Memo CP-B/19                                                    26.1.1978

Subject:     Proposed Manual Revisions from NNDC and NDS

             Proposed LEXFOR Revision from NNDC

References:  CP-C/18, X4-77/2, X4-77/6

             CP-D/20, CP-D/21, CP-D/23 and complete versions from

             July and Sept. 77, CP-D/40

             X4-77/1, X4-77/3, X4-77/4, X4-77/5


I. General remarks

1. Though NNDS is the center responsible for the EXFOR manual and we comment in
   this memo in general the NNDC proposals, we want to refer in some cases to the
   NDS proposals, too, for the following reasons:

   a) We have no revised manual chapters I, II, III, VII, IX from NNDC but only
      from NDS. Did we receive copies ?

   b) The formulation and structure of parts of the NDS proposals seem sometimes
      preferable. In these cases we discuss the version from Vienna.

2. In general, we would appreciate to receive as soon as possible a complete and
   valid version of the whole manual in a nice and photo reproducible printout
   (as the NNDC proposals already are).

3. The general examples for EXFOR-coding often referenced in both proposals are
   not present in a revised version neither from NNDC nor from NDS.

4. Short and not too general examples should be given at the actual positions and
   not in an appendix.

cc/ Attree
    Lammer
    Lemmel
    Lorenz
    Masin-Guzman

cc/ Okamoto
    Schmidt
    Schwerer
    Smith

II.   Manual Chapters I-III (only NDS version present)

We agree with these chapters.

III. Manual Chapter IV

1. Item (3): Free Text: We would like to have the addition on free text under REACTION (based on CP-B/8) as given in the NDS proposal.

2. Codes and free Text: Here the wordings of the NDS proposal  is much clearer (differences between expansions of an editing program and those given in free text) and is preferred by us.

IV.   Manual Chapter V

1. The introduction for this chapter is somewhat more extensive in the NDS-version, which, especially, includes a short information on the alternative use of COMMON and DATA-entries for values common to the whole datatable. We would appreciate to have this information included.

2. We would prefer the short repetition of the use of pointers in the data-headings column as given by NNDC.

3. Item (3) on page V.2 of the NNDC proposal has a wrong number.

4. The referenced example 13 b is not included. Is it identical with the examples given on page V.2 of the NDS-proposal ?

5. The separation into rules for COMMON and those for DATA-sections and rules valid for both types of tables seems somewhat more consequent in the NNDC-proposal. Such a separation is desirable for clearness and should be performed as consequent as possible (e.g. by combining the introduction to chapter V. with the sections 'Repetition of Data Headings', 'Multidimensional Tables', 'Numerical Data Formats' etc. to one subsection 'Rules for COMMON and DATA-tables').

V. Manual Chapter VI

1. The extensive index for this chapter as proposed by NDS seems to be useful and should be included.

2. The 1. section of page VI.1 of the NNDC proposal is misunderstanding. It should read:

.... of the information-identifier keyword field in the BIB-section and of the data-heading field in the COMMON or  DATA section. ....

3. The immediately following examples for application of pointers should not only refer to iso-quants but also to reactions.

4. We want to have included the 'use of characters as pointers' as given on the bottom of page VI.1 of the NDS proposal.

5. We would urgently recommend to include the examples as given on NDS's pages VI.2-6 (see item I.4) above).

6. For the section 'BIB/BIB links' there exists a difference between the NNDC and NDS versions. In the latter a use of pointers other than those defined for multiple  reaction entries within one subentry is not explicitly forbidden like in the NNDC proposal (cf the Note to item 4) on page VI.2). Since there seem to arise problems with coding of multiple monitors (see Memos CP-D/44, CP-C/28) we want to exclude this topic here and will reconsider our solution of this case as applied in entry B0025 of transtape 004 (which is illegal with respect to NNDC's proposal for the use of pointers and our own proposal of memo CP-B/9, but not - as we think - to NDS' version). We will comment on this topic in a separate memo.

7. The sorting of the section 'links between Information-Identifier Keywords and Data-Heading Keywords' by data-headings (as proposed by NDS) is in our opinion preferable due to the following reason:
   In our opinion this section intends to compile those data-headings, for which explanation under specific information-identifiers is obligatory or at least possible. On the other hand, for many of the BIB-keywords there is no necessity to use a correlated data-heading in every case. Therefore, the NDS-proposal seems to be more logical. Furthermore, we support the arguments given in CP-D/40 page 2.

8. On page VI.3 'Data Specification Keywords' item a) the alternative possibility of isomeric sums or ratios coded by the separator '+'or '/' in the X-field of reaction SF4 should be included as has been done in the LEXFOR pages 'RATIOS' and 'SUMS'.


VI. Manual Chapter VII

For this chapter we have only the NDS version and 8 revised pages from NNDC (Dec.77). We comment, therefore, NDS' proposal (especially, since pages VII.11 to 15 seem to be identical in both versions).

1. On page VII.2 item (3) there should be also in the beginning a reference to page VII.10 for those dictionaries having an expanded form.

2. Page VII.14 is not very easy to understand. What is the meaning of the hierarchy of categories, families, classes etc and what mean these items it self ? These meanings and the intention of this classification should be explained more clearly.

3. In the NNDC version of page VII.16 item 4.) of Dict. 36 (length of quantity codes greater than 18 characters) is missing.

## VII. Manual Chapter VIII

1. It is not quite clear, which of the pages VIII.1.1 to 4, VIII.2.1 to 2 and VIII.3.1 to 9 of NNDC's version from July 77 shall be replaced by pages VIII.1 VIII.2 and VIII.3 from Dec. 77 since obviously further pages are missing. We comment there fore the older version from July which is more comprehensive.

2. Codes and free Text (p. VIII.1.3). This topic is yet discussed in separate parts of the manual. We prefer a complete discussion in chapter IV, where, however, the NDS version took into account our objections to a confusion of expansions into free text and expansions performed by an editing program. Furthermore, the table on pages VIII.4 and 5 of the NDS proposal shows much clearer the conditions and restrictions associated with the individual keywords. We propose to accept this table from the NDS version and the respective section on codes and free text on p.IV.3 of the NDS version.

3. Keyword Categories (p.VIII.2.1 and 2)
   This information is also covered by NDS' table (p. VIII.4/5) and can be omitted if the table is accepted.

4. The NDS proposal contains a short section on forbidden combinations of keywords (p. VIII.6) which should be included.

5. General Remarks on Coding Rules for Information-Identifier Keywords (pages VIII.3.1 to 9 and VIII.A to VIII.S)

   For this sections we propose to accept the NDS proposal for the following reasons:
   a) We prefer to have all BIB-keywords in the alphabetical ordering. The separation into data-specification and other BIB-keywords seems not meaningful but complicates the search for specific information when using the manual. We support the arguments given by NDS in memo CP-D/40 p.3 item A2.

b) All information pertinent to the keywords REACTION, ISO-QUANT etc. (including reaction combinations, multiple reactions) should be found on the respective pages and not in separate sections.

c) At least short descriptions for all keywords (including those having no coded information) should be given as has been done in the NDS-proposal.

d) In several cases the explanations for the individual keywords as proposed by NDS seem somewhat more comprehensive (e.g. for ANALYSIS, DECAY-DATA). One should bear in mind that the manual is also intended to introduce newcomers into the EXFOR-system and into the compilation practice. Explanations should be, therefore, concise but as complete as possible.

The following comments refer, therefore, to the NDS-proposal for pages VIII. ADD-RES to VIII. TITLE. The NNDC-proposal is considered in all cases where we prefer its formulations. One item, however, should be pointed out: One page VIII.3.5 of the NNDC-proposal a code ISM for REACTION-SF5 appears, which, in our opinion, has been dropped long ago. We do not agree to reintroduce this code as obligatory.

6. Comments on Individual BIB-Keywords

(pages VIII.ADD-RES to VIII. TITLE of NDS-proposal).
In the following we discuss only a few points which we found during a first overall review of this subsection. Further problems which may be encountered when using this manual version should be discussed for actual cases.

DECAY-DATA: The DECAY-FLAG concept should be included like in the NNDC-proposal. The possibility of combining radiation types in SF3, separated by a slash, should be included (see memo CP-B/18 p.3).

EN-SEC: It should be explained, which kinds of 'secondary energies' are meant.

HISTORY and METHOD: For these keywords the usual short explanation of the meaning is missing (as given in the NNDC-proposal).

MISC-COL: A short explanation and possibly some examples for the application of this keyword should be given, together with a cross reference to page VI.9.

RAD-DET: For this case the NNDC-proposal seems somewhat clearer and, furthermore, includes the flagfield for the DECAY-FLAG.

REACTION: On page 2 under 'SF1. Target Nucleus' the referenced page VIII.1.4 does not exist. Probably p. VIII.2 is meant.

The rules for coding of natural targets (bottom of page 2) should be extended by the cases given in CP-B/18 page 2/3 item 9 (nearly monoisotopic targets).

On page 3 (coding of SF3) there should be stated also a possibility of combining particle and process codes (e.g. (p,n+p+X), (p,n+F)).

The 'Variable Product Nucleus' formalism of page 6 will be commented in the next memo. On page 5 it should be clearly stated, whether the shortened isomeric code T(= total) for REACTION SF4 may replace the explicit sum M1+M2+G in all cases or only in cases where such sums occur within a ratio.

Example: (Z-S-A(P,N)Z'-S'-A-T) may replace the form

(Z-S-A(P,N)Z'-S'-A-M+G)

Is this case also permitted, or only the case:

(Z-S-A(P,n)Z'-S'-A-G/T) ?

Example c) (isomeric branches) on page 9 is in our opinion not correct. In the line where the sum (pointer S) is given, either an explicit sum S((....)+(....)) or an isomeric sum in SF4 S(...(...)39-Y-87-M+G....) must be given. Furthermore, the parameter SIG/SUM should be used (cf. CP-B/18 item 5).

The reference to page VI.4 at the end of the first section under item d) 'alternative results' should rather be to page VI.6. For completeness only, the immediately following example for STATUS on page REACTION.9 should have an accession-number with the code DEP.

REL-REF: The second subfield of this keyword should be described by '(sub) accession-number' (like in the NNDC-proposal) to allow citing of a publication which is intended to be (but has not yet been) compiled under EXFOR (see also CP-D/39, CP-B/16 item 3).

In item 4. it should read 'related', not relevant reference.

STATUS: Please refer to CP-D/39 and CP-B/16 p.2. Explanations should be changed according to these agreements (inclusion of codes OUTDT, RNORM for combination with (sub) accession-number). The same addition like for REL-REF on giving an accession number only should be made.

As we remember, there had been an agreement meanwhile that a subacc. no. is always given with the status-code DEP, also when referring to the same subentry in cases of multiple reactions (cf. CP-B/13 p.2 item C3.6 where we thought to follow proposals of the other centers).

## VIII. Manual Chapter IX

For this chapter we have only the NDS version with which we agree. On page IX.8, however, we would like to have entered in the table on magnetic tape formats that KACHAPAG now prefers 9-track 1600 BPI tapes but can accept also 800 BPI. In addition, a short note could possibly be added that centers should inform, when they are able to accept higher density tapes (transmission of large tapes could be avoided, then, in many cases).

## IX. Comments on LEXFOR-entries proposed by NNDC

### 1. General Remarks

Obviously, the present set of LEXFOR-entries as contained in memos X4-77/1 to 5 and CP-C/18 is not complete. We would appreciate to obtain a complete LEXFOR as soon as possible.

From a rough comparison with the LEXFOR-versions proposed by NDS in July and Sept. 1977 we did not detect serious differences. If we should have overlooked important alternatives, we would appreciate to get informed by NDS or NNDC.

Furthermore, we have checked only those topics of NNDC's proposals which are at least partially of interest for ICPND (and which we are able to judge). For these we have the following few comments:

### 2. ACTIVATION (X4-77/1): According to the given definition nearly all ICPND should be coded with a METHOD-code (ACTIV) which is in our opinion not necessary and not meaningful. The term should be either redefined or the use of the code (ACTIV) restricted e.g. to neutron induced activation.
In the section on sum-reactions the alternative of coding (Z-S-O(...)...) should be included.

### 3. ERRORS (X4-77/4): To this item probably some of our comments given in CP-B/13 item II.2 should be included, especially on the judgement of error-quotings by the compiler and on recalculation of individual errors from global errors by the compiler.

### 4. FISSION (X4-77/4): We assume that the knowledge about the definition of fission is so widespread that, hopefully, nobody is dependent from the yet not very satisfactory definition given in our LEXFOR (refer especially to the first sentence of this definition introducing spontaneously formed highly excited and deformed compound nuclei).

In the second subsection under 'Quantify Codes' the first of the 2 'REACTION-keywords' should be an ISO-QUANT.

5. FLAG (X4-77/4): Change BIBFLAG to DECAY-FLAG according to recent agreements.

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