# MPP meeting 17 September 2008

Original Agenda :

* Analysis of the first beam dumps (R. Schmidt)
* Status of BLMs (B. Dehning)
* SMP update (B. Todd/B. Puccio - tbc)
* Issue tracking with JIRA (J. Wenninger)
* Overall MP system status - all

## Present:

Jan Uythoven; Bernd Dehning; Ralph Wolfgang Assmann; Markus Zerlauth; Daniela Macina; Bruno Puccio; Verena Kain; Jorg Wenninger; Jim Strait; Gianluigi Arduini; Rudiger Schmidt; M Koratzinos; Brennan Goddard; Robert Appleby

## Minutes:

Joerg: interface of interlocks between the WIC and the BIC still to be tested.

### Status of FMCMs (Markus)

- Some consolidation work still to be done
    - Still missing one FMCM (compensator L2 – will come end September)
    - RD34.LR3/7: need to find a slot for a short intervention where converter is condemned
    - RMSD.LR6B1 and RMSD.LR6B2 crosstalk between B1 and B2. Need tunnel access for a day

Verena: where are we with injection/TDI interlocking? – Verena will enquire with the help of Alessandro Masi.

### LBDS system (Brennan)

- Sector 78 to be re-connected to the energy tracking system
- Current limits on the septum magnets still set at 10% - will need to be reduced in the future

### PIC status (Markus):

- Repeat configuration and integrity tests in sector 56, do from scratch sector 81.
- After moving from all-maskable to (some) unmaskable configuration, repeat tests (as signals follow a different hardware route).

## BIC mask matrix

Joerg: Has imported an application from SPS that collects and shows all masked signals of the BICs. List is long.

## Discussion on strategy:

- How to safely run at 1TeV:
  - Intensity of 5x10^9 particles is certainly considered to be safe
  - Collimators need to be put at some intermediate settings. The W collimators should not be the primary collimators
  - BMLs and beam dump should be understood
  - Aim is to try to include as many systems in to get operational experience
- As soon as we go to normal circulating beams there will be no need for maskable-only signals and we would like to move to a configuration where essential signals will be unmaskable.

## Status of BLMs (Bernd):

- Currently thresholds set to the 7TeV thresholds (which are the lowest)
- One crate with many spurious triggers (2000 triggers in 5 hours). Investigating ground loops.
- Problem with interrogating db to retrieve the BLM data. Under investigation.
- Comparison of actual and intended configuration: some discrepancies.
- Approximate time to fix all above: about 2 weeks.
- Procedure to check BLMs exists. Can be done, say, once per day when beam is not present.
- Thresholds now 10% of maximum level (which corresponds to 3 times below quench level).
- Bruno needs 1 day of access to enable the unmaskable signals of the BLM system entering the BIC (maskable already there).

## Status of SMP (Ben)

- Some issues, will need 4-5 days to complete.
- Status: SPS system ok, LHC system still missing the following:
  - Inputs: Machine mode
  - Direct outputs: safe_beam_flag_1 and _2
  - Serial outputs: all missing but energy
- To be done:
  - Link between SMP and beam current transformers to be validated
- Thresholds are loaded through FESA – not as safe as specification requires
- Will review situation in one week.
- Ben noted that this is not the final SMP system. The final system will be supplied next year.

## Investigation of a beam dump (Ruediger)

- One non-operator induced beam dump request seen while beam was on. It occurred 11 September at 22:45:08 in RQD due to a water fault in a DC cable.
- Ruediger showed the sequence of events as different BICs around the ring got their loop interrupted. He collected the information ‘manually’ to an excel sheet.

- There are some questions regarding timing, but all BICs seem to be aligned to within 20microseconds. Some history buffer – logging db inconsistencies were seen (PM buffer more complete than logging)
- Markus: PM project will provide tool to do automatically what Ruediger did by hand
- Markus: BPMs are sending data to the PM system, but not complete data yet.
- Joerg: do tests of PM system after BPM and BLM is up and running.

### Tests with beam

Joerg: Gather in one list all procedures to be followed

### Pre-fill test sequence

Verena: need to define pre-fill test sequence

### Issue tracking system (Jorg)

- Use an existing tool (JIRA) (issues.cern.ch) > category: Machine Interlocks >machine-protection-systems
- Tool is able to create/follow-up/close issues – please use it

### AOB (all)

- Brainstorming about 'existential questions' of the newly formed MPP. We need to define
  - membership
  - mandate
  - decision making path
  - representation of the group to other bodies.