

10 November 1982

To: Distribution

From: Otto Schwerer *O. Schwerer*

Subject: TRANS 4042, 4043, 4044

Reference: Memo 4C-1/132 of 14 September 1982

We have received and corrected TRANS tapes 4042, 4043 and 4044. Corrected versions are being sent to NNDC and NEA-DB distinguishable from the original versions by the date in the TRANS record. As announced earlier, as a result of the May NRDC meeting, CJD is being sent a tape UPDAT-N 3001 which contains only whole entries including all TRANS tapes received after 1 January 1982 up to TRANS-4044, where all entries partly retransmitted in 1982 are replaced by the complete entries from the NDS master file. TRANS tapes received at NDS after TRANS-4044 will be included in the next UPDAT tape.

The correction of TRANS-4042 and 4043 (received at NDS in June) was delayed due to time-consuming cross-checks with CINDA done by Meinhart Lammer prior to Exfor corrections. We also noted that the repeated transmissions of TRANS-4042 seemed not all to be identical. Our corrections and the comments attached all refer to the version dated December 1981.

Attached are appendices with our comments on TRANS-4042, 4043 and 4044 including both errors we corrected and those we could not. To CJD we send in addition the complete error report from the NDS check program.

*J.J. Schmidt*  
Clearance: J.J. Schmidt

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Comments on TRANS-4042

Entry

- 40051
- a) Illegal use of pointers: if pointers 1 and 2 are used in subentry 1, they both must occur in all other subentries. But here always either 1 or 2 occurs in the other subentries. This entry should be split in 2 separate entries (one for "pointer 1" subentries and the other for "pointer 2" subentries).
  - b) Under N-SOURCE, the codes SB-BE, NA-D2-0 and NA-BE are used which are invalid. Use only (PHOTO) with explanation in free text.
  - c) Many subentries (2-4, 6-19) are a duplication of entry 40072. Since these subentries also correspond to those with "pointer 2", we suggest to delete these subentries from entry 40051. Retransmission with the necessary corrections is requested.
  - d) For monoisotopic elements like Au, Th, Al, A=0 is not allowed. Use 79-AU-197 (not 79-AU-0), 13-AL-27 (not 13-AL-0) etc.
- 40346
- a) The quantity PAR,SIG,G is explained as  $4\pi \frac{d\sigma}{d\Omega}$  which should however be coded as PAR,DA,G,4PI. In those subentries where the cross section is corrected by a factor for the angular distribution we kept the original REACTION coding.
  - b) In many subentries, one or more DATA lines contain only the value for EN without giving a value for DATA. If the DATA values were forgotten, they should be added, otherwise those lines should be deleted. Retransmission requested.
- 40545
- This is an unusual case where both EN and EN-DUMMY are specified (using pointers 1,2) in the COMMON section, relating to the same subentry's REACTIONs. We think in this case this is justified because the relative values (for reactor and 14 MeV neutrons, respectively) are the contents of this entry. Other cases similar to this but giving absolute values must be compiled at least in different subentries (or even entries). In any case, REACTION 2 needs the SPA (spectrum average) modifier.
- 40600
- In subentries 2 and 5, gamma-widths are given under ASSUM in the COMMON section without the related resonance energy. They would rather belong in the DATA section because they need an energy value to refer to. Retransmission requested.
- 40489
- The COMMON section of subentry 2 should be given in subentry 1 since it refers to the whole entry.

40608.003 (N,ABS) should read (N,G) according to publication.

40200 Subentry 2: The REACTION code PRE,FY,FF,RAW should be replaced by PRE,FY,,RAW. If the particle code FF was meant to distinguish fission fragments from fission products, explain in free text (which is anyway required because of the RAW modifier).

Subentry 3: PRE,KE,FF should read PRE,AKE,FF

Subentry 4: the REACTION code ,PRE,AP: Please clarify meaning.

Subentry 5: REACTION CODE PRE,FY,FF,RAW should be replaced by PRE,FY,,REL/RAW (plus free text)

40490 Subentry 1: Under HALF-LIFE, partial (spontaneous fission) half-lives for CM-244, 245 are given. These should rather be given in free text only since half-life normally refers to the total half-life. (Not changed by NDS)

The complete NDS check program error report of TRANS-4042 is sent to CJD only. There some other (more trivial) errors not mentioned above - which mostly could easily be corrected at NDS - are listed.

Comments on TRANS-4043 (only most important errors)

Entry

40086.002 | < is not a legal character in EXFOR. Use free text. (Note and others | that also the characters : ; % & are not permitted in EXFOR.)

40086 subentries 3, 5, 7, 9, 11; also entries 40551, 40695, 40609 | No EN given for STF and similar quantities. To be consistent with CINDA (where either the lowest and highest resonance energies, or - for unresolved regions - projectile energies have to be given) we supplemented values from the references. CJD is requested to check this and to retransmit if necessary. If it is felt that strength functions do not need EN ranges this should become an explicit rule.

40086.012 In the DATA table (7 columns) 8 continuation lines were missing which we inserted. If the table has more than 6 columns, each data line must have a continuation line even when the continuation line contains no values.

40420.006 At the beginning of the DATA table, one line with the units NO-DIM,NO-DIM,PER-CENT,NO-DIM,PER-CENT,NO-DIM was missing.

40420.007 line 48 MASS 11.4 should read 114.

.021 line 15 Only error given without corresponding data.  
.041 line 22 Retransmission requested

40515 In Subentry 1 COMMON section with EN=14 MeV inserted

40517, 40519 and others The error headings ERR-S-MIN, ERR-S-MAX, ERR-1-MIN, ERR-2-MAX etc. are not permitted. Explain in free text under ERR-ANALYS. (Not changed by NDS)

40519.003 Instead of COS-CM-ERR use COS-ERR. It is understood that COS-ERR is in this case the error of COS-CM.

40551.006 line 25 This line contained 7 numerical values. From the context we assumed that the third value (= 3.) is to be deleted and we adjusted the positions of the other values to fit in the correct columns.

40551 subentries 2,4,6,8 We supplemented the EN values, but probably the potential scattering cross sections should have different EN values and therefore be compiled in separate subentries. Checking and, if necessary, retransmission is requested from CJD.

40580.002 a) REACTION 1 and REACTION 2 must be coded as PARTIAL cross section. Is REACTION 3 the total (n, $\alpha$ ) cross section?

b) REACTION 4,5,6: the code (N,0),,STF,A is not permitted. It should be checked how this quantity can correctly be compiled (perhaps only under MISC).

c) The MOMENTUM L values in the COMMON section (at least those referring to REACTION 1 and 2) are level numbers, not momentum.

Same remarks also for subentry 3.

No correction was made at NDS, retransmission of entry 40580 is requested.

40615.003 line 15 EN value 12. should read .12  
.004 STATUS use separate line for second subaccession-number.

General comment on TRANS-4043

Errors not mentioned above include mostly format errors, e.g. in the  $N_1$  and  $N_2$  values of BIB, COMMON and DATA records, missing decimal points, wrong positions of headings etc.

Comments on TRANS-4044

(More important errors in addition to those mentioned in Memo 4C-1/132)

<u>Entry</u>	<u>Subentry</u>	<u>Line</u>	
40472	3	72	E = <u>2.59</u>
40607			Illegal col.80 of ENENTRY record
40613	1		COMMON section with EN=1.58 MeV inserted
40621	1	8	REFERENCE should be (C,81GRENOb,...) (code will be added to Dict.7)
	3		The "illegal EN-MAX in subentry 11" mentioned in Memo 4C-1/132 refers to <u>subentry 3, line 11.</u>
	28		ENDBIB record missing
	29		col.72-74 should be '029' instead of '028' in all lines
	7-34		No EN given for STF. Is it needed? (Compare our comment to entry 40086 in TRANS-4043)