Minutes of the 26th FOM meeting held on 13.07.2010

Agenda:

1) Follow-up of the last meeting (K. Hanke)
2) Status of the machines (Supervisors)
3) Schedule (K. Hanke)
4) Special Topics: Update list of activities for the next technical stop
5) AOB
6) Next agenda

1. Follow-up of the last meeting

The minutes of the 25th FOM meeting were approved.

Follow-up from the last FOM:

a) Status of the PS B-field fluctuations.
Analysis and measurements are ongoing. An MD has been scheduled following the technical stop on 19 July.

b) Send activities for the next technical stop to the machines superintendents. See Special Topics section.

c) Schedule the beam stop for the next technical stop. See Schedule section.

The beam statistics can be found here.

2. Status of the machines

Linac2 (D. KUCHLER):
The Linac was running without any particular problems until the night between Saturday and Sunday when a power glitch powered off the vacuum system. The operators could reset most of the vacuum equipment apart from the control system of the source gauges. The vacuum piquet intervened to solve the problem. Re-starting the source was still impossible due to a vacuum interlock. The vacuum piquet had to intervene again and identified a vacuum control problem. The specialist was contacted and the problem could fixed. In total, the Linac was not available for nine hours and a half.

K. Hanke commented that the procedure to solve the vacuum problems was correctly applied.

J. Hansen asked more details about the situation of the vacuum equipment after the power glitch. From the logbook it was not clear if the turbo pumps were stopped due to glitch or not. J. Hansen suggested to add more details in the logbook in case of similar problems in order to improve the interventions.

PSB (K. HANKE):
The PSB running of the week was perturbed by three problems.

BT.KFA20 was tripping quite often, always with resettable faults until Saturday morning when it required the intervention of the BT experts. After adjusting the voltage on the kickers, the number of faults decreased but did not disappeare. The experts will continue to work on a permanent solution.

The ISOLDE watchdog triggered several times without any beam loss. As a temporary fix the threshold has been increased. The source of the fault could not be identified yet. L. Soby added that a monitoring has been put in place to investigate the issue.
K. Hanke added that the system should be renovated soon.

The MPS was tripping quite often, with a trip due to a ground fault on Monday night. The PSB had to be stopped to allow further investigations, since the MPS could not be restarted correctly. During the FOM, an audio-visual patrol was taking place to diagnose a possible problem on the magnets.

ISOLDE (P. FERNIER):
ISOLDE had a pretty good week.

GPS: the run was with the UC2 target, number 428, at 50 kV. The run was very successful and users were satisfied.

HRS: the run was with the target number 429 for REX. The run started on Thursday. The machine was always very stable. The experiment required the production of the Krypton^{72} . Unfortunately, it was not possible to deliver this beam due to a too large pollution of Germanium^{72}. The two isotopes cannot be separated in mass, so the experiment could not run.

K. Hanke commented that this is not the first time this year for which the machine was running without any particular problem and the physics run had to be cancelled due to a problem related to a target.

S. Gilardoni asked if this isotope was already produced in the past. A. Herlert replied in the affirmative, adding that in general this type of isotope is very difficult to produce.

ISOLDE USERS (A. HELERT):
The GPS users were very happy.

The HRS users could not do their data taking due to the aforementioned beam pollution. The users reported that they could not identify enough Krypton^{72} . It was not clear if this was due to a too low efficiency of REX-ISOLDE. It was also quite surprising to have a pollution of Germanium^{72}.

PS (A. GRUDIEV):

On Tuesday, the LHCINVID with ultimate intensity was tested. An intensity of 3 10^{11} p/pulse could be extracted in very stable conditions. A blow-up of the transverse emittance was observed at transition.

On Thursday, Fistline had to intervene to fix two magnets of the FTN line.
The same day, the MTE operation beam MD4 settings were found corrupted. Basically all the beam settings were programmed to wrong values. No trace of this action could be found in the INCA database, as if the equipments were programmed bypassing INCA. To recover the previous settings, the values saved in the INCA database were manually driven to the HW one by one. Unfortunately, the beam could not be recovered completely.
K. Hanke asked about the MTE status. S. Gilardoni replied that the corruption of the user MD4 constitutes a major problem, since the user could not be fully recovered yet. The spill is much more unstable after the MD4 recovery. Investigations are ongoing, with the help of CO, to understand the source of the setting corruption.
This clearly will delay the MTE setting-up.
B. Mikulec asked if it was tried to switch back to the old control system to restore the old settings. S. Gilardoni replied that something similar was tried but it did not work.

On Friday, the tomoscope and the BSM were not available due to a problem with the DSC. One initialisation file of the DSC was found corrupted.

On Friday evening, the BWS did not work correctly any longer. The specialist is still investigating the problem.

On Saturday and Sunday, the BLMs were triggering but without losses. The control specialist found that the DSC load was too high.

On Sunday, the 10 MHz cavity 91 was often tripping. The tube of the final amplifier is practically exhausted, and will be replaced during the next technical stop.

On Monday, suddenly six 10 MHz cavities powered off without any apparent reason.
The cavity C56 could not be restarted due to a broken relay-gap. An access was done to replace it once the LHC was filled.

K. Hanke asked about the first experience with INCA. A. Grudiev replied that there are a few minor issues which are discovered daily and either solved immediately or followed up by CO. The corruption of the MD4 user is however definitely worrying, since it is not clear yet how this could happen.

S. Hancock asked about the situation of the references. It was observed, in fact, that the colour of the knobs is not any more coherent with respect to the difference between the current settings and the references. On MD4, for example, the working sets were green even if the settings were not coherent with the references. K. Sigerud will follow up the issue.

EAST AREA (L. GATIGNON, mail):
“Very stable running for EASTB and only T10 in EASTA (T9 and T11 magnets stopped). EASTC stopped on Thursday till August.

The only incident is a failure of F61.DVT01 on Saturday morning, which was fixed by the 1st line after about one hour."

EAST AREA USERS (H. BREUKER):
CLOUD is finishing the run.

DIRAC will run with the fifth spill.

A T9 run has been cancelled, the magnets has been powered off.

ALICE in T10 had a problem with the DAQ.

TOF (H. BREUKER):
The intensity so far was excellent and better than promised.

AD (C. OLIVEIRA):
A problem with the MPS tripping quite often could be solved by changing a controls card.

Sometimes losses were observed at 3.5 GeV/c due to a failure of the stochastic cooling. F. Caspers suggested checking the controls of the cooling. Finally; a faulty controls card was replaced to solve the problem.

A vacuum leak near a beam stopper in the experimental area had to be fixed.

The interlock on the target temperature was triggered, due to the target heating. Unfortunately, it was not clear at the beginning how to reset it. Once the reset done, the threshold on the temperature was also increased.

A longstanding problem with the power converter of one of the trim magnets could be finally solved. It was found that the power converter could not execute correctly the negative part of the programmed function.

The pbar bunch length is now about 200 ns, whereas the ASACUSA experiment is requesting 120 ns.

AD USERS (H. BREUKER):
ALPHA was increasing the statistics of the H^- trapping.

ATRAP is running fine.

For ASACUSA, the Vienna group is not requesting the 120 ns bunch length because the experiment is running without the RFQD.

SPS (D. MANGLUNKI):
The setting up of the controlled emittance blow-up of the LHC beam was done using the transverse damper and the octupoles.

The LHCFAST2 sometimes were not correctly executed due to a problem with the generation of the RF trains in the LHC.

Some tests were done with the scrapers. The systems had to be fixed by the control piquet of BT to put them back in operation.

On Thursday, one of the floating MD took place: up to 4 LHCINDIV were injected in a single SPS cycle. The tests were done to speed up the filling of the LHC.

On Friday there were studies of the LHC transfer lines.

On Sunday evening, tests of the transfer line required a stop of the NA physics.

During the entire week there were few RF transmitter problems. The piquet was always very responsive.

On Monday there was the last trimming of the LHC2 cycle with multiple LHCINDIV injections.

The CNGS reached the integrated intensity on target of 1.68 10^{19}, for a scheduled intensity of 1.45 10^{19}.

K. Hanke added that the LHC will now regularly require dedicated filling time.
D. Manglunki said that in this case the NA and CNGS users should expect up to four hours without beam.
K. Cornelis added that the four hours will be fully dedicated only if really needed. The supercycle will be adapted to keep the maximum of PS users and the NA beam.

H. Vincke asked if the hot spot in TT10 has been understood. New measurements will be done during the next technical stop.
K. Cornelis replied that the aperture has been measured by using the video camera nearby the hot spot as beam loss monitor. The aperture seems to be large enough. If an object is present in the chamber, it must be something semi-transparent, in order to give small but persistent losses. An X-ray scan of the chamber has been organised for the next technical stop.

North Area (L. GATIGNON):
During the week, there was an access problem in zone 152 (H2 beam) where the status of the exit door was "no beam" where the PPE gave (correctly) "beam on". The problem could be fixed by the access piquet.

A false water pressure on a quad (Q34) in M2 was triggered on Saturday morning. The fault was masked by the magnet piquet after 2 hours.

On Monday afternoon magnet H2.B1 tripped several times on coil temperature at 300 GeV/c current (1100 Amps). The experiment had to run to a lower beam momentum.

Concerning the radiation levels of the BA80 cooling water, there are still no explanations. No changes were made in M2 apart from a short period of short target on Friday afternoon.

K. Hanke noted that the access system had repeated failures this year. K. Cornelis replied that one cannot compare this kind of problem with the others of the ring access system, since the experimental zone access system is very different and also used in a different manner.

North Area Users (H. BREUKER):
On H2, the CMS calorimeter run is progressing. The NA61 experiment had a water-cooling problem.

On H4, the COMPASS running is progressing fine. The experiment decided to cancel the run of T9.

On H6, the telescope had a DAQ problem.

On H8, the small DREAM calorimeter has been installed and the data taking started.

H. Vincke reported that the dose rates on top of the water station are increasing, by more than a fact of 10 with respect to the past. The radiation monitor has been exchanged to exclude a failure of the detection system. The high dose rates were confirmed. H. Vincke was asking if further investigations could be done by OP to understand the source of the losses.
K. Cornelis replied that the radiation might come from the secondary beam. L. Gatignon added that no differences in the settings were found with respect to the 2007 runs. L. Gatignon proposed to scan the target by putting an empty target on the different stations.
K. Hanke asked if it would be possible to do a radiation survey of the area during the next technical stop. H. Vincke replied that there are limited resources to do also this since many colleagues will be already involved in the technical stop activities.

CNGS (H. BREUKER):
The facility is running fine.

CTF3 (F. TECKER):
The RF had to be stopped from Wednesday to Thursday afternoon for the installation of a new Faraday cage for MKS13.

The BPMs were recalibrated. On Thursday, the RF could restart and the RF signals were re-calibrated.
The optimisation of the different lines is progressing.

The CCC operators are supervising the klystrons during the nights and the weekends.

For CALIFES, the setting up of the high power phase shifters was done, up to the maximum power. The pulse compressor could be put back in operation.

LINAC3 (D. KUCHLER):
The Linac was running in MD mode for studies of the plasma chamber. The stainless-steel chamber proved to provide a better beam stability, for intensity up to 20 muA. The source could run for many days without major intervention.

S. Gilardoni asked at which frequency the RF is running. D. Kuchler replied that it is running at 14 GHz, since there was no time to test the 18 GHz. Unfortunately, more radiation has been observed around the source, an extra shielding was needed.

TI (E. LIENARD):
A report will be issued soon concerning the problems of last week.

LHC interface with injectors (M. LAMONT):
Operation with 3 x 3 bunches with stable beam has been regularly achieved during the week. The multi-bunch operation should restart as the PSB will be available again.
After the technical stop, the operation will resume with 4 bunches per injection.

3. Schedule / Supercycle / MD planning

The current version of the 2010 official schedule (V1.7) is available at:
https://espace.cern.ch/be-dep/BEDepartmentalDocuments/BE/2010-injector-schedule_v1.7.pdf

The technical stop will take place on Monday 19 July. The beams should be stopped following this schedule:
- CT extracted beams from the PS, (SFTPRO and CNGS and MTE) will stop on Sunday 18 July at 20:00.
- All the other beams will stop on Monday 19 July at 5:00 a.m.

Access to the machines will be given after the radiation survey which will start at 8:00 a.m.. The end of the technical stop for the PS and PSB will depend on the time needed to fix the MPS of the PSB. In principle 12h are allocated.
The technical stop of the SPS will finish the Tuesday 20 July at 8:00 a.m..
After the PS technical stop, a dedicated MD will take place until Tuesday 20 July at 8:00 a.m..
Afterwards, the PS will continue with parallel MDs while the SPS will be in dedicated MDs. On Thursday, there will be a dedicated run for UA9.
The PS users should not expect to have regular beam until Friday.
The SPS users will receive beam as from Saturday 24 July at 8:00 a.m..

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.

There will be a series of electrical interventions, as reported by the “notes de coupures” below:

https://edms.cern.ch/file/1083566/2/ENNC_2010_091_V2.pdf
https://edms.cern.ch/file/1083567/1/ENNC_2010_092.pdf
https://edms.cern.ch/file/1083568/1/ENNC_2010_093.pdf
https://edms.cern.ch/file/1083138/1/ENNC_2010_083.pdf
https://edms.cern.ch/file/1083166/1/ENNC_2010_087.pdf
https://edms.cern.ch/file/1083146/1/ENNC_2010_085.pdf

https://edms.cern.ch/file/1083143/1/ENNC_2010_084.pdf
https://edms.cern.ch/file/1083138/1/ENNC_2010_083.pdf

4. Special topics: Preliminary list of activities for the next technical stop.

D. Mcfarlane presented the activities of Linac2, PSB and SPS for the next technical stop. The slides with the detailed list of the activities and access requests can be found here.

R. Brown presented the activities concerning the PS. The slides with the detailed list of the activities and access requests can be found here.

K. Sigerud communicated the list of interventions concerning the control systems (mail):

“MIDDLEWARE TEAM (BE/CO/IN)
The CMW team would like to push the latest versions of RDA & RBAC to the FESA framework.

The main changes: several significant bug fixes in the RDA server library and improved error reporting in the RBAC authorization.

Several front-end developers (mainly BI) have already expressed their interest in using them operationally as the new version of RDA may fix one of the concurrency problems they experience occasionally.

Moreover, these new versions are used in production by all the CMW proxies for several weeks already and no issues were reported since then.

They will send a dedicated email with more detailed information to the cmw-news & fesa-developers mailing lists.

DIAMON/LASER TEAM (BE/CO/IN)
- Monday 19/7: update of the Diamon agent covering following issues:
    * DMN-446 CLIC agent should ensure that the local version of the binary is up to date when restarting
    * DMN-429 Create a version of the CLIC agent with smallest possible memory footprint
    * DMN-425 CLIC agent integrate updated timing module into CLIC agent
    * DMN-418 CLIC agent should execute wreboot in a separate thread and provide a timeout

- Tuesday 20/7: release of LASER and Diamon consoles (various small bug fixes)

- Wednesday 21/7 (during weekly upate, no downtime):
  * bugfix in LASER "search alarm" functionality
  * unexpose LASER 1 and 2 servers (on request of security team)

DATABASES (BE/CO/DM)
-Upgrade to new version for the Application server on OAS1
Mon 19/7 11:00 - 11:15
Services affected: CCDB editors and BIC API, TIMBER, AQ client

- APEX upgrade on the DB servers themselves (the ACCON (dbabco) and LASERDB clusters)
Mon 19/7 10:00-10:30
Services affected: LASERDB data browser, CCDB browser and history log, PC CCDB browser, OASIS databrowser"

5. AOB

6. Next meeting

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

Preliminary Agenda:

1) Follow-up of the last meeting (K. Cornelis)
2) Status of the machines (supervisors)
3) Schedule (K. Cornelis)
4) Special Topics: Report about the PSB MPS failure. (J.-P.Burnet)
5) AOB
6) Next agenda

Minutes edited by S. Gilardoni