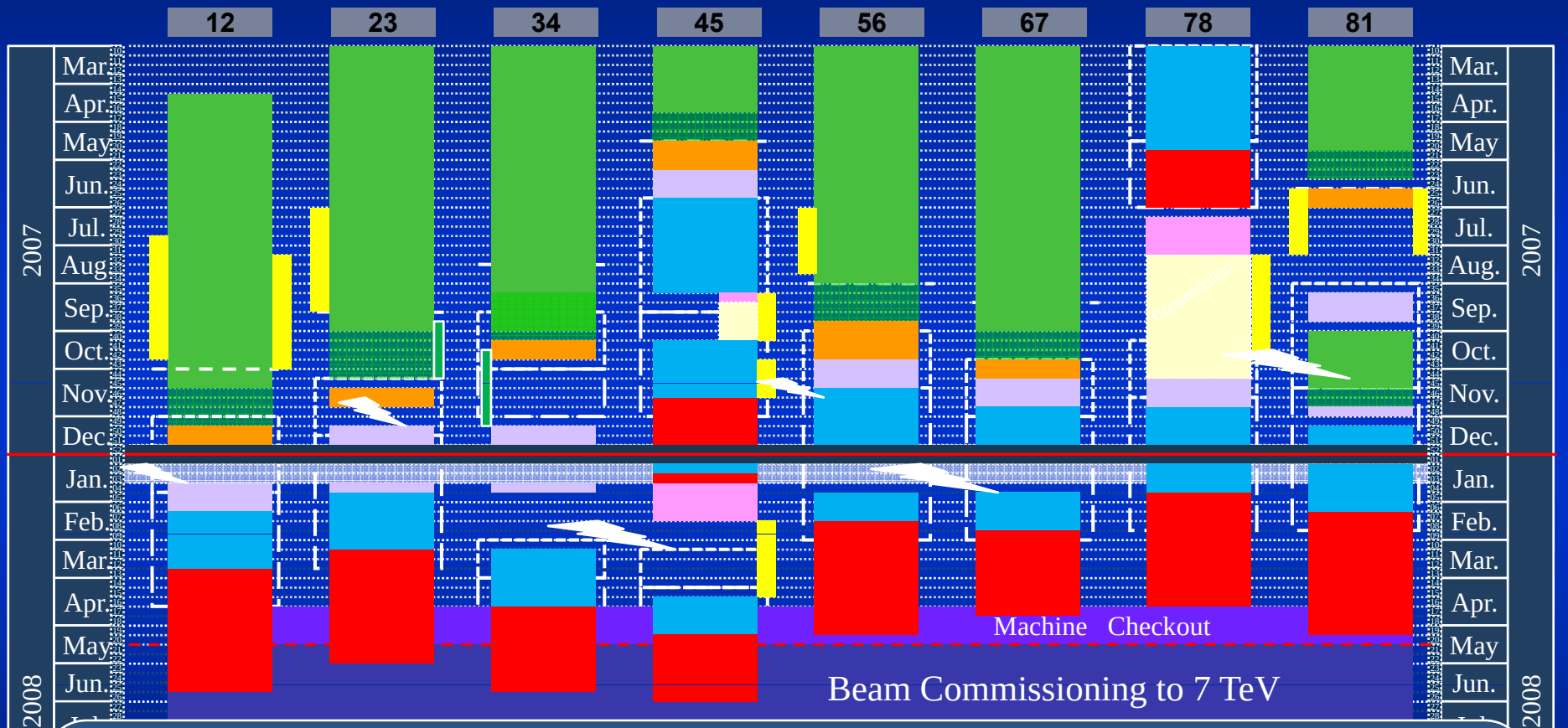
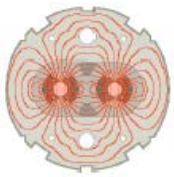
Latest schedule – October 19 – expect changes!



General schedule Baseline rev. 4.0

- Global pressure test &Consolidation
- Cool-down
- Powering Tests
- Interconnection of the continuous cryostat
- Leak tests of the last sub-sectors
- Inner Triplets repairs & interconnections
- Global pressure test &Consolidation
- Flushing
- Cool-down
- Warm up
- Powering Tests
- CV maintenance



Getting ready for beam

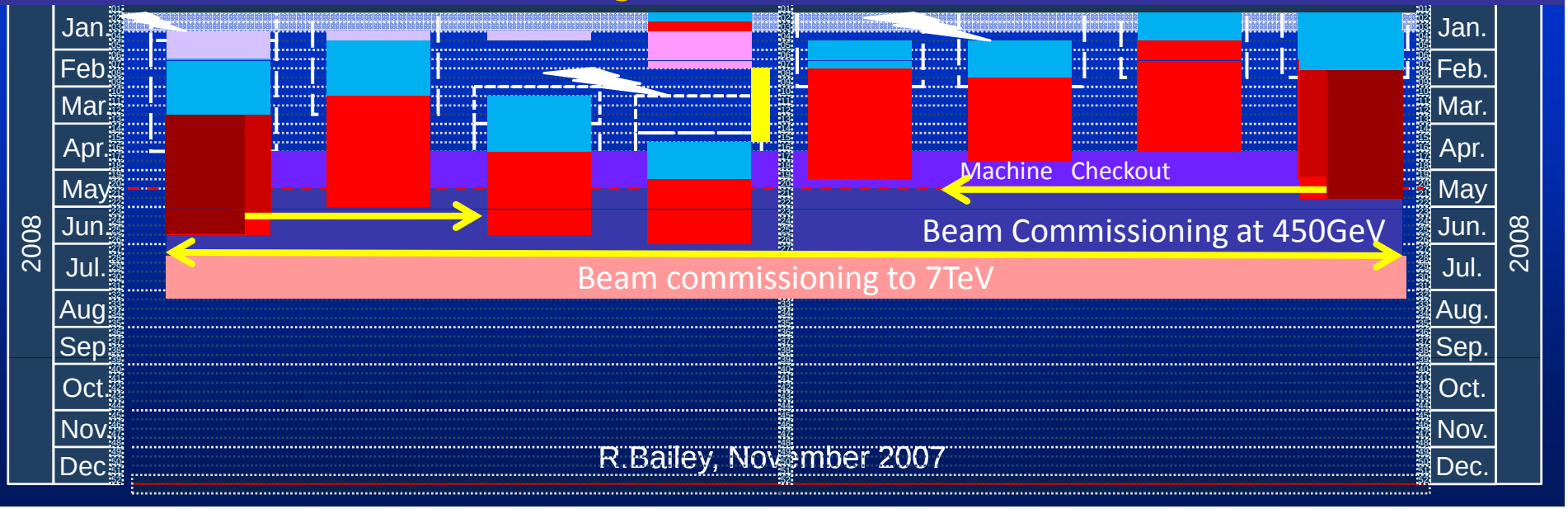
Hardware Commissioning → Machine Checkout → First Beam

- Hardware commissioning of the LHC is underway
- Will continue through the autumn/winter/spring
  - progressively delivering more and more equipment to Operations
- When a sector is ready we do operations testing of this sector
- We should be involved in tests of accelerator systems
- As more and more sectors and accelerator systems become available to operations, the activity begins to look more and more like the **machine checkout** to get ready for first beam
- But
  - We will be much more advanced in some sectors than in others
  - We will be ready for beam in some sectors of the machine while other sectors are still under hardware commissioning
  - Need to look at how we handle this

Scenario 1 – commission hardware to 7TeV

- Whole machine cold by May 2007
- Commission each sector to '7TeV' (*) before passing beam
- Inject when ready
  - Beam 2 – 8 7 6 (5)
    - Start as soon as beam available from SPS
  - Beam 1 – 2 3
    - Start as soon as LHC (need L2) is ready
  - Circulating beam
    - Start as soon as all ready
  - Push through to top energy

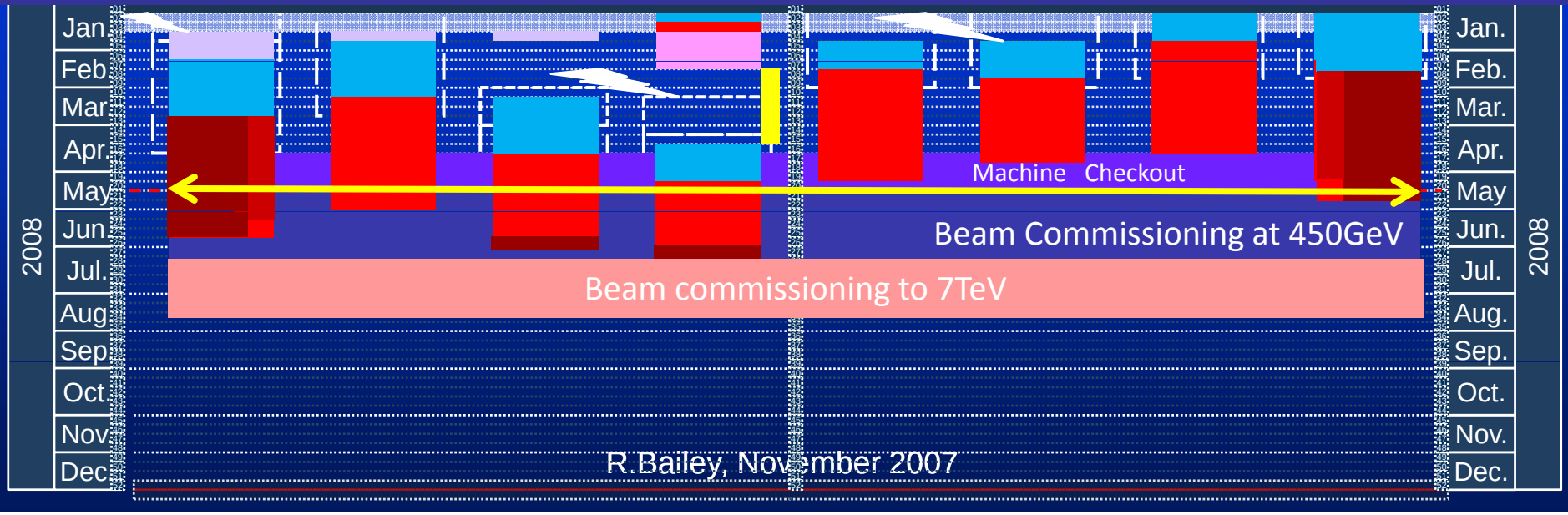
* Hardware commission to where magnets dictate. Train later.



Scenario 2 – commission hardware to 1TeV

- Whole machine cold by May 2007
- Commission as much as possible to '7TeV' (*)
- Commission rest to 1TeV
- Interrupt hardware commissioning in certain sectors (2 weeks)
  - Establish circulating beam at 450GeV and measure
- Commission remaining sectors to '7TeV' (*)
- Redo 450GeV beam (machine will be different)
- Push through to top energy

* Hardware commission to where magnets dictate. Train later.

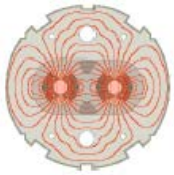


Q1 and Q2 2008

- No clean hand over from HC to OP
- Going to be unavoidably messy
- OP will play a (the) major role
- Need a picture of where will be in Q2 2008
- First look today
- Further iterations

1. Installation
2. Component tests
3. Individual system tests
4. Integration into operation
5. Machine checkout

- For each system we need to know
  - The present status of the system
  - The plans for commissioning without beam
  - Are all the tools in hand and what is needed from OP
  - What do we get when this phase is finished
  - The plans for commissioning with beam



Accelerator systems

Accelerator systems	LHCCWG	EiCs and Operators
Arc circuits (warm and cold magnets)	R.Saban	W.Venturini
Injection systems (+TDI...)	J.Uythoven	V.Kain, G.H.Hemelsoet
Beam Dump Systems (+TCDQ...)	B.Goddard	V.Kain, R.Suykerbuyk
Distributed BI Systems (BPM, BLM)	R.Jones	L.Ponce, F.Follin, A.Rey
Specific BI Systems (Q, WS...)	J.J.Gras	G.Crockford
RF systems (+damper...)	A.Butterworth	M.Gruwe, D.Jacquet
Collimation	R.Assmann	S.Redaelli
Experimental magnets	M.Lamont	D.Jacquet
Access system	(T.Pettersson)	M.Gruwe
Cryogenics	G.Arduini	E.Veyrunes
Vacuum	F.Zimmermann	R.Giachino
Machine Protection	J.Uythoven	A.MacPhersen, R.Giachino
Radio Protection	(D.Forkel-W)	F.Pirotte
Sequencer	M.Lamont	R.Alemany
Settings management (+Fidel…)	M.Lamont	L.Normann, D.Jacquet
LSA core	M.Lamont	A.Rey
Timing	M.Lamont	M.Albert
Software Interlock System	J.Wenninger	L.Pereira
Logging	M.Lamont	G.H.Hemelsoet
Global post mortem analysis	M.Lamont	M.Lamont