

Progress Report of the IAEA Nuclear Data Section

to the Consultants' Meeting
on the Co-ordination of the Nuclear Reaction Data Centres (Technical Aspects)
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The Report summarises the work done in the field of nuclear data at the Nuclear Data Section of the IAEA (Web: <http://www-nds.iaea.org/>, e-mail: services@iaeand.iaea.org) for the period 1 May 2000 – 30 April 2001.

1. General

A new programme of work was prepared for 2002 – 2003. It is based on a constant budget and contains new medium-term and old long-term tasks. High priority is given to the data centres co-ordination and data dissemination activity. If it approved, the budget will allow maintain NDS staff and activity at the present level.

A new NDS Section Head should take up his duties in late summer 2001. The nuclear data centre unit is facing new personnel changes in 2002 – 2003. These will concern the staff dealing with CINDA, evaluated data checking and processing and data processing programs. After Ms. Elisabeth Baumgartner has left the section, Ms. Andrea Scherbaum took over the duties as NDS secretary, and Ms. Rozanna Bojdo the duties of secretary of the Nuclear Data Development Unit.

2. Data compilation

2.1. CINDA

As a contribution to the new format and file 'CINDA-2001', a correspondence list between CINDA quantities and EXFOR reaction codes has been produced. The new format and manual is being studied and comments will be presented at the meeting.

Currently, NDS is scanning over 40 journal titles received regularly in circulation and about 20 titles from on-line indexing services. These include 8 journals originating from area 1 countries, 20 from area 2 and 5 translation series, the rest originating from area 3 countries.

Since the last NRDC meeting, NDS has prepared and transmitted 5 CINDA batches (NDS029 to 033) containing altogether 1765 CINDA entries either in exchange format (area 3 entries) or reader format (for processing by other centers). There is no backlog in entries from

current journal issues, but some backlog in the sublines for translation series and the coverage of INDC reports.

CINDA 2000 was published as cumulative issue including literature published and data files compiled/updated between 1988 and 2000. Recipients on the NDS distribution list for cost-free copies of the CINDA 2000 book were also provided with a copy of the CD-CINDA 2000, produced and supplied by the NEA-DB. NEA-DB and NDS decided to continue the cost free distribution of the book and CD together and dropped the plan to ask recipients for a decision between CD and book. NDS decided not to provide the CD for the sales of the CINDA book in order to maintain the cost-free nature of the CD.

2.2. EXFOR and Dictionaries

After a working version of the EXFOR database updating program CSIMER was obtained and the dictionary maintenance programs DAN2X4 and MAKE_BACK were modified at NDS (to take care of last year's format change of the DANIEL dictionaries), a backlog in processing incoming TRANS files could be worked up and dictionary transmission 9077 was implemented and distributed in spring 2001 (following dictionary transmission 9076 of Summer 2000).

Since last year's meeting, 28 area 3 entries were compiled (including 16 new and 12 revised, the latter ones including some recompilations of incomplete old RIDER file entries). The following TRANS files were distributed: 3106 (final version), 3107 (prelim. + final), 3108 (prelim.). Preliminary TRANS 3109 is expected to be released around the time of the 2001 NRDC meeting. There is a little backlog in area 3 EXFOR compilation for works published in the reports and conference proceedings.

2.3. Evaluated data libraries, files and data processing codes

New evaluated data libraries, files and data processing codes are advertised for distribution to the NDS customers. Some of these products were obtained through the network of co-operating centres, others comprise the results of the IAEA/NDS CRP projects. They include:

- IAEA Photonuclear Library;
- Charged-Particle Cross Section Database for Medical Radioisotope Production;
- FENDL/A in Pictures Presentation;
- PREPRO2000: 2000 ENDF/B Pre-processing Codes;
- Reference Neutron Activation Library (RNAL);
- POINT2000: A temperature Dependent ENDF/B-VI, Release 7 Cross Section Library.

3. Data dissemination

A new general scheme of the NDS document and product distribution will be based on a "wish list" as selected by the customers from the topics of the NDS activity and modes of distribution. The contents of ADLIST, the list of the NDS customer's addresses and the document distribution codes, are now under revision. Therefore, a questionnaire was distributed

by mail and also placed on the NDS Web-site. The users are asked in the questionnaire to inform the NDS about their interest in the receiving our products and about changes in their addresses. The registration of new users is also welcomed. Simultaneously the revision of the addresses in ADLIST is done with the help of the data centres network.

All new products listed in 2.3. can be downloaded by users from the NDS Web site or received up on request on CD-ROMs. An updated version of EXFOR on CD-ROM was released together with a new EXFOR/Access CD-ROM with enhanced search and retrieval capabilities and built-in interactive graphic tools.

Two Nuclear Data Newsletters advertising new NDS products and services were published and distributed as hardcopies and electronically. Twelve INDC NDS and countries' reports were prepared and published as hardcopy and electronically, including the first full translation from Russian to English of the Nuclear Constants (VANT, 2 (1999)) journal. We will try to continue with the practise of full VANT translation. Seven new IAEA-NDS reports with the description of new libraries, files and programs were prepared, and seventeen old reports of this series were converted into PDF format. Altogether, fifty-one of these reports are now available electronically from our Web site. The others, more than hundred reports, are obsolete. Updated EXFOR Basic, EXFOR System and LEXFOR are available electronically. The NRDC network document was updated and the new NSDD network document was published. Three reports of the IAEA-TECDOC series with the results of IAEA/NDS CRPs were prepared and published. They will be made available electronically.

Statistics of accesses and retrievals from NDS and IPEN-mirror Web sites including the geographical distribution of users are shown in Fig. 1. Some growth, mainly due to the opening of the access to new libraries, files, programs and documents, is evident. The absolute and relative number of users from our service area shows a permanent increase. The number of data retrievals through Telnet access to the NDIS system is now settled at the level of 1500 retrievals per year. We distributed to our customers 2467 copies of reports and documents, including 1986 copies upon their requests and 625 CD-ROMs, including 446 CD-ROMs sent to their requests.

4. Software development

The EXFOR CD-ROM relational database under ACCESS-97 was finalized with a further improvement of the functionality, an acceleration of the data search, gathering statistics, simplification of the installation procedure of the plotting utility, CD-ROM Start up utility. An enhanced search facility on reaction products, including fission products specified only in data table, was developed (April 2001 EXFOR/Access version).

The collaboration with other centres in the development of new approaches to the nuclear database management and data dissemination was established.

A unified approach, independent from OS and DBMS platform, was developed. for PC, local network and Internet based services. A test version of simplified but full-scale EXFOR relational database was installed, tested and evaluated on several platforms.

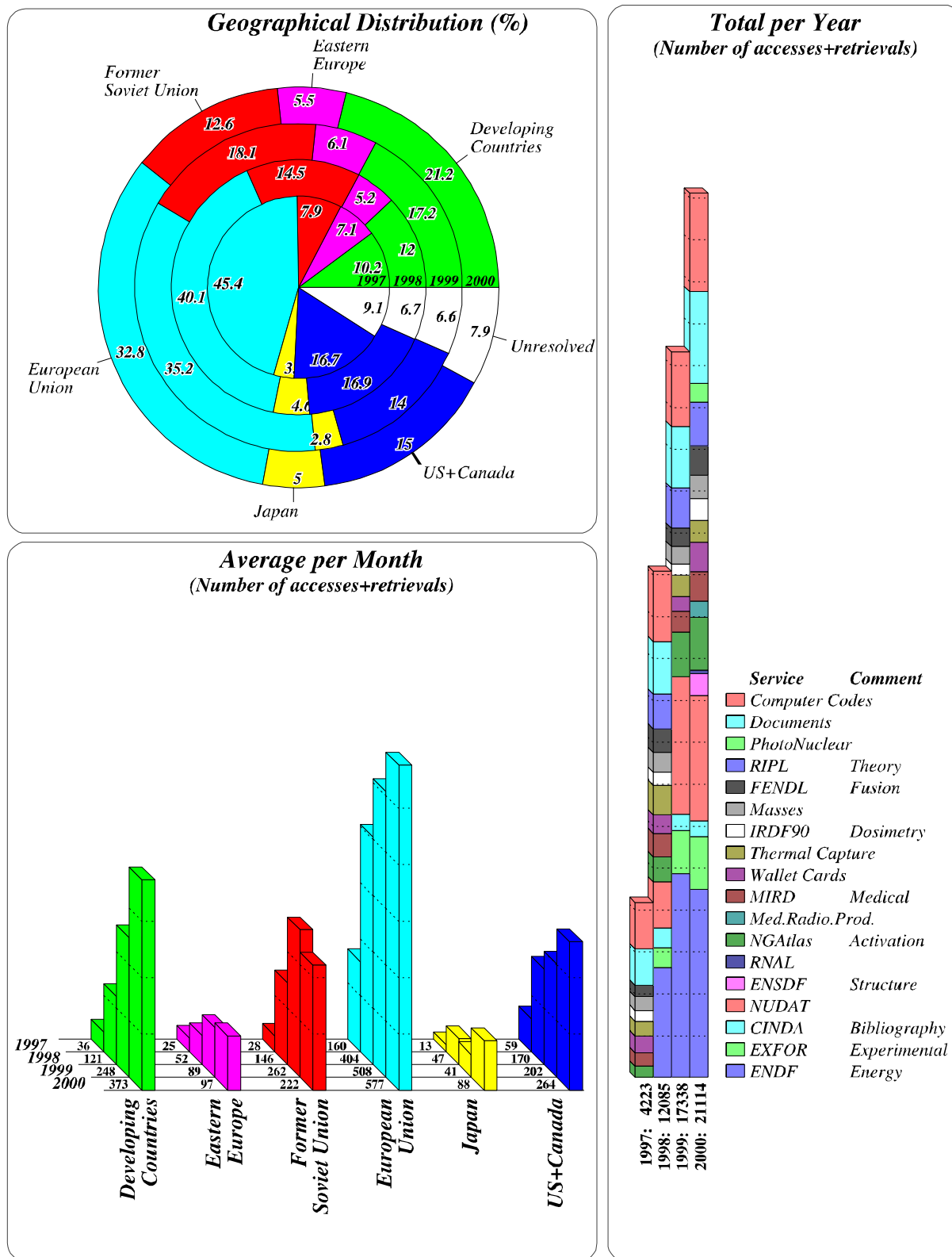
The next version of ZVView, multiplatform interactive graphic package for nuclear data presentation, was prepared and released.

5. Visits and inter-centres co-operation

The following visits, which contributed to the data centre co-operation, have been taken place:

- V. Zerkin (IAEA/NDS) to BNL/NNDC, 11 – 29 September 2000, participation in the Workshop “Relational Databases for Nuclear Data” and common software development of nuclear databases and services.
- W. Costello (IAEA/NDS) to BNL/NNDC, 11 – 15 September 2000, participation in the Workshop “Relational Databases for Nuclear Data”.
- O. Schwerer (IAEA/NDS) to JCPRG, Hokkaido University, 29 September – 30 October 2000, conversion of data from NRDF to EXFOR format.
- T. Burrows (BNL/NNDC) to IAEA/NDS, 8 – 13 December 2000, enhancement of existing and installation of new Web retrieval procedures.
- D. Winchell (BNL/NNDC) to IAEA/NDS, 5 – 9 February 2001, development of techniques for achieving greater platform independence of shared databases.
- Y. Ohbayashi (Meme Media Lab., Hokkaido University) to IAEA/NDS, 12 – 23 February, 2001, work on recent JCPRG EXFOR compilations, discussion of NRDF vs. EXFOR (translation, retrieval, statistics) and co-operation JCPRG – NDS.
- V. Zerkin (IAEA/NDS) to BNL/NNDC, 5 – 16 March 2001, design, development and testing of CINDA/EXFOR/ENDF components of Nuclear Reaction Database (NRDB).
- Ms. V. McLane (BNL/NNDC) to IAEA/NDS, 21 – 25 May 2001, development of CINDA, EXFOR, ENDF RDB and common dictionary system.

IAEA+IPEN Nuclear Data Services: Web Statistics



IAEA, Vienna, 8 January 2001

Fig. 1. Statistics of accesses and retrievals from NDS and IPEN (NDS-mirror in Latin America) Web sites.