

Memo 4 C - 3/103

To: Distribution

23 July 1974

From: H.D. Lemmel, *HDL*  
J.J. Schmidt

Please, find enclosed our comments to the Draft Report on the 10th 4C-Meeting. We agree with NNCSC's comments (letter Dunford 19 July 1974).

Distribution:

F. Fröhner (NDCC)  
V. Manokhin (CJD)  
S. Pearlstein (NNCSC)  
A. Schofield, (NDCC)

NDS: H.D. Lemmel  
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file

D R A F T

REPORT ON THE  
TENTH FOUR-CENTRES MEETING  
6-10th May, 1974 - Paris

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( = Agenda )

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\* Add further Appendix containing the main  
new manual pages on "Multidimensional Tables"  
and table of implementation schedule.

I. Organisation and Announcements1. Introductory remarks

F. Fröhner opened the meeting with words of welcome on behalf of the Nuclear Energy Agency of the OECD.

2. Election of Chairman and Secretary

L. Lesca (CCDN) was elected as Chairman of the meeting, and A. Schofield (CCDN) agreed to act as secretary. The other participants were S. Pearlstein and Mrs V. May from NNCSC, F. Fröhner (CCDN), J.J. Schmidt, H. Lemmel and M. Vlassov from NDS, and V. Manokhin (CJD).

A number of scientists from CCDN participated during various sessions : K. Okamoto, H. Potters, N. Tubbs and C. Rickeby.

3. Discussion and adoption of Agenda

After a short discussion of the 'Agenda (cf. Table of Contents), the Programme attached as Appendix A was adopted.

4. Review of actions from the Ninth Four-Centre Meeting

The participants reviewed the actions from the previous meeting on the basis of the report (INDC(NDS)-54G) on the Moscow 4-C meeting and on Memo. 4C-3/93. The status of the actions which are not completed is as follows :

|                   |    |   |
|-------------------|----|---|
| 1973 - Action No. | 3  | Cancelled.  |
|                   | 6  | Not done - see Appendix B.  |
|                   | 8  | "Delinquency list" : continuing as recommendation to all Centres. |
|                   | 26 | Done - see Appendix G.  |
|                   | 27 | Done - see CJD report, Appendix F.                                |
|                   | 28 | See Minutes + 1974 actions.                                       |

|                      |  |
|----------------------|--|
| 1973 - Action No. 29 | See Minutes + 1974 actions.  |
| 30                   | " "  |
| 31                   | " " + 1974 actions.  |
| 32                   | " "  |
| 33                   | " "  |
| 35                   | " "  |
| 40                   | " " + 1974 actions.  |
| 43                   | Partially fulfilled - CJD agreed to send out Pu-239 evaluation on magnetic tape as soon as possible. |
| 44                   | Impossible to satisfy.   |

... The continuing actions are transferred to the new list of actions, cf. Appendix L.

II. Centres' Activities

1. Progress reports

... Progress reports were presented by the Heads of the Centres (Progress Reports for NNCSC, CCDN, NDS, and CJD including request statistics are attached as Appendices C, D, E, and F). The following points were raised in the ensuing discussion :

PEARLSTEIN brought up the problem of the continuing backlog of area 2 data to be transmitted in EXFOR. He stressed the awkward situation of NNCSC in regard to customers requesting these data in EXFOR format.

replace by B.

LEMMEL mentioned the insufficient coverage of Area 2 data in EXFOR as compared to the content of the NEUDADA file, especially concerning U-235 and Pu-239.

SCHMIDT urged all centres to stick to the agreement to give priority in exchanging the data to those isotopes, quantities and references which appear, from the statistics, the most

- a) the NDS would bring to the attention of the INDC the problem of translating voluminous nuclear data documents such as the CJD Bulletin (Jadernye Konstanty) into English;

(Action 3)

- b) the CJD would investigate the possibility of including abstracts in English to articles in Jadernye Konstanty or to send them to the IAEA for translation, and provide number links between the abstracts and the Bulletin articles. Inclusion of English keywords using the Nuclear Data Project system would also be considered.

(Action 4)

2. Common statistical presentation

The statistics showing the performance of the four centres are attached as parts of the progress reports (Appendices C to F).

3. Future plans

The main future developments considered were the impending transfer of North American CINDA operations from TIC Oak Ridge to NNCSC and the development with respect to non-neutron nuclear data. Both points were discussed in detail under the appropriate agenda items.

III. Policies and Co-ordination of Four-Centre Activities

1. Non-neutron nuclear data

SCHMIDT summed up provisional recommendations formulated at the IAEA Consultants' Meeting on Charged-particle and Photonuclear Reaction Data, and the IAEA Specialists' Meeting on Nuclear Level and Decay Data for Applications. A coherent international effort in the compilation and evaluation of such data is planned. Dissemination of the content of files resulting

^ Oak Ridge

X  
from this effort might be most conveniently achieved through well-established institutions such as the neutron data centres and other nuclear centres. In view of possible future contacts with compilation groups working in the fields of charged-particle data, photonuclear data and nuclear structure and decay data, the neutron data centres should keep abreast of the development of new formats and work on the extension of existing formats to non-neutron <sup>nuclear</sup> data (e.g. ENDF/B, WRENDA, EXFOR).

X  
The participants agreed that the neutron data centres are interested in participating in meetings concerning the establishment of files of compiled and evaluated non-neutron nuclear data and are willing to act as distribution centres for complete files. This will centralize the availability of both neutron and non-neutron <sup>nuclear</sup> data as a benefit to users. These services however, should be provided only for whole files of compiled and evaluated data that are suitable for wide distribution, whereas special data questions should still be forwarded to the appropriate groups of experts preparing such compilations.

Y  
An action was put on all centres to initiate contact with groups compiling non-neutron <sup>nuclear</sup> data in order to investigate the possibilities of using existing formats for their compilations.

(Action 5)

## 2. EXFOR

MANOKHIN stated that CJD preferred receiving data in EXFOR. CJD is able to list NEUDADA tapes, but has no index to these tapes, and no intention of developing NEUDADA retrieval programs. This inability to retrieve from their collection of NEUDADA tapes is in fact the reason why CJD has repeatedly requested data from the CCDN which had been sent to Obninsk before on NEUDADA tapes. MANOKHIN asked that in such cases the data be sent again rather than a reply that they had been sent before. FROEHNER agreed to do this until the data are

./..

entered into the EXFOR exchange.

(Action 6)

PEARLSTEIN pointed out that (packed) EXFOR occupies less storage space than (packed) NEUDADA.

An action was put on NNCSC to distribute to other centres lists of data sets required for the new edition of BNL-325 Vol. II .

(Action 7)

The other Centres should then include the above-mentioned data sets in EXFOR without delay.

(Action 8)

3. Transmission of old NNCSC data

*further action  
see C.*

NNCSC was asked to send the balance of the old SCISRS data (39 tapes in EXFOR-like format) to the other Centres. It was stated that most of the data sets are pre-1969. Some of the newer ones are already entered in the 1 to 4 series. Thus CCDN should have most of these data in the NEUDADA file. In addition NNCSC should send an index for these tapes so that the other centres can check what they have already in their files (see also Appendix G).

(Action 9)

4. Correspondence with CJD

MANOKHIN asked if CCDN could split up long NEUDADA tapes into shorter files by end-of-file tags. This would make it easier to deal with reading mistakes encountered fairly often at CJD. It was agreed that CCDN would comply with this request.

(Action 10)

Requests from KONSHIN (Minsk) for experimental data not available at CJD should be answered by the other centres as follows :

- tapes to be sent to CJD, for conversion to punched



paper tape as used <sup>at</sup> as Minsk;

- listings to be sent directly to Minsk, <sup>(if possible)</sup>  
(if feasible) (Action 11)

5. Evaluated data

Answering a question whether the restrictions on distribution of ENDF data could be relaxed, PEARLSTEIN said that there is a good chance that e.g. the ENDF radiodosimetry file could be made freely available once Soviet data equivalent to the ENDF standards data are released.

MANOKHIN reported on Soviet evaluation activities and mentioned work on :

D, O, Na, Fe, U-235, U-238, Pu-239, Am( $\sigma_{\gamma}, \sigma_f$ ), Cm( $\sigma_{\gamma}, \sigma_f$ )

and other Pu isotopes. The general policy in the Soviet Union is to use unadjusted microscopic cross sections. Only the group constants are adjusted on the basis of clean integral experiments.

6. Heavy-ion data

PEARLSTEIN advocated definite proposals for iso-quant extensions to deal with heavy incoming particles. It was stressed that this does not necessarily mean that the four Centres should also compile these data.

MANOKHIN pointed out that the use of an additional field for the incoming particles in the iso-quant as in WRENDA would help to keep dictionaries reasonably short.

No definite conclusions were reached on this point.

7. Integral data

NNCSC will publish CSEWG benchmark results as a BNL report with an ENDF number. Shielding benchmarks are also compiled, but only as reports. PEARLSTEIN added that these data are usually obtained on a bilateral basis, and that there is no obvious need for the Centres to computerize them.

8. INIS and similar developments

N. TUBBS was asked to communicate any information he has about compatibility between CINDA and the Nuclear Data Project reference file, and about his INIS/CINDA comparison prepared for the Varna ~~meeting on mission-oriented~~ Information Systems.

*IAEA Symposium*  
(Action 12)

9. CINDA

Although it was realized that CINDA operations are not in practice as symmetrical with respect to all four Centres as EXFOR is, it was agreed that after the transfer of U.S. CINDA operations from TIC Oak Ridge to NNCSC, CINDA is to be considered a regular 4-Centre matter.

Consequently similar procedures should be adopted for CINDA and EXFOR with respect to changes such as updating of dictionaries or input specifications. In particular non-trivial changes, e.g. changes which affect other centres' programs, should not be made without 4-Centre agreement. Furthermore, such changes should be documented with the least possible delay in the form of new manual pages.

IV. EXFOR in detail

1. Implementation of actions initiated at the 9th 4-Centre Meeting

a) LEMMEL'S proposal for LEXFOR on references was

discussed, and a final formulation agreed upon (cf. Appendix H).

- b) Revisions and inclusion of items in LEXFOR and EXFOR Manual according to specifications in Memo. 4C-3/97 were discussed.

Entries on Wave Length, Percent, Fission Fragment Energy Spectra were revised. An action was put on NNCSC to distribute updated LEXFOR pages for these items and to revise also the entry on Polarization,

(Action 13)

whereas NDS should prepare a LEXFOR entry on the Experimental Determination of Fission Product Yields.

(Action 14)

Further discussion of entries for the RAW, REL, FCT modifiers led to a final formulation based on a LEXFOR entry proposed by POTTERS (Appendix I).

It was decided to abolish ~~the outgoing particle designation DG and also the modifiers 2L2 and PAD.~~

\* *Note: We were not aware at the meeting that good definitions for DG and 2L2 had been received meanwhile. Only PAD was neither defined nor used.*

The action put on NNCSC to prepare an entry on Independent Variables was considered obsolete in view of the following discussion on multidimensional tables.

c) Multidimensional Tables

EXFOR Manual revisions concerning more convenient rules for table coding were discussed. A review was made of the revised manual pages drafted by FROEHNER on the basis of a number of 4-C memos dealing with this problem (4C-1/38, -2/41, -2/42, -1/39, -3/88, -4/23, -2/46 and -3/94) and a final version was approved for inclusion in the Manual. A clean copy

*of this version should be sent by CCDA (Action 15) to NNCSC before 31 July 1979.*

\* *Note not to be included in the minutes!*

6. Extensions of EXFOR

a) Capture gamma-ray spectra

A proposal for storage and retrieval of neutron capture gamma-ray spectra by M.R. Bhat (App. J) was discussed. It was decided that this document would be used as a basis for proposing an extension of EXFOR. NNCSC is at present in communication with specialists on the subject, and will establish a list of EXFOR quantities corresponding to the quantities mentioned in Bhat's proposal, together with dictionary 14 additions, and data headings. The other centres were then asked to circulate Bhat's proposal to the specialists of their respective areas and to deal with the formal problems raised by the resulting suggestions. Examples of coding capture gamma-ray spectra shall be given using the possibilities of the 2-dimensional table layout.

(Action 20)

b) Simplified EXFOR

CJD expressed interest in a remark by FROEHNER that some of the difficulties in using EXFOR as a computation format could be eliminated by adopting a unique system of units (e.g. eV for all energies, b for all cross sections, etc.) and perhaps a rigid table structure in all cases where this can be easily done, similar to the approach in NEUDADA. No conclusions were reached, however.

c) Procedure to be followed by Centres for entire compilations

In order to distribute the workload in cases where a centre receives a big compilation with data from other service areas, it should split up this compilation according to service areas and distribute the parts to the respective centres for EXFOR coding. If automatic conversion to EXFOR is possible, however, then the receiving centre should convert, and involve the other centres only in checking the converted data belonging to their respective service areas.

propose add  
action on NNCSC  
to List 4  
shims!

As V. MAY remarked there are instances, especially in areas 1 and 2, where the same Z, A, Q, Lab, Year should occur in different blocks.

LEMMEL then asked if CCDN could implement an automatic changing of 'A' to 'B' for matching records with the same Z, A, Q, Lab, Year just for areas 3 and 4. TUBBS conceded that CCDN could in fact overrule the rejection of successive 'A' entries carrying the same Z, A, Q, Lab, with a separate program which would automatically change 'A' to 'B' in such cases, but once again at the risk of introducing erroneous information into the file. CCDN would only do this under the responsibility of NDS.

After lengthy discussions the following conclusions were reached :

- NDS will take care that within one batch of new records those belonging to the same block are grouped together in the correct sequence.
- CCDN will continue to send feedback lists as soon as possible after each update so as to enable NDS to make subsequent additions to new blocks using the assigned block numbers.
- NDS assumes responsibility for the blocking of areas 3 and 4 'A' records with the same Z, A, Q, Lab, Year appearing in different batches. CCDN will implement this blocking by automatically changing 'A' to 'B' for the entries from the second batch. NDS maintains

*that no errors will be introduced and many unnecessary rejections will be avoided by this procedure.*

FROEHNER warned that the last rule constitutes a dangerous precedent. It means in effect an overriding of input checks just because certain compilers find them inconvenient and claim that they do not make mistakes anyway.

b) Other input checks

LEMMEI pointed out that the checking criteria used in the CCDN appear to be too stringent and result in over-abundant rejection of input records. The matter was discussed in detail by LEMMEL, V. MAY and TUBBS. The outcome of this discussion was a new list of checking criteria.

An action was put on CCDN to revise warning and error messages in the feedback listings according to the new agreements.

(Action 21)

c) Frequency of updates

It was once more reminded and strongly recommended by TUBBS that updates be sent continuously throughout the year to CCDN. One of the main features of the new CINDA system is to allow frequent updates with rapid correction and re-insertion of rejected information. This feature should be exploited in order to avoid the usual last-minute flood of entries to be processed at the CCDN.

2. Improvement in listings

a) Feedback Listings

LEMMEI criticised the large volume of the feedback listings. He was told once again that format changes, such as underscoring of erroneous fields on a reconstituted card input format, are impracticable because of the limitations of the present CCDN computer.

Changes to warning and error messages on the other hand are feasible (see 1.b.).

b) Other listings

TUBBS explained that the internal representation of

replace  
by D.

energies (energy codes) cannot be modified as LEMMEL wishes without heavy reprogramming effort. Since these changes concern only rather rare and exotic cases such as double spectra which can easily be dealt with by making two entries CCDN will not change the energy codes at present.

Quantity sort changes requested by NDS will be made on the book tape, but not in the file. Consequently, retrieve listings will remain ordered as before.

An action was put on NDS to prepare a proposal on a new quantity sorting order.

(Action 22)

3. CINDA as a complete International Data Index

CINDA performs this function both through the use of flag '+' indicating that data are available at least at one centre, and by explicit reference to a data file through the inclusion of a data index line.

PEARLSTEIN was in favour of excluding index lines referring to EXFOR on the grounds that they would not accurately reflect the present status of the numeric files, and would contribute to increasing the size of the CINDA Book.

LEMMEL and FROEHNER reminded the participants that the appearance of index lines in CINDA is intended to replace the old newsletters such as CINDU, CCDN-NW/13, -NW/14, etc.

TUBBS pointed out that the cleaning up of CINDA with regard to the '+' flags would take at least one year given the present status of CINDA manpower at CCDN. It would therefore be useful to keep index lines in the file. It would always be possible to exclude index lines from the Book, by ~~using the 'no book' flag feature.~~

It was finally agreed that Centres would continue to include data flags and index lines in CINDA as before until

a final decision is taken on the proposal to be submitted by NNCSC.

(Action 23)

4. CINDA Book

It was agreed that the four Centres <sup>are invited to</sup> ~~would~~ send suggestions ~~for a new introduction to~~ CINDA's next supplement to LEMMEL. ~~revisions in the text pages of~~ (Action 24).

LEMMEl pointed out that the text pages consist of two parts: ~~It was recommended that he should write~~ a brief introduction for the beginning of the book with just enough detail to enable a cursory user to understand the entries, <sup>and an Annex</sup> ~~but that further details should be mentioned at the end.~~ <sup>giving more details.</sup> It was agreed that this structure should be kept.

It was agreed that criteria for the reduction of the size of blocks of entries appearing in the CINDA publication will have to be defined. The consensus was that no valid entries should be deleted in the file but that the "no book" flag should be used more extensively. ~~Suggestions should be sent to Tubbs.~~

(Action 25)

5. CINDA Manual

The present status of CINDA rules is given in the 1972 "Temporary Reader's Manual" and complementary information can be found in the 1968 Reader's Manual. <sup>insert F.</sup> ~~In view of the later changes, however,~~ It was recommended that TUBBS make a comprehensive write-up of the CINDA rules, <sup>possibly by the end of August 1974.</sup> (Action 26)

It was agreed that CCDN supply NNCSC with all necessary documentation giving the present rules compatible with the CINDA programs, including the results of decisions taken at this meeting.

(Action 27)



6. CINDA area coverage

The present method of coverage was discussed. It was agreed to continue with the present system of assigning journals and report series to specific CINDA readers.

7. Dictionaries

*Replace by G.*

Identity of EXFOR and CINDA Dictionaries was agreed for Lab. and Ref. codes except when restrictions in CINDA field lengths make this impossible.

Changes to EXFOR dictionaries should be carried over to CINDA Dictionaries only when they affect material occurring in CINDA updates. *Unclear. Internal NDCC matter?*

The protocol applying to EXFOR rules for updating dictionaries will also be applied to CINDA. ~~New EXFOR codes will be sent directly to TUBBS.~~

Obsolete codes will remain in the <sup>\*</sup>CINDA dictionaries insofar as they relate to information which was valid at the time it was entered into the file. *Unclear. \*Which dictionaries?*

NNCSC proposed to carry out a checking of the correspondence between EXFOR and CINDA Lab. and Ref. codes.

(Action 28)

8. Physical content of CINDA

a) Ambiguities

VLASOV pointed out some cases where misunderstanding arises concerning the quantities actually measured. The comments are often not explicit enough to clear up the misunderstanding.

OKAMOTO supported this statement, and subsequently provided some examples :

Scattering events, capture gamma counts or capture gamma yield/thickness and transmission measurements should be explicitly mentioned as such in the comments, so as not to be confused with scattering, capture and total cross sections.

b) Completeness

It was agreed that an efficient way to improve CINDA completeness was to make a detailed comparison with EXFOR as discussed under IV.5 . (See Action 19).

VI. WRENDA

Dunford's report on the present status of WRENDA is attached as Appendix K. The stylistic guidelines proposed in this document (on the layout of comments, use of EXFOR-CINDA lab. codes, representation of requestors' names and use of blanks in energy fields) were accepted. The participants also agreed that NDS should ask the INDC to support the recommendations in Dunford's report, i.e.

- that all requests from countries which do not review them for two successive years should be considered as withdrawn,
- that reviewers use the country retrievals for updates,
- that the distinction between fulfilled and withdrawn requests be dropped unless all countries specify which is the case when they delete requests.

(Action ...)

Various suggestions concerning the layout of the WRENDA report were made, for instance to give a less prominent place to the request numbers. NDS agreed to consider these suggestions for future editions.

(Action ...)

NDS intends to distribute WRENDA 74 to ~~NDS also agreed to supply INDC with addresses of national authorities, governments,~~ atomic energy commissions, nuclear societies and similar bodies who are in a position to promote data activities,

...  
Add. action  
on NDS

Add. action  
on NDS

VIII. Other Business

None.

IX. Conclusions

X Pearlstein on behalf of NNCSC offered to host the next Four-Centres Meeting at Brookhaven. After discussing possible dates the participants agreed on the week <sup>starting 10 March</sup> after the planned Washington Conference on Neutron Cross Sections and Technology in March.

Centres should provide display boards (one each) for exhibition at the Washington Conference. (Action ...)



|                 |   |           |
|-----------------|---|-----------|
| EXFOR-50084.003 | = | 10143.009 |
| EXFOR-50084.004 | = | 10143.009 |
| EXFOR-50915.002 | = | 10100.003 |
| EXFOR-50915.004 | = | 10100.004 |
| EXFOR-51674.003 | = | 10009.002 |
| EXFOR-51739.003 | = | 10207.    |
| EXFOR-51851.008 | = | 10040.    |
| EXFOR-52070.002 | = | 10032.002 |
| EXFOR-52070.003 | = | 10032.002 |
| EXFOR-52070.004 | = | 10032.    |
| EXFOR-52070.005 | = | 10032.002 |
| <hr/>           |   |           |
| EXFOR-60064.002 | = | 20025.002 |
| EXFOR-60064.003 | = | 20025.003 |
| EXFOR-60455.002 | = | 20129.008 |
| EXFOR-60455.003 | = | 20129.006 |
| EXFOR-60457.002 | = | 20117.    |
| EXFOR-60457.003 | = | 20117.    |
| EXFOR-60457.004 | = | 20117.    |
| EXFOR-60686.002 | = | 20072.002 |
| EXFOR-60688.002 | = | 20075.    |
| EXFOR-60759.002 | = | 20139.003 |
| EXFOR-60759.003 | = | 20139.005 |
| EXFOR-60759.004 | = | 20139.004 |
| EXFOR-61124.002 | = | 20024.007 |
| EXFOR-61156.002 | = | 20142.005 |
| <hr/>           |   |           |
| EXFOR-70205.002 | = | 30046.002 |
| EXFOR-70205.003 | = | 30046.004 |
| EXFOR-70205.004 | = | 30046.005 |
| EXFOR-72000.002 | = | 30111.003 |
| <hr/>           |   |           |
| EXFOR-80033.002 | = | 40055.003 |
| EXFOR-80033.003 | = | 40055.003 |
| EXFOR-80033.009 | = | 40055.002 |
| EXFOR-80041.002 | = | 40021.002 |
| EXFOR-80093.002 | = | 40074.004 |
| EXFOR-80099.    | = | 40062.    |
| EXFOR-80099.002 | = | 40062.    |
| EXFOR-80099.003 | = | 40062.    |
| EXFOR-80099.005 | = | 40062.    |
| EXFOR-80099.007 | = | 40062.    |
| EXFOR-80099.008 | = | 40062.004 |
| EXFOR-80205.003 | = | 40077.002 |
| EXFOR-80316.002 | = | 30209.002 |
| EXFOR-80328.003 | = | 40132.002 |

SCISRS - EXFOR Conversion

Among the preliminary Exfor entries created automatically from the old SCISRS, NDS found the following correspondences with final Exfor entries. Thus, the preliminary Exfor entries listed in the left-hand column below can be deleted.

To be entered in (Memo 4C-3/98, revised)  
REFERENCE in Lexfor:

Under the information-identifying keyword REFERENCE, not only should the reference from which the data was taken be mentioned, but also other important references such as journal articles, conference papers, and laboratory reports. Progress reports and abstracts may be excluded.

For the coding rules see pages VIII.6 to VIII.11 of the Manual.

The purpose of the bibliography is to help the compilers

- to avoid duplicate entry of data in EXFOR, and
- to help identifying a data set when data are requested by reference, and to help the users of EXFOR,
- to get easy access to any additional information he may wish to look up in the published references,
- to check whether a given reference has been considered by the compiler or not.

Therefore, the free text should indicate to the user of EXFOR :

- \* which is the main reference,
- \* the kind of information contained in each given reference, e.g. "instrumentation only, graphs only, no data, theoretical analysis, etc..."

When translations of references exist, these should be included also, for the convenience of the users of EXFOR.

Important references which are published only after the first compilation of the EXFOR entry, should be added subsequently and the entry be retransmitted according to page IX.2 of the Manual. Usually such a new reference will provide additional information on the experiment or the numerical data, which should be added and retransmitted simultaneously.

If data have been received by private communication, name and date of the private communication may be entered under "STATUS" or as a reference (see page VIII.10).

Note : NDS feels that a private communication should only be entered under REFERENCE if there is no other reference. If a published reference exists, a reference to a private communication seems usually redundant and of no use. NNCSC does not agree.

If the coding of the references in EXFOR is coordinated with the blocking of the same references in CINDA, both systems will benefit. Compilers at NDS should take care that the bibliography in EXFOR and CINDA is always identical.

| <u>Action No.</u> | <u>On</u>            | <u>Text</u>  |
|-------------------|----------------------|--|
| 8                 | NDS<br>CCDN<br>CJD   | Include data sets to be used by NNCSC for new edition of BNL-325, Vol. II into EXFOR without delay.  |
| 9                 | NNCSC                | Send remaining "SCISRS 1 1/2" data converted to EXFOR, as well as index, to other Centres before 31 July.  |
| 10                | CCDN                 | Subdivide long NEUDADA tapes for CJD into several smaller files in order to make read errors at CJD less troublesome.  |
| 11                | NNCSC<br>CCDN<br>NDS | Requests from Konshin (Minsk) for experimental data not available at CJD should be answered as follows :<br>tapes to be sent to CJD for conversion to punched paper tape as used at Minsk; listings, to be sent directly to Minsk.                 |
| 12                | N. TUBBS             | <i>(if possible,)</i><br>Communicate to all Centres findings on compatibility between CINDA and the Nuclear Data Project Reference File, and on INIS/CINDA comparison being prepared for the Varna meeting. IAEA Symposium on Information Systems. |
| 13                | NNCSC                | Distribute final LEXFOR formulations of points mentioned in Memo. 4C-3/97, and revise LEXFOR entry on Polarization.  |
| 14                | NDS                  | Prepare LEXFOR entry on experimental methods for determining Fission Product Yields.   |
| 15                | CCDN<br>+ NNCSC      | <i>CCDN to send approved final version of</i><br>Prepare EXFOR manual pages for multidimensional tables before 31 July, to NNCSC for EXFOR manual update.  |

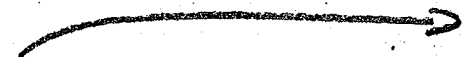
| <u>Action No.</u> | <u>On</u>       | <u>Text</u>   |
|-------------------|-----------------|---|
| 16                | CCDN            | Prepare LEXFOR entry on Standards for Fission Yields and an example of coding Delayed Neutron Precursor Data.   |
| 17                | NNCSC           | Prepare LEXFOR entry on Multilevel Resonance Parameters.  |
| 18                | NNCSC<br>V. MAY | Include an implementation scheme for new EXFOR features in the EXFOR manual.  |
| 19                | All             | Check the completeness of :<br>a) EXFOR and CINDA<br>b) EXFOR versus CINDA for important reactor material iso-quant. Gaps in EXFOR and CINDA should be filled with top priority,                            |
| 20                | All             | <i>particularly those mentioned in 4c-3/48 (Jan. 1972)</i><br>Circulate Bhat's proposal for gamma-ray spectrum quantities to experts. Give examples of coding such data using extended EXFOR possibilities. |
| 21                | CCDN            | <del>before 31 August</del><br>Revise warning and error messages in CINDA feedback listings, and ensure that no undue rejection of input occurs, <del>before 31 August</del>                                |
| 22                | NDS             | Prepare a Four Centre proposal for a new quantity sorting order for the CINDA publication.  |
| 23                | NNCSC           | Submit a proposal on indexing numeric files in CINDA reflecting the discussions within the USNDC.   |
| 24                | All             | Send suggestions for Introduction to CINDA's next supplement to LEMMEL before 30 September. A brief introduction for the beginning of the supplement, further details for the end.                          |

*particularly those mentioned in 4c-3/48 (Jan. 1972)*

~~before 31 August~~

~~31 August~~

*Good joke!*





| <u>Action No.</u> | <u>On</u> | <u>Text</u>   |
|-------------------|-----------|---|
| 25                | All       | Propose criteria for reducing the size of blocks in the CINDA publication.  |
| 26                | N. TUBBS  | Issue an updated CINDA Manual by end of August.   |
| 27                | CCDN      | Supply NNCSC with all documentation on CINDA necessary for their taking over U.S. CINDA operations before 30 June.  |
| 28                | NNCSC     | Check the correspondence of Lab. and Ref. codes in EXFOR and CINDA dictionaries.  |
| 29                | ALL       | Requests from other centres should be acknowledged within a few days of receipt giving a detailed status for each request including "no data available" if applicable (previous request No. 11*). |
| 30                | ALL       | Inform the other centres when initiating a data review or special-purpose compilation, so that appropriate data may be transmitted with preference. (previous request No. 12*).                   |

For further actions  
to be entered here see

A., C., E., G., pages 12, 19, 21.

\*) cf. Report on the Ninth Four-Centre Meeting, INDC(NDS)-54/G, 1973, p.97

- A. additional action  
(refers to bottom of page 1 of draft minutes)

All centers should prepare "delinquency lists" containing all authors who, after repeated request, do not submit their data to the data center. These lists should be presented to appropriate bodies (national or international nuclear data committees) who can stimulate the authors to release the data. - Centers should continue to prepare "NODATA" Exfor entries in such cases. (Action ...)

new action

- B. (page 2 of draft minutes)

LEMMEL mentioned that the important U-235 and Pu-239 data which were available end of 1971, and which were listed in 4C-3/48 (Jan. 1972), and which were agreed in the 1972 and 1973 4C-Meetings to be compiled with top priority, were still incomplete in Exfor. Over 60% of the data sets listed were still missing, mostly from area 2. See action 19.

- C. additional action

(Add on top of page 6 of draft minutes:) NDCC should send list of threshold reaction data to be compiled in Exfor with top priority (Action ...).

new action

- D. (refers to page 15). Replace paragraph by:

\* LEMMEL criticized that NDS had, for 7650 entries submitted, to scan about 1500 pages of feedback listing to find about 100 mistakes for which NDS was responsible. The listings contained mostly warning messages which were almost totally superfluous and partially not understandable even after careful study of the NDCC Manual. - During the past year LEMMEL had submitted various suggestions to improve the situation. Some of his suggestions were impracticable because of the limitations of the present CCDN computer and of CCDN programming manpower. After some discussion a workable solution was found by omitting some and revising the remaining warning and error messages (see l.b.), and by revising some input rules (see l.a.above).

LEMMEL stated that NDS would not accept any responsibility for checking energy and compound entries as long as these do not appear in readable form (e.g. input or book format) in the listings.

Footnote:

\* From letter Schmidt to Fröhner 16 April 1974. This passage was read out at the Meeting. - This footnote is not meant for inclusion in the minutes.

E. (refers to page 17). Insert:

new action

For CINDA 75, all centers should systematically remove "noise" from the file by

- making frequent use of the "no-book flag" and adding this flag to existing entries where applicable
- using the special compiler symbol for excluding certain revisions from the supplement book
- searching systematically for duplications and deleting them.

(Action ...)

Any further suggestions should be sent to Tubbs (Action 25)

F. (refers to page 17). Insert:

Since both were not up to date, LEMMEL had prepared an NDS Cinda Manual and distributed information copies to the other centers. This however excludes some items which are not directly relevant to NDS.

It was agreed that the responsibility of preparing and updating the Cinda Manual remains with NDCC.

G. (refers to page 18). Replace chapter 7 by:

#### 7. Dictionaries

Concerning the relations between EXFOR and CINDA dictionaries, the following was agreed:

- \* 1) EXFOR and CINDA dictionaries for lab-codes and ref-codes (journals, reports, conferences, books) are identical, except when restrictions in CINDA field lengths make this impossible. The so-called "EXFOR-dictionaries" for lab- and ref-codes are therefore joint CINDA-EXFOR dictionaries and binding for both systems.
- new action 2) NDS volunteered to convert in CINDA the few remaining Conference-codes which are still different from the Exfor-codes (Action ...)
- \* 3) The agreed rules for updating the dictionaries as laid down in the Exfor Protocol and in the Exfor Manual will also be applied to CINDA.

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\* Footnote: From letter Lemmel to Tubbs 29 March 1974 with some modifications agreed at the Meeting. - (This footnote is not meant for inclusion in the minutes.)

- \* 4) It is the task of NDCC to check that the internal dictionaries used in the NDCC CINDA-programs are up-to-date and agree with the latest EXFOR-dictionaries.
- 5) NNCSC volunteered to carry out a checking of the correspondence between EXFOR and CINDA lab- and ref-codes. (Action 28)

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\* Footnote: From letter Lemmel to Tubbs 29 March 1974 with some modifications agreed at the Meeting. -(This footnote is not meant for inclusion in the minutes.)