

CERN/SPSC 2001-027
SPSC 54
10 September 2001

SPS AND PS EXPERIMENTS COMMITTEE

Decisions taken at the 54th meeting held on 4 September, 2001

OPEN SESSION

1. Status Report on the CNGS beam line: K. Elsener
2. Status Report on CNGS-1, OPERA: P. Stolin
3. Status Report on PS212, DIRAC: L. Nemenov

CLOSED SESSION

Present: H. Bialkowska, F. Bobisut, I. Brock, S. Dalla Torre, M. De Jong, A. De Roeck, Y. Déclais, C. Détraz, E. Fernandez, S. Forte, R. Forty, P. Grafström, M. Hauschild, U. Heinz, K. Königsmann (Chairman), W. Kühn, A. Magnon, A. Pich, J-P. Riunaud, D. Schlatter, H. Taureg (Secretary), W. von Rüden (replacing J. Knobloch), C. Wyss

Apologies: G. Altarelli, J-P. Delahaye, J. Knobloch, S. Myers, N. Pavlopoulos, D. Websdale

1. INTRODUCTION

The Chairman introduced two new members of the Committee: C. Wyss, Director for Accelerators, and D. Schlatter, EP Division Leader.

2. MINUTES OF THE LAST MEETING

The minutes were **approved** without amendment.

3. REPORT FROM THE 153rd MEETING OF THE RESEARCH BOARD

The Chairman reported on the 153rd meeting of the Research Board. The confusion concerning the running time of DIRAC has been resolved. The Research Board approved DIRAC to run till the end of 2002. The Research Board took note of the information on HARP, COMPASS, WA103, CAST, NA60 and NA49.

4. STATUS OF THE SPS

P. Grafström reported on the status of the SPS. The major shut down projects on the machine were terminated successfully. Some problems have turned up in the electrical power distribution and persist in the new water cooling system.

The Committee **appreciated** the smooth start up and operations of the SPS complex.

5. STATUS OF THE PS

J-P. Riunaud reported on the PS status. The request on protons is rather modest which eases operations. Also the PS encountered some problems in the electrical power distribution and with the water cooling for the East Hall which is scheduled for replacement in the 2002/2003 shut down. The situation with the quadrupoles is still critical because there are no more spares. The AD experiments take data and receive substantially more antiprotons per pulse than last year.

The Committee **appreciated** the good operations and **thanks** for delivering more antiprotons to the AD.

6. STATUS OF THE EXPERIMENTS

M. Hauschild reviewed the status of the experiments. At the PS PS214, HARP had serious problems in commissioning the Cerenkov counter and TPC. Now the experiment is in data taking mode. Otherwise LHC and SPS experiments used the test beams. At the SPS the experiments profited from the longer spill this year. WA103 had its last beam period. NA57 will almost reach its goal for the proton reference data sample. NA48 is fully operational again after the drift chamber repair and vacuum chamber replacement. The new vacuum chamber does not significantly worsen the mass resolution.

7. STATUS OF THE CNGS BEAM LINE

The Committee reviewed the status of the CNGS beam line and discussed the possibilities for and the implications of higher beam intensities as concerns the machine and the OPERA experiment.

The Committee **congratulated** the very capable team for the impressive work done on the CNGS beam line.

8. STATUS OF CNGS-1, OPERA

The Referees reviewed the status of the experiment with regard to the physics reach and the detector construction. The decrease of the Δm^2 value favoured by the Super-Kamiokande experiment restricts the number of events expected by the experiment and increases the importance of optimizing the efficiency of the experiment and reducing the amount of background to cope with. There is significant progress in prototyping detector components. A decision is due this month on the option for the target tracker. The schedule for the RPC spectrometer tracker is very tight and no full size prototype has been tested yet. The veto counter should be included in the set-up. Great progress has been made in the understanding of handling the emulsions from the production to the installation in the experiment. Sufficient scanning capability has still to be demonstrated. The construction and installation schedule is very tight and requires substantial parallelism in the work. The software strategy is only vaguely outlined. Milestones should be defined for the construction, installation and software development.

The Committee **congratulated** the Collaboration for the progress made in the design of the experiment. Given the reduction of Δm^2 in the latest Super-Kamiokande result the Committee **saw no margin** left for a reduction in the efficiency of the experiment or the beam intensity. The Committee **regarded** it essential to push the simulation of the experiment and the background estimates to the limit. The Committee **encouraged** the Collaboration to study the prospects offered by increased beam intensities together with SL Division. The Committee **judged** the RPC production schedule as worrisome. The Collaboration, together with the referees, **should establish** a list of milestones for the construction and installation phase of the experiment. The Committee **recognized** the strong influence the choice of the experimental hall will have on the installation schedule.

9. PROGRESS REPORT OF NA60

The referee recalled the aim of the experiment, the set-up and the difficulties in the procurement of the pixel chips. NA60 and ALICE have reached an agreement for a small production run of pixel chips, which will give a sufficient number of detectors for NA60. Bump bonding tests have been very successful. There is now good expectation to have the complete pixel detector for the ion run in 2002. The manpower situation is still critical for the pixel detector. Two new groups are likely to join the experiment and would alleviate the situation.

The Committee **was very pleased** to learn that the production of pixel chips is under way and that the bump bonding tests were very successful. The Committee **took note** that the manpower situation has improved and **hopes** that the work in the CERN workshops for the pixel detector can be finished within the schedule.

10. PROGRESS REPORT OF NA58, COMPASS

The referee reported a substantial progress in the installation of the experiment. Since a short while the experiment takes data. The two major problems (magnet for the target and straw detector) are still persisting. Also in 2002 the straw detector will not be complete leading to some compromises in the charged particle tracking. No easy and fast solution is in sight with the producer of the straw detector. It seems unlikely that the target magnet will ever reach the design specifications. Efforts are under way to agree on somewhat lower specifications and compensations by the manufacturer. The consequences for the physics programme need to be addressed and reviewed by the Committee.

The Committee **appreciated** the significant progress in the installation of the experiment and that the experiment is now in data taking mode. The Committee **hopes** that an agreement can be reached on the target magnet with specifications compatible with the physics requirements. The Committee **requests** a comparison of the spin physics potential of the experiment using the SMC magnet or the Oxford magnet by the October SPSC meeting. The Committee **expects** first physics results from the 2001 data.

11. STATUS OF PS212, DIRAC

The status of PS212, DIRAC will be discussed during the next meeting.

12. PROGRESS REPORT OF P322

P322 will be discussed in a forthcoming meeting.

13. LETTER OF INTENT I224

The Committee discussed the theoretical, experimental and infrastructure aspects of the intended measurements.

The Committee **did not see** that the proposed measurements promise sufficient improvements over published data to warrant the construction of a new facility. The Committee **agreed** that the proposed measurements require a breakthrough in v beams to reach a significant level.

14. SPS AND PS SCHEDULES

M. Hauschild presented the draft schedule for the PS and SPS in 2002. The PS will stop for two weeks end of August and beginning of September due to a lack of operators to run the PS machine. Consequently, neither the SPS can deliver beams. However, there is no substantial reduction in the number of days with beam compared to 2001 for the PS and 2000 for the SPS.

C. Wyss commented that the staff reductions start to hurt and promises to study the personnel situation for the machine operators.

The Committee **expressed its hope** that the two-week stop can be avoided and **was concerned** about the consequences of staff shortages.

15. A.O.B.

a) Beam request by PS 214, HARP

The Committee briefly discussed the status of PS214, HARP and the programme in the PS East Hall in 2002.

The Committee strongly **recommends** for approval 20 weeks of beam time for PS214, HARP in 2002.

b) Meeting schedule for 2002

A provisional schedule will be distributed electronically for the SPSC meetings in 2002.

16. DOCUMENTS RECEIVED

- Letter of Intent: A neutrino experiment at the CERN North Area; SPSC 2001-024/I224 add.1.
- Memorandum: Status Report on the OPERA experiment; SPSC 2001-025/M668.
- Memorandum: Request of beam time in 2002; SPSC 2001-026/M669.

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