Memo CP-D/192

26 April 1989

To: Distribution

From: H.D. Lemmel, M. Lammer and O. Schwerer

Subject: Reply to CP-C/186

1. BIB Keyword LVL-PROP

LVL-PROP in Dict. 2 and LVL-FLAG in Dict. 24 had been proposed in CP-D/175 and adopted at the 1988 NRDC Meeting; see CP-D/190 page 8 item 32. Consequently, we assume that this formalism may now occur in TRANS tapes so that the related codes were added to the dictionaries. However, the proposed Manual entry was still missing. It is submitted with this memo in line with the already approved CP-D/175, with the modifications agreed at the NRDC-Meeting. Final approval of the Manual wording will be requested at the 1989 NRDC Meeting.

2. Method codes for fission yields

We prefer keeping the codes ABSFY and RELFY as originally proposed in CP-D/178 and approved according to CP-D/190 item 33. We do not suggest to replace them by the more general codes ABSOL and REL.

The reason is that an "absolute fission-yield determination" may quite well involve a monitor cross-section e.g. for the determination of the number of fission events. A "relative fission-yield determination" is relative to a reference fission-yield value; whether it is relative to a reference cross-section or not is not indicated by the codes ABSFY and RELFY.

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For clarification we suggest to add in the Dictionary:

ABSFY (Absolute fission yield measurement) i.e. not relative to another fission yield, though may be relative to a monitor cross-section

RELFY (Relative fission yield measurement) i.e. relative to another fission yield value

Proposed EXFOR Manual entry in chapter 8.

LEVEL-PROP

1. This keyword is used to specify level-energy, spin and parity of excited levels, as supplementary information to energy levels specified in the COMMON or DATA Section under the column-headings E-LVL or LVL-NUMB.

2. Use of this keyword is optional. Information under this keyword may be given

   - in coded form with or without free text following,
   - or in free text only.

3. The format of the coded information is illustrated by the following example:

```
LEVEL-PROP (82-PB-206,E-LVL=0.,SPIN=0.,PARITY=+1.,
                      E-LVL=1.34,SPIN=3.,PARITY=+1.)

           (82-PB-207,LVL-NUMB=2.,SPIN=1.5,PARITY=-1)
```

   The nuclide is coded in the form Z-S-A as shown on page 8.3, however, without an isomer extension. The second subfield contains either the level-energy in keV or the level-number, as indicated in the example. The values given here would normally correpond to the same values given under the column-heading keywords E-LVL or LVL-NUMB. LVL-NUMB should be used only when the level-energy is not known. The third subfield contains the spin as indicated in the example. The fourth subfield contains the parity as indicated in the example. A range of spin or parity values can be indicated with a slash, e.g. SPIN=2./3.

   The string of subfields 2 to 4 may be repeated as indicated in the example.

   The separator between the subfields is a comma. The spin or parity subfield may be omitted in which case the separating comma may be given or omitted.

4. If level-properties for more than one nuclide are given, the coded information for each nuclide starts in a separate record in col. 12.

5. Entries under the BIB keyword LEVEL-PROP may be linked to a line in the DATA table by means of a Level-Flag which is coded as illustrated in the following example:

```
LEVEL-PROP (82-PB-206,(1.)E-LVL=0.,SPIN=0.,PARITY=+1.,
                      (2.)E-LVL=1.34,SPIN=3.,PARITY=+1.)

           (82-PB-207,(3.)LVL-NUMB=2.,SPIN=1.5,PARITY=-1)
```

where the Level-Flag is an integer with decimal point enclosed in paranthesis coded at the beginning of the second subfield. The flag is repeated in the DATA table under the column heading keyword LVL-FLAG and the unit NO-DIM.

Add in LEXFOR under Secondary Energy:

4. for quoting level-energy (or level-number), spin and parity of excited levels, the BIB keyword LEVEL-PROP is used, see page ...

Add in Dict. 24

under SPIN J, PARITY, E-LVL, LVL-NUMB

"compare also the BIB keyword LEVEL-PROP".