Memo 4C-3/130

To: Distribution   1975-08-04

From: P.M. Attree and
           H.D. Lemmel

Subject: EXFOR: Large entries and subentries

When comparing our EXFOR System with the specifications
in the EXFOR Manual we encountered two related problems.

If an entry has more than 999 sub-entries, then the sub-
accession numbers "overflow" into the next accession number
(EXFOR manual page II.4). Similarly if a subentry has more than
99,999 records, then the sequence field "overflows" into the
next sub-accession number (EXFOR manual page 11.5). These features
are not implemented in our system and would cause unpleasant
things to happen in our merge and indexing programs, amongst others.
We do not want to make major program revisions to implement something
which will seldom (if ever) occur.

We would like to see these two features dropped and the
entry split into two entries or the sub-entry split into two
sub-entries, as the case may be. Proposed revisions to the
relevant EXFOR manual pages are attached. However, if other
centres disagree we request any centre which uses those features
to cable us, simultaneously with sending the transmission tape.
We will then write a one-off program to deal with the situation.

2 attachments   Clearance: J.J. Schmidt

Distribution:

L. Lesca, NDCC   (5)
S. Pearlstein, NNCSC   (5)
V. Manokhin, CJD   (5)

NDS: P. M. Attree
        A. Calamand
        H.D. Lemmel
        A. Lorenz
        K. Okamoto
        J.J. Schmidt
        P. Smith
        K. McLaughlin

CENTRE ASSIGNED SUB-ACCESSION NUMBER (COLUMNS 72 - 74)

These columns contain a three digit sub-accession number assigned by the originating centre. The sub-accession number is used to divide a work into a number of sub-works while maintaining an inter-relationship between the sub-works (i.e. all sub-works within a given work contain the same universal accession number). Each sub-work may be conceptually thought of as an individual table of data and its associated bibliographic information (e.g. an angular distribution at ten energies would constitute ten sub-works).

Up to 999 sub-works (tables) may be associated with each work (universal accession number). The centre assigned sub-accession numbers should be sequentially assigned within each work starting at 1 and increasing toward 999. Works with more than 999 sub-works can be thought of as "overflowing" into the next accession number. For example, the sequence of sub-accession numbers could be as follows:

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1 0003 998
1 0003 999
1 0004 000
1 0004 001
1 0004 002
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Thus, 2 accession numbers are used (0003 and 0004) but the "continuation" is observed by the existence of a sub-accession number 000, which normally does not exist. The first sub-accession number within any work is normally 001 which is the "all-common sub-work". In this example accession number 0004 would have no "all-common sub-work". Note also that the ENDENTRY and ENTRY records would also be omitted.

The same sub-accession number must be associated with a sub-work throughout the life of the EXFOR system. If a sub-work is deleted from the system, the sub-accession number may not be assigned to a different sub-work within the same work. This is the only manner in which the sub-accession number (and universal accession number) may be used universally to reference a work over an extended period of time.

SEQUENTIAL NUMBERING WITHIN A SUB-ACCESSION NUMBER (Cols.75-79)

These columns will contain a five-digit sequential number. The sequential number will be used to divide a sub-work (sub-accession number) into uniquely defined records associated with the sub-work (all records within a sub-work contain the same sub-accession number).

Up to 99,999 records may be associated with each sub-work (sub-accession number). The sequential numbering within each sub-work MUST begin at 1 and sequentially increase toward 99,999. Sub-works with more than 99,999 records will simply use two or more sub-accession numbers (i.e. the record following the 99,999-th will be allowed to "overflow" from the 75-th to the 74-th column). Continuation sequential numbers should start at one (1), not zero (0)*. The continuation sub-accession numbers will be associated with a single work by:

(1) A change in sub-accession number without an ENDDATA or ENDSUBENT card and in which the last record count was 99,999.

(2) Omitting the SUBENT, BIB, and COMMON that normally precedes the DATA after a change in sub-accession number (i.e., simply continue the DATA table from one sub-accession number to the next).

An example is shown below:

11	22	67	72	75 80
6.3172E-3	2.1234E+5	1 1213	004	99998
6.3245E-3	2.8714E+5	1 1213	004	99999
6.3560E-3	5.6796E+5	1 1213	005	00001
6.3781E-3	3.7210E+5	1 1213	005	00002

The function of the sequential numbering within each sub-work (sub-accession number) is to allow for reference at the record level during the ALTER procedure and to allow for personnel and machine checking the card sequence (e.g., check for cards out of order or for missing cards). Therefore, a given sequence number need not be associated with a given record over an extended period of time. As such, the records within a sub-work should be re-numbered sequentially following an ALTER procedure. Alterations on a work may be transmitted only by the origination centre.

THE RECORDS WITHIN A SUB-WORK MUST ALWAYS BE MAINTAINED IN SEQUENTIAL ORDER.

* A zero in the record count field has special significance during the ALTER process.

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