



INTERNATIONAL ATOMIC ENERGY AGENCY
INTERNATIONAL NUCLEAR DATA SCIENTIFIC WORKING GROUP

Panel to Advise the IAEA on its
Programme of Nuclear Data Compilation.
March 29 - 31, 1965.

A g e n d a

1. Opening of panel - statements for IAEA
2. Statements of progress since November INDSWG meeting or of methods in use at other data compiling centres*
3. Bibliographic system - technical problems:
 - (a) Comments on CINDA system
 - (b) Alternative proposed systems, if any
 - (c) Implementation by IAEA in respect of areas not covered by centres*
 - (d) Requirements for exchange with centres*
4. Numerical data exchange - technical problems:
 - (a) Possibility of using punched cards
 - (b) Formats of data on cards
 - (c) Magnetic tape exchange
 - (d) Data received in written form (e.g. from areas not covered by centres*)
5. Other general considerations (if any)
6. Special technical problems (if any) in exchange with
 - (a) US (b) USSR (c) ENEA centres
7. (a) Report for INDSWG
(b) Report to Director General of IAEA
8. Any other business

* Centres referred to are in US, USSR and of ENEA (in Saclay)

The following persons were present:

ABRAMOV, Dr. A.I. (USSR)	SCHMIDT, Dr. J.J. (Germany, Fed. Rep. of)
COLVIN, Dr. D.W. (ENEA/OECD)	STEIN, Dr. J.R. (USA)
GOLDSTEIN, Prof. H. (USA)	STORY, Mr. J.S. (United Kingdom)
JOLY, Dr. H. (France)	

For the IAEA: Mrs. P.M. APTEE, Mr. K. EKBERG, Dr. E.D. LEMMEL,
Miss U. SCHULZE, Dr. P.S. OTSTAVNOV (part-time only);
the chair was taken by Dr. C.H. WESTCOTT.

Report of the Panel of Experts on Nuclear Data,
29 - 31 March 1965

1. The Meeting held in Vienna during the period 29 - 31 March 1965 was convened to advise the International Atomic Energy Agency solely on the technical problems involved in Nuclear Data compilation. The discussions were held under the assumption that suitable cooperative arrangements would be negotiated between the IAEA and the various countries and organizations involved. The Meeting has considered the various points of view and reports to the Director General of the IAEA as follows:

GENERAL

2. The recommendation number 3 of the INDSWG meeting held in Warsaw in November 1964 forms a suitable basis for a frame of reference of the operations of the Nuclear Data Unit of the Agency.

3. The meeting took note of the steps already taken by the IAEA towards obtaining arrangements for cooperation on a reciprocal basis with the data centres in the US, USSR and the ENEA centre in Saclay.

4. Verbal reports were received from the US and ENEA data centres concerning their operations and the exchange of data on a bilateral basis which has already begun. These exchanges include both bibliographic data using the CINDA system and numerical data using the SCISRS system.

5. Note was also taken of verbal reports concerning the plans and activities of the USSR centre under the following general headings:

- (a) The Obninsk centre would undertake to coordinate, collect and distribute information from other laboratories in the USSR.
- (b) For the exchange of bibliographic data the details of the CINDA system have been discussed and the USSR centre intends to adopt this system with some minor modifications.
- (c) For an initial period (perhaps 1 to 1½ years) this centre will cooperate by sending entries and abstracts in written form to Vienna for the CINDA operation there, receiving in exchange information from the CINDA system on a regular basis and in reply to individual requests.
- (d) After this initial period a CINDA system would probably be established on a computing machine in the USSR.

- (e) The USSR centre is interested in a discussion of the technical problems involved in the exchange of numerical data, due to the use of different types of computing machines, with a view to the establishment of such an exchange through the IAEA centre in Vienna. The basic condition for such an exchange would be the IAEA offer mentioned in item 13 below.

BIBLIOGRAPHIC INDEXING

6. The meeting therefore recommends that a CINDA system be generally adopted for the exchange of specialized bibliographic data and that any necessary discussions of detail, particularly concerning the use of the Russian alphabet, be undertaken bilaterally between the IAEA and the USSR.
7. The meeting recognizes that the CINDA system is not in a final form and that developments are to be expected. The IAEA, ENEA, US and USSR data centres should exchange information on a continuing basis concerning such developments in the CINDA system.
8. The meeting gratefully accepts the offer of Professor H. Goldstein to work out and make available a more complete description of a standard procedure and vocabulary for CINDA comments which might be helpful especially for readers not completely familiar with English. It is intended that such a dictionary will be translated into other languages as necessary, but that the Latin alphabet codes entered in the CINDA will remain the same in such translations.
9. The meeting considered the arrangements proposed by the IAEA for reading documents and publications coming from areas of the world not fully covered at present. While in some cases the CINDA readers might be located in these areas and in other cases Agency staff members might act as readers, the meeting felt that the number of readers should not be too large. They would then more rapidly become experienced and less checking of their entries would be necessary. Due regard should however be paid to linguistic factors, for example, in the Latin American area.
10. The meeting felt that it would be desirable to attempt to obtain proofs or preprints of publications where possible, in order to speed up CINDA entries, as has already been started in the US.
11. The meeting noted that the IAEA has offered to provide assistance to the USSR at a later date in setting up the CINDA system as envisaged in item 5 (d) above.
12. The meeting recommends that the IAEA be given lists of journals and other documents series or categories which are already adequately covered by CINDA readers and that it endeavour to obtain as soon as possible from the USSR and other areas information on which journals or other documents they will offer to cover by their own CINDA readers, or by sending the papers to CINDA readers in the IAEA. It is also suggested that exercises for training of future readers for CINDA should be arranged.

NUMERICAL DATA

13. The meeting noted the format for punched cards stated to be used in the USSR and also noted the offer of the IAEA to develop format conversion facilities. It was also stated that punched cards would generally only be available from the USSR for raw data since the results of analyses (for example, calculation of cross sections) were usually only printed by the machine.

14. The meeting noted that the USSR was still studying some technical problems of exchanging magnetic tapes between different computers within the country and that at present exchange of magnetic tapes with centres outside the USSR appeared not to be feasible.

15. The meeting noted with interest that alternative schemes (for example, at Livermore) for storage and retrieval of numerical data had been developed. It was also stated that the type of computer used in the US and ENEA centres for the SCISRS operation is likely to be changed within one or two years.

16. In view of these facts, and the discussions currently expected to take place on a "second generation" system for storage and retrieval of numerical data, the meeting suggests alternative lines of action which the Agency might follow:

- (a) One of the existing systems could be adapted for the IAEA computer if it was felt to be urgent to have a viable system within less than one year. However, it appeared unlikely that the IAEA would be able to achieve significant progress in this work within less than six months.
- (b) If a more leisurely approach was possible it would be advisable to take advantage of the developments stemming from the "second generation" system.

In this connection it was recommended that the US and the ENEA centres provide for the IAEA, in time for the Tokyo meeting, statements of the current thinking on the whole problem.

17. The meeting feels that it is nevertheless desirable that the Agency endeavour to obtain numerical data on a limited scale as soon as possible, particularly from areas where the exchange requires the solution of special technical problems. This process will also assist in training IAEA staff. If this period is of appreciable duration interim arrangements for such numerical data exchange on a limited scale may be needed.

COMBINED SYSTEM

18. It is recognized that a single system may be developed later to incorporate both the bibliographic and the numerical data systems.

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