Memo CP-D/200

20 October 1989

To: Distribution

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

Subject: Draft of the Conclusions and Actions from the Tenth NRDC Meeting, Vienna, 2-4 October 1989

We hope that you had a good travel home from the NRDC meeting. Thank you very much for attending the meeting and making it successful.

Please find attached the Draft of the Conclusions and Actions resulting from the meeting. If you have comments, changes or additions, please transmit them as soon as possible but not later than 20 November 1989. The minutes of the meeting will be published as an INDC report, including the agenda, list of participants, status reports of the centers, and the Conclusions and Actions.

The attention of the CINDA centers is drawn to the most urgent actions related to the cleanup of the CINDA master file in time for the spring deadline of the archival issue.

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Conclusions and Actions

General

Action on		
NDS	1.	Publish the report CNDC-89014 as INDC report after receipt of the final version.
	2.	From January 1990, all centres will be able to read magnetic tapes with 1600 bpi. Therefore, tapes with 800 bpi will no longer be sent from this date.
NDS	3.	NDS will give to V. McLane area-3 addresses having high-energy neutron data activities (14 MeV and up) to be contacted for contributions to the Fast Neutron Data Newsletter.
	4.	The next Technical NRDC Meeting shall take place in Vienna, 13-15 November 1990.
NDS	5.	The Eleventh NRDC Meeting shall take place in Obninsk/ Moscow in October 1991. It shall last 5 days and shall offer opportunities to meet the staff of the three USSR centers. NDS will approach the USSR authorities.

Conclusions and Actions on CINDA

NDS	11.	Send text of CINDA advertisement and sales conditions to the other CINDA centers for circulation.
NNDC NEA-DB CJD	12.	Inform their customers of the changes in CINDA publication, NEA-DB in particular that the archival issue will have to be CJD purchased from IAEA.
All, CJD	13.	All centers are invited to inform each other about gaps in the literature coverage. In particular, CJD is asked to prepare Cinda entries of the abstracts of USSR literature that were provided by M. Lammer. Whereas CJD covers regularly the more important journals and report series, the regular coverage should be extended also to such series that have only little Cinda information.
All	14.	Reminder to all centers to provide input for the list of last issues covered for inclusion in the book CINDA 90.
NNDC NDS CJD	15.	NEA-DB presented the Cinda Manual update of September 1989. All centers are invited to send comments on it to I. Forest as soon as possible, but not later than end of November 1989.
Lammer	16.	Some of the changes resulting from conclusions of the 1988 NRDC Meeting are not yet included in the Cinda manual. M. Lammer will send the text to be included on the respective manual pages to I. Forest.
NEA-DB	17.	Include on each page of the Cinda Manual the date of the last update.
NEA DB	18.	Transmit the new Cinda Manual to the other centers after the November deadline.
NEA-DB	19.	Whenever a change has been agreed upon by memo exchange or at an NRDC meeting, updated manual pages should be distributed without delay.
	20.	Ref-type "*" (Abstract) remains forbidden for reports.
All	21.	All Cinda centers will correct their own area file according to the conclusions of memo 4C-3/337.
All	22.	Retransmit the Cinda file of their own area to the other centers by end of November 1989.
All	23.	There had been cases where it was not noticed that the processing of a Cinda batch was not successful. All centers will make sure that their check program issues a message if the run was not completed correctly.

NEA DB 24. Take care of

a) item 4 on page 4 of memo 4C-3/337 concerning small changes in the comments field.

b) item 5 on page 4 of memo 4C-3/337 concerning problems with alphanumeric Exfor accession numbers.

c) item 1.b on pages 2/3 of memo 4C-3/337 concerning some corrected A-numbers.

NEA-DB 25. For the fields element, alphabetic energies, conf.codes and author, lower case letters are preferable but upper case is acceptable. NEA-DB will update the Cinda Manual accordingly.

CJD 26. Report if they have difficulties with accepting lower case characters.

All 27. Include all Exfor index lines before CINDA-C deadline. Also evaluated data fiels are recommended to be indexed.

Seits 28. Check if all Exfor entries are indexed in Cinda and inform all centers about missing index lines.

All 29. Check Dr. Manokhin's list of missing Exfor index lines in Cinda.

All 30. Include Exfor index lines for the fission product yield entries converted from Rider file.

31. NNDC, NEA-DB and NDS prefer to receive Cinda files through BITNET.

Conclusions and Actions on EXFOR
(see also Actions on Fission Product Yield Data)

M = Manual update required
D = Dictionary update required

Schwerer D — 41. Check whether the too long unit code MUB/MEV/SR2 is still in dictionary 25. (Note added after the meeting: it is in the dictionary with the 'obsolete' flag and will be deleted after checking that it does not occur in any subentry).

NDS — 42. Check with CJD staff coming to NDS in November 1989 whether CJD received the Exfor test file prepared for the 1988 NRDC meeting for comparison of the check programs.

NDS — 43. Prepare and distribute new test file for Exfor check programme.

All — 44. Review Exfor files 6,7,8 compiled by NNDC for missing data from areas 2,3,4 as soon as transmitted.

M — 45. The BIB keyword LEVEL-PROP and the data-heading keyword LVL-FLAG (pages 3/4 of memo CP-D/192) are approved with the following changes:

- first subfield: isomer extension is allowed but optional;
- second subfield contains one of the following three: either E-LVL=..., with explicit units MEV or KEV (if E-LVL=0, the units may be omitted);
  or LVL-NUMB=...,
  or LVL-FLAG=....

The revision of the proposed manual entry is enclosed in the Appendix.

CJD — 46. Submit proposal on new coding for partial potential scattering radius in a CP memo, as was requested in memo 4C-3/335 regarding entry 40960.

CDFE — 47. Concerning new modifiers for some angular distributions, memo CP-D/193 (counter proposal to CP-M/10) is only adopted in principle because CDFE did not receive memo CP-D/193 before the meeting. CDFE will study this proposal in detail and reply in a memo.

NEA-DB D — 48. Send a memo on the conference code 86BIRMIN.

D — 49. V. McLane confirmed that the journal code HI stands for Hyperfine Interactions (Switzerland).

D M	50.	A dimension code X (dictionaries 25 + 36) is introduced for quantities with undefined dimension (e.g. quantities which occur only as relative data). Manual update in Chapter 7.
D	51.	Instead of the code ,DA/PRE proposed in memo CP-M/10 the code PRE,DA,FF is approved for dictionary 36 with the expansion "ang.dist.of primary fission fragments".
D M	52.	BRA (Bremsstrahlung average) is approved as general purpose modifier for dict. 34. - Lexfor to be updated.
CDFE	53.	Check the code ,DA/DE,,LEG/RS proposed in memo CP-M/10 and provide other centers with correct expansion for dict.36 and, if necessary, further explanations (Lexfor entry) for Legendre coefficients for double-differential data.
RIKEN M	54.	Memo CP-C/182 (allow heavier particles in REACTION SF7) is approved; the relevant entries will be retransmitted by RIKEN.
	55.	Centres are reminded to try to avoid/eliminate redundant information in EXFOR entries, as pointed out in memo CP-C/183.
M	56.	The flag in col.66 in dictionary 16 (STATUS) is approved (memo CP-C/184).
M	57.	Centres are reminded to avoid multiple representations of independent variables. The updated manual wording proposed in memo CP-C/185 is approved.
NNDC M	58.	E-EXC is added to the list of headings which may be repeated (Manual page 5.4).
Lammer	59.	Check the reference for which the new column headings ELEM1,2,3, MASS 1,2,3, ISOMER1,2 have been used. Approval of these headings (proposed in memo CP-C/188) is postponed.
D M	60.	The BIB keyword STATUS is now obligatory (the addition "when relevant" is cancelled).
D M	61.	New REACTION codes for thick target yields as proposed in memo CP-C/178 are approved with the modification that "case 2" (on p.2 of memo) is coded with SF6=TTT, no modifier.
Chukreev	62.	Write memo on conversion factors for thick target yields.
Chukreev	63.	Write memo on data for production of γ+x rays, possibly suggesting a new code for REACTION SF4 (this concerns e.g. entry A0388).

D — 64. Differential thick target yields as given in entry A0388 are coded with SF6=TTT/DA (dimension TTDA in dict.36).

NDS — 65. Do not send corrected versions of CJD, CAJaD or CDFE TRANS tapes any more to NNDC.

CAJaD — 66. Provide examples of data involving shortliving isomers which cannot be coded satisfactorily using the keywords DECAY-DATA, EN-SEC and LEVEL-PROP.

NDS — 67. Send latest versions of Exfor check program, and of indexing program if revised since 1985, to Dr. Chiba.

68. Memo CP-D/180 on REACTION branch codes IND and CUM (provisionally approved at the 1988 NRDC meeting) is approved.

NDS
D — 69. Enter in dictionary 31 that codes IND and CUM are to be used only in combination with the process codes F and X, and that IND is to be used only in cases where CUM can also occur.

Actions on Photonuclear Data

NDS	71.	NDS will send a formal request to the appropriate US authority for release of the last version of Berman's Photonuclear Data File. It is suggested to contact Livermore with copy to S. Whetstone.
Tubbs	72.	N. Tubbs will once more informally contact Prof. Bergère (Saclay) to send his photonuclear data in digital form to CDFE.
CDFE NNDC	73.	Provide NDS with details of possible visit of a CDFE staff member to NNDC for work on US photonuclear data.
NDS	74.	Write formal letter to arrange such a visit under IAEA auspices.
NDS	75.	Inform CDFE of number of copies needed of future issues of CDFE's Photonuclear Data Bulletin.
NDS	76.	Verify that CNDC (Beijing) has received the complete photonuclear Exfor file.
NDS	77.	Assign range of Exfor accession numbers for photonuclear data compiled in Nanking.
Varlamov Cai	78.	Establish direct contact between CDFE and Nanking group about future workplan. The data exchange will be routed through CNDC.
NNDC	79.	Investigate about suitable US participants in a future technical meeting on evaluation of photonuclear data to be hosted by CDFE in 1992 or later.
Varlamov	80.	Write an informal technical letter to NDS about this future meeting and its possible participants from non-USSR countries.
NDS	81.	Write to USSR authorities in support of an international photonuclear data meeting to be hosted by CDFE.

Conclusions and Actions on CPND

Chiba	82.	Send index of references compiled in NRDF to Dr. Chukreev.
NDS	83.	Contact Roger White (Livermore) about his possible participation in the compilation network.
NDS	84.	Send INDC report on "Status of monitor reactions for radioisotope production" to other centres when completed.
CAJaD	85.	Send the evaluation report of the reactions C-12(p,pn), Al-27(p,3pn), Al-27(p,3p3n), C-12(p,3p3n) and Cu-63(p,n) to NDS. (Note added after the meeting: abstract of this work with numerical data was published at the 88BAKU conference and is available. NDS will appreciate receiving the full report from CAJaD).
NDS	86.	Start INDC-report series on medical radioisotope production, as soon as such reports have been received from CAJaD and RIKEN.
All	87.	CPND Exfor data are exchanged directly between the centres.
Hashizume	88.	Send RIKEN data on F-18 to CAJaD.
NDS	89.	Send formal letter to CAJaD asking for cooperation with other centres, in particular RIKEN (with copy to Dr. Hashizume).
Hashizume	90.	Send list of reactions covered in his future publication on MRI production data to NDS.
NDS	91.	Send INDC report number for this publication to Dr. Hashizume.
Hashizume	92.	Report on production of I-123 and Xe-123 will be supplemented by data for Cs-123 and sent to NDS for publication as INDC report.

Conclusions and Actions on ENDF/B formatted files

NNDC	95.	Investigate whether NNDC can include a PC version in their ENDF/B utility codes.
NDS	96.	Find out whether anywhere else a PC version of the ENDF/B utility codes of NNDC exists.
NDS	97.	Check if the ENDF/B-6 "illustration" file (n and p on Fe-56) was received at NDS and, if necessary, request it from NNDC.
Pearlstein	98.	Prepare a memo on an example of evaluated CPND in ENDF/B-6 format.

Conclusions and actions on Fission Product Yield Data (FPY), including FPY-related EXFOR

NDS

101. A Co-ordinated Research Programme on FPY has been initiated by convening a Consultants' Meeting (CM) on the "Compilation and Evaluation of Fission Yield Nuclear Data", 27-29 September 1989. CRP participants have been asked to review the codes for FPY and to send their comments, proposals for new codes and information they want to be included in FPY EXFOR entries to M. Lammer before the end of 1989. Soon after, M. Lammer will summarize the material received together with proposals for revisions or additions of codes and coding rules in a CP-memo.

NDS

102. M. Lammer will summarize the conclusions and recommendations about the compilation of FPY in EXFOR, which were already issued by CM participants during their meeting, and the resulting actions in memo CP-D/199.

Neutron Centers

103. To send out author proofs for all new EXFOR entries containing FPY data and, at the same time, ask the authors about experimental details not included in the publication but mentioned in CP-D/199 and the memo resulting from action 101.

104. The following new codes for dictionary 34 have been adopted:

FST	Fast reactor neutron spectrum
EPI	Epithermal neutron spectrum

with more information under INC-SPEC.

NNDC

105. To write a Lexfor entry on this.

NNDC

106. Submit new method codes (see CP-D/199) for FPY in a CP-memo.

Neutron Centers

107. Comments by evaluators about FPY experiments (method, data and possible errors found) should be included in the corresponding EXFOR entries.

Neutron Centers

108. EXFOR compilers of FPY may propose further new codes if needed (e.g. for methods) in a CP-memo, but should not use them prior to approval.

109. The cleanup of old FPY data is coming near to completion. All data from Rider's file have been converted to a series of quasi-EXFOR entries sorted by area. Most of them have been distributed to the other centers.

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=1.34MEV,SPIN=3.,PARITY=+1.)
           (82-PB-207,LVL-NUMB=2.,SPIN=1.5,PARITY=-1)
           (82-PB-208,LVL-FLAG=1.,PARITY=+1.)
```

The nuclide is coded in the form Z-S-A X as shown on page 8.3, with the isomer extension being optional even when an isomeric state exists.

The second subfield contains

- either the level energy with explicit units KEV or MEV (if E-LVL=0. the units may be omitted);
- or the level number;
- or a level-flag.

LVL-NUMB should be used only when the level-energy is not known. LVL-FLAG is used to link a LEVEL-PROP entry to a line in the DATA table; the flag is repeated in the DATA table under the column heading LVL-FLAG and the unit NO-DIM. The values of E-LVL and LVL-NUMB have to be repeated in the COMMON or DATA section under the column headings E-LVL or LVL-NUMB.

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.