Nuclear Data Section
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Memo CP-D/523

Date: 18 September, 2008
To: Distribution
From: NDS

Subject: **Draft revision of NRDC Protocol**

A lot of conclusions were made on NRDC meetings during last years which affect NRDC Protocol and now situation is stabilised enough to revise protocol.
In attached files we send:

1. Proposed changes in NRDC Protocol
2. Revised draft version of NRDC Protocol

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Changes in **PROTOCOL (all additions are in bold letters)**:

1.Front page – all previous editions deleted.

2. INTRODUCTION**:**

- be responsible for ~~CINDA and~~ EXFOR distribution to the other data centers,

- **be responsible for central EXFOR Web Service and EXFOR-master file central storag**e

3. Data Compilation Responsibility

If a center has a need for a particular data set to be compiled immediately, the center should send a request to the responsible center, with a copy to NDS. If the responsible center cannot compile the data in the time needed to meet the requirements of the center making the request, the center making the request can compile the data after informing both the coordinating centre and the responsible centre. ~~as an area Z entry. The entry will then be sent to both the responsible center and NDS. If the responsible center does not intend to enter the data in a timely fashion, the NDS may then transmit the Z entry to all centers. The responsible center would then be responsible for deleting the Z entry if they replace it with an entry for their area.~~

All corrections to entries must start from the version of the common master file (rather than from local versions)

Recompilations or improvements of existing entries should result in an update of the <u>old entry</u> (rather than deletion of the old entry and creation of a new entry).

~~Each center~~ NDS shall keep an archival copy of the latest version of each of the EXFOR entries ~~which it originated~~ and shall be ready to provide the data to any center should the data be required.

Following sentences were moved from "Charged-Particle Reaction Data Compilation" to common section "Data Compilation Responsibility":

If two institutions from different service areas are involved, the primary institution defines the center responsible (see LEXFOR, Institutes, for definition of primary institution).

A center wishing to compile data (C1) will contact the center in whose area of responsibility the data were produced (C2), with copy to NDS, with a list of the data sets to be compiled. C2 will inform C1, as quickly as possible, with copy to NDS, whether the data either have been compiled or are in the process of being compiled by another center. If the data are not compiled or being compiled, C2 will either agree to compile them with priority, or ask that C1 compile the data and to and include it in the next regular C1 transmission file.

1) The center wishing to compile data should notify NDS of the data sets that they intend to compile.

2) NDS will check that the data set has not been compiled, and is not being compiled by another center, and will let the originating center know if they may go ahead with the compilation. All centers are responsible for checking that the data sets transmitted by them do not duplicate existing data.

4. Neutron Reaction Data Compilation

~~Although each center may compile data measured outside its service area, regular transmission of EXFOR data from any one center shall include data only from its own service area~~.

5. Procedure for files received with errors

NDS can make trivial corrections directly on the common master file (along information of originating centre).

6. CINDA PROTOCOL – can be changed only after NRDC-meeting (decision concerning EXFOR-dummy)

7. CHANGES TO SCOPE, FORMAT AND CODING RULES OF CINDA OR EXFOR
– only Dictionary numbers need corrections.

8. all Appendices were changed according to the WP2006-13 (Rev. "Review of Compilation Scope".

Nuclear Reaction Data Centers
Exchange Formats Manual

Part IV

Protocol

for Cooperation between

the Nuclear Reaction Data Centers

Draft edited by

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IAEA Nuclear Data Section
on behalf of the

Nuclear Data Center Network
September 2008

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INTRODUCTION

The general scope of the Nuclear Reaction Data Centers Network (NRDC) exchange is all experimental microscopic nuclear reaction data. Modifications to the general scope of the data exchange can be adopted only as a result of an agreement between the "Core" Centers of the NRDC.

The Core Centers will be defined by NDS based on contributions to network and user service capabilities. The currently defined Core Centers and their respective service areas are:

- The National Nuclear Data Center (NNDC) services the U.S.A. and Canada.

- Nuclear Energy Agency Data Bank (NEA-DB) services the non-American member Countries of the O.E.C.D.

- The Russian Nuclear Data Center (CJD), services the countries of the former U.S.S.R.

- The I.A.E.A. Nuclear Data Section (NDS) services I.A.E.A. Member States not included in the service areas of the above three centers.

The working language of the Network is English.

The Nuclear Data Section (NDS) will be responsible for ensuring that data compilations and exchanges are done in an efficient, productive and timely manner. The role of NDS will be to:

- assign clear responsibilities for the creation and correction of data compilations, and drive these activities forward,

- ensure implementation of compilation rules,

- decide on all issues relating to dictionary codes,

- be responsible for CINDA and EXFOR distribution to the other data centers,

- **be responsible for central EXFOR Web Service and EXFOR-master file central storag**e

EXFOR PROTOCOL

Data files are exchanged regularly between the Nuclear Reaction Data Centers (NRDC) in the EXFOR format in accordance with the conventions laid down in the EXFOR Exchange Formats Manual.

NDS will maintain and distribute the EXFOR Master file.

All matters that affect EXFOR, in general, must be agreed to by the Nuclear Reaction Data Centers. Final decisions on proposals concerning compilation rules and new quantities can be made with Core Center agreement after discussions among all centers. NDS will be the final arbiter in case the Core Centers are unable to reach a decision.

All free text comments within all EXFOR entries shall be in English.

Scope of compilation

While the general scope of compilation is all experimental microscopic nuclear reaction data, the NRDC network may divide the scope into the following categories:

A)   Data types which must be compiled,
B)   Data types which may be compiled on a voluntary basis and are exchanged within the regular transmission files,
C)   Additional data types which may be transmitted only on separate transmission files using different center identification characters.

The definitions of categories A, B and C must be agreed by the network, and all centers must define and announce their compilation scopes for categories B and C to the network.

The current definitions are given in Appendix B of this Protocol.

Data Compilation Responsibility

NDS will assign areas of responsibility for data compilation. If a center assigned to a particular area of compilation (*e.g.*, neutron data from a country or countries) is not carrying out their responsibilities, *i.e.*, compiling all new data for that area in a timely manner, the NDS coordinator will reassign all or part of those responsibilities to another volunteer center[1].

An area may be for a given projectile or set of projectiles, for a given country or group of

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[1] As a consequence, the obligatory link between the geographical area of the Institute and the accession number, which has been in force for neutron data, may now be lifted for all data.

countries, for a given data type or data types, or for any combination of these.

A center responsible for an area of compilation may agree with another network center to share the compilation work for that area on a regular basis.   However, the responsibility for coverage and quality of the compilation remains with the responsible center. The currently assigned EXFOR compilation responsibilities are given in Appendix A of this Protocol.

If a center has a need for a particular data set to be compiled immediately, the center should send a request to the responsible center with a copy to NDS. If the responsible center cannot compile the data in the time needed to meet the requirements of the center making the request, that center making the request can compile the data after informing both the coordinating centre and responsible centre. ~~as an area Z entry. The entry will then be sent to both the responsible center and NDS. If the responsible center does not intend to enter the data in a timely fashion, the NDS may then transmit the Z entry to all centers. The responsible center would then be responsible for deleting the Z entry if they replace it with an entry for their area.~~

For corrections to entries of another center, entries of different accession number areas may be transmitted on the same TRANS file.

Neutron, charged-particle, and photonuclear reaction data must be compiled in separate entries, with appropriate identification, even if they are reported in the same publication.

All corrections to entries must start from the version of the common master file (rather than from local versions)

Recompilations or improvements of existing entries should result in an update of the <u>old entry</u> (rather than deletion of the old entry and creation of a new entry).

~~Each center~~ NDS shall keep an archival copy of the latest version of each of the EXFOR entries ~~which it originated~~ and shall be ready to provide the data to any center should it be required.

If two institutions from different service areas are involved, the primary institution defines the center responsible (see **LEXFOR, Institutes**, for definition of primary institution).

If several institutes of different service areas are involved, the following rules determine the compilation responsibility:
1. The institute of the facility used, if at least one author is from this institute. If an itinerant group used the facility, the main investigator of this group determines the center responsible.If a center wishes to compile data outside its area of responsibility, the following procedures should be followed.
2. If facilities of different laboratories from different service areas are used, the institution from which it is most likely to obtain further information on the experiment should determine the center responsible. This will normally be the corresponding author, or, in case of doubt, the first author of the publication. In all such cases the other affected center and NDS must be contacted before compilation to avoid duplication
3. If separate experiments from different service areas with clearly separated results are reported in the same paper, the results should be compiled in separate entries. This

separation is obligatory for different projectile types (neutron, charged particle, photon). In all such cases cross references to the other entry must be given.

A center wishing to compile data (C1) will contact the center in whose area of responsibility the data were produced (C2), with copy to NDS, with a list of the data sets to be compiled. C2 will inform C1, as quickly as possible, with copy to NDS, whether the data either have been compiled or are in the process of being compiled by another center. If the data are not compiled or being compiled, C2 will either agree to compile them with priority, or ask that C1 compile the data and to and include it in the next regular C1 transmission file.

3) The center wishing to compile data should notify NDS of the data sets that they intend to compile.

4) NDS will check that the data set has not been compiled, and is not being compiled by another center, and will let the originating center know if they may go ahead with the compilation. All centers are responsible for checking that the data sets transmitted by them do not duplicate existing data.

Neutron Reaction Data Compilation.

The responsibility for the collection, compilation and dissemination of neutron data information is shared among the four major neutron data compilation centers, each being responsible for a defined service area.

Within the scope of this protocol each center is expected to compile the data measured in its service area as fast and as thoroughly as possible. If two institutions from different service areas are involved, the primary institution defines the responsible center. See **LEXFOR, Institutes** for definition of primary institution.

Where the primary institute is not clear, the centers concerned should consult each other before compiling the data in order to avoid duplicate entry of the same data.

An effort must be made to compile all neutron reaction data published after 1 July, 1970. Earlier data will be compiled as time permits.

~~Although each center may compile data measured outside its service area, regular transmission of EXFOR data from any one center shall include data only from its own service area.~~

All matters concerning the exchange of neutron data must be agreed to by the four primary neutron data centers.

Charged-Particle Reaction Data Compilation.

The following nuclear reaction data centers have the responsibility for the collection, compilation, and dissemination of charged-particle data information from their respective countries (see Appendix A).

- National Nuclear Data Center (NNDC): for the United States and Canada,

- Japan Charged-Particle Reaction Group (JCPRG): for data from Japan,

- ATOMKI: for data from Hungary and Jülich or with Free University Brussels,

- Russian Nuclear Structure and Reaction Data Center (CAJaD): for countries of the former Soviet Union, except Ukraine, and for compilation of entries from countries not covered by other centers after coordination with NDS;

- IAEA Nuclear Data Section (NDS): all countries not covered by other centers.

~~If two institutions from different service areas are involved, the primary institution defines the center responsible (see~~ **LEXFOR, Institutes**, ~~for definition of primary institution).~~

Photonuclear Reaction Data Compilation.
The Centre for Photonuclear Experiments Data (CDFE) will be responsible for coordinating the compilation of photonuclear reaction data.

For photonuclear data there is no requirement for completeness.

EXFOR Transmissions

Assignment of Accession Numbers.

The methods of assigning accession numbers may be different at each center. That is to say, a center may assign them manually or automatically (by computer). A center may assign legal EXFOR accession numbers only to works within its agreed area of responsibility. Where the responsibility for compiling a given data set is not clear, the centers concerned should consult each other before compiling the data in order to avoid duplicate entry of the same data. (See **LEXFOR, Institute**).

Procedure for transmitting new exchange files.

The originating center deposits new exchange files on the IAEA open area, subdirectory TRANS.PRELIM,[2] and notifies the other centers. The other centers will have one month to suggest modifications to the file.

As soon as possible after the month has passed, the originating center should:

1. Either make any suggested modifications to the file, or notify the other centers why the modifications have not been made.

2. Deposit the corrected file in the IAEA open area, subdirectory TRANS,[3] and notify the other centers.

3. Request NDS to delete the preliminary version from the IAEA open area.

NDS may correct or assign volunteers to correct preliminary transmissions that are not corrected and resubmitted as final transmissions in a timely manner, and will be responsible for distributing all final transmissions.

In general, it is the responsibility of the individual centers to transfer the files from the IAEA

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[2] Suggested naming convention: PRELIM.*nnnn*, where *nnnn* is the file identification number.

[3] Suggested naming convention: TRANS.*nnnn*, where *nnnn* is the file identification number.

open area.

Procedure for files received with errors.

There are the following cases to be considered for files received with errors.

1. If a file can not be physically read, in part or whole, then the originating center should be requested to send another identical file, which should be done with minimum delay.

2. If there are errors (format, structure, *etc*.) in one or more entries, then the originating center should be notified of the errors by e-mail with the usual CP-Memo distribution.

3. Problematic entries which had to be removed from a preliminary transmission can be put into a special subdirectory of the NDS open area, TRANS.PROBLEMS. These entries will be reviewed by the other centers and can be finalized at the next NRDC meeting.

Alterations to EXFOR entries ("Retransmissions").

Alterations to EXFOR entries are, in general, transmitted only by the originating center and are included in the regular EXFOR transmissions. However, retransmission of entries belonging to a center that is no longer active in an area compilation may be done at another center by agreement of the cooperating centers.

NDS can make trivial corrections directly on the common master file (with information of originating centre).

Serious corrections (for example, those involving the COMMON or DATA sections, or essential BIB keywords such as REACTION, MONITOR, *etc*.) should be transmitted as quickly as possible. Less serious corrections can be made and transmitted as workloads permit.

Notification of errors found in entries originating at another center should be communicated to all centers. The NDS should make sure these corrections are done in a timely manner. If they are not, the coordinator will ask one of the other centers to submit the corrected entries.

CINDA PROTOCOL

The CINDA2001 format shall be the method of exchange between the Nuclear Reaction Data Centers. The CINDA Formats Manual shall contain the coding rules for all CINDA exchanges.

NDS will maintain and distribute the CINDA Master file.

All matters that affect CINDA2001 formats, in general, must be agreed to by the Nuclear Reaction Data Centers. Final decisions on proposals can be made with Core Center agreement after discussions among all centers. NDS will be the final arbiter in case the Core Centers are unable to reach a decision.

The information compiled in CINDA shall consist of references to experimental nuclear reaction data and evaluated nuclear data libraries. The quantities to be entered shall be those that have been agreed upon for entry into EXFOR and into the ENDF-formatted evaluated libraries.

Updates to the CINDA2001 formats must be agreed upon by the core centers.

Data Compilation Responsibility

NDS will assign responsibilities for CINDA compilation.

A subset of the "core" centers will be responsible for all CINDA Transmissions. That is, the NNDC will be responsible for the US and Canada, the NEA Data Bank will be responsible for the NEA member countries, and the NDS will be responsible for the rest of the world. All other centers compiling new references will transmit the data through one of these three centers.

Updates sent by a center containing new entries and updates to entries that are the responsibility of the originating center shall be transmitted in a separate file (exchange file) from new entries and updates to entries that are the responsibility of another center. The latter shall be sent in reader files, separated by coordinating center. New blocks included on reader files shall have block numbers beginning with zero (0) and sequence numbers equal to zero.

CINDA Transmissions

A CINDA Transmission shall consist of the exchange file and one or more reader files.

The EXFOR Accession Number will, in general, be used as the CINDA block number (see EXFOR Protocol, page 4, for assignment of accession numbers).

The sequence number within a block shall be unique, *i.e.,* if a line is deleted, the sequence number should not be reassigned.

The originating center shall deposit new CINDA transmissions on the NDS open area, subdirectory CINDA.

In the case where there is problem with updates to files of a given center, the Nuclear Data Section shall notify the original center before releasing the files. If the original center does not respond in a timely manner, NDS shall have the authority to produce transmission files for that center and release them to all data centers.

In general, it is the responsibility of the individual centers to transfer the files from the NDS open area.

CHANGES TO SCOPE, FORMAT AND CODING RULES OF CINDA OR EXFOR

No changes in the basic structure of CINDA or EXFOR will be allowed without NRDC agreement.

However, in particular the EXFOR format is continuously refined and expanded to include new types of data as the need arises. These refinements are introduced through dictionary updates, modifications of coding rules which may affect the formats or the file structure, or redefinition of the compilation scope.

Dictionary modifications or additions which appear to be trivial (inconsequential) will be added to the dictionaries as soon as possible after receipt, without formal approval procedures.

For all other proposed changes, it will be the responsibility of the center originating the proposal to obtain NRDC agreement, following the procedure outlined below.

The following procedure should be followed by each of the NRDC members in obtaining the agreement for changes or revisions:

1. The initial proposal should be disseminated to all centers. Wherever possible proposals affecting the content of the Manuals should contain proposals for specific wording to be inserted in the Manual. Adequate explanation and documentation to help in preparing LEXFOR entries should accompany any suggestions for additions to LEXFOR. Proposals for new dictionary quantity codes (Dictionaries 30-34, 235,236) should be supported by an expansion, a full explanation of its use and limits, a list of corresponding Dictionary 236 entries, and, where appropriate, a reference to the data for which the code will be used. All communications with regard to such proposals shall be in the form of CP Memos.

2. In the case where there is discussion on a proposal, the initiating center shall then collect and digest all comments, suggestions and counter proposals.

3. In this review, the initiating center shall consider all facts would affect the CINDA/EXFOR associated computer codes.

4. A change in CINDA/EXFOR will not oblige centers to change existing entries (whether they have been transmitted or not) unless stated explicitly in the proposal and approved by the data centers.

5. The initiating center shall then distribute a technical evaluation of alternatives to the other centers.

6. After receiving the response to this technical evaluation:
   a) <u>In the case of positive agreement</u>, the initiating center shall submit a final proposal including all dictionary, CINDA Manual, EXFOR Systems Manual, and LEXFOR updates and mention which computer programs will need to be updated.
   b) <u>If no positive agreement has been reached</u>:
   - If the proposal implies a change in the basic structure of CINDA or EXFOR, or a change in the general scope, the proposal will be included in the agenda of the next NRDC meeting. In order to be adopted at an NRDC meeting, a proposal should be

sent out at least one month prior to the meeting date.
- In all other cases, NDS will seek to reach a consensus between the core centers, in which case the proposal is considered approved. If the core centers cannot come to an agreement, NDS acts as the final arbiter.

Whenever decisions are made at an NRDC meeting that require Manual changes, the dictionary and manual updates should be prepared and sent out as soon as possible after the draft minutes are received. The minutes of the meeting should include either the proposed dictionary and manual updates or a reference to the CP-Memo(s) in which they are given.

DICTIONARY PROTOCOL

<u>Routine transmission of Dictionaries.</u>

The IAEA Nuclear Data Section (NDS) is responsible for the coordination and the updating of the EXFOR dictionaries. For this purpose, an archival dictionary file is maintained at NDS in a special archive format (see Dictionary Exchange Formats Manual).

About every three months, or whenever a major alteration is made, NDS will transmit the complete dictionary file to the cooperating centers, either in the EXFOR or DANIEL format, as each center prefers.

It is the responsibility of each center to verify that information is compiled in accordance with the latest version of the dictionaries.

<u>Addition of new codes.</u>

The cooperating centers may propose new codes or any other dictionary alteration by means of CP-Memos. A proposal for a new code should include any associated information needed for the dictionary, along with an explanation of its use, and, where appropriate, references to data sets for which it will be used.

The center responsible for updating the dictionaries is also responsible for checking the consistency of proposed alterations with other codes and with the manuals. Some latitude is allowed in the formulation of a final dictionary entry, but the meaning must not be changed without the approval of the originating center. In questionable cases, the other centers should be consulted. The cooperating centers are responsible within their respective areas for keeping the laboratory (Dictionary 3) and bibliographic reference code (Dictionaries 5-7) dictionaries up to date.

Consequential updates, in particular, changes to the codes in Dictionaries 1, 2, 4, 16, 124, 125, 28-34, 235, 236 will be entered into the dictionaries only after approval by the centers.[4] Also, alterations of EXFOR dictionary entries that entail changes to data already transmitted cannot be implemented without specific NRDC approval. A proposed dictionary alteration that appears to be trivial (inconsequential) will be added to the dictionaries as soon as possible after receipt. NDS will be the final arbiter for all decisions concerning dictionary codes.

If a center uses a new dictionary code in a data transmission prior to its inclusion in the relevant dictionary, the center must be prepared to correct the entry and retransmit it, if the new code is not approved.

In general, a dictionary alteration becomes effective upon its transmission to the cooperating centers.

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[4] See section on Changes to Scope and Format of EXFOR

COMMUNICATION BETWEEN CENTERS

Discussion among the cooperating centers on the subjects of data compilation, the EXFOR system and its further development, EXFOR Manual and Dictionaries, and EXFOR transmission files, are continued by means of memos, which are called:

- **CP Memos**: for the communication of proposals, programming details and other general considerations that touch upon the overall aspect of EXFOR. These memos are distributed to the cooperating centers. Other compiling groups are informed, as needed, by their center of contact. This series of memoranda is numbered as: Memo-CP-*n/m*.

- **Four-Center Memos**: for the communication of details dealing only with neutron data or other Four-Center (non-EXFOR) matters. This series is numbered as: Memo 4C-*n/m*.

    For both series of memos *n* is the center identification number, and *m* the chronological memo number within the center.

Such memos should conform to the following general format:

1. The memo shall be headed by the memo number, the date, originating staff member(s), and subject.

    For memos covering more than one topic, all subjects should be listed separately, and the contents of the memo should be summarized on a covering-page. Each subject should begin on a new page to facilitate distribution to the appropriate staff at each center for action. The memo number should appear on each page.

2. Items requiring agreement of the cooperating centers should be noted on the appropriate page.

3. All proposed changes and additions to the dictionaries, CINDA Manual, EXFOR Systems Manual, and LEXFOR should contain (where possible) a revised entry in the format of the appropriate document in addition to the usual documentation.

4. In case of disagreement, the originating center is responsible for collecting the points of agreement and issuing a final wording in the format of the appropriate document(s).

MANUALS

The center responsible for the updating of the Manuals is NDS.

The final proposed manual update submitted in a CP-Memo or in the minutes of an NRDC meeting, is entered into the manuals substantially unchanged. However, the responsible center is free to introduce editorial changes to maintain a consistency of style. The responsible center is also responsible for maintaining the internal consistency of the manuals, which means, *e.g.*, that they must check whether an agreed proposal entails changes (cross-references, *etc*.) in other parts of the manuals.

In general, a non-editorial change on a manual page, as compared to its previous version, is marked by a vertical line in the left-hand margin, and the date of the latest revision to that page is given at the bottom of each page.

Where there are different views on matters of minor importance, These may all be included in LEXFOR in so far as these views are in agreement with the agreed procedures and do not cause ambiguities in the definitions of codes.

Manual updates will be issued as soon as possible.

EXFOR PROCESSING AND RETRIEVAL CODES

Some EXFOR Processing and Retrieval programs are used by more than one data center. Each center using one of these programs is invited to contribute suggestions for updates to the program. The originating center will coordinate all program updates.

If another center wishes to update a code, that center should communicate their intention to the originating center before any updates are done. Any updates can be done after discussion with the originating center and upon mutual agreement. The updated code should be transmitted immediately to the originating center.

The originating center retains responsibility for the official version of the code and is free to reject unsanctioned updates. Only the originating center will transmit updated versions to the other centers.

Appendix A: Compilation Responsibilities

Center	Basic responsibility	Additional compilation
NNDC	Neutron data and CPND from USA and Canada	Photonuclear data (coordinated by CDFE)
NEA-DB	Neutron data from NEA countries	CPND (coordinated by NDS)
NDS	Neutron data and CPND from "rest of the world" (areas not covered otherwise)	
CJD	Neutron data from former Soviet Union (except Ukraine)	
CAJAD	CPND from former Soviet Union (except Ukraine)	CPND from "rest of the world" (coordinated by NDS)
CDFE	Photonuclear data	
CNDC	Neutron data and CPND from China (entries submitted through NDS)	
JCPRG	CPND *and photonuclear data* from Japan	*CPND for projectiles with nonpositive baryon number from all parts of the world*.
ATOMKI	CPND from ATOMKI and data measured in cooperation with Juelich or with Free Univ. Brussels (entries submitted through NDS)	
UkrNDC	Neutron data and CPND from Ukraine (entries submitted through NDS)	Photonuclear data (coordinated by CDFE)
RFNC	CPND on light nuclei, coordinated with other centers	
Indian compilation activity [*]	*Neutron data and CPND from India, coordinated and assisted by NDS*	

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[*] coordinated by Dr. S. Ganesan, B.A.R.C., Mumbai, India

Appendix B: Compilation Scope

General categories

Category	Data type
A - Compulsory compilation	All experimental data for incident projectile energy $\leq$ 1 GeV and projectiles with A $\leq$ 12, unless listed in Cat. B; and data measured in inverse kinematics, which fulfill these criteria when target and projectile are exchanged.
	For photonuclear data compilation is highly recommended. *Completeness should be achieved in particular for photoneutron and photofission data.*
B - Voluntary compilation	Neutron- or charged-particle data with $E_{in} > 1$GeV; Heavy ion data for projectiles with A>12; Vector and tensor polarization data; Kerma factors (integral data only)
C - Separate transmission	Other data types, as specified in the table below

Separate Transmission Series

CIC *)	Center	Data types
J	JCPRG	Charged-particle nuclear data for projectiles with nonpositive baryon number *from all parts of the world*.
V (extinct)	NDS	Evaluated neutron data

*) Center Identification Character