Minutes of the 20th FOM meeting held on 01.06.2010

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 19th FOM meeting were approved.

Follow-up from the last FOM:

a) Status of the PS B-field fluctuations.
Analysis and measurements are ongoing.

b) Linac2 source intensity fluctuation. F. Gerigk reported that unfortunately the interventions done during the technical stop did not give the hoped results. The dips are still present.

c) Check of the equipments after the AUG tests. K. Hanke reminded to the colleagues to check all their equipments before the machine restart.

The weekly statistics of the operational beams is presented in the following table:

24 May - 31 May			
	CPS		SPS
	rel	abs	abs
NORMHRS			
NORMGPS	93.07	53.76	
AD	Not available	Not available	
TOF	67.41	59.49	
EASTA	81.24	81.24	
EASTB	57.06	56.88	
EASTC	74.45	74.45	
SFTPRO	99.31	75.26	76.00
CNGS	99.78	78.01	82.00

2. Status of the machines

Linac2 (F. GERIGK):
On Tuesday, the temperature of the Linac started to decrease. This was due to the un-availability of the hot water for the air conditioning. The circuit had been turned off in

preparation for the technical stop. On Friday, the temperature was reaching the threshold for the RF operation. The electrical heating was then started and the Linac could continue running without any problem.

On Friday night the Linac suffered from the power cut, as the rest of the complex. The PSB operator had to reset the RF, but after this the Linac came back to normal conditions ready to deliver beam.

On Saturday, the watchdog cut the beams since two quadrupoles, LA1.QDN11 and LA1.QDN27S, were one in stand-by and the other off. After a reset both elements went back to a normal state. However, no alarm was issued related to the bad state of the elements.

On Monday, during the technical stop, the cathode heater and a transformer of the source were changed but this did not help to solve the problem with the intensity fluctuations.

PSB (B. MIKULEC):
On Friday it was noticed that during a Supercycle change the second SFTPRO was lost in the rings. The control specialist is investigating the problem.

During Friday and Sunday, the magnet of the ISOLDE transfer line BTY.DVT212 had to be reset at least 10 times. The specialist investigated the problem.

On Friday night, a power cut caused brought down the entire complex and a part of the LHC. The 18 kV line had a failure causing the loss of the 66 kV and an avalanche of problems for the electrical network (see TI report). The power cut was at about 23:30 and the machine could restart only at about 8:00, first with ring 3 only. This long stop was due to the fact that the power piquets had first to assure the safety of the different electrical networks all around CERN before being able to restart the accelerator equipments, in particular the PSB-MPS.

Ring 2 had also a problem to restart the injection septum, and in addition a LL-RF problem was solved by the HL-RF expert who was already on site.

All the beams stopped at 5:00 a.m. on Monday for the technical stop.

During the week, the STAGISO beam was delivered to ISOLDE for the GPS front end.
The beams for TOF, nominal and parasitic, were prepared, archived and delivered to the PS.

Some tests with the BWS put in evidence some problems with the measurement consistency: the same beam measured with different wire speeds, different radial positions and for different rings results with a different emittance.

The technical stop activities were progressing as scheduled.

ISOLDE (D. VOULOT):
HRS: The first run will start on Wednesday.

GPS: The FE finished the third run.

The already mentioned power cut on Friday caused the stop of the vacuum system.
A problem with the target clamp of the new HRS FE was solved.

There is a problem with the electron beam of the EBIS. The performance is sufficient to ensure the upcoming REX run, but a permanent solution needs to be found.

ISOLDE Users (A. HERLERT):
The users were happy.

An old target unit used for GPS provided only a low yield.
The STAGISO beam will be used until Wednesday morning.

E. Siesling asked to regularly measure the STAGISO intensity to check the new calibration of the beam transformers. K. Hanke said that OP is following this up with BI.

PS (A. GRUDIEV):
On Tuesday, one hour of physics was lost for the EAST area for a problem with the septum SMH57. The power piquet had to replace an analogue acquisition card.

On Thursday, the MPS tripped due to a power glitch. An auxiliary power supply had to replaced, causing a stop of about 4 hours.

The recovery from the mentioned power cut on Friday night was relatively smooth. Only a few equipments could not be restarted by the operators, in particular for the BFA-pedestal the specialist had to intervene. Also for the MPS the restart took a lot of time. The beam was back only at 16:00 on Saturday.

The MTE and CT beams were stopped on Sunday at 9:00 a.m. for the technical stop. The other beams were stopped on Monday at 5:00 a.m.

The technical stop should finish at 16:00 with the first beam foreseen at 18:00.

K. Hanke asked if the SMH57 problem was only related to the power converter. A. Grudiev replied in the affirmative.

K. Hanke asked about the status of the vacuum in SS23. J. Hansen replied that the vacuum leak disappeared on Friday. Therefore the intervention on the SEH23 joint has been cancelled.

S. Gilardoni pointed out that in this case the EAST users might receive beam as soon as the technical stop will finish. H. Breuker will inform the users.

S. Deleval added that the CV interventions were progressing according to schedule.

EAST AREA (L. GATIGNON):
The EAST area could recover without any problems from the power cut.

EAST Users (H. BREUKER):
The users are happy.
In T7 there are tests on new readout electronics.

The DIRAC run has started.

In T9, the CMS pixel telescope tests would require the extension of the run by one week.

In T10 there is NA61.

In T11, a new experiment is in preparation. The DSO tests should take place on Wednesday.

M. Widorski asked about the new water leak found on MNPC23. L. Gatignon replied that the leak was very small and that tightening the water hose connectors should solve the problem.

TOF (R. STEERENBERG):
The experiment was running without any particular problem.
Currently, tests were done to improve the alignment of the collimator in the secondary line. The loss of 10-20% in neutron flux of last year has been corrected by the new collimator positioning.

AD (T. ERIKSSON):
The AD suffered from a number of faults.

On Tuesday, one of the C10 cavities had to be repaired by the specialist.

On Wednesday, the RFQD of ASACUSA had a problem that could be solved.
On Wednesday evening, a power glitch stopped the AD. The supervisor and Firstline had to intervene to restart the machine.

On Thursday the beam could not be delivered by the PS for a long period due to the problem with the MPS.

On Friday, a lower pbar yield at low energy was due to a problem with the stochastic cooling system. The issue was solved by the evening. During the night, however, the power cut stopped the AD.
The restart was tedious. The specialist of the electron cooler had to intervene to restart the system, in particular the cathode filament.
In parallel, the supervisor was taking care of restarting the other systems.
Unfortunately, the target cooling station could be put back in operation only on Saturday afternoon. In total, the AD lost 43 hours of physics due to the power cut.

T. Eriksson wanted to thank all the colleagues intervened to restart the AD, in particular O. Aberle and the electron cooler experts.

AD Users (H. BREUKER):
The users are happy. ALPHA was profiting of the stop to do some maintenance. The situation with the He requirements from the experiment has improved with respect to past years.

ASACUSA had to do a small repair after the power cut. The next experimental group will come from Denmark.

The ATRAP run is progressing well.

SPS (K. CORNELIS):
The SPS had a smooth week until Friday.

On Wednesday, the T2 wobbling magnets did not work correctly due to a wrong current.

The Friday power cut put off the entire SPS. Many colleagues had to intervene during the entire night. The CNGS beam could be produced again only 24 hours after the power cut. There were also a series of "collateral damages": some small leaks opened up, in particular in LSS1 and in a kicker in LSS1.
The compensator was also damaged and could be recovered only on Saturday evening.

The North Area recovery took even longer time. The long recovery time was due to the large number of non-conventional equipments. On top of this, the access system was blocked. Even after the recovery, the beam at the target was of poor quality.

The beams were stopped for the technical stop according to schedule. Some interventions could be even advanced during the unforeseen break given by the power cut.

North Area (L. GATIGNON):
As already mentioned, the NA suffered particularly from the power cut.
The COMPASS experiment could not restart, due to the fact that the TAX could not be opened.

North Area Users (H. BREUKER):
On H2, the tests of NA62 are finishing.

The M1 magnet was tested for the next runs.

A new test beam will be done for the CMS calorimeter to understand some effects measured in the LHC.

On H4, NA63 finished the run. A new experiment has been already installed.

On H6, the DESY telescope was installed without any particular problem.

On H8 there is an LHCb test beam ongoing.

CNGS (H. BREUKER):
H. Breuker wanted to congratulate everyone on behalf of the OPERA collaboration after the press release concerning the first ν_τ event measured by the experiment.

CTF3 (D. MANGLUNKI):
After the AUG tests, the EPC equipment can be restarted.
There will be also an intervention to remove the structure that cannot be powered any more after the fire. This will be done to avoid that the beam is decelerated by the not-powered structure.

An optimistic plan foresees the beam by the middle of June.

LINAC3 (R. SCRIVENS):
Linac3 was used for some limited tests last week, and the oven was refilled.

The Linac could be run on Monday morning during the technical stop.

Before the meeting the air temperature was found too high to run the machine (the stop of the air conditioning was announced, and it was decided to take a chance that it could run under these conditions). The Linac was set in power saving mode.

Otherwise Linac3 is not concerned by the technical stop work.

Some useful first data were taken for the desorption experiment, which now requires some adjustment to the experimental system.
TI (P. SOLLANDER):
The Friday power cut was the main problem of the week.

F. Tarita said that the problem appeared at about 23:30 in the feeders of the NA. The 66 kV line was lost, i.e., the stable electrical network for CERN went off.
The fault took about 450 ms, creating a problem with the LHC loop also.
After 11 s the auto-transfer was operational, with everything going as expected.
Then a part of the network was put offline to check the situation of the different sub-stations.
Four colleagues intervened, the two on call plus other two as support. All the bus bars could be checked by 8:00 a.m. and by 10:00 a.m. the complete site was back to normal. The duration of the intervention was determined by the mandatory safety interventions and checks that must be done in such cases. Only once the safety of the electrical installations was assured, the piquet could take care of restarting the accelerators. A “Major event” report will be issued soon.

P. Sollander wanted to stress that the interventions concerning the security of the people and of the installations were the first priority.

C. Mutin added that the piquets were called in to restart the machines already at 3:00 a.m. Clearly, this was too early since the electrical network was not yet in stable conditions. In total 5 colleagues plus the group leader intervened on the different installations. For the future, a better coordination should be done at the level of the CCC to avoid trying the restart of the machine too early with respect to the real condition of the electrical network.

B. Mikulec added that this should be done by the TI operator. Unfortunately, the operator, in these cases, is already overloaded by the different interventions ongoing on the site.

K. Hanke commented that in the future the operators of each machine should ask to the TI operator about the status of the network before starting to call the piquets.

F. Tarita added that the electrical network is back to the normal configuration.

B. Mikulec asked if the propagation of the fault was as expected. F. Tarita replied that the propagation was as expected. It was so extended because the NA installations are quite old and it is not possible to isolate effectively this type of fault.

LHC interface with injectors (M. LAMONT):
The power cut set off the cryogenics in a pretty bad state. The recovery was possible only by Monday morning.

The machine should restart by Thursday morning, taking the LHCINDIV and the LHCPROBE.

3. Schedule / Supercycle / MD planning

The current 2010 official schedule (V1.6) is available at:
https://espace.cern.ch/be-dep/BEDepartmentalDocuments/BE/2010-injector-schedule_v1.6.pdf

A new version of the schedule will be issued soon.
Different LHC stops will be planned to clean the filters in P4.

K. Hanke added that the LHC stops and RF maintenance in the SPS should be synchronised. R. Steerenberg added that the regular exchange of the MPS brushes was advanced to this technical stop.

The LHC will probably stop the 6 December with a technical stop of 2 months afterwards.

Al. Bland announced an intervention on the video of the access system on Thursday. The intervention is transparent for machine operation.

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. AOB

5. Next meeting

The next meeting will be held on Tuesday, 8 June at 10:00 in 874-1-011.

Preliminary Agenda:

1) Follow-up of the last meeting
2) Status of the machines
3) Schedule
4) Special topics: CTF3 status and planning.
5) AOB
6) Next agenda

Minutes edited by S. Gilardoni