Memo CP-D/122

1984-03-09

To: Distribution

From: H.D. Lemmel *[signature]*

Subject: 1983 NRDC Meeting, Conclusions,
            Recommendations, Actions

Please attached the Draft of the Conclusions, Recommendations
and Actions from the NRDC Meeting, Obninsk/Moscow, October 1983.
Comments, additions, corrections are welcome.

Drafts of other parts of the minutes will follow.

                              Clearance; J.J. Schmidt *[signature]*

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8. Conclusions, Recommendations, Actions

These are structured as follows:

1. General actions
2. Conclusions about CINDA
3. Actions about CINDA
4. EXFOR conclusions
5. Actions about the EXFOR system
6. Actions about EXFOR neutron data
7. Actions about CPND
8. Actions about PhND
9. Actions about non-EXFOR data
10. Recommendations about evaluated data and codes

1. General actions

1.1   NDS   to check that all participants of this meeting receive
                  copies of all papers presented

1.2   NDS   to send to I. Kondurov requests for unavailable
      NNDC   proceedings of All-Union Conferences

1.3   CJD   to ask USSR editors to quote the authors' institute in
      CAJaD   publications, in particular conference proceedings and
                  Jadernye Konstanty

1.4   CJD   to distribute to participants A. Ignatjuk's paper on
                  level density models

1.5   NDS   to send to CJD the distribution list of the ARAMAKO file
                  in order to stimulate the release of a more uptodate
                  version

1.6   NDS   to hold a meeting on the ENDF/B format in the first week
                  of April

1.7   NND eva-   to submit proposals for the ENDF/B format meeting
      luators

1.8   CAJaD   when issuing Jadernye Konstanty to indicate to NDS which
                  articles should be translated into English
                  (= action from Center Heads' Meeting)

1.9   NDS   to distribute regularly (e.g. all 6 months or when
                  essential new information becomes available) a list of
                  planned meetings in the field of nuclear data

1.10 All   to inform NDS regularly of planned meetings to be
                  included in the list of above action

1.11 All   to send to the other centers (when appropriate through
                  NDS) conference materials whenever it becomes available
                  (preprints of papers, proceedings, etc.)

1.12 NDS   to hold a "technical NRDC meeting" in Vienna, at no cost
                  to the Agency, at a tentative date 17-18 September 1984

1.13 All   to inquire whether this proposed meeting is acceptable

1.14 NEA-DB   to inquire to hold the next full NRDC Meeting in Paris,
                  at a tentative date in October 1985, and to inform the
                  other centers

2. Conclusions about CINDA

2.1   The quantity code POL is used for all polarization measurements on outgoing particles following scattering or any other reaction.

2.2   The quantity codes NG and SNG are clarified such that NG is used only for the (n,γ) total cross-section and the (n,γ) partial cross-sections leading to a metastable state.   All other quantities referring to the (n,γ) reactions are coded under SNG.

2.3   The treatment of cross-section ratios is clarified as follows: If a ratio is relative to a quantity included in the EXFOR list of standards, no CINDA entry is made for the standard.   If both (or none) of the reactions of the ratio are standards, CINDA entries are made for both reactions.

3. Actions about CINDA

3.1   NEA-DB   to update the CINDA Manual with the clarified definitions of quantity codes POL, NG and SNG, and of cross-section ratios (compare conclusions 2.1-2.3)

3.2   CINDA   to support NDS in keeping the front matters in the CINDA
       Centers   books up-to-date, in particular to contribute regularly to the handbooks section

3.3   NEA-DB   to optimize the cutoff criteria between CINDA-A and CINDA-B

3.4   CJD   implement a plan to transfer Area 4 CINDA compilation activities currently being performed by NDS to CJD (action from Center Heads' Meeting)

4. EXFOR conclusions

4.1   The country code of Japan is changed to JPN. Compare Memo 4C-2/119.

4.2   "Vector COMMON" rules are confirmed to remain strict, in particular the rule that headings and units must be uniform for all independent variables under the "Vector COMMON" formalism.

4.3   Upon request of the Japanese Study Group codes for pions are introduced in Dictionaries 28 and 29 for REACTION SF2 and SF3:

        PI   pions, unspecified
        PIP pions positive
        PIN pions negative

4.4   The BIB Keyword INC-SOURCE is adopted instead of N-SOURCE starting with 1 January 1984. This applies to new transmission tapes; with respect to the master files held at the centers, each center may decide whether it keeps the old code or converts it throughout the file.

4.5   The proposed LEXFOR entries for Errors, Dosimetry Reactions, and Standards were adopted with minor modifications (compare Memo CP-C/102)

4.6   Bulky covariance matrices may have to be stored in a file separate from EXFOR. NNDC will formulate a proposal.

4.7   The NNDC proposal to code correlation factors in the form

        ERR-ANALYS (ERR1,1.)

is adopted; NNDC will formulate a proposed Manual update.

4.8   The CAJaD proposal of Memo CP-A/31 concerning the sequence of General Quantity Modifier in REACTION SF8 is adopted.

4.9   The Lexfor entry on energy resolution was confirmed.

4.10   After discussion of working paper 6 about frequent mistakes found in EXFOR TRANS tapes, it was concluded that centers should possibly improve their check programs to avoid such erros. It was confirmed that the Multiple REACTION formalism must be used only in the cases mentioned in the Manual in Chapter 8 under REACTION.

4.11   It was recommended to compile in EXFOR proton resonance data as requested by neutron data evaluators. The neutron data centers, though presently not compiling such data, took note of this recommendation.

4.12   Tapes sent to CJD continue to require a dummy file of at least 100 records at the beginning of the tape.

4.13   CJD can accept a blocking factor up to 40. So can the other centers.

4.14   All centers now use 9-track tapes.

4.15   All centers should continue to attach outside labels to the tapes indicating contents and tape specifications.

4.16   CAJaD and NDS will transmit CPND data not only in the own series (A resp. D) but also revisions to B entries (previously KACHAPAG), but both centers should co-ordinate with each other to avoid duplications. NDS may also retransmit P entries (McGowan's file converted by KACHAPAG).

4.17   When data are retransmitted at subentry level, CAJaD and CJD continue to want to receive retransmissions of the entire entries. NDS will take care.

4.18   Item 2 on Manual page 9.8 ("1 file per tape") is dropped. But if there are more files on the tape this must be indicated clearly on the outside label.

4.19   It should be noted that the Lab and Ref Dictionaries in the CINDA books must not be used for compilation, because these are

        - incomplete (they contain only the codes occurring in the book), and
        - may contain superseded codes (if these still occur in the book).

5.   Actions about the EXFOR system

5.1	NDS	to send to CJD updates of the EXFOR check program (in particular the procedure for the treatment of blanks in the record identification field)
5.2	NDS and NNDC	to check the status of improvements of Dictionary 3 (laboratories)
5.3	All	to contribute to the cleanup of Dictionary 3 (laboratories) and of the reference Dictionaries 5, 6, 7 and to keep them up-to-date
5.4	NDS	(= action 24 from previous meeting) to improve the wording in the EXFOR Manual about the use of REACTION-SF7 (particle considered) and to introduce examples for clarification
5.5	NDS	to send fast to CJD the presently existing parts of the code for producing the EXFOR computation format
5.6	NDS	to change in the Dictionaries the country code of Japan to JPN
5.7	NDS, NNDC, RIKEN	to obtain more information about other Japanese lab codes proposed:

> 2JPNINS (Inst. for Nucl. Studies, Tokyo Univ). The code INS is not free. Can it be included under the Tokyo University 2JPNTOK?
>
> 2JPNISS (Inst. of Solid State Physics, Univ. of Tokyo).
> - Should this be removed from the Dict. and included under 2JPNTOK?
>
> 2JPNRCN (Research Center for Nuclear Physics, Osaka).
> - The code is not free. Can it be included under 2JPNOSA (Osaka University)?

5.8	NDS	to add pion codes to Dictionaries 28 and 29 (compare under EXFOR Conclusions)
5.9	NDS NNDC	to update Dictionary 2 and the Manual with respect to the changed BIB Keyword INC-SOURCE
5.10	NNDC	to update the Manual with the LEXFOR entries on Errors, Dosimetry Reactions, and Standards
5.11	NNDC	to formulate a proposal on bulky covariance files to be stored separate from EXFOR
5.12	NNDC	to formulate a proposal on the coding of correlation factors under ERR-ANALYSIS

5.13   NNDC   to update the Manual in Chapter 8 under REACTION SF8
                    according to Memo CP-A/31 about the sequence of General
                    Quantity Modifiers

5.14   NNDC   to update Chapter 9 of the Manual according to EXFOR
                    Conclusions 12-18

5. Actions about EXFOR neutron data

6.1   NNDC   to compile with high priority neutron cross-section data
           NEA-DB $\sigma(E)$ for inclusion in the NNDC atlas, with special
           NDS   emphasis to
           CJD

- best experimental data
- most recent experimental data even when old
- the only existing data for a specific reaction or energy range

6.2   NNDC   to inform the other neutron data centers about "gaps" encountered in EXFOR

6.3   NDS   to inform TUD whether or not their EXFOR tape (mailed in May 1983) has arrived

(Note by editor: Action fulfilled. The tape was misrouted within Agency and found after the NRDC meeting; it must have arrived in Sept. 1983)

6.4   NDS   to retransmit entry 30395 observing the uniformity of independent variables under "Vector COMMON"

6.5   All   to observe the correct use of the Multiple Reaction formalism; in particular, <u>not</u> to code average resonance parameters in the same sub<u>entry</u> together with energy dependent resonance parameters

6.6   CJD   to transmit the neutron EXFOR entries compiled by CAJaD from papers that contain CPND <u>and</u> NND

6.7   NND   to correct and re-transmit fast those EXFOR entries where
           Centers   retransmission was requested by a receiving center (Memo 4C-3/268 and others)

6.8   CJD   to continue to convert the EXFOR-8 series into EXFOR-4 series (though with lower priority than the compilation and transmission of new data)

(Following actions from Center Heads' Meeting):

6.9   CJD   review papers presented by NNDC and NDS concerning the status of CINDA and EXFOR compilation at CJD and distribute response as a 4-C Memo, as soon as possible

6.10   NDS   inform NNDC on plans for the review of EXFOR
           NEA-DB   completeness, as soon as possible
           CJD

6.11   All   give priority to the compilation of fission product
           Neutrons   yield data
           Center

7. Actions about CPND

7.1	CAJaD	when requesting data from US or Europe send copies of letters to NNDC or NDS who will assist in obtaining the data
7.2	All.	(= action 36 of previous meeting) to review references for those charged-particle reactions that have equivalent neutron fission reactions such as (d, pf) and (t,df), and to compile them in EXFOR
7.3	All (except NEA-DB)	re WP 14 to report to J.J. Schmidt about - priorities of CPND and PhND data needs, - encountered completeness or incompleteness of data files - estimate of resulting compilation workload required and whether this can be done by the existing centers or not
7.4	RIKEN	to announce the list of CPND reactions they intend to compile in EXFOR (Note by editor: see page) *cr·b/118 will be appended*
7.5	NDS or CAJaD	to retrieve these data from EXFOR and send them to RIKEN (Note by editor: done)
7.6	RIKEN	to check the retrieved EXFOR data for completeness and fill the gaps, in order to have an uptodate data basis for data evaluation
7.7	CPND Centers an/or NND Centers	to possibly compile proton resonance data to be used for neutron data evaluation, and to investigate whether the accuracy of proton resonance data is sufficient for this purpose
7.8	NNDC	to possibly continue the Bibliography on integral CPND and to keep the others informed
7.9	NDS, NNDC, RIKEN	to assist CAJaD to obtain non-USSR data to be compiled in EXFOR
7.10	NDS	to contact H. Munzel about updating the EXFOR-B file

8. Actions about PhND

8.1	NNDC	(= action 23 from previous meeting) to try to obtain the 1977 Berman library of photonuclear data in any format (even Xeroxes of paper material)
8.2	NNDC	to inquire about US and Canadian activities in the field of photonuclear data and photon activation analysis, and to report to CDFE and other centers interested
8.3	NDS	to check whether the TRANS tapes G001 and G002 were transmitted to CAJaD
8.4	CDFE	to issue a list of institutes in the world that are active in the field of PhND (Note by editor: action fulfilled during meeting)
8.5	NDS	to add Prof. Ishkhanov to appropriate distributions of INDC documents, in particular

- INDC Minutes
- NDS reports to INDC
- list of INDC documents

(Note by editor: distr. "L, N, U assigned")

8.6	NDS	to observe developments on PhND activities and to inform CDFE
8.7	NNDC	to send to CDFE (Prof. Ishkhanov) regularly in printed form a retrieval from NSR (same retrieval as used to be sent to Fuller)
8.8	NDS and NNDC	to establish a distribution list for the PhND Bibliography by CDFE; the distribution would probably best be done through NDS to whom CDFE would provide a sufficient number of copies

9. Actions about non-EXFOR data

9.1	NDS	to check the tape 3050 from CJD which should contain in file 2 a file of <u>620-group data</u> *(Note by editor: file was found)*
9.2	CJD	to re-transmit the tape with <u>620-group data</u> *(Note by editor: not needed)*
9.3	CJD	to provide immediately to the other centers <u>information about their GRUKON</u> program package (which is considered as a valuable independent test compared to the RECENT/ENJOY program package)
9.4	CJD	to transmit as soon as possible in 1984 to IAEA the neutron data processing code <u>GRUKON</u> and corresponding documentation
9.5	All	(= action 29 from previous meeting) to test the effect of particular interpolations chosen for cross-sections between the nuclear and the Coulomb threshold on calculated spectrum average cross-sections
9.6	NDS	to send to CJD most recent versions of CHECKER, FIZKON, PSYCHE

(Following actions from Center Heads' Meeting):

9.7	CJD	include a detailed reference list when submitting neutron data evaluation progress reports for inclusion in the NEA-DB Newsletter NNDEN
9.8	NDS	give priority to the translation of documents in the Russian language referenced in NEA-DB Newsletter NNDEN
9.9	CJD/ CAJaD	when publishing documentation of nuclear data evaluations be sure to include a reference to the numerical data file which includes this evaluated data

10. Recommendations about evaluated data and codes

10.1   Recommendations from Center Heads' Meeting: All evaluated nuclear
        data files exchanged should be accompanied by adequate
        documentation.

10.2   There should be more input from non-OECD countries to the Computer
        Program Library CPL of the NEA Data Bank.