Minutes of the 17th FOM meeting held on 24.05.2011

Agenda:

1) Follow-up of the last meeting (K. Hanke)
2) Status of the machines (Supervisors)
3) Impact of TAX motor breakdown on North Area schedule (L. Gatignon)
4) Schedule (K. Hanke)
5) AOB
6) Next agenda

1 Follow-up of the last meeting

The minutes of the 16th FOM meeting were approved.

Follow-up from the last FOM:

Pending actions:

Problems with POPS (3 actions)

Studies will be resumed when POPS is back. Actions not closed.

Impact of breakdown of TAX motors on the North Area schedule (L. Gatignon)

See the dedicated presentation of L. Gatignon and detailed notes thereafter in the dedicated section of the agenda.

If the current scenario succeeds (moving M2 TAX with an external motor and leave P4-TAX1 and P6-TAX1 where they are), beam could be commissioned beginning of June and users schedule could restart at best on June 6th.

The intervention should end on Thursday 26th May, and we will know at that point whether the temporary fix succeeds.

Action not closed.

Clarify responsibility for the PS splitter at the IEFC (K. Hanke)

K. Hanke will bring this issue up at the next IEFC. Action not closed.

2 Status of the machines

LINAC2 (F. Gerigk):

There were missing pulses from the LINAC2 source. This was tracked to the insulator on the gas return line, which was exchanged on Tuesday morning (3 hours downtime). Since then the source has been running well.

On Sunday night and Monday morning, beam cuts were triggered by the watchdog. A reboot of the transformers cured the problem.

On Monday evening, the piquet power was called to solve a problem with the power supply of a quadrupole LA.QDN27S (auxiliary power supply changed).

PSB (K. Hanke):

It was a busy but good week.

Emittances were found different for the 3 rings. Rings 2 and 3 were measured to deliver smaller emittances than ring 4. It is however important to note that even ring 4 is within the specifications (<2.5 mm.mrad).

Too long bunch lengths measured on LHCINDIV required an intervention of the LL RF piquet on Tuesday.

On Thursday evening, cavities C16 tripped. It is suspected to be caused by an electrical glitch, although no perturbation was recorded by TI.

On Friday, many emittance measurements were performed and the ring 4 filter got stuck in one position, which requires access by the expert.

On Monday, C16 tripped again, but it was resettable.

ISOLDE (E. Siesling)

HRS:
The successful run with uranium carbide target was stopped on Friday morning and the target exchange happened on Monday.

RFQ sparking was observed but then disappeared during the run. A permanent fix will be implemented at the next long stop of HRS.

GPS:

A new oxide target was installed on Wednesday. The run was affected by high voltage fluctuations on HT2 (1kV fluctuations). On Friday, HT2 was replaced by HT1 as HRS was not running. However, HT1 modulator failed and is being repaired.

The problem on HT2 was initially thought to be due to a faulty capacitor, but after exchange it with a new one, the problem did not disappear. HT2 has a long recovery time of 60 ms for 3e13 p instead of 6 ms. It is not a problem for solid state studies but it is for COLLAPS and spectroscopy.

Overall it was difficult to run through the weekend with many high voltage trips.

ISOLDE users (M. Kowalska):

HRS:

There was a small delay but users have been very happy (M. Kowalska extended special thanks to PSB operators who warned users when supercycle changed).

GPS:

M. Kowalska mentioned some users may have to be reshuffled.

PS (Y. Papaphilippou):

It was an excellent week for the PS.

Two small faults occurred:

A cooling issue on magnet ZT10.BHZ01 required an access and caused a downtime of 2 hours on Thursday evening.

An access was needed for an intervention on cavity C86. The amplifier was changed. C. Rossi said a short circuit was found. He confirmed that the PS is now running again with a spare cavity.

DIRAC started during the weekend with a few hiccups.

The intensity for nTOF is now above the line despite previous delays.

Investigations on emittance measurements in the PS and TT2 line were performed. The vertical plane seems fine, but not the horizontal plane. Y. Papaphilippou extended his thanks to A. Guerrero and the BI team for their help and quick response. K. Hanke mentioned the PSB has similar reliability issues with wire scanners.

East Area (L. Gatignon):

IRRAD and the north branch ran smoothly (except for the magnet cooling problem already mentioned in the PS summary).

After the DSO tests on Friday afternoon, beam tuning is progressing in DIRAC with some small problems. Light was missing on one screen until Monday afternoon. The spectrometer magnetic field reading was fluctuating despite the fact that the current was checked to be ok. More than the magnet, the Hall probe itself is suspected and PH experts are working on it.

East Area users (H. Breuker):

DIRAC is asking for beam tuning. A drift chamber needs to be brought in. Physics should start by the end of the week.

There will be a change of users in T9.

TOF (H. Breuker):

Users extend their thanks, in particular the ABT group for the solving the splitter problem.

AD (L. Bojtar):

On Wednesday night a problem occurred with the stochastic cooling. The problem disappeared after 2 hours. During the night the injection timing was lost. Piquet Controls found that the PS RF train was missing. The ejection kicker had also to be corrected by the specialist

On Thursday, the ejection kicker had to be reset many time and the PS Btrain was suspected to be missing.

On Saturday evening many bad shots occurred due to GFAS problem. The plastic on the cables was rotten. It worked again after hard reboot. The power supply for the main quad was difficult to restart.

AD Users (H. Breuker):

No news from ATRAP.

ALPHA could overcome the start up problems.

ASACUSA is doing fine.

There were complaints about intensity fluctuations but yesterday it was OK.

There is a major article in this week's bulletin.

SPS (K. Cornelis for D. Manglunki):

Large emittances of LHC50 required more scraping than usual in the SPS. Blow up was performed in the LHC itself.

A problem with RF transmitter TRX8 was solved yesterday.

A problem with septum in 6 for HiRadMat required to stop the beam Friday and this morning for 2 hours. Yesterday, there were software interlocks issues, which disappeared.

A problem was reported concerning SIS not receiving updates from the CNGS concentrator on Monday (23/5). This was not caused by the CNGS concentrator itself, but by a known CMW bug and a bug in JMS. These issues are being looked into by the MW team.

North Area (L. Gatignon)

See slides by L. Gatignon and the detailed report in the dedicated section of the agenda.

North Area users (H. Breuker)

Calice will install in H2 during the long week end. Planning for users should start on June 6th.

CNGS

K. Cornelis said that the integrated intensity is well above the line.

CTF3 (S. Pasinelli):

Beam was sent up to the delay loop, with a good transmission with 3A. The controls problem with BPMs was solved.

Modulators 05 and 15 were calibrated and the 11 is calibrated now.

TI (E. Liénard):

3 glitches were reported due to thunderstorms.

TI would need someone to comment the Major Event Reports for the SPS and LHC. K. Hanke will bring this up in the operations group.

LHC interface with injectors (M. Lamont):

LHC is going well. The luminosity milestone of 1e33 $cm^{-2}.s^{-1}$ was overcome. M. Lamont thanked the injectors for the careful beam optimization and scraping.

3 Impact of breakdown of TAX motors on the North Area schedule

See the presentation of L. Gatignon.

L. Gatignon said it was the first time he saw TAX motor failures in at least 21 years. Here 3 upstream TAX motors (M2-TAX1 to COMPASS, P4-TAX1 and P61-TAX1 to NA62) failed due to over-current in one week. It has to be noted that they rarely used.

A mechanical problem and the new control system were excluded and radiation damage is suspected. Insulation measurements show that all upstream TAX motors are expected to be failing very soon.

A major problem is the very high ambient dose rates (several mSv/h).

At the ALARA committee on Friday, the chosen path to solve the problem in the short term is to leave P4 TAX1 and P6 TAX1 where they are and to use an external motor to move M2 TAX1 to allow for operation of COMPASS. This intervention on M2 is planned for next Thursday. The maximum estimated dose for this minimal intervention is 1.2 mSv.

Compensatory measures and changes to the access and interlock chains are detailed in the slides. In particular, the H2, H4 and H8 TAX1 will be put to large hole positions. It is important to note that the P4 TAX will have to be repaired in 2011-2012 shutdown to allow for NA62 operation.

If this procedure fails, then the other option is the full repair.

The impact on the physics schedule is:

- If the intervention goes as planned, then beam could be ready for the beginning of June. A first proposal for the user schedule will be given by H. Breuker on Thursday.
- In H2, a bigger hole than usual will be used
- In H4, H. Breuker will need to find additional time for H4IRRAD.
- In H8, time needs to be found for ATLAS, H. Breuker will have a meeting with DREAM. LHCb is running later.
- In M2, there would be minimal impact for COMPASS
- In P4 and P6, NA62 was cancelled for 2011.

L. Gatignon checked after the meeting that GS has already completed its checks of the access system. DSO tests can therefore start before the Ascension week end on Mon 30th. Physics is estimated to start on June 6th.

After the meeting, L. Gatignon informed that the intervention was successful.

4 Schedule / Supercycle / MD planning

The 2011 schedule (V2.0) 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

Injector MD planning is on the webpage.

The updated North Area dates will be put after the intervention on Thursday.

5 AOB

K. Hanke reported that the LMC plans fewer and longer technical stops for 2012 (four five-day-stops and one four-day-stop). This means the restart will happen during the weekend. The injector stop length should remain one day.

M. Kowalska said ISOLDE users prefer more and shorter stops.

The technical stop in June will move to W27.

UA9 should stay in W25. A new version of the schedule will be out next Tuesday.

Before the meeting, M. Widorski said he wanted to mention that new nTOF alarms were calibrated to 10% more beam intensity than nominal (160e10) to prevent high intensity on target. J. Vollaire said this value is reached sometimes, in particular during supercycle change.
A shielding will be added in TT2 to shield area in the AD (next to the ATP line). It is not decided yet if it will be done at the next technical stop.

Beam loss measurements will be done in TT2 and the intensity will be chosen by RP.

6 Next meeting

The next meeting will be held on Tuesday, 31st May at 10:00 in 874-1-011.

Preliminary Agenda:

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