

# DISCUSSION: SUPER CYCLE MANAGEMENT ACROSS MACHINES

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## LHC requirement



- Until now "Parallel filling"
- Probe (Pilot) beam
- Intermediate intensity 50 ns beam with 12 bunches.
- Full blown 50 ns beam with 36 bunches

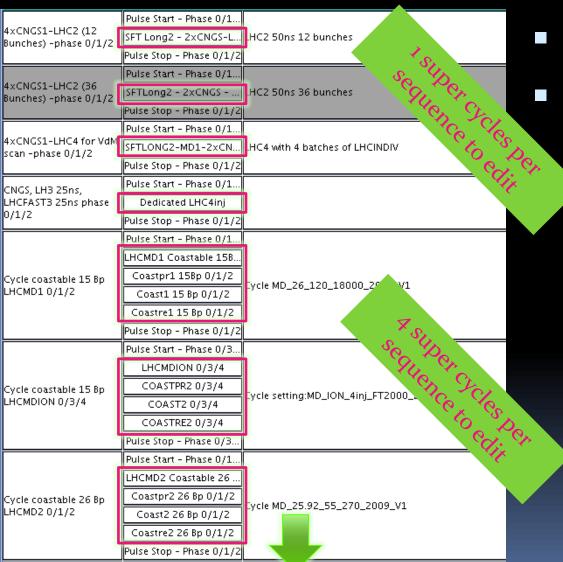
#### What is the issue?



- We have multiple Sequences that can contain several Super Cycles, which all need to be coherent.
- Each change in the super cycle needs to be followed up in PSB, PS and SPS
  - Redistribute cycles to take into account promised ratio's
  - Any change needs to be propagates in all the super cycles than can be executed (up to 7 or 8 super cycles)
  - Take into account specific spacing requirements
  - SPS MD's with coasts are very demanding....
  - ••••
- Sometimes 80% of the time of one person on shift in the PS complex is only used to change super cycles



### Sequences & Super Cycles



- Many Sequences
- Many super cycles

### SPS Normal/Spare for the LHC



- For the startup 2012 the SPS will be able to make use of normal and spare for the LHC filling.
- The sequences for the 12 bunch and the 36 bunch 50 ns beams will be combined in one.
  - One sequence less, as Probe will still be a separate sequence.

#### (Provocative) Discussion Points



- Leave like it is....
- Dedicated filling....
- Simplification in sequences and super cycles
- Fixed super cycle length
- More rigid planning and commitment to respect it
  - Dedicated setting up period for LHC MD preparation, etc.
- Modifications to CBCM

up to you now....