



Future meetings are planned always at 10.00, for 30 March 2001, 20 April 2001, 11 May 2001, 1 June 2001, 22 June 2001

Preliminary agenda for the next meeting:

- Planning for the systems for Machine Protection (P.Bonnal, F.Bordry, E.Carlier, R.Denz)
- Interface between Power Converters and Power Interlock System (B.Puccio, F.Bordry, R.Schmidt)
- Glossary of Terms (R.Schmidt)

**Appendix:** Proposed list of topics.

Items that came up during the discussion have been added and are underlined.

### **General points:**

- Glossary of terms (example: Machine Protection System, Beam Dump Systems, etc.)
- Overall Architecture of the Machine Protection System
- Failure scenarios:
  - tour around the systems - what failure in your system would you anticipate that could lead to POWER ABORT or BEAM ABORT?
  - failure of electrical circuits and impact on beam (continue O.Brünings work)
  - what happens in case of a power cut?
  - what happens in case the control system breaks down?
- Protection of LHC and experiments when **injecting beam** (take into account the work of the InjWG)
- Conditions for injecting beam (take into account condition for access - collaborate with Access and Interlock WG and InjWG)
- Interlocks in transfer lines
- Reliability of systems
- Safety standards - do we need to be educated?

### **Interfaces and Information exchange:**

- Positive / Negative logic for signal names in the machine protection system
- Interfaces between Beam and Power Interlock and other systems (standard to be defined)
- How to track energy of beams for the beam dump system?
- How to track abort gap for the beam dump system?
- Fail safe transmission of signals

### **Open questions related to protection:**

- How to protect machine against failure of warm magnets (short time constants)?
- UPS - for systems that are important for machine protection (see also TEWG)

- Critical software - where and how?

### **What should trigger a beam abort?**

- Should the beam dump depend on operational states (such as beam current and energy) ?
- Dump both beams or only one?
- What power converters - for what operation state?
- Beam Loss Monitors - how to use them?
- RF and Feedback
- Emergency stops !

### **What is required for post mortem analysis?**

- To be discussed in collaboration with the Controls Project

### **Others**

- LHC Experiments - objects that move close to the beam
- Experience from the String II interlock system
- Evolution of the system :
  - reserve slots
  - tracing of modifications (INB !)