

# Minutes of the 6th FOM meeting held on 28.04.2009

## Agenda:

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

## 1. Follow-up of the last meeting

The follow-ups from the last meeting were:

- a) status of the BWS in the PS and in the PSB. Good progress has been made so far in the PSB, where a series of systematic measurements to qualify the instruments has started. Most of the issues, as in the PS, are related to the application. In particular, in the PS it is possible to measure beam profiles but the emittance calculation is still not correct. E. Metral reported that also in the SPS the BSW are under test. The measured beam profiles which were wrong by a large factor were probably due to a wrong calibration table;
- b) limited number of FESA subscription: C.-H. Sicard said that the installation of a CMW Proxy server for the VISTARS and the OP applications solved this issue;
- c) OASIS issues. R. Steerenberg said that a big effort has been made by CO, but a substantial number of problems is still to be solved. A new OASIS release will be issued on Wednesday;
- d) check of PS central building temperature alarms: S. Delaval reported that the integration is nearly finished and these tests will be done by the end of the week;
- e) BT.BCT calibration: work is still ongoing. The BTY.BCT could be calibrated;
- f) ISOLDE integrator status: the overload of the CPU could be reduced by the interventions mentioned at the last FOM. Positive tests were done to check that a reboot of the DSC does not delete the logged number of protons on target;
- g) ISOLDE GPS beam interlock activation: the interlock is now active.
- h) status of SPS transformer switches: F.Tarita reported that no new alarms appeared during the week;
- i) status of FESA devices in SPS: K. Cornelis reported that two different classes of devices are affected by FESA related problems: the RF controls and the septa controls. For the first case, a step back to the old control system was done. For the second case, correction of the FESA class is ongoing.

## 2. Status of the machines

**Linac2** (F. GERIGK): On Tuesday, the corrector LT.DVT20/DHZ20 could not be trimmed any more. This was due to an intercoil short circuit. The corrector will be changed during the next technical stop. Until then it will be running at constant current. On Thursday, one of the beam stopper LT.STP triggered many times due to a problem with the SMH57 in the PS.

On Friday, a problem appeared with the LTL.DVT20. The magnet cannot be used any more, so the beam cannot be measured in the LTE and LTL lines, but only in the LBE/LBS. The beam current of the LINAC is satisfactory.

**PSB** (A. FINDLAY): The week was dedicated to the setting up of the different beams. On Tuesday, a water leak was detected by the EN/CV. After some time, the leak was found in the transfer line to the PS on BTP.QNO30, which was solved by changing a part by its spare. In total, about 7 hours were lost for this problem, mainly to localise the leak by closing down sector by sector. The bad triggering of the ISOLDE line watchdog was solved by properly recalibrating the BCT. On Sunday, the recovery from a power glitch on the electrical network went fine, apart from the fact that the operators had to restart manually the water station. On Thursday, 1 hour and a half were lost due to PS access. Then the GFA editor stopped working under the JAVA working sets. This was due to an update in the database configuration. C. Sigerud will follow up this issue, since the continuous availability of the GFAs is fundamental for the machine operation. B. Mikulec mentioned that any change in the configuration database should be announced well in advance. The BSW tests are still ongoing, as mentioned in the Follow-ups. K. Hanke added that most operational beams are ready and archived.

**ISOLDE** (E. SIESLING): On GPS, a BeO target has been used for tests. Data have been taken for different isotope yields. The new GPS interlock is working correctly to prevent the beam to be sent to the target instead of to the converter or vice versa. K. Hanke added that the interlock should be implemented also for a wrong focusing or wrong intensity. This was confirmed to be the case after the meeting. The new tape station has been tested and works correctly. On Monday a new target has been installed.

On HRS, stable beam was produced with UC target. A proton scan is planned for Friday, with a physics run during the weekend. The watchdog now is set correctly, without the fake triggering on whatever intensity. A test run was done in parallel on ISCOOL. The new RF amplifier is working correctly. The RFQ has no particular problem. ISOTRAP went off on Sunday during the power glitch, as well as the RFQ power. On Monday, stable beam has been delivered to ISOTRAP and REXTRAP. For REX, stable carbon beam has been delivered to DIAMOND. About technical problems, the new Faraday cup has a broken wire, the problem with the DSC of the scanners is under investigation and the problem with the intensity logging has been solved. A problem with the logging of PPM elements has been related to new FESA classes. A couple of times, all the vacuum valves closed for a problem which could be identified and solved.

**ISOLDE users** (A. HERLERT): Users are satisfied. Isotope yields were lower than expected for a target which has been already used last year with better results. There might be a request to run GPS and HRS in parallel.

**PS** (R. STEERENBERG): On Tuesday, after the FOM, a meeting was held to find a solution for the reduced intensity that can be injected in the PS. This restriction came from the fact that the contractors for the POPS civil works ongoing in the center of the PS are not equipped with film badges, and they cannot cross the road Goward if the beam intensity is too high. The solution found is that the contractors can access the work site via the South Hall and the CERN transport will take care of transporting the material via route Goward.

Since Wednesday, thanks to the intensity increase, the 200 MHz cavities could be rephased. A problem with the longitudinal blow-up is still present, since the 200 MHz modulation function sometimes is not generated. The control HW has been replaced last year, so a problem with the SW is under investigation. The simulated B-train is not correctly generated,

since the simulated Bdot is lower than the real one, and the generated B is higher. OASIS problems are still present, and a new interface release will be done on Wednesday. On Tuesday, the EAST zone patrol has been done and the signature collected. The primary line, the NORTH and the T7 branch are fine. Some fine-tuning is still to be done but it is clear that the fact of not using the vertical corrector found with the water leak is not an issue. One on the magnets of the extraction bump to TT2 sometimes is pulsing with a value of another user. CO and PO are investigating the problem. Concerning the status of the beams: the TSTLHC25 is well advanced, even if not for the nominal intensity yet; the SFTPRO is ready for  $1 \cdot 10^{13}$  protons; the EASTA-C are ready for the slow extraction but not for the parasitic TOF; the EASTB is ready; the preparation of the AD is ongoing.

**East Area** (L. GATIGNON): RSO visit done on Monday, access system tests should be completed on Tuesday. Safety visits are planned for the users on Wednesday morning and if all goes well, the areas would be ready to start with beam on Wednesday early afternoon for the T9 and T10 users. T11 will start only in about two months from now. DIRAC and IRRAD are ready to start this week.

**East Area Users** (H. BREUKER): T7, T9 and T10 users are ready to take beam this week. The DIRAC users did not contact the coordinator yet. A. Bland said that IT safety intervention will be done for the EAST accounts.

**AD** (T. ERIKSSON): The HW tests started. The ring patrol was done on Monday, and by Friday all the signatures should be collected. PO safety checks caused some delays, with some MPS tests still ongoing. The target area is not yet closed. The installation of the new target is delayed due to missing joints for the water connection. The joints should be ready for installation by Wednesday. On Monday, the demineralised water was not available. The secondary circuit of the water station went off but no alarm was triggered to the TI operator. CV will follow this problem. K. Hanke asked if the schedule is confirmed. T. Eriksson confirmed.

**AD users** (H. BREUKER): The users have been informed of the start-up schedule.

**SPS** (K. CORNELIS): The start with beam was done on Thursday. The SFTPRO beam was accelerated on Friday up to 400 GeV/c and during the weekend, orbit measurements were taken for the beam-based orbit correction by magnet alignment. On Monday morning, the machine was stopped to do the magnet realignment (4 magnets in the H plane, 4 magnets in the V plane) and to investigate the problem with the electrostatic septum installed last week which has a short circuit on the ion trap. One of the ion trap top plates was found detached and close to the beam, explaining the aperture restriction found during the beam setting up. DSO tests are ongoing in the NA. On Thursday evening the slow extraction setting up will start. This is quite critical since the extraction equipments have been removed and re-cabled during the last shutdown. Concerning the beam instrumentation, the orbit and the tune measurements are working correctly, while the BWS are still having some problems. The scanners are working but the calibration seems to wrong. Scanner 519 should be available, the 416 is not yet working but there are some ideas why is out of service, the 517 is not working but the HW seems to be fine. The problem with the scope of the MOPOS now is solved. H. Vincke announced that RP needs to access the building 898 to change the air filters on Wednesday morning. This is the first of the regular changes that will take place in the middle and at the end of each month. The intervention will be announced at the FOM since requires about 1 h stop of the NA beams. H. Breuker asked if the users should be ready to receive beam in the NA the 11th of May. K. Cornelis replied that the slow extraction setting up could be critical due to the massive works done during the last shutdown. It is

difficult now to state that no delay will show up, whereas by Monday next week the situation should be clearer.

**CNGS:** H. Breuker said that after the last SPSC, no official communication has been received about the status of OPERA and the collaboration after the tragedy of the earthquake in the Abruzzo region.

**SPS North Area (L. GATIGNON):** DSO access system tests are ongoing. The work in TCC2 is completed. Otherwise, everything is on track for the start-up.

**North area users (H. BREUKER):** No news.

**LINAC3:** Linac3 is in shutdown; Linac3 matters will be followed up regularly during the run.

**LEIR:** LEIR is in shutdown; LEIR matters will be followed up regularly during the run.

**CTF3 (S. BETTONI):** After the cure of the vertical instability which limited the recombination in the combiner ring last year we had a recombination of the expected factor 4, but the last turn was shorter with respect to the other ones. The cause has been found in the phase variation along the long pulse train (1.2 us) needed to do the factor 4 recombination. During the first weeks of the start-up, a lot of time was dedicated minimize of the sag- phase along the compressed pulses. On Tuesday after some re-optimizations, the first commissioning with beam has been done. In some hours there was full transmission through the Linac, beam transported through the CT line, and, by-passing the delay loop (like last year), the combiner ring was reached. Beam could not be sent to TL2, since there was the Ethernet intervention, so no readings were available after the combiner ring. After that an optimization to reduce as much as possible the energy spread along the pulse using the phase of the first two klystrons has been started. The switch to the 30 GHz operation mode took place on Friday. There was no beam after Saturday because of some klystrons problems. Before the PS CCC could not restart to nominal power MKS05 and on Sunday morning MKS07 tripped and PS CCC could not restart it. It was the power supply of the focusing magnet of the klystron which tripped, fixed on Monday morning. There was a main water station fault on Monday. During the water station fault, the dipole CL.BHB1040 could not be restarted. The BPM/BPI in the TL1 line and the first two in the combiner ring gave bad readings (1e+6 mm) both in vertical and in horizontal. The problem is under investigation.

**TI (E. LIENARD):** The reason for the electrical power glitch could not yet be identified.

### 3. Schedule / Supercycle / MD planning

The 2009 schedule (V3.3) is available at:

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

SPS setting up is ongoing. Users will start to receive beam in the NA next week. A new schedule will be issued soon with the extra MD day in the first 3-day MD block (week 25).

### 4. AOB

## **5. Next meeting**

The next meeting will be held on Tuesday, May 5th at 10:00 in 874-1-011.

Preliminary Agenda:

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- Status of the machines
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Minutes edited by S. Gilardoni