Minutes of the 3rd FOM meeting held on 15.02.2011

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 2nd FOM meeting were approved.

Follow-up from the last FOM:

a) Status of the PS B-field fluctuations.
New tests will be done as soon as the POPS commissioning will be completed.

b) Decide when to turn-off the old Linac watchdog. R. Scrivens reported that the old watchdog was suppressed.

c) Schedule the stop for the SPS re-alignment. D. Manglunki reported that the alignment took place on Monday.

2. Status of the machines

LINAC2 (R. SCRIVENS):
After the start-up last week, the Linac operation progressed without any particular problem. The new watchdog was successfully tested, with only a few non-critical bugs that could be corrected. The watchdog already triggered once, following the trip of tank 1. M. Ludwig disabled the old transformer class.

Tests took place to determine the maximum current deliverable by the Linac, as follow-up of Chamonix 2011. Some of the RF tubes showed saturation when the current was increased, setting the maximum at 168 mA. The tubes of tank 2 are currently at 2/3 of their life, and one possibility would be to exchange them to increase the current. The cost of a tube is about 45 kCHF, and four tubes should be replaced.

The beam was delivered to the PSB on Wednesday.
There was only one main fault, with the tank 2 tripping. The power converter of the pre-amplifier was changed.

K. Hanke wanted to thank the Linac colleagues for the early beam delivery.

PSB (B. MIKULEC):

The beam was available on Wednesday morning. The start-up was very rapid, without any particular problem.

The beams currently available are: LHCPROBE, LHCINDIV, LHC75 (single batch), and SFTPRO. The CNGS and the MTE beams are being prepared.

The MTG users will be renamed during the lunch break after the FOM according to the new naming chosen to facilitate the LHC operation. The new names are presented in the following table.

Present PSB user name	**Proposed PSB user name**
LHC50	LHC_A
LHC75	LHC_B
LHC150	LHC_SU_A
MDPSB	LHC_SU_B
LHC25A	LHC_MD_A
LHC25B	LHC_MD_B
MDION	MD5
TSTPS	MD4

ISOLDE (D. VOULOT):
The shutdown works are progressing as scheduled.

PS (R. STEERENBERG):
The patrol took place as scheduled and after the DSO tests the tunnel was closed. The POPS commissioning continued, first with the current regulation, later with a locally controlled B regulation, and finally on Wednesday using the FGC programmed from the CCC.
On Friday, the first beam was injected using POPS. The beam could be accelerated on the SFTPRO cycle and later on the LHCNDIV. The FGC control had to be improved to correct for too large overshoots on the flat parts of the magnetic cycles.
During the weekend, the FGC control had to be changed again to avoid frequent problems on the B-train generation.
The 10 MHz cavities were also frequently tripping.
The SMH16 went off and the piquet power had to intervene to put it back in operation.

The LHCINDIV and the SFTPRO are available. The 200 MHz cavities will be tuned with the SFTPRO beam at an intensity of 1E13 ppp.

H. Damerau reported that a new water leak on an 80 MHz cavity was found. The RF experts are working on the issue.

The MTG users will be renamed as mentioned in the PSB report according to the following table:

OLD PS user name	**NEW PS user name**	**Comment/Description**
LHC75	LHC	LHC production user, use for normal LHC operation
LHC50	LHC_SU	LHC setting up user, next user the LHC will require
TSTLHC25	LHC_MD	LHC MD user
LHC150	MD5	Will become available for MD's
LHC25	MD6	Will become available for MD's
TSTPS	MD7	Will become available for MD's
MDPS	MD8	Will become available for MD's
MDPRO	MD9	Will become available for MD's
LHCION	I_LHC	LHC production user for ions
MDION	I_LHC_SU	LHC setting up user for ions

SPS (D. MANGLUNKI):
The SPS started taking the CT beam with 2E12ppp from the PS on Saturday evening at 19:30, after the LHC transfer lines DSO tests, and only slightly delayed by a breakdown on MAL1001's power supply.
The setting up of TT10 was straightforward, but then the injected beam was lost in about 150 turns. It turned out the controls of one stepping motor screen (BOSTEP4219) were inverted so that one had to send the IN command to set the screen out of the chamber. After that the beam went around, but still with losses in 218. At low energy, these losses could be avoided by a bump towards the inside of the machine around 218. Acceleration took place on Sunday and by 16:30 there was beam on the 400 GeV flat top. In order to avoid the losses in 218 at high energy, the radial steering was used to displace the beam.
After calibration of the MOPOS, orbit measurements were performed on the flat top, followed by computation of the corrections needed (momentum offset subtracted). On Monday, 7 quadrupoles (3 QF for H orbit and 4 QD for V were moved according to the computation. The obstacle in 218 was identified as the "miniscan" 21778 which moved in the opposite direction.
Work has started on Tuesday on the LHCPROBE beam.
Frequent (~1/shift) trips of mains QD on dV/dt induced TE/EPC to do some investigations. C. Mutin mentioned that this is probably due to the new transformers still in the commissioning phase.

M. Gruwe asked if all the beam obstacles could be removed. D. Manglunki replied in the positive. The problem of the switched control is probably an error of cabling after the recent renovation of the BI elements.

CTF3 (D. MANGLUKI):

PHIN started on Wednesday 9th, at first with a bad quantum efficiency (QE about few %). After the cathode exchange, the QE went again up to the usual then ~20%. Eventually the nominal CLIC bunch intensity of 8nC was produced.
The next studies will be devoted to the phase coding and QE lifetime.

Concerning the DRIVE BEAM, the pulse compression was done with different RF slopes, with some detuning observed by temperature change.

There were few intermittent faults on solenoid near the gun.

The RF setup is progressing with the first part of Linac operational.

There was a quite annoying controls problem, up to one minute was required to send the CCV to the equipments, and another one to get the AQN. CO is following the issue.

TI (P. SOLLANDER):
Nothing to report.

LHC interface with injectors (J. WENNINGER):
The HW commissioning was reaching the end and the machine is moving to the cold check-out, with some basic tests of the interlocks.

On Friday, the machine will be cycled.
On Thursday evening, the beam should be sent on the TEDs at the end of TI2/TI8 to tests the transfer lines and the SPS extraction.

The official start of the LHC with beam should be on Monday, but the beam could be already taken during the week-end.

The LHC will request the LHCPROBE and the LHCINDIV.

3. Schedule / Supercycle / MD planning

The 2011 schedule (V1.2) is available at:
https://espace.cern.ch/be-dep/BEDepartmentalDocuments/BE/2011-injector-schedule_v1.2.pdf

A more detailed start-up schedule can be found here.

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, 22 February at 10:00 in 874-1-011.

Preliminary Agenda:

1) Follow-up of the last meeting
2) Status of the machines
3) Schedule
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Minutes edited by S. Gilardoni