Conclusions and Actions
of the NRDC Meeting in Paris, 27 -30 May 2002

Conclusions

General

C1:   The next Technical NRDC Meeting will be held at IAEA Vienna in late May or early June 2003. The next full meeting will be held in Brookhaven in spring 2004 (date to be decided).

C2:   For new data (1980-1998) the comparison between CINDA and EXFOR (WP-2002-27) showed that about 75% of all possible EXFOR data are compiled. This is assumed to be approximately the maximum amount possible due to the availability of data. As expected the coverage for pre-1980 data is lower.

General CINDA matters

C3:   CINDA coverage was reviewed and it was felt that all major journals are adequately covered. Future coverage of progress reports may not necessarily be important nor need be continued.

C4:   The future NRDC cooperation on CINDA was adopted as proposed in WP 2002-28. All centers, except ATOMKI, volunteered to contribute CINDA input to the new system (neutron and/or charged particle data).

C5:   CINDA 2002 will be published as Supplement. At the same time the CD will be produced again by NEA-DB. NDS will consider publishing a final CINDA archival book, spread over 2 years in 2004/5, based on the new CINDA2001, i.e. including also CPND and photonuclear data.

Dictionaries

C6:   The proposal of Memo CP-C/287 (WP 2002-2, p.1) is accepted, i.e. there will be only one particle dictionary.

C7:   Dictionaries must still be transmitted in the TRANS format.

C8:   A new Nuclides dictionary (as a replacement to dictionary 27) will be produced, which will be extracted from the Nuclear Data Wallet cards database. *(See also Action A11).*

General EXFOR matters

C9:   The proposed security measures as outlined in WP-2002-19 regarding the NDS Open area were agreed. Hence a username NDSX4 must be entered (no password is required as yet) and this user can only put and get files. This user, along with all others, cannot modify, delete or overwrite existing files. File management will be carried out by the holder of the XMAN token, currently allocated to user SCHWERER.

EXFOR dictionary codes and coding rules

C10:   Following from WP-2002-3 (Units for particle and product yields, Dict.25) it was agreed that:
PRT be used for the outgoing particle, i.e. SF3, or SF7
PRD be used for reaction product, i.e. SF4
INC used for incident projectile, i.e. SF2
REAC used for reaction (with FIS used for fission), in general SF2-3
PC for percent or per 100 incident particles

Consequently, the unit PRD/FIS should be allowed.

C11:   Page number format as presented in WP-2002-4 has been adopted, i.e. to allow alphanumeric characters in the page number field in REFERENCE.

C12:   The proposed new heading EN-CM-TOT is NOT needed, but the definition of EN-CM needs to be clarified (WP-2002-8). *(See also Action A34).*

C13:   The units MUB/SRGEVC and the new particle code AP (anti-proton) are adopted (WP-2002-10)

C14:   The proposed code NSF is not needed nor the other new quantities of CP-E/004 (WP-2002-10).

C15:   (WP-2002-12) Agreed that UND and DEF (in REACTION SF5) should not be used, but that (DEF) can be used if the compiler is uncertain.

C16:   A working group will be formed in order to investigate the way in which high energy physics data can be coded in EXFOR, including the coding of fundamental particles. The following participants agreed to sit on the committee: Chukreev, McLane, Kato, Otuka, Tarkanyi. *See also Action A36.*

C17:   The proposed code 2XL as a modifier (REACTION SF8) as proposed in CP-C/305 (WP-2002-15) is not necessary and therefore has been rejected.

C18:   The use of a zero value in the DATA-ERR field is allowed (CP-C/306 = WP-2002-16) except when the data are digitized. Required for large datasets sent by the

author when the accuracy representation of the field is not sufficient to have a finite value. The DATA-ERR column cannot contain only zeros, in this case the column should not be included at all and a comment included under ERR-ANALYS.

C19:   The proposed use of 4-momentum transfer and momentum distribution data is agreed as in CP-C/295 = WP-2002-6

C20:   (WP 2002-11) Nuclide codes are from now on allowed in REACTION SF7 (Particle considered). If the resulting REACTION string can no longer fit in cols. 12-66, continuation onto the next record will follow the same rules as for DECAY-DATA (i.e., line breaks are allowed only after one of the commas which separate subfields)

C21:   (WP 2002-12) The new headings PART-OUT and ELEM-MAX will be introduced in dictionary 24.

Actions

General

A1:   All   **(Continuing)** Support the joint project of Russia, Ukraine (UkrNDC) and Belarus (Minsk-Sosny) on development of Internet site structure and web pages for nuclear databases and related software. This support will include establishment of contacts of project initiators with European, US and other centers and organisations interested in collaboration, cooperation or partnership.

A2:   Dunaeva   (Continuing) Keep other centers informed on the status of the proposed project.

A3:   All   All recognized policy papers for consideration by the NRDC members need to be prepared and distributed four weeks before the Annual NRDC meeting. This will ensure adequate thought and discussion prior to the meeting.

A4:   NDS   Assist the Slavutych Laboratory, Ukraine, in upgrading their NDIS (Telnet-based nuclear data system), which has not been upgraded since 1999.

A5:   NDS   Consider organizing an EXFOR compilers' workshop, either separately or adjacent to next years' Technical NRDC Meeting.

A6:   All   Check the "Citation Guidelines" document (available from NNDC and NDS websites) and send updates to NDS who will be responsible for maintenance from now on.

CINDA

A7:   NEA-DB Submit the area 2 CINDA neutron master file in the new format to NDS and NNDC.

A8:   NEA-DB Send to NNDC the area 2 CINDA master file in exchange format for conversion to the new format.

A9:   NNDC Compare the two versions of area 2 master file as outlined above.

A10: CNDC (Continuing) Compile all Chinese experimental works (journals and conference proceedings) for CINDA and send to NDS in Reader format. Consider the possibility of including in the "Communication of Nuclear Data Progress" journal abstracts/brief publications of all nuclear data works undertaken in China.

Dictionary system

A11: McLane: To produce a format for the new Nuclides dictionary (see *Conclusion C8*) and provide a program for the production and updating of this dictionary from the Nuclear Data Wallet cards database.

A12: All **(Continuing)** To ensure that the "wild cards" can be used for REACTION SF7 (Particle considered) in Dictionary 36 .

A13: NDS **(Continuing)** To remove the restrictions "for photonuclear data (only)" from all dictionaries at their earliest convenience.

General EXFOR matters

A14: All Test V. Zerkin's experimental new "EXFOR relational" web interface *http://zlinux.iaea.or.at/~zerkin/x4s/indx.htm* and send feedback to NDS

A15: NDS Distribute new copies of the "Relational EXFOR" CD-ROM to the participants of this meeting.

A16: All (Continuing) To check/retransmit all entries included in the list of pending retransmissions by McLane distributed at the 2001 NRDC meeting.

A17: Dunaeva **(Continuing)** To make a benchmark test of Chukreev's code TEST-EXF vs. CHEX

A18: CPND centers **(Continuing)** To check the list of references identified as missing in EXFOR during the CRP on Medical Radioisotope Production, and distributed by Tarkanyi; communicate with Tarkanyi and NDS concerning which

items they will compile from their area of responsibility. References not covered in this way will then be available for compilation by others.

A19: NEA-DB,NDS (Continuing) To convert remaining 60000 and 70000 series entries to proper EXFOR entries of area 2 and 3.

A20: All (Continuing) In view of the poor statistics for EXFOR compilations of recent works, all centers should give higher priority to new works.

A21: McLane (Continuing) Send to all participating centers a memorandum of understanding that defines compilation responsibilities resulting from the agreement with Phys.Rev.C (on EXFOR archiving of experimental data published in Phys.Rev.C).

A22: Dunaeva, Chukreev (Continuing) Once the agreement between NNDC and the publishers of Phys.Rev.C has been put into operation, try to establish a similar agreement with the publisher of Yadernaya Fizika.

A23: NEA To transmit the corrected EXFOR entries containing correlation data sent earlier by McLane.

A24: All: Send their area's EXFOR master file to NDS for comparison.

A25: All: Send list of known errors in other centers' entries to NDS.

A26: NDS: Compare all master files received with the NDS file, and as far as possible correct them (with help of other centers).

A27: NDS Make available to all centers the "final" EXFOR master file, together with a matching set of dictionaries.

A28: All concerned Transmit with highest priority all preliminary EXFOR TRANS files which have been held back because of pending corrections. Problematic entries should be excluded temporarily from transmission (until agreement on the correction is reached) to speed up the procedure.

A29: JCPRG After upgrading, send HENDEL (Web-based EXFOR editor) to the other centres for testing and comments.

EXFOR dictionary codes and coding rules

A30: All (Continuing) To consider and propose methods for coding fundamental particles in SF4, in particular those negatively charged (e.g. negative pions).

A31: Tarkanyi: To produce a list of quantities related to Product Yields and Thick Target Yields with a detailed explanation and including reference to an appropriate paper as an example.

A32: McLane/Schwerer: To improve the LEXFOR entry on 'Correlations' with respect to the clarifications requested in WP-2002-5.

A33: McLane/Schwerer: To produce new LEXFOR entries relating to the various quantities discussed in WP-2002-13.

A34: Schwerer: Modify the definition of EN-CM in dictionary 24 to be energy of the projectile relative to the target.

A35: Chukreev The REAC in WP-2002-12 (Memo CP/A-122) should be recoded from
```
79-AU-197(AP,ABS),,SIG/DN,,,EXP as
79-AU-197(AP,X)ELEM/MASS,,SIG/DN,,,EXP
```
The range of ELEM and MASS will be defined in the COMMON section by ELEM-MIN, MASS-MIN, ELEM-MAX and MASS-MAX. These codes will need to be added to the dictionary.
Thus the data under the heading PART-OUT can remain the same as entered previously.

A36: Working Group *(On coding of high energy data in EXFOR, see Conclusion C17)* To investigate the coding of high energy physics data and fundamental particles, and produce a report for discussion at the next meeting.

A37: McLane To correct the LEXFOR entry for the proposed coding of 4-momentum transfer (WP-2002-6).

A38: McLane To check whether there is a LEXFOR entry on the new process code FUS (total fusion, Dictionary 30); if not, provide such an entry.

A39: Schwerer (WP 2002-14) Check whether the quantities
```
LS/SEQ,POL/DA,,D
PAR,POL/DA,,TAP
SL/SEQ,POL/DA,,D
```
exist in the file, and delete them in Dictionary 36 if this is not the case.

A40: Schwerer (WP 2002-14) For the codes `20/PAR,POL/DA,,TAP` and `PAR/20,POL/DA,,TAP`: pick one of these options, maintaining consistency with other similar quantity codes, and update dictionary 36 (and any affected entries) accordingly.

A41: Schwerer (WP 2002-14) Correct the expansion of `NN,POL/DA,,ANA` to "Spin correlation parameter".

A42: McLane   Try to resolve the problems in order to define the various polarization quantities for LEXFOR and dictionary 36 consistently.

A43: Schwerer   Delete RCL from dictionary 33.

Miscellaneous

A44: Lammer   **(Continuing)** Include the PC program package for calculation of Fission Yield distributions by A. C. Wahl in the NDS data collection.