

## Minutes of the MPPr 15<sup>th</sup> September 2010

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### External review:

- Mister/Miss sequencer + procedure should be nominated (possibly two, in particular if EICs).

### Intensity increase:

- It was agreed to establish check lists for intensity increase, such as:
  - No ramping with injection collimators has been performed
  - No unexplained observations during beam dump
  - No quench after a beam dump
  - ...

It was agreed that each group/system would provide some criteria.

- Before the intensity is increased the checklist should be filled and approved.
- We will continue operating until Xmas stop with some non-satisfactory solutions (as an example, no state machine will be available before end 2010).
- Intensity steps: it was agreed required three smooth fills for physics production with a total duration of at least 20 hours.
- Start with 3\*8 bunches, details elsewhere.
- The energy stored in the circulating beam is not the only parameter. There is a qualitative step when increasing number of bunches per injection from below set-up to above set-up (from safe to unsafe). Possibly go to 24 bunches/injection in week 11, before going to ~240 bunches, not more than 24 bunches during this year.
- Operation as in August, with only increasing the intensity is considered to be reasonably stable. Mixture of commissioning and production (such as new squeeze functions) brings problems, and should be avoided.
- What about MDs? Loss maps, abort gap cleaning, injection protection? How and when? Do not move away from the established procedures.
- Repeating validation steps: loss maps required, how frequently? What about momentum cleaning for Beam 2? Is this understood?
- Abort gap cleaning: progress, but not yet operational (what happens if the timing is wrong and abort gap cleaning is on the bunch train? To be tested). Should be commissioned asap, to be ready when we need it.

### Other issues:

- Van der Meer scans: the experiments are interested to do them as soon as possible. The solution involving moving the TCTs during scans to follow the orbit cannot be implemented before mod-October. A scan range of  $\pm 3$  sigma at the IR is required ( $\pm 1$  sigma at the TCTs). It was proposed that for the scans one could possibly close the TCDQ and TCSG by one sigma, and reduce the tolerances for SIS (orbit interlock at TCDQ). The combinations of those 2 measures could gain a margin of 1.5 to 2 sigma, sufficient for the scans. What about doing this at 11m, before starting the squeeze?

Should be looked at for 3.5m and 11m. To be done with 4 bunches per beam,  $8 \times 10^{10}$  per bunch.

- TOTEM wants to move closer into the beam towards 10-15 sigma. This requires first a beam based alignment at 3.5 m at 20 sigma. The horizontal plane is more critical since the beam is smaller. A TOTEM person should be around (at least initially) when the RPs are moved towards the beam in normal running conditions. The limits will be defined before and put in hardware.
- The question was asked by Massimiliano if one could one fill one bunch  $3 \times 10^{10}$  for TOTEM, colliding in ATLAS and CMS. This increases the complexity at injection, and is a problem at the moment for the common region BPMs (erratic triggers from opposite beam in high sensitivity mode) – not recommended at the moment. A better idea might be to do one fill for TOTEM, with 20 bunches per beam low intensity.
- The threshold will be increased by a factor of 10 for the MQW/MBW in IR3/7 for all energies and running sums. In the future, we should have these monitors maskable.
- Loss map: peak in IR1 needs explanation observed this week during one night requires explanations.