

Minutes of the 30th FOM meeting held on 13.10.2009

Agenda:

- 1) Follow-up of the last meeting (K. Hanke)
- 2) Status of the machines (Supervisors)
- 3) Schedule (K. Hanke)
- 4) Special topic: LEIR Status (C. Carli)
- 5) AOB
- 6) Next agenda

1. Follow-up of the last meeting

The minutes of the 29th FOM meeting were approved.

Open actions from last FOM:

- a) Organise the OP password change on 8th of October and propose new passwords. The password change has been done.
- b) Control of one of the AD quadrupoles. The problem has not been observed again.
- c) Timing problem of the AD stochastic cooling. The problem has not been observed again.
- d) Restoring of the previous BWS application. CO has restored the precedent BWS application version to solve the problem.

2. Status of the machines

Linac2 (A. LOMBARDI):

During the technical stop, the RF has been adjusted and some RF tubes changed. The cleaning of the LTB power converters was done.

PSB (J. TAN):

The week was dominated by the advanced technical stop. In periods when there was no PS access, the Booster could deliver beam to ISOLDE.

Throughout the week BI.BVT had to be reset several times. This was due the fact that the power converter cannot follow different values on different users. The specialist will take a look once he will be back at CERN. In the meanwhile the same value has been copied to all users.

All the planned interventions during the technical stop could be completed.

ISOLDE (P. FERNIER):

HRS: the run was with the target 413 at 60 kV. The run was good despite the frequent interruptions for accesses in the PS. Due to the problems with REX-EBIS, the HRS run has been prolonged by 5 days. During the week there were a few trips of the HV on the front end and on Sunday the run was interrupted to change the Helium bottle of the RFQ. On Monday evening the target heating went suddenly off. It took about 5 hours to have the system back to work.

GPS: the run was with the target 414 at 30 kV via REX. After the target change done on Thursday, setting-up started. On Monday morning the REX-EBIS broke down due to a failure of the cathode of the electron source. The repairs will take one day plus about five days to re-establish a good vacuum (1E-11).

ISOLDE users (A. HERLERT):

The users were happy despite frequent stops due to PS access. During the nights ISOLDE could get the maximum number of cycles as they were the only users. Unfortunately the delay caused by the break down of the EBIS cathode cannot be recovered before the end of the run. A part of the allocated beam time will be used to test a new target chamber and for isotope collection without the RILIS laser.

PS (A. GRUDIEV):

The activities during the technical stop were completed as foreseen. The SMH42 was changed on Monday and the bake-out finished on Sunday morning. The bus-bar of the main magnet 23 has been replaced as well as the slow extraction sextupole in SS07. The wire scanner BWS64 has been replaced by a spare.

An audio-visual patrol in the tunnel showed no other problems.

During the different accesses, the video signal of the access doors was not always available. At least once the operators could not verify the number of persons entering or leaving the area. Therefore, the PS tunnel had to be patrolled before putting the beam back. The access experts are investigating how to improve the situation of the video streaming.

The machine could be restarted at 16:30 on Sunday. Two power converters in TT2 had to be restarted by the EPC piquet. The application of the injection kicker did not work correctly at the restart. The specialist had to intervene since it was not possible to select all the kicker modules.

On Sunday and Monday night a few hours were lost due to a problem with the TFID generation, which was solved by the controls piquet.

R. Brown added that all the activities scheduled during the technical stop could be done without particular problems.

S. Hancock added that, contrary to what CV had announced at the FOM meeting, the PS cooling water was cut during the technical stop. This caused the temperature in the PS central building to raise. For future stops CV will be required to give more details on what interventions they are planning in order to avoid such communication problems.

R. Brown added that the cooling station number 3 in the PS tunnel could not be fully repaired. The ventilation is available but the air is not cooled since the chilled water circuit is still blocked. The definitive repair will be done during the X-mas stop.

E. Siesling asked if the intervention for the septum 42 had been organised following the ALARA procedure as required for ISOLDE. J. Borburgh replied that the intervention has been organised in collaboration with RP following ALARA, but without the involvement of a committee. G. Vandoni added that the ALARA procedures have been correctly followed, however it was difficult to better distribute the collective dose. It will be good for the future to have a training test bench to train more colleagues to interventions like the one for the septum. S. Hutchins added that a follow-up meeting with RP will be organised to review the dose taken during the intervention and to improve the procedure for the future.

D. Manglunki requested to start the sublimation in the view of a possible ion run next week.

East Area (L. GATIGNON, mail):

“Relatively smooth startup. From today on users in T9 and T10, as well as DIRAC and IRRAD.”

East Area Users (H. BREUKER):

DIRAC is still taking data with low efficiency since the electronics of the fast finder is not working yet. The time lost during the stop can be recovered for T9 and T10 due to the run cancelled by NA62.

AD (C. OLIVEIRA):

The AD restart was without any particular problem.

AD users (H. BREUKER):

ALPHA had beam on Sunday, with 1-2 hours lost for their scheduled shift. ATRAP is OK. An ASACUSA user sub-group left and the Brescia group took over.

NTOF (H. BREUKER):

The experiment is measuring the neutron capture cross-sections for Nickel. Thanks to the improved sealing of the target primary zone, the short-lived isotope release had been decreased considerably. The experiment can now take the maximum intensity.

SPS (E. METRAL):

The SPS was stopped during the whole week due to the advanced technical stop. Several interventions were done in the SPS: (1) dipole MBA23230 was changed (2) quadrupole QD13510 was repaired in situ; and (3) the pumping port close to the magnet MBB51530 was replaced by a carbon-coated one (for e-cloud studies). During the magnet patrol, a problem was found on dipole MBB20270 (broken tie-plates), which was finally also changed.

Beam was available from the PS at ~18:45, with three problems to solve: a) the injection B field on the CNGS cycle had to be changed; b) wrong settings on the extraction kicker MKE4 were causing large losses in the extraction line; c) quadrupole QM2117 (before splitter 1) was at a wrong value due to a polarity problem.

On Monday, the LHC beam was sent to TI8 for the LHCb experiment. The MD had to stop in advance due to glitches in the BIC.

The MTE cycle has been deployed with an intensity comparable to the one of SFTPRO on a CNGS cycle to expedite the commissioning. The losses observed are about the same on the two cycles.

CNGS (E. GSCHWENDTNER, mail):

“Last week during the stop we had access to CNGS in order to perform several works:

- the hadron stop sump was emptied (3.6m³)- this is the sump which needs to be emptied with trucks via TI8 to ECA4.
- old pipes in TCV4 which are not used but somehow connected to the condensation water pipes were completely blocked.
- Two V-belts have been exchanged in two ventilation units (as safety precaution).
- The cartridges of the horn cooling circuit have been exchanged with two new ones.

Now we are running again, still 2 days ahead in terms of cumulated protons on target.”

SPS North Area (L. GATIGNON, mail):

“Also a smooth start-up. COMPASS asked for lower intensity on T6 (80 instead of 145). Next Friday start of P42+K12 run for NA62 R&D program. Search ECN3 on Thursday afternoon.”

North Area users (H. BREUKER):

CREAM finished the calibration, whereas CALOR needs still 2-3 days. The 10 GeV beam required by NA61 was not compatible with the run of NA63. It was decided to increase the energy to 40 GeV. NA63 could not finish the program yet and there are investigations to extend the run. The ATLAS test beam will be rescheduled.

COMPASS is running with no problem.

LINAC3 (R. SCRIVENS):

The oven had been refilled to allow the ion desorption experiment, which is ongoing. The tests are done with a gold coated cryo-copper target.

LEIR:

See special topics and schedule.

CTF3 (D. MANGLUNKI):

As announced last week, the recombination was successfully done with an intensity of up to about 29 A. The setting-up is still ongoing and references were taken. Then stability measurements were done. The CTF2 photon-injector is continuously operating. On Thursday afternoon, the cooling water was not available due to a blocked filter. This caused a trip of the RF. Since Friday the facility is off for the CLIC workshop.

TI (P. SOLLANDER):

Nothing to report.

3. Schedule / Supercycle / MD planning

The 2009 schedule (V3.6) is available at:

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

The current week foresees normal operation.

For week 43, ions will run at least up to LEIR. D. Manglunki added that ideally ions would be sent down the PS-SPS chain, in particular during the scheduled Wednesday MD. This will depend on the vacuum quality in the PS, which is presently still insufficient for ions. The situation will be assessed again on Monday and a decision be taken whether or not it is worthwhile doing another ion MD in PS and SPS. If this is not the case, week 43 will be fully dedicated to LEIR. In case week 43 can be used to bring ions down the LHC injector chain, LEIR will have a dedicated run for setting up the Nominal beam the following week (44). Afterwards the ion run will continue only with the Linac3 source and a part of the Linac3.

S. Maury and T. Bohl added that it would be important to have the ions in the SPS to finalise the commissioning. T. Bohl added that the program of the MD can be adapted depending on the intensity delivered by the PS.

M. Lamont added that it would be good to have the ions ready for the next LHC injection test.

An intervention has been required to improve the protection of the SPS in case of a Helium release from the LHC. This will require a total of three days (can also be three single days). One of these days requires a complete stop of the SPS, one day requires no extraction towards the LHC and one day requires no extraction to CNGS. K. Hanke will sort out with the experts if the intervention has to be done before the start of the LHC and before the stop of CNGS. A possible suitable period for the intervention could be during the next MD block in week 45.

After the meeting the first intervention (PPV-TT41 and sealing) has been scheduled for Tuesday (20 October). The PS MD originally scheduled for Wednesday (21 October) has been advanced to Tuesday in order to make the intervention transparent for physics. The other two interventions remain to be scheduled.

4. Special topic: LEIR Status (C. Carli)

C. Carli presented the status of LEIR. The slides can be found [here](#). The goal of the run was to provide regularly the EARLY beam for SPS commissioning. The goal has been fully achieved. Some issues were related to the fact that LEIR had not been running for 18 months. Furthermore LEIR is used as a test bed for CO developments (INCA-LSA), even if this is not a priority for LEIR itself. LEIR was operating in a reliable and stable way. The intensity was always a bit too low due to the low intensity provided by Linac3.

Work on the Nominal beam turned out to be difficult, since the intensity injected was low and the source of the losses at the beginning of the ramp, already seen in 2007, is not yet understood. Only about 2/3 of the nominal beam intensity has been extracted. This is still the main issue. A 4.8s long cycle was prepared to reach the nominal injected intensity, but this is not considered a permanent solution.

C. Carli wanted to thank all the colleagues involved, in particular in solving controls problems. The use of LEIR as a test bed for CO was considered a good choice. M. E. Angoletta added that most of the work to commission the digital LLRF has been completed.

C. Carli added that the commissioning suffered also from the accesses in the PS, since the injection line crosses the PS inflector zone. D. Manglunki suggested to modify the security chain in order to allow the low energy beam from Linac 3 to be injected into LEIR during a PS access, since this beam is harmless and one can stand next to the Linac3 beam pipe. This modification would need the insertion of a beam stopper in the LEIR ejection line EE, in order to only prevent the ejected beam from LEIR to reach the PS tunnel. S. Hutchins agreed to look into the safety implications of any modifications to the inflector zone for ions.

5. AOB

F. Tarita mentioned that the intervention on the compensators and the filters is has been completed during the technical stop.

6. Next meeting

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

Preliminary Agenda:

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Minutes edited by S. Gilardoni