

Minutes of the 15th FOM meeting held on 30.06.2009

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 14th FOM meeting were approved.

Open actions from last FOM:

- a) the problem with BTY.BHZ301 has been partially solved. An interlock has been fixed which avoids sending the beam to a wrong ISOLDE target. The power converter switch to local mode has been related to a problem with the SW controls. Tests are ongoing to verify if the bug fix is effective;
- b) the calibration of the extraction AD transformer has been done. J.J. Gras said that an adjustment of the transformer gate solved the problem;
- c) the transverse PU of the AD stochastic cooling blocked again but only one time during the last week. Apparently there is a thermal problem. A fan has been installed to reduce the temperature;
- d) for the beams requested for the TI2 tests, the injectors should prepare: LHCPROBE and LHC25 with 12 bunches at with intensities of $1E10$ to $5E10$ per SPS bunch. The supervisors should check that the beams are ready and within specifications.

2. Status of the machines

Linac2 (G. BELLODI):

The LINAC operation was without any problems. An attenuator on the tank3 low level has been changed because the intensity is quite high (169 mA on CNGS). On Monday, the installation of the MDION cycle in the Linac3 cycle to measure the ion beam in the LBS and LBE lines caused timing problems for the Linac2.

The RF tube of buncher 1 and 2 were exchanged since they were at the end of their life-time.

PSB (B. MIKULEC):

The PSB had a good week. On Wednesday, a trip of the MPS needed the intervention of the piquet. This caused a 2 hour stop. On Friday, a control problem with the BTP.QNO20 caused a stop of about 2 hours. Then, at about 2:00 AM, a problem with the access control system made impossible to trip the safety chain. The operators closed the beam stopper by removing the key on the safety rack in the CCC, but they could not remove the stopper later. The access piquet intervened by reloading a PLC, and this caused a trip of the MPS. At 6:00 AM another reload

was necessary. The problem was related to a bug in the PLC SW, which was solved by Friday afternoon. The DSO declared that there were no problems with the safety of the complex. On Wednesday, the trips of the ring 4 distributor were solved by the piquet by changing a thyatron.

The debugging of the BWS continued. A comparison between measurements taken in the rings and the SEMGRIDS showed discrepancies up to 80% for rings 1 and 2 in the horizontal plane.

Concerning the beams: MD3 has been prepared for the SPS impedance measurements, the STAGISO beam has been prepared for the liquid target.

K. Cornelis asked about the preparation of the LHC beam with single batch injection in the PS. B. Mikulec replied that the 75 ns beam is in preparation.

ISOLDE (D. VOULOT):

The vacuum problem after the power cut of last week could be finally solved. Two issues remained to be fixed: the reading of the gauge of the recuperation tank, which started to work on Monday, and the communication with the rest of the vacuum system, solved by Thursday. K. Hanke stressed that those problems were not related to the vacuum itself but to the control of the vacuum system. G. Vandoni replied that, as discussed at the IEFEC, more manpower is needed to cope with the existing system. The installation is obsolete and it was difficult to diagnose the source of the problem. K. Hanke added that the system will be renovated in the 2009/10 shutdown, however until then the facility has to run in a reliable way. G. Vandoni added that a mini-consolidation is scheduled for next August, in particular to study the communication system and to renovate it where possible.

K. Hanke stressed the fact that the vacuum control problem caused the loss of a REX run. G. Vandoni replied that:

- a) the first reason for the physics stop is the sequence of 4 power cuts occurred on Thursday last week;
- b) in spite of an important manpower investment from TE/VSC and EN/ICE, quite some time was necessary to analyze and identify communication problems and their location;
- c) physics could start since Tuesday afternoon, on the GPS branch.

The GPS target is working correctly. After a target exchange, a target development run started. All the systems have been tested for HRS, in particular the RFQ.

ISOLDE users (A. HERLERT):

The REX users lost an entire run due to the consequences of the power cut. It is very difficult to reschedule them. ON the GPS front-end, only one day was lost. The run for target development shows good preliminary results.

PS (A. GRUDIEV):

On Wednesday, the power converter of a magnet in the T9 line was fixed by the PO piquet. Large losses on the CNGS cycle were due to a broken pulse repeater. Later in the same day, a hole in the CNGS spill was observed. The problem was fixed by changing a thyatron of the BFA21, module 3.

On Friday, a bad interlock caused the trip of the MPS. On Saturday, the module 1 of the injection kicker KFA45 broke down. Its thyatron was changed on Monday morning. On Monday, an access was needed in the morning to repair the gap relay of the 10 MHz cavity in

SS36. The same day, the MD4 beam for the impedance measurement in the SPS was prepared. On Tuesday, FirstLine intervened in the DIRAC zone. J. J. Gras asked if there will be the possibility to start a campaign of measurement with the BWS as it is done in the PSB. R. Steerenberg replied that it has already started. S. Hancock complained about the loss of continuous availability of fundamental samplers, like for the measurement of the B field. R. Steerenberg replied that this is due to the subscription limitation to the relevant servers. OP and CO are putting together a list of FEC for which a PROXI should be installed to solve this issue. S. Hancock asked why this issue has not been considered at the design stage of the new CO systems. C. H. Sicard replied that this limitation is due to the fact that sometimes too many applications are kept open in the consoles. S. Hancock replied that it is difficult to solve a beam related problem if the control system is not working as expected. K. Kostro replied that this problem appears only in the old FEC. He added that an application which cannot subscribe due to the mentioned problem, if left open, it subscribes automatically when the FEC is free. R. Steerenberg added that is not acceptable to reduce the number of applications open, also because quite often more CCMs are necessary on the same console to debug a problem.

East Area (L. GATIGNON, mail):

“The CLOUD experiment is still installing, IRRAD still on hold (as scheduled). DIRAC and the test beams have been running smoothly, apart from the odd rectifier trip.”

East Area Users ():

Nothing to report.

AD (L. BOJTAR):

A RF repeater gave many troubles during the week. Losses were observed between 2 GeV and 300 MeV, with a problem traced back to the end of the phase loop. The repeater was re-booted many times and will be replaced in the future. The PU of the stochastic cooling had only one failure this week, thanks also to installation of a cooling fan. In the meanwhile, the cables and the power converter have been replaced. The e-cooler efficiency decreased due to a cathode voltage degradation and then due to its break-down. The C02 cavity had few trips. The wire chambers victim of the flood of last week are back to operation, except one that was completely full of water.

The pbar production is very good.

AD users ():

Nothing to report.

NTOF (V.VLACHOUDIS):

During the PS dedicated MD, an access will be done to improve the pressure in the primary zone. The yields are good, even if the alignment of the last collimator is in doubt.

SPS (K. CORNELIS):

The SPS had a good week. On Friday, the TRX3 and 4 had few trips. On Saturday, the CNGS extraction kicker had been stopped due to a faulty safety switch of the capacitor banks which has been replaced. In the afternoon, the piquet intervened to fix a problem with the beam dump

kicker. On Sunday, the extraction septum to the EAST Area had a problem with the air cooling of the local control room.

For the CNGS, the record intensity per day has been reached, and the neutrino production is on schedule. On Monday, a water leak was fixed for the TRX3.

On Tuesday, the SPS started a 24 h run for the UA 9 experiment with coast beam. This was decided by the physics coordinator early in the week in the user meeting. K. Hanke added that FOM should be at least informed of such changes of the accelerator schedule. H. Vincke added that the last UA9 intervention in the tunnel was pretty good, apart the fact that one of the UA9 members in the tunnel did not followed the instruction of the RP expert. This person, apparently there only to take photos, took the largest dose in the intervention. The UA9 spokesman will be informed that such case will not be tolerated in the future.

J. Borbough asked if the ZDS will be used before the restart of the CNGS. K. Cornelis replied that maintenance can be done if the ion traps will be kept open.

CNGS (E. GSCHWENDTNER):

Good running.

SPS North Area (L. GATIGNON, mail):

“NA62 has completed successfully its first series of tests and there will be no more beam to ECN3 till mid October. Since yesterday there are some instabilities in the current (or its reading) for the T2 and T4 wobbling magnets. Many rectifiers show a persistent voltage error but still provide the correct current. The main effect is that it becomes painful to read the magnet status. This (front-end software) problem will be investigated today and tomorrow during the stop”

North Area users ():

Nothing to report.

LINAC3 (G. BELLODI):

Source and linac tuning has continued during the week, with already good overnight beam stability since Monday.

The FESA software for the BCTs was recompiled and installed on Tuesday. There were some problems with ITF quads power supplies becoming unresponsive, first displaying a MIL1553 error and then a MC fault that needed local reset by PIPO.

By the end of Friday the beam was taken to the end of ITH before passing onto the LEIR transfer line (91 μ A on TRA25 and 11 μ A on TRA41). There is a general problem with the electricity, since sometimes the current in the Linac room goes off completely. One of the ITH quads had a water leak and the solenoids had to be switched off. Once beam stability is recovered, the goals for next week are to increase the beam current and to re-commission the ramping cavity.

LEIR (S. PASINELLI):

The cold-checkout is progressing well. J. J. Gras mentioned that the BI dry run will start on Thursday.

CTF3 (P. SKOWONSKI, mail):

“1. On Tuesday and Wednesday we have delivered low intensity drive beam (not recombined) to Two Beam Test Stand. We made tests of the newly installed equipment of TBTS and started conditioning of Power Extraction Structure.

2. On Thursday we had access to:

- Verify the gun. Found few fans and connectors on the local electronics boards badly functioning. They were replaced with spares.
- Take away phase shifter for RF deflectors for reparation.

3. On Thursday afternoon MKS11 went down, repaired only on Monday. We have established 1.5GHz beam at lower energy (before we were running on 3 GHz) and attempted to recombined beam with the Delay Loop.

4. On Friday night all PS complex safety chains tripped. Recuperated stable running conditions only around 2PM, and at 3PM the chains were tripped again. We have not managed to recover before the evening.

5. On Monday accesses to install the repaired phase shifter.

6. Currently we suffer from the gun instability.”

TI (P. SOLLANDER):

Small electrical glitches were observed due to the thunderstorm.

3. Schedule / Supercycle / MD planning

The 2009 schedule (V3.4) is available at:

<https://espace.cern.ch/be-dep/BEDepartmentalDocuments/BE/Schedule2009.pdf>

The supercycle composition is available at [this web page](#).

On the 1st of July, during the PS dedicated MD:

- for the SPS dipole change, the beams in the SPS will stop at 7:00 AM and until 18:00 with access from 08:00 AM;
- nTOF will access the tunnel between 8:00 and 12:00 AM;
- no beam for physics will be delivered by the PS between 8:00 and 17:00;
- the network router upgrade, with stop for all the machines, will be done between 15:00 and 17:00. All machines will be stopped during this period.

Accesses will be possible but long delays due to the control system have to be expected. For the TI2 tests, the supervisors are invited to check the LHC type beam status.

A. Herlert asked if, during the MD of week 29, parasitic beam could be sent to ISOLDE.

K. Hanke replied that this has to be confirmed with the MD coordinator.

4. AOB

5. Next meeting

The next meeting will be held on Tuesday, July 7th at 10:00 in 874-1-011.

Preliminary Agenda:

1. Follow-up of the last meeting
2. Status of the machines
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Minutes edited by S. Gilardoni