INTERNATIONAL NUCLEAR DATA COMMITTEE

Australian Comments on Data Catalogues

The recent request from the N.D.U. for contributions from Australia to the extended request list for nuclear data presented the Australian group with some problems relating to the operation of such a request list. Should we necessarily repeat requests already listed by the U.K., for example? If we do not list our requirements, will we get to know of data when it does become available?

These queries led Physics Division staff of the Australian A.E.C. to give some thought to the purpose and use of the various catalogues which have developed as a consequence of international efforts to promote acquisition and exchange of basic neutron data. "Catalogues" such as RENDA, CINDA and CINDU lead up to the actual storage of data in computer oriented systems such as DASTAR, SCISRS and ENDF.

Between the need for some neutron data and a final evaluated set of data, it seems that three "catalogues" are required - an action file, a bibliographic and reference file or catalogue, and a data storage and retrieval file. Since it is obvious that a review of existing systems is being undertaken, we offer the following comments.

1. Catalogue File Category

CINDU represents this category in that it covers bibliographic and reference material, including reference to neutron data which is stored in DASTAR. CINDA, although at present more extensive in its bibliographic coverage, is nevertheless a subset of the information categorised by CINDU.

Ultimately, CINDU could act as the catalogue for bibliographic and reference material on evaluated neutron data as well.

2. Neutron Data File Category

The final storage of experimental results must take in many forms of data. Examples of such filing of raw data could be DASTAR and SCISRS. Retrieval of the data must be possible by cross reference to a catalogue such as CINDU. Such retrievals will be requested by people who wish to use the data directly or to carry out evaluations.

The evaluation process develops "best sets" of neutron data which must also be stored. ENDF is an example and an extended DASTAR ("ENDSTAR") could be used as well. Such a file must be capable of giving retrievals which may be applied to such tasks as group cross section production.

3. Action Catalogue Category

Only one example in this category exists at present. RENDA is a list of requests for production of data. For those countries who hold membership of EACRP and EANDC, request lists of this type have long been in use. Such lists are reviewed from time to time and members become aware of the data needs of various groups, the actions being taken to provide the data and the evaluations which are taking place. The systems works because of the close contacts between the few countries involved, made through committees.

On the broader international scale, we see a definite need for the extension of ideas behind RENDA which fulfils the part of the "request action catalogue". Because there is as yet no counterpart of EACRP and only preliminary work has been done towards the "international" request list, we suggest that the gap in "action information" should be filled by something like an extended form of RENDA. This extended form should cover, on a voluntary basis, notification of work in hand firstly to produce answers to a request, and secondly to evaluate data.

Our suggestion stems from the knowledge that we have equipment which is being used to produce data, yet we are never sure if we are unnecessarily working to produce data which is similar to that being produced elsewhere. Furthermore, we have, of necessity, had to undertake evaluations of data though such evaluations may well have been in hand elsewhere. This is particularly true now that the U.S. and others have undertaken very extensive evaluation programmes for such files as ENDF.

Preliminary Australian discussions suggest that if the RENDA format had to be retained, data production actions could immediately use the same format and so could evaluation actions, e.g. by a letter P or E respectively in the "priority column". We note however that "RENDA might be described as a CINDA of the future". If such is true, we see every advantage in extending CINDU as the international catalogue of bibliographies, references and actions. We suggest this because we feel that a serious lack of relevant information at present exists when a request in RENDA is fulfilled. The "action" just disappears yet actions should not disappear until the data finally appears in the evaluated data file.

The flow of information, actions and data is depicted in the accompanying flow sheet. The obvious gaps in the flow are shown by question marks. We recommend that serious consideration should be given to filling these gaps when the proposed international system is produced.

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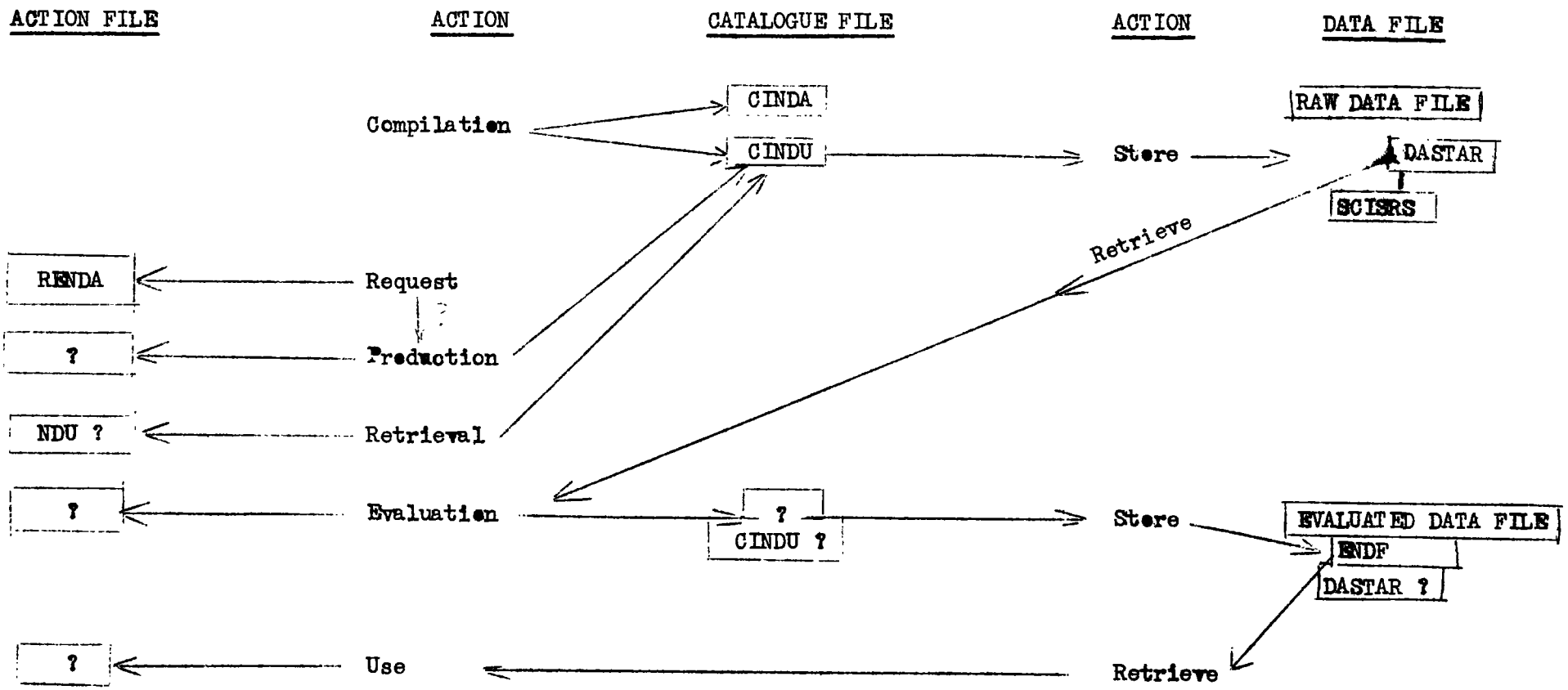
ACTION FILE
ACTION
CATALOGUE FILE
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DATA FILE
Compilation
CINDA
CINDU
Store
RAW DATA FILE
DASTAR
SCISRS
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RENDA
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