Minutes of the 43rd FOM meeting held on 09.11.2010

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 42nd FOM meeting were approved.

Follow-up from the last FOM:

a) Status of the PS B-field fluctuations.
No news.

b) LEIR vistar status. Further investigations showed that there is a problem with the DSC. M. Ludwig is following up the problem.

c) INCA status. See PS report.

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):
There were no issues during the week.

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

The ISOLDE beam was interrupted before an access without informing the ISOLDE supervisor. A. Findlay wanted to present his excuses for this mistake of mis-communication.

On Saturday at about 3:00 PM, suddenly 900 l of water were lost from the cooling circuit in about 10 minutes. An access was quickly organised and eventually the leak was found in the reference magnet. There was not a large amount of water found because most of it was lost in a drain. The problem could be fixed by 7:30 PM and finally it was possible to deliver again beams to physics at about 11:00 PM.
The last two multipoles which could not be restarted after the water failure were fixed on Monday by the expert.

Between Wednesday and Friday, it was not possible to start-up the tomoscope due to a lack of free Mathematica licences. A. Bland will follow this problem with IT.
S. Hancock added that at least four licences should be available for the two tomoscope machines.

K. Hanke added that the renovation of the multipoles has a high priority for operations.

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

HRS: the target used was the 441, UC type. There were two problems while changing the target: one vacuum valve did not close and the door of the FE had to be closed manually.

GPS: the target used was the 440, UC type but with increased density. This was a test target. Between Tuesday and Thursday, a series of yield measurements were taken before moving to silver collection.

There were two problems. The first one concerned the cooling of a turbo pump, which broke down. Since the pump is located in a radioactive zone, it was decided to not intervene. In any case, the entire FE will be replaced during the Xmas break. The second problem was due to a stop of the target water-cooling.

K. Hanke asked about the availability of the vacuum piquet. It was in fact expected to have one after the first period of operation and training with the new vacuum control system.
J. Hansen replied that most probably next year there will be a vacuum piquet available. This will be confirmed by the vacuum group.

D. Voulot added that the upgrade of the REX vacuum control system has been approved and will be paid by ISOLDE.

S. Hutchins asked if, after the recent problems with the target cooling, there were further investigations to understand the source of the problem. S. Deleval replied that tests were done every time an incident happened, but did not reveal anything.
D. Voulot added that in any case it is not possible to fully test the cooling system since this would require the stop of ISOLDE. Apparently the problem seems to be related to an inconsistency between the SW and the HW status. It was found that a valve was closing due to a too low flow, but this could not explain the observed failure. A dedicated period of tests should be allocated to understand the problem.

K. Hanke added that every time the cooling stops there is a risk to break the target.

ISOLDE users (M. KOWALSKA):
The tests with the new target took longer than foreseen: less data than needed were collected.
The solid-state experiment using the silver beam had many problems, added to the PSB stop during the weekend due to the water leak. On top of this, the yields were

dropping during the weekend and basically the beam was too low on Monday to have the physics run.

K. Hanke added that sixteen hours were lost due to the water failure plus the target problem. He asked if it would be possible to re-schedule the experiments.
M. Kowalska replied that it would be possible on the other front end or in the case that one of the users would renounce to his run.

PS (Y. PAPAPHILIPPOU):

The PS had a good week.

The only problem was related to the failure of the 08-80 MHz cavity already mentioned during the last FOM. The cavity, after few weeks of degrading, did not hold any longer the voltage. It was decided then to tune a proton cavity to ions, and to tune it back to protons whenever the protons are needed for the LHC or the MDs.

R. Steerenberg mentioned that a number of INCA issues have been solved and that a new iteration will done during the week.

EAST AREA (L. GATIGNON):

The experiments were running without any problems. The installation of the big W calorimeter of CALICE in T9 could be completed without any problems.
A long spill separation has been asked because the experiment needs about 5 s to write the data from the DAQ.

EAST AREA USERS (H. BREUKER):

Nothing special to mention.

TOF (H. BREUKER):
The experiment is running without any problems. The extrapolated intensity seem to indicated that the experiment will collect about 50% of their original request.

AD (C. OLIVEIRA):
On Tuesday, the same water leak of last week reappeared again. The problem could be permanently solved. The vacuum experts had to dry some of their equipment.

An RF problem was solved by changing a LEMO cable.
During the RF fault, the steering of the ALPHA and ASACUSA line was re-done.

On Tuesday, the long-standing problem with one of the trim power converters was solved by the expert by changing a control card.

On Friday evening, the beam was very unstable on the 100 MeV flat bottom. The electron cooler had to be re-tuned many times. Finally, on Sunday the problem disappeared.

AD USERS (H. BREUKER):

The recovery of the AD after the ACE run cost about one week of physics. It was then decided to stop interleaving the ACE run with the other experiments and have ACE only at the end of the run.

The normal AD performances could be recovered only a couple of days ago.

SPS (D. MANGLUNKI):
The run with protons progressed very well. The SPS delivered 50 ns beam to the LHC regularly.

On Thursday, the 10 hour-long floating MD was cancelled. The NA was stopped for 4 hours in the morning to do some cabling work scheduled during the MD.

The CNGS had to stop for about eight hours for a ventilation intervention and to fix an RF transmitter. The promised CNGS intensity has been reached on Sunday night, two weeks in advance with respect to the schedule.

CNGS (E. GSCHWENDTNER):
E. Gschwendtner wanted to thank everyone for the intensity delivered so far.

On Thursday there were some tests on the ventilation system in preparation of the Xmas technical stop.

NORTH AREA (L. GATIGNON):

The North Area had a smooth run.
The COMPASS beam line had a problem with a corrector going into stand-by without any apparent reason. Once this had been solved, the magnet was tripping due to a fake water flow interlock. The interlock was by-passed, with the magnet now being protected only by the temperature interlock.

On Monday, the beam was found vertically unstable. After few investigations it turned out that the trajectory measurement system was providing wrong acquisition due to a bad timing.

NORTH AREA Users (H. BREUKER):
The users were happy with the beam.

On H2 and H4 there was a change of the user.

H. Vincke wanted to remind the beam intensities deliverable to the NA according to RP, in particular in the view of the ion fragmentation tests (mail):

"[…]. Current Limit in the NORTH HALL: 1E8 charges per spill.
If 1E9 charges per spill are sent then shielding needs to be added (no ventilation issue below this intensity).
Above this intensity level radioactive air level becomes critical and ventilation issues need to be addressed. Also muons will contribute significantly to dose downstream the beam impact point and measures to get rid of them need to be studied.

These numbers have to be seen as approximate numbers. However, we are talking here about 2E11 planned versus the intensity currently allowed. Therefore these levels will serve as a good base for discussion.

I added once a comment in an EDMS document (BCT installation in the SPS):

EDMS: 1075945 v.1:
"According to the last survey no significant radiological problem is to be expected for the installation of the BCTs in the LSS5 at this location. However, the trigger level of the BCTs should not be set higher than 1E8 protons, which is the current maximum limit per SPS extraction to be received by the North Hall. In terms of shielding the North Hall is not equipped to receive higher intensities. All experiments in the North Hall which might receive a higher intensity than 1E8 protons (or equivalent ion intensity= ~5E7ion charges) need to be studied concerning their radiological risk and precautions to reduce dose need to be carried out before the start-up of these experiments."

[…]"

CTF3:
No report.

LINAC3 (D. KUCHLER):
Linac3 had a hard week.

On Monday the oven was refilled. On Tuesday, a short circuit appeared at the location of the extraction electrode. It was decided to open the source for the repair. The intervention was faster than foreseen. The source was pumped and by Wednesday evening beam was again available.

There were few trips between Thursday and Friday due to false interlocks that were bridged.

On Sunday, the Linac intensity dropped. After few investigations, the source of the problem was believed to be the stripper foil damaged after only two weeks of operation. Once the stripper was changed, the intensity of the Linac went up again but with a poor Pb^{54+} yield. It was decided then to keep the same stripper foil but to change manually the stripper level.

Currently, the run with a fresh new stripper lead again to an intensity of 22-25 muA.

LEIR (S. PASINELLI):

After the Linac/source restart, there was a problem with one quadrupole in the ETN line. The specialist had to intervene to open a cooling water valve.

The DSC providing the intensity measurements had to be regularly re-booted. The situation had improved a bit thanks to the intervention of M. Ludwig.

On Thursday there was a problem related to INCA. The control system stopped working due to a mix between the INCA-PS library and the INCA-SPS/LHC library. CO is investigating how this could be possible.

PS-IONS (Y. PAPAPILIPPOU):
The ion operation was very good, except for the cavity problem mentioned in the PS report.

The ion run was also interrupted during the PSB water leak problem since TT2 uses the same cooling circuit has the PSB.

SPS-IONS (D. MANGLUNKI):
The SPS ion running was very smooth, apart from the problems related to the other injectors.

The ion beam could be delivered to the LHC on schedule on Thursday.
So far the beam is delivered as single bunch, while preparation of the four-bunch injection is progressing.

The bunch intensity delivered was too high for the LHC and the emittance too small.

TI (P. SOLLANDER):
There were no other problems except the ones already mentioned in the other reports.

LHC interface with injectors (M. LAMONT):
The 50 ns bunch spacing beam was taken. Strong electron clouds were observed and will be studied again next week.

The ion beam was taken on Thursday and stable beam was set up on Monday. The experiments wanted to congratulate everyone for the good beam performance.

3. Schedule / Supercycle / MD planning

Version 1.9 of the 2010 injector schedule is available at:
https://espace.cern.ch/be-dep/BEDepartmentalDocuments/BE/2010-injector-schedule_v1.9.pdf

The LHC will take again the 75 ns beam and the 50 ns on the 17-19/11. During this period there will be the oven refilling. The MD and the UA9 run will take place on the 15-16/11.

The proton run will finish the 22/11 at 8:00 AM. Thirty-two hours later the radiation survey in the SPS will be organised.
R. Scrivens added that the 22/11 the proton source tests will start, so there will be no possibility to have protons again after that date.

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, 16 November at 10:00 in 874-1-011.

Preliminary Agenda:

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Minutes edited by S. Gilardoni