**Nuclear Data Section**

**International Atomic Energy Agency**

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**Memo CP-D/1070**

**Date:** 2 March 2023

**To:** Distribution

**From:** N. Otsuka

**Subject: Illegal repetition of heading**

Repetition of the same heading may create a trouble during computer processing of EXFOR datasets. For example, codes cannot determine which uncertainty should be used as the total uncertainty if ERR-T is given twice in the COMMON and DATA sections, or given in MB and PER-CENT, and this may create a trouble during construction of covariance etc. “Duplicating HEADER” (<https://nds.iaea.org/exfor-master/x4compil/Errors-main.htm#duplicatingHeader> [1]) summarizes problematic repetitions very well. I reviewed each case against the source article etc., and listed proposed corrections as appended to this memo.

There are typically the following three cases:

1. %-uncertainty in COMMON section, absolute uncertainty in DATA section
2. A value of a running variable in DATA section is repeated in COMMON section
3. The same value is in COMMON and DATA sections.

It is not always trivial to resolve the first case.

***Example*** (21494.009):

Total uncertainty (ERR-T) is given twice in this subentry.

SUBENT 21494009 20160907

BIB 5 15

REACTION ((94-PU-241(N,F),,SIG,,MXW)/(92-U-235(N,F),,SIG,,MXW))

...

ENDBIB 15

COMMON 11 6

ERR-5 ERR-6 ERR-7 ERR-8 .... ERR-T

PER-CENT PER-CENT PER-CENT PER-CENT .... PER-CENT

2.0 0.4 0.4 0.1 .... 2.8

ENDCOMMON 6

DATA 3 2

EN-DUMMY DATA ERR-T

EV NO-DIM NO-DIM

0.0253 1.920 0.047

0.0313 1.966 0.048

ENDDATA 4

ENDSUBENT 31

Before retransmission in TRANS.2187, the subentry looked like:

SUBENT 21494009 810204

BIB 4 8

REACTION ((94-PU-241(N,F),,SIG,,MXW)/(92-U-235(N,F),,SIG,,MXW))

...

ENDBIB 8

NOCOMMON 0 0

DATA 3 2

EN-DUMMY RATIO RATIO-ERR

EV ARB-UNITS ARB-UNITS

0.0253 1.920 0.047

0.0313 1.966 0.048

ENDDATA 4

ENDSUBENT 17

We observe the compiler tried to “upgrade” uncertainty coding for retransmission, but it creates a problem.

The point-wise fractional uncertainty is 0.047/1.920=2.5% at 0.0253 eV and 0.048/1.966=2.4% at 0.0313 eV, which disagrees with ERR-T=2.8% coded in COMMON section. I got the following questions:

1. Is the point-wise uncertainty really total?
2. Is ERR-T=2.8% in COMMON section applicable to both data points? (It is taken from the error budget table – TABLE IV of C,66PARIS,2,29,1966). An error budget table sometimes provides “typical” uncertainty.

I expect the total uncertainty (ERR-T) and statistical uncertainty (ERR-S) are not constants of a dataset, and the list appended to this memo proposes deletion of these values in the COMMON section if they are also in the DATA section in general. But I urges each originating centre also review each case (especially case #1) and makes the final decision.

**Reference**

[1] in the “EXFOR Database Update Error Report” generated by EXFOR-Relational maintenance system (V.Zerkin, 1999-2023)

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**Illegal Repetition of Heading**

**(based on EXFOR Database Update Error Report 2023-02-13)**

**Cases**

#1: %-uncertainty in COMMON section, absolute uncertainty in DATA section

#2: A value of a running variable in DATA section is repeated in COMMON section

#3: The same value is in COMMON and DATA sections.

|  |  |  |  |
| --- | --- | --- | --- |
| **Dataset ID#** | **Heading** | **Action** | **Remark** |
| 10007.003 | DATA-ERR | Delete DATA-ERR=8% in COMMON section. | #1 |
| 10007.008 | DATA-ERR | Delete DATA-ERR=8% in COMMON section. | #1 |
| 10007.013 | DATA-ERR | Delete DATA-ERR=8% in COMMON section. | #1 |
| 10384.019 | DATA-ERR | Delete DATA-ERR=4.0% in COMMON section. | #1 |
| 10485.004 | EN-ERR | Delete EN-ERR=0.08 MeV in COMMON section. | Wrongly copied from 002. |
| 10785.002 | ANG | Delete ANG=125 deg in COMMON section. | #2. Author’s letter checked. |
| 10827.017 | DATA-ERR | DATA-ERR -> ERR-T in DATA section? |  |
| 10875.008 | SPIN J | Delete SPIN J=1 in COMMON section. | #2 |
| 11319.002 | EN-RSL | Delete EN-RSL=50 keV in COMMON section and EN-RSL=0.05 MeV in DATA section (upper limit). | See p.894 (left). |
| 11432.002 | DATA-ERR | Delete DATA-ERR=3.5% in DATA section. | #3 |
| 11432.003 | DATA-ERR | Delete DATA-ERR=2.5% (digitized) in DATA section. | #3 |
| 11635.009 | STAT-W G | Delete STAT-W G=0.5 in COMMON section. | #3 |
| 12220.002 | ANG-RSL | Delete ANG-RSL=3.5 deg in DATA section. | #3 |
| 12373.010 | ANG-RSL | Delete ANG-RSL=6 deg in DATA section. | #3 |
| 12688.002 | ANG | Delete ANG=55 deg in COMMON section. | #2 |
| 12787.002 | FLAG | Delete FLAG=1 in COMMON section, but add "Not possible to assign to 82Se" under COMMENT. | This comment was the definition of FLAG=1 but deleted in TRANS.1336. |
| 12989.003 | POL-BM | Delete POL-BM=0.60 in DATA section. | #3 |
| 13126.002 | E-LVL | Delete E-LVL=3.74 MeV in DATA section. | #3 |
| 13913.002 | ERR-T | Delete ERR-T=0.17 in DATA section. | #1 (single data point dataset) |
| 13913.003 | ERR-T | Delete ERR-T=0.012 in DATA section. | #1 (single data point dataset) |
| 13923.003 | E-ERR | Delete E-ERR-1 keV in COMMON but add "~+/-1 keV overall energy scale uncertainty is not included" under ERR-ANALYS. | See p.240. |
| 14125.019 | EN | Delete EN=4.1 MeV in COMMON section. | #2 |
| 14125.019 | EN-ERR | Delete EN-ERR=0.1 MeV in COMMON section. | #2 |
| 14654.002 | DECAY-FLAG | Delete DECAY-FLAG=1 in COMMON section. Also delete (1.) under DECAY-DATA. | Decay data of REACTION denominator |
| 20070.002 | E-LVL | Delete E-LVL=0 MeV in COMMON section. | #2 |
| 20338.013 | ERR-T | Delete ERR-T=25.4% in COMMON section. | #1 Value in error table |
| 20394.003 | ERR-T | Delete ERR-T=4.21% in COMMON section. | #1 Value in error table |
| 20828.003 | MOMENTUM L | Delete MOMENTUM L=0.0 in COMMON section. | #2 |
| 20828.003 | SPIN J | Delete SPIN J=0.5 in COMMON section. | #2 |
| 21102.049 | ANG | Delete ANG=15 deg in COMMON section. | #3 |
| 21102.049 | ANG-RSL | Delete ANG-RSL=15 deg in COMMON section. | #3 |
| 21494.002 | ERR-T | Delete ERR-T=1.8% in COMMON section. | #1 |
| 21494.009 | ERR-T | Delete ERR-T=2.8% in COMMON section. | #1 |
| 21698.005 | ERR-2 | Delete ERR-2 in DATA section? | Calculated by the compiler in 1980s? The entry in 1980s mentions “These two contributions are added in quadrature and given in the data table”. |
| 21808.020 | MISC1-ERR | MISC1-ERR -> MISC2-ERR, MISC2-ERR -> MISC3 |  |
| 21808.021 | MISC1-ERR | DATA(-ERR) -. MISC1(-ERR), MISC1 -> MISC2, MISC1-ERR (in COMMON section) -> MISC2-ERR, MISC1-ERR (in DATA section) -> MISC3, MISC2-ERR -> MISC3-ERR, MISC2 -> DATA, MISC3 -> DATA-ERR |  |
| 21965.004 | ERR-12 | Delete ERR-12=0.2% in COMMON section. | Value in error table |
| 22307.002 | ERR-T | Delete ERR-T=0.46 b in DATA section. |  |
| 22340.004 | ERR-1 | Delete ERR-1=4.20% in COMMON section. | Wrongly copied from 009? |
| 22340.008 | ERR-1 | Delete ERR-1=4.20% in COMMON section. | Wrongly copied from 009? |
| 22499.033 | EN-MEAN | Delete EN-MEAN=75 keV in DATA section. | #3 |
| 22801.005 | MONIT-ERR | Delete MONIT-ERR in DATA section. | #1 (MONIT-ERR/MONIT in DATA section is 1.5%) |
| 22801.006 | MONIT-ERR | Delete MONIT-ERR in DATA section. | #1 (MONIT-ERR/MONIT=1.5% in DATA section.) |
| 22871.002 | MONIT-ERR | Delete MONIT-ERR=0.1 b in DATA section. | #1 (MONIT-ERR/MONIT=0.75% in DATA section.) |
| 22921.005 | ERR-SYS | Delete ERR-SYS in DATA section. | #1 (ERR-SYS/DATA=2% in DATA section.) |
| 22953.003 | ERR-T | Delete ERR-T in DATA section. | #1 (ERR-T/DATA=5% in DATA section.) |
| 22964.002 | ERR-T | Delete ERR-T in COMMON section. ERR-T -> DATA-ERR in DATA section? | 3.09% does not include contribution from monitor reaction.  I do not understand why the quadrature sum of the total uncertainties in Table 2 (4.2%) does not agree with the uncertainty in Table 4 (7.9/204.8=3.9%). |
| 22964.002 | MONIT-ERR | Delete MONIT-ERR=2.89% in COMMON section and MONIT-ERR=0.1 b in DATA section, but ERR-14 -> MONIT-ERR | MONIT-ERR/MONIT=0.75% in Data section |
| 22964.003 | ERR-T | ERR-T -> DATA-ERR in DATA section? | The total uncertainty is 7.42% in Table 3 but 214/3038=7.04% in Table 4. |
| 22964.003 | MONIT-ERR | Delete MONIT-ERR=0.3 b in DATA section. | MONIT-ERR/MONIT=2.14% in DATA section is different from 3.13% in RI. |
| 22993.002 | ERR-T | Move ERR-S=1% and ERR-T=4% in free text? | Typical uncertainty values coded in COMMON? |
| 23427.004 | TEMP | Delete TEMP=180 deg-C in DATA section. | #3 |
| 23427.005 | TEMP | Delete TEMP=180 deg-C in DATA section. | #3 |
| 23439.002 | E-LVL | Delete E-LVL=2.9 MeV in COMMON section. Swap E-LVL and E-EXC-MEAN in DATA section (recom.) | #2 |
| 23515.002 | ERR-T | Delete ERR-T=0.03 b. | #1 |
| 30777.003 | DATA-ERR | (Recompiled at NDS) |  |
| 30833.003 | ASSUM1-ERR | Delete ASSUM1-ERR=0.09 b in DATA section. | #1 |
| 30833.003 | ASSUM2-ERR | Delete ASSUM2-ERR=28 b in DATA section. | #1 |
| 30833.003 | ASSUM3-ERR | Delete ASSUM3-ERR=0.35 b in DATA section. | #1 |
| 30843.003 | ASSUM1-ERR | Delete ASSUM1-ERR=0.09 b in DATA section. | #1 |
| 30843.003 | ASSUM2-ERR | Delete ASSUM2-ERR=28 b in DATA section. | #1 |
| 30843.003 | ASSUM3-ERR | Delete ASSUM3-ERR=8 b in DATA section. | #1 |
| 30999.003 | EN-ERR | Delete EN-ERR=0.23 MeV in COMMON section (Energy uncertainty of the monitor cross section.) | Another solution is to replace EN-ERR with EN-NRM-ERR though the heading is undefined. |
| 30999.004 | EN-ERR | Delete EN-ERR=0.23 MeV in COMMON section (Energy uncertainty of the monitor cross section.) | Another solution is to replace EN-ERR with EN-NRM-ERR though the heading is undefined. |
| 31401.003 | EN-ERR | Delete EN-ERR=0.40 MeV in COMMON section (Energy uncertainty of the monitor cross section.) | Another solution is to replace EN-ERR with EN-NRM-ERR though the heading is undefined. |
| 31687.002 | ANG | ANG -> ANG-ERR in COMMON section. Explain it as "Systematic error in angle determination". | c.f. p.183 “one tenth of a degree”. |
| 40112.010 | EN | Delete EN=2.5300E-02 eV in COMMON section. | #2 |
| 40238.007 | ANG-CM | Delete ANG-CM=61 deg in COMMON section. | #2 |
| 40324.014 | ANG | Delete ANG=61 deg in COMMON section. | #2 |
| 40324.018 | ANG | Delete ANG=91 deg in COMMON section. | #2 |
| 40552.003 | ERR-T | Delete ERR-T=0.047 b in COMMON section. | #1 (single data point dataset) |
| 40553.003 | ERR-T | Delete ERR-T=23 mb in COMMON section. | #1 (single data point dataset) |
| 40636.002 | MONIT | EN-NRM -> EN-NRM1, MONIT -> MONIT1 in COMMON section, add EN-NRM2=2.5 MeV, MONIT -> MONIT2 in DATA section. Explain two normalization methods in free text. |  |
| 40636.004 | MONIT | EN-NRM -> EN-NRM1, MONIT -> MONIT1 in COMMON section, add EN-NRM2=2.5 MeV, MONIT -> MONIT2 in DATA section. Explain two normalization methods in free text. |  |
| 40636.006 | MONIT | EN-NRM -> EN-NRM1, MONIT -> MONIT1 in COMMON section, add EN-NRM2=2.5 MeV, MONIT -> MONIT2 in DATA section. Explain two normalization methods in free text. |  |
| 40636.008 | MONIT | EN-NRM -> EN-NRM1, MONIT -> MONIT1 in COMMON section, add EN-NRM2=2.5 MeV, MONIT -> MONIT2 in DATA section. Explain two normalization methods in free text. |  |
| 40980.010 | EN | Delete EN=145 keV in COMMON section. | #2 |
| 41124.003 | STAT-W G | Delete STAT-W G=0.5 in COMMON section. | #2 |
| 41451.002 | E-ERR | E-ERR -> E-DN-ERR (in COMMON section) or E-NM-ERR (in DATA section) |  |
| A0480.040 | EN | Delete EN=22.6 MeV in COMMON section. | #2 |
| A0937.002 | ANG | Delete ANG=0 deg in COMMON section. |  |
| A1432.007 | E-LVL | Delete E-LVL=0 MeV in COMMON section. | #2 |
| A1501.002 | E-LVL | Delete E-LVL=0 MeV in COMMON section. | #2 |
| A1527.006 | E-LVL | Delete E-LVL=0 MeV in COMMON section. Fig.12 -> Figs.12-13 in STATUS. | #2 |
| A1527.007 | E-LVL | Delete E-LVL=0 MeV in DATA section. | #3 |
| C0132.007 | DATA-ERR | Move DATA-ERR=12% in COMMON section to C0132.001 with DATA-ERR -> ERR-1 |  |
| C0132.008 | DATA-ERR | Move DATA-ERR=12% in COMMON section to C0132.001 with DATA-ERR -> ERR-1 |  |
| C0132.009 | DATA-ERR | Move DATA-ERR=12% in COMMON section to C0132.001 with DATA-ERR -> ERR-1 |  |
| C0132.010 | DATA-ERR | Move DATA-ERR=12% in COMMON section to C0132.001 with DATA-ERR -> ERR-1 |  |
| C0132.011 | DATA-ERR | Move DATA-ERR=12% in COMMON section to C0132.001 with DATA-ERR -> ERR-1 |  |
| C0405.008 | EN-MAX | Delete EN-MAX=80 keV in COMMON section. |  |
| C0405.008 | EN-MIN | Delete EN-MIN=0 keV in COMMON section. |  |
| C0499.002 | EN-ERR | EN-ERR in COMMON section - > EN-ERR1 (uncertainty at gas cell entrance) and EN-ERR in DATA section -> EN-ERR2 (uncertainty at gas cell exit) |  |
| C0595.012 | DATA-ERR | Delete DATA-ERR=5% in DATA section (c.f. HISTORY). |  |
| C0731.004 | DATA-ERR | Delete DATA-ERR=10% in COMMON section. | #2. The letter from Norman does not provide the cross section uncertainty at the high energy region. |
| C0925.062 | ERR-S | Delete ERR-S=1.0 mb in COMMON section. | #3 |
| C1103.002 | DATA-ERR | DATA-ERR -> ERR-1 (scale uncertainty) in COMMON section. |  |
| C1111.002 | DATA-ERR | DATA-ERR -> ERR-SYS (absolute uncertainty) in COMMON section. |  |
| C1111.003 | DATA-ERR | DATA-ERR -> ERR-SYS (absolute uncertainty) in COMMON section. |  |
| C1571.003 | EN-ERR | E-EXC -> E-EXC-CMP and EN-ERR -> E-EXC-C-ER in DATA section. |  |
| C1832.008 | ANG | Delete ANG=90 deg in COMMON section. | #2 |
| C1832.009 | ANG | Delete ANG=90 deg in COMMON section. | #2 |
| C1918.004.1 | ERR-T | Delete ERR-T=3 keV in COMMON section. | c.f. p.474 |
| C2068.008 | PARITY | Delete PARITY=-1.0 in COMMON section. (J of residual 19F) | c.f. p.1227 (right) |
| C2068.008 | SPIN J | Delete SPIN J=0.5 in COMMON section. (J of residual 19F) | c.f. p.1227 (right) |
| C2068.009 | PARITY | Delete PARITY=-1.0 in COMMON section. (J of residual 19F) | c.f. p.1227 (right) |
| C2068.009 | SPIN J | Delete SPIN J=0.5 in COMMON section. (J of residual 19F) | c.f. p.1227 (right) |
| C2068.010 | PARITY | Delete PARITY=1.0 in COMMON section. (J of residual 19F) | c.f. p.1227 (right) |
| C2068.010 | SPIN J | Delete SPIN J=2.5 in COMMON section. (J of residual 19F) | c.f. p.1227 (right) |
| C2068.011 | PARITY | Delete PARITY=1.0 in COMMON section. (J of residual 19F) | c.f. p.1227 (right) |
| C2068.011 | SPIN J | Delete SPIN J=2.5 in COMMON section. (J of residual 19F) | c.f. p.1227 (right) |
| C2303.002 | DATA-ERR | DATA-ERR - > ERR-SYS in COMMON and treat it as the upper limit (absolute scale). |  |
| C2335.003 | EN | Delete EN=27.0 MeV in COMMON. Fig. 4 -> Fig. 2 in STATUS. | Elab=27 MeV for Fig.4. |
| D0034.002 | DATA-ERR | DATA-ERR -> ERR-1 in COMMON section and ERR-ANALYS. |  |
| D0295.002 | DATA-ERR1 | Delete DATA-ERR1=3% in COMMON section and DATA-ERR1 -> DATA-ERR (Free text may be kept.) |  |
| D0295.004 | DATA-ERR1 | Delete DATA-ERR1=3% in COMMON section and DATA-ERR1 -> DATA-ERR (Free text may be kept.) |  |
| D0295.006 | DATA-ERR1 | Delete DATA-ERR1=3% in COMMON section and DATA-ERR1 -> DATA-ERR (Free text may be kept.) |  |
| D0295.010 | DATA-ERR1 | Delete DATA-ERR1=3% in COMMON section and DATA-ERR1 -> DATA-ERR (Free text may be kept.) |  |
| D0295.012 | DATA-ERR1 | Delete DATA-ERR1=3% in COMMON section and DATA-ERR1 -> DATA-ERR (Free text may be kept.) |  |
| D0574.002 | EN-ERR | Delete EN-ERR=0.2 MeV in COMMON section. | I do not know where the compiler found this value. |
| D4312.004 | EN-ERR | EN-ERR -> EN-RSL-HW in DATA section (energy step of thick target yield measurement) |  |
| D4312.005 | EN-ERR | EN-ERR -> EN-RSL-HW in DATA section (energy step of thick target yield measurement) |  |
| D4380.002 | ANG | Delete ANG=16 deg in COMMON section. | #2 |
| D5176.002 | E-LVL | Delete E-LVL=0.0 MeV in COMMON section. | #2 |
| D6016.002 | EN | Delete EN=95.0 MeV in COMMON section. | 95 MeV is one of the initial proton beam energies |
| D6016.003 | EN | Delete EN=95.0 MeV in COMMON section. | 95 MeV is one of the initial proton beam energies |
| D6016.004 | EN | Delete EN=95.0 MeV in COMMON section. | 95 MeV is one of the initial proton beam energies |
| D6016.005 | EN | Delete EN=95.0 MeV in COMMON section. | 95 MeV is one of the initial proton beam energies |
| D6016.006 | EN | Delete EN=95.0 MeV in COMMON section. | 95 MeV is one of the initial proton beam energies |
| D6016.007 | EN | Delete EN=95.0 MeV in COMMON section. | 95 MeV is one of the initial proton beam energies |
| D6016.008 | EN | Delete EN=95.0 MeV in COMMON section. | 95 MeV is one of the initial proton beam energies |
| D6016.009 | EN | Delete EN=95.0 MeV in COMMON section. | 95 MeV is one of the initial proton beam energies |
| D6016.010 | EN | Delete EN=95.0 MeV in COMMON section. | 95 MeV is one of the initial proton beam energies |
| D6016.011 | EN | Delete EN=95.0 MeV in COMMON section. | 95 MeV is one of the initial proton beam energies |
| E1748.039 | ANG1 | Delete ANG-1=30 deg in COMMON section. | #2 |
| E1748.039 | ANG2 | Delete ANG-2=30 deg in COMMON section. | #2 |
| F0110.002 | EN | Delete EN=7.0 MeV in COMMON section. | #2 |
| F0239.019 | E | E=124 keV+124 keV+129 keV must be E=124 keV+125 keV+129 MeV. | c.f. Table 3 |
| F0811.003 | EN | Delete EN=40 MeV in COMMON section. | #2 |
| F1191.009 | DATA-ERR | DATA-ERR -> ERR-DIG in COMMON section? |  |
| F1191.010 | DATA-ERR | DATA-ERR -> ERR-DIG in COMMON section? |  |
| F1191.011 | DATA-ERR | DATA-ERR -> ERR-DIG in COMMON section? |  |
| F1422.003 | EN | EN -> E |  |
| F1422.003 | EN-ERR | EN-ERR -> E-ERR |  |
| L0241.003 | ERR-S | Delete ERR-S=0.7% in COMMON section (could be a part of free text under ERR-ANALYS). | c.f. Table IV |
| M0082.002 | EN-MAX | Delete EN-MAX=20 MeV in COMMON section. | #2 |
| M0450.005 | DATA-ERR | Delete DATA-ERR=0.003 mb\*MeV in DATA section (c.f. 006) | #1 |
| M0580.002 | ANG | Delete ANG=135 deg in COMMON section. | #2 |
| M0595.002 | ANG | Delete ANG=45 deg in COMMON section. | #2 |
| M0852.002 | ERR-T | Delete ERR-T=10% in COMMON section. | #1 |
| M0852.003 | ERR-T | Delete ERR-T=9.5% in COMMON section. | #1 |
| M0873.009 | EN-MAX | Delete EN-MAX=200 MeV in COMMON section. | #2 |
| M0873.009 | EN-MIN | Delete EN-MIN=150 MeV in COMMON section. | #2 |
| M0935.002 | ERR-T | Delete ERR-T=12.0% in COMMON section. | #1 |
| M0935.003 | ERR-T | Delete ERR-T=12.0% in COMMON section. | #1 |
| M0935.004 | ERR-T | Delete ERR-T=9.0% in COMMON section. | #1 |
| M1003.003 | EN-MAX | Delete EN-MAX=82.0 MeV in COMMON section. | #2 |
| O0331.004 | ERR-DIG | Delete ERR-DIG=0.006 mb/sr in COMMON section. | #2 |
| O0777.002 | ERR-2 | Delete ERR-2=13% in COMMON section. | #2 |
| O0863.024 | E | Delete E=1173 keV in COMMON section. | #2 |
| O0863.026 | E | Delete E=932 keV in COMMON section. | #2 |
| O0865.002 | ERR-S | Delete ERR-S=5% in COMMON section. Replace ERR-S values in the DATA section with those digitized from Fig.2. | #1 |
| O0951.002 | ERR-T | Delete ERR-T=5% in COMMON section. (5% is the upper limit.) | #1 |
| O1033.004 | DATA-ERR | Delete DATA-ERR=10% in COMMON section. (10% is the upper limit.) | #1 |
| O1567.013 | ANG-ERR | ANG-ERR -> ANG-ERR-D in COMMON section? |  |
| O2476.002 | ERR-S | Delete ERR-S=1.0% in COMMON section. | #1 |
| T0276.007 | EN-ERR | Delete EN-ERR=0.3% to COMMON section? (Energy error in the initial beam energy.) | Another solution could be to replace EN-ERR with EN-RSL. (The supplemental material compiling the data PAPS PRVCA-20-88-4 is not available at NDS.) |