

Minutes of the SPS Studies Working Group (SSWG)

First meeting- 14th March 2000

Present: G. Arduini, H. Burkhardt, R. Cappi, K. Cornelis (chairman), W. Hofle, J. Klem, T. Linnecar, G. Roy, E. Shaposhnikova, F. Schmidt, R. Tomas, J. Tuckmantel, L. Vos, F. Zimmerman, M.P. Zorzano (secretary)

Excused: T. Bohl, B. Goddard

1 SSWG mandate for this year (K. Cornelis)

- Planning of machine studies and discussions of results.
- LHC beam related work to achieve the required parameters.
- CERN Neutrino to Gran Sasso project: beam aimed to reach at least an intensity of $I = 7 \times 10^{13}$ protons
- SPS as LHC test-bed

2 MD schedule (K. Cornelis)

Next week (week 11th) start up with proton and lepton beams. LEP physics starts on week 15th.

Injection from CPS will be done in continuous transfer (CT) mode. This limits the injection energy to 14 GeV. LEP filling will be done with *economy cycle*. This cycle can be used to accelerate to 450 GeV the high density proton beam (about 8×10^{12} protons in 2μ s batches). Another cycle, with injection platform at 26 GeV, can be used with the LHC beam to test the scrubbing efficiency on the chamber for one week. Requirements: feed-forward system, dampers and LHC beam available from CPS.

Other points to be tested: proton operation in normal cycle at 450 GeV, alignment, 20 GeV lepton test (if it works switch to 22 GeV) change to a low tune optics with working point $Q_h = 21$ and conditioning of the new graphite beam dump (expect out-gassing for $I > 8 \times 10^{12}$).

3 SPS damper start-up 2000 (W. Hofle)

Several components have to be tested:

- Some of the new power amplifiers.
- Driver prototype has to be tested on MD with fixed target beam.
- 120 MHz filter for LHC. Some hardware still has to be implemented.

Solenoids have been installed on 5 pick-ups. They are operational for the LHC beam (the overheating problem of last run has been solved).

4 Summary of the workshop on electron cloud (G. Arduini)

8th ICFA beam dynamics workshop on Two-stream Instabilities in Particle Accelerators and Storage Rings (16-18/02/00) Santa Fe-USA. Subject electron cloud effects and possible remedies.

For more information please check the conference proceedings on the web page <http://www.aps.anl.gov/conferences/icfa/proceedings.html>
See in particular the contributions from B. Zotter, R. Macek and A. Browman.

5 Other comments

(G. Arduini)

The scrapers on the BCT should be installed and tested during these weeks.

A new device can be used to verify if the instability induced by electron-cloud is single-bunch or multi-bunch. This tool comes from the BI group and measures the chromaticity using the head-tail mode.

(R. Cappi) At the PS the ion cloud instability is killed by a feedback. Investigation of an equivalent feedback for the electron cloud instability is important.

6 Next meeting

The next meeting is scheduled for Tuesday 28th March, at 09:15, Room 865-1D17. A reminder will be sent by email in due time and the agenda will be announced on the web page of the working group

<http://home.cern.ch/ghislain/sswg/sswg.html>

M.P. Zorzano 14th March 2000