SC COMMITTEE

DRAFT MINUTES OF THE OPEN
MEETING OF THE SC COMMITTEE

held on 1 December 1975 at 14.30 hrs

and of the CLOSED MEETING

held on 2 December 1975 at 08.30 hrs

PRESENT : See Annex I

1. MINUTES OF THE MEETINGS OF 29 AND 30 SEPTEMBER 1975

The Draft Minutes (PH.III-75/24) were approved.

2. ANNOUNCEMENTS

(a) W. Jentschke mentioned briefly the severe budget cuts which could be expected during the next few years. The SC machine would continue to be operated but some experiments might be delayed. The physics programme was a good one and would certainly be continued.

The Chairman mentioned that first priority in the future would be given to the SPS programme which would inevitably mean a reduction in the research programmes at the PS, the ISR and the SC. Perhaps the shut-downs would be longer and some major developments might not be possible.

(b) The Leader of the PS Machine Division G.L. Munday introduced himself and announced that Dr. Michaelis would continue to be associated with the SC machine during 1976.

(c) The Chairman reported that the first meeting of the new "closed" SC Committee had taken place on 30 September. A new system for the consideration of experimental proposals had been agreed viz :-

(i) a new proposal would be sent by the Chairman to a few members of the Committee for them to act as referees;
(ii) if the proposal was felt to be sufficiently interesting then the proposers would be asked to present the suggested experiment at a meeting of the Open SC Committee;

(iii) if approved by the "closed" Committee a positive recommendation would then be forwarded to the Research Board (the new version of the NRPC).

The Chairman stressed that for this system to work without undue delay it was necessary that proposals were received by the deadlines as set by the Secretary prior to each Committee meeting. He further stressed that each proposal should clearly state the physics motivation of the experiment, how much machine time was requested, how much support was expected from CERN, including computing time and the name of the official spokesman for the experiment.

(d) Lastly the Chairman thanked the retiring Director-General of Laboratory I, W. Jentschke, for his continued support of the SC and of SC Physics over the past five years.

3. **SURVEY OF THE ISOLDE PROGRAMME**

A summary of the ISOLDE research programme was given by C. Thibault (Orsay) and H. Ravn (CERN).

4. **NUCLEAR CHEMISTRY IRRADIATIONS**

H. Ravn reported that several irradiations had been made in the period 29 September to 1 December 1975. Details are given in Table 1.

5. **SC STATUS REPORT**

E.G. Michaelis presented a report on the present status of the SC; details are given in PH.III-75/32. In reply to questions he said that the present status of the project to accelerate $^3$He$^{++}$ was not clear. It would probably have to be re-discussed in 1976.

6. **SC SCHEDULE**

E. Zavattini commented that the SC schedule had been arranged up to 10 February (see SC Machine Schedule No. 37 dated 1 December 1975,
reference MSC-D.4). He outlined a possible schedule for the subsequent period up to the end of March, which was agreed in principle by the Committee.

7. **ISOTOPE PRODUCTION**

B. Allardyce spoke on the possibilities of isotope production for medical purposes at SC 2. Details may be found in his report MSC-M.8 dated 29 September 1975.

8. **NEXT MEETING**

The next meeting of the SC Committee will be held on Tuesday 9 March starting at 14.30 hrs. and of the closed Committee on the morning of Wednesday 10 March, starting at 09.00 hrs.

As on 1 December, a special SC Seminar will probably be arranged to take place on the morning of 9 March.

---

**CLOSED MEETING, TUESDAY 2 DECEMBER**


1. **MINUTES OF THE PREVIOUS MEETING**

   The Minutes of the previous meeting (PH.III-75/24) were approved.

2. **SURVEY OF THE 1976 SC RESEARCH PROGRAMME**

   A survey of the 1976 research programme at the SC was given by E. Zavattini. Details are attached and in Annex II.

3. **RECOMMENDATIONS TO THE NRPC**

   The Committee decided to make two recommendations to the NRPC as given in PH.III-75/33, attached as Annex III of these minutes.
4. **DISCUSSION ON PAPERS RECEIVED**

(a) Proposal from the Trieste and Padova groups to study the absorption of $\pi^-$ mesons at rest in $^4\text{He}$, $^3\text{He}$, $^{12}\text{C}$, $^{14}\text{N}$ and $^{16}\text{O}$. (PH.III-75/28, not distributed). After discussion the Committee decided that the Chairman should contact the people concerned and invite them to prepare a more detailed proposal.

In addition, it decided to ask the Karlsruhe-Trieste group to give a progress report on Experiment SC 55 at the next Open Meeting.

(b) Proposal from the CERN-Lyon-Warsaw collaboration to investigate the pion radiative capture reactions as a test for the hypernuclear $\gamma$ - spectroscopy experiment (EEC-75/41) PH.III-75/27 and Addendum (not circulated). The Committee decided to ask the SC Coordinator to allocate parasitic time to allow the collaboration to test their $\gamma$ - ray detector. If this is not possible or satisfactory, the Committee would be willing to consider a new proposal.

(c) Request from the MIT-Pisa collaboration for official recognition as an experimental users group at the SC (PH.III-75/31, not distributed). The Committee decided that it could not grant this request but asked the SC Coordinator to deal with the matter as he thought best and to report to the Committee at its next meeting.

(d) Letter of Intent from JINR,Dubna to study muon and pion interactions with heavy nuclei (PH.III-75/29, not distributed). The Committee decided to encourage the authors to submit a formal proposal together with collaborators from CERN or from its Member States.

5. **FUTURE DEVELOPMENTS AT THE SC**

There was a discussion on the project to accelerate $^3\text{He}^{++}$ ions at the SC. A small sub-Committee (P.G. Hansen, O.B. Nielsen and R. Klapisch) was set up to work with the staff of the SC Division to prepare a formal request for authorisation of the project, including technical details and cost estimates, to be submitted in due course to the Research Board, after approval by the SC Committee. The Physics case for the project would be re-stated by members of the ISOLDE group.

**NOTE** Copies of all approved experimental proposals at LAMPF and at SIN are available for reference in my office at CERN. Anyone who wishes to have a copy of a particular proposal should contact Mme F.A. Pasche
<table>
<thead>
<tr>
<th>CODE</th>
<th>EXPERIMENT</th>
<th>TEAM</th>
<th>TIME USED</th>
</tr>
</thead>
<tbody>
<tr>
<td>SC 64</td>
<td>Fast Radiochemical Separations</td>
<td>Darmstadt; Bächmann; Niedhart; Rudolph</td>
<td>2 parasitic irradiations</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SC 58</td>
<td>$U(p, X)^{24}\text{Na}$</td>
<td>Merburg-Oslo; Hagedø; Haldorsen</td>
<td>Internal irradiations $3 \times 1 \text{ h.}$</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coordinator</td>
<td>$^{68}\text{Zn (4n, }\gamma)^{72}\text{Zn}$</td>
<td>Orsay; Detraz</td>
<td>1 SC parasitic irradiation 1 PS parasitic irradiation $\sim 20 \text{ min. PS prime time}$</td>
</tr>
</tbody>
</table>
ANNEX I

PRESENT

ALLARDYCE B.W.  CERN
ANDERSSON G.  CERN
BAARLI J.  CERN
BAILEY J.  CERN
BASSALLECK B.  CERN
BEGER H.  CERN
BERGSTROM I.  CERN
BERTN A.  CERN
BRESSANI T.  CERN
CERNIGOL C.  CERN
EKSTROM C.  CERN
ENGELHARDT D.  CERN
ERICSON T.  CERN
FALK-VAIRANT P.  CERN
FURIC M.  CERN
CASTALDI U.  CERN
GORINI G.  CERN
GRENACS L.  CERN
HANSEN P.G.  CERN
HESS R.  CERN
HOPFMANN L.  CERN
INGRAM Q.  CERN
KLAPISCH R.  CERN
KNIPPER A.C.  CERN
KOCH H.  CERN
LE DALLIG G.  CERN
LOCK W.O. (Secretary)  CERN
MACQ P.  Louvain
MICHAILIS E.C.  CERN
MUNDAY G.L.  Copenhagen
NIELSEN O.B.  Uppsala
NORLIN L.O.  Warsaw
PIERARZ H.  Orsay
RAISBECK G.  CERN
RAVN H.  CERN
REIBEL K.  CERN
SCHWENK H.  Mainz
SERRA C.  IN2 P3
SIMONS L.  CERN
SKARESTAD M.  CERN
SOERGEL V. (Chairman)  Heidelberg
STANDLEY P.H.  CERN
TAKEUTCHI F.  Karlsruhe
TANNER N.W.  Oxford/SIN
THIBAULT C.  Orsay
TUYN J.  CERN
ULLRICH H.  Karlsruhe
VERHEUL H.  Amsterdam
VITALE A.  Bologna
WENDLING R.D.  CERN
WESTGAARD L.  CERN
WILKIN C.  UC London
ZAVATTINI E.  CERN

Apologies for absence were received from :

G. KERNEL, Ljubljana, C. O'CEALLAIGH, Dublin and R.H. SIEMSSSEN, Groningen
THE 1976 SC RESEARCH PROGRAMME

These brief notes concerning the status of each experiment should be read in conjunction with the attached table.

SC 21  The flipping target, which was necessary for the experiment, now works properly. Data taking will start soon and results should be obtained by February when a progress report will be made. (see also PH.III-75/33, Annex III).

SC 50  Time now allocated in December. Progress report to be submitted once a year.

SC 51  Now taking data in a parasitic fashion. Progress report should be given soon.

SC 52  In progress.

SC 53  Have already had 10 shifts and 10 - 15 shifts are scheduled for January - February 1976. A summary of results obtained and a detailed request for the total amount of machine time required should be submitted to the next meeting of the SC Committee.

SC 54  Completed

SC 55  Taking data at present; progress report to be given to the next meeting.

SC 56  Finished

SC 57  Time allocated thus far will be finished by the end of 1975.

SC 58  In progress.

SC 59  No request for machine time yet received.

SC 60  Now being installed. If beam is adequate then will run in January and February for 25 shifts as approved. Progress report to be submitted in due course.

SC 61  Will soon start final run; to be completed by end 1975.
SC 62 Now running - will be finished in one or two months.

SC 63 Will install in March-April 1976 (see also PH.III-75/33, Annex III).

SC 64 Parasitic irradiations.

SC 65 and These experiments run together - beam at present being set-up.  
68 Physics runs should start in February 1976. Progress report 
    to be given to the next meeting.

SC 66 To be installed.

SC 67 13 shifts allocated in January 1976

SC 69 Now being installed.
ANNEX III

Ref.: PH.III-75/33

Date: 2.12.1975

MEMORANDUM

Copy to/Copie à:

To/À : Members of the Nuclear Physics Research Committee

From/Da : W.O. Lock, Secretary SC Committee

Subject/:Objet :
Recommendations of the SC Committee
Meeting of 2 December 1975

At its meeting on 2 December the SC Committee decided to make recommendations to the NPRC concerning experiments SC 21 and SC 63 as given below.

Experiment SC 21 is an experiment to measure the 2S-2P energy separation in muonic helium using laser techniques. It is the continuation of an experiment already carried out some years ago (see PH.III-70/47 and 74/48 attached). The correct target conditions are now available for this experiment to start taking data (see memorandum from E. Zavattini of 2 December 1975 attached). The SC Committee therefore requests the NPRC to give formal approval of this experiment and to allocate 20 shifts of parasitic time plus 5 weeks of running time in the New Year under the conditions specified.

Experiment SC 63 concerns the "Measurement of the Cross Sections for the Elastic Scattering of $\upmu p$ and $\upmu d$ Muonic Atoms against Protons and Deuterons" (Bologna group PH.III-74/50). It was approved by the NPRC on 9 October 1974 with the condition that a request for scheduling and time allocation should be submitted when an adequate beam was available. This is now the case and this group have requested 40 shifts of machine time starting in March/April. The SC Committee supports this request and asks the NPRC to approve this allocation of time.
<table>
<thead>
<tr>
<th>Code</th>
<th>Experiment</th>
<th>Team</th>
<th>Documents</th>
<th>NRF Approval</th>
<th>Conditions concerning running time</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>SC21</td>
<td>26-29 energy generation in nuclear hadron (nuclear techniques)</td>
<td>CNR-Pisa: Lazzetti et al.</td>
<td>74/48</td>
<td>4.12.75</td>
<td>24 shifts per week, 3 weeks running time, beam sharing</td>
<td>Ready to take data</td>
</tr>
<tr>
<td>SC30</td>
<td>Measurement of nuclear cross-sections of astrophysical interest</td>
<td>Group: Yama, Shirock, Tackett, Pervosha</td>
<td>72/18</td>
<td>11.4.74</td>
<td>About two shifts per week (less initially)</td>
<td>Progress report and condition report to be submitted at least once a year</td>
</tr>
<tr>
<td>SC34</td>
<td>Study of containment-deficient muons between Pb and U, using balloon jet transport technique</td>
<td>Murthy-Ganesan: Bracht, cardella, Valderrama, Nalvaskar, M. Holinde, W. H. O.</td>
<td>74/45</td>
<td>11.4.74</td>
<td>Must be totally parasitic</td>
<td>Parasitic to UKR; taking data</td>
</tr>
<tr>
<td>SC51</td>
<td>Measurement of average energies, forced absorptions and destinations of specific fission products from disintegration of Pb by 500 MeV protons</td>
<td>Murthy-Dolda: Holinde, Klein, Lemeta, Magill, Holinde, Schmidt, Poppas, W. H. O.</td>
<td>74/21</td>
<td>11.4.74</td>
<td>4 to 5 hours internal plus 10-20 percent runs in external beam</td>
<td>In progress</td>
</tr>
<tr>
<td>SC58</td>
<td>Study of products of binary fission in disintegration of U, Pb, Sm, Ag, Sn and Cu by 500 MeV protons</td>
<td>Lind-Heintz: Anderson, J. E. M., A. T.</td>
<td>74/12</td>
<td>11.4.74</td>
<td>No undertaking as to rate at which programme will be implemented</td>
<td>Progress report and detailed machine time request to be submitted</td>
</tr>
<tr>
<td>SC55</td>
<td>Study of particle production in absorption of stopped π⁻ in U²⁶</td>
<td>Kellner-Hoche: Brill, W. H. O.</td>
<td>72/22</td>
<td>11.4.74</td>
<td>Not in progress</td>
<td>Data taking in progress</td>
</tr>
<tr>
<td>SC57</td>
<td>Radio-biological effectiveness, and its dose-rate dependence, of 250 MeV electrons</td>
<td>CNR Health Physics: Ebert, W. H. O.</td>
<td>74/21</td>
<td>11.4.74</td>
<td>Initial time allocation will be completed by end 1976</td>
<td></td>
</tr>
<tr>
<td>SC28</td>
<td>(lp,²n) reactions with protons between 170 and 600 MeV</td>
<td>Verheine-Heldbolk: Atwood, Stolier, J. E. M., B. S.</td>
<td>74/21</td>
<td>11.4.74</td>
<td>4 to 5 hours internal plus 10-20 percent runs in external beam</td>
<td>In progress</td>
</tr>
</tbody>
</table>
| SC59 | Tests for partial l capture rate 

| SC60 | Search for 

| SC61 | Tests for experiment on weak neutral currents in a state | CNR-Kristian-Steeds: Borswill, Redeker, W. H. O. | 74/10     | 11.4.74      | See remarks | 24 shifts are approved, time allocated Jan 1 Jan 1976 |
| SC62 | Tests for experiment on weak neutral currents in a state | CNR-Gouveia-Oslo: Lewis, et al. | 74/22     | 11.4.74      | | In progress, to be completed by end 1976 |
| SC63 | Cross-sections for elastic scattering of 14 and 19 Be atoms against p and D | Holmgren-Hecht: Pocans, W. H. O. | 74/12     | 11.4.74      | 4 to 5 hours internal plus 10-20 percent runs in external beam | In progress, to be completed by end 1976 |
| SC64 | Tests for fast separations of products of nuclear reactions | Comma殓: Bachman, W. H. O. | 74/22     | 11.4.74      | 4 to 5 hours internal plus 10-20 percent runs in external beam | In progress, to be completed by end 1976 |
| SC65 | Study of local magnetic fields in ferromagnetic materials by observation of l transitions | Senn-Heinrich: Kunz, W. H. O. | 74/10     | 11.4.74      | | In progress, to be completed by end 1976 |
| SC69 | Tests for experiment on weak neutral currents in a state | CNR-Kristian-Steeds: Borswill, Redeker, W. H. O. | 74/10     | 11.4.74      | | In progress, to be completed by end 1976 |
| SC70 | Cross-sections for elastic scattering of 14 and 19 Be atoms against p and D | Holmgren-Hecht: Pocans, W. H. O. | 74/22     | 11.4.74      | | 40 shifts approved |
| SC71 | Tests for experiment on weak neutral currents in a state | CNR-Gouveia-Oslo: Lewis, et al. | 74/10     | 11.4.74      | | In progress, to be completed by end 1976 |
| SC72 | Tests for experiment on weak neutral currents in a state | CNR-Gouveia-Oslo: Lewis, et al. | 74/10     | 11.4.74      | | In progress, to be completed by end 1976 |
| SC73 | Cross-sections for elastic scattering of 14 and 19 Be atoms against p and D | Holmgren-Hecht: Pocans, W. H. O. | 74/22     | 11.4.74      | | 40 shifts approved |
| SC74 | Tests for experiment on weak neutral currents in a state | CNR-Gouveia-Oslo: Lewis, et al. | 74/10     | 11.4.74      | | In progress, to be completed by end 1976 |
| SC75 | Cross-sections for elastic scattering of 14 and 19 Be atoms against p and D | Holmgren-Hecht: Pocans, W. H. O. | 74/22     | 11.4.74      | | 40 shifts approved |
| SC76 | Tests for experiment on weak neutral currents in a state | CNR-Gouveia-Oslo: Lewis, et al. | 74/10     | 11.4.74      | | In progress, to be completed by end 1976 |
| SC77 | Cross-sections for elastic scattering of 14 and 19 Be atoms against p and D | Holmgren-Hecht: Pocans, W. H. O. | 74/22     | 11.4.74      | | 40 shifts approved |
| SC78 | Tests for experiment on weak neutral currents in a state | CNR-Gouveia-Oslo: Lewis, et al. | 74/10     | 11.4.74      | | In progress, to be completed by end 1976 |
| SC79 | Cross-sections for elastic scattering of 14 and 19 Be atoms against p and D | Holmgren-Hecht: Pocans, W. H. O. | 74/22     | 11.4.74      | | 40 shifts approved |
