Minutes of the 13th FOM meeting held on 13.04.2010

Agenda:

1) Follow-up of the last meeting (K. Hanke)
2) Status of the machines (Supervisors)
3) Schedule (K. Hanke)
4) AOB
5) Next agenda

1. Follow-up of the last meeting

The minutes of the 12th FOM meeting were approved.

Follow-up from the last FOM:

a) Status of the PS B-field fluctuations. R. Steerenberg reported that M. Buzio was following up the problem. S. Gilardoni added that some more measurements have been requested by the magnet experts with the PFW power converters OFF to eliminate one possible source of incertitude. During this test the beams cannot be produced. The test is scheduled for Monday morning during an LHC fill and it will take 2 hours. If during the tests beam would be required by the LHC, the power converters can be switched ON in a few minutes.

b) PS radial steering GFA replacement/repair. K. Kostro mentioned that the entire electronics rack has been changed during the technical stop, but this did not solve the problem.

c) Check if it is possible to setup the slow extraction during magnet work in the EAST area.
Mail from M. Tavlet: “Dear colleagues, I have checked the conditions; The status "East Hall secure" requires one of the two following conditions: septum-57_off or beam_to_dump. The "or" between the 2 conditions means that the hall is secure with the only condition that the beam is sent to dump. In case the splitter which sends the beam to dump fails, a signal is sent to stop the PS. I talked to Thomas Otto, and he confirms this. He also confirms that in case of splitter failure, the radiation dose in the concerned area would remain negligible compared to the dose people will take while changing the magnet. ==> Yes, slow extraction to the East Area can be done in parallel with the intervention on the magnet.”

d) Check AD access system. Mail from R. Nunes: ”The problem you mention (during the last FOM, added by S. Gilardoni) (checked with Roberto Bonzano) was a mechanical problem on the door that forced mechanically one lock. In certain cases the pressure on the lock blocked it and stopped the motorized locks from opening. An intervention by the PS team (Roberto, Regis) made a small modification in the holes on the door, in order to accommodate the slight mechanical twist of the door. The problem presented itself twice and was wrongly diagnosed the first time as a switch problem. It has since been corrected (a few day ago) and noted in the OP logbook.”

f) EAST area magnet water leak status. S. Mataguez mentioned that the status of the works is becoming critical with respect to the EAST hall physics schedule (See Schedule section). D. Bodart mentioned that an existing coil is being machined in the radioactive laboratory to improve the reliability of the spare magnet which is going to be installed. The design of this magnet and its coil was judged not sufficiently reliable to be used on a long period of run without any modification. This is the reason why the coil is going to be modified and a new magnet design will be done in the framework of the EAST hall renovation project.
A status report about the intervention will be given to the next IEFC and to the next FOM.
In an experimental line there is also another magnet leaking, but an operational spare exists, and the intervention can be done in the shadow of the one just mentioned.

g) Linac2 source intensity fluctuations. D. Kuechler mentioned that the fluctuations are still present and investigations are ongoing.

2. Status of the machines

Linac2 (D. KLUCHKER):
During the technical stop the Hydrogen bottle was changed. The bouncer was put back in operation.
The investigations on the intensity drops are progressing, but without any definitive result yet.

During the night between Thursday and Friday a Tank2 serial ignitron was replaced. This caused four hours and a half down time.

Linac3 (D. KUCHLER):
The Linac3 will start the HW test period.

PSB (G. RUMOLO):
On Tuesday, the MRP on the ring2 had a problem for the CNGS cycle. A bump was observed during acceleration. This was due to a jitter on a cavity. The LLRF piquet found that the PU used by the phase loop (5L1) was not working correctly. The piquet replaced the PU with the 14L4 one and corrected the different RF programs for the new beam transfer function. Even if the original PU was repaired, it was decided to delay the return to the initial settings until the RF PSB expert was back at CERN.

On Thursday, the technical stop recovery was very smooth. During the night, and in the shadow of the Linac2 problem, the MPS suffered from a thermal overload.

On Monday, the C16 cavity on ring4 suffered from large beam loading during the production of the AD beam. The ring4 needs further setting up for this operation.

The LHC beams have been delivered without any particular problem.

PS (A. GRUDIEV):
The PS had a good week.

The restart from the technical stop was somehow difficult. Besides a reset of two quadrupoles in TT2 requiring the intervention of the expert and the reset of the QFOs and QSKs, the difficult problem was that the GFAs of the PFW on all the users could not be executed. Unfortunately, no OASIS signal is available to check if the GFA is correctly generated or not.
First, the piquet CO and the CO expert found a problem with one of the DSCs generating the timings of the power converter. Then, a reset of all the converters solved definitely the problem.
Due to this problem, the complete restart of the PS was possible only at 21:00, in any case in advance with respect to the restart of the LHC.
During the technical stop, all the GFAs of the MD1 user, the MTE operational user, have been initialised by error to a single zero vector 1.2 s long. The bad manipulation was inadvertently done by a CO expert during an INCA test. A procedure has been put in place to avoid this problem in the future. The settings of the user could be recovered from the 4:00 AM backup.

On Friday, the MTE beam was delivered to the SPS to set up the double batch injection. The second 14 GeV/c cycle presented a wrong radial position at injection. Tests on the Supercycle composition proved that this fluctuation depended on the cycled played before those two. This is most probably due to the same problem on the B-field mentioned in the follow-up section. Further measurements will be taken on Monday next week to continue the investigations.

S. Hancock asked if the replacement of the electronics rack of the RPOS GFA solved the problem of the GFA. K. Kostro replied that the problem is still present.

S. Gilardoni mentioned that, in agreement with RP, a survey outside the tunnel on top of SMH16 should be done to check the radiation shielding during MTE operation. M. Widorski added that 8 hours would be needed for the survey, during which the Supercycle composition should not be changed. The survey is planned for Thursday, starting at 8:00 AM.

S. Gilardoni reported that the MTE beam is sent regularly to the SPS, first at 500e10 double injection, and then up to 1.6e10. Losses in the PS are as predicted.

EAST AREA:
See schedule and Follow-up sections.

AD (T. ERIKSSON):
The AD finished the HW test period.

The new e-cooler power converter and control system were commissioned during the HW tests with few problems still to be solved.

Some modifications to the MTG were done and a new application for the switching between different users is available.

On Monday, the first beam was circulating in the ring, starting the setting-up period.
In the beginning, the beam stopper of the FTA line was not opening. An access was needed to unblock it. Then, the injection kicker SW was not working. The CO expert

intervened immediately to solve the problem. T. Eriksson wanted to thank the expert for this efficient and fast intervention.

There are some doubts on the Schottky system. This makes it impossible to clearly define the circulating intensities.

T. Eriksson asked why the PS was delivering only 1E13 as primary beam. S. Gilardoni replied that the 1.5E13 beam was ready already since last week. G. Rumolo added that this is probably due to the problem with ring4 of the PSB, which should have been solved.

H. Damerau added that the injection timing of the AD had to be shifted by half a PS turn due to some changes to the AD beam control in the PS.

SPS (E. METRAL):
The SPS had a good week. The high intensity LHCINDIV were delivered up to 1E11. In the LHC, Beam2 could be set up with this intensity with a very good lifetime.

Concerning MTE, the low intensity beam of 500E10 was regularly taken. Then the intensity was increased up to 1.6E13 p/batch. A good transmission of about 92% could be reached. The program of the week foresees to increase the intensity up to 2.4E13 p/batch.
S. Gilardoni added that, seen the good results of the low intensity tests and in agreement with OP, the low intensity MTE extracted beam is now considered operational and is under the responsibility of OP.

The CNGS DSO tests were done.

During the technical stop, the vacuum leak in the TEDs of TI2 and TI8 have been repaired. The RF maintenance was done as foreseen.

CNGS (E. GSCHWENDTNER):
The CNGS area will be closed on Thursday morning.
The start-up should happen as foreseen.

CTF3 (D. MANGLUNKI):
The facility cleaning after the fire is progressing and should be finished by the end of the month.
Unfortunately, about 400 cables were found damaged. Their replacement will delay the start-up, but it is not yet clear for how many weeks.

TI:
No representative present.

LHC interface with injectors:
No representative present.

3. Schedule / Supercycle / MD planning

The current 2010 official schedule (V1.5) is available at:

https://espace.cern.ch/be-dep/BEDepartmentalDocuments/BE/2010-injector-schedule_v1.5.pdf

A new schedule (V1.6) is available here and will be published soon after some minor corrections.

The start-up of the EAST physics will be delayed by at least one week. More information will be available during the next FOM.

There will be no injector stop in week 17. The MD will start on Monday at 8:00 AM and will finish on Thursday at 8:00 AM.

A new MD block is foreseen for week 46.

On Thursday, the radiation survey on top of the PS SMH16 will take place. The Supercycle will be kept constant during the survey.

On Monday, no beam will be delivered to the AD for about 2 hours for the PS magnetic measurements. During this period the measurements will stop if the LHC will require a new store.

The tests of the AUG in the POPS area will be planned for the next technical stop in week 22.

All planned interventions for the injector complex are available via the on-line agenda:

https://espace.cern.ch/be-dep/FOM/Lists/Agenda/calendar.aspx.

4. AOB

5. Next meeting

The next meeting will be held on Tuesday, 20 April at 10:00 in 874-1-011.

Preliminary Agenda:

1) Follow-up of the last meeting
2) Status of the machines
3) Schedule
4) Special topics: Status of the magnet replacement in the EAST hall (L. Gatignon)
5) AOB
6) Next agenda

Minutes edited by S. Gilardoni