Minutes of the 40th FOM meeting held on 19.10.2010

Agenda:

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

1. Follow-up of the last meeting

The minutes of the 39th FOM meeting were approved.

Follow-up from the last FOM:

a) Status of the PS B-field fluctuations.
S. Gilardoni reported that a meeting with the Btrain and magnetic measurement experts has been organised for the current week.

b) Status of Linac-PSB beam stopper. An intervention has been planned for the technical stop to fix the problem.

c) Send activities for the next technical stop to the machine superintendents. See activity lists in the Special topics section.

d) Status of Linac radiation survey. G. Bellodi reported that the radiation levels could be reduced by adjusting a quadrupole in tank1. R. Scrivens added that the source of the losses has not been understood yet.

e) Status of ISOLDE cooling station. A target change was done on Monday and there were no particular problems for the cooling station. K. Hanke asked if any preventive action, like purging the system or cleaning the water reservoir, might be useful to avoid the same problem in the future. S. Deleval replied in the negative, adding that the cooling system is under the responsibility of R. Catherall. The problem will be discussed in the ISOLDE technical meeting.

f) Status of CNGS ventilation. S. Deleval reported that an intervention has been planned for the next technical stop.

g) Varilog/Passerelle INCA installation. S. Gilardoni reported that the Passerelle problem mentioned during the last FOM has been solved. The system is now under test.

h) INCA status. S. Gilardoni reported that the INCA deployment is progressing.

The beam statistics can be found here.
A new web page with the accelerator statistics (beta version) is available here.

2. Status of the machines

LINAC2 (G. BELLODI):
The Linac had a good week. Half an hour was lost on Monday due to some sparking of the RFQ.

PSB (K. HANKE):
The PSB had a good week. There was a failure of the extraction septum that caused about half an hour stop.

Concerning the ISOLDE watchdog, BI had installed new acquisition cards. Tests continued on the GPS line. Unfortunately the noise level is higher than with the old system (already observed on HRS) and the watchdog threshold had to be set to a higher level in order for the watchdog not to trigger erratically. It is planned to install a filter (as already the case on HRS), and in the medium term to install improved cards.

The MPS tripped on Wednesday afternoon due to an unknown reason; after resetting it the Q-strips were found deregulated.

On Thursday, the C02 cavity of ring4 went off but it could be reset. Later, the problem re-appeared. The specialist is aware of the problem, and will intervene on the cavity during the technical stop.

The piquet EPC had to intervene on the multipole power converters.

On Friday there was an electrical glitch on the 400 kV distribution. The recovery took only about 20 minutes.

The operation of the current week is now adapting to the requests of the MDs in the PS and SPS.

ISOLDE (E. SIESLING):
ISOLDE had a good week.

GPS: the HV was limited to 40 kV due to the problem with the FE mentioned in the past FOMs. The run was for the production of Be for the Collapse experiment and for the collection in the GLM line.
During the run, it was noticed that the HV recovery after the proton impact increased up to 40 ms, instead of the usual 6 ms. The HV was then switched to the power supply of HRS.
The operation was very stable during the weekend. The run finished on Monday.

HRS: the FE was in a radiation cool down period. The target change was delayed due to too much out gassing from the target.
A small leak was found on the valve causing some problem, but too small to be the real cause of the valve malfunctioning.

ISOLDE users (M. KOWALSKA):
The GPS users were very happy, even with the HV limited to 40 kV. The experiment was meant to measure Be^{12}, which has a lifetime of about 12 ms. This is also the reason why it was not acceptable to run with the HV recovery time of 40 ms.
The experiment could take a lot of statistic, in such a way that some time could also be given to a solid-state physics experiment not scheduled.

K. Hanke wanted to remind that the maximum current deliverable to ISOLDE is limited to 2 muA. This limit can be exceeded only exceptionally if authorised in writing by RP.

PS (S. GILARDONI for R. STEERENBERG):
The PS has been running very smoothly last week with excellent beam availabilities, near 98%. A big effort went into preparing the different beams for the LHC following the request of the 50 ns beam. The beam control hardware and the settings of the different LHC beams were adapted to be able to deliver four different types of LHC beam (25ns, 50ns, 75ns and 150ns) without major adjustments. The single batch injected PS LHC50 was delivered on Thursday morning to the SPS for verification and adjustments and all the other variants are also available. The only problems worth mentioning are: on Thursday morning at 6:30 all beam were stopped due to the bad pulsing of the PS injection septum at the same time as an RF problem in the PSB. The problem disappeared mysteriously at the same time as the PSB RF problem was solved, but caused about 30 minutes downtime. On Friday morning there was a glitch on the 400 kV network that caused several equipments to switch off, but they could easily be reset, causing about 20 minutes down time.
It is also worth mentioning that due to the large number of activities using many different sequences and super cycles there is one of the three persons in the PS island for about 60% or even up to 70% of his time occupied by making modifications to all the different super cycles and sequences in case of a simple change. This is required since a simple request of the LHC switches sequences and super cycles and therefore they all need to be synchronised to maintain as stable as possible operation for all the other users. It would be good to address this point and see what can be done to alleviate this situation.

K. Hanke asked about the status of MTE. S. Gilardoni replied that studies are progressing to understand the fluctuations, with some more measurements taken during the last week.

EAST AREA:
Nothing to report.

EAST AREA USERS (H. BREUKER):
CLOUD started the data taking, with two spills per supercycle.
IRRAD and DIRAC are running without any problem.

TOF (H. BREUKER):
nTOF will stop the data taking for three days to do some change in the experiment to prepare the studies of neutron capture on Uranium.

AD (K. MIKLUHA):
The AD had a very good week.

The bunch rotation cavity DR.C10-26 had a pre-driver fault on Monday. The beam could be delivered with reduced intensity while the expert was fixing the problem.

On Tuesday afternoon, the DE2.BHZ10 power converter tripped. FirstLine could fix the problem with only 45 minutes of the run lost.

The door of the ASACUSA zone had a problem with a hinge. D. Chapuis changed the entire access door module.

On Friday afternoon the DE.VVF7048 closed and the piquet had to intervene to open it again.

In total the AD had less than 2 hours down time.

AD USERS (H. BREUKER):
ACE started the dedicated run.

SPS (D. MANGLUNKI):
The SPS had a good week.

The CNGS reached the 3.5e19 protons of target, i.e. the same integrated intensity delivered during last year. The intensity is still above the scheduled one by about 10%, even if the CNGS duty factor is suffering from the supercycle composition during the LHC filling and the ion setting up.

The NA is suffering from the fact that at every supercycle change some magnets are changing polarity. This problem is known since a while, and investigations are ongoing to understand the source of it. In the meanwhile, the correct polarity is manually set.

The LHC50 beam has been prepared.

On Friday, the beam was lost due to a problem with the SIS communication.

There were a number of RF trips during the weekend that could be solved rapidly thanks to the efficient and fast intervention of the experts.

On Monday, an access was done to check two leaking magnets. After the survey, the experts are convinced that the magnet could survive until the end of the run. A solution to mitigate the leaks will be installed during the technical stop.
A third magnet was also checked but no problem was found.

CNGS (E. GSCHWENDTNER):
The facility delivered so far the same integrated intensity as last year.
The ventilation will be repaired during the upcoming technical stop.

NORTH AREA:
No report.

NORTH AREA USERS (H. BREUKER):
COMPASS was running without any problem.

In H2, the NA61 was running fine. The experiment expressed some concerns about the displacement of the technical stop and the MD block from week 44 to the current week. They were planning during that period some calibrations together with colleagues coming from the US. This would require no beam in the area.
K. Hanke asked if this would be possible without interfering with the SPS operation.
H. Breuker replied that the other experiments in H2 would have to stop.

LHCf and RD51 are progressing well.

On H6 the experiments are running fine.

On H8, TOTEM removed one quarter of the spectrometer. They are now planning a full installation tests for the final integration in CMS.

CTF3:
No report.

LINAC3 (G. BELLODI):
After the oven refilling the stability and the intensity were pretty good.

The ramping cavity had a problem with a VME crate.

The RF generator of the source tripped three times due to a water-cooling interlock. Most probably, the interlock was triggered by some HV sparking. Investigations are ongoing to better understand the problem. The sourcecould recover every time after about 20 minutes.

The Linac could deliver regularly 20-25 muA.

The source will be refilled during the technical stop and then again the 2-3 November.

LEIR (M. E. ANGOLETTA):
After the source refilling beam was delivered to the PS for the SPS setting up.

C. Carli mentioned that apparently transport started to remove some of the LEIR shielding blocks. K. Hanke replied that this operation should not take place during the machine run. Apparently the work started after the authorisation of RP.
K. Hanke will check with Transport the status of the works with the aim to postpone them after the end of the run.

PS-IONS (S. GILARDONI):
The ion beam is running as the other normal PS users.

SPS-IONS (D. MANGLUNKI for T. BOHL):
D. Manglunki reported that the commissioning is progressing.

There are some problems with noise.

On Wednesday the MD (originally planned for week 44) will be donewith 11 injection from the PS.

TI (P. SOLLANDER):
Except for the 400 kV glitch already mentioned there were no other problems.
K. Hanke said that he had received a number of "notes de coupure" for the 1st of November (original date of the technical stop). These interventions need to be re-scheduled.

LHC interface with injectors (M. LAMONT):
The LHC was running very well.
The program now foresees to inject the smallest possible emittance from the injectors.

An aperture problem at the injection septum has been recently identified. One of the RF fingers has been deformed in such a way that constitutes an obstacle to the beam. It was decided on Sunday to stop the LHC and to advance the technical stop foreseen for week 44 to the current week.
The re-start is planned for Friday afternoon.

3. Schedule / Supercycle / MD planning

Version 1.8 of the 2010 injector schedule (V1.8) is available at:
https://espace.cern.ch/be-dep/BEDepartmentalDocuments/BE/2010-injector-schedule_v1.8.pdf

A draft of the 2011 schedule not approved yet by the Research Board, is available at:
https://espace.cern.ch/be-dep/FOM/Presentations%202010/09-21-2010/2011-injector-schedule_v0.1-5.pdf

The technical stop of week 44 has been advanced to the current week, as well as the MD block. The technical stop will take place on Thursday 21/10 from 8:00 AM to 8:00 PM. All beams have to stop on Thursday morning at 5:00 AM for radiation cool-down.
The list of the interventions in the machine is available in the Special topics section.
Due to the MDs there will be no physics for the NA and the CNGS until Friday.
Concerning the PS users, priority will be given to EASTA (CLOUD) and the AD.
The UA9 run has been advanced to the night between Thursday and Friday, ending on Friday at 19:00.
There will be an ion MD on Wednesday.
The detailed MD program can be found here.
The week of the 1st November should be considered without MD, i.e. of normal run.
T. Eriksson stressed the fact that the ACE experiment of the AD is running only during the current week, and that the technical stop as the perturbation of the normal

operation constitute a serious problem. P. Collier replied that an arrangement should be found with the other experiments to recover the lost time.

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

R. Brown presented the activities for the technical stop. The complete list is available here.
C. Rossi wanted to stress the fact that, due to the change of the technical stop date, the cavity used to produce the LHC beams in SS08 cannot be repaired. The cavity is currently working but there are a lot of concerns about a possible failure. The investigations and the repair of the cavity were scheduled for the 1 November, and due to the absence of the expert the work cannot be done this week. About eight hours should be found to allow the intervention on the cavity. In the meanwhile there is a serious risk that the cavity breaks down.
R. Brown mentioned that the MPS brushes will not be exchanged but just inspected.

N. Gilbert presented the activities for the PSB and the AD. The list can be found here.

D. Mcfarlane presented the activities for the SPS. The list can be found here.
The only interventions that risk not to take place are related to BA1. Depending on the intensity sent on the beam dump during the MD, RP will grant the access. The radiation levels will be checked just before the technical stop.

A. Bland sent a list of machine reboots:

Hostname	Description	Programs	21/10/2010 Reboot time
cs-ccr-gwpc	ccr backend for samba and old passerelle	Operational Windows users	9:00 – 10:00
cs-ccr-nfs1	be/co nfs file server 1	Sources and tools	9:00 – 11:00
cs-ccr-nfs3	be/co nfs file server 3	Logging not using Oracle	9:00 – 11:00
cs-ccr-nfs5	be/co nfs file server 5	Java applications (~pcrops)	9:00 – 11:00
cs-ccr-nfs6	be/co nfs file server 6	Injector home directories	9:00 – 11:00
cs-ccr-nfs8	be/co nfs TIM file server	TI infrastructure	11:00 – 11:15
cs-ccr-nfsdev	nfs user development home	Personal home directories	9:00 – 10:00
cs-ccr-oas1	BE ORACLE APPLICATION SERVER #1	Timber, Config database forms	9:00 – 9:15
cs-ccr-oas6	BE ORACLE APPLICATION SERVER #6	LHC Logging 01	9:00 – 9:15
cs-ccr-oas7	BE ORACLE APPLICATION SERVER #7	LHC Logging 02/03	9:00 – 9:15
cs-ccr-samba1	samba gateway to control system	Development Windows users	9:00 – 10:00
cs-ccr-sis*	Software Interlocks for Injectors (3 machines)	SIS	11:30 - 12:00
cs-ccr-tomo1	backend for tomography applications server 1	AD and LEIR Tomoscope	11:30 - 12:00
cs-ccr-v*	Injector, AD, LHC Vistars (20 machines)		14:00 – 16:00
cs-ccc-*wall*	CCC Wall Screens (8 machines)		14:00 – 16:00
cs-ccr-www*	Control System Web Servers	Java web start	9:00 – 11:00
cwe-*	Expert Linux and Windows consoles (100 machines)		9:00 – 17:00
cwo-*	Operator Linux and Windows consoles (260 machines)		9:00 – 17:00

5. AOB

6. Next meeting

The next meeting will be held on Tuesday, 26 October at 10:00 in 874-1-011.

Preliminary Agenda:

1) Follow-up of the last meeting
2) Status of the machines
3) Schedule
4) AOB
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Minutes edited by S. Gilardoni