

Memo CP-D/250

November 10, 1994

To: Distribution

From:   
C.L. Dunford and H.D. Lemmel

Subject: **Conclusions of the Center Heads' Meeting**  
**31 October - 1 November 1994**

Please find attached the paper on "The Nuclear Data Centres Network" which was formulated during above meeting. Kindly note the actions which are expected from you as stated on the following pages.

Distribution:

M.R. Bhat, NNDC  
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3 copies

**INFORMAL MEETING**  
**Heads of Nuclear Data Centers**  
Vienna, 31 October - 1 November 1994  
NDS Library Room A23-40

**Summary and Conclusions**

1. See page 3 for the list of participants and page 4 for the agenda. C.L. Dunford acted as chairman.
  
2. The draft of the paper on the data centres network, which was distributed before the meeting, was discussed. The final draft of the paper on "The Nuclear Data Centres Network" was drafted as given on pages 5 + 6.  
  
**Action:** All center heads are invited to review this paper and to submit any proposals for changes or additions not later than 10 January 1995.
  
3. The network Paper will have two Annexes, one with the Addresses of the centers and one with the Activities of the centers. The proposed structure of these annexes is given on page 7.
  
4. Annex 1 of this Paper is given on pages 8-11.  
  
**Action:** Kindly check and submit revisions, as necessary, by 1 December 1994.
  
5. For Annex 2 of this Paper only the NDS entry is given on page 11 as a sample. Although most of the centers have submitted their entries for Annex 2, we ask them to update their entries in accordance with the proposed structure as given on page 7.  
  
**Action:** Send your revised entry for Annex 2 by 1 December 1994.
  
6. **Schedule:** Revised annexes to NDS by 1 December 1994. Thereafter the full paper with Annexes will be sent out to the centers for final review. Comments on the full paper to reach NDS by 10 January 1995.

Thereafter the centers will be asked to resubmit their Annex, duly signed. The document will then be printed as an INDC(NDS)-report which should be available by 1 March and submitted to the INDC which will have its Meeting on 3-7 April 1995.

**INFORMAL MEETING**  
**Heads of Nuclear Data Centers**  
Vienna, 31 October - 1 November 1994  
NDS Library Room A23-40

**LIST OF PARTICIPANTS**

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**INFORMAL MEETING**  
**Heads of Nuclear Data Centers**  
31 October to 1 November 1994  
IAEA Headquarters, Vienna, Room A2340 - NDS Library

**PROPOSED AGENDA**

**October 31**

- |      |   |                |
|------|---|----------------|
| I.   | Welcome speech - C.L. Dunford                                       | 09:00 AM       |
| II.  | Selection of Chairman   |                |
| III. | Adoption of Agenda  |                |
| IV.  | General discussion concerning the objectives of the meeting         | 09:30 AM       |
|      | <u>Coffee Break</u>   | 10:30 AM       |
| V.   | General discussion on the form and contents of the Network document | 10:45 AM       |
|      | <u>Lunch</u>  | 12:30 PM       |
| VI.  | Discussion and adoption of the preamble                             | 02:00 PM       |
|      | <u>Coffee Break</u>   | 03:30-04:00 PM |
|      | End of Session  | 05:30 PM       |

**November 1**

- |       |   |          |
|-------|---|----------|
| VII.  | Detailed discussion of form and contents of ANNEX 1     | 09:00 AM |
| VIII. | Detailed discussion of formal contents of other ANNEXes | 09:30 AM |
|       | <u>Coffee Break</u>                                     | 10:30 AM |
| IX.   | Detailed discussion of NDS and NEADB draft ANNEXes      | 10:45 AM |
|       | <u>Lunch</u>  | 12:00 AM |
| X.    | Detailed discussion of remaining draft ANNEXes          | 01:30 PM |
| XI.   | General review of the draft document                    | 04:30 PM |
|       | End of Meeting  | 05:30 PM |

# THE NUCLEAR DATA CENTRES NETWORK

## Introduction

The Nuclear Data Centres Network, a world-wide cooperation of nuclear data centres under the auspices of the International Atomic Energy Agency, has been established to coordinate the collection, compilation and dissemination of nuclear data on an international scale. This document has been produced jointly by the Heads of the cooperating Data Centres to describe the activities of each Centre and commitments of each Centre to the Network. The document will be amended as necessary by the Data Centre Heads at their biennial meetings.

## Nuclear Data

Nuclear data are essential to the development and application of all nuclear technologies. These data are conventionally separated into two types, namely properties of a nucleus interacting with radiation or another nucleus called *nuclear reaction data*, and properties of single nuclei called *nuclear structure and radioactive decay data*. The term nuclear data is meant to include bibliographic and descriptive documentation as well.

This definition includes nearly all nuclear data required for energy and non-energy nuclear applications. Applications of these nuclear data include nuclear energy development (both fission and fusion), nuclear medicine, process control in manufacturing, material identification using activation analysis, accelerator design and shielding, physics experiment and detector design, space radiation shielding, environmental monitoring, nuclear waste management, nuclear material disposal and others.

## Nuclear Data Centres Network

Nuclear data centres provide the essential link between the producers and the users of nuclear data. The Nuclear Data Centres Network has been established to organize this important activity on an international scale with the objective of providing nuclear data in a convenient, readily-available form to users. Customer service is the cornerstone of this Network. The Network organizes the tasks of collecting, compiling, standardizing, storing, assessing and distributing the vast amounts of nuclear data which currently exist or will be produced and needed in the future. Only through an international cooperation of interested groups of scientists in different organisations in different countries can the objective be realized, avoiding duplication of effort and maximizing the use of specialized expertise in each of the cooperating centres.

The Network is coordinated through regular meetings organized by the IAEA Nuclear Data Section, and through direct communications among the centres. The rules and procedures for the compilation and exchange of data files, and agreements on worksharing among the centres concerning data acquisition and services to customers, are determined during Network meetings.

The annexes to this document enumerate the Centres' activities and responsibilities. Each Centre has agreed to assume responsibility for one or more tasks within the Network for which it has both unique expertise and resources. Information collected or produced in any participating Centre will be available without restriction to any of the other Centres

which are party to the agreement. This information will be available cost-free to each Centre's customers.

## **Network Objective and Tasks**

Dissemination of nuclear data and associated documentation to users is the primary goal of the Network. In order to accomplish this goal, the following specific tasks must be carried out:

- Compilation of relevant bibliographic information,
- Compilation of experimental nuclear data,
- Collection of evaluated nuclear data,
- Exchange of nuclear data of all types,
- Promotion of the development of special purpose evaluated data files,
- Development of common formats for computerized exchange of nuclear data,
- Coordinated development of computer software for managing and disseminating nuclear data,
- Coordination of the development and dissemination of end-user software for both on-line and local access to nuclear data,
- Documentation of current and future data needs in order to be able to meet changing user demands,

## **Data Evaluation Efforts**

The Network recognizes the importance of separately coordinated nuclear data evaluation activities. The availability of evaluated nuclear data files is essential to the Network's ability to fulfill its responsibilities to the user community.

## **Core Nuclear Data Centres**

This agreement recognizes the special status of the core Nuclear Data Centres

- Brookhaven National Laboratory, Upton, USA (see Annex 2.1);
  - Nuclear Energy Agency, Paris, France (see Annex 2.2);
  - International Atomic Energy Agency, Vienna Austria (see Annex 2.3);
  - Institute Physics and Power Engineering, Obninsk, Russia (see Annex 2.4);
- and

Kurchatov Institute, Moscow, Russia (see Annex 2.5).

which provide coordinated, world-wide, customer services covering the entire range of nuclear data described herein. This core also provides complete world-wide compilation of bibliographic and experimental neutron reaction data.

## **Other Nuclear Data Centres**

Regional, national and specialized data centres (see annexes following 2.5) provide an essential complement to these core data centres by assuming particular responsibility for collection and dissemination of data of a specialized type or application.

## Structure of the Annexes

### Annex 1

For each centre:

- Contact person:
- Address:
- Telephone:
- Fax:
- E-mail: (Internet)  
(Bitnet)
- FTP and/or World Wide Web  
(for centre-to-centre file transfer)

### Annex 2 (previously Annex X) (upper limit 2 pages)

One entry for each center containing the following information:

- Background  
(History, etc)
- Status
  - Type of institute:
  - Participating countries:
- Staff and Programme
  - Total staff:
  - Thereof allocated to nuclear data activities
  - Fiscal year and budget cycle.

The activities and responsibilities should be structured as follows:

- Activities
  - A. Within the Network \*)
    1. Services
    2. Reaction data
    3. Structure and decay data
  - B. Outside the scope of the Network
  - C. Unique responsibilities within the network
- Signature \_\_\_\_\_ Date \_\_\_\_\_

\*) Notes: 1. Each of these three items may contain a subitem on "codes".  
2. An entry "none" under the one or other of these items is acceptable.

Annex 1

Addresses

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1.2 OECD Nuclear Energy Agency Data Bank

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1.3 International Atomic Energy Agency - Nuclear Data Section

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## Annex 2

### IAEA Nuclear Data Section

- **Background**

The Nuclear Data Section of the International Atomic Energy Agency was formed in 1964 to provide nuclear data to IAEA Member States. In 1964, the Section along with 3 other neutron reaction data centers formed the 4-Center network. This network was designed to coordinate the compilation and distribution of neutron reaction data on a world-wide scale in order to provide better customer service of higher quality at lower cost by avoiding duplication and adopting common compilation formats and procedures allowing easy data exchange.

In 1975 the NDS initiated a network of charged particle and photo-nuclear data centers to cover nuclear reaction data types not covered by the existing 4-Center network. In 1979 the two networks were merged into the Nuclear Reaction Data Center Networks covering all nuclear reaction data.

Separately the NDS has initiated the Nuclear Structure and Decay Data Network in 1975 to coordinate internationally the evaluation and dissemination of nuclear structure and radioactive decay data. Also in 1975 the Atomic and Molecular Data Unit was formed within the Nuclear Data Section to coordinate evaluation and dissemination of atomic and molecular data.

The nuclear data program of the IAEA is guided by the International Nuclear Data Committee.

- **Status**

— **Type of institute:** A Section within the Division of Physical and Chemical Sciences of the Research and Isotopes Department of the International Atomic Energy Agency

— **Participating countries:** 115

- **Staff and Programmes**

— **Total staff:** 10 "professional" plus 11 "general service"

— **Thereof allocated to nuclear data activities:** 7 "professional", 10 "general service"

— **Fiscal year:** Calendar year

— **Budget cycle:** two years 1995/1996

- **Activities**

- A. **Within the Network:**

- 1. **Services:**

- Nuclear data services to those member countries that are not taken care of by one of the other service centers, including direct on-line computer services

- Documentation of data libraries in the IAEA-NDS-... series and publicizing in the IAEA Nuclear Data Newsletter.

2. Reaction data:

- Coordination of the nuclear reaction data centers network, including
  - neutron induced reactions,
  - charged-particle and heavy-ion induced reactions,
  - photonuclear reactions.
- Compilation (EXFOR) of numerical data and related information for nuclear reaction data measurements performed in those member countries that are not taken care of by one of the other compilation centres.
- Compilation (CINDA) of bibliographic references to microscopic neutron reaction data and related data, published in those member countries that are not taken care of by one of the other compilation centres. Publication of the CINDA hand books.
- Coordination of nuclear data generation activities by experiment, theory, evaluation, validation, for the production of specialized data libraries for special applications. Contributions to the nuclear data evaluation efforts that are coordinated by the NEA Data Bank.

3. Structure and decay data

- Coordination of the NSDD evaluators' network
- Coordination of the production of specialized data libraries

**B. Outside the scope of the Network**

- Secretariat of the International Nuclear Data Committee and its subcommittees; nuclear data scientific programs as recommended by the INDC, with emphasis to the assessment of status and needs of nuclear data for energy and non-energy applications.
- Support of nuclear data activities in developing countries by appropriate means such as training, Technical Cooperation projects, research contracts, etc.
- Data center and coordination activities in the field of atomic and molecular data for fusion.

**C. Unique responsibilities within the network**

- Data center coordination by organizing coordination meetings, and resulting activities.
- Publications such as CINDA and WRENDA.

• **Signature** \_\_\_\_\_

**Date** \_\_\_\_\_