Minutes of the 24th FOM meeting held on 29.06.2010

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 23rd FOM meeting were approved.

Follow-up from the last FOM:

a) Status of the PS B-field fluctuations.
Analysis and measurements are ongoing. The MD scheduled for Wednesday 23/06 was cancelled due to a last-minute schedule change. R. Steerenberg reported that a temporary solution has been implemented to minimise the effect of the magnetic field fluctuations. However, the investigations to identify the source of the problem are still ongoing.

b) Extend privileges of mobile phones used by CCC operators. K. Hanke reported that the portable phones in use by the CCC operators have been given full roaming.

c) Status of AD bunch length at extraction. T. Eriksson reported that the bunch length has been improved. The users were satisfied with the current beam setting-up.

d) Duration of intervention for replacing SPS vacuum chamber for e-cloud studies. See schedule section.

J. M. Jimenez reported about the status of the REX-ISOLDE vacuum control system. Currently there is no remote vacuum control system available for REX. In order to read or control vacuum equipment, access to the REX tunnel is required.
The renovation of the vacuum controls of the ISOLDE separators turned out to be much more work than expected, and the budget was not available so that TE/VSC had to cover the entire renovation cost, i.e. about 850 kCHF.
TE/VSC is not ready to cover also the cost of the REX-ISOLDE renovation, which is estimated to about 250 kCHF. If a renovation is needed, the first step would be a more detailed study to assess the required resources.
The FOM endorses a 3-phase approach:

1.) Find out if a short-term solution can be implemented using the existing hardware (TE/VSC).
2.) Estimate the resources needed for a full upgrade of REX to PVSS; M. Jimenez will evaluate this and report back to the FOM.
3.) Try to make the resources available; K. Hanke will forward the request to the IEFC.

D. Voulot added that a temporary solution for the control system would be very beneficial for operation. J. M. Jimenez replied that no solution can be implemented before the next winter technical stop.
A first estimate of the work and resources required to fully upgrade the REX vacuum control system to PVSS will take 2-3 weeks. TE/VSC will report back to the FOM.

2. Status of the machines

Linac2 (R. SCRIVENS):
The Linac had a good week until Friday evening when the RFQ started sparking. The RF expert intervened and worked until Saturday morning. The tests revealed that the RFQ was unstable with long pulses for the high intensity beams. It was therefore decided to limit the intensity of CNGS, SFTPRO and ISOLDE beams to 800E10 p/pulse during the weekend.
On Monday, the intensity was slowly raised while the spark rate did not increase. By Tuesday, all beams could be delivered at nominal intensity. The source of the problems is not understood.

With regard to the pending intervention on the Linac2 lift, the IEFC endorsed that work can start on 2 November, after the end of the LHC proton run. The work is expected to be completed by the end of the year. The risk to have a failure which requires the lift to transport material is considered acceptable, as the spare parts needed for the most common failures will be stored directly at the corresponding floor.

PSB (J. TAN):
The PSB had a good week until Friday afternoon. Then the ISOLDE watchdog triggered without any apparent reason. Reducing slightly the intensity on ring 4 cured the problem. During the night the intensity had to be reduced further due to the Linac2 RFQ problems.

On Saturday, the beam was lost in ring 3 after few ms due to a malfunctioning GFA controlling the Q-strips. The GFA was replaced. The LHC beams were not affected as they do not require the Q-strips.

On Sunday evening, the PSB operator had to do a local reset of the Linac2 RFQ.

On Monday afternoon, the MPS tripped. The specialist had to replace a diode bridge. A storm is suspected to be the cause of the problem. Later in the evening, the MPS tripped again with a ground fault. The problem could be solved by the EPC piquet by a local reset.

Concerning the beam preparation: a) the 50 ns LHC beam has been tuned in a special way for MDs (all intensity accumulated in one of the two bunches per ring) b) LHCINDIV has been prepared with twice of the nominal intensity.
The next step will be the preparation of the LHC25 with a single batch PS injection and to evaluate the maximum intensity achievable in this mode.

K. Hanke added that the padlock of the access shaft on top of the PSB dump has been changed. The key is now in the CCC and the patrol will be modified to include the check of the padlock.

ISOLDE (E. PISELLI):
No major problems on the machine side.

There were some issues accessing the acquisition of the Faraday cups due to the fact that the DSC can only accept 5-6 connections at the same time. The number of maximum connections is reached if 2-3 consoles access the acquisition at the same time. E. Piselli asked if it would be possible to install a PROXI. He will follow this up with CO (F. Locci).
The physics run was not very successful due to a contamination of the target.

ISOLDE Users (D. VOULOT):
The users were not happy due to the mentioned contamination of the target.

PS (Y. PAPAPHILIPPOU):
The PS had a good week with only some minor problems.

The setting up of the single batch LHC beam injection was done and
LHCINDIV was pushed to ultimate intensities.

The intervention of the TOF transformer can only be done in September. As a workaround, a cross calibration between the PS ring transformer and a wall current monitor in the FTN line has been done. This is planned to be used as intensity measurement for the data normalisation.
The dedicated MD on Wednesday 23/06 on the B field fluctuations has been cancelled due to repeated changes of the LHC schedule.

On Friday night, one of the 10 MHz cavities tripped. The specialist had to intervene to change a NIM crate power converter supply. Two other cavities tripped again on Sunday.

On Friday night, the synchronisation between PS and SPS used for the LHC beams was jittering. The source of the problem could not be identified and it disappeared by itself.

On Wednesday there will the deployment of INCA.

EAST AREA/EAST USERS (H. BREUKER, mail):
"- IRRAD exchanged to CMS crystals today.
- DIRAC ok.
- T9 nobody; magnets switched off.
- T10 ALICE_TOF still on some electronics problem; the "expert" from the Italian company could not help.
- T11 CLOUD fine; they ask and get an extension to Monday 12:00."

TOF (H. BREUKER, mail):
"nTOF started real physics last Friday (Neutron capture on Fe)"

AD (P. BELOCHITSKII):
The AD had a good with some minor difficulties.

A special cycle was set up for the ACE biological experiment which runs at 500 MeV/c. Special settings were required for such high energy.

Loading an archive from last year caused some RF problems. The specialist intervened, cleaned the JAVA cache, and re-loaded successfully the archive. For this, the archive of the previous settings had to be re-loaded twice before working.
On Tuesday, there were again archive problems. This time, the synthetic Btrain was not generated correctly. ACE could nevertheless complete data taking, and normal operation could be resumed.
When switching back, again the re-load of the archive did not work.

On Wednesday night, two magnets tripped but could be reset by the CCC crew.

An external company intervening of the fire detection system caused the trip of the HV due to a wrong manipulation.

M. Lamont asked why the archives are not working, since they constitute a fundamental tool for the operation.

T. Eriksson replied that the AD has special timings with respect to the other machines of the CPS complex. This makes difficult to use the same archiving software as for the rest of the complex. The ACE experiment runs typically only for a short period during the year, so the need of their archives is very limited.

K. Hanke added that in general one has to be very careful to load archives from previous years, as there are always some updates and changes.
Archives are heavily used in the PSB and are generally working fine.

AD Users (H. BREUKER, mail):
"- AD users: ALPHA ATRAP ASACUSA ok
- ACE managed to complete its program on
- Wednesday as we did not do PS MD"

SPS (K. CORNELIS):
On Wednesday evening there was a short technical stop. All interventions could be completed except for the installation of the vacuum chamber for the e-cloud studies. This is postponed to the next technical stop.

The problem with the RF power amplifier leak was solved.

On Wednesday afternoon, the access system stopped due to a connection fault. The system had to be reset manually. All interlocks had to be reset manually.

The physics run restarted without any particular problems. It was noticed that a lot of CNGS extractions were lost due an interlock on the extraction septum. This interlock

checks if the current flat top of the septum is correct before extraction. The current range used by the interlock is difficult to trim since. An optimum setting was found about three weeks ago. This, however, has drifted, most probably due to a thermal problem. The power specialist found also that the quality of the flat top depends on the compensator used and the electrical network configuration. The power converter is a new one, built when the new CNGS/LHC extraction were installed. However it seems to be underrated. K.Hanke will bring up this matter at the IEFC.

K. Hanke asked if there is a general issue with the access system.
K. Cornelis replied that this is not the case. A problem like the reported one appears only a couple of times a year.

H. Vincke asked about the destination of the CNGS beam in case it is not extracted due to the interlock on the septum.
K. Cornelis replied that the beam is then sent to the SPS internal dump.

North Area/North Area Users (H. BREUKER, mail):
"NORTH users:
- H2 CMS combined calorimeter test doing fine
- H4 RD51 ok; problem with blocked TAX yesterday ?
- H6 NA62_TB ok ? (were working in the exp area)
- H8 UA9 finished ok now LHCb"

CNGS (K. CORNELIS):
The CNGS stopped for the change of the filters of the demineralised water circuit.

The integrated intensity is above the scheduled one.

CTF3 (P. SKOWRONSKI):

The facility is slowly restarting after the long stop due to the fire. The klystrons have been conditioned. On Wednesday there was first test beam.

LINAC3 (R. SCRIVENS):
Linac3 is running in MD mode to test the new source plasma chamber and RF frequency.

LEIR (C. CARLI):
The water circuit of LEIR should be cleaned, purged and tested before the start of the operation in August. This operation has an impact on the cooling water of Linac2.

To avoid any risk of perturbing the proton run, the intervention will be done during the next technical stop in week 29. S. Deleval will confirm that the cooling water will be available for LEIR.

TI (P. SOLLANDER):
There was a problem with the SPS compensator.

LHC interface with injectors (M. LAMONT):

The LHC is running in physics mode. Currently collisions on nominal bunches are on 3 x 3, will become 6 x 6 and then 24 x 24.

A test will be organised to have a cycle in the SPS with 4 PS-LHCINDIV injections.

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

All colleagues should send the list of the activities for the next technical stop in week 29 to the corresponding machine superintendents. The duration of the technical stop will be 12 h for the PS complex and 24 h for the SPS to accommodate the installation of the vacuum chamber for electron cloud studies (24 h requested).
After the end of the stop of the PS complex, there will be a dedicated PS MD on the B field fluctuations. No beam will be delivered to the PS users during the MD, whereas ISOLDE will get beam.

L. Soby asked when the timings of LEIR will be available to test the beam instrumentation. C. Carli will check this.

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, 6 July 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: Preliminary list of activities for the next technical stop.
5) AOB
6) Next agenda

Minutes edited by S. Gilardoni