Memo 4C-2/75

To : Distribution

From : Luigi Lesca

Subject : Minutes of the 12th 4C-Meeting

23rd August, 1976

I am sending herewith enclosed, the CCDN comments to the Draft Minutes.

The ammended pages are attached and the proposed alterations appear marked with a vertical line in the left-hand margin. Here, are only a few comments :

page 3(ii) Although it reproduces quite correctly my opinion, I would prefer to tone down the wording a little as shown on the attached page.

page 10, 3.b., second paragraph
The sentence does not entirely reproduce my thought and, as it stands, may mislead. The French and Japanese cases were only mentioned as examples in a more general statement which I report in the amended text.

page 14(i) I do not think that the minutes reproduce faithfully enough the spirit of the discussion on the two memoranda mentioned at the top of the page. If we all agree on the necessity of being critical about our work, I do not think we have to overdo it.

As it stands, the report may give the impression that : "certainly, the experimental data compilation, for those iso-quants considered is catastrophic but ... be careful, CINDA is even worse!"

I would propose deleting the fourth paragraph (- The completeness of EXFOR .....).

Other minor alterations are shown in the enclosed pages.

Schmidt
Albree
Lemmel
Okamoto
Loseur
Lammer
Khalil

Distribution : S. Pearlstein (5 copies)
V. Manokhin (5 copies)
J.J. Schmidt (5 copies)

## 2. Cinda

### 2.a. Brief report of the Cinda indexers' seminar (Lesca)

(i) Following a proposal by L. Lesca, the Cinda indexers' seminar was organized by the NDCC Steering Committee, and was held on two days in November 1975, at NDCC, Saclay. Its objectives were:

- to bring together, for the first time, all the persons indexing in Cinda the literature from area 2;
- to familiarize the indexers with the whole Cinda system and its organization;
- to make attempts to officialize the Cinda indexing at the indexers' home-laboratories; and - last, not least -
- to improve the coverage and its control system.

The minutes of this seminar are published as a report of the NDCC.

(ii) This report was followed by a discussion between all participants about the usefulness and the drawbacks of an indexers' network system based on the good will of external coworkers as established in area 2. Although, at the CCDN, an improvement in the contributions of many indexers has beem noticed since the seminar was held, it was concluded :

- that this structure gives insufficient possibilities to supervise the external Cinda indexers;
- that the literature scanning for Cinda should preferably be related to the data compilation in Exfor, both for blocking purposes and for the sake of completeness in Exfor; and
- that many external coworkers, who usually prepare Cinda entries shortly before the book deadline only, cannot be brought to a more regular Cinda indexing, which is often not regarded as part of their recognized duties.

For these reasons it was recommended to the NDCC Steering Committee that the Cinda scanning and indexing be centralized at NDCC (Recommendation 1)

(iii) Feedback from users: The foregoing discussion entailed the question to the users present at the meeting (Rapeanu, Marcinkowski) about the quality of Cinda. Both emphasized the usefulness of Cinda, but stated that several mistakes and gaps have been found. Lemmel requested that all mistakes found should be communicated to NDS (Actions 1 and 2).

Marcinkowski mentioned the special problem that publications which do not contain any data, can often not be recognized as such from the entry. This is particularly disturbing, when the publication quoted is difficult to obtain. It was therefore agreed that the four Centres advise their indexers that in all such cases the code 'NDG' should be included in the comment (Action 3).

(iv) In order to generally encourage the feedback from users, it was decided that formsheets for the communication of gaps and mistakes should be included in the Cinda book (Action 4).

## 2.b. Cinda indexers' manual

The final version of the Cinda Manual will soon be published at NDCC. It will consist of loose leaves, so that single pages can easily be replaced, and will be issued as a formal publication; about 150 copies will be printed (Lesca). Schofield reports that the Manual will be composed of two parts: a) a complete description of the Cinda system which concerns mainly the centres, and b) a kind of condensed "coding aid" which will mainly be used by the Cinda indexers.

The participants of the meeting expressed their appreciation of NDCC's effort in producing the Manual and of NDS' contributions to it.

## 2.c. Completeness, coverage control and related computer programmes

(i) Coverage control: In a general discussion, it was noted that the responsibility for the coverage in a centre's service area, and hence the coverage control, remains with each centre.

(ii) The coverage control systems at the different centres were reported and discussed: NDCC is working on the development of a computerized coverage control system. It will be based on the use of coverage control entries, but the features incorporated will be partially different as compared to the old 'ZZ'-system. Details about the planned system are to be found in the "Summary Record of the Cinda Readers' Seminar".

At NDS, the coverage control presently consists of hand-written lists of the issues that have been scanned. NDS would participate in NDCC's coverage control system as soon as this is ready.

NNCSC uses at present its own, more general coverage control system, from which the Cinda coverage list is extracted. Dunford suggests that NNCSC shall investigate the feasibility of taking part in the system to be developed by NDCC.

## 2.f. Index lines for Exfor and evaluated data

(i) Exfor index lines: Pearlstein was concerned about the space the Exfor index lines occupy in the book. Schmidt estimated that at present the number of Exfor lines roughly amounts to 10% of all entries. According to Dunford this number will be doubled, when all the data compiled before 1970 will have been converted to Exfor.

(ii) Index lines for evaluated data: The question whether and how the contents of large evaluated data libraries like ENDF should be indexed in Cinda was discussed in a Subcommittee. See Conclusions 3-5 and Actions 18-20.

## 2.g. Quantity definitions

Following discussions held in a subcommittee it was decided

- to change the quantity N3N to NXN ($X \geq 3$), see Conclusion 6 and Actions 21-22;
- to introduce the new quantity FPB for fission product betas (Conclusion 7 and Action 22);
- to revise the definitions of LDL and TSL (Conclusions 8 and 11, Actions 24 and 25);
- to accept memo 4C-3/155 about resonance integrals (Conclusion 9);
- how to code metastable targets (Conclusion 10);
- to cancel the quantities REM and NPR as suggested in memo 4C-3/164 (Conclusion 12, Action 22a);
- to investigate the difficulties connected with introducing "neutron" as a target material (Conclusion 13, Actions 28 and 29).

NDCC is to inform Cinda indexers about these changes (Action 27) and to update the Cinda Manual accordingly (Action 26). NDS is to make the appropriate changes in the text pages of the Cinda book (Action 23).

## 2.h. Handbook section in the Cinda book

The handbook section as conceived at NDS for the book Cinda 76 has been distributed to all participants (see Appendix I). After a brief discussion whether this section should also include the non-neutron data handbooks, the proposed version was accepted. Two additional handbooks were proposed for inclusion (Action 30).

## 3. WRENDA

### 3.a. Report by NDS, INDC conclusions

The report by NDS is included in its Progress Report, Appendix E, section 9. Lessler added that the files for WRENDA 76 are essentially closed, the printed edition will be released in summer 1976.

Schmidt summarized the conclusions of the eighth INDC meeting:

- WRENDA should not only include requests for measurements, but also for evaluations and information.
- The previous data status comments shall be deleted. Instead, NDS would provide comments on WRENDA 76 using the reports by the technical Sub-committees on Standards and Discrepancies of INDC and NEANDC as guideline.
- Requests unreviewed for 2 years should be dropped.
- A two years publication cycle is proposed.
- A sequential number should be added on the left side of each request.

### 3.b. Reports by other centres

NNCSC (Dunford): Discussions about the usefulness of WRENDA for USA are going on. At the USNDC-meeting in May 1976, potential changes in WRENDA supply from USA will be discussed. Perhaps it will be proposed that in future US-requests with priority "1" only shall be published. The pertaining conclusions of this meeting will be reported to NDS (Action 32).

NDCC (Lesca) : Although WRENDA has so far been published annually, at the CCDN it has always been felt that many countries were actually reviewing their request list every second year only. For example, the French and Japanese requests have been thoroughly revised this year, but remained unchanged in the last edition. The recent INDC proposal to adopt a 2-year publication cycle was therefore welcomed.

Marcinkowski: In Poland, WRENDA is used to determine and confirm the need for an experiment. It is therefore regarded as a very useful document.

Rapeanu, Marcinkowski: The evaluations performed at both centres (see Sect. 1 of these minutes) are connected to thermal power reactor projects.

Lorenz: At the Transactinium Nuclear Data Meeting it was recommended to evaluate certain actinides. NDS investigated the possibilities of starting a cooperative project; groups from 5 or 6 countries are willing to participate in such a programme.

The first part of Action 44 from the 11th 4C-meeting - "evaluations and/or comparisons of available evaluations going on within the centre's area should be reported to the other centres as soon as possible" is still valid (Action 33).

## 5. Customer services

### 5.a. Request statistics

(i) The request statistics for area 1 and 3 are included in the progress reports (Appendices C,E).

(ii) Pearlstein proposed to examine the request statistics closely and to find out, whether there are some data or data-types that are never requested. These should perhaps not be compiled, or only upon request. Lesca mentioned that this question had already been discussed at NDCC, but there had been strong objections from the evaluators who had claimed to need all the neutron-data.

Okamoto raised the question whether preliminary data are needed and really worth to be compiled?

It was concluded that for both these points the centres should provide each other with any background information available before the next Four Centres Meeting (Action 37).

(iii) Pearlstein asked how the customers processed multidimensional tables. Lemmel answered that in area 3 only listings have been requested so far; the planned computation-format foresees only two-dimensional tables.

## 6. Neutron-Exfor

Conclusions about Exfor coding rules can be found on pages ?

(i) Lemmel opened the discussion by presenting two 4C-memos concerning the completeness of Exfor: Memo 4C-3/159 on the completeness of P-31 data, and Memo 4C-3/165 on the completeness of keV fission data, containing also completeness statistics derived from these two memos. As a rough result, the latter memo states the following completeness:

> Approx. 50% for important data, less than 40% for less important data.

In the discussion following, most participants rejected these figures. The main arguments were:

- Many of the references mentioned in memo 4C-3/165 contain superseded or unreliable data.
- In particular, the case of P-31 had been checked at NNCSC; it was found that from area 1 actually 2 old data-sets were missing. At NDCC, the completeness of the keV fission data had been checked and the completeness had been found to amount to about 85%.

The discussion was concluded by the decision that CJD, NDCC and NNCSC would respond to Memo 4C-3/165 in 4C-memos. (Action 38).

(ii) Pearlstein suggested a method to detect important data that are missing in Exfor: Whenever a data specialists meeting or conference is held in a centre's area, this centre should supply the participating evaluators with the pertaining Cinda-retrievals and Exfor-data. In case of any complaint about the adequacy of the experimental data supplied, this should be communicated to the other centres (Action 39).

(iii) Some experience with feedback from evaluators could already be reported:

Manokhin: Both Nikolaev's group in Obninsk and Konshin's group in Minsk were satisfied with the data available in Exfor or NEUDADA.

Dunford: Feedback was received about heavy metals and structure materials for fast reactors; it resulted in some corrections of the data, but no major gaps were detected.