Minutes of the 36th FOM meeting held on 04.10.2011

Agenda:

1) Follow-up of the last meeting (K. Hanke)
2) Proton-Lead tentative plan and beam requirements (R. Alemany)
3) Status of the machines
4) Schedule (K. Hanke)
5) AOB
6) Next agenda

1 Follow-up of the last meeting

The minutes of the 35th FOM meeting were approved.

Follow-up from the last FOM:

Pending actions:

Status of the PS-Bfield fluctuation with POPS

The action is on hold since POPS is not operating. Action not closed.

Find 1.5h MD time in PS for the RF cavities

C. Rossi said that measurements were done last week and the MD is not needed anymore. Action closed.

2 Proton ion run (R. Alemany) – see slides

The current plans for the proton ion run are to collide ion beam against 100 ns proton beam with an intensity of 1.e10p/b, and then increase the proton beam intensity.

D. Manglunki said that for now single bunch and intermediate beam with 200 ns bunch spacing were done in the short cycle and in the long cycle.

For this test, one needs to prepare the nominal beam for 4 bunches, which was not tested yet and requires MD time.

In the PSB, the 100 ns proton beam has been produced and injected into the PS some time ago but needs to be checked again. S. Hancock said that the minimum number of bunches is not 4 for the moment. H. Damerau added that it is not clear what scheme can be properly accelerated at the moment.

The SPS is not set up at all. K. Cornelis said that as long as the bunch spacing is a multiple of 25 ns, it should be fine but it needs to be set up and this requires MD time.

A candidate MD time could be the injector MD in W43 (October 26th).

H. Breuker added that by November 14th already NA61 would start and that this MD and run should not interfere with NA61. Also, the complex should be ready for iLHC.

D. Manglunki added that no other cycle can be played if many bunches are used. Given the substantial uncertainties in the beam request a dedicated meeting will be held to clarify this. The conclusions will be presented at the next FOM meeting.

3 Status of the machines

LINAC2 (D. Küchler):

Following the problem with the LBE last week, the sample-and-hold part was replaced on Tuesday with a spare.

On Friday LA1.QDN19S was down, the EPC piquet replaced the power supply with a spare. Later QFN.02 tripped but could be reset. Later during the night, the second buncher CBU02 tripped, and the specialist intervened to repair the main switch, which had a bad contact.

On Saturday, the PAXS22 radiation alarm was on, but it did not stop the source. J. Vollaire confirmed that the interlock and radiation alarm intently use different integration time. He added that this interlock will be taken out of the safety chain.

A high current MD took place on Monday morning but there was only a marginal gain in the emittance of LHC beams.

PSB (K. Hanke):

There was a planned stop during the last FOM to switch back to normal electric configuration. The PSB was ready at 10:15 a.m. but protons were back only at 11 a.m. as an intervention in the PS was still ongoing.

On Wednesday, a trip of the distributor for ring 1 required the intervention of the specialist (1.5 h down time). CO was also contacted for false alarms on Laser. Issues with two BT line pickups were reported to the expert.

On Thursday, there was a planned stop for the PS and the opportunity was taken to fix the problems with the BT pickups.

On Saturday there were 2 h of down time due to a quadrupole in the BTP line (the EPC piquet changed a power supply).

On Monday, the second injection of LHC50 was not extracted. The problem disappeared before it could be analyzed.

Emittances were measured in the PSB and found constant. Ring 1 is slightly larger than the other rings. In spite of efforts by the OP team so far there is no way to reduce this.

ISOLDE (D. Voulot):

HRS:

There was no operation of HRS. The target change was done on Thursday. There was a problem with the robots that lost calibration, most likely due to the power cut. This could be solved remotely. There was also a failure of the door of the Faraday cage. An ALARA procedure is put in place to get access to the target area and repair the actuator of the door.

GPS:

After the interventions on the EBIS, there was a bake out and a quick set up so that beam was ready on Thursday night for REX and Miniball. It has been a fairly good run.

A few problems occurred (in particular RF problems with the REX Linac).

ISOLDE users (email from M. Kowalska sent before the meeting):

"After the REX-EBIS cathode was operational again, radioactive nickel-66 beam was delivered to MINIBALL on Thursday evening. The rates are very good (about 10pA) and if there no major stops, enough statistics should be collected by the end of the run on Thursday morning. We appreciate a lot the amount of work put in the repair and fast beam tuning by Fredrik, Didier, and the others. Solid-state users collected some more samples during the week and are very happy about the outcome."

PS (S. Gilardoni):

The PS has a problem with MPS during the meeting, but otherwise it was a good week.

Optimization of the injection of the LHC beam was performed with the goal to minimize the emittance, but this was difficult due to a problem with the InCA part of YASP, which is now fixed.

On Tuesday, an access for the 20 MHz cavities was granted and the expert could install a temporary fix. The permanent fix will be implemented during the winter stop.

On Thursday morning, an access for C96 10 MHz cavity was given as planned at the last FOM. An amplifier tube was replaced, and some checks were performed on C96. The situation has improved and the requested MD is no longer needed.

After an air conditioning intervention in the room that hosts the power converters of the injection quadrupoles, the air conditioning was not put back on. The high temperature in the room caused a trip of the power converter thermal protection. It took a while to recover, as it was needed to wait for the temperature to decrease and this delayed the filling of the LHC.

Network stop in Bldg 152

Before the meeting, M. Da Costa informed that a network star point needs to be moved as asbestos needs to be removed from inside the floor of the 1st floor. N. de Metz-Noblat warned by email that the front ends of the PS tomoscope and BSM as well as the Linac4 test stand could be unavailable for 12 days (Oct. 17th to 28th).

R. Steerenberg said that these 2 front ends are indispensible to the operation of the PS and asked whether they could be connected to another star point.

M. Da Costa answered that she was not sure whether it is possible.

In order to connect to another star point, A. Bland said that he would need two long Ethernet cable and would need to change IP addresses. ITCS would deals with the flying cables and A. Bland would ask N. de Metz-Noblat to change the IP addresses. A. Bland will check the feasibility of this option and mention his findings at the next FOM.

C. Rossi said that the Linac4 test stand is supposed to stop mid November, so that this intervention would in principle be ok after Nov 15th.

The situation will be analyzed in more detail with all parties involved and the outcome reported at the next FOM.

East Area (L. Gatignon):

The piquet worked on a door lock as it was impossible to get access.

East Area Users (H. Breuker):

Nothing to add.

TOF (H. Breuker):

TOF is fine.

AD (L. Botjar):

There was a problem with the horizontal stochastic cooling power supply, which was fixed.

On Monday night the DR.DVT1304 power supply was blocked. Since its value was close to zero anyway, it was switched off as a temporary solution until it was fixed the next day.

On Tuesday the emittance jumped by a factor 10 in ASACUSA due to an orbit change. No obvious fault was found.

A problem with an injection line fast quadrupole was later fixed by the specialist.

On Thursday a small power supply was on fault and handled by CCC.

AD Users (H. Breuker):

There is a good mood among users despite the technical problems since the ELENA kick-off meeting took place.

SPS (Karel):

The BBLR MD was cancelled, so that physics could restart 12 h earlier.

On Thursday morning the access in the PS allowed for a few interventions (BTV repair in TT60, monitor and BBLR checks in LSS5 and an RF pick up in LSS3). A large water leak was discovered in LSS6 and could be repaired in situ. The beam was back at 3 pm.

On Friday the 25 ns beam was checked for the LHC MD and a linear correlation was found between the bunch intensity (in 1e11p/b) and normalized emittances (in mm.mrad).

On Saturday morning there was a smoke alarm in the splitter target zone of TT20, one of the most irradiated zones in the machine. Beams were stopped at 5 p.m. At 7 p.m., firemen went in and saw blue smoke. A second team went in again and confirmed that there was no fire but the origin of the smoke was not identified. The ventilation was put in access mode. In the meantime, all TT20 equipments were working as they should without beam and no failure was reported. Once conditions were OK to give access, the experts were sent in and found that the cause for the smoke was a mobile vacuum pump. A spare vacuum pump was put and beam was back after half a day of downtime.

Since then the SPS has been running very well.

North Area (L. Gatignon):

L. Gatignon added that it was not a fire, but a release of hot oil that caused the smoke.

At the beginning of last week, an unannounced fire alarm test in the hall caused a lot of confusion and L. Gatignon asked whether this was a normal procedure. Peter Sollander said that an event had been created for the power cut that followed the fire detection maintenance work.

A. Bland noticed that two of the physics consoles do not reply today. H. Breuker said there has been no complaint. S. Mataguez said that they are used and that it needs to be checked.

Finally there were again communication problems with door 124.

North Area users (H. Breuker):

COMPASS lost 10 h of beam time due to the smoke alarm.

CNGS (E. Gschwendtner):

Running fine. Spare parts for the horn power supply should be ready today.

CTF3 ():

No report.

TI (P. Sollander):

Nothing to add.

LHC interface with injectors (R. Assmann, slides):

Two floating MDs will be done this week:

Wednesday (day time): large pile up MD to check detector limits: can they survive with very high single bunch densities.

Thursday (day time): 25 ns MD (batches of 12 to 72 bunches, with up to 288 bunches as options).

K. Cornelis said that these beams were checked in SPS already.

IONS

LINAC3 (D. Küchler):

There was stable beam during the whole week (20 to 23 μA).

A CPU card was changed for the control of the ramping cavity. The error had been there since at least the end of August but no one tried to control the ramp.

On Friday the source showed weak intensity but no beam was requested over the weekend. The source actually tripped on Saturday.

The oven was refilled yesterday. It was switched off at 7:45 a.m. and the intervention took less than 10 h.

LEIR (C. Carli)

LEIR has been running smoothly without problems.

Adjustments were made that helped increasing the intensity (steering of ejection and injection line).

Small problems with cooling water for electron cooler are being dealt with.

PS (R. Steerenberg)

Nothing to report.

SPS (D. Manglunki)

A long MD last week was successful. The PS MPS generator can operate with 12 ion cycles.

In SPS, losses were observed as expected, as particles leak out of the bucket during the flat bottom. This beam will be used with 200 ns spacing. On average 1.2e8 i/b have been achieved.

Setting up needs to be finished (10 h MD time was booked in week 41 and 10 h in week 43).

4 Schedule / Supercycle / MD planning

The 2011 schedule (V3.4) is available at:

https://espace.cern.ch/be-dep/BEDepartmentalDocuments/BE/injector_schedule.pdf

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

A new version of the schedule was posted in which MDs in week 41 have been moved together.

D. Küchler said that the next oven refill will take place on Monday in week 42 (Oct. 17th).

5 AOB

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6 Next meeting

The next meeting will be held on Tuesday, 11th October at 10:00 in 874-1-011.

Preliminary Agenda:

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2) Status of the machines
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Minutes edited by B. Salvant