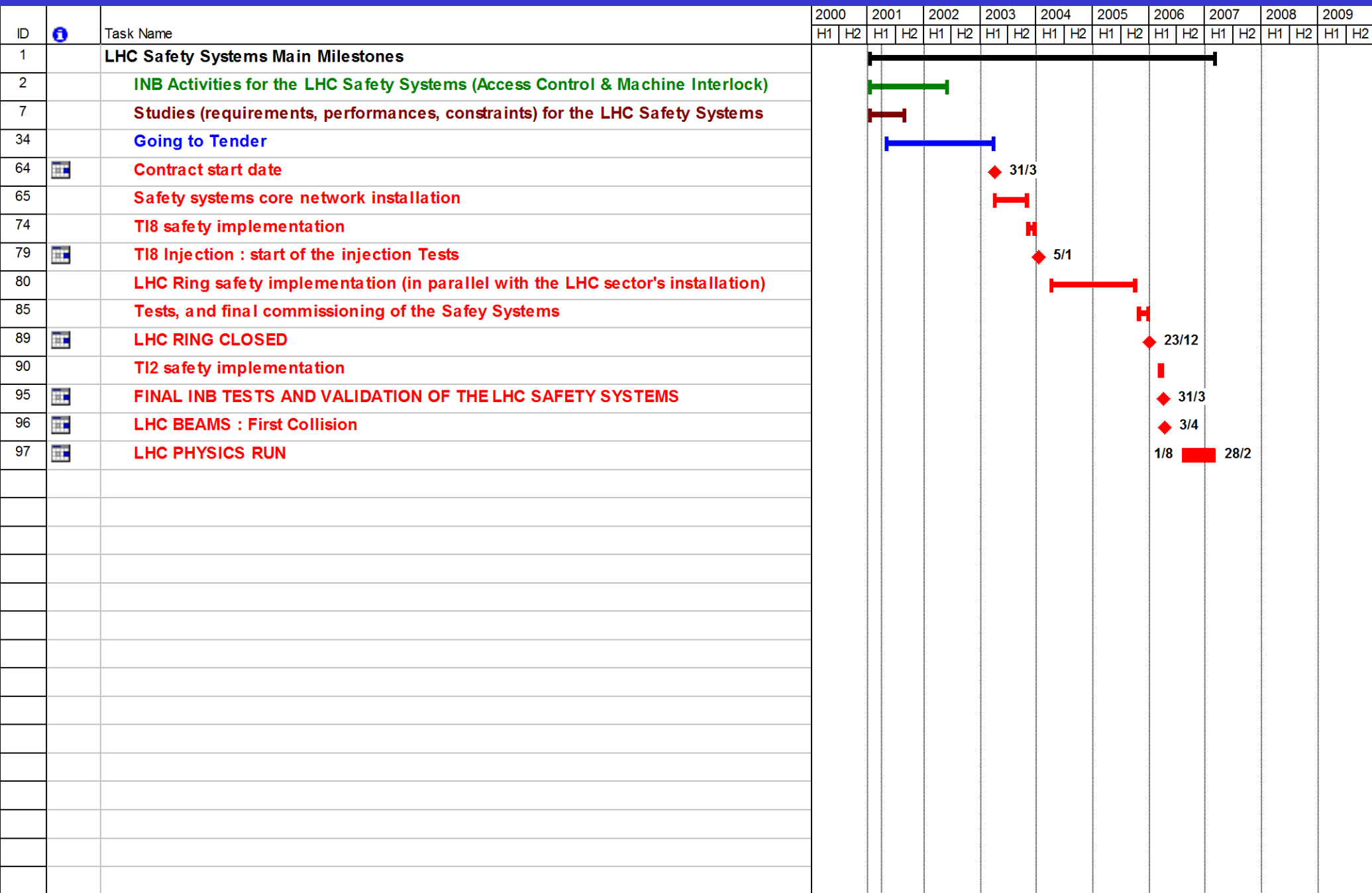
MAIN LHC SAFETY SYSTEMS INSTALLATION MILESTONES

LHC SAFETY SYSTEMS : GOING TO TENDER MILESTONES

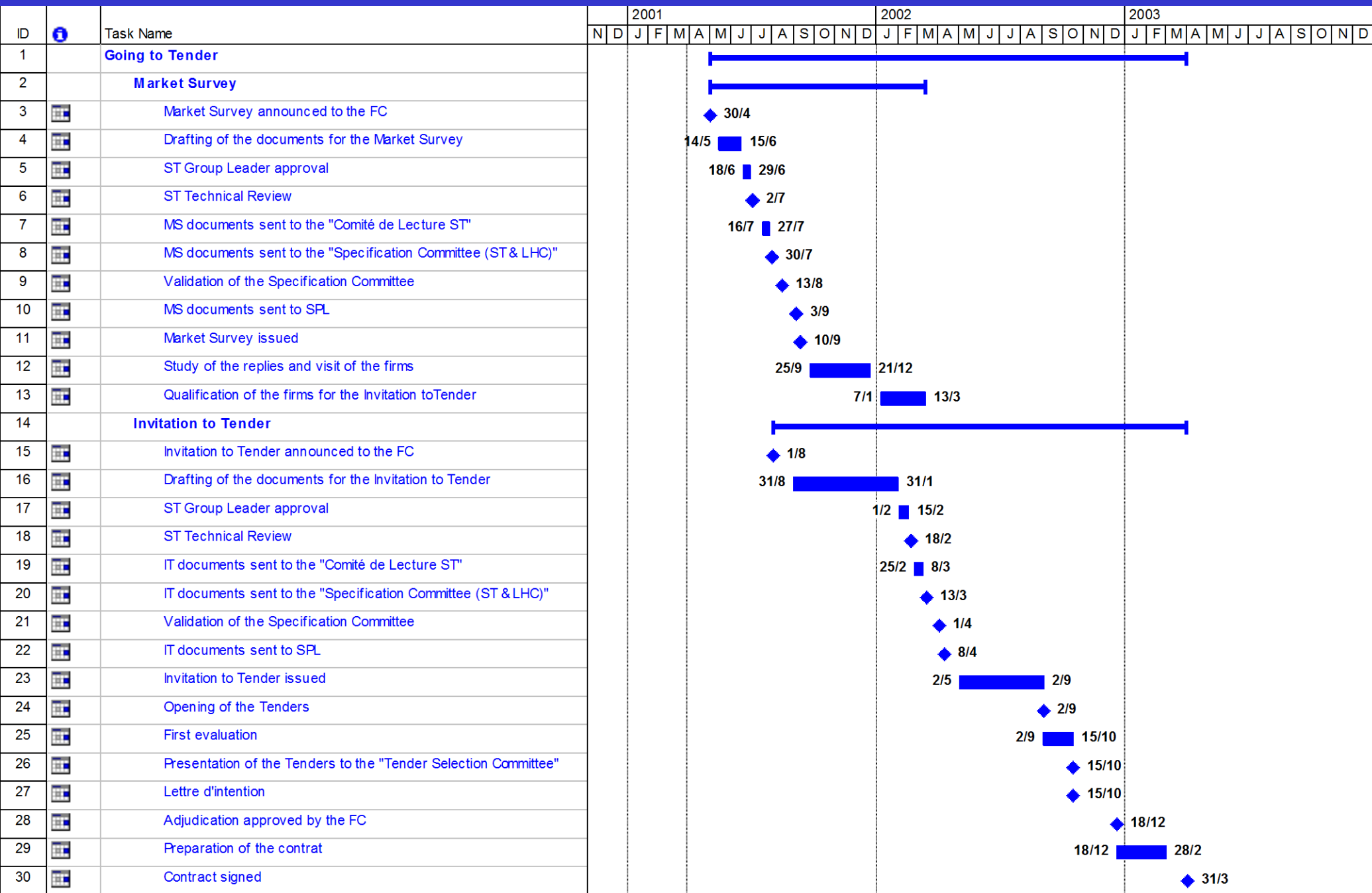
LHC SAFETY SYSTEMS STUDIES MILESTONES

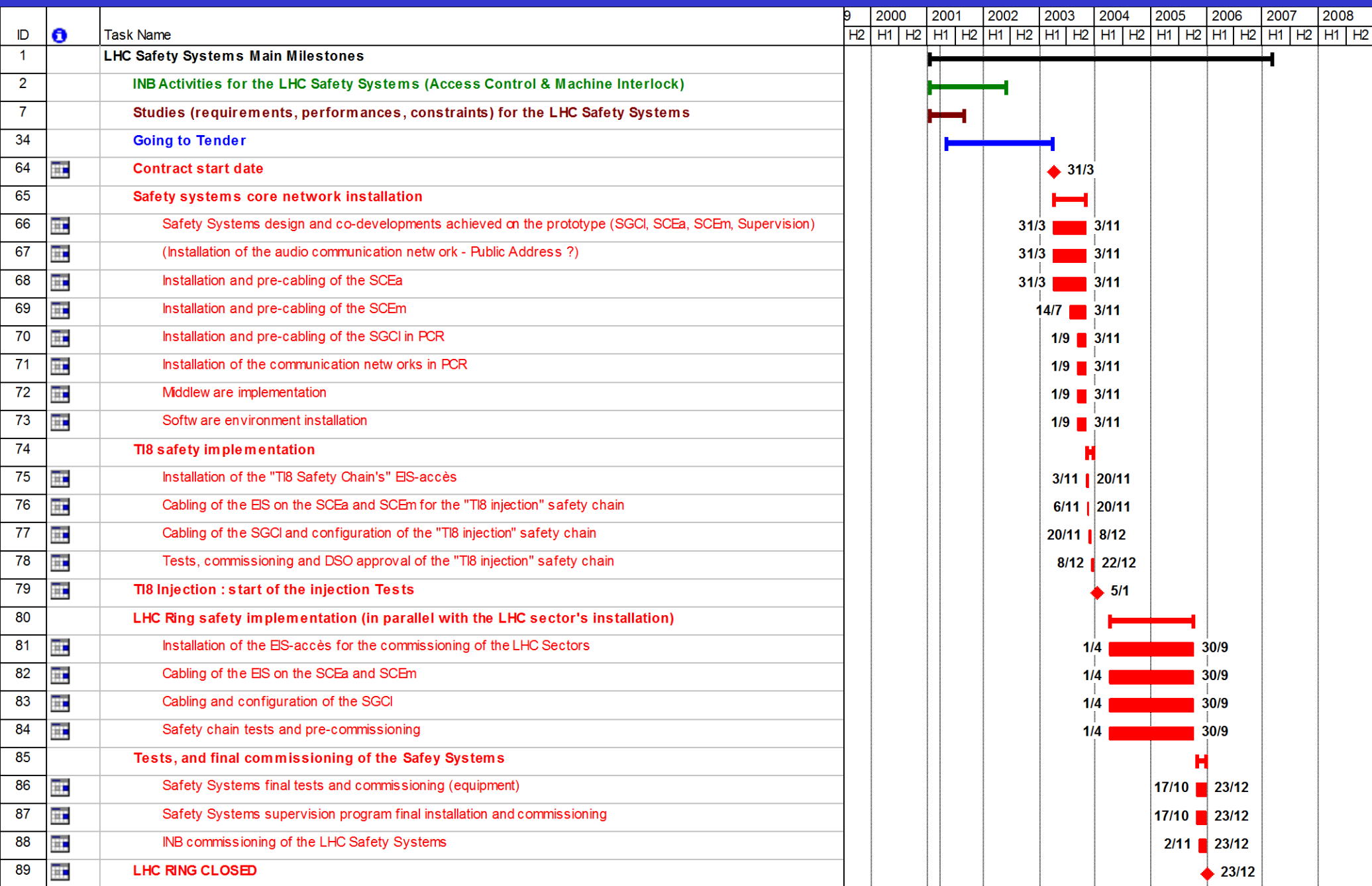













ID	Task Name	Qtr 1, 2001			Qtr 2, 2001			Qtr 3, 2001			Qtr 4, 2001			Qtr 1, 2002			
		Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	
1	Studies (requirements, performances, constraints) for the LHC Safety Systems																
2	Definition and location of the EIS-access																
3	CERN Safety Requirements (TIS/GS, /RP, LHC, SL)	8/1														31/8	SL
4	INB Safety Requirements	8/1														31/8	
5	User Requirements for the machine																
6	Equipment Groups : Identification of the dedicated/shared areas and the access requirements	8/1														31/8	SL
7	Operation : Patrol and access supervision performances	8/1														31/8	SL
8	User Requirements for the Experiments																
9	ATLAS Requirements	8/1														31/8	
10	ALICE Requirements	8/1														31/8	
11	CMS Requirements	8/1														31/8	
12	LHC-b Requirements	8/1														31/8	
13	Definition/location of the SCEa	8/1														31/8	
14	Definition of the EIS-machine																
15	LHC Machine Operation scenarios (+ location of the equipment and the controls)	8/1														31/8	SL
16	Definition of the Machine Equipment Tests during the shutdowns	8/1														31/8	SL
17	Experiment Operation scenarios	8/1														31/8	
18	Definition of the Detectors Equipment Tests	8/1														31/8	
19	Definition/location of the SCEm	8/1														31/8	SL
20	Definition of the SGCI																
21	Identification of the Test Safety Chains	8/1														31/8	SL
22	Identification of the Local Safety Chains	8/1														31/8	SL
23	Identification of the Principal Safety Chains	8/1														31/8	SL
24	Design of the SGCI	8/1														31/8	
25	Definition of the Supervision Layer																
26	Definition of the Middle are Layer	8/1														31/8	
27	Operator's requirements for the access control program application	8/1														31/8	SL
		In red : SL contribution to the safety systems studies															





ID	Task Name	2000		2001		2002		2003		2004		2005		2006		2007		2008	
		H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1
89	 LHC RING CLOSED														23/12				
90	TI2 safety implementation														█				
91	 Installation of the "TI2 Safety Chain's" EIS-access													27/2	█ 20/3				
92	 Cabling of the EIS on the SCEa and SCEm for the "TI2 injection" safety chain													27/2	█ 20/3				
93	 Cabling of the SGCI and configuration of the "TI2 injection" safety chain													27/2	█ 20/3				
94	 Tests, commissioning and DSO approval of the "TI2 injection" safety chain													20/3	█ 30/3				
95	FINAL INB TESTS AND VALIDATION OF THE LHC SAFETY SYSTEM S														█ 31/3				
96	 LHC BEAMS : First Collision														█ 3/4				
97	 LHC PHYSICS RUN													1/8	█ 28/2				