Minutes of the 22nd FOM meeting held on 15.06.2010

Agenda:

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

1. Follow-up of the last meeting

The minutes of the 21st 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 is scheduled for next Wednesday to understand the problem.

b) Check if renovation of BLMs in PS and PSB includes also the cables. J. Tan mentioned that the HV cable renovation is not included in the program. K. Hanke commented that there are worries for the machine operation since some cables were found damaged by radiation. The problem should be brought up at the IEFC. J. Tan added that the cable damage is a known problem but there is no budget allocated for their renovation.
R. Steerenberg mentioned that last week a meeting with the BI experts took place to define the use of the LHC-BLMs in the PS for MTE. The BI experts said that the damaged cables are the ones in the tunnel connecting the HV boxes to the detector itself. These cables are short and easy to change. N. Cohansaid that Ray Brown had confirmed that the changing these cables is an easy task.

c) Status of the TOF transformer. L. Soby reported that another access was done on Monday to intervene on the transformer in FTN. Unfortunately, nothing could be done to avoid the saturation of the transformer beyond 700E10 protons per extraction. The only solution left would be the replacement of the transformer itself. This would require probably a 2-day long intervention, during which no beam can be sent to the SPS or to D3. Further investigations will be done to better define the duration of the intervention and to schedule it.
K. Hanke asked how urgent this intervention is. nTOF should communicate as soon as possible if the current operation is compatible or not with the physics program. S. Gilardoni added that 700E10 corresponds to the nominal intensity, and the current nTOF operation is done by keeping the intensity around this value.
H. Breuker added that the intensity provided so far was high enough because the experiment was still in the commissioning period. During the coming

week, the physics program will start and only then it will be clear if the current intensity is sufficient or not for the experiment.

L. Soby added that the intervention to replace the transformer cannot be done within a short delay since the spare transformer is longer than the one currently installed. A new vacuum chamber has to be produced. K. Hanke asked L. Soby to come up with a plan for this intervention (duration and earliest possible point in time) and to report this back to the FOM.
Action: L.Soby.

d) ISOLDE dipole dropping too often. The problem was solved by replacing the power converter by its spare. K. Hanke said that nevertheless the faulty power converter needs to be fixed. C. Mugnier will follow this up within EPC.

e) Linac2 source intensity fluctuation. The problem apparently can be solved only by the replacing of the cathode. The intervention, however, can be done only during the next winter technical stop. The source intensity will be monitored to check if the situation will become worse. If the situation does not degrade, no further interventions will be done before the next winter.

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

8 Jun - 15 Jun			
	CPS		SPS
	rel	abs	abs
NORMHRS	51.75	13.24	
NORMGPS	100.00	47.87	
AD	Not available	Not available	
TOF	86.81	82.29	
EAST N	94.84	94.84	
EAST T7	95.98	95.98	
EAST T8	97.17	97.17	
SFTPRO	98.39	91.22	
CNGS	98.39	91.22	

2. Status of the machines

Linac2 (R. SCRIVENS):
Linac2 had a quiet week. The RFQ tripped twice but it could be reset. In total only 20 minutes were lost.

PSB (A. FINDLAY):
The PSB had very good week.

The problem with the GPS transformer was solved by the equipment specialist.

ISOLDE (P. FERNIER):

GPS: The run was GPS for REX. The run was in general fine except that the production yield of C^9 was too low for the physics program due to problems with the target.
The risk of being unable to produce enough C^9 was already known, since this isotope is very difficult to produce.

HRS: HRS had a very good week. The run finished on Wednesday.

On Monday, the two targets will be exchanged.

K. Hanke asked about the status of the REX-EBIS. P. Fernier replied that investigations are ongoing and that he expects all problems to be solved before the run of next week.

ISOLDE Users (A. HERLERT):
The GPS users were not happy about the low C^9 yield, although they were aware of the difficulties to produce this isotope. Investigations are ongoing to improve the production for future runs. The beam time not used for the C^9 run was replaced by a stable beam period for other users.
The target will be re-used for another run with different isotopes.

PS (G. METRAL):
The PS week was pretty good.

Some investigations continued concerning the problem with the nTOF transformer.
The nTOF run had also a stop of four hours due to a failure of the water cooling station during the week-end. The piquet had to change a flow-meter. The TOF beam intensity had to be limited to 700E10 to avoid saturation of the transformer used to normalise the experimental data. Another transformer in TT2 has been calibrated for the TOF intensities: BCT372 can be used to measure the intensity while the BCT468 to determine the fact that the beam is sent to the target.

During the week there were two problems with the T11 power converters. Both problems were solved by the piquet.

The LHC beam with 150 ns spacing was prepared and sent to the SPS. The maximum stable intensity is about 800E10 p/bunch.

Tests are progressing on the MTE beam to try reducing the losses at SMH16. The CT elements were used for a test to extract the MTE beam in a hybrid way. The fast bump of the CT plus SEH31 were used to increase the amplitude of the beam hitting the blade of SMH16 during the CT extraction. The study will continue.

S. Gilardoni added that the program would foresee sending again regularly MTE to the SPS also for the optics studies.
K. Cornelis added that a hot spot has been found in TT10 during the last technical stop. There are some doubts that this could be related to the MTE operation. For this reason, it would be better to delay sending again the beam to the SPS after Thursday next week. In this way, a new survey can be done. S. Gilardoni replied that the slow radiation decay between the two radiation surveys, the second done after a period

without MTE, seems to indicate that MTE cannot be the only source of the hot spot. He added that in the meantime the trajectory correction of the CT trajectory was done, reducing the losses in TT10 and SPS at injection. K. Cornelis replied that still the doubt about MTE remains, since the optics between the two extraction types is different. S. Gilardoni replied that this is true, but this simply means that more attention should be given to the MTE trajectory settings. K. Cornelis replied that another indication about MTE as source of the losses would be the fact that a pickup at that location was not working correctly anymore during MTE operation, whereas it came back to normal during CT operation.

EAST AREA (L. GATIGNON):
There was nothing special except the problem already mentioned for T11.
Since there will be no more users for T9, the magnets will be powered off.

EAST Users (H. BREUKER):
The users are happy.
CLOUD will start the physics program. First they will recondition the chamber. The experiment needs 2-3 spills, taken for T7.

TOF (H. BREUKER):
The experiment is completing the commissioning phase.

AD (C. OLIVEIRA):
There were a few problems during the week. An orbit corrector was not pulsing correctly. The problem was due to a faulty GFA. Furthermore there was a problem with the power converter of the stochastic cooling.
The only problem left since last week is the too long bunch length.
During the last MD, an optics problem at low energy was found, with a transverse coupling issue.
T. Eriksson reported that an automatic program to have a sort of BTF has been launched. The optics problem seems to be produced by the elements of the e-cooler.

AD Users (H. BREUKER):
Nothing to report.

SPS (E. METRAL):
The SPS had a quiet week.

For the fixed target physics program, beam intensities between 4E13 and 4.2E13 were regularly extracted.

Some tests were done for the new controls of the beam scrapers.

On Tuesday, the camera in 1024 was found broken and will be replaced during the next technical stop.

On Wednesday, an oscillation on the ODE was corrected.

On Saturday, a water pump was exchanged.

On Monday, the LHC 150 ns bunch spacing beam was taken. The intensity is limited to about 2/3 of the nominal bunch intensity due to coupled bunch instability. According to the requirement of the LHC, the intensity would be at the lower limit to be useful for physics.

MTE will be taken again after the radiation survey of next week.

A 24 hours stop should be planned to change a vacuum chamber for the e-cloud tests.

H. Vincke asked if the ventilation of BA1 could be stopped during the 24 hours without beam. K. Cornelis replied that an intervention on a water leak is already planned, and the ventilation is needed to allow access in the BA.

North Area (L. GATIGNON):
During the week there were no particular problems concerning beam operation.

The access system has still some problems. Investigations are ongoing. K. Hanke said that this should be reported back to the FOM if the problems persist.

North Area Users (H. BREUKER):
The run is progressing as planned.

For H2, an extension on the running period has been requested and approved.

COMPASS is progressing with the physics program.

H. Vincke reported about a sudden increase of the dose rate at the water station, which appeared and lasted for 2 days before disappearing again. K. Cornelis replied that the high intensity is delivered to the NA already since a long time and there were no abnormal losses in the region. In any case, a better fencing around the area should be put in place. A. Bland added that also the path inside the building to reach the equipment is not optimised to avoid the area with higher dose rates. K. Hanke endorsed that a solid fencing of the area with increased radiation level is put in place by EN/MEF.
Action: V. Chohan

CNGS (E. GSCHWENDTNER):
CNGS is running well.

CTF3 (D. MANGLUNKI):
See special topics.

LINAC3:
Linac3 is in shutdown.

TI (P. SOLLANDER):
Nothing special to report.

LHC interface with injectors (M. LAMONT):

The program is dedicated to the acceleration of nominal intensity bunches to have collisions has soon as possible.

The setting-up of the transverse damper and the longitudinal controlled blow-up are progressing.

The injectors should deliver the LHCINDIV beam with varying intensities.

3. Schedule / Supercycle / MD planning

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

M. Lamont explained the reasons on the basis of which the LHC stops have been scheduled, and as a consequence, the technical stops and MDs of the injectors were concentrated in 4 days.
The details of the schedule can be found here.
K. Hanke asked if the RF maintenance needs for the SPS and the replacing of the PS-MPS brushes were taken into account in the new schedule. M. Lamont replied that this was not the case since the priority was given to the LHC requirements. R. Steerenberg replied that the specialists of the MPS were informed in due time and they advanced the maintenance of the MPS. K. Cornelis said that, since the interval between the technical stops have not changed, there should be no problem for the SPS RF.
M. Lamont added that the interval between the LHC stops is defined by the intervention on the filters in point 4. They filters have to be de-iced every 23 days.

The end of the run is foreseen for the 6 December at 18:00. This, however, is still to be confirmed since the ion run could be extended.

E. Metral added that in the new schedule there are still an MD and an RF intervention missing.

K. Cornelis added that the NA physicists expressed some concerns regarding the restart of the physics after the long MD on Saturday mornings. However, this planning is unavoidable.

Concerning the coordination of the different interventions:

a) the replacement of the vacuum chamber in the SPS for the e-cloud studies could be done in week 25. However, the time estimate to recover the vacuum should be better evaluated;

b) the replacement of the transformer in the nTOF line should take 48 hours. The time estimate for the intervention should be better evaluated since during this time no beam can be sent to the SPS. H. Breuker will check with nTOF if it would be possible to continue delivering about 700E10 p/pulse, to avoid the saturation of the existing transformer. E. Mahner asked about the radiation

levels in the zone of the transformers. L. Soby replied that RP will be involved to define the procedure of the intervention.

A. Herlert has a special request with regard to the distribution of ISOLDE cycles in the supercycle. He will try to find a solution with R. Steerenberg.

F. Tarita asked about the length of the stop in week 29. K. Hanke replied that the stop will start at 8:00 AM and will finish at 8:00 PM.

M. Lamont added that the LHC will be in access as from 6:00 AM.

On Wednesday there will be an MD in the SPS to test the coast for the UA9 experiment.

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: CTF3 status and planning

D. Manglunki reported about the status and planning of CTF3.
The slides can be found here.

The facility is restarting after the fire of a few months ago. All the hardware has been repaired except the klystron which took fire. For this reason the acceleration section powered by the latter has been removed, since the wake field would decelerate the beam.

The fire detection system and the safety lightening are back in operation.

The facility is now in starting up.

K. Hanke thanked all the people involved in the interventions.

5. AOB

6. Next meeting

The next meeting will be held on Tuesday, 22 June at 10:00 in 874-1-011.

Preliminary Agenda:

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Minutes edited by S. Gilardoni