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INDC INTERNATIONAL NUCLEAR DATA COMMITTEE

WRENDA 79/80

World Request List for Nuclear Data

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Published on behalf of

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ABSTRACT

WRENDA 79/80 is the sixth edition of the World Request List for Nuclear Data. This list is produced from a computer file of nuclear data requests, maintained by the Nuclear Data Section of the International Atomic Energy Agency (IAEA). The requests are provided by official bodies, such as national nuclear data committees, through four regional data centers serving all Member States of the IAEA. The requests in this edition come from 15 different countries and one international organisation.

This edition reflects numerous recent changes to the request file, the first major file update since the production of the previous edition, WRENDA 76/77. The revised list contains a total of 1780 requests, 60% of which are either new or modified since the previous edition. The total number of requests related to fission reactor technology is 1329, very nearly unchanged, while the number related to nuclear fusion has increased from 328 to 449. In contrast to previous editions, requests associated with all applications are presented here in a single, unified list.

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APPENDICES

I. GENERAL INTRODUCTION TO WRENDA

I.A. Summary

WRENDA 79/80 is the sixth edition of the World Request List for Nuclear Data. The request list is intended to serve as a guide to experimentalists, evaluators and administrators, when planning nuclear data programs. WRENDA is produced from a computer file of nuclear data requests, maintained by the Nuclear Data Section of the International Atomic Energy Agency (IAEA). Input to this request file is provided by official bodies, such as national nuclear data committees, through four regional data centers serving all Member States of the IAEA. The requests in this edition come from 15 different countries and one international organisation.

This edition reflects numerous recent changes to the request file, the first major file update since the production of the previous edition, WRENDA 76/77. To summarize the changes, 465 requests listed in the previous edition were withdrawn, 487 were modified and 573 new requests were added, bringing the total number of current requests to 1780, a net increase of 108.

The number of current requests associated with fission reactor technology (including nuclear materials safeguards) is 1329, very nearly the same as in the previous edition. The number of requests related to nuclear fusion, on the other hand, increased from 328 to 449. In a change from the organisation of previous editions of WRENDA, requests associated with the different applications are presented here in a single, unified list.

Part II of this report provides a detailed description of the WRENDA request list structure. Part III provides explanations of the various priority criteria in use and other supplementary information, to assist the user in interpreting the requests. Part IV contains the actual list. Part V contains an index of requests which appeared in the previous edition, but are now withdrawn or satisfied.

I.B. Background Information

The practice of using a "request list" to communicate the data requirements of a developing technology to the producers of data has a long history in both the United States and the United Kingdom. In 1968, the Neutron Data Compilation Centre at Saclay initiated publication of a request list for neutron data measurements from a computerized file, known as RENDA, on behalf of the European-American Nuclear Data Committee (EANDC). That list contained requests from the countries represented on the EANDC. In 1971, the International Nuclear Data Committee (INDC) recommended that the IAEA assume responsibility for publication of an expanded international data request list, which would include neutron data requests from a larger number of countries and international organisations.

In response to this INDC recommendation, the Nuclear Data Section (NDS) of the IAEA developed a new, computerized, data-request file, WRENDA. The input to this data request file is provided by official bodies, such as national nuclear data committees, through the following regional nuclear data centers:

NNDC - National Nuclear Data Center, Brookhaven National Laboratory, Upton, L.I., N.Y., USA.

NEA-DB - NEA Data Bank, Nuclear Energy Agency, Saclay, France.

NDS - Nuclear Data Section, International Atomic Energy Agency, Vienna, Austria.

CJD - Centr po Jadernym Dannym, Obninsk, USSR.

Concurrently with the transfer of responsibility for the neutron data request file from the NEA to the IAEA, the Nuclear Data Section had developed international nuclear data request lists for technologies related to nuclear materials safeguards and to controlled fusion. It was expedient to develop the new WRENDA system to accommodate data requests for all applications.

An immediate consequence of the expanded scope was that the new WRENDA system was designed to accommodate requests for data related to other nuclear processes as well as to neutron-induced reactions. Also concurrently with the development of the WRENDA system it was agreed that data requests related to fusion, safeguards and other applications should also be handled through the regional data centers.

The WRENDA system was designed as a cooperative effort by representatives of the regional centers, coordinated at the NDS by P.M. Attree. The associated computer programmes for file maintenance, error detection and book production were written in the PL/I language by P.M. Smith. The system and computer programmes are described in detail in informal documents maintained by the NDS.

This report, listing the current contents of the WRENDA request file, is published on behalf of the four regional centers by the IAEA. The excellent co-operation of the other three centers in the production of the updated WRENDA file is gratefully acknowledged.

I.C. New Features of this Edition

WRENDA requests for all applications (for example, fission reactors, fusion and nuclear materials safeguards) are stored in a single computer master-file. Each request contains an "application code" which specifies the area of application of the requested data. In recent editions of WRENDA, the requests have been listed separately for each application. However, at the 9th INDC meeting in May 1977, it was agreed that, beginning with WRENDA 79/80, requests for all applications should be combined into a single unified list, so that users can more easily locate all requests specifying the same material and data type. As described in Section II.A., a tagging procedure has been introduced to allow the reader of the WRENDA report to easily identify the application associated with each request.

A second new feature of this edition is a reduction in the amount of space devoted to status comments, which are also discussed in Section II.A.

Ideally, status comments could provide concise and up-to-date information on the accuracy of available data, as well as a summary of work planned or in progress to improve the data. Unfortunately, no organisation has been in a position to accept continuing responsibility to compile this detailed information on a continuing basis for all requested data.

Most of the status comments of this detailed type which were listed in the previous edition have become obsolete, so they have been removed from the status file. The only status comments listed in the present edition are short comments, provided by the NDS, indicating which quantities are under continuous review by members of technical subcommittees of INDC and NEANDC. (More information on these reviews can be found in Appendix A). Comments from WRENDA users concerning the need for more detailed status comments would be particularly helpful in planning future editions.

A third aspect of this edition worth noting is an increase in the number of requests for high-energy neutron data, such as the numerous fusion requests for data up to energies as high as 50 MeV. Some of these new high-energy requests specify reactions previously not allowed by the WRENDA system, a fact which accounts for most of the 12 new allowed reaction types indicated in Table III on page II.7.

I.D. User Participation and WRENDA Services

The request list is intended to serve as a guide to experimentalists, evaluators and administrators when planning nuclear data measurement and evaluation programmes. When measurers and evaluators begin work which will provide data requested in this document, they are asked to inform the requestor(s). Information about such work should also be provided to the Nuclear Data Section or to one of the regional data centers listed in Section I.B. The names of the requestors are printed with each request, and their addresses are given in Appendix D.

Future editions of WRENDA will be issued every two years in the summer. Before each publication the national data committees will be asked to review their requests so that the lists can be kept current.

Although major updating of the file will usually occur in the spring prior to book publication, the master-files can be updated at other times as well. Between book-publications computer listings of the current files can be requested from the IAEA Nuclear Data Section. Special sorts and selective retrievals from the files can also be obtained upon request. For example, one can obtain, in essentially the same format as the complete request list, a listing of all requests originating in a given country or a given year, or relating to a given application, or having a given priority assignment - as well as arbitrary combinations.

Comments from the users of WRENDA are encouraged so that the document and the special services available from the system can better meet their needs.

II. DESCRIPTION OF REQUEST LIST STRUCTURE

We now present a detailed description of the organisation of the WRENDA request list, together with instructions on how to find requests within the list.

II.A. Request Block Format

The request list appearing in Part IV of this report is made up of a series of "request blocks". A request block contains all current data requests of a given type, that is, all requests specifying the same target, projectile (incident particle) and quantity (type of reaction or process).

A WRENDA "data request" consists of a concise statement of what data are needed, the desired accuracy, the priority assignment, the intended application, and the name and affiliation of the requestor - all coded into a particular format for computerized storage, retrieval and report production. In addition, most requests also include free-text comments in which the requestor further defines his requirements.

A request block may also contain "status comments", which are short statements describing the quality of existing data or referencing work in progress. A typical example of a request block, containing 3 data requests and 1 status comment, is listed on the following page.

Block-heading

Referring to this example, the first line of a request block gives, from left to right, the target nuclide, the projectile and the quantity. This line of text is enclosed by a double line to make the beginning of each block stand out visually. The meaning of a quantity generally conforms to CINDA [1] usage with the addition of some quantities to describe nuclear structure data and complex reactions. A list of the allowed quantities appears in Section II.B. The target nuclide description consists of the atomic number (Z), the element name, and the mass number (A) of the isotope. In case the target is the natural elemental mixture of several isotopes, the mass number is left blank. In the same way, if the target is a mixture of different elements, the atomic number is omitted.

Reference number

Following the block-heading, the individual data requests are listed. A serial number, the REFERENCE number, appears in the left-most field of the first line of each request. The reference number identifies a request in relation to this specific edition of WRENDA only. (Compare this with the IDENTIFICATION number, discussed below).

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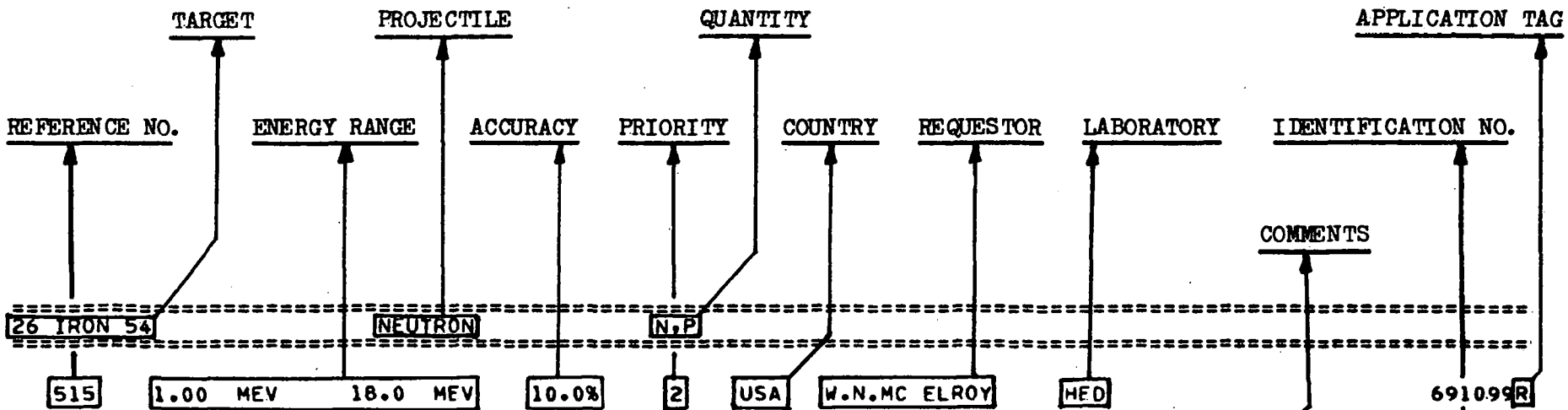
[1] CINDA - An Index to the Literature on Microscopic Neutron Data published annually by the International Atomic Energy Agency.


TARGET
PROJECTILE
QUANTITY
APPLICATION TAG
REFERENCE NO.
ENERGY RANGE
ACCURACY
PRIORITY
COUNTRY
REQUESTOR
LABORATORY
IDENTIFICATION NO.
COMMENTS
26 IRON 54
NEUTRON
N,P
515 1.00 MEV 18.0 MEV 10.0% 2 USA W.N.MC ELROY HED 691099R
Q: REQUIRED IS ACTIVATION. ENERGY STEPS OF 500 KEV.
A: ENERGY RESOLUTION 250 KEV.
O: FOR USE AS A FLUENCE MONITOR.
516 1.00 MEV 40.0 MEV 20.0% 1 USA C.R.HEAD DOE 781018F
O: DOSIMETRY FOR FMIT FACILITY.
M: NEW REQUEST.
517 25.3 MV 3.00 MEV 10.0% 1 FR L.COSTA CAD 792008R
O: OUT-OF-CORE CYCLE
M: NEW REQUEST.
STATUS
STATUS
UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

Energy

The next two entries on the first line of each request give the range of energy of the incident particle over which data are desired. The energy unit is given after each number. Because no lower case is used, we have adopted the notation MV for milli-electron volts, reserving MEV for million electron volts.

If an energy appears in the first field with the second field blank, then the requested information is required at only a single energy. In the case of a resonance integral, the single entry gives the lower energy limit for the integral. Requests for data at "thermal" energies have been entered at 25.3 MV. An entry in the second field preceded by the words "UP TO" in the first field indicates that data are needed up to the specified energy. This format appears most frequently for threshold reactions. All spectrum averages and non-standard energy specifications must be explained in the requestor's comments (see below).

Accuracy

The fourth field on the first line gives the accuracy required of the requested data stated in percent. Any accuracy requirements which cannot be stated as a single number are given in the requestor's comments. Unless specified otherwise, requested accuracies are one standard deviation. Any other meaning is explained in the comments.

Priority

The fifth field on the first line gives the priority of the requested information. Each of the three major application areas covered in this edition (fission, fusion and safeguards) employs a different set of priority criteria, which are presented in separate sections of Part III.

Requestor

The next three fields of the first line are used to identify the requestor. The first piece of information is a three letter code for the country originating the request. The codes and their explanations are given in Appendix B. The country code is followed by the name of the requestor. Mailing addresses for the requestors are given in Appendix D. The last piece of information is a three character code for the requestor's organisation. These codes conform to the CINDA codes and are listed along with the organisation name in Appendix C. In cases where there is more than one requestor for a request, then their names and organisation codes are given on successive lines.

Identification number

The number in the ninth field of the first line of each request is the IDENTIFICATION number. The number assigned is unique and remains associated with a request from one edition to the next. When a request is withdrawn, this number is not assigned to another request. The first two digits of the identification number are the last two digits of the year in which the request was originated. The third digit represents the responsible nuclear data center (1 = NNDC, 2 = NEA-DB, 3 = NDS, 4 = CJD) and the final three digits are a sequence number. The data centers are responsible for assigning the identification number.

Application Tag

Each request stored in the WRENDA master file contains a two-character application code which identifies the application associated with the request. These application codes are listed along with explanations in Table I. In this report, the first character of the application code is listed just to the right of the identification number as a short APPLICATION TAG, allowing the user to quickly identify the general area of application. The most frequently occuring tags are R (fission reactors), F (fusion) and N (nuclear materials safeguards).

Requestor's comments

Comments by requestors follow below the requestors' names on the right hand side of the page. The comments are grouped into four types denoted by the characters Q, A, O and M. The group of comments designated by Q refers to further experimental specifications such as details of the quantity to be measured and the energy range of incident or secondary particles. Those denoted by an A refer to further details concerning accuracy or energy resolution required. The category O includes all other comments such as use of or justification for requested data. The last group of comments, designated by an M, contains statements about modifications which have been made since the previous version of WRENDA, such as "new request" etc.

Table I. Explanation of Application Codes

F	Fusion
FA	Fusion, reactor physics
FB	Fusion, shielding
FC	Fusion, radiation damage
N	Safeguards
NA	Safeguards, active assay
NB	Safeguards, passive assay
NC	Burn-up determination
R	Fission reactors
RA	Fission reactors, core physics
RB	Fission reactors, shielding
RC	Fission reactors, dosimetry
RD	Fission reactors, radiation damage
RE	Fission reactors, standards
RF	Fission reactors, evaluations
S	Space
G	General

Status comments

Some request blocks include a section devoted to status comments. These comments may refer to the accuracy of the available data, or to work in progress to improve the data, or to recent reviews of the data quality. Status comments are stored in a separate file from the data requests and can be updated whenever new information is available. At the time of WRENDA publication, they are listed together with the corresponding data requests. The standard form of a status comment is an organisation code (see Appendix C), followed by a name and the text of the comment.*

II.B. How to Find a Request in WRENDA

As is discussed in the previous section, all data requests for a single target nucleus, projectile, and quantity are blocked together. These blocks are sorted first by target, then by projectile and then by quantity. Within a given block, requests are sorted by increasing identification number, hence, chronologically.

The target nuclei are listed in order of increasing atomic number (Z). (The elements are listed alphabetically, along with the corresponding atomic number, on the back cover of this report.) For fixed Z, request blocks are ordered by increasing mass number (A). An element with two or more naturally-occurring isotopes is listed before the individual isotopes of the element. On the other hand, an element consisting of a single stable isotope is listed in the appropriate position among the individual isotopes of the element. Following the request blocks of highest Z are requests in which the target is lumped fission products and, finally, requests in which the target is an alloy or chemical compound.

Below are given two additional tables for assistance in locating requests. The first table gives the projectile sorting order, and the second gives the quantity sorting order. The main features of the quantity sorting order can be roughly categorized as follows: (1) structure and decay data, (2) scattering, (3) gamma-ray production, (4) neutron production, (5) charged-particle production and (6) fission.

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* However, see the discussion in Section I.C. regarding the reduced role of status comments in this edition.

Table II. Projectile Sorting Order

1	No incident particle (e.g., decay data)
2	Photon
3	Neutron
4	Proton
5	Deuteron
6	Triton
7	Helium-3
8	Alpha
9	Lithium-6

Table III. Quantity Sorting Order

	LEVEL DENSITY PARAMETERS
	DISCRETE LEVEL STRUCTURE (ENERGY, SPIN, PARITY)
	HALF LIFE
	FISSION HALF LIFE
	TOTAL CROSS SECTION
	ELASTIC CROSS SECTION
	DIFFERENTIAL ELASTIC CROSS SECTION
	INELASTIC CROSS SECTION
	ANGULAR DIFFERENTIAL INELASTIC CROSS SECTION
	ENERGY DIFFERENTIAL INELASTIC CROSS SECTION
a	ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION
	THERMAL SCATTERING LAW
	TOTAL SCATTERING CROSS SECTION
	DIFFERENTIAL TOTAL SCATTERING CROSS SECTION
	NON-ELASTIC CROSS SECTION
	ABSORPTION CROSS SECTION
	CAPTURE CROSS SECTION
	ENERGY DIFFERENTIAL CAPTURE CROSS SECTION
	CAPTURE GAMMA RAY SPECTRUM
	DELAYED CAPTURE GAMMA RAY SPECTRUM
	PHOTON PRODUCTION CROSS SECTION IN INELASTIC SCAT.
	TOTAL PHOTON PRODUCTION CROSS SECTION
	GAMMA RAY YIELD
b	ENERGY DIFF. PHOTON-PRODUCTION CROSS SECTION
b	ENERGY-ANGLE DIFF. PHOTON-PRODUCTION CROSS SECTION
	X,N
	X,N NEUTRON SPECTRA
	X,2N
	X,2N ANGULAR DISTRIBUTION
	X,2N NEUTRON SPECTRA
	X,3N
b	X,4N
b	X,5N
	NEUTRON EMISSION CROSS SECTION
	TOTAL NEUTRON YIELD
	DELAYED NEUTRON YIELD
	ENERGY DIFFERENTIAL NEUTRON-EMISSION CROSS SECTION
a	ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION
	X,P
	X,P DELAYED NEUTRON YIELD
	X,NP
	X,2P
	TOTAL PROTON PRODUCTION CROSS SECTION
b	ENERGY DIFF. PROTON-PRODUCTION CROSS SECTION
b	ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION
	X,D
	X,ND
	X,T
	X,NT
	X,HELIUM-3

a. These quantity expansions have been re-worded since the previous edition.

b. These quantities have been added since the previous edition.

Table III. Quantity Sorting Order (continued)

	X,ALPHA
	X,NALPHA
	X,N3ALPHA
b	X,N4ALPHA
	TOTAL ALPHA PRODUCTION CROSS SECTION
b	ENERGY DIFFERENTIAL ALPHA-PRODUCTION CROSS SECTION
b	ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION
b	TOTAL HYDROGEN-PRODUCTION CROSS SECTION
b	TOTAL HELIUM-PRODUCTION CROSS SECTION
b	SPECIAL QUANTITY
	FISSION CROSS SECTION
	SECOND CHANCE FISSION CROSS SECTION
	CAPTURE TO FISSION RATIO (ALPHA)
	NEUTRONS EMITTED PER NEUTRON ABSORPTION (ETA)
	NEUTRONS EMITTED PER NON-ELASTIC PROCESS
	NEUTRONS EMITTED PER FISSION (NU BAR)
	DELAYED NEUTRONS EMITTED PER FISSION
	PROMPT NEUTRONS EMITTED PER FISSION
	INFORMATION ON NEUTRONS FROM A FISSION FRAGMENT
	ENERGY SPECTRUM OF FISSION NEUTRONS
	ENERGY SPECTRUM OF DELAYED FISSION NEUTRONS
	SPECTRUM OF PROMPT GAMMA RAYS EMITTED IN FISSION
	SPECTRUM OF GAMMA RAYS EMITTED IN FISSION
	DELAYED GAMMA SPECTRUM FROM FISSION PRODUCTS
	FISSION PRODUCT MASS YIELD SPECTRUM
	INFORMATION ON KINETICS OF FISSION FRAGMENTS
	RESONANCE PARAMETERS
	ABSORPTION RESONANCE INTEGRAL
	CAPTURE RESONANCE INTEGRAL
	FISSION RESONANCE INTEGRAL

b. These quantities have been added since the previous edition

III. PRIORITY CRITERIA AND OTHER INFORMATION

III.A. Priority Criteria for Fission Reactor (R) Requests

The fission reactor data requests (i.e., those tagged by an "R" following the identification number) are assigned a numerical priority ranging from 1 to 3 (1 being the highest). The priorities are defined as follows:

Priority 1

Nuclear data which satisfy the criteria of Priority 2 and which have been selected for maximum practicable attention, taking into account the urgency of nuclear energy programme requirements.

For example, the Nuclear Energy Agency Committee for Reactor Physics assigns its highest priorities for reactor measurements as follows:

> "The highest priority should be given to requests for nuclear data for reactors to be built in the near future if:
>
> a. These data are still necessary to predict the different reactor properties after all information from integral experiments and operating reactors has been used; or
>
> b. information on an important reactor parameter is in principle attainable through mathematical calculation from nuclear data only; or
>
> c. these data are needed for materials required in reactor physics measurements."

Priority 2

Nuclear data which will be required during the next few years in the applied nuclear energy programme (e.g., the design of a reactor or fuel processing plant; data needed for optimum use of reactor fuel and construction materials such as neutron moderators, absorbers and radiation shields; space application and biomedical studies; data required for better understanding of some significant aspect of reactor behaviour).

Priority 3

Nuclear data of more general interest and data required to fill out the body of information needed for nuclear technology.

III.B. Supplementary Information from Contributors of Fission Reactor (R) Requests

L.N. Usachev's requests

The first set of requests concerns differential cross sections. These requests together make a unique system of requirements for the accuracy of evaluated nuclear data which would assure calculation of K_{eff} and breeding ratio (BR) of a fast plutonium breeder with accuracies of 1% and 2% respectively.

A second set of requests concerns spectrum-averaged (n,γ), (n,f) and (n,2n) cross sections for the actinides. Here the accuracy requirements have been determined by the following target accuracies of build-up calculations for fast reactors:

^{236}Pu (30%), ^{238}Pu (20%), ^{240}Pu (5%), ^{241}Pu (4%), ^{242}Pu (10%), ^{241}Am (5%), ^{242m}Am(20%), ^{243}Am (20%), ^{242}Cm (20%), and ^{244}Cm (30%).

Priorities

Accuracies requirements designated 2nd priority would assure the necessary calculational accuracy on the basis only of microscopic data without the use of data from integral experiments.

In connection with using the new integral experiment set for adjustment, those 1st priority requests appearing in WRENDA 76/77 are now withdrawn.

Meaning of uncertainty

As in all other WRENDA requests uncertainty (or accuracy) is characterized by one standard deviation.

Uncertainty of a point is supposed to be represented as a sum of components with different correlative properties. Accuracy specifications are for those components of the uncertainty which determine the accuracy of the integral under the curve in the partial energy interval mentioned in each request.

In requests for measurements the use of standards - $\bar{\nu}$ of ^{252}Cf, the ^{10}B (n,α) cross section (below 100 keV) and the ^{235}U (n,f) cross section (above 100 keV) - is assumed. In all requests except those for standards, the accuracy specifications refer to measurements relative to standards, and the accuracies required of the standards are specified separately.

The algorithm used to derive these requirements is described in References 2 through 6.

2. L.N. Usachev and Yu.G. Bobkov, "Planning of an optimum set of microscopic experiments and evaluations to obtain a given accuracy in reactor parameter calculations" Evaluation of Nuclear Data, (Proc. Panel, Vienna, 1971), Report IAEA-153, IAEA Vienna, 1973 (in Russian). English translation: INDC(CCP)-19 (1972).

3. L.N. Usachev, V.N. Manokhin and Yu.G. Bobkov, "The accuracy of nuclear data and its influence on fast reactor development", Nuclear Data in Science and Technology, (Proc. Symp., Paris, 1973), IAEA, Vienna, 1973, Vol. 1, p. 129 (in Russian).

4. Yu.G. Bobkov, L.T. Pyatnitskaya and L.N. Usachev, "Planning of experiments and evaluations on neutron data for reactors" The Metrology of Neutron Radiation in Reactors and Accelerators, (Proc. Conf., Moscow, 1974), Report FEI-527 (1974) (in Russian).

5. L.N. Usachev, "Unique Definition of Nuclear Data Accuracy," pp. 102-107 in the Proceedings of the 7th INDC Meeting, Lucas Heights, October 1974, INDC-18/L, International Atomic Energy Agency (1975) (in English). Report FEI-537 (1974) (in Russian).

6. L.N. Usachev, Yu.G. Bobkov, V.E. Kolesov, A.S. Krivtsov, "Determination of transactinide nuclear data required accuracy for burn-up calculation in fast reactors", contributed paper to Conf. on Neutron Physics and Nuclear Data for Reactors and other Applied Purposes, Harwell, U.K., September 1978.

M.N. Nikolaev's requests

Basic demands for accuracy of K_{eff} and BR prediction are 1 and 1.6 percent, respectively.

The requests are formulated for the totality of microscopic data without taking into account the results of integral experiments. Therefore, these requests are, as a rule, of the second priority.

The comparatively less demanding accuracies specified in this set of requests are stipulated by an assumption about the sense of uncertainties which differs from the assumption used in Usachev's requests. In this set of requests complete correlation of uncertainties within each group in the ABBN 26-group set and full statistical independence of uncertainties of neighbouring groups is supposed.

Correlation of uncertainties for different isotopes, cross sections and $\bar{\nu}$ values is taken into account by assuming as standards the U-235 fission cross section and $\bar{\nu}$ of Cf-252.

The author of the requests considers that these conditions would exist for instance, when on each adjacent lethargy interval 0.5 - 1 there would fall, on the average, one experiment carried out by an independent method with the requested, guaranteed accuracy.

The algorithm of request formulation and substantiation of basic requirements for K_{eff} and BR are described in paper by S.M. Zaritsky, M.N. Nikolaev, M.F. Troyanov, "Nuclear Data Requirements for Calculation of Fast Reactors," Report INDC(CCP)-17, IAEA, Vienna, 1972.

Conclusion

The two sets of requirements presented here emphasize the importance of precise understanding of accuracy specifications.

III.C. Priority Criteria for Nuclear Fusion (F) Requests

The following priority criteria for fusion requests were developed by the IAEA with the assistance of the International Fusion Research Council (IFRC), the INDC and many scientists engaged in fusion research:

Priority 1

In general highest (first) priority shall be assigned to those nuclear data upon which some important aspect of fusion research is immediately contingent. Specifically Priority 1 shall be assigned to requests for nuclear data which

1. are required for evaluation of the feasibility of a proposed fusion reactor concept, or
2. are required for immediate application of plasma phenomena in a fusion reactor context, or
3. are essential for application of a material which is of conceptual importance in fusion research, or
4. are required for an important decision involving allocation of resources or redirection of research effort in fusion programmes, or
5. are necessary to develop some important aspect of current fusion programmes to a level consistent with progress in other aspects of these programmes.

Priority 2

Priority 2 shall be assigned to nuclear data which

1. are required for evaluation of materials of high potential utility in current fusion reactor designs, or
2. are expected to contribute to significant progress in fusion research or reactor design studies in the near future.

Priority 3

Priority 3 shall be assigned to nuclear data which

1. are of use in current design studies but are not of crucial importance, or

2. are not of immediate importance but which have probability of becoming important as fusion programmes develop.

Priority 4*

Priority 4 shall be assigned to nuclear data which

1. fill out the body of information needed for fusion reactor technology, or

2. are of potential interest for fusion research but which cannot be assigned a more definite priority at present.

III.D. Priority Criteria for Nuclear Materials Safeguards (N) Requests

The following criteria were recommended by the International Nuclear Data Committee (INDC) for use in assigning priorities to nuclear data requests for nuclear materials safeguards pruposes:

Priority 1

First priority shall be given to those requests for nuclear data that

1. are necessary for the refinement of an existing technique in order to bring its accuracy to within acceptable limits for safeguards purposes, or

2. are essential for the development of a new and promising technique for the nondestructive assay and control of nuclear material in amounts that are significant to the safeguards system.

Priority 2

Second priority shall be given to those requests for nuclear data that

1. are essential for the use or interpretation of an existing or proposed technique for nondestructive assay and that are now obtained either by extrapolation or by an empirical method but for which experimental confirmation is desirable, or

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* At present, there are no Priority 4 requests in the request file.

2. are necessary for the development of a technique for non-destructive assay that may reasonably be expected to be useful for safeguards purposes.

Priority 3

Third priority shall be given to those requests for nuclear data that

1. may be needed for the nondestructive assay of materials not now included in the safeguards system but that are likely to be in the future, or

2. are necessary for the assessment or elimination of minor sources of error in the assay of nuclear material, or

3. are needed for the exploration of new techniques for nondestructive assay for future applications, or

4. may be needed for the development of new techniques for non-destructive assay for which the required technology does not now exist but which may reasonably be expected to in the future.

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WRENDA INDEX

WRENDA INDEX (continued)

WRENDA INDEX (continued)

1 HYDROGEN 1 NEUTRON TOTAL CROSS SECTION

1	1.00	KEV	15.0	MEV	0.3%	2	USA	R.S.CASWELL	NBS	781175R

Q: TO DISTINGUISH BETWEEN LOMON-WILSON AND HOPKINS-BREIT PARAMETERIZATIONS.
M: NEW REQUEST.

STATUS

UNDER CONTINUOUS REVIEW BY INDC AND NEANDC. SEE APPENDIX A.

1 HYDROGEN 1 NEUTRON CAPTURE CROSS SECTION

2	25.3	MV			0.3%	1	USA	N.STEEN	BET	781179R

Q: TO HELP RESOLVE DISCREPANCIES IN THERMAL CRITICALITY PARAMETERS.
M: NEW REQUEST.

1 HYDROGEN 2 NEUTRON ELASTIC CROSS SECTION

3	1.00	EV	10.0	MEV		1	USA	N.STEEN	BET	721002R

Q: NEED FREE ATOM SCATTERING CROSS SECTION.
A: ACCURACY REQUIRED - BELOW 10 KEV, 0.5 PERCENT. ABOVE 10 KEV, 5.0 PERCENT.
O: FOR THERMAL REACTOR ANALYSIS.
M: SUBSTANTIAL MODIFICATIONS.

4	1.00	EV	1.00	KEV	1.0%	3	USA	S.VISNER	CBE	761072R

O: FOR THERMAL HWR APPLICATIONS.
M: NEW REQUEST.

1 HYDROGEN 2 NEUTRON N,2N

5	UP TO		20.0	MEV	5.0%	1	USA	N.STEEN	BET	781180R

C: FOR THERMAL REACTOR ANALYSIS.
M: NEW REQUEST.

1 HYDROGEN 2 ALPHA ELASTIC CROSS SECTION

6	UP TO		2.00	MEV	10.0%	1	USA	C.R.HEAD	DOE	781071F

A: ACCURACY 10.0 PC RELATIVE, 30.0 PC ABSOLUTE REQUIRED.
O: REQUIRED TO CALCULATE HEATING OF PLASMA FUEL BY FUSION PRODUCT ALPHAS.
M: NEW REQUEST.

1 HYDROGEN 3 NEUTRON N,2N

7	UP TO		15.0	MEV		2	FR	A.MICHAUDON	BRC	752095F

A: ACCURACY REQUIRED TO BETTER THAN 20 PERCENT.

1 HYDROGEN 3 DEUTERON D,N

8	UP TO		10.0	KEV	10.0%	1	USA	C.R.HEAD	DOE	781069F

A: ACCURACY 10.0 PC RELATIVE, 30.0 PC ABSOLUTE REQUIRED.
M: NEW REQUEST.

STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

1 HYDROGEN 3 TRITON T,2N

9	UP TO		10.0	KEV	10.0%	1	USA	C.R.HEAD	DOE	781070F

A: ACCURACY 10.0 PC RELATIVE, 30.0 PC ABSOLUTE REQUIRED.
O: DATA REQUIRED TO ANALYZE BACKGROUND NEUTRONS AND ESTIMATE TRITIUM ION TEMPERATURES.
M: NEW REQUEST.

STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

1 HYDROGEN 3 ALPHA ELASTIC CROSS SECTION

10	UP TO		2.00	MEV	10.0%	1	USA	C.R.HEAD	DOE	781072F

A: ACCURACY 10.0 PC RELATIVE, 30.0 PC ABSOLUTE REQUIRED.
O: REQUIRED TO CALCULATE HEATING OF PLASMA FUEL BY FUSION PRODUCT ALPHAS.
M: NEW REQUEST.

2 HELIUM 3 — NEUTRON — N,P

11	10.0	KEV	3.00	MEV	1.0%	2	USA	P.B.HEMMIG	DOE	691001R

Q: ABSOLUTE VALUES REQUIRED.
A: INTERMEDIATE ACCURACY USEFUL.
C: FOR USE AS A SECONDARY STANDARD.

12	1.00	KEV	3.00	MEV		1	USA	R.S.CASWELL	NBS	691003R

Q: ABSOLUTE VALUES REQUIRED.
A: ACCURACY OF 2 PERCENT BELOW 200 KEV, 3 PERCENT ABOVE.
O: INCREASINGLY USEFUL AS A STANDARD AND FOR SPECTROMETERS.
M: SUBSTANTIAL MODIFICATIONS.

13	100.	KEV	1.00	MEV	2.0%	2	UK	B.ROSE	HAR	692003R

A: ENERGY DEPENDENCE NEEDED MORE ACCURATELY
O: USED AS A STANDARD IN CROSS-SECTION MEASUREMENTS.

14	100.	KEV	10.0	MEV	3.0%	1	IND	M.P.NAVALKAR	TRM	713001R

Q: ENERGY STEPS OF 0.1 MEV.
O: FOR NEUTRON SPECTRUM MEASUREMENTS WITH SANDWICHED HE-3 SPECTROMETER.

15	1.00	KEV	15.0	MEV	10.0%	1	FR	A.MICHAUDON	BPC	752096F

3 LITHIUM — ALPHA — ALPHA,N

16	100.	KEV	6.50	MEV	6.0%	2	USA	R.B.WALTON	LAS	781167N

Q: THICK TARGET YIELDS REQUIPED.
A: RELATIVE ERROR OF 3.0 PERCENT NEEDED.
ALPHA ENERGY RESOLUTION 100 KEV.
M: NEW REQUEST.

17	UP TO		7.00	MEV	30.0%	2	UK	A.WHITTAKER	UKW	792107P

O: FOR FUEL PROCESSING.
M: NEW REQUEST.

3 LITHIUM 6 — NEUTRON — ELASTIC CROSS SECTION

18	7.50	MEV	15.0	MEV	10. %	2	JAP	Y.SEKI	JAE	762168F

O: NEUTRON TRANSPORT CALCULATIONS

3 LITHIUM 6 — NEUTRON — DIFFERENTIAL ELASTIC CROSS SECTION

19	1.00	MEV	15.0	MEV	10.0%	2	GER	D.DARVAS	JUL	722060F

Q: AN IMPROVEMENT IN ACCURACY BELOW 6 MEV REQUIRED.
O: CALCULATION OF NEUTRON TRANSPORT.
M: SUBSTANTIAL MODIFICATIONS.

20	1.00	KEV	15.0	MEV	20.0%	3	UK	G.M.MC CRACKEN	CUL	722061F

O: EVALUATION REQUIREMENT.
FOR SHIELDING CALCULATIONS AND NEUTRON TRANSPORT

21	4.00	MEV	15.0	MEV	10.0%	2	CCP	I.N.GOLOVIN	KUR	724001F

Q: REFINEMENT OF DATA BELOW 7 MEV AND ADDITIONAL DATA ABOVE 7 MEV REQUIRED.
O: CALCULATION OF NEUTRON TRANSMISSION.

22	14.0	MEV			10.0%	1	FR	B.DUCHEMIN	SAC	732001F

O: EVALUATION OF NEUTRON BALANCE.

23	7.50	MEV	15.0	MEV	10. %	2	JAP	Y.SEKI	JAE	762051F

O: NEUTRON TRANSPORT CALCULATIONS

24	1.00	MEV	20.0	MEV	20.0%	1	ITY	C.COCEVA	BOL	792094F

Q: ANGULAR DISTRIBUTION OF REACTION PRODUCTS NEEDED.
O: BLANKET CALCULATIONS IN FUSION REACTORS.
M: NEW REQUEST.

3 LITHIUM 6 — NEUTRON — ANGULAR DIFFERENTIAL INELASTIC CROSS SECTION

25	1.00	MEV	20.0	MEV	20.0%	1	ITY	C.COCEVA	BOL	792095F

Q: ANGULAR DISTRIBUTION OF REACTION PRODUCTS NEEDED.
O: BLANKET CALCULATIONS IN FUSION REACTORS.
M: NEW REQUEST.

3 LITHIUM 6 — NEUTRON — TOTAL PHOTON PRODUCTION CROSS SECTION

26	9.00	MEV	15.0	MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR	724004F

Q: GAMMA RAY PRODUCTION CROSS SECTIONS AND GAMMA RAY SPECTRA ARE REQUIRED.
O: GAMMA RAY HEATING AND SHIELDING CALCULATIONS.

27	1.00	MEV	15.0	MEV	15. %	2	JAP	M.KASAI Y.SEKI	MAP JAE	762054F

O: GAMMA-RAY HEATING CALCULATIONS

3 LITHIUM 6 NEUTRON N,2N

28	UP TO		20.0	MEV	20.0%	1	ITY	C.COCEVA	BOL	792096F

Q: ANGULAR DISTRIBUTION OF REACTION PRODUCTS NEEDED.
O: BLANKET CALCULATIONS IN FUSION REACTORS.
M: NEW REQUEST.

3 LITHIUM 6 NEUTRON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

29	UP TO		15.0	MEV	20.0%	2	GER	D.DARVAS	JUL	722064F

Q: NEUTRON SPECTRA UP TO MAXIMUM ENERGIES ARE REQUIRED.
NEUTRON ANGULAR DISTRIBUTIONS AT A FEW ENERGIES WOULD BE USEFUL.
O: FOR CALCULATIONS OF NEUTRON TRANSPORT AND SHIELDING.
M: SUBSTANTIAL MODIFICATIONS.

3 LITHIUM 6 NEUTRON N,P

30	UP TO		20.0	MEV	20.0%	1	ITY	C.COCEVA	BOL	792097F

Q: ANGULAR DISTRIBUTION OF REACTION PRODUCTS NEEDED.
O: BLANKET CALCULATIONS IN FUSION REACTORS.
M: NEW REQUEST.

3 LITHIUM 6 NEUTRON N,ND

31	UP TO		15.0	MEV	10.0%	2	GER	D.DARVAS	JUL	722151F

A: ENERGY RESOLUTION OF 0.2 TO 0.5 MEV WOULD BE SUFFICIENT.
O: FOR SHIELDING AND CALCULATION OF HEAT GENERATION.
M: SUBSTANTIAL MODIFICATIONS.

32	UP TO		15.0	MEV	10.0%	1	CCP	I.N.GOLOVIN	KUR	724003F

O: NEUTRONICS CALCULATIONS AND ENERGY DEPOSITION IN BLANKET MATERIALS.

33	UP TO		15.0	MEV	10. %	2	JAP	Y.SEKI	JAE	762052F

O: NEUTRONICS CALCULATIONS AND ENERGY DEPOSITION

34	UP TO		20.0	MEV	20.0%	1	ITY	C.COCEVA	BOL	792098F

Q: ANGULAR DISTRIBUTION OF REACTION PRODUCTS NEEDED.
O: BLANKET CALCULATIONS IN FUSION REACTORS.
M: NEW REQUEST.

3 LITHIUM 6 NEUTRON N,T

35	1.00	KEV	3.00	MEV	1.0%	1	USA	C.E.TILL P.B.HEMMIG	ANL DOE	691009R

A: ACCUFACY OF 3 PERCENT USEFUL.
ENERGY RESOLUTION MUST REPRODUCE TRUE SHAPE.
O: FOR USE AS A STANDARD.

36	500.	EV	3.00	MEV	3.0%	2	USA	G.M.HALE	LAS	691011R

Q: ABSOLUTE VALUES REQUIRED.
O: FOR USE AS A STANDARD.
M: SUBSTANTIAL MODIFICATIONS.

37	5.00	KEV	15.0	MEV	5.0%	1	GER	M.KUECHLE	KFK	692004R

O: STANDARD.

38	100.	KEV	5.00	MEV	5.0%	3	UK	C.G.CAMPBELL	WIN	692005R

Q: SECONDARY ANGULAR DISTRIBUTION REQUIRED.
O: FLUX MONITOR FOR NEUTRON SPECTRUM MEASUREMENTS. DISCREPANCIES ARE PARTICULARLY LARGE ABOVE 1 MEV EVALUATION ALSO REQUIRED. 10KEV-5MEV, PRIORITY 2.

39	500.	KEV	5.00	MEV	5.0%	2	UK	B.ROSE C.G.CAMPBELL	HAR WIN	712002R

A: EVALUATION: 10-350KEV(2.0%),350KEV-5MEV(5.0%) REQD
O: STANDARD FOR CROSS-SECTION MEASUREMENTS AND FOR NEUTRON SPECTRUM MEASUREMENTS.

40	100.	KEV	10.0	MEV	3.0%	1	IND	M.P.NAVALKAR	TRM	713002R

Q: ENERGY STEPS OF 0.1 MEV.
O: FOR NEUTRON SPECTRUM MEASUREMENTS WITH SANDWICHED LI-6 SPECTROMETER.

41	500.	KEV	13.0	MEV	5.0%	2	USA	H.T.MOTZ	LAS	721008R

Q: ABSOLUTE VALUES REQUIRED.
M: SUBSTANTIAL MODIFICATIONS.

42	10.0	EV	100.	KEV	1.0%	1	USA	R.S.CASWELL	NBS	721009R

Q: FOR USE AS STANDARD BELOW 1 MEV.
M: SUBSTANTIAL MODIFICATIONS.

43	300.	KEV	15.0	MEV	5.0%	1	GER	D.DARVAS	JUL	722062F

Q: TOTAL TRITIUM PRODUCTION REQUIRED.
A: ENERGY RESOLUTION SHOULD REPRODUCE TRUE SHAPE.
O: FOR DETERMINATION OF MORE ACCURATE TRITIUM BREEDING RATIOS.
M: SUBSTANTIAL MODIFICATIONS.

44	100.	KEV	3.00	MEV	3.0%	1	CCP	I.N.GOLOVIN	KUR	724002F

O: FOR TRITIUM BREEDING AND ENERGY DEPOSITION.

45	3.00	MEV	14.0	MEV	5.0%	1	FR	B.DUCHEMIN	SAC	732002F

O: FOR EVALUATION OF NEUTRON BALANCE.

46	20.0	KEV	15.0	MEV	5.0%	1	BLG	G.DELEEUW-GIERTS	MOL	742024R

Q: SECONDARY ANGULAR DISTRIBUTION REQUIRED UP TO 2 MEV WITH EMPHASIS BELOW 100 KEV AND ABOVE 500 KEV.
A: ANGULAR RESOLUTION - 10 DEGREES.
NEUTRON ENERGY RESOLUTION - 5 KEV UP TO 400 KEV AND 10 KEV UP TO 1 MEV.
O: DETERMINATION OF NEUTRON SPECTRA FROM TRITON ENERGY DISTRIBUTIONS.
M: SUBSTANTIAL MODIFICATIONS.

47	5.00	KEV	15.0	MEV	5.0%	1	GER	M.KUECHLE	KFK	742110F

O: STANDARD.

48	3.00	MEV	15.0	MEV	5. %	1	JAP	Y.SEKI	JAE	762053F

O: TRITIUM BREEDING AND ENERGY DEPOSITION CALCULATION

49	100.	KEV	2.00	MEV	10.0%	2	UK	G.M.MC CRACKEN	CUL	762245F

O: EVALUATION REQUIREMENT.
FOR TRITIUM BREEDING CALCULATIONS.

50	500.	KEV	5.00	MEV	10.0%	2	USA	C.R.HEAD	DOE	781160F

O: NEEDED TO DESCRIBE BREEDING IN D-T SYSTEMS.
M: NEW REQUEST.

STATUS

UNDER CONTINUOUS REVIEW BY INDC AND NEANDC. SEE APPENDIX A.

3 LITHIUM 6 NEUTRON N,NT

51	UP TO		20.0	MEV	20.0%	1	ITY	C.COCEVA	BOL	792099F

Q: ANGULAR DISTRIBUTION OF REACTION PRODUCTS NEEDED.
O: BLANKET CALCULATIONS IN FUSION REACTORS.
M: NEW REQUEST.

3 LITHIUM 6 NEUTRON TOTAL ALPHA PRODUCTION CROSS SECTION

52	1.00	KEV	18.0	MEV	10.0%	2	USA	W.N.MC ELROY	HED	691012R

O: FOR USE AS A FLUENCE MONITOR.
TOTAL HELIUM PRODUCTION FOR MASS SPECTROMETER.

3 LITHIUM 6 HELIUM-3 HELIUM-3,P

53	500.	KEV	2.00	MEV	10.0%	1	USA	C.R.HEAD	DOE	781073F

A: ACCURACY 10.0 PC RELATIVE, 30.0 PC ABSOLUTE REQUIRED.
O: FOR ADVANCED FUEL FUSION DEVICES.
M: NEW REQUEST.

3 LITHIUM 6 LITHIUM-6 SPECIAL QUANTITY (DESCRIPTION BELOW)

54	500.	KEV	2.00	MEV	10.0%	1	USA	C.R.HEAD	DOE	781074F

Q: CROSS SECTIONS FOR ALL SIGNIFICANT REACTIONS WANTED, INCLUDING (LI6,N),(LI6,P),(LI6,D), (LI6,T),(LI6,HE3),(LI6,A),(LI6,NA) AND (LI6,PA)
A: ACCURACY 10.0 PC RELATIVE, 30.0 PC ABSOLUTE REQUIRED.
O: FOR ADVANCED FUEL FUSION DEVICES.
M: NEW REQUEST.

3 LITHIUM 7 NEUTRON ELASTIC CROSS SECTION

55	7.50	MEV	15.0	MEV	5.00%	2	JAP	Y.SEKI	JAE	762230F

O: NEUTRON TRANSPORT CALCULATIONS

3 LITHIUM 7 NEUTRON DIFFERENTIAL ELASTIC CROSS SECTION

56	1.00	MEV	15.0	MEV	10.0%	1	GER	D.DARVAS	JUL	722066F

Q: ADDITIONAL DISTRIBUTIONS BETWEEN 1 AND 7 MEV REQUIRED IN STEPS OF 0.5 TO 1 MEV.
O: FOR CALCULATION OF NEUTRON TRANSPORT.
M: SUBSTANTIAL MODIFICATIONS.

57	2.00	MEV	15.0	MEV	10.0%	1	CCP	I.N.GOLOVIN	KUR	724005F

Q: REFINEMENT OF DATA BELOW 7 MEV AND ADDITIONAL DATA ABOVE 7 MEV REQUIRED.
C: FOR TRITIUM BREEDING AND ENERGY DEFOSITION.

58	14.0	MEV			10.0%	1	FR	B.DUCHEMIN	SAC	732003F

O: EVALUATION OF NEUTRON BALANCE.

59	7.50	MEV	15.0	MEV	10. %	2	JAP	Y.SEKI	JAE	762055F

O: NEUTRON TRANSPORT CALCULATIONS

60	1.00	MEV	20.0	MEV	20.0%	1	ITY	C.COCEVA	BOL	792100F

Q: ANGULAR DISTRIBUTION OF REACTION PRODUCTS NEEDED.
O: BLANKET CALCULATIONS IN FUSION REACTORS.
M: NEW REQUEST.

3 LITHIUM 7 NEUTRON INELASTIC CROSS SECTION

61	500.	KEV	15.0	MEV	10.0%	2	GER	D.DARVAS	JUL	722068F

Q: CROSS SECTION FOR 0.478 MEV LEVEL REQUIRED.
O: FOR SHIELDING ESTIMATES AND CALCULATION OF HEAT GENERATION.
M: SUBSTANTIAL MODIFICATIONS.

62	UP TO		15.0	MEV	15.0%	1	CCP	I.N.GOLOVIN	KUR	724006F

Q: CROSS SECTION FOR 0.478 MEV LEVEL REQUIRED.
O: NEUTRONICS CALCULATIONS AND ENERGY DEPOSITION.

63	UP TO		15.0	MEV	15.0%	2	JAP	Y.SEKI	JAE	762231F

O: NEUTRON TRANSPORT CALCULATIONS

3 LITHIUM 7 NEUTRON ANGULAR DIFFERENTIAL INELASTIC CROSS SECTION

64	1.00	MEV	20.0	MEV	20.0%	1	ITY	C.COCEVA	BOL	792101F

Q: ANGULAR DISTRIBUTION OF REACTION PRODUCTS NEEDED.
O: BLANKET CALCULATIONS IN FUSION REACTORS.
M: NEW REQUEST.

3 LITHIUM 7 NEUTRON ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

65	UP TO		15.0	MEV	20.0%	3	UK	T.D.BEYNON G.M.MC CRACKEN	BIR CUL	732119F

O: EVALUATION REQUIREMENT.
FOR TRITIUM BREEDING CALCULATIONS.

66	UP TO		15.0	MEV	15. %	2	JAP	Y.SEKI	JAE	762056F

O: NEUTRON TRANSPORT CALCULATIONS

3 LITHIUM 7 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

67	9.00	MEV	15.0	MEV	15.0%	1	CCP	I.N.GOLOVIN	KUR	724010F

Q: GAMMA RAY PRODUCTION CROSS SECTIONS AND GAMMA RAY SPECTRA ARE REQUIRED.
O: GAMMA RAY HEATING AND SHIELDING CALCULATIONS.

68	25.3	MV	15.0	MEV	15. %	2	JAP	Y.SEKI	JAE	762059F

Q: GAMMA RAY SPECTRA ALSO REQUIRED.
O: GAMMA-RAY HEATING CALCULATIONS

3 LITHIUM 7 NEUTRON N,2N

69	UP TO		15.0	MEV	20.0%	2	GER	D.DARVAS	JUL	722071F

Q: THREE CR FOUR DATA POINTS USEFUL.
O: FOR ESTIMATES OF NEUTRON MULTIPLICATION.
M: SUBSTANTIAL MODIFICATIONS.

70	UP TO		15.0	MEV	15.0%	1	CCP	I.N.GOLOVIN	KUR	724009F

Q: SECONDARY ENERGY AND ANGULAR DISTRIBUTIONS AT 14 TO 15 MEV REQUIRED.
O: BLANKET NEUTRONICS CALCULATIONS.

71	UP TO		20.0	MEV	20.0%	1	ITY	C.COCEVA	BOL	792102F

Q: ANGULAR DISTRIBUTION OF REACTION PRODUCTS NEEDED.
O: BLANKET CALCULATIONS IN FUSION REACTORS.
M: NEW REQUEST.

3 LITHIUM 7 NEUTRON N,2N ANGULAR DISTRIBUTION

72 UP TO 15.0 MEV 15.0% 2 JAP Y.SEKI JAE 762232F
O: BLANKET NEUTRONICS CALCULATIONS.

3 LITHIUM 7 NEUTRON N,2N NEUTRON SPECTRA

73 UP TO 15.0 MEV 15. % 2 JAP Y.SEKI JAE 762057F
O: BLANKET NEUTRONICS CALCULATIONS

3 LITHIUM 7 NEUTRON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

74 9.00 MEV 14.0 MEV 10.0% 1 USA C.R.HEAD DOE 781042F
O: FOR SHIELDING, ACTIVATION AND TRANSPORT STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.
M: NEW REQUEST.

3 LITHIUM 7 NEUTRON N,NP

75 UP TO 20.0 MEV 20.0% 1 ITY C.COCEVA BOL 792103F
Q: ANGULAR DISTRIBUTION OF REACTION PRODUCTS NEEDED.
O: BLANKET CALCULATIONS IN FUSION REACTORS.
M: NEW REQUEST.

3 LITHIUM 7 NEUTRON ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION

76 14.0 MEV 2 USA C.R.HEAD DOE 781135F
A: ACCURACY TO BE DETERMINED.
O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

3 LITHIUM 7 NEUTRON N,ND

77 UP TO 20.0 MEV 20.0% 1 ITY C.COCEVA BOL 792104F
Q: ANGULAR DISTRIBUTION OF REACTION PRODUCTS NEEDED.
O: BLANKET CALCULATIONS IN FUSION REACTORS.
M: NEW REQUEST.

3 LITHIUM 7 NEUTRON N,NT

78 UP TO 15.0 MEV 5.0% 1 GER D.DARVAS JUL 722069F
A: RESOLUTION AND ENERGY STEPS OF .2 TO .5 MEV SUFFICIENT.
O: DETERMINATION OF MORE ACCURATE TRITIUM BREEDING RATIOS.
M: SUBSTANTIAL MODIFICATIONS.

79 UP TO 15.0 MEV 5.0% 1 CCP I.N.GOLOVIN KUR 724007F
O: FOR TRITIUM BREEDING AND ENERGY DEPOSITION.

80 10.0 MEV 15.0 MEV 15.0% 1 CCP I.N.GOLOVIN KUR 724008F
Q: SECONDARY ENERGY AND ANGULAR DISTRIBUTIONS REQUIRED.
O: NEUTRON TRANSMISSION CALCULATIONS.

81 3.00 MEV 14.0 MEV 5.0% 1 FR B.DUCHEMIN SAC 732004F
O: EVALUATION OF NEUTRON BALANCE.

82 UP TO 15.0 MEV 5. % 1 JAP Y.SEKI JAE 762058F
Q: NEUTRON SPECTRA WITH ACCURACY 15 PER CENT ALSO REQUIRED.
O: TRITIUM BREEDING AND ENERGY DEPOSITION CALCULATION

83 UP TO 15.0 MEV 10.0% 2 UK T.D.BEYNON BIR 762246F
Q: ENERGY SPECTRA OF EMITTED PARTICLES NEEDED.
O: EVALUATION REQUIREMENT.
TRITIUM BREEDING.
MODE OF BREAK-UP AND CROSS-SECTION IN THRESHOLD REGION.

84 11.0 MEV 14.0 MEV 10.0% 2 USA C.R.HEAD DOE 781159F
O: NEEDED TO DESCRIBE BREEDING IN D-T SYSTEMS.
M: NEW REQUEST.

85 UP TO 20.0 MEV 20.0% 1 ITY C.COCEVA BOL 792105F
Q: ANGULAR DISTRIBUTION OF REACTION PRODUCTS NEEDED.
O: BLANKET CALCULATIONS IN FUSION REACTORS.
M: NEW REQUEST.

3 LITHIUM 7 NEUTRON ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION

86 14.0 MEV 2 USA C.R.HEAD DOE 781114F
A: ACCURACY TO BE DETERMINED.
O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

3 LITHIUM 7 NEUTRON TOTAL HYDROGEN-PRODUCTION CROSS SECTION

87	9.00	MEV	14.0	MEV	10.0%	1	USA	C.R.HEAD	DOE	781051F

O: FOR RADIATION DAMAGE STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.
M: NEW REQUEST.

3 LITHIUM 7 NEUTRON TOTAL HELIUM-PRODUCTION CROSS SECTION

88	9.00	MEV	14.0	MEV	10.0%	1	USA	C.R.HEAD	DOE	781060F

O: FOR RADIATION DAMAGE STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.
M: NEW REQUEST.

4 BERYLLIUM 9 NEUTRON DIFFERENTIAL ELASTIC CROSS SECTION

89	2.00	MEV	15.0	MEV	10.0%	2	CCP	I.N.GOLOVIN	KUR	724011F

O: FOR NEUTRON TRANSMISSION CALCULATIONS.

4 BERYLLIUM 9 NEUTRON INELASTIC CROSS SECTION

90	UP TO		15.0	MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR	724012F

O: NEUTRONICS CALCULATIONS FOR BLANKET AND SHIELD.

91	UP TO		15.0	MEV	15. %	2	JAP	Y.SEKI	JAE	762060F

O: BLANKET NEUTRONICS CALCULATIONS

4 BERYLLIUM 9 NEUTRON ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION

92	8.00	MEV	15.0	MEV	10.0%	2	GER	D.DARVAS	JUL	722074F

M: SUBSTANTIAL MODIFICATIONS.

93	UP TO		15.0	MEV	10.0%	1	FR	C.PHILIS	BRC	792001F

O: NEUTRON TRANSPORT CALCULATIONS
M: NEW REQUEST.

4 BERYLLIUM 9 NEUTRON THERMAL SCATTERING LAW

94	25.3	MV				3	UK	J.FELL	WIN	792163R

Q: MAXWELLIAN SPECTRUM AVERAGE FROM 20C TO 1200C NEEDED.
O: FOR THERMAL REACTORS.
M: NEW REQUEST.

4 BERYLLIUM 9 NEUTRON PHOTON PRODUCTION CROSS SECTION IN INELASTIC SCAT.

95	8.00	MEV	15.0	MEV	10.0%	2	GER	D.DARVAS	JUL	722075F

Q: ENERGY DISTRIBUTION OF GAMMA RAYS REQUIRED.
M: SUBSTANTIAL MODIFICATIONS.

4 BERYLLIUM 9 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

96	3.00	MEV	15.0	MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR	724015F

Q: GAMMA RAY SPECTRA ALSO REQUIRED.
O: GAMMA RAY HEATING AND SHIELDING CALCULATIONS.

4 BERYLLIUM 9 NEUTRON N,2N

97	UP TO		15.0	MEV	20.0%	1	GER	F.FROEHNER	KFK	722077F

Q: ANGULAR DISTRIBUTIONS AND ENERGY SPECTRA OF SECONDARY NEUTRONS AND GAMMA RAYS ALSO NEEDED.
O: RADIATION DAMAGE ESTIMATES.
M: SUBSTANTIAL MODIFICATIONS.

98	UP TO		15.0	MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR	724013F

Q: ENERGY AND ANGULAR DISTRIBUTION OF SECONDARY NEUTRONS REQUIRED.
O: USE FOR NEUTRON MULTIPLICATION AND TRANSMISSION CALCULATIONS.

99	2.00	MEV	14.0	MEV	15.0%	2	FR	B.DUCHEMIN	SAC	732005F

O: TO IMPROVE NEUTRON BALANCE CALCULATIONS.

100	UP TO		15.0	MEV	15. %	3	JAP	Y.SEKI M.KASAI	JAE MAP	762061F

O: NEUTRON MULTIPLICATION CALCULATIONS

4 BERYLLIUM 9 NEUTRON N,2N ANGULAR DISTRIBUTION

101	UP TO	15.0 MEV	15.0%	2	JAP	Y.SEKI	JAE	762233F

O: NEUTRON TRANSPORT CALCULATIONS

4 BERYLLIUM 9 NEUTRON N,2N NEUTRON SPECTRA

102	UP TO	15.0 MEV	15. %	3	JAP	Y.SEKI	JAE	762062F

O: NEUTRON TRANSPORT CALCULATIONS

4 BERYLLIUM 9 NEUTRON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

103	1.80 MEV	5.00 MEV	15.0%	2	USA	P.B.HEMMIG	DOE	621002R

A: ACCURACY 50 MB AT 2-3 MEV.
RESOLUTION, 5 PERCENT INCIDENT ENERGY, 500 KEV IN OUTGOING ENERGY.
O: FOR BE MODERATED FAST SPECTRUM REACTORS.
FOR THERMAL BREEDERS OR CONVERTORS.
NEUTRON ECONOMY CALCULATIONS.

104	9.00 MEV	14.0 MEV	10.0%	2	USA	C.R.HEAD	DOE	781079F

O: DATA NEEDED FOR SHIELDING, ACTIVATION AND NEUTRON TRANSPORT CALCULATIONS.
M: NEW REQUEST.

4 BERYLLIUM 9 NEUTRON N,P DELAYED NEUTRON YIELD

105	14.0 MEV	16.0 MEV	10.0%	2	CCP	V.K.MARKOV	GAC	714037N

Q: DELAYED NEUTRON YIELD FROM BE-9 PRODUCED BY BETA DECAY OF LI-9 REACTION PRODUCT REQUIRED.
O: ALLOWANCE FOR BACKGROUND IN. DELAYED NEUTRON COUNTING

4 BERYLLIUM 9 NEUTRON ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION

106	14.0 MEV			2	USA	C.R.HEAD	DOE	781145F

A: ACCURACY TO BE DETERMINED.
O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

4 BERYLLIUM 9 NEUTRON N,ALPHA

107	8.00 MEV	15.0 MEV	10.0%	1	GER	F.FROEHNER	KFK	722078F

Q: TOTAL ALPHA PRODUCTION REQUIRED.
O: CALCULATION OF NEUTRON TRANSPORT.
M: SUBSTANTIAL MODIFICATIONS.

108	8.00 MEV	15.0 MEV	15.0%	2	CCP	I.N.GOLOVIN	KUF	724014F

O: FOR HELIUM ACCUMULATION CALCULATIONS.

109	8.00 MEV	15.0 MEV	15. %	3	JAP	Y.SEKI	JAE	762063F

O: HELIUM ACCUMULATION CALCULATIONS

4 BERYLLIUM 9 NEUTRON ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION

110	14.0 MEV			2	USA	C.R.HEAD	DOE	781124F

A: ACCURACY TO BE DETERMINED.
O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

4 BERYLLIUM 9 NEUTRON TOTAL HYDROGEN-PRODUCTION CROSS SECTION

111	9.00 MEV	14.0 MEV	10.0%	2	USA	C.R.HEAD	DOE	781103F

A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES
O: FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

4 BERYLLIUM 9 NEUTRON TOTAL HELIUM-PRODUCTION CROSS SECTION

112	9.00 MEV	14.0 MEV	10.0%	2	USA	C.R.HEAD	DOE	781091F

A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES
O: FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

4 BERYLLIUM 9 ALPHA ALPHA,N

113	100. KEV	6.50 MEV	6.0%	2	USA	R.B.WALTON	LAS	781168N

Q: THICK TARGET YIELDS REQUIRED.
A: RELATIVE ERROR OF 3.0 PERCENT NEEDED.
ALPHA ENERGY RESOLUTION 100 KEV.
M: NEW REQUEST.

5 BORON | NEUTRON | TOTAL CROSS SECTION

114	4.50 MEV	15.0 MEV		2	USA	P.B.HEMMIG	DOE	741001R

A: ACCURACY REQUIRED - 3 TO 4 PERCENT.
O: FOR SHIELDING EFFECT OF BORON CARBIDE.
M: SUBSTANTIAL MODIFICATIONS.

5 BORON | NEUTRON | DIFFERENTIAL ELASTIC CROSS SECTION

115	4.50 MEV	15.0 MEV	15.0%	2	USA	P.B.HEMMIG	DOE	741003R

M: SUBSTANTIAL MODIFICATIONS.

5 BORON | NEUTRON | ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION

116	UP TO	15.0 MEV	10.0%	2	USA	P.B.HEMMIG	DOE	741005R

A: 15 PERCENT IN ENERGY SPECTRA.
20 PERCENT IN ANGULAR DISTRIBUTION IF NOT ISOTROPIC.
OUTGOING ENERGY RESOLUTION 10 PERCENT.

5 BORON | NEUTRON | ENERGY-ANGLE DIFF. PHOTON-PRODUCTION CROSS SECTION

117	1.00 KEV	15.0 MEV	15.0%	2	USA	P.B.HEMMIG	DOE	741007R

A: 20 PERCENT IN ANGULAR DISTRIBUTION IF NOT ISOTROPIC.
GAMMA ENERGY RESOLUTION 10 PERCENT.

5 BORON | ALPHA | ALPHA,N

118	UP TO	10.0 MEV	20. %	2	SWD	H.HAEGGBLOM	AE	762160N

O: NEUTRON OUTPUT OF SOLIDIFIED NUCLEAR WASTE

119	UP TO	7.00 MEV	30.0%	2	UK	A.WHITTAKER	UKW	792113R

O: FOR FUEL REPROCESSING.
M: NEW REQUEST.

5 BORON 10 | NEUTRON | ENERGY-ANGLE DIFF. PHOTON-PRODUCTION CROSS SECTION

120	9.00 MEV	14.0 MEV	10.0%	2	USA	C.R.HEAD	DOE	781156F

O: DATA NEEDED FOR BLANKET, SHIELD AND MAGNET HEAT DEPOSITION CALCULATIONS.
M: NEW REQUEST.

5 BORON 10 | NEUTRON | N,2N

121	8.00 MEV	14.0 MEV	15.0%	2	FR	B.DUCHEMIN	SAC	732006F

O: FOR IMPROVED CALCULATION OF NEUTRON BALANCE.

5 BORON 10 | NEUTRON | N,3N

122	10.0 MEV	14.0 MEV	15.0%	2	FR	B.DUCHEMIN	SAC	732007F

O: FOR IMPROVED CALCULATION OF NEUTRON BALANCE.

5 BORON 10 | NEUTRON | ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

123	9.00 MEV	14.0 MEV	10.0%	2	USA	C.R.HEAD	DOE	781088F

O: DATA NEEDED FOR SHIELDING, ACTIVATION AND NEUTRON TRANSPORT CALCULATIONS.
M: NEW REQUEST.

5 BORON 10 | NEUTRON | ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION

124	14.0 MEV			2	USA	C.R.HEAD	DOE	781154F

A: ACCURACY TO BE DETERMINED.
O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

5 BORON 10 | NEUTRON | N,ALPHA

125	100. KEV	1.00 MEV	2.0%	1	UK	B.ROSE	HAR	642001R

Q: ALSO (N,ALPHA GAMMA).
A: ENERGY DEPENDENCE NEEDED MORE ACCURATELY.
O: USED AS A STANDARD IN CROSS SECTION MEASUREMENTS.

126	10.0 KEV	2.00 MEV		1	BLG	A.FABRY	MOL	682004R

A: ACCURACY 1 PERCENT TO 100 KEV, 3 PERCENT ABOVE.
O: STANDARD CROSS SECTION.
CALCULATION OF STANDARD NEUTRON SPECTRUM.

127	1.00	KEV	10.0	MEV		1	USA	C.E.TILL P.B.HEMMIG F.C.MAIENSCHEIN	ANL DOE ORL	691364R

Q: ABSOLUTE VALUES REQUIRED.
ALPHA-0/ALPHA-1 RATIO NEEDED FOR BOTH ALPHA AND GAMMA DETECTION.
A: 1-100 KEV,ACCURACY 1 PERCENT, 3 PERCENT USEFUL.
100-300 KEV,ACCURACY 3 PERCENT, 10 PERCENT USEFUL.
0.3-10 MEV,ACCURACY 5 PERCENT, 10 PERCENT USEFUL.
O: FOR USE AS A STANDARD.

128	1.00	KEV	10.0	MEV		1	USA	C.E.TILL P.B.HEMMIG F.C.MAIENSCHEIN	ANL DOE ORL	691373R

Q: ABSOLUTE CROSS SECTION FOR PRODUCTION OF 480 KEV GAMMA IS REQUIRED.
A: 1-100 KEV,ACCURACY 1 PERCENT, 3 PERCENT USEFUL.
100-300 KEV,ACCURACY 3 PERCENT, 10 PERCENT USEFUL.
0.3-10 MEV,ACCURACY 5 PERCENT, 10 PERCENT USEFUL.
O: FOR USE AS A STANDARD.

129	50.0	KEV	200.	KEV	1.0%	1	USA	R.S.CASWELL	NBS	721028R

Q: BOTH TOTAL AND ALPHA 1 CROSS SECTIONS NEEDED.
O: FOR USE AS A STANDARD.
M: SUBSTANTIAL MODIFICATIONS.

130	5.00	KEV	10.0	MEV		2	CCP	L.N.USACHEV	FEI	754025R

A: FROM 5.0 - 100 KEV ACCURACY 2 PERCENT.
O: STANDARD CROSS SECTION BELOW 100 KEV.
FOR MORE DETAIL SEE INTRODUCTION.
M: SUBSTANTIAL MODIFICATIONS.

131	500.	EV	200.	KEV	5.0%	1	USA	R.S.CASWELL	NBS	761110R

Q: SECONDARY ENERGY-ANGLE DISTRIBUTION WANTED.
O: NEEDED FOR THIN FOIL MEASUREMENTS WITH B-10 (N,ALPHA) STANDARD.
M: NEW REQUEST.

132	10.0	MV	10.0	EV	1.0%	1	USA	R.S.CASWELL	NBS	781176R

O: TO SEE WHETHER B IS 1/V IN THIS REGION.
M: NEW REQUEST.

133	200.	KEV	1.00	MEV	5.0%	3	UK	C.G.CAMPBELL	WIN	792124R

C: FOR FAST REACTORS.
SEE ALSO REQUEST NO. 792125.
M: NEW REQUEST.

134	1.00	MEV	5.00	MEV	10.0%	3	UK	C.G.CAMPBELL	WIN	792125R

O: FOR FAST REACTORS.
SEE ALSO REQUEST NO. 792124.
M: NEW REQUEST.

135	100.	KEV	1.00	MEV	2.0%	1	GER	H.KUESTERS	KFK	792187R

M: NEW REQUEST.

STATUS

UNDER CONTINUOUS REVIEW BY INDC AND NEANDC. SEE APPENDIX A.

5 BORON 10 NEUTRON TOTAL ALPHA PRODUCTION CROSS SECTION

136	1.00	KEV	18.0	MEV	10.0%	1	USA	W.N.MC ELROY	HED	691026R

O: FOR USE AS A FLUENCE MONITOR.
TOTAL HELIUM PRODUCTION FOR MASS SPECTROMETER.

5 BORON 10 NEUTRON ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION

137	14.0	MEV				2	USA	C.R.HEAD	DOE	781133F

A: ACCURACY TO BE DETERMINED.
O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

5 BORON 10 NEUTRON TOTAL HYDROGEN-PRODUCTION CROSS SECTION

138	9.00	MEV	14.0	MEV	10.0%	2	USA	C.R.HEAD	DOE	781112F

A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES
O: FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

5 BORON 10 NEUTRON TOTAL HELIUM-PRODUCTION CROSS SECTION

139	9.00	MEV	14.0	MEV	10.0%	2	USA	C.R.HEAD	DOE	781100F

A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES
O: FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

5 BORON 11 NEUTRON TOTAL CROSS SECTION

140	500.	KEV	5.00	MEV	10.0%	2	UK	C.G.CAMPBELL	WIN		792126R

O: FOR FAST REACTORS.
M: NEW REQUEST.

5 BORON 11 NEUTRON ELASTIC CROSS SECTION

141	500.	KEV	5.00	MEV	10.0%	2	UK	C.G.CAMPBELL	WIN		792127R

O: FOR FAST REACTORS.
M: NEW REQUEST.

5 BORON 11 NEUTRON ENERGY-ANGLE DIFF. PHOTON-PRODUCTION CROSS SECTION

142	9.00	MEV	14.0	MEV	10.0%	2	USA	C.R.HEAD	DOE		781157F

O: DATA NEEDED FOR BLANKET, SHIELD AND MAGNET HEAT DEPOSITION CALCULATIONS.
M: NEW REQUEST.

5 BORON 11 NEUTRON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

143	9.00	MEV	14.0	MEV	10.0%	1	USA	C.R.HEAD	DOE		781047F

O: FOR SHIELDING, ACTIVATION AND TRANSPORT STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.
M: NEW REQUEST.

5 BORON 11 NEUTRON ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION

144	14.0	MEV				2	USA	C.R.HEAD	DOE		781140F

A: ACCURACY TO BE DETERMINED.
O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

5 BORON 11 NEUTRON ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION

145	14.0	MEV				2	USA	C.R.HEAD	DOE		781119F

A: ACCURACY TO BE DETERMINED.
O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

5 BORON 11 NEUTRON TOTAL HYDROGEN-PRODUCTION CROSS SECTION

146	9.00	MEV	14.0	MEV	10.0%	1	USA	C.R.HEAD	DOE		781056F

O: FOR RADIATION DAMAGE STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.
M: NEW REQUEST.

5 BORON 11 NEUTRON TOTAL HELIUM-PRODUCTION CROSS SECTION

147	9.00	MEV	14.0	MEV	10.0%	1	USA	C.R.HEAD	DOE		781065F

O: FOR RADIATION DAMAGE STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.
M: NEW REQUEST.

5 BORON 11 PROTON P,N

148	500.	KEV	2.00	MEV	10.0%	1	USA	C.R.HEAD	DOE		781075F

A: ACCURACY 10.0 PC RELATIVE, 30.0 PC ABSOLUTE REQUIRED.
O: FOR ADVANCED FUEL FUSION DEVICES.
M: NEW REQUEST.

5 BORON 11 ALPHA ALPHA,N

149	500.	KEV	2.00	MEV	10.0%	1	USA	C.R.HEAD	DOE		781077F

A: ACCURACY 10.0 PC RELATIVE, 30.0 PC ABSOLUTE REQUIRED.
O: FOR ADVANCED FUEL FUSION DEVICES.
M: NEW REQUEST.

5 BORON 11 ALPHA ALPHA,P

150	500.	KEV	2.00	MEV	10.0%	1	USA	C.R.HEAD	DOE		781076F

A: ACCURACY 10.0 PC RELATIVE, 30.0 PC ABSOLUTE REQUIRED.
O: FOR ADVANCED FUEL FUSION DEVICES.
M: NEW REQUEST.

6 CARBON | NEUTRON | TOTAL CROSS SECTION

151 | 20.0 MEV | 50.0 MEV | 10.0% | 1 | USA | C.R.HEAD | DOE | 781003F

A: ACCURACY REQUIRED 10 TO 15 PERCENT.
O: FOR SHIELD DESIGN IN FMIT FACILITY.
M: NEW REQUEST.

6 CARBON | NEUTRON | DIFFERENTIAL ELASTIC CROSS SECTION

152 | 20.0 MEV | 50.0 MEV | 10.0% | 1 | USA | C.R.HEAD | DOE | 781006F

A: ACCURACY REQUIRED 10 TO 15 PERCENT.
O: FOR SHIELD DESIGN IN FMIT FACILITY.
M: NEW REQUEST.

STATUS

UNDER CONTINUOUS REVIEW BY INDC AND NEANDC. SEE APPENDIX A.

6 CARBON | NEUTRON | NON-ELASTIC CROSS SECTION

153 | 20.0 MEV | 50.0 MEV | 10.0% | 1 | USA | C.R.HEAD | DOE | 781009F

A: ACCURACY REQUIRED 10 TO 15 PERCENT.
O: FOR SHIELD DESIGN IN FMIT FACILITY.
M: NEW REQUEST.

6 CARBON | NEUTRON | PHOTON PRODUCTION CROSS SECTION IN INELASTIC SCAT.

154 | 5.00 MEV | 20.0 MEV | 5.0% | 1 | USA | F.G.PEREY | ORL | 741177R

Q: ANGULAR DISTRIBUTION AT 4 OR MORE ANGLES REQUIRED FOR 4.43 MEV GAMMA.
M: NEW REQUEST.

6 CARBON | NEUTRON | ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

155 | 9.00 MEV | 14.0 MEV | 10.0% | 1 | USA | C.R.HEAD | DOE | 781043F

O: FOR SHIELDING, ACTIVATION AND TRANSPORT STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.
M: NEW REQUEST.

6 CARBON | NEUTRON | ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION

156 | 14.0 MEV | 2 | USA | C.R.HEAD | DOE | 781136F

A: ACCURACY TO BE DETERMINED.
O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

6 CARBON | NEUTRON | ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION

157 | 14.0 MEV | 2 | USA | C.R.HEAD | DOE | 781115F

A: ACCURACY TO BE DETERMINED.
O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

6 CARBON | NEUTRON | TOTAL HYDROGEN-PRODUCTION CROSS SECTION

158 | 9.00 MEV | 14.0 MEV | 10.0% | 1 | USA | C.R.HEAD | DOE | 781052F

O: FOR RADIATION DAMAGE STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.
M: NEW REQUEST.

6 CARBON | NEUTRON | TOTAL HELIUM-PRODUCTION CROSS SECTION

159 | 9.00 MEV | 14.0 MEV | 10.0% | 1 | USA | C.R.HEAD | DOE | 781061F

O: FOR RADIATION DAMAGE STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.
M: NEW REQUEST.

6 CARBON | ALPHA | ALPHA,N

160 | 100. KEV | 6.50 MEV | 6.0% | 2 | USA | R.B.WALTON | LAS | 781169N

Q: THICK TARGET YIELDS REQUIRED.
A: RELATIVE ERROR OF 3.0 PERCENT NEEDED. ALPHA ENERGY RESOLUTION 100 KEV.
M: NEW REQUEST.

6 CARBON 12 | NEUTRON | DIFFERENTIAL ELASTIC CROSS SECTION

161 | 8.00 MEV | 15.0 MEV | 10.0% | 2 | CCP | I.N.GOLOVIN | KUR | 724016F

O: NEUTRON TRANSMISSION CALCULATIONS.

STATUS

UNDER CONTINUOUS REVIEW BY INDC AND NEANDC. SEE APPENDIX A.

6 CARBON 12 — NEUTRON — INELASTIC CROSS SECTION

162	8.00	MEV	15.0	MEV	10. %	2	JAP	Y.SEKI	JAE	762064F

Q: INELASTICALLY SCATTERED NEUTRON SPECTRA REQUIRED WITH INCIDENT ENERGY STEPS 0.5 MEV.
O: NEUTRON TRANSPORT CALCULATIONS

6 CARBON 12 — NEUTRON — N,ALPHA

163	UP TO		15.0	MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR	724017F

O: NEUTRON ABSORPTION CALCULATIONS.

164	UP TO		30.0	MEV	10.0%	2	USA	R.S.CASWELL	NBS	761111R

Q: MEASUREMENT AT THRESHOLD AND SEVERAL ENERGIES THROUGHOUT THE RANGE SHOULD BE SUFFICIENT.
O: NEEDED FOR ENERGY DEPOSITION CALCULATIONS FOR RADIOTHERAPY.
M: NEW REQUEST.

6 CARBON 12 — NEUTRON — N,N3ALPHA

165	UP TO		15.0	MEV	15.0%	2	CCP	I.N.GOLCVIN	KUR	724018F

Q: SECONDARY NEUTRON ENERGY DISTRIBUTION REQUIRED AT 14. MEV.
O: FOR BLANKET NEUTRONICS CALCULATIONS.

166	UP TO		20.0	MEV	15.0%	1	USA	F.G.PEREY	ORL	741174R

M: NEW REQUEST.

167	UP TO		30.0	MEV	10.0%	1	USA	R.S.CASWELL	NBS	761112R

Q: MEASUREMENT AT THRESHOLD AND SEVERAL ENERGIES THROUGHOUT THE RANGE SHOULD BE SUFFICIENT.
O: NEEDED FOR ENERGY DEPOSITION CALCULATIONS FOR RADIOTHERAPY.
M: NEW REQUEST.

168	UP TO		15.0	MEV	15. %	2	JAP	Y.SEKI	JAE	762065F

Q: TOTAL ALPHA PRODUCTION CROSS SECTION AND SECONDARY NEUTRON ENERGY SPECTRUM REQUIRED.
O: NEUTRON TRANSPORT AND HELIUM ACCUMULATION CALC.

6 CARBON 12 — ALPHA — ALPHA,N

169	UP TO		7.00	MEV	30.0%	2	UK	C.G.CAMPBELL A.WHITTAKER	WIN UKW	792114R

O: FOR FAST REACTORS AND FOR FUEL REPROCESSING.
M: NEW REQUEST.

6 CARBON 13 — ALPHA — ALPHA,N

170	UP TO		10.0	MEV	20.0%	2	JAP	N.YAMANO	SAE	792070R

Q: EXPERIMENTAL DATA WANTED. ANGULAR DISTRIBUTION ALSO REQUIRED. REQUIRED NEUTRON ENERGIES ARE 100 KEV TO 10 MEV.
O: FOR NEUTRON SHIELDING AND EVALUATION OF NEUTRON SOURCE.
FOR EVALUATION OF NEUTRON ENERGY SPECTRUM IN FUEL RECYCLE PROCESS.
M: NEW REQUEST.

7 NITROGEN — NEUTRON — CAPTURE CROSS SECTION

171	1.00	KEV	1.00	MEV	10.0%	2	USA	P.B.HEMMIG	DOE	741009R

Q: RESONANCE PARAMETERS NEEDED.
A: RESOLUTION 20 PERCENT.

7 NITROGEN 14 — NEUTRON — DIFFERENTIAL ELASTIC CROSS SECTION

172	1.00	MEV	15.0	MEV	20.0%	2	FR	A.MICHAUDON	BRC	692015R

A: AVERAGE (1-COS) ACCURACY 10 PERCENT.
ANGULAR RESOLUTION - 2.5 DEGREES UP TO 20 DEGREES, 5 DEGREES FROM 20 TO 180 DEGREES.
O: FOR AIR SCATTERING CALCULATION.
NEW EVALUATION TO BE DONE IF NEW EXPERIMENTAL DATA.

7 NITROGEN 14 — NEUTRON — TOTAL PHOTON PRODUCTION CROSS SECTION

173	1.00	KEV	15.0	MEV	10.0%	1	FR	C.PHILIS	BRC	792002R

O: EVALUATION SUFFICIENT
M: NEW REQUEST.

7 NITROGEN 14 | NEUTRON | NEUTRON EMISSION CROSS SECTION

174	4.00 MEV	15.0 MEV	20.0%	2	FR	A.MICHAUDON	BRC	692017R

Q: SECONDARY ENERGY-ANGLE DISTRIBUTIONS REQUIRED.
A: AVERAGE (1-COS) ACCURACY 10 PERCENT.
O: FOR AIR SCATTERING CALCULATION.
NEW EVALUATION TO BE DONE IF NEW EXPERIMENTAL DATA.

7 NITROGEN 14 | NEUTRON | ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

175	9.00 MEV	14.0 MEV	10.0%	2	USA	C.R.HEAD	DOE	781085F

O: DATA NEEDED FOR SHIELDING, ACTIVATION AND NEUTRON TRANSPORT CALCULATIONS.
M: NEW REQUEST.

7 NITROGEN 14 | NEUTRON | ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION

176	14.0 MEV			2	USA	C.R.HEAD	DOE	781151F

A: ACCURACY TO BE DETERMINED.
O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

7 NITROGEN 14 | NEUTRON | ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION

177	14.0 MEV			2	USA	C.R.HEAD	DOE	781130F

A: ACCURACY TO BE DETERMINED.
O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

7 NITROGEN 14 | NEUTRON | TOTAL HYDROGEN-PRODUCTION CROSS SECTION

178	9.00 MEV	14.0 MEV	10.0%	2	USA	C.R.HEAD	DOE	781109F

A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES
O: FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

7 NITROGEN 14 | NEUTRON | TOTAL HELIUM-PRODUCTION CROSS SECTION

179	9.00 MEV	14.0 MEV	10.0%	2	USA	C.R.HEAD	DOE	781097F

A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES
O: FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

7 NITROGEN 14 | ALPHA | ALPHA,N

180	UP TO 7.00 MEV		30.0%	3	UK	A.WHITTAKER	UKW	792115R

O: FOR FUEL REPROCESSING.
M: NEW REQUEST.

8 OXYGEN | NEUTRON | TOTAL CROSS SECTION

181	20.0 MEV	50.0 MEV	10.0%	1	USA	C.R.HEAD	DOE	781204F

A: ACCURACY REQUIRED 10 TO 15 PERCENT.
O: FOR SHIELD DESIGN IN FMIT FACILITY.
M: NEW REQUEST.

8 OXYGEN | NEUTRON | ELASTIC CROSS SECTION

182	5.00 KEV	10.0 MEV	5.0%	1	USA	N.STEEN	BET	761050R

O: TO RESOLVE DISCREPANCIES BETWEEN CALCULATED AND MEASURED MULTIPLICATION FACTORS IN SMALL CRITICAL FACILITIES.
M: NEW REQUEST.

8 OXYGEN | NEUTRON | DIFFERENTIAL ELASTIC CROSS SECTION

183	10.0 KEV	16.0 MEV	5.0%	1	USA	P.B.HEMMIG	DOE	661028R

O: NEEDED FOR FAST REACTOR REFLECTOR WORTHS.

184	100. KEV	15.0 MEV		2	SWD	H.HAEGGBLOM	AE	712004R

A: 5 PERC. BETWEEN 100 KEV- 4 MEV, 10 PERC. BETWEEN 4-15 MEV.
O: FOR FAST REACTOR CALCULATIONS.

185	5.00 KEV	10.0 MEV	5.0%	1	USA	N.STEEN	BET	761051R

O: TO RESOLVE DISCREPANCIES BETWEEN CALCULATED AND MEASURED MULTIPLICATION FACTORS IN SMALL CRITICAL FACILITIES.
M: NEW REQUEST.

186	10.0 KEV	20.0 MEV	5.0%	1	USA	S.VISNER	CBE			761073R

O: IMPROVED LEAKAGE CALCULATIONS FOR U-233 AND U-235 BENCHMARKS.
M: NEW REQUEST.

187	20.0 MEV	50.0 MEV	10.0%	1	USA	C.R.HEAD	DOE			781206F

A: ACCURACY REQUIRED 10 TO 15 PERCENT.
O: FOR SHIELD DESIGN IN FMIT FACILITY.
M: NEW REQUEST.

8 OXYGEN NEUTRON NON-ELASTIC CROSS SECTION

188	20.0 MEV	50.0 MEV	10.0%	1	USA	C.R.HEAD	DOE			781208F

A: ACCURACY REQUIRED 10 TO 15 PERCENT.
O: FOR SHIELD DESIGN IN FMIT FACILITY.
M: NEW REQUEST.

8 OXYGEN NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

189	1.00 KEV	15.0 MEV	10.0%	2	FR	A.MICHAUDON	BRC			742028R

O: FOR SHIELDING CALCULATION.

8 OXYGEN NEUTRON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

190	9.00 MEV	14.0 MEV	10.0%	2	USA	C.R.HEAD	DOE			781089F

O: DATA NEEDED FOR SHIELDING, ACTIVATION AND NEUTRON TRANSPORT CALCULATIONS.
M: NEW REQUEST.

8 OXYGEN NEUTRON ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION

191	14.0 MEV			2	USA	C.R.HEAD	DOE			781155F

A: ACCURACY TO BE DETERMINED.
O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

8 OXYGEN NEUTRON ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION

192	14.0 MEV			2	USA	C.R.HEAD	DOE			781134F

A: ACCURACY TO BE DETERMINED.
O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

8 OXYGEN NEUTRON TOTAL HYDROGEN-PRODUCTION CROSS SECTION

193	9.00 MEV	14.0 MEV	10.0%	2	USA	C.R.HEAD	DOE			781113F

A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES
C: FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

8 OXYGEN NEUTRON TOTAL HELIUM-PRODUCTION CROSS SECTION

194	9.00 MEV	14.0 MEV	10.0%	2	USA	C.R.HEAD	DOE			781101F

A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES
O: FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

8 OXYGEN ALPHA ALPHA,N

195	UP TO	15.0 MEV	20.0%	3	FR	L.COSTA	CAD			762138R

O: NEUTRON DOSE FOR FUEL-CYCLE PROBLEMS OUT-OF-CORE INHERENT SOURCE IN-CORE

196	UP TO	10.0 MEV	20. %	2	SWD	H.HAEGGBLOM	AE			762162N

O: NEUTRON OUTPUT OF SOLIDIFIED NUCLEAR WASTE

197	100. KEV	6.50 MEV	6.0%	2	USA	R.B.WALTON	LAS			781170N

Q: THICK TARGET YIELDS REQUIRED.
A: RELATIVE ERROR OF 3.0 PERCENT NEEDED. ALPHA ENERGY RESOLUTION 100 KEV.
M: NEW REQUEST.

198	UP TO	7.00 MEV	30.0%	1	UK	C.G.CAMPBELL	WIN			792119R
						A.WHITTAKER	UKW			

O: FOR FAST REACTORS AND FOR FUEL REPROCESSING
M: NEW REQUEST.

199	4.40 MEV	6.10 MEV	30.0%	2	GER	H.KUESTERS	KFK			792254R

Q: THICK-TARGET YIELD FOR UO2 OR PUO2. MEASUREMENT WANTED.
O: NEUTRON EMISSION FROM FUEL.
M: NEW REQUEST.

8 OXYGEN 16 | NEUTRON | TOTAL CROSS SECTION

200	5.00	KEV	10.0	MEV		2	CCP	L.N.USACHEV	FEI	754016R

A: FROM 5.0 - 100 KEV ACCURACY 10 PERCENT.
FROM 0.1 - 0.8 MEV ACCURACY 6 PERCENT.
FROM 0.8 - 4.5 MEV ACCURACY 10 PERCENT.
ABOVE 4.5 MEV REQUIREMENTS 2 TIMES WEAKER.
O: NEED FOR FAST REACTOR CALCULATIONS.
FOR MORE DETAIL SEE INTRODUCTION.
M: SUBSTANTIAL MODIFICATIONS.

8 OXYGEN 16 | NEUTRON | N,ALPHA

201		UP TO	30.0	MEV	10.0%	2	USA	R.S.CASWELL	NBS	761113R

Q: MEASUREMENT AT THRESHOLD AND SEVERAL ENERGIES THROUGHOUT THE RANGE SHOULD BE SUFFICIENT.
O: NEEDED FOR ENERGY DEPOSITION CALCULATIONS FOR RADIOTHERAPY.
M: NEW REQUEST.

202	7.50	MEV	15.0	MEV	15. %	2	JAP	Y.SEKI	JAE	762066F

Q: TOTAL ALPHA PRODUCTION CROSS SECTION
O: HELIUM ACCUMULATION CALC. IN LI-OXIDE BLANKETS

8 OXYGEN 16 | NEUTRON | N,NALPHA

203		UP TO	30.0	MEV	10.0%	2	USA	R.S.CASWELL	NBS	761114R

Q: MEASUREMENT AT THRESHOLD AND SEVERAL ENERGIES THROUGHOUT THE RANGE SHOULD BE SUFFICIENT.
O: NEEDED FOR ENERGY DEPOSITION CALCULATIONS FOR RADIOTHERAPY.
M: NEW REQUEST.

204		UP TO	15.0	MEV	15. %	2	JAP	Y.SEKI	JAE	762067F

Q: SECONDARY NEUTRON ENERGY SPECTRA REQUIRED.
O: CALCULATION OF NEUTRON TRANSPORT AND HELIUM ACCUMULATION IN LI-OXIDE BLANKETS

8 OXYGEN 16 | NEUTRON | N,N4ALPHA

205		UP TO	30.0	MEV	10.0%	1	USA	R.S.CASWELL	NBS	761115R

Q: AT LEAST ONE MEASUREMENT URGENTLY NEEDED FOR NORMALIZATION.
MEASUREMENT AT THRESHOLD AND SEVERAL ENERGIES THROUGHOUT THE RANGE SHOULD BE SUFFICIENT.
O: NEEDED FOR ENERGY DEPOSITION CALCULATIONS FOR RADIOTHERAPY.
M: NEW REQUEST.

8 OXYGEN 16 | TRITON | T,N

206		UP TO	12.0	MEV	10.0%	2	JAP	K.TANAKA H.KUDO	JAE JAE	792071F

Q: EXPERIMENTAL DATA WANTED.
A: 5% ENERGY RESOLUTION DESIRABLE.
O: FOR PRECISE ESTIMATION OF LI20 BURNUP IN CTR BLANKET. FOR EVALUATION OF NUMBER OF O 18 ATOMS FROM BETA PLUS DECAY OF F 18 PRODUCED THROUGH O 16 (T,N) F 18.
M: NEW REQUEST.

8 OXYGEN 17 | NEUTRON | CAPTURE CROSS SECTION

207	25.3	MV				2	CAN	G.C.HANNA	CRC	691801R

A: ACCURACY 0.2 BARNS.
O: FOR UNDERSTANDING ABSORPTION IN HEAVY WATER.

8 OXYGEN 17 | NEUTRON | N,ALPHA

208	25.3	MV	15.0	MEV	30.0%	2	JAP	T.KAWAKITA	MAP	792073R

Q: EVALUATED DATA WANTED.
O: FOR EVALUATION OF QUANTITY OF C 14 FROM OXIDE FUEL IN FAST REACTOR. BOTH EVALUATIONS AND MEASUREMENTS ARE SCARCE.
M: NEW REQUEST.

8 OXYGEN 17 | ALPHA | ALPHA,N

209		UP TO	10.0	MEV	20.0%	2	JAP	N.YAMANO	SAE	792072R

Q: EXPERIMENTAL DATA WANTED. ANGULAR DISTRIBUTION ALSO REQUIRED. REQUIRED NEUTRON ENERGIES ARE 100 KEV TO 10 MEV.
O: FOR NEUTRON SHIELDING AND EVALUATION OF NEUTRON SOURCE. FOR EVALUATION OF NEUTRON ENERGY SPECTRUM IN FUEL CYCLE PROCESS.
M: NEW REQUEST.

8 OXYGEN 18 | NEUTRON | N,ALPHA

210	1.50	MEV		20.0%	2	SWD	J.ELKERT	AKA	792093R

Q: INCIDENT ENERGY: FISSION SPECTRUM
M: NEW REQUEST.

8 OXYGEN 18 | ALPHA | ALPHA,N

211	UP TO	7.00	MEV	10.0%	3	USA	N.STEEN	BET	661010R

A: ALPHA ENERGY RESOLUTION 0.2 MEV.
O: NEEDED FOR INTRINSIC NEUTRON SOURCE FOR CLEAN CORES.
M: SUBSTANTIAL MODIFICATIONS.

212	4.00	MEV	7.50	MEV	30.0%	2	FR	B.DUCHEMIN	SAC	692029R

Q: SECONDARY ENERGY DISTRIBUTION REQUIRED.
A: RESOLUTION FOR E AND E'. 1.0 MEV.
O: FOR SHIELDING OF ALPHA EMITTING SAMPLES. NEW EVALUATION TO BE DONE IF NEW EXPERIMENTAL DATA.

213	UP TO	10.0	MEV	20.0%	2	JAP	N.YAMANO	SAE	792074R

Q: EXPERIMENTAL DATA WANTED. ANGULAR DISTRIBUTION ALSO REQUIRED. REQUIRED NEUTRON ENERGIES ARE 100 KEV TO 10 MEV.
O: FOR NEUTRON SHIELDING AND EVALUATION OF NEUTRON SOURCE. FOR EVALUATION OF NEUTRON ENERGY SPECTRUM IN FUEL RECYCLE PROCESS.
M: NEW REQUEST.

8 OXYGEN 18 | ALPHA | TOTAL NEUTRON YIELD

214	5.10	MEV	5.50	MEV	5. %	2	JAP	K.ONISHI	PNC	762041N

Q: ABSOLUTE NEUTRON YIELD REQUIRED.
O: DETECTION OF PU BY NEUTRON COINCIDENCE METHOD

9 FLUORINE 19 | NEUTRON | DIFFERENTIAL ELASTIC CROSS SECTION

215	1.00	MEV	15.0	MEV	10.0%	2	GER	D.DARVAS	JUL	722080F

Q: INCIDENT ENERGY STEPS FROM 10 TO 20 PERCENT.
O: CALCULATION OF NEUTRON TRANSPORT.
M: SUBSTANTIAL MODIFICATIONS.

216	2.00	MEV	15.0	MEV	10.0%	2	CCP	I.N.GOLOVIN	KUR	724019F

O: USE IN COOLANT.

9 FLUORINE 19 | NEUTRON | INELASTIC CROSS SECTION

217	1.00	MEV	15.0	MEV	10.0%	2	GER	D.DARVAS	JUL	722081F

Q: INELASTIC EXCITATION FUNCTIONS REQUIRED.
O: CALCULATION OF HEAT GENERATION AND SHIELDING ESTIMATES.
M: SUBSTANTIAL MODIFICATIONS.

218	1.00	MEV	15.0	MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR	724020F

O: NEUTRONICS CALCULATIONS FOR BLANKET AND SHIELD.

219	1.00	MEV	15.0	MEV	10. %	3	JAP	Y.SEKI	JAE	762068F

O: POTENTIAL CONSTITUENT IN COOLANT,FLIBE. TRITIUM BREEDING CALCULATIONS

9 FLUORINE 19 | NEUTRON | ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION

220	1.00	MEV	15.0	MEV	20.0%	2	GER	D.DARVAS	JUL	722083F

O: CALCULATION OF HEAT GENERATION AND SHIELDING ESTIMATES.
M: SUBSTANTIAL MODIFICATIONS.

221	100.	KEV	20.0	MEV	15.0%	1	USA	F.G.PEREY	ORL	741169R

Q: DATA AT 14 MEV AND BELOW 3.6 MEV REQUIRED.
M: NEW REQUEST.

9 FLUORINE 19 | NEUTRON | ABSORPTION CROSS SECTION

222	25.3	MV	15.0	MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR	724021F

Q: ALL NEUTRON ABSORPTION PROCESSES SHOULD BE INCLUDED.
O: NEUTRONICS CALCULATIONS AND ENERGY DEPOSITION IN COOLANT.

223	25.3	MV	14.0	MEV	10.0%	2	FR	B.DUCHEMIN	SAC	732008F

O: UTILIZATION IN THE COOLANT.

224	2.00	MEV	20.0	MEV	5.0%	1	USA	F.G.PEREY	ORL	741170F

M: NEW REQUEST.

225	25.3	MV	15.0	MEV	10. %	3	JAP	Y.SEKI	JAE	762069F

O: POTENTIAL CONSTITUENT IN COOLANT,FLIBE TRITIUM BREEDING CALCULATIONS

9 FLUORINE 19 NEUTRON PHOTON PRODUCTION CROSS SECTION IN INELASTIC SCAT.

226	1.00	MEV	15.0	MEV	20.0%	2	GER	D.DARVAS	JUL	722084F

Q: ENERGY AND ANGULAR DISTPIBUTION OF GAMMA RAYS REQUIRED.
O: CALCULATION OF HEAT GENERATION AND SHIELDING ESTIMATES.
M: SUBSTANTIAL MODIFICATIONS.

9 FLUORINE 19 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

227	500.	KEV	15.0	MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR	724022F

Q: GAMMA RAY SPECTRA ALSO REQUIRED.
O: GAMMA RAY HEATING AND SHIELDING CALCULATIONS.

9 FLUORINE 19 NEUTRON N,2N

228	UP TO		14.0	MEV	20.0%	3	FR	B.DUCHEMIN	SAC	792003F

O: UTILISATION IN THE COOLANT
M: NEW REQUEST.

9 FLUORINE 19 NEUTRON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

229	9.00	MEV	14.0	MEV	10.0%	2	USA	C.R.HEAD	DOE	781087F

O: DATA NEEDED FOR SHIELDING, ACTIVATION AND NEUTRON TRANSPORT CALCULATIONS.
M: NEW REQUEST.

9 FLUORINE 19 NEUTRON N,P

230	UP TO		14.0	MEV	20.0%	3	FR	B.DUCHEMIN	SAC	792004F

O: UTILISATION IN THE COOLANT
M: NEW REQUEST.

9 FLUORINE 19 NEUTRON ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION

231	14.0	MEV				2	USA	C.R.HEAD	DOE	781153F

A: ACCURACY TO BE DETERMINED.
O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

9 FLUORINE 19 NEUTRON N,ALPHA

232	UP TO		15.0	MEV	10.0%	2	GER	D.DARVAS	JUL	722086F

O: CALCULATION OF NEUTRON ABSORPTION AND TRANSMISSION RATES.
M: SUBSTANTIAL MODIFICATIONS.

233	UP TO		14.0	MEV	20.0%	3	FR	B.DUCHEMIN	SAC	792005F

O: UTILISATION IN THE COOLANT
M: NEW REQUEST.

9 FLUORINE 19 NEUTRON ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION

234	14.0	MEV				2	USA	C.R.HEAD	DOE	781132F

A: ACCURACY TO BE DETERMINED.
O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

9 FLUORINE 19 NEUTRON TOTAL HYDROGEN-PRODUCTION CROSS SECTION

235	9.00	MEV	14.0	MEV	10.0%	2	USA	C.R.HEAD	DOE	781111F

A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES
O: FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

9 FLUORINE 19 NEUTRON TOTAL HELIUM-PRODUCTION CROSS SECTION

236	9.00	MEV	14.0	MEV	10.0%	2	USA	C.R.HEAD	DOE	781099F

A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES
O: FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

9 FLUORINE 19 — ALPHA — ALPHA,N

237 — UP TO 15.0 MEV — 30.0% — 2 — FR — B.DUCHEMIN — SAC — 732039R
Q: ENERGY DISTRIBUTION REQUIRED.
O: FOR SHIELDING OF ALPHA-EMITTING MATERIALS.

238 — UP TO 10.0 MEV — 20.0% — 2 — SWD — H.HAEGGBLOM — AE — 762161N
O: NEUTRON OUTPUT OF SOLIDIFIED NUCLEAR WASTE.

239 — 100. KEV 6.50 MEV — 6.0% — 2 — USA — R.B.WALTON — LAS — 781171N
Q: THICK TARGET YIELDS REQUIRED.
A: RELATIVE ERROR OF 3.0 PERCENT NEEDED.
ALPHA ENERGY RESOLUTION 100 KEV.
M: NEW REQUEST.

240 — UP TO 7.00 MEV — 30.0% — 2 — UK — A.WHITTAKER — UKW — 792116R
O: FOR FUEL REPROCESSING.
M: NEW REQUEST.

11 SODIUM 22 — NEUTRON — CAPTURE CROSS SECTION

241 — 25.0 MV 15.0 MEV — 15.0% — 1 — GER — H.KUESTERS — KFK — 792194R
Q: EVALUATION WANTED.
O: REDUCTION OF NA22.
M: NEW REQUEST.

11 SODIUM 23 — NEUTRON — TOTAL CROSS SECTION

242 — 10.0 KEV 15.0 MEV — 1 — USA — P.B.HEMMIG — DOE — 741010R
A: ACCURACY BELOW 7 MEV - 2 TO 5 PERCENT.
ACCURACY ABOVE 7 MEV - 5 PERCENT.

243 — 100. KEV 500. KEV — 2.0% — 2 — UK — J.BUTLER — WIN — 792120R
M: NEW REQUEST.

11 SODIUM 23 — NEUTRON — DIFFERENTIAL ELASTIC CROSS SECTION

244 — 10.0 KEV 15.0 MEV — 10.0% — 2 — USA — P.B.HEMMIG — DOE — 741012R
A: 15 PERCENT IN ANGULAR DISTRIBUTION.

11 SODIUM 23 — NEUTRON — INELASTIC CROSS SECTION

245 — 3.00 MEV 14.0 MEV — 15.0% — 3 — FR — B.DUCHEMIN — SAC — 792006F
O: UTILISATION IN THE COOLANT
M: NEW REQUEST.

11 SODIUM 23 — NEUTRON — ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

246 — 2.00 MEV 10.0 MEV — 10.0% — 2 — USA — C.E.TILL, P.B.HEMMIG — ANL, DOE — 621006R
Q: TOTAL INTEGRAL OVER 4 PI REQUIRED.
SPECTRA AT SEVERAL ANGLES IF SIGNIFICANTLY ANISOTROPIC.
A: ENERGY RESOLUTION LESS THAN 10 PERCENT INCIDENT AND FINAL ENERGIES.

11 SODIUM 23 — NEUTRON — ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION

247 — UP TO 15.0 MEV — 10.0% — 2 — SWD — H.HAEGGBLOM — AE — 712005R
O: FOR FAST REACTOR CALCULATIONS.

248 — UP TO 15.0 MEV — 2 — USA — P.B.HEMMIG — DOE — 741014R
A: ACCURACY BELOW 2 MEV - 5 PERCENT.
ACCURACY ABOVE 2 MEV - 10 PERCENT.
15 PERCENT IN ENERGY SPECTRA.
OUTGOING ENERGY RESOLUTION 10 PERCENT.

11 SODIUM 23 — NEUTRON — CAPTURE CROSS SECTION

249 — 100. EV 100. KEV — 2 — UK — C.G.CAMPBELL — WIN — 642002R
A: ACCURACY 10 PERCENT UP TO 10 KEV, 20 PERCENT ABOVE.
C: FOR FAST REACTORS.
DISCREPANCY IN RADIATION WIDTH DATA AT 3 KEV RESONANCE.

11 SODIUM 23 NEUTRON CAPTURE CROSS SECTION (CONTINUED)

250	25.3 MV	4.00 KEV		2	CCP	M.N.NIKOLAEV	FEI	714002R

Q: CAPTURE WIDTH OF 2.9 KEV RESONANCE SHOULD BE MEASURED IN THREE DIFFERENT EXPERIMENTS. RESULTS SHOULD COINCIDE WITHIN LIMITS OF 5-7 PERCENT. IF HIGH RPI CAPTURE WIDTH CONFIRMED, ENERGY DEPENDENCE OF CAPTURE CROSS SECTION SHOULD BE MEASURED FROM THERMAL TO RESONANCE REGION TO INVESTIGATE INTERFERENCE BETWEEN DIRECT AND RESONANCE CAPTURE. MEASUREMENTS OF GAMMA RAY SPECTRA IN THERMAL AND 2.95 KEV REGIONS DESIRABLE FOR DECISION ABOUT EXISTENCE OF INTERFERENCE EFFECTS. DIRECT MEASUREMENT OF THE EFFECTIVE RESONANCE INTEGRAL IN THE SODIUM MEDIUM FROM 24 KEV NEUTRON SOURCE SEEMS TO BE USEFUL FOR DECIDING THE QUESTION ABOUT THE 2.9 KEV RESONANCE CAPTURE WIDTH.
A: ACCURACY REQUIRED TO BETTER THAN 10. PERCENT.
O: FOR CALCULATION OF NA ACTIVATION IN LMFBR. SEE ALSO GENERAL COMMENTS IN THE INTRODUCTION.

251	1.00 KEV	100. KEV	20.0%	2	USA	P.B.HEMMIG	DOE	741016R

A: ACCURACY OF 0.5 MB OR 20 PERCENT WANTED.

252	5.00 KEV	10.0 MEV		2	CCP	L.N.USACHEV	FEI	754017R

A: FROM 5.0 - 100 KEV ACCURACY 44 PERCENT. FROM 0.1 - 0.8 MEV ACCURACY 50 PERCENT. FROM 0.8 - 4.5 MEV ACCURACY 50 PERCENT. ABOVE 4.5 MEV REQUIREMENTS 2 TIMES WEAKER.
O: NEED FOR FAST REACTOR CALCULATIONS. FOR MORE DETAIL SEE INTRODUCTION.
M: SUBSTANTIAL MODIFICATIONS.

11 SODIUM 23 NEUTRON CAPTURE GAMMA RAY SPECTRUM

253	2.95 KEV		10.0%	2	USA	C.E.TILL	ANL	721032R

11 SODIUM 23 NEUTRON ENERGY-ANGLE DIFF. PHOTON-PRODUCTION CROSS SECTION

254	2.00 MEV	15.0 MEV	15.0%	2	USA	P.B.HEMMIG	DOE	741018R

A: 20 PERCENT IN ANGULAR DISTRIBUTION IF NOT ISOTROPIC. GAMMA ENERGY RESOLUTION 10 PERCENT.

11 SODIUM 23 NEUTRON N,2N

255	UP TO	16.0 MEV	15.0%	2	USA	P.B.HEMMIG	DOE	741020R

O: NEEDED FOR COOLANT ACTIVATION.

11 SODIUM 23 NEUTRON RESONANCE PARAMETERS

256	2.95 KEV		10.0%	1	USA	C.E.TILL P.B.HEMMIG	ANL DOE	621008R

Q: NEUTRON AND CAPTURE WIDTH NEEDED.

257	2.90 KEV	100. KEV		2	CCP	M.N.NIKOLAEV	FEI	714001R

Q: NEUTRON AND CAPTURE WIDTHS WANTED.
A: NEUTRON WIDTH FOR 2.95 KEV LEVEL WANTED WITH 5 PERCENT ACCURACY. ALL OTHER WIDTHS REQUIRED WITH 10 PERCENT ACCURACY.
O: FOR FAST REACTOR CALCULATION.

STATUS

UNDER CONTINUOUS REVIEW BY NEANDC. SEE APPENDIX A.

12 MAGNESIUM ALPHA ALPHA,N

258	100. KEV	6.50 MEV	6.0%	2	USA	R.B.WALTON	LAS	781174N

Q: THICK TARGET YIELDS REQUIRED.
A: RELATIVE ERROR OF 3.0 PERCENT NEEDED. ALPHA ENERGY RESOLUTION 100 KEV.
M: NEW REQUEST.

259	UP TO	7.00 MEV	30.0%	3	UK	A.WHITTAKER	UKW	792117R

O: FOR FUEL REPROCESSING.
M: NEW REQUEST.

13 ALUMINUM 27 NEUTRON ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

260	UP TO	15.0 MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR	794011F

O: FOR NEUTRON TRANSPORT CALCULATIONS.
M: NEW REQUEST.

13 ALUMINUM 27 NEUTRON CAPTURE CROSS SECTION

261	25.3 MV	15.0 MEV	15. %	3	JAP	M.KASAI	MAP	762074F

O: GAMMA-RAY HEATING CALCULATIONS

13 ALUMINUM 27 | NEUTRON | TOTAL PHOTON PRODUCTION CROSS SECTION

262 | 25.3 MV | 15.0 MEV | 15. % | 3 | JAP | M.KASAI | MAP | 762075F

O: GAMMA-RAY HEATING CALCULATIONS

13 ALUMINUM 27 | NEUTRON | N,2N

263 | UP TO | 15.0 MEV | 15. % | 3 | JAP | M.KASAI | MAP | 762070F

O: POTENTIAL CONSTITUENT FOR STRUCTURAL MATERIAL. NEUTRON MULTIPLICATION CALCULATIONS

13 ALUMINUM 27 | NEUTRON | NEUTRON EMISSION CROSS SECTION

264 | 500. KEV | 15.0 MEV | 15.0% | 2 | SWD | G.ENGSTROEM | FOA | 762163R

Q: SECONDARY ANGULAR AND ENERGY DISTRIBUTION ALSO USEFUL.
O: SHIELDING NEUTRON TRANSPORT CALCULATIONS.

13 ALUMINUM 27 | NEUTRON | ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

265 | 9.00 MEV | 14.0 MEV | 10.0% | 2 | USA | C.R.HEAD | DOE | 781078F

O: DATA NEEDED FOR SHIELDING, ACTIVATION AND NEUTRON TRANSPORT CALCULATIONS.
M: NEW REQUEST.

13 ALUMINUM 27 | NEUTRON | N,P

266 | UP TO | 15.0 MEV | 15. % | 3 | JAP | M.KASAI | MAP | 762071F

O: HYDROGEN ACCUMULATION CALCULATIONS

STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

13 ALUMINUM 27 | NEUTRON | ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION

267 | 14.0 MEV | 2 | USA | C.R.HEAD | DOE | 781144F

A: ACCURACY TO BE DETERMINED.
O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

13 ALUMINUM 27 | NEUTRON | N,D

268 | UP TO | 15.0 MEV | 15. % | 3 | JAP | M.KASAI | MAP | 762072F

O: HYDROGEN ACCUMULATION CALCULATIONS

13 ALUMINUM 27 | NEUTRON | N,T

269 | UP TO | 15.0 MEV | 15. % | 3 | JAP | M.KASAI | MAP | 762073F

O: HYDROGEN ACCUMULATION CALCULATIONS

13 ALUMINUM 27 | NEUTRON | N,ALPHA

270 | 2.0% | 1 | EUR | NEUTRON DOSIMETRY GROUP | GEL | 742114R

Q: AVERAGE CROSS SECTION IN A U-235 FISSION SPECTRUM DESIRED.
O: FOR NORMALIZATION OF AVERAGE CROSS SECTIONS FOR DOSIMETRY PURPOSES.

271 | 6.40 MEV | 11.9 MEV | 5.0% | 2 | EUR | NEUTRON DOSIMETRY GROUP | GEL | 742123R

O: FOR NEUTRON DOSIMETRY USING SPECTRUM UNFOLDING METHODS.
GREATER THAN 10 PERCENT DISCREPANCY BETWEEN INTEGRAL AND DIFFERENTIAL MEASUREMENTS.

STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

13 ALUMINUM 27 | NEUTRON | ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION

272 | 14.0 MEV | 2 | USA | C.R.HEAD | DOE | 781123F

A: ACCURACY TO BE DETERMINED.
O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

13 ALUMINUM 27 | NEUTRON | TOTAL HYDROGEN-PRODUCTION CROSS SECTION

273 | 9.00 MEV | 14.0 MEV | 10.0% | 2 | USA | C.R.HEAD | DOE | 781102F

A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES
O: FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

13 ALUMINUM 27 | NEUTRON | TOTAL HELIUM-PRODUCTION CROSS SECTION

274	9.00	MEV	14.0	MEV	10.0%	2	USA	C.R.HEAD	DOE	781090F

A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES
O: FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

13 ALUMINUM 27 | ALPHA | ALPHA,N

275	100.	KEV	6.50	MEV	6.0%	2	USA	R.B.WALTON	LAS	781172N

Q: THICK TARGET YIELDS REQUIRED.
A: RELATIVE ERROR OF 3.0 PERCENT NEEDED.
ALPHA ENERGY RESOLUTION 100 KEV.
M: NEW REQUEST.

14 SILICON | NEUTRON | TOTAL CROSS SECTION

276	20.0	MEV	50.0	MEV	10.0%	1	USA	C.R.HEAD	DOE	781001F

A: ACCURACY REQUIRED 10 TO 15 PERCENT.
O: FOR SHIELD DESIGN IN FMIT FACILITY.
M: NEW REQUEST.

14 SILICON | NEUTRON | DIFFERENTIAL ELASTIC CROSS SECTION

277	20.0	MEV	50.0	MEV	10.0%	1	USA	C.R.HEAD	DOE	781004F

A: ACCURACY REQUIRED 10 TO 15 PERCENT.
O: FOR SHIELD DESIGN IN FMIT FACILITY.
M: NEW REQUEST.

14 SILICON | NEUTRON | NON-ELASTIC CROSS SECTION

278	20.0	MEV	50.0	MEV	10.0%	1	USA	C.R.HEAD	DOE	781007F

A: ACCURACY REQUIRED 10 TO 15 PERCENT.
O: FOR SHIELD DESIGN IN FMIT FACILITY.
M: NEW REQUEST.

14 SILICON | NEUTRON | CAPTURE CROSS SECTION

279	25.3	MV	200.	KEV	10.0%	3	UK	J.FELL	WIN	792164P

O: FOR THERMAL REACTORS.
M: NEW REQUEST.

14 SILICON | NEUTRON | NEUTRON EMISSION CROSS SECTION

280	500.	KEV	15.0	MEV	15. %	2	SWD	G.ENGSTROEM	FOA	762164R

Q: SECONDARY ANGULAR AND ENERGY DISTRIBUTION ALSO USEFUL.
O: SHIELDING.
NEUTRON TRANSPORT CALCULATIONS.

14 SILICON | NEUTRON | ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

281	9.00	MEV	14.0	MEV	10.0%	1	USA	C.R.HEAD	DOE	781045F

O: FOR SHIELDING. ACTIVATION AND TRANSPORT STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.
M: NEW REQUEST.

14 SILICON | NEUTRON | ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION

282	14.0	MEV				2	USA	C.R.HEAD	DOE	781138F

A: ACCURACY TO BE DETERMINED.
O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

14 SILICON | NEUTRON | ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION

283	14.0	MEV				2	USA	C.R.HEAD	DOE	781117F

A: ACCURACY TO BE DETERMINED.
O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

14 SILICON | NEUTRON | TOTAL HYDROGEN-PRODUCTION CROSS SECTION

284	9.00	MEV	14.0	MEV	10.0%	1	USA	C.R.HEAD	DOE	781054F

O: FOR RADIATION DAMAGE STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.
M: NEW REQUEST.

14 SILICON NEUTRON TOTAL HELIUM-PRODUCTION CROSS SECTION

285	9.00 MEV	14.0 MEV	10.0%	1	USA	C.R.HEAD	DOE			781063F

Q: FOR RADIATION DAMAGE STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.
M: NEW REQUEST.

14 SILICON ALPHA ALPHA,N

286	UP TO 7.00 MEV		30.0%	2	UK	A.WHITTAKER	UKW			792118R

Q: FOR FUEL REPROCESSING.
M: NEW REQUEST.

14 SILICON 30 NEUTRON CAPTURE CROSS SECTION

287	1.00E-04 EV	100. KEV	10.0%	3	JAP	N.AOYAGI	JAE			792075R

Q: EXPERIMENTAL DATA WANTED.
O: FOR DOPING P 31 INTO SINGLE CRYSTAL OF SI BY NEUTRON IRRADIATION TO MAKE SEMICONDUCTOR ONLY A FEW OLD DATA ARE AVAILABLE.
M: NEW REQUEST.

15 PHOSPHORUS 31 NEUTRON N,P

288	UP TO 15.0 MEV			2	SWT	F.HEGEDUES	WUR			692050R

A: REQUIRED 5. PERCENT ACCURACY TO 6. MEV AND 10. PERCENT ABOVE.
O: FAST FLUX MEASUREMENTS IN SHIELDS. DISAGREEMENT BETWEEN DIFFERENT MEASUREMENTS OF INSUFFICIENT ACCURACY. NO DATA BETWEEN 10 AND 14 MEV.

289	2.20 MEV	7.00 MEV	5.0%	2	EUR	NEUTRON DOSIMETRY GROUP			GEL	742124R

O: FOR NEUTRON DOSIMETRY USING SPECTRUM UNFOLDING METHODS.
GREATER THAN 10 PERCENT DISCREPANCY BETWEEN INTEGRAL AND DIFFERENTIAL MEASUREMENTS.

16 SULFUR NEUTRON TOTAL CROSS SECTION

290	10.0 KEV	500. KEV	3.0%	2	USA	P.B.HEMMIG	DOE			741021R

O: FOR SHIELDING EFFECT OF CONCRETE.

16 SULFUR NEUTRON CAPTURE CROSS SECTION

291	10.0 KEV	500. KEV	10.0%	2	USA	P.B.HEMMIG	DOE			741023R

O: FOR SHIELDING EFFECT OF CONCRETE.

16 SULFUR NEUTRON CAPTURE GAMMA RAY SPECTRUM

292	10.0 KEV	500. KEV	15.0%	2	USA	P.B.HEMMIG	DOE			741025R

O: FOR SHIELDING EFFECT OF CONCRETE.

16 SULFUR 32 NEUTRON N,P

293	UP TO 15.0 MEV			2	SWT	F.HEGEDUES	WUR			692053R

A: REQUIRED 5. PERCENT ACCURACY TO 6. MEV AND 10. PERCENT ABOVE.
O: STANDARD FOR FLUX MEASUREMENTS.

STATUS UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A. STATUS

17 CHLORINE NEUTRON DIFFERENTIAL ELASTIC CROSS SECTION

294	25.3 MV	15.0 MEV	20.0%	3	UK	J.SMITH	WIN			792177R

O: FOR FUSED SALT REACTORS.
M: NEW REQUEST.

17 CHLORINE NEUTRON ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION

295	UP TO 15.0 MEV		30.0%	3	UK	J.SMITH	WIN			792178R

O: FOR FUSED SALT REACTORS.
M: NEW REQUEST.

17 CHLORINE NEUTRON CAPTURE CROSS SECTION

296	25.3 MV	1.00 MEV	20.0%	3	UK	J.SMITH	WIN			792179R

Q: ACCURACY 20 PERCENT OR 1 MB.
O: FOR FUSED SALT REACTORS.
M: NEW REQUEST.

17 CHLORINE NEUTRON N,P

297	10.0 KEV	2.00 MEV	10.0%	3	UK	J.SMITH	WIN	692054R
					Q: EVALUATION ALSO REQUIRED TO 15 MEV. FOR FUSED SALT REACTORS.			
298	UP TO	15.0 MEV		3	UK	J.SMITH	WIN	792180R
					Q: ACCURACY 2 MB. O: FOR FUSED SALT REACTORS. SEE ALSO REQUEST NUMBER 692054. M: NEW REQUEST.			

17 CHLORINE NEUTRON N,ALPHA

299	UP TO	15.0 MEV		3	UK	J.SMITH	WIN	792181R
					Q: ACCURACY 5 MB. O: FOR FUSED SALT REACTORS. M: NEW REQUEST.			

17 CHLORINE 37 NEUTRON DIFFERENTIAL ELASTIC CROSS SECTION

300	25.3 MV	15.0 MEV	20.0%	3	UK	J.SMITH	WIN	792182R
					O: FOR FUSED SALT REACTORS. M: NEW REQUEST.			

17 CHLORINE 37 NEUTRON ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION

301	UP TO	15.0 MEV	30.0%	3	UK	J.SMITH	WIN	792183R
					O: FOR FUSED SALT REACTORS. M: NEW REQUEST.			

17 CHLORINE 37 NEUTRON CAPTURE CROSS SECTION

302	25.3 MV	1.00 MEV	20.0%	3	UK	J.SMITH	WIN	792184R
					Q: ACCURACY 20 PERCENT OR 1 MB. O: FOR FUSED SALT REACTORS. M: NEW REQUEST.			

17 CHLORINE 37 NEUTRON N,P

303	UP TO	15.0 MEV		3	UK	J.SMITH	WIN	792185R
					Q: ACCURACY 2 MB. O: FOR FUSED SALT REACTORS. M: NEW REQUEST.			

17 CHLORINE 37 NEUTRON N,ALPHA

304	UP TO	15.0 MEV		3	UK	J.SMITH	WIN	792186R
					Q: ACCURACY 5 MB. O: FOR FUSED SALT REACTORS. M: NEW REQUEST.			

18 ARGON 36 NEUTRON N,P

305	25.2 MV	15.0 MEV	30. %	2	JAP	T.NISIMURA	MAP	762177R
					O: FOR FBR SHIELDING CALCULATIONS. FOR FBR SAFETY ANALYSIS.			

18 ARGON 40 NEUTRON CAPTURE CROSS SECTION

306	UP TO	10.0 MEV		2	JAP	M.KAWAI	NIG	712006R
					A: ACCURACY REQUIRED TO BETTER THAN 20.0 PERCENT. O: FOR REACTOR HAZARD CALCULATION.			
307	25.0 MV	15.0 MEV	15.0%	1	GER	H.KUESTERS	KFK	792195R
					Q: EVALUATION WANTED. O: PRODUCTION OF AR41. M: NEW REQUEST.			

19 POTASSIUM 39 NEUTRON N,P

308	25.3 MV	15.0 MEV	30.0%	2	JAP	T.KAWAKITA	MAP	792076R
					Q: EVALUATED DATA WANTED O: FOR REACTOR HAZARD CALCULATION. THERE ARE MANY EXPERIMENTAL DATA IN MEV REGION. M: NEW REQUEST.			

19 POTASSIUM 41 NEUTRON N,P

309	UP TO	15.0 MEV	30.0%	2	UK	C.G.CAMPBELL	WIN	792128R
					O: FOR FAST REACTOR CIRCUIT ACTIVITY. M: NEW REQUEST.			

20 CALCIUM — NEUTRON — TOTAL CROSS SECTION

310	20.0	MEV	50.0	MEV	10.0%	1	USA	C.R.HEAD	DOE	781002F

A: ACCURACY REQUIRED 10 TO 15 PERCENT.
O: FOR SHIELD DESIGN IN FMIT FACILITY.
M: NEW REQUEST.

20 CALCIUM — NEUTRON — ELASTIC CROSS SECTION

311	1.00	MEV	15.0	MEV	15.0%	3	JAP	Y.SEKI	JAE	762234F

O: INCLUDED IN CONCRETE.
SHIELDING DESIGN.

20 CALCIUM — NEUTRON — DIFFERENTIAL ELASTIC CROSS SECTION

312	1.00	MEV	15.0	MEV	15. %	3	JAP	Y.SEKI	JAE	762076F

O: INCLUDED IN CONCRETE
SHIELDING DESIGN

313	20.0	MEV	50.0	MEV	10.0%	1	USA	C.R.HEAD	DOE	781005F

A: ACCURACY REQUIRED 10 TO 15 PERCENT.
O: FOR SHIELD DESIGN IN FMIT FACILITY.
M: NEW REQUEST.

20 CALCIUM — NEUTRON — NON-ELASTIC CROSS SECTION

314	20.0	MEV	50.0	MEV	10.0%	1	USA	C.R.HEAD	DOE	781008F

A: ACCURACY REQUIRED 10 TO 15 PERCENT.
O: FOR SHIELD DESIGN IN FMIT FACILITY.
M: NEW REQUEST.

20 CALCIUM — NEUTRON — CAPTURE CROSS SECTION

315	1.00	KEV	500.	KEV	10.0%	2	USA	P.B.HEMMIG	DOE	741029R

O: FOR SHIELDING EFFECT OF CONCRETE.

316	25.3	MV	15.0	MEV	15. %	3	JAP	Y.SEKI	JAE	762077F

Q: GAMMA RAY SPECTRA ALSO REQUIRED.
O: INCLUDED IN CONCRETE.
SHIELDING DESIGN AND GAMMA-RAY HEATING CALCULATION

20 CALCIUM — NEUTRON — TOTAL PHOTON PRODUCTION CROSS SECTION

317	500.	KEV	15.0	MEV	15. %	3	JAP	Y.SEKI	JAE	762078F

Q: GAMMA RAY SPECTRA ALSO REQUIRED.
O: INCLUDED IN CONCRETE.
GAMMA-RAY HEATING CALCULATIONS

20 CALCIUM — NEUTRON — NEUTRON EMISSION CROSS SECTION

318	500.	KEV	15.0	MEV	15. %	2	SWD	G.ENGSTROEM	FOA	762165R

Q: SECONDARY ANGULAR AND ENERGY DISTRIBUTION ALSO USEFUL.
O: SHIELDING.
NEUTRON TRANSPORT CALCULATIONS.

20 CALCIUM — ALPHA — ALPHA,N

319	100.	KEV	6.50	MEV	6.0%	2	USA	R.B.WALTON	LAS	781173N

Q: THICK TARGET YIELDS REQUIRED.
A: RELATIVE ERROR OF 3.0 PERCENT NEEDED.
ALPHA ENERGY RESOLUTION 100 KEV.
M: NEW REQUEST.

21 SCANDIUM 45 — NEUTRON — CAPTURE CROSS SECTION

320	1.00	KEV	18.0	MEV	10.0%	2	USA	W.N.MC ELROY	HED	691065R

O: FOR USE AS A FLUENCE MONITOR.

321	1.00	KEV	3.00	MEV	10.0%	2	FR	C.PHILIS	BRC	692062R

Q: PRODUCTION OF SC-46 (84 DAY).
O: DOSIMETRY.

22 TITANIUM — NEUTRON — DIFFERENTIAL ELASTIC CROSS SECTION

322	15.0	MEV	35.0	MEV	10.0%	1	USA	C.R.HEAD	DOE	781033F

A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES.
O: FOR MATERIAL DAMAGE CALCULATIONS.
M: NEW REQUEST.

22 TITANIUM — NEUTRON — INELASTIC CROSS SECTION

323 3.00 MEV 14.0 MEV 10.0% 3 FR B.DUCHEMIN SAC 732009F
O: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.

324 UP TO 15.0 MEV 15. % 3 JAP M.KASAI MAP 762079F
O: POTENTIAL CONSTITUENT OF STRUCTURAL MATERIAL
NEUTRON TRANSPORT CALCULATIONS

22 TITANIUM — NEUTRON — ABSORPTION CROSS SECTION

325 500. EV 15.0 MEV 25.0% 3 FR P.HAMMER CAD 712007R
O: FOR FAST REACTOR CALCULATIONS.

22 TITANIUM — NEUTRON — CAPTURE CROSS SECTION

326 100. EV 100. KEV 20.0% 2 UK C.G.CAMPBELL WIN 692065R
O: FOR FAST REACTORS.

22 TITANIUM — NEUTRON — TOTAL PHOTON PRODUCTION CROSS SECTION

327 25.3 MV 15.0 MEV 15. % 3 JAP M.KASAI MAP 762083F
O: POTENTIAL CONSTITUENT OF STRUCTURAL MATERIAL
GAMMA-RAY HEATING CALCULATIONS

22 TITANIUM — NEUTRON — ENERGY-ANGLE DIFF. PHOTON-PRODUCTION CROSS SECTION

328 30.0 KEV 16.0 MEV 20.0% 1 USA D.BARTINE ORL 691068R
O: FOR USE IN REACTOR SHIELDING CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

329 9.00 MEV 14.0 MEV 10.0% 2 USA C.R.HEAD DOE 781158F
O: DATA NEEDED FOR BLANKET, SHIELD AND MAGNET HEAT
DEPOSITION CALCULATIONS.
M: NEW REQUEST.

22 TITANIUM — NEUTRON — N,2N

330 UP TO 15.0 MEV 15. % 3 JAP M.KASAI MAP 762080F
O: POTENTIAL CONSTITUENT OF STRUCTURAL MATERIAL
NEUTRON MULTIPLICATION CALCULATIONS

22 TITANIUM — NEUTRON — ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

331 15.0 MEV 35.0 MEV 10.0% 1 USA C.R.HEAD DOE 781039F
A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM
SENSITIVITY STUDIES.
O: FOR MATERIAL DAMAGE CALCULATIONS.
M: NEW REQUEST.

332 9.00 MEV 14.0 MEV 10.0% 2 USA C.R.HEAD DOE 781080F
O: DATA NEEDED FOR SHIELDING, ACTIVATION AND NEUTRON
TRANSPORT CALCULATIONS.
M: NEW REQUEST.

22 TITANIUM — NEUTRON — N,P

333 3.40 MEV 12.5 MEV 5.0% 1 EUR NEUTRON DOSIMETRY GROUP GEL 742118R
O: ROUTINE FAST NEUTRON FLUENCE MONITOR.
M: SUBSTANTIAL MODIFICATIONS.

334 UP TO 15.0 MEV 15. % 3 JAP M.KASAI MAP 762081F
O: POTENTIAL CONSTITUENT OF STRUCTURAL MATERIAL
HYDROGEN ACCUMULATION CALCULATIONS

STATUS
UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

22 TITANIUM — NEUTRON — ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION

335 14.0 MEV 2 USA C.R.HEAD DOE 781146F
A: ACCURACY TO BE DETERMINED.
O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

22 TITANIUM — NEUTRON — N,ALPHA

336 UP TO 14.0 MEV 10.0% 3 FR B.DUCHEMIN SAC 732012F
O: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.

337 0.00 EV 15.0 MEV 15. % 3 JAP M.KASAI MAP 762082F
O: POTENTIAL CONSTITUENT OF STRUCTURAL MATERIAL
HELIUM ACCUMULATION CALCULATIONS

22 TITANIUM NEUTRON ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION

338 14.0 MEV 2 USA C.R.HEAD DOE 781125F
A: ACCURACY TO BE DETERMINED.
O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

22 TITANIUM NEUTRON TOTAL HYDROGEN-PRODUCTION CROSS SECTION

339 15.0 MEV 35.0 MEV 10.0% 1 USA C.R.HEAD DOE 781027F
A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES.
C: FOR MATERIAL DAMAGE CALCULATIONS.
M: NEW REQUEST.

340 9.00 MEV 14.0 MEV 10.0% 2 USA C.R.HEAD DOE 781104F
A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES
O: FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

22 TITANIUM NEUTRON TOTAL HELIUM-PRODUCTION CROSS SECTION

341 9.00 MEV 14.0 MEV 10.0% 2 USA C.R.HEAD DOE 781092F
A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES
O: FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

342 15.0 MEV 35.0 MEV 10.0% 1 USA C.R.HEAD DOE 781212F
A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES.
O: FOR MATERIAL DAMAGE CALCULATIONS.
M: NEW REQUEST.

22 TITANIUM 46 NEUTRON N,P

343 1.00 MEV 18.0 MEV 10.0% 2 USA W.N.MC ELROY HED 691069R
Q: REQUIRED IS ACTIVATION.
DATA REQUIRED AT 500 KEV INTERVALS.
A: ENERGY RESOLUTION 100 KEV.
O: FOR USE AS A FLUENCE MONITOR.

344 3.40 MEV 12.5 MEV 5.0% 2 EUR NEUTRON DOSIMETRY GROUP GEL 742126R
O: FOR NEUTRON DOSIMETRY USING SPECTRUM UNFOLDING METHODS.
GREATER THAN 10 PERCENT DISCREPANCY BETWEEN INTEGRAL AND DIFFERENTIAL MEASUREMENTS.
M: SUBSTANTIAL MODIFICATIONS.

STATUS
UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.
STATUS

22 TITANIUM 47 NEUTRON N,P

345 1.00 MEV 18.0 MEV 10.0% 2 USA W.N.MC ELROY HED 691071R
Q: REQUIRED IS ACTIVATION.
DATA REQUESTED IN 1 MEV INTERVALS.
A: ENERGY RESOLUTION 100 KEV.
O: FOR USE AS A FLUENCE MONITOR.

346 2.10 MEV 7.00 MEV 5.0% 2 EUR NEUTRON DOSIMETRY GROUP GEL 742127R
O: FOR NEUTRON DOSIMETRY USING SPECTRUM UNFOLDING METHODS.
GREATER THAN 10 PERCENT DISCREPANCY BETWEEN INTEGRAL AND DIFFERENTIAL MEASUREMENTS.

STATUS
UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.
STATUS

22 TITANIUM 48 NEUTRON N,P

347 1.00 MEV 18.0 MEV 10.0% 2 USA W.N.MC ELROY HED 691073R
Q: REQUIRED IS ACTIVATION.
DATA REQUIRED AT 500 KEV INTERVALS.
A: ENERGY RESOLUTION 100 KEV.
O: FOR USE AS FLUENCE MONITOR.

348 6.60 MEV 12.8 MEV 5.0% 2 EUR NEUTRON DOSIMETRY GROUP GEL 742128R
O: FOR NEUTRON DOSIMETRY USING SPECTRUM UNFOLDING METHODS.
GREATER THAN 10 PERCENT DISCREPANCY BETWEEN INTEGRAL AND DIFFERENTIAL MEASUREMENTS.

STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

STATUS

23 VANADIUM NEUTRON ELASTIC CROSS SECTION

349	2.00	MEV	15.0	MEV	10.0%	1	CCP	I.N.GOLOVIN	KUR	724023F
								O: POTENTIAL USE AS STRUCTURAL MATERIAL. FOR DETERMINATION OF NEUTRON TRANSMISSION.		
350	25.3	MV	20.0	MEV	3.0%	2	IND	S.B.GARG	TRM	753040R
								O: REQUIRED FOR STRUCTURAL-MATERIAL CALCULATIONS.		

23 VANADIUM NEUTRON DIFFERENTIAL ELASTIC CROSS SECTION

351	1.40	MEV	10.0	MEV	10.0%	3	USA	C.E.TILL P.B.HEMMIG	ANL DOE	621009R
								A: ENERGY RESOLUTION 500 KEV. ANGULAR RESOLUTION 10 DEGREES.		
352	15.0	MEV	35.0	MEV	10.0%	1	USA	C.R.HEAD	DOE	781032F
								A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES. O: FOR MATERIAL DAMAGE CALCULATIONS. M: NEW REQUEST.		

23 VANADIUM NEUTRON INELASTIC CROSS SECTION

353	3.00	MEV	14.0	MEV	10.0%	2	FR	B.DUCHEMIN	SAC	732013F
								O: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.		
354	UP TO		20.0	MEV	3.0%	2	IND	S.B.GARG	TRM	753041R
								O: REQUIRED FOR STRUCTURAL-MATERIAL CALCULATIONS.		
355	UP TO		15.0	MEV	10. %	2	JAP	M.KASAI	MAP	762084F
								O: POTENTIAL CONSTITUENT OF STRUCTURAL MATERIAL NEUTRON TRANSPORT CALCULATIONS		

23 VANADIUM NEUTRON ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

356	1.50	MEV	10.0	MEV	15.0%	3	USA	C.E.TILL P.GREEBLER P.B.HEMMIG	ANL GEB DOE	621011R
								Q: TOTAL INTEGRAL OVER 4 PI REQUIRED. SPECTRA AT SEVERAL ANGLES IF SIGNIFICANTLY ANISOTROPIC.		
357	2.00	MEV	15.0	MEV	15.0%	1	CCP	I.N.GOLOVIN	KUR	724024F
								O: NEUTRONICS CALCULATIONS FOR BLANKET AND SHIELD.		

23 VANADIUM NEUTRON ABSORPTION CROSS SECTION

358	1.00	KEV	150.	KEV	10.0%	3	USA	C.E.TILL P.GREEBLER P.B.HEMMIG	ANL GEB DOE	621015R
								A: ENERGY RESOLUTION 10 PERCENT. O: TO RESOLVE DISCREPANCIES IN EXISTING DATA.		
359	500.	EV	15.0	MEV	25.0%	3	FR	P.HAMMER	CAD	712010R
								O: FOR FAST REACTOR CALCULATIONS.		

23 VANADIUM NEUTRON CAPTURE CROSS SECTION

360	100.	EV	100.	KEV	10.0%	2	UK	C.G.CAMPBELL	WIN	692073R
								O: FOR FAST REACTORS.		
361	1.00	KEV	2.00	MEV	15.0%	1	CCP	I.N.GOLOVIN	KUR	724027F
								O: NEUTRON ABSORPTION, GAMMA RAY HEATING, AND PRODUCTION OF HIGHER ISOTOPES.		
362	14.0	MEV			15.0%	1	CCP	I.N.GOLOVIN	KUR	724028F
								O: NEUTRON ABSORPTION, GAMMA RAY HEATING, AND PRODUCTION OF HIGHER ISOTOPES.		
363	25.3	MV	20.0	MEV	3.0%	2	IND	S.B.GARG	TRM	753042R
								O: REQUIRED FOR STRUCTURAL-MATERIAL CALCULATIONS.		
364	25.3	MV	15.0	MEV	10. %	2	JAP	K.IOKI	MAP	762088F
								O: POTENTIAL CONSTITUENT OF STRUCTURAL MATERIAL GAMMA-RAY HEATING CALCULATIONS		

23 VANADIUM — NEUTRON — TOTAL PHOTON PRODUCTION CROSS SECTION

365	300.	KEV	15.0	MEV	15.0%	1	CCP	I.N.GOLOVIN	KUR	724029F

Q: GAMMA RAY SPECTRUM ALSO WANTED.
O: GAMMA RAY HEATING CALCULATIONS.

366	25.3	MV	15.0	MEV	10. %	2	JAP	M.KASAI	MAP	762089F

O: POTENTIAL CONSTITUENT OF STRUCTURAL MATERIAL GAMMA-RAY HEATING CALCULATIONS

23 VANADIUM — NEUTRON — N,2N

367	2.00	MEV	15.0	MEV	15.0%	1	CCP	I.N.GOLOVIN	KUR	724025F

O: NEUTRON BLANKET CALCULATIONS.

368	14.0	MEV			15.0%	1	CCP	I.N.GOLOVIN	KUR	724026F

Q: ENERGY AND ANGULAR DEPENDENCE OF SECONDARY NEUTRONS REQUIRED.
O: NEUTRON BLANKET CALCULATIONS.

369	UP TO		14.0	MEV	10.0%	2	FR	B.DUCHEMIN	SAC	732014F

O: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.

370	UP TO		15.0	MEV	10. %	2	JAP	M.KASAI	MAP	762085F

O: POTENTIAL CONSTITUENT OF STRUCTURAL MATERIAL NEUTRON MULTIPLICATION CALCULATIONS

23 VANADIUM — NEUTRON — ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

371	15.0	MEV	35.0	MEV	10.0%	1	USA	C.R.HEAD	DOE	781038F

A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES.
O: FOR MATERIAL DAMAGE CALCULATIONS.
M: NEW REQUEST.

372	9.00	MEV	14.0	MEV	10.0%	2	USA	C.R.HEAD	DOE	781086F

O: DATA NEEDED FOR SHIELDING, ACTIVATION AND NEUTRON TRANSPORT CALCULATIONS.
M: NEW REQUEST.

23 VANADIUM — NEUTRON — N,P

373	UP TO		15.0	MEV	15.0%	1	CCP	I.N.GOLOVIN	KUR	724030F

O: FOR HYDROGEN ACCUMULATION CALCULATIONS.

374	UP TO		14.0	MEV	10.0%	2	FR	B.DUCHEMIN	SAC	732015F

O: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.

375	0.00	EV	15.0	MEV	10. %	2	JAP	M.KASAI K.IOKI	MAP MAP	762086F

O: POTENTIAL CONSTITUENT OF STRUCTURAL MATERIAL HYDROGEN ACCUMULATION CALCULATIONS

23 VANADIUM — NEUTRON — ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION

376	14.0	MEV				2	USA	C.R.HEAD	DOE	781152F

A: ACCURACY TO BE DETERMINED.
O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

23 VANADIUM — NEUTRON — N,ALPHA

377	UP TO		15.0	MEV	15.0%	1	CCP	I.N.GOLOVIN	KUR	724031F

O: HELIUM ACCUMULATION CALCULATIONS.

378	UP TO		14.0	MEV	10.0%	2	FR	B.DUCHEMIN	SAC	732016F

O: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.

379	0.00	EV	15.0	MEV	10. %	2	JAP	M.KASAI K.IOKI	MAP MAP	762087F

O: POTENTIAL CONSTITUENT OF STRUCTURAL MATERIAL HELIUM ACCUMULATION AND NEUTRON TRANSPORT CALCULATIONS.

23 VANADIUM — NEUTRON — ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION

380	14.0	MEV				2	USA	C.R.HEAD	DOE	781131F

A: ACCURACY TO BE DETERMINED.
O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

23 VANADIUM — NEUTRON — TOTAL HYDROGEN-PRODUCTION CROSS SECTION

381	15.0	MEV	35.0	MEV	10.0%	1	USA	C.R.HEAD	DOE	781026F

A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES.
O: FOR MATERIAL DAMAGE CALCULATIONS.
M: NEW REQUEST.

382	9.00	MEV	14.0	MEV	10.0%	2	USA	C.R.HEAD	DOE	781110F

A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES
O: FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

23 VANADIUM — NEUTRON — TOTAL HELIUM-PRODUCTION CROSS SECTION

383	9.00	MEV	14.0	MEV	10.0%	2	USA	C.R.HEAD	DOE	781098F

A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES
O: FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

384	15.0	MEV	35.0	MEV	10.0%	1	USA	C.R.HEAD	DOE	781211F

A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES.
O: FOR MATERIAL DAMAGE CALCULATIONS.
M: NEW REQUEST.

23 VANADIUM 50 — NEUTRON — N,2N

385	UP TO		15.0	MEV	10. %	3	JAP	M.KASAI	MAP	762091F

O: TRANSMUTATION CALCULATIONS

23 VANADIUM 50 — NEUTRON — N,ALPHA

386	0.00	EV	15.0	MEV	10. %	3	JAP	K.IOKI M.KASAI	MAP MAP	762092F

O: TRANSMUTATION CALCULATIONS

24 CHROMIUM — NEUTRON — TOTAL CROSS SECTION

387	1.00	KEV	20.0	MEV	3.0%	2	USA	P.B.HEMMIG	DOE	721035R

A: 5 PERCENT ACCURACY IN DEEP MINIMA.
ENERGY RESOLUTION SUFFICIENT TO RESOLVE MAJOR STRUCTURE.

388	1.00	KEV	20.0	MEV	3.0%	2	USA	P.GREEBLER	GEB	741031R

A: 5 PERCENT ACCURACY IN DEEP MINIMA.

24 CHROMIUM — NEUTRON — ELASTIC CROSS SECTION

389	25.3	MV	20.0	MEV	3.0%	2	IND	S.B.GARG	TRM	753031R

O: REQUIRED FOR STRUCTURAL-MATERIAL CALCULATIONS.

24 CHROMIUM — NEUTRON — DIFFERENTIAL ELASTIC CROSS SECTION

390	2.00	MEV	16.0	MEV	20.0%	2	FR	B.DUCHEMIN	SAC	692077R

A: ACCURACY 10 PERCENT PREFERRED.
ENERGY RESOLUTION 0.5 MEV.
ANGULAR RESOLUTION 5 TO 10 DEGREES.
O: EVALUATION MAY BE SUFFICIENT.

391	100.	KEV	15.0	MEV	10.0%	3	USA	P.B.HEMMIG	DOE	741032R
392	15.0	MEV	35.0	MEV	10.0%	1	USA	C.R.HEAD	DOE	781217F

A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES.
O: FOR MATERIAL DAMAGE CALCULATIONS.
M: NEW REQUEST.

24 CHROMIUM — NEUTRON — INELASTIC CROSS SECTION

393	3.00	MEV	14.0	MEV	10.0%	3	FR	B.DUCHEMIN	SAC	732017F

O: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.

394	UP TO		20.0	MEV	3.0%	2	IND	S.B.GARG	TRM	753032R

O: REQUIRED FOR STRUCTURAL-MATERIAL CALCULATIONS.

395	UP TO		15.0	MEV	15. %	2	JAP	Y.SEKI	JAE	762093F

Q: INELASTIC GAMMA RAY SPECTRA ALSO REQUIRED
O: NEUTRON TRANSPORT AND GAMMA-RAY HEATING CALC.

396	UP TO	15.0	MEV	30.0%	2	UK	G.M.MC CRACKEN	CUL	762238F

Q: EVALUATION REQUIREMENT.
FOR NEUTRON ECONOMY CALCULATIONS.

24 CHROMIUM NEUTRON ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

397	500. KEV	15.0	MEV	10.0%	2	USA	P.GREEBLER P.B.HEMMIG	GEB DOE	661012R

Q: TOTAL INTEGRAL OVER 4 PI REQUIRED.
SPECTRA AT SEVERAL ANGLES IF SIGNIFICANTLY ANISOTROPIC.
A: ENERGY RESOLUTION REQUIRED TO DETERMINE MAJOR STRUCTURE.

398	UP TO	15.0	MEV	20.0%	3	FR	P.HAMMER	CAD	732040R

Q: FOR FAST REACTOR CALCULATIONS.

24 CHROMIUM NEUTRON ABSORPTION CROSS SECTION

399	500. EV	15.0	MEV	5.0%	1	FR	P.HAMMER	CAD	712014R

Q: FOR FAST REACTOR CALCULATIONS.

24 CHROMIUM NEUTRON CAPTURE CROSS SECTION

400	100. EV	100.	KEV	20.0%	1	UK	C.G.CAMPBELL	WIN	692082R

Q: FOR FAST REACTORS.

401	25.3 MV	200.	KEV	10.0%	1	GER	F.FROEHNER	KFK	692083R

Q: RESONANCE PARAMETERS ALSO REQUIRED PARTICULARY FOR CR-53.
ADDITIONAL CAPTURE MEASUREMENTS AND CAPTURE WIDTH DETERMINATIONS FOR INDIVIDUAL RESONANCES WANTED.
A: EMPHASIS ON ACCURATE (10 PERCENT) RADIATION WIDTHS FOR BROAD S LEVELS AND ON P LEVELS CONTRIBUTING TO DOPPLER COEFFICIENT.
Q: CAPTURE WIDTHS NEEDED BECAUSE OF LARGE DISCREPANCIES BETWEEN DIRECTLY MEASURED INFINITE CAPTURE RESONANCE INTEGRAL AND THAT CALCULATED FROM DIFFERENTIAL CAPTURE MEASUREMENTS.
M: SUBSTANTIAL MODIFICATIONS.

402	500. EV	1.00	MEV	5.0%	1	FR	P.HAMMER	CAD	692084R

Q: NEED OF RESONANCE PARAMETERS FOR THE MAIN ISOTOPES.
Q: FAST REACTOR CALCULATIONS.
EVALUATION AND EXPERIMENT NEEDED.

403	1.00 KEV	600.	KEV	25.0%	2	FR	B.DUCHEMIN	SAC	692085R

Q: FOR HEATING AND CIRCUIT ACTIVATION CALCULATION.
EVALUATION MAY BE SUFFICIENT.

404	1.00 KEV	1.00	MEV	15.0%	2	USA	P.GREEBLER P.B.HEMMIG	GEB DOE	721036R

A: ENERGY RESOLUTION 20 PERCENT.

405	25.3 MV	20.0	MEV	3.0%	2	IND	S.B.GARG	TRM	753033R

Q: REQUIRED FOR STRUCTURAL-MATERIAL CALCULATIONS.

406	0.00 EV	15.0	MEV	15. %	2	JAP	Y.SEKI	JAE	762094F

Q: GAMMA RAY SPECTRA ALSO REQUIRED.
Q: GAMMA-RAY HEATING CALCULATIONS

407	25.3 MV	15.0	MEV	30.0%	2	UK	G.M.MC CRACKEN	CUL	762247F

Q: EVALUATION REQUIREMENT.
FOR NEUTRON ECONOMY CALCULATIONS.

408	100. EV	100.	KEV	20.0%	1	GER	H.KUESTERS	KFK	792198R

M: NEW REQUEST.

STATUS

UNDER CONTINUOUS REVIEW BY INDC AND NEANDC. SEE APPENDIX A.

24 CHROMIUM NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

409	1.00 KEV	15.0	MEV	10.0%	2	FR	B.DUCHEMIN	SAC	692080R

Q: GAMMA SPECTRA REQUIRED.
A: ENERGY RESOLUTION OF 250 KEV FOR GAMMA RAYS LESS THAN 1 MEV AND 500 KEV FOR ENERGIES GREATER THAN 1 MEV.
Q: EVALUATION MAY BE SUFFICIENT.

24 CHROMIUM — NEUTRON — ENERGY DIFF. PHOTON-PRODUCTION CROSS SECTION

410		UP TO	15.0	MEV	10.0%	2	USA	P.B.HEMMIG	DOE	721037R

Q: ENERGY REQUESTED IS A MAXIMUM VALUE ONLY.
A: GAMMA-RAY INTERVALS - 500 KEV.
O: FOR USE IN SHIELDING CALCULATIONS.

24 CHROMIUM — NEUTRON — N,2N

411		UP TO	14.0	MEV	10.0%	3	FR	B.DUCHEMIN	SAC	732018F

O: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.

412		UP TO	15.0	MEV	15. %	2	JAP	Y.SEKI	JAE	762095F

O: NEUTRON BALANCE CALCULATIONS

413		UP TO	15.0	MEV	20.0%	2	UK	G.M.MC CRACKEN	CUL	792162F

O: EVALUATION REQUIREMENT FOR FUSION REACTORS. FOR NEUTRON ECONOMY.
M: NEW REQUEST.

24 CHROMIUM — NEUTRON — NEUTRON EMISSION CROSS SECTION

414	2.00	MEV	14.0	MEV	10.0%	2	FR	B.DUCHEMIN	SAC	692079R

Q: SECONDARY ENERGY-ANGLE DISTRIBUTION REQUIRED.
A: ENERGY RESOLUTION 10 PERCENT.
O: FOR FAST REACTOR SHIELDING CALCULATIONS. EVALUATION MAY BE SUFFICIENT.

24 CHROMIUM — NEUTRON — ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

415	9.00	MEV	14.0	MEV	10.0%	1	USA	C.R.HEAD	DOE	781049F

O: FOR SHIELDING, ACTIVATION AND TRANSPORT STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.
M: NEW REQUEST.

416	15.0	MEV	35.0	MEV	10.0%	1	USA	C.R.HEAD	DOE	781218F

A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES.
O: FOR MATERIAL DAMAGE CALCULATIONS.
M: NEW REQUEST.

24 CHROMIUM — NEUTRON — N,P

417					30.0%	3	UK	C.G.CAMPBELL	WIN	692086R

Q: FISSION SPECTRUM AVERAGE WANTED.
O: FOR FAST REACTORS.

418		UP TO	15.0	MEV	10.0%	1	FR	P.HAMMER	CAD	712016R

O: FOR FAST REACTOR CALCULATIONS.

419		UP TO	14.0	MEV	10.0%		FR	B.DUCHEMIN	SAC	732019F

O: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.

420		UP TO	15.0	MEV	20. %	2	JAP	Y.SEKI	JAE	762096F

O: HYDROGEN ACCUMULATION CALCULATIONS

421		UP TO	15.0	MEV	25.0%	2	UK	G.M.MC CRACKEN	CUL	762241F

O: EVALUATION REQUIREMENT. FOR HYDROGEN GAS PRODUCTION RATES AND NEUTRON ECONOMY CALCULATIONS.

422		UP TO	15.0	MEV	30.0%	1	GER	H.KUESTERS	KFK	792199R

M: NEW REQUEST.

24 CHROMIUM — NEUTRON — ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION

423	14.0	MEV				2	USA	C.R.HEAD	DOE	781142F

A: ACCURACY TO BE DETERMINED.
O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

24 CHROMIUM — NEUTRON — N,ALPHA

424		UP TO	15.0	MEV	10.0%	2	FR	B.DUCHEMIN	SAC	732020F

O: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.
M: SUBSTANTIAL MODIFICATIONS.

425	3.00	MEV	15.0	MEV	10.0%	1	FR	P.HAMMER	CAD	732041R

O: FOR FAST REACTOR CALCULATIONS.

426	0.00	EV	15.0	MEV	20. %	2	JAP	Y.SEKI	JAE	762097F

O: HELIUM ACCUMULATION CALCULATIONS

427	UP TO	15.0	MEV	25.0%	2	UK	G.M.MC CRACKEN	CUL	762243F

Q: EVALUATION REQUIREMENT.
FOR HELIUM GAS PRODUCTION RATES AND NEUTRON ECONOMY CALCULATIONS.

428	UP TO	15.0	MEV	20.0%	2	BLG	H.TOURWE	MOL	792108R

Q: TOTAL HELIUM PRODUCTION REQUIRED.
O: FOR USE AS A FLUENCE MONITOR.
M: NEW REQUEST.

429	UP TO	15.0	MEV	30.0%	1	GER	H.KUESTERS	KFK	792200R

M: NEW REQUEST.

24 CHROMIUM NEUTRON ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION

430	14.0	MEV			2	USA	C.R.HEAD	DOE	781121F

A: ACCURACY TO BE DETERMINED.
O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

24 CHROMIUM NEUTRON TOTAL HYDROGEN-PRODUCTION CROSS SECTION

431	9.00	MEV	14.0	MEV	10.0%	1	USA	C.R.HEAD	DOE	781058F

O: FOR RADIATION DAMAGE STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.
M: NEW REQUEST.

432	15.0	MEV	35.0	MEV	10.0%	1	USA	C.R.HEAD	DOE	781215F

A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES.
O: FOR MATERIAL DAMAGE CALCULATIONS.
M: NEW REQUEST.

24 CHROMIUM NEUTRON TOTAL HELIUM-PRODUCTION CROSS SECTION

433	9.00	MEV	14.0	MEV	10.0%	1	USA	C.R.HEAD	DOE	781067F

O: FOR RADIATION DAMAGE STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.
M: NEW REQUEST.

434	15.0	MEV	35.0	MEV	10.0%	1	USA	C.R.HEAD	DOE	781216F

A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES.
O: FOR MATERIAL DAMAGE CALCULATIONS.
M: NEW REQUEST.

24 CHROMIUM 50 NEUTRON CAPTURE CROSS SECTION

435	100.	EV	1.00	MEV	25.0%	1	UK	C.G.CAMPBELL	WIN	792129R

O: FOR FAST REACTOR CIRCUIT ACTIVITY.
M: NEW REQUEST.

436	100.	EV	15.0	MEV	25.0%	1	GER	H.KUESTERS	KFK	792193R

Q: EVALUATION WANTED.
O: ACTIVATION OF COOLANT AND STRUCTURE AND HEAT GENERATION IN STRUCTURAL MATERIALS.
M: NEW REQUEST.

437	25.3	MV	3.00	MEV	10.0%	1	FR	L.COSTA	CAD	792252R

O: OUT-OF-CORE CYCLE
M: NEW REQUEST.

24 CHROMIUM 50 NEUTRON RESONANCE PARAMETERS

438	UP TO	100.	KEV	10.0%	2	USA	F.G.PEREY	ORL	741033R

Q: ENERGY REQUESTED IS A MAXIMUM VALUE ONLY. NEUTRON WIDTH, GAMMA WIDTH, SPIN AND PARITY WANTED.

24 CHROMIUM 52 NEUTRON N,2N

439	UP TO	15.0	MEV	15. %	3	JAP	M.KASAI	MAP	762098F

O: TRANSMUTATION CALCULATIONS

24 CHROMIUM 52 NEUTRON N,P

440	UP TO	15.0	MEV		1	GER	B.GOEL	KFK	692088R

A: ACCURACY 10-20 PERCENT DESIRED.
O: MAIN ABSORPTION PROCESS IN MEV RANGE.
M: SUBSTANTIAL MODIFICATIONS.

24 CHROMIUM 52 — NEUTRON — RESONANCE PARAMETERS

441	UP TO	100.	KEV	10.0%	2	USA	F.G.PEREY	ORL	741034R

Q: ENERGY REQUESTED IS A MAXIMUM VALUE ONLY. NEUTRON WIDTH, GAMMA WIDTH, SPIN AND PARITY WANTED.

24 CHROMIUM 53 — NEUTRON — RESONANCE PARAMETERS

442	UP TO	100.	KEV	10.0%	2	USA	F.G.PEREY	ORL	741035R

Q: ENERGY REQUESTED IS A MAXIMUM VALUE ONLY NEUTRON WIDTH, GAMMA WIDTH, SPIN AND PARITY WANTED.

25 MANGANESE 54 — NEUTRON — CAPTURE CROSS SECTION

443	25.3	MV		5.0%	2	BLG	N.MAENE	MOL	692092R

O: FOR BURN-UP CALCULATION OF FE-54(N,P) MN-54 REACTION PRODUCT.

25 MANGANESE 55 — NEUTRON — TOTAL CROSS SECTION

444				4.0%	2	USA	F.G.PEREY	ORL	741195R

Q: NEED VALUES IN FE WINDOWS.

25 MANGANESE 55 — NEUTRON — ABSORPTION CROSS SECTION

445	500.	EV	15.0	MEV	7.00%	2	FR	P.HAMMER	CAD	712017R

O: FOR FAST REACTOR CALCULATIONS.

25 MANGANESE 55 — NEUTRON — CAPTURE CROSS SECTION

446	100.	EV	100.	KEV	20.0%	2	UK	C.G.CAMPBELL	WIN	682010R

O: FOR FAST REACTORS.

447	1.00	MV	0.50	EV	1.0%	2	USA	N.STEEN	BET	761052R

O: NEEDED TO INTERPRET MANGANESE BATH MEASUREMENTS OF NU AND ETA.
M: NEW REQUEST.

25 MANGANESE 55 — NEUTRON — N,2N

448	UP TO	13.0	MEV	5.0%	2	EUR	NEUTRON DOSIMETRY GROUP	GEL	742129R

O: FOR NEUTRON DOSIMETRY USING SPECTRUM UNFOLDING METHODS.
GREATER THAN 10 PERCENT DISCREPANCY BETWEEN INTEGRAL AND DIFFERENTIAL MEASUREMENTS.

STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

25 MANGANESE 55 — NEUTRON — CAPTURE RESONANCE INTEGRAL

449	0.50	EV		5.0%	2	USA	N.STEEN	BET	741036R

Q: ENERGY REQUESTED IS A MINIMUM VALUE ONLY.
O: NEEDED FOR ANALYSIS OF MANGANESE BATH EXPERIMENTS.

26 IRON — NEUTRON — TOTAL CROSS SECTION

450	500.	EV	15.0	MEV	1.0%	2	FR	P.HAMMER	CAD	712021R

O: FOR FAST REACTOR CALCULATIONS.

451	10.0	KEV	1.00	MEV	5.0%	2	CCP	M.N.NIKOLAEV	FEI	714003R

Q: CAREFUL MEASUREMENTS OF INTERFERENCE MINIMA NEEDED.
OBSERVATION OF P-WAVE RESONANCES IS WANTED.
A: TRANSMISSION MEASUREMENTS WITH POOR RESOLUTION BUT STRONG ATTENUATION OF THE PRIMARY BEAM ARE WANTED FOR MINIMA CS MEASUREMENTS.
HIGH RESOLUTION MEASUREMENTS ARE DESIRED FOR P-WAVE RESONANCE OBSERVATION AND RESONANCE PARAMETER DERIVATION.
O: FOR SHIELDING CALCULATION NEEDS AND EVALUATION OF THE TOTAL AND CAPTURE CROSS SECTIONS FOR FAST REACTOR CALCULATIONS.
COMPARISON OF THE S AND P-WAVE LEVEL DENSITIES IS VERY INTERESTING FROM THE POINT OF VIEW OF LEVEL DENSITY PARITY DEPENDENCE CONFIRMATION.

452	20.0	MEV	50.0	MEV	10.0%	1	USA	C.R.HEAD	DOE	781203F

A: ACCURACY REQUIRED 10 TO 15 PERCENT.
O: FOR SHIELD DESIGN IN FMIT FACILITY.
M: NEW REQUEST.

26 IRON — NEUTRON — ELASTIC CROSS SECTION

453	25.3	MV	20.0	MEV	3.0%	2	IND	S.B.GARG	TRM	753034R

O: REQUIRED FOR STRUCTURAL-MATERIAL CALCULATIONS.

26 IRON — NEUTRON — DIFFERENTIAL ELASTIC CROSS SECTION

454	500.	KEV	3.00	MEV	5.0%	1	USA	D.BARTINE	ORL	691085R

Q: REQUIRED AT SEVERAL PEAKS AND VALLEYS.
A: ENERGY RESOLUTION 1 PERCENT.
O: REQUIRED FOR SHIELDING.

455	1.00	KEV	15.0	MEV	10.0%	1	USA	C.E.TILL	ANL	691086R

A: RESOLUTION AT LEAST TO RESOLVE INTERMEDIATE STRUCTURE.

456	1.00	KEV	15.0	MEV	10.0%	1	USA	P.B.HEMMIG	DOE	691087R
457	8.00	MEV	15.0	MEV	10.0%	2	GER	B.GOEL	KFK	692094R

Q: MEASUREMENTS DESIRED IN ENERGY STEPS OF 1 MEV. AND ANGULAR STEPS OF 10 DEGREES.
O: FOR SHIELDING CALCULATIONS.

458	15.0	MEV	35.0	MEV	10.0%	1	USA	C.R.HEAD	DOE	781030F

A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES.
O: FOR MATERIAL DAMAGE CALCULATIONS.
M: NEW REQUEST.

459	20.0	MEV	50.0	MEV	10.0%	1	USA	C.R.HEAD	DOE	781205F

A: ACCURACY REQUIRED 10 TO 15 PERCENT.
O: FOR SHIELD DESIGN IN FMIT FACILITY.
M: NEW REQUEST.

26 IRON — NEUTRON — INELASTIC CROSS SECTION

460	UP TO		15.0	MEV	20.0%	2	UK	G.M.MC CRACKEN	CUL	722102F

O: EVALUATION REQUIREMENT.
FOR BLANKET HEATING CALCULATIONS.

461	3.00	MEV	14.0	MEV	10.0%	2	FR	B.DUCHEMIN	SAC	732021F

O: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.

462	UP TO		20.0	MEV	3.0%	2	IND	S.B.GARG	TRM	753035R

O: REQUIRED FOR STRUCTURAL-MATERIAL CALCULATIONS.

463	UP TO		15.0	MEV	15. %	2	JAP	Y.SEKI	JAE	762099F

Q: INELASTIC GAMMA RAY SPECTRA ALSO REQUIRED.
O: NEUTRON TRANSPORT AND GAMMA-RAY HEATING CALC.

26 IRON — NEUTRON — ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

464	850.	KEV	2.00	MEV	5.0%	1	USA	P.GREEBLER P.B.HEMMIG	GEB DOE	661016R

Q: TOTAL INTEGRAL OVER 4 PI WANTED.
SPECTRA AT SEVERAL ANGLES IF SIGNIFICANTLY ANISOTROPIC.
A: ACCURACY OF 5.0 PERCENT BELOW 2 MEV. 10.0 PERCENT ABOVE.
RESOLUTION 20 KEV FOR INCIDENT AND SCATTERED NEUTRONS.

465	8.00	MEV	15.0	MEV	20.0%	2	GER	B.GOEL	KFK	692100F

A: ENERGY RESOLUTION 500 KEV FOR INCIDENT NEUTRONS AND 200 KEV FOR SECONDARY NEUTRONS

466	UP TO		14.0	MEV	5.0%	1	FR	P.HAMMER	CAD	702007R

O: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

467	900.	KEV	15.0	MEV	5.0%	2	CCP	M.N.NIKOLAEV	FEI	714004R

Q: IN CONTINUUM REGION ENERGY DEPENDENCE OF NUCLEAR TEMPERATURE WANTED.
IN THE REGION BELOW 3 MEV AVERAGE CHARACTERISTICS OF STRUCTURE IN THE CROSS SECTION ARE WANTED FOR EVALUATION OF SELF SHIELDING.
TRANSMISSION MEASUREMENTS USING THE SELF-INDICATION METHOD WITH DETECTION OF GAMMA RAYS FROM INELASTIC SCATTERING ARE DESIRED.
MEASUREMENTS SHOULD EXTEND TO PRIMARY-BEAM ATTENUATION DOWN TO 1/100 OR 1/1000.
A: CROSS SECTION FOR INELASTIC REMOVAL BELOW FISSION THRESHOLD OF U-238 WANTED WITH 5.0 PERCENT ACCURACY.
LEVEL EXCITATION CROSS SECTION DESIRED WITH 10 PERCENT ACCURACY.
O: SEE GENERAL COMMENTS IN THE INTRODUCTION.

468	UP TO		15.0	MEV	10.0%	2	USA	D.BARTINE	ORL	761075R

O: TO RESOLVE SPECTRA MEASUREMENTS FROM STAINLESS STEEL.
M: NEW REQUEST.

26 IRON — NEUTRON — ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION

469		UP TO	10.0	MEV		3	UK	C.G.CAMPBELL J.BUTLER	WIN WIN	692098R
								A: ACCURACY REQUIRED IS 5 PERCENT TO 4 MEV AND 5 TO 10 PERCENT ABOVE O: EVALUATION REQUIREMENT. FOR FAST REACTORS AND SHIELDING.		
470		UP TO	4.00	MEV	5.0%	1	GER	H.KUESTERS	KFK	792205R
								M: NEW REQUEST.		
471	4.00	MEV	15.0	MEV		1	GER	H.KUESTERS	KFK	792206R
								A: ACCURACY OF 5-30 PERCENT REQUIRED. M: NEW REQUEST.		

26 IRON — NEUTRON — NON-ELASTIC CROSS SECTION

472	20.0	MEV	50.0	MEV	10.0%	1	USA	C.R.HEAD	DOE	781207F
								A: ACCURACY REQUIRED 10 TO 15 PERCENT. O: FOR SHIELD DESIGN IN FMIT FACILITY. M: NEW REQUEST.		

26 IRON — NEUTRON — ABSORPTION CROSS SECTION

473	500.	EV	15.0	MEV	5.0%	1	FR	P.HAMMER	CAD	712023R
								O: FOR FAST REACTOR CALCULATIONS.		

26 IRON — NEUTRON — CAPTURE CROSS SECTION

474	100.	EV	1.00	MEV		1	UK	C.G.CAMPBELL	WIN	692101R
								A: ACCURACY REQUIRED 10 PERCENT TO 100 KEV. 20. PERCENT ABOVE. C: FOR FAST REACTORS.		
475	25.3	MV	300.	KEV	10.0%	1	GER	F.FROEHNER	KFK	692103R
								A: HIGH RESOLUTION RESONANCE CROSS SECTIONS AND MULTILEVEL PARAMETERISATION WANTED. ACCURACY OF RADIATION WIDTHS SHOULD BE 10 PERCENT OR BETTER FOR BROAD S LEVELS AND 1.15KEV FE-56 P LEVEL O: EXISTING DATA DISAGREE UP TO 200 PERCENT. STRONG DISAGREEMENT BETWEEN 10 AND 100 KEV. M: SUBSTANTIAL MODIFICATIONS.		
476	500.	EV	1.00	MEV	5.0%	1	FR	P.HAMMER	CAD	692104R
								Q: NEED OF RESONANCE PARAMETERS FOR THE MAIN ISOTOPES. O: FOR FAST REACTOR CALCULATIONS.		
477	500.	EV	800.	KEV	10.0%	1	CCP	M.N.NIKOLAEV	FEI	714005R
								Q: DESIRABLE TO USE EXPERIMENTAL METHODS WHICH ARE NOT VERY SENSITIVE TO SELF-SHIELDING AND TO CAPTURE-AFTER-SCATTERING EFFECTS. A: 20 PERCENT ABOVE 100 KEV WOULD BE VERY USEFUL. O: SEE GENERAL COMMENTS IN THE INTRODUCTION. FIRST PRIORITY BECAUSE IT IS DIFFICULT TO EVALUATE THE IRON CAPTURE CROSS SECTION TO REQUESTED ACCURACY FROM MACROSCOPIC EXPERIMENTS ONLY.		
478	1.00	KEV	1.00	MEV		1	USA	F.G.PEREY P.B.HEMMIG C.E.TILL	ORL DOE ANL	741040R
								A: ACCURACY REQUIRED - 5 TO 10 PERCENT.		
479	25.3	MV	20.0	MEV	3.0%	2	IND	S.B.GARG	TRM	753036R
								O: REQUIRED FOR STRUCTURAL-MATERIAL CALCULATIONS.		
480	25.3	MV	15.0	MEV	15. %	2	JAP	Y.SEKI	JAE	762100F
								Q: GAMMA RAY SPECTRA ALSO REQUIRED. O: NEUTRON TRANSPORT AND GAMMA-RAY HEATING CALC.		
481	25.3	MV	15.0	MEV	15.0%	2	UK	G.M.MC CRACKEN	CUL	762248F
								O: EVALUATION REQUIREMENT. FOR HEATING AND NEUTRON ECONOMY CALCULATIONS.		
482	100.	EV	100.	KEV		1	GER	H.KUESTERS	KFK	792201R
								A: ACCURACY OF 5-10 PERCENT REQUIRED. M: NEW REQUEST.		
483	100.	KEV	1.00	MEV		1	GER	H.KUESTERS	KFK	792202R
								A: ACCURACY OF 10-20 PERCENT REQUIRED. M: NEW REQUEST.		

STATUS

UNDER CONTINUOUS REVIEW BY INDC AND NEANDC. SEE APPENDIX A.

26 IRON			NEUTRON		ENERGY DIFFERENTIAL CAPTURE CROSS SECTION					
484	24.0	KEV		10.0%	1	USA	F.G.PEREY	ORL		741179R
					Q: NO MEASUREMENTS AVAILABLE IN IRON WINDOW. M: NEW REQUEST.					
485	1.00	KEV	1.00 MEV	5.0%	2	USA	F.G.PEREY	ORL		741184R
					M: NEW REQUEST.					
26 IRON			NEUTRON		CAPTURE GAMMA RAY SPECTRUM					
486	1.00	KEV	5.00 KEV	5.0%	1	USA	R.A.DONCALS	WEW		761039R
					M: NEW REQUEST.					
26 IRON			NEUTRON		TOTAL PHOTON PRODUCTION CROSS SECTION					
487	1.00	KEV	15.0 MEV	10.0%	2	FR	B.DUCHEMIN	SAC		692096R
					Q: GAMMA SPECTRA REQUIRED. A: ENERGY RESOLUTION OF 250 KEV FOR GAMMA RAYS LESS THAN 1 MEV AND 500 KEV FOR ENERGIES GREATER THAN 1 MEV. O: FOR SHIELDING CALCULATIONS. EVALUATION MAY BE SUFFICIENT.					
488	25.3	MV	15.0 MEV	10. %	2	JAP	M.KASAI	MAP		762104F
					O: GAMMA-RAY HEATING CALCULATIONS					
489	100.	KEV	15.0 MEV	15. %	2	SWD	G.ENGSTROEM	FOA		762166R
					Q: GAMMA RAY ANGULAR AND ENERGY DISTRIBUTIONS ALSO WANTED. A: GAMMA RAY ENERGY RESOLUTION 0.5 MEV. O: SHIELDING CALCULATIONS					
26 IRON			NEUTRON		ENERGY DIFF. PHOTON-PRODUCTION CROSS SECTION					
490	1.00	MEV	15.0 MEV	10.0%	2	CCP	I.N.GOLOVIN	KUR		794012F
					O: FOR GAMMA-RAY HEATING AND SHIELDING CALCULATIONS. M: NEW REQUEST.					
26 IRON			NEUTRON		N,2N					
491	UP TO		15.0 MEV	10.0%	2	UK	G.M.MC CRACKEN	CUL		722106F
					O: EVALUATION REQUIREMENT. FOR NEUTRON ECONOMY CALCULATIONS.					
492	UP TO		14.0 MEV	10.0%	2	FR	B.DUCHEMIN	SAC		732022F
					O: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.					
493	UP TO		15.0 MEV	10. %	2	JAP	Y.SEKI	JAE		762101F
					O: NEUTRON MULTIPLICATION CALCULATIONS					
26 IRON			NEUTRON		ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION					
494	15.0	MEV	35.0 MEV	10.0%	1	USA	C.R.HEAD	DOE		781036F
					A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES. O: FOR MATERIAL DAMAGE CALCULATIONS. M: NEW REQUEST.					
495	9.00	MEV	14.0 MEV	10.0%	1	USA	C.R.HEAD	DOE		781048F
					O: FOR SHIELDING, ACTIVATION AND TRANSPORT STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS. M: NEW REQUEST.					
26 IRON			NEUTRON		N,P					
496	UP TO		15.0 MEV	10.0%	1	FR	P.HAMMER	CAD		712026R
					O: FOR FAST REACTOR CALCULATIONS.					
497	UP TO		15.0 MEV	20.0%	2	UK	G.M.MC CRACKEN	CUL		722107F
					O: EVALUATION REQUIREMENT. FOR HYDROGEN GAS PRODUCTION RATES AND NEUTRON ECONOMY CALCULATIONS.					
498	UP TO		14.0 MEV	10.0%	2	FR	B.DUCHEMIN	SAC		732023F
					O: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.					
499	0.00	EV	15.0 MEV	20. %	2	JAP	Y.SEKI	JAE		762102F
					O: HYDROGEN ACCUMULATION CALCULATIONS					
500	UP TO		15.0 MEV	30.0%	1	GER	H.KUESTERS	KFK		792203R
					M: NEW REQUEST.					

STATUS STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

26 IRON NEUTRON ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION

501	14.0	MEV				2	USA	C.R.HEAD	DOE	781141F

A: ACCURACY TO BE DETERMINED.
O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

26 IRON NEUTRON N,ALPHA

502	25.3	MV	15.0	MEV	20.0%	1	GER	B.GOEL	KFK	692105R

O: FOR THE THERMAL VALUE ONLY AN UPPER-LIMIT OF 0.01 MB IS AVAILABLE.
M: SUBSTANTIAL MODIFICATIONS.

503		UP TO	15.0	MEV	20.0%	2	UK	G.M.MC CRACKEN	CUL	722108F

O: EVALUATION REQUIREMENT.
FOR HELIUM GAS PRODUCTION RATES AND NEUTRON ECONOMY CALCULATIONS.

504		UP TO	15.0	MEV	10.0%	2	FR	B.DUCHEMIN	SAC	732024F

O: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.

505		UP TO	15.0	MEV	10.0%	1	FR	P.HAMMER	CAD	732042R

O: FOR FAST REACTOR CALCULATIONS.

506	0.00	EV	15.0	MEV	20. %	2	JAP	Y.SEKI	JAE	762103F

O: HELIUM ACCUMULATION CALCULATIONS

507		UP TO	15.0	MEV	10.0%	2	BLG	H.TOURWE	MOL	792109R

Q: TOTAL HELIUM PRODUCTION REQUIRED.
O: FOR USE AS A FLUENCE MONITOR.
M: NEW REQUEST.

508		UP TO	15.0	MEV	30.0%	1	GER	H.KUESTERS	KFK	792204R

M: NEW REQUEST.

26 IRON NEUTRON ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION

509	14.0	MEV				2	USA	C.R.HEAD	DOE	781120F

A: ACCURACY TO BE DETERMINED.
O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

26 IRON NEUTRON TOTAL HYDROGEN-PRODUCTION CROSS SECTION

510	15.0	MEV	35.0	MEV	10.0%	1	USA	C.R.HEAD	DOE	781024F

A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES.
O: FOR MATERIAL DAMAGE CALCULATIONS.
M: NEW REQUEST.

511	9.00	MEV	14.0	MEV	10.0%	1	USA	C.R.HEAD	DOE	781057F

O: FOR RADIATION DAMAGE STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.
M: NEW REQUEST.

26 IRON NEUTRON TOTAL HELIUM-PRODUCTION CROSS SECTION

512	9.00	MEV	14.0	MEV	10.0%	1	USA	C.R.HEAD	DOE	781066F

O: FOR RADIATION DAMAGE STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.
M: NEW REQUEST.

513	15.0	MEV	35.0	MEV	10.0%	1	USA	C.R.HEAD	DOE	781209F

A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES.
O: FOR MATERIAL DAMAGE CALCULATIONS.
M: NEW REQUEST.

26 IRON 54 NEUTRON CAPTURE CROSS SECTION

514	25.3	MV	3.00	MEV	20.0%	1	FR	L.COSTA	CAD	792007R

O: OUT-OF-CORE CYCLE
M: NEW REQUEST.

26 IRON 54 NEUTRON N,P

515	1.00	MEV	18.0	MEV	10.0%	2	USA	W.N.MC ELROY	HED	691099R

Q: REQUIRED IS ACTIVATION.
ENERGY STEPS OF 500 KEV.
A: ENERGY RESOLUTION 250 KEV.
O: FOR USE AS A FLUENCE MONITOR.

516	1.00	MEV	40.0	MEV	20.0%	1	USA	C.R.HEAD	DOE	781018F

C: DOSIMETRY FOR FMIT FACILITY.
M: NEW REQUEST.

517	25.3	MV	3.00	MEV	10.0%	1	FR	L.COSTA	CAD	792008R

O: OUT-OF-CORE CYCLE
M: NEW REQUEST.

STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

26 IRON 54 NEUTRON N,ALPHA

518	1.00	MEV	40.0	MEV	20.0%	1	USA	C.R.HEAD	DOE	781019F

O: DOSIMETRY FOR FMIT FACILITY.
M: NEW REQUEST.

26 IRON 54 NEUTRON RESONANCE PARAMETERS

519	UP TO	100.	KEV	10.0%	2	USA	F.G.PEREY P.B.HEMMIG C.E.TILL	ORL DOE ANL	741043R

Q: ENERGY REQUESTED IS A MAXIMUM VALUE ONLY.
NEUTRON WIDTH, GAMMA WIDTH, SPIN AND PARITY WANTED.

26 IRON 56 NEUTRON N,ALPHA

520	UP TO	10.0	MEV	15.0%	2	USA	P.GREEBLER	GEB	721040R

O: TO DETERMINE HE PRODUCTION IN FAST REACTORS.

26 IRON 56 NEUTRON RESONANCE PARAMETERS

521	UP TO	400.	KEV	10.0%	1	USA	F.G.PEREY P.B.HEMMIG C.E.TILL	ORL DOE ANL	741046R

Q: ENERGY REQUESTED IS A MAXIMUM VALUE ONLY.
NEUTRON WIDTH, GAMMA WIDTH, SPIN AND PARITY WANTED.

26 IRON 57 NEUTRON RESONANCE PARAMETERS

522	UP TO	100.	KEV	10.0%	2	USA	F.G.PEREY P.B.HEMMIG C.E.TILL	ORL DOE ANL	741049R

Q: ENERGY REQUESTED IS A MAXIMUM VALUE ONLY.
NEUTRON WIDTH, GAMMA WIDTH, SPIN AND PARITY WANTED.

26 IRON 58 NEUTRON CAPTURE CROSS SECTION

523	1.00	KEV	18.0	MEV	10.0%	2	USA	W.N.MC ELROY	HED	691104R

Q: REQUIRED IS ACTIVATION.
O: FOR USE AS A FLUENCE MONITOR.

524	25.2	MV	15.0	MEV	20. %	2	JAP	M.KAWAI	NIG	762179R

O: FOR RADIATION SHIELDING TO 1.2916 MEV GAMMA RAY FROM IRON-59 IN CORROSION PRODUCTS.

26 IRON 59 NEUTRON CAPTURE CROSS SECTION

525	25.3	MV	3.00	MEV	10.0%	1	FR	L.COSTA	CAD	792009R

O: OUT-OF-CORE CYCLE
M: NEW REQUEST.

27 COBALT 58 NEUTRON CAPTURE CROSS SECTION

526					10.0%	2	USA	N.STEEN	BET	721045R

Q: WANTED FOR BOTH THE 71.3 DAY RADIOACTIVE TARGET AND THE 9.1 HOUR ISOMER.
ALL ENERGIES.
THERMAL CROSS SECTION MOST IMPORTANT.
RESONANCE INTEGRAL ALSO NEEDED.
O: FOR INTERPRETATION OF NI-58(N,P) FLUENCE MONITOR DATA.

527	25.0	MV	15.0	MEV	15.0%	1	GER	H.KUESTERS	KFK	792196R

Q: EVALUATION WANTED.
O: REDUCTION OF C058.
M: NEW REQUEST.

27 COBALT 59 NEUTRON ABSORPTION CROSS SECTION

528	500.	EV	15.0	MEV	25.0%	2	FR	P.HAMMER	CAD	712027R

O: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

27 COBALT 59 NEUTRON CAPTURE CROSS SECTION

529	1.00	KEV	18.0	MEV	10.0%	2	USA	W.N.MC ELROY	HED	691106R

Q: REQUIRED IS ACTIVATION OF BOTH GROUND AND METASTABLE STATES.
C: FOR USE AS A FLUENCE MONITOR.

530	UP TO		10.0	MEV		2	JAP	M.KAWAI	NIG	712028R

A: ACCURACY REQUIRED TO BETTER THAN 20.0 PERCENT.
O: FOR FUEL CASK DESIGN AND CONTROL ROD DESIGN.

STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

27 COBALT 59 NEUTRON N,2N

531	10.6	MEV	40.0	MEV	20.0%	1	USA	C.R.HEAD	DOE	781014F

O: DOSIMETRY FOR FMIT FACILITY.
M: NEW REQUEST.

27 COBALT 59 NEUTRON N,3N

532	19.4	MEV	40.0	MEV	20.0%	1	USA	C.R.HEAD	DOE	781015F

O: DOSIMETRY FOR FMIT FACILITY.
M: NEW REQUEST.

27 COBALT 59 NEUTRON N,4N

533	30.9	MEV	40.0	MEV	20.0%	1	USA	C.R.HEAD	DOE	781016F

O: DOSIMETRY FOR FMIT FACILITY.
M: NEW REQUEST.

27 COBALT 59 NEUTRON N,P

534	1.00	MEV	40.0	MEV	20.0%	1	USA	C.R.HEAD	DOE	781017F

O: DOSIMETRY FOR FMIT FACILITY.
M: NEW REQUEST.

28 NICKEL NEUTRON TOTAL CROSS SECTION

535	1.00	KEV	20.0	MEV	3.0%	2	USA	P.B.HEMMIG	DOE	721047R

A: ACCURACY NEEDED TO 3 TO 5 PERCENT IN DEEP MINIMA. ENERGY RESOLUTION SUFFICIENT TO RESOLVE MAJOR STRUCTURE.
O: FOR USE IN INCONEL SHIELD CALCULATIONS.

28 NICKEL NEUTRON ELASTIC CROSS SECTION

536	25.3	MV	20.0	MEV	3.0%	2	IND	S.B.GARG	TRM	753037R

O: REQUIRED FOR STRUCTURAL-MATERIAL CALCULATIONS.

28 NICKEL NEUTRON DIFFERENTIAL ELASTIC CROSS SECTION

537	1.50	MEV	3.00	MEV	15.0%	2	GER	B.GOEL	KFK	692120R

A: ABOUT 100 KEV ENERGY RESOLUTION AND ABOUT 5 DEGREES ANGULAR.
RESOLUTION 10 PERCENT ON AVERAGE (COS).

538	8.00	MEV	15.0	MEV	20.0%	2	GER	B.GOEL	KFK	692122F

O: FOR SHIELDING CALCULATIONS.

539	8.00	MEV	15.0	MEV	20.0%	2	FR	B.DUCHEMIN	SAC	692123R

A: ACCURACY 10 PERCENT PREFERRED.
ENERGY RESOLUTION - 500 KEV.
ANGULAR RESOLUTION - 10 DEGREES.
O: FOR FAST REACTOR SHIELDING CALCULATIONS.
EVALUATION MAY BE SUFFICIENT.

540	100.	KEV	15.0	MEV		2	USA	C.E.TILL P.B.HEMMIG	ANL DOE	721048R

A: ACCURACY REQUIRED - 5 TO 10 PERCENT.
RESOLUTION OF INTERMEDIATE STRUCTURE PROBABLY ADEQUATE.

541	15.0	MEV	35.0	MEV	10.0%	1	USA	C.R.HEAD	DOE	781031F

A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES.
C: FOR MATERIAL DAMAGE CALCULATIONS.
M: NEW REQUEST.

28 NICKEL NEUTRON INELASTIC CROSS SECTION

542	3.00	MEV	14.0	MEV	10.0%	3	FR	B.DUCHEMIN	SAC	732025F

O: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.

543	UP TO		20.0	MEV	3.0%	2	IND	S.B.GARG	TRM	753038R

O: REQUIRED FOR STRUCTURAL-MATERIAL CALCULATIONS.

544	UP TO		15.0	MEV	15. %	2	JAP	Y.SEKI M.KASAI	JAE MAP	762105F

Q: INELASTIC GAMMA RAY SPECTRA ALSO REQUIRED
O: NEUTRON TRANSPORT AND GAMMA-RAY HEATING CALC.

28 NICKEL NEUTRON ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

545	UP TO		15.0	MEV	10.0%	2	USA	P.GREEBLER P.B.HEMMIG	GEB DOE	661024R

Q: TOTAL INTEGRAL OVER 4 PI REQUIRED.
SPECTRA AT SEVERAL ANGLES IF SIGNIFICANTLY ANISOTROPIC.
A: ENERGY RESOLUTION - 10 PERCENT FOR INCIDENT AND SCATTERED NEUTRON REQUIRED TO DETERMINE MAJOR STRUCTURE.
O: FOR INCONEL SHIELD DESIGN.

546	UP TO		15.0	MEV	30.0%	3	FR	P.HAMMER	CAD	702008R

O: FOR FAST REACTOR CALCULATIONS.

28 NICKEL NEUTRON ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION

547	UP TO		7.00	MEV		1	UK	C.G.CAMPBELL	WIN	642004R

A: ACCURACY REQUIRED 5.0 PERCENT BELOW 4.0 MEV,
5.0 TO 10.0 PERCENT ABOVE.
O: EVALUATION REQUIREMENT.
FOR FAST REACTORS.
M: SUBSTANTIAL MODIFICATIONS.

548	UP TO		4.00	MEV	5.0%	1	GER	H.KUESTERS	KFK	792211R

M: NEW REQUEST.

549	4.00	MEV	15.0	MEV		1	GER	H.KUESTERS	KFK	792251R

A: ACCURACY OF 5-30 PERCENT REQUIRED.
M: NEW REQUEST.

28 NICKEL NEUTRON ABSORPTION CROSS SECTION

550	500.	EV	15.0	MEV	5.0%	1	FR	P.HAMMER	CAD	712031R

O: FOR FAST REACTOR CALCULATIONS.

28 NICKEL NEUTRON CAPTURE CROSS SECTION

551	100.	EV	1.00	MEV		1	UK	C.G.CAMPBELL	WIN	692128R

A: ACCURACY REQUIRED 10 PERCENT TO 100 KEV,
20.0 PERCENT OR 2 MB ABOVE.
C: FOR FAST REACTORS.

552	25.3	MV	300.	KEV	10.0%	1	GER	F.FROEHNER	KFK	692131R

A: HIGH RESOLUTION RESONANCE CROSS SECTIONS AND MULTILEVEL PARAMETERISATION WANTED. RADIATION WIDTHS SHOULD BE ACCURATE TO 10 PERCENT OR BETTER FOR BROAD S LEVELS AND FOR P LEVELS CONTRIBUTING TO DOPPLER COEFFICIENT.
M: SUBSTANTIAL MODIFICATIONS.

553	500.	EV	1.00	MEV	5.0%	1	FR	P.HAMMER	CAD	702009R

Q: RESONANCE PARAMETERS ALSO REQUIRED.
O: FOR FAST REACTOR CALCULATIONS.

554	1.00	KEV	1.00	MEV	10.0%	2	USA	F.G.PEREY P.B.HEMMIG C.E.TILL R.A.DONCALS	ORL DOE ANL WEW	741053R

555	25.3	MV	20.0	MEV	3.0%	2	IND	S.B.GARG	TRM	753039R

O: REQUIRED FOR STRUCTURAL-MATERIAL CALCULATIONS.

556	25.3	MV	15.0	MEV	15. %	2	JAP	Y.SEKI	JAE	762110F

Q: GAMMA RAY SPECTRA ALSO REQUIRED.
O: GAMMA-RAY HEATING CALCULATIONS

557	25.3	MV	15.0	MEV	30.0%	2	UK	G.M.MC CRACKEN	CUL	762249F

O: EVALUATION REQUIREMENT.
FOR NEUTRON ECONOMY CALCULATIONS.

558	100.	EV	100.	KEV	10.0%	1	GER	H.KUESTERS	KFK	792207R

M: NEW REQUEST.

559	100.	KEV	1.00	MEV	20.0%	1	GER	H.KUESTERS	KFK	792208R

M: NEW REQUEST.

STATUS

UNDER CONTINUOUS REVIEW BY INDC AND NEANDC. SEE APPENDIX A.

STATUS

28 NICKEL NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

560	1.00	KEV	15.0	MEV	10.0%	2	FR	B.DUCHEMIN	SAC	692125R

Q: GAMMA SPECTRA REQUIRED.
A: ENERGY RESOLUTION OF 250 KEV FOR GAMMA RAYS LESS THAN 1 MEV AND 500 KEV FOR ENERGIES GREATER THAN 1 MEV.
O: FOR FAST REACTOR SHIELDING CALCULATIONS.
EVALUATION MAY BE SUFFICIENT.

561	25.3	MV	15.0	MEV	10. %	2	JAP	M.KASAI	MAP	762111F

O: GAMMA-RAY HEATING CALCULATIONS

28 NICKEL NEUTRON ENERGY DIFF. PHOTON-PRODUCTION CROSS SECTION

562	25.3	MV	600.	KEV	20.0%	1	USA	P.B.HEMMIG D.BARTINE	DOE ORL	721052R

O: FOR SHIELDING AND GAMMA HEATING CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

28 NICKEL NEUTRON N,2N

563	UP TO		14.0	MEV	10.0%	3	FR	B.DUCHEMIN	SAC	732026F

O: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.

564	UP TO		15.0	MEV	15. %	2	JAP	Y.SEKI M.KASAI	JAE MAP	762106F

O: NEUTRON BALANCE CALCULATIONS

565	UP TO		15.0	MEV	30.0%	2	UK	G.M.MC CRACKEN	CUL	762240F

O: EVALUATION REQUIREMENT.
FOR NEUTRON ECONOMY CALCULATIONS.

STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

28 NICKEL NEUTRON NEUTRON EMISSION CROSS SECTION

566	2.00	MEV	15.0	MEV	10.0%	2	FR	B.DUCHEMIN	SAC	692124R

Q: SECONDARY ENERGY DISTRIBUTION REQUIRED.
A: RESOLUTION FOR PRIMARY AND SECONDARY NEUTRONS 10 PERCENT.
O: FOR FAST REACTOR SHIELDING CALCULATIONS.
EVALUATION MAY BE SUFFICIENT.

28 NICKEL NEUTRON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

567	15.0	MEV	35.0	MEV	10.0%	1	USA	C.R.HEAD	DOE	781037F

A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES.
O: FOR MATERIAL DAMAGE CALCULATIONS.
M: NEW REQUEST.

568	9.00	MEV	14.0	MEV	10.0%	1	USA	C.R.HEAD	DOE	781044F

O: FOR SHIELDING, ACTIVATION AND TRANSPORT STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.
M: NEW REQUEST.

28 NICKEL NEUTRON N,P

569	UP TO		15.0	MEV	10.0%	1	FR	P.HAMMER	CAD	702010R

O: FOR FAST REACTOR CALCULATIONS.

570	UP TO		14.0	MEV	10.0%	3	FR	B.DUCHEMIN	SAC	732027F

O: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.

571	0.00	EV	15.0	MEV	20. %	2	JAP	Y.SEKI M.KASAI	JAE MAP	762107F
								Q: HYDROGEN ACCUMULATION CALCULATIONS		
572		UP TO	15.0	MEV	20.0%	2	UK	G.M.MC CRACKEN	CUL	762242F
								Q: EVALUATION REQUIREMENT. FOR HYDROGEN GAS PRODUCTION RATES AND NEUTRON ECONOMY CALCULATIONS.		
573		UP TO	15.0	MEV	30.0%	1	GER	H.KUESTERS	KFK	792209R
								M: NEW REQUEST.		

STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

28 NICKEL NEUTRON ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION

574	14.0	MEV				2	USA	C.R.HEAD	DOE	781137F
								A: ACCURACY TO BE DETERMINED. Q: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS. M: NEW REQUEST.		

28 NICKEL NEUTRON N,T

575		UP TO	15.0	MEV	15. %	3	JAP	M.KASAI	MAP	762109F
								Q: TRANSMUTATION CALCULATIONS		

28 NICKEL NEUTRON N,ALPHA

576		UP TO	10.0	MEV	15.0%	2	USA	P.GREEBLER	GEB	721051R
								Q: TO DETERMINE HE PRODUCTION IN FAST REACTORS.		
577		UP TO	15.0	MEV	10.0%	2	FR	B.DUCHEMIN	SAC	732028F
								Q: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL. M: SUBSTANTIAL MODIFICATIONS.		
578		UP TO	15.0	MEV	10.0%	1	FR	P.HAMMER	CAD	732044R
								Q: FOR FAST REACTOR CALCULATIONS.		
579	0.00	EV	15.0	MEV	20. %	2	JAP	Y.SEKI M.KASAI	JAE MAP	762108F
								Q: HELIUM ACCUMULATION CALCULATIONS		
580		UP TO	15.0	MEV	30.0%	3	UK	G.M.MC CRACKEN	CUL	762244F
								Q: EVALUATION REQUIREMENT. FOR HELIUM GAS PRODUCTION RATES AND NEUTRON ECONOMY CALCULATIONS.		
581	25.3	MV	15.0	MEV	10.0%	2	GER	B.GOEL	KFK	762250R
								Q: FOR NEUTRON DAMAGE PREDICTION. M: SUBSTANTIAL MODIFICATIONS.		
582		UP TO	15.0	MEV	10.0%	2	BLG	H.TOURWE	MOL	792110R
								Q: TOTAL HELIUM PRODUCTION REQUIRED. Q: FOR USE AS A FLUENCE MONITOR. M: NEW REQUEST.		
583		UP TO	15.0	MEV	30.0%	1	GER	H.KUESTERS	KFK	792210R
								M: NEW REQUEST.		

STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

28 NICKEL NEUTRON ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION

584	14.0	MEV				2	USA	C.R.HEAD	DOE	781116F
								A: ACCURACY TO BE DETERMINED. Q: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS. M: NEW REQUEST.		

28 NICKEL NEUTRON TOTAL HYDROGEN-PRODUCTION CROSS SECTION

585	15.0	MEV	35.0	MEV	10.0%	1	USA	C.R.HEAD	DOE	781025F
								A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES. Q: FOR MATERIAL DAMAGE CALCULATIONS. M: NEW REQUEST.		
586	9.00	MEV	14.0	MEV	10.0%	1	USA	C.R.HEAD	DOE	781053F
								Q: FOR RADIATION DAMAGE STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS. M: NEW REQUEST.		

28 NICKEL NEUTRON TOTAL HELIUM-PRODUCTION CROSS SECTION

587 9.00 MEV 14.0 MEV 10.0% 1 USA C.R.HEAD DOE 781062F
O: FOR RADIATION DAMAGE STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.
M: NEW REQUEST.

588 15.0 MEV 35.0 MEV 10.0% 1 USA C.R.HEAD DOE 781210F
A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES.
O: FOR MATERIAL DAMAGE CALCULATIONS.
M: NEW REQUEST.

28 NICKEL 58 NEUTRON TOTAL CROSS SECTION

589 1.00 MEV 15.0 MEV 10.0% 2 FR E.FORT CAD 792012R
O: EVALUATION PROBLEMS
M: NEW REQUEST.

28 NICKEL 58 NEUTRON ELASTIC CROSS SECTION

590 1.00 MEV 15.0 MEV 10.0% 2 FR E.FORT CAD 792013R
O: EVALUATION PROBLEMS
M: NEW REQUEST.

28 NICKEL 58 NEUTRON CAPTURE CROSS SECTION

591 25.3 MV 3.00 MEV 20.0% 1 FR L.COSTA CAD 792010R
O: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL
M: NEW REQUEST.

28 NICKEL 58 NEUTRON N,2N

592 12.4 MEV 40.0 MEV 20.0% 1 USA C.R.HEAD DOE 781020F
O: DOSIMETRY FOR FMIT FACILITY.
M: NEW REQUEST.

593 UP TO 15.0 MEV 10.0% 2 UK J.BUTLER WIN 792121R
O: ACTIVATION DETECTOR.
M: NEW REQUEST.

STATUS
UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

28 NICKEL 58 NEUTRON N,3N

594 22.9 MEV 40.0 MEV 20.0% 1 USA C.R.HEAD DOE 781021F
O: DOSIMETRY FOR FMIT FACILITY.
M: NEW REQUEST.

28 NICKEL 58 NEUTRON N,P

595 UP TO 15.0 MEV 5.0% 3 USA N.STEEN BET 721055R
O: FOR USE AS FAST FLUENCE MONITOR.
M: SUBSTANTIAL MODIFICATIONS.

596 2.0% 1 EUR NEUTRON DOSIMETRY GROUP GEL 742115R
Q: AVERAGE CROSS SECTION IN A U-235 FISSION SPECTRUM DESIRED.
O: FOR NORMALIZATION OF AVERAGE CROSS SECTIONS FOR DOSIMETRY PURPOSES.

597 2.10 MEV 7.00 MEV 5.0% 2 EUR NEUTRON DOSIMETRY GROUP GEL 742117R
O: ROUTINE FAST NEUTRON FLUENCE MONITOR. STRONG DISCREPANCY BETWEEN DIFFERENTIAL DATA AND AVERAGE VALUE IN U-235 FISSION NEUTRON SPECTRUM.
M: SUBSTANTIAL MODIFICATIONS.

598 1.00 MEV 40.0 MEV 20.0% 1 USA C.R.HEAD DOE 781022F
O: DOSIMETRY FOR FMIT FACILITY.
M: NEW REQUEST.

599 25.3 MV 3.00 MEV 10.0% 1 FR L.COSTA CAD 792011R
O: OUT-OF-CORE CYCLE
M: NEW REQUEST.

STATUS
UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

28 NICKEL 58 NEUTRON N,ALPHA

600 UP TO 14.0 MEV 2 GER B.GOEL KFK 692135R
A: ACCURACY REQUIRED TO BETTER THAN 20. PERCENT.
O: VERIFICATION OF EVAPORATION THEORY CALCULATIONS.

STATUS----------STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

28 NICKEL 58 NEUTRON RESONANCE PARAMETERS

601	UP TO	100.	KEV	10.0%	2	USA	F.G.PEREY P.B.HEMMIG C.E.TILL	ORL DOE ANL		741056R

Q: ENERGY REQUESTED IS A MAXIMUM VALUE ONLY. NEUTRON WIDTH, GAMMA WIDTH, SPIN AND PARITY WANTED.

28 NICKEL 59 NEUTRON N,ALPHA

602	25.3	MV	500.	EV	20.0%	2	BLG	N.MAENE	MOL	742023R

A: EVEN AN ACCURACY OF 50 PERCENT WOULD BE USEFUL.
O: EVALUATION OF HE PRODUCTION IN STEEL IN HIGH FLUX REACTORS THROUGH THE REACTION CHAIN NI-58(N,GAMMA)NI-59(N,ALPHA)FE-56.

603	25.3	MV	10.0	MEV	25.0%	2	GER	B.GOEL	KFK	762251R

O: FOR NEUTRON DAMAGE PREDICTION.

28 NICKEL 60 NEUTRON N,P

604	2.08	MEV	40.0	MEV	20.0%	1	USA	C.R.HEAD	DOE	781023F

O: DOSIMETRY FOR FMIT FACILITY.
M: NEW REQUEST.

28 NICKEL 60 NEUTRON RESONANCE PARAMETERS

605	UP TO	100.	KEV	10.0%	2	USA	F.G.PEREY P.B.HEMMIG C.E.TILL	ORL DOE ANL		741059R

Q: ENERGY REQUESTED IS A MAXIMUM VALUE ONLY. NEUTRON WIDTH, GAMMA WIDTH, SPIN AND PARITY WANTED.

28 NICKEL 61 NEUTRON RESONANCE PARAMETERS

606	UP TO	100.	KEV	10.0%	3	USA	F.G.PEREY P.B.HEMMIG C.E.TILL	ORL DOE ANL		741062R

Q: ENERGY REQUESTED IS A MAXIMUM VALUE ONLY. NEUTRON WIDTH, GAMMA WIDTH, SPIN AND PARITY WANTED.

28 NICKEL 62 NEUTRON TOTAL CROSS SECTION

607	1.00	MEV	15.0	MEV	10.0%	2	FR	E.FORT	CAD	792014R

O: EVALUATION PROBLEMS
M: NEW REQUEST.

28 NICKEL 62 NEUTRON ELASTIC CROSS SECTION

608	1.00	MEV	15.0	MEV	10.0%	2	FR	E.FORT	CAD	792015R

O: EVALUATION PROBLEMS
M: NEW REQUEST.

28 NICKEL 62 NEUTRON CAPTURE CROSS SECTION

609	25.3	MV	3.00	MEV	20.0%	1	FR	L.COSTA	CAD	762139R

O: PROBLEMS OF FUEL-CYCLE OUT-OF-CORE
M: SUBSTANTIAL MODIFICATIONS.

610	100.	EV	1.00	MEV	25.0%	2	UK	C.G.CAMPBELL	WIN	792130R

C: FOR FAST REACTOR CIRCUIT ACTIVITY.
M: NEW REQUEST.

28 NICKEL 62 NEUTRON RESONANCE PARAMETERS

611	UP TO	100.	KEV	10.0%	3	USA	F.G.PEREY P.B.HEMMIG C.E.TILL	ORL DOE ANL		741065R

Q: ENERGY REQUESTED IS A MAXIMUM VALUE ONLY. NEUTRON WIDTH, GAMMA WIDTH, SPIN AND PARITY WANTED.

28 NICKEL 63 HALF LIFE

612					10.0%	2	USA	N.STEEN	BET	761054P

O: FLUX MONITOR FROM CU(N,P) REACTION.
M: NEW REQUEST.

28 NICKEL 63 NEUTRON CAPTURE CROSS SECTION

613	1.00	MV	10.0	MEV	10.0%	2	USA	N.STEEN	BET	761053R

Q: FLUX MONITOR FROM CU(N,P) REACTION.
M: NEW REQUEST.

28 NICKEL 64 NEUTRON RESONANCE PARAMETERS

614	UP TO		100.	KEV	10.0%	3	USA	F.G.PEREY P.B.HEMMIG C.E.TILL	ORL DOE ANL	741068R

Q: ENERGY REQUESTED IS A MAXIMUM VALUE ONLY. NEUTRON WIDTH, GAMMA WIDTH, SPIN AND PARITY WANTED.

29 COPPER NEUTRON ELASTIC CROSS SECTION

615	8.00	MEV	15.0	MEV	10.0%	2	CCP	I.N.GOLOVIN	KUR	724032F

O: NEUTRON TRANSMISSION CALCULATIONS.

29 COPPER NEUTRON DIFFERENTIAL ELASTIC CROSS SECTION

616	15.0	MEV	35.0	MEV	10.0%	1	USA	C.R.HEAD	DOE	781034F

A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES.
O: FOR MATERIAL DAMAGE CALCULATIONS.
M: NEW REQUEST.

29 COPPER NEUTRON CAPTURE CROSS SECTION

617	25.3	MV	15.0	MEV	15. %	2	JAP	Y.SEKI	JAE	762114F

Q: GAMMA RAY SPECTRA ALSO REQUIRED.
O: GAMMA-RAY HEATING IN MAGNETS

29 COPPER NEUTRON PHOTON PRODUCTION CROSS SECTION IN INELASTIC SCAT.

618	UP TO		15.0	MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR	724033F

O: NEUTRONICS CALCULATIONS FOR BLANKET AND SHIELD.

619	UP TO		15.0	MEV	15. %	2	JAP	Y.SEKI	JAE	762112F

Q: GAMMA RAY SPECTRA ALSO REQUIRED.
O: GAMMA-RAY HEATING IN MAGNETS

29 COPPER NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

620	500.	KEV	15.0	MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR	724034F

Q: GAMMA RAY SPECTRA ALSO WANTED.
O: GAMMA RAY HEATING AND SHIELDING CALCULATIONS.

621	25.3	MV	15.0	MEV	15. %	2	JAP	Y.SEKI	JAE	762113F

Q: GAMMA RAY SPECTRA ALSO REQUIRED.
O: GAMMA-RAY HEATING IN MAGNETS

29 COPPER NEUTRON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

622	15.0	MEV	35.0	MEV	10.0%	1	USA	C.R.HEAD	DOE	781040F

A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES.
O: FOR MATERIAL DAMAGE CALCULATIONS.
M: NEW REQUEST.

623	9.00	MEV	14.0	MEV	10.0%	1	USA	C.R.HEAD	DOE	781046F

O: FOR SHIELDING, ACTIVATION AND TRANSPORT STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.
M: NEW REQUEST.

29 COPPER NEUTRON N,P

624	UP TO		15.0	MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR	724035F

O: HYDROGEN ACCUMULATION CALCULATIONS.

29 COPPER NEUTRON ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION

625	14.0	MEV				2	USA	C.R.HEAD	DOE	781139F

A: ACCURACY TO BE DETERMINED.
O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

29 COPPER NEUTRON N,ALPHA

626 UP TO 15.0 MEV 15.0% 2 CCP I.N.GOLOVIN KUR 724036F
Q: HELIUM ACCUMULATION CALCULATIONS.

STATUS
UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

29 COPPER NEUTRON ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION

627 14.0 MEV 2 USA C.R.HEAD DOE 781118F
A: ACCURACY TO BE DETERMINED.
Q: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

29 COPPER NEUTRON TOTAL HYDROGEN-PRODUCTION CROSS SECTION

628 15.0 MEV 35.0 MEV 10.0% 1 USA C.R.HEAD DOE 781028F
A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES.
C: FOR MATERIAL DAMAGE CALCULATIONS.
M: NEW REQUEST.

629 9.00 MEV 14.0 MEV 10.0% 1 USA C.R.HEAD DOE 781055F
Q: FOR RADIATION DAMAGE STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.
M: NEW REQUEST.

29 COPPER NEUTRON TOTAL HELIUM-PRODUCTION CROSS SECTION

630 9.00 MEV 14.0 MEV 10.0% 1 USA C.R.HEAD DOE 781064F
Q: FOR RADIATION DAMAGE STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.
M: NEW REQUEST.

631 15.0 MEV 35.0 MEV 10.0% 1 USA C.R.HEAD DOE 781213F
A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES.
C: FOR MATERIAL DAMAGE CALCULATIONS.
M: NEW REQUEST.

29 COPPER 63 NEUTRON CAPTURE CROSS SECTION

632 25.3 MV 1.00 KEV 2 USA P.B.HEMMIG DOE 671001R
A: ACCURACY 2 PERCENT NEAR THERMAL, 5 PERCENT ABOVE THERMAL.
Q: FOR DETECTOR APPLICATIONS.

633 1.00 KEV 18.0 MEV 10.0% 2 USA W.N.MC ELROY HED 691132R
Q: REQUIRED IS ACTIVATION.
C: FOR USE AS A FLUENCE MONITOR.

634 1.00 MV 15.0 MEV 5.0% 2 USA N.STEEN BET 761056R
C: NEEDED FOR LONG TERM FLUX MONITOR.
M: NEW REQUEST.

29 COPPER 63 NEUTRON N,2N

635 11.9 MEV 16.4 MEV 5.0% 2 EUR NEUTRON DOSIMETRY GROUP GEL 742130R
Q: FOR NEUTRON DOSIMETRY USING SPECTRUM UNFOLDING METHODS.
GREATER THAN 10 PERCENT DISCREPANCY BETWEEN INTEGRAL AND DIFFERENTIAL MEASUREMENTS.

STATUS
UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

29 COPPER 63 NEUTRON N,P

636 UP TO 15.0 MEV 5.0% 2 USA N.STEEN BET 761055R
C: NEEDED FOR LONG TERM FLUX MONITOR.
M: NEW REQUEST.

29 COPPER 63 NEUTRON N,ALPHA

637 6.00 MEV 18.0 MEV 10.0% 2 USA W.N.MC ELROY HED 691133R
Q: REQUIRED IS ACTIVATION.
C: FOR USE AS A FLUENCE MONITOR.

638 6.10 MEV 11.3 MEV 5.0% 1 EUR NEUTRON DOSIMETRY GROUP GEL 742120R
Q: ROUTINE FAST NEUTRON FLUENCE MONITOR.

639 6.00 MEV 18.0 MEV 5.0% 1 BLG H.TOURWE MOL 792111R
Q: REQUIRED IS ACTIVATION.
C: FOR USE AS A FLUENCE MONITOR.
M: NEW REQUEST.

29 COPPER 63 NEUTRON N,ALPHA (CONTINUED)

STATUS
UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.
STATUS

29 COPPER 65 NEUTRON CAPTURE CROSS SECTION

640	25.3	MV	1.00	KEV		2	USA	P.B.HEMMIG	DOE	671002R

A: ACCURACY 2 PERCENT NEAR THERMAL, 5 PERCENT ABOVE.
O: FOR DETECTOR APPLICATIONS.

30 ZINC 64 NEUTRON CAPTURE CROSS SECTION

641	25.3	MV	15.0	MEV	20.0%	2	JAP	T.KAWAKITA	MAP	792077R

Q: EXPERIMENTAL DATA WANTED.
O: FOR ESTIMATION OF RADIOACTIVITY OF SPENT STRUCTURAL MATERIALS IN FAST REACTORS. BOTH EXPERIMENTAL AND EVALUATED DATA ARE SCARCE.
M: NEW REQUEST.

642	25.0	MV	15.0	MEV	15.0%	1	GER	H.KUESTERS	KFK	792197R

Q: EVALUATION WANTED.
O: PRODUCTION OF ZN65.
M: NEW REQUEST.

30 ZINC 64 NEUTRON N,P

643	2.30	MEV	7.80	MEV	5.0%	2	EUR	NEUTRON DOSIMETRY GROUP	GEL	742131R

O: FOR NEUTRON DOSIMETRY USING SPECTRUM UNFOLDING METHODS.
ABOUT 20 PERCENT DISCREPANCY BETWEEN INTEGRAL AND DIFFERENTIAL MEASUREMENTS.

35 BROMINE 87 GAMMA RAY YIELD

644					10. %	3	JAP	H.SHIMOJIMA	TOS	762001N

Q: YIELD PER DISINTEGRATION OF 1419 KEV GAMMA RAY REQUIRED.
(FOLLOWING BETA DECAY EVENT)
O: DETECTION OF FAILED FUEL

35 BROMINE 88 GAMMA RAY YIELD

645					10. %	3	JAP	H.SHIMOJIMA	TOS	762002N

Q: YIELD PER DISINTEGRATION OF 767 KEV GAMMA RAY REQUIRED.
(FOLLOWING BETA DECAY EVENT)
O: DETECTION OF FAILED FUEL

36 KRYPTON 82 NEUTRON CAPTURE CROSS SECTION

646	40.0	EV			10.0%	2	USA	R.S.CASWELL	NBS	761116G

Q: VALUES FOR A FEW HIGHER RESONANCES ALSO NEEDED.
O: NEEDED TO GROUND, FIRST AND SECOND EXCITED STATES FOR GAMMA RAY LASER.
M: NEW REQUEST.

36 KRYPTON 83 NEUTRON CAPTURE CROSS SECTION

647	1.00	MV	1.00	KEV	10.0%	2	USA	N.STEEN F.FEINER	BET KAP	671190R

O: FOR FISSION PRODUCT ABSORPTION CALCULATION.
M: SUBSTANTIAL MODIFICATIONS.

36 KRYPTON 84 NEUTRON CAPTURE CROSS SECTION

648	1.00	KEV	3.00	MEV	10.0%	1	FR	C.PHILIS	BRC	742040R

O: FOR ACTIVATION.

36 KRYPTON 90 GAMMA RAY YIELD

649					10. %	3	JAP	H.SHIMOJIMA	TOS	762003N

Q: YIELD PER DISINTEGRATION OF MAJOR GAMMA RAYS REQUIRED.
(FOLLOWING BETA DECAY EVENT)
O: DETECTION OF FAILED FUEL

37 RUBIDIUM 85 NEUTRON N,2N

650	10.0	MEV	15.0	MEV	5.0%	1	FR	C.PHILIS	BRC	692147R

Q: PRODUCTION OF RB-84 (33 DAY).
O: ACTIVATION DETECTOR.
M: SUBSTANTIAL MODIFICATIONS.

40 ZIRCONIUM — NEUTRON — ELASTIC CROSS SECTION

651	5.00	MEV	15.0	MEV	10.0%	2	CCP	I.N.GOLOVIN	KUR	724037F

O: NEUTRON TRANSMISSION CALCULATIONS.

40 ZIRCONIUM — NEUTRON — DIFFERENTIAL ELASTIC CROSS SECTION

652	200.	KEV	1.50	MEV	10.0%	2	USA	F.FEINER	KAP	691295R

A: ENERGY RESOLUTION 5.0 PERCENT.
O: TO RESOLVE DISCREPANCIES IN EXISTING DATA.

653	7.00	MEV	14.0	MEV	20.0%	2	USA	F.FEINER	KAP	691296R

A: ENERGY RESOLUTION 2.5 PERCENT.

40 ZIRCONIUM — NEUTRON — ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

654	UP TO		15.0	MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR	724038F

O: NEUTRONICS CALCULATIONS FOR BLANKET AND SHIELD.

40 ZIRCONIUM — NEUTRON — ABSORPTION CROSS SECTION

655	500.	EV	15.0	MEV	25.0%	3	FR	P.HAMMER	CAD	712034R

O: FOR FAST REACTOR CALCULATIONS.

40 ZIRCONIUM — NEUTRON — CAPTURE CROSS SECTION

656	25.3	MV	1.00	KEV	5.0%	2	USA	G.T.ORTON	RL	671005R

O: FOR REACTOR MODERATION AND REACTIVITY EFFECTS.

657	1.00	MV	50.0	KEV	10.0%	2	USA	N.STEEN	BET	761057R

Q: LOW RESOLUTION MEASUREMENT ABOVE THERMAL DESIRED.
A: WANT 2 PERCENT ACCURACY IN THERMAL VALUE.
O: FOR VERIFICATION OF RECENT MEASUREMENTS.
M: NEW REQUEST.

658	25.0	MV	25.0	MV	5.00%	1	FR	H.TELLIER	SAC	762137R

O: CLAD AND STRUCTURE MATERIAL

659	25.3	MV	3.00	MEV	10.0%	1	FR	B.DUCHEMIN	SAC	792017R

O: FOR SHIELDING CALCULATIONS - EVALUATION MAY BE SUFFICIENT
M: NEW REQUEST.

40 ZIRCONIUM — NEUTRON — TOTAL PHOTON PRODUCTION CROSS SECTION

660	UP TO		15.0	MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR	724039F

O: GAMMA RAY HEATING AND SHIELDING CALCULATIONS.

661	25.3	MV	15.0	MEV	10.0%	1	FR	B.DUCHEMIN	SAC	792016R

Q: GAMMA SPECTRA REQUIRED
A: ENERGY RESOLUTION OF 250 KEV FOR GAMMA RAYS LESS THAN 1 MEV AND 500 KEV FOR ENERGIES GREATER THAN 1 MEV
O: FOR SHIELDING CALCULATIONS - EVALUATION MAY BE SUFFICIENT
M: NEW REQUEST.

40 ZIRCONIUM — NEUTRON — N,2N

662	UP TO		15.0	MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR	724040F

O: FOR NEUTRON MULTIPLICATION CALCULATIONS.

40 ZIRCONIUM — NEUTRON — ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

663	3.00	MEV	14.0	MEV	10.0%	1	USA	F.FEINER C.E.TILL	KAP ANL	671003R

A: INCIDENT AND EXIT ENERGY RESOLUTION 10 PERCENT.
O: FOR DESIGN OF PRESSURIZED WATER REACTORS USING ZR.

40 ZIRCONIUM — NEUTRON — N,P

664	UP TO		15.0	MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR	724041F

O: HYDROGEN ACCUMULATION CALCULATIONS.

40 ZIRCONIUM — NEUTRON — N,ALPHA

665	UP TO		15.0	MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR	724042F

O: HELIUM ACCUMULATION CALCULATIONS.

40 ZIRCONIUM NEUTRON CAPTURE RESONANCE INTEGRAL

666	0.50	EV			5.0%	1	USA	F.FEINER N.STEEN	KAP BET	691143R

Q: SHIELDED INTEGRALS DOWN TO 0.4 TIMES DILUTE INTEGRAL ALSO WANTED.
O: TO RESOLVE DISCREPANCIES IN EXISTING DATA.

667	0.50	EV			5.00%	1	FR	H.TELLIER	SAC	762136R

Q: CLAD AND STRUCTURE MATERIAL

40 ZIRCONIUM 91 NEUTRON TOTAL CROSS SECTION

668	2.00	MV	100.	EV	10.0%	2	TUK	A.ISYAR	CNA	752092R

O: FOR REACTIVITY EFFECTS MEASUREMENTS.

40 ZIRCONIUM 91 NEUTRON CAPTURE CROSS SECTION

669	2.00	MV	100.	EV	10.0%	2	TUK	A.ISYAR	CNA	752091R

O: FOR REACTIVITY EFFECTS MEASUREMENTS.

40 ZIRCONIUM 93 NEUTRON CAPTURE CROSS SECTION

670	1.00	KEV	10.0	MEV	20.0%	2	USA	R.E.SCHENTER	HED	741071R

O: CALCULATION OF FISSION PRODUCT POISON FOR FAST REACTORS.

671	100.	EV	500.	KEV	20.0%	2	JAP	S.IIJIMA H.MATSUNOBU	NIG SAE	752004R

O: FOR FAST REACTOR BURNUP CALCULATIONS.
ONLY ONE RESONANCE LEVEL AT 110 EV. NO KEV DATA.
MORE RESONANCE DATA ARE REQUIRED.
SEE ALSO REQUEST NUMBER 792068.
NO EXPERIMENTAL DATA ABOVE 100 EV.
M: SUBSTANTIAL MODIFICATIONS.

40 ZIRCONIUM 93 NEUTRON RESONANCE PARAMETERS

672	100.	EV	500.	KEV	20.0%	2	JAP	H.MATSUNOBU S.IIJIMA	SAE NIG	792068R

O: SEE ALSO REQUEST NUMBER 752004.
MORE RESONANCE DATA ARE REQUIRED.
ONLY ONE RESONANCE LEVEL AT 110 EV. NO KEV DATA FOR FAST REACTOR BURNUP CALCULATIONS.
M: NEW REQUEST.

40 ZIRCONIUM 95 NEUTRON CAPTURE CROSS SECTION

673	1.00	EV	10.0	KEV		3	USA	N.STEEN	BET	671010R

Q: RADIOACTIVE TARGET, 65 DAY.
THERMAL CROSS SECTION AND RI WANTED.
A: ACCURACY 10 PERCENT IF CROSS SECTION GREATER THAN 100 BARNS AND 20 PERCENT IF BETWEEN 10 AND 100 BARNS.
ENERGIES ABOVE 1 EV OF INTEREST TO GIVE 10 PERCENT IN RESONANCE INTEGRAL IF GREATER THAN 1000 BARNS AND 20 PERCENT IF BETWEEN 100 AND 1000 BARNS.
O: THE DECAY IS TO AN IMPORTANT FISSION PRODUCT.
M: SUBSTANTIAL MODIFICATIONS.

674	0.50	EV	10.0	KEV		3	USA	F.FEINER	KAP	671011R

Q: RADIOACTIVE TARGET, 65 DAY.
THERMAL CROSS SECTION AND RI WANTED.
A: ACCURACY 10 PERCENT IF CROSS SECTION GREATER THAN 100 BARNS AND 20 PERCENT IF BETWEEN 10 AND 100 BARNS.
ENERGIES ABOVE 1 EV OF INTEREST TO GIVE 10 PERCENT IN RESONANCE INTEGRAL IF GREATER THAN 1000 BARNS AND 20 PERCENT IF BETWEEN 100 AND 1000 BARNS.
O: THE DECAY IS TO AN IMPORTANT FISSION PRODUCT.
M: SUBSTANTIAL MODIFICATIONS.

675	25.3	MV				2	CAN	W.H.WALKER	CRC	691802R

A: ACCURACY REQUIRED 20 BARNS.
O: FISSION PRODUCT, UNKNOWN CROSS SECTION.

676	25.3	MV			5.0%	3	CCP	S.A.SKVORTSOV O.A.MILLER	KUR KUR	704003N

Q: ALSO WANTED FOR .06 EV INCIDENT NEUTRONS.
O: FOR ASSAY OF U AND PU IN FUEL ELEMENTS FROM FISSION PRODUCT GAMMA RADIATION.

677	1.00	KEV	10.0	MEV	20.0%	2	USA	R.E.SCHENTER	HED	741073R

Q: RADIOACTIVE TARGET, 65.5 DAY.
O: CALCULATION OF FISSION PRODUCT POISON FOR FAST REACTORS.

40 ZIRCONIUM 96 NEUTRON RESONANCE PARAMETERS

678	300.	EV			10.0%	1	USA	F.FEINER	KAP	741074R

Q: NEUTRON AND GAMMA WIDTHS REQUIRED.
O: NEEDED TO VERIFY MEASUREMENT ON 300 EV RESONANCE AND REMOVE DISCREPANCIES.

41 NIOBIUM 92 NEUTRON N,ALPHA

679	0.00	EV	15.0	MEV	30. %	3	JAP	K.IOKI	MAP	762115F

O: TRANSMUTATION CALCULATIONS

41 NIOBIUM 93 NEUTRON TOTAL CROSS SECTION

680	2.00	MV	25.0	MV	10.0%	2	TUK	A.ISYAR	CNA	752090R

O: FOR REACTIVITY EFFECTS MEASUREMENTS.

41 NIOBIUM 93 NEUTRON ELASTIC CROSS SECTION

681	25.3	MV	20.0	MEV	3.0%	2	IND	S.B.GARG	TRM	753043R

O: REQUIRED FOR STRUCTURAL-MATERIAL CALCULATIONS.

41 NIOBIUM 93 NEUTRON DIFFERENTIAL ELASTIC CROSS SECTION

682	1.00	MEV	15.0	MEV	10.0%	2	GER	D.DARVAS	JUL	722125F

Q: ANGULAR DISTRIBUTIONS AT A FEW SELECTED ENERGIES WOULD BE SUFFICIENT.
O: RADIATION DAMAGE ESTIMATES.
M: SUBSTANTIAL MODIFICATIONS.

683	3.00	MEV	15.0	MEV	10.0%	1	CCP	I.N.GOLOVIN	KUR	724043F

O: NEUTRON TRANSMISSION CALCULATIONS.

684	15.0	MEV	35.0	MEV	10.0%	1	USA	C.R.HEAD	DOE	781221F

A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES.
O: FOR MATERIAL DAMAGE CALCULATIONS.
M: NEW REQUEST.

41 NIOBIUM 93 NEUTRON INELASTIC CROSS SECTION

685	UP TO		15.0	MEV	10.0%	1	SWT	F.HEGEDUES	WUR	692155R

Q: FORMATION OF THE 13.6 YEAR ISOMER (E' = 29 MEV).
O: FOR FAST FLUX MEASUREMENTS.
M: SUBSTANTIAL MODIFICATIONS.

686	UP TO		15.0	MEV	10.0%	2	GER	D.DARVAS	JUL	722126F

Q: FORMATION OF 13.6 YEAR ISOMER WANTED.
O: CALCULATION OF HEAT GENERATION AND RADIOACTIVE AFTERHEAT.
M: SUBSTANTIAL MODIFICATIONS.

687	UP TO		8.00	MEV	5.0%	1	EUR	NEUTRON DOSIMETRY GROUP	GEL	742121R

Q: PRODUCTION OF 3.7 YEAR ISOMER NEEDED.
O: PROMISING FAST NEUTRON FLUENCE MONITOR DUE TO LOW THRESHOLD ENERGY.

688	UP TO		20.0	MEV	3.0%	2	IND	S.B.GARG	TRM	753044R

O: REQUIRED FOR STRUCTURAL-MATERIAL CALCULATIONS.

689	UP TO		15.0	MEV	20. %	2	JAP	M.KASAI	MAP	762117F

Q: NB-93M PRODUCTION CROSS-SECTION BY INELASTIC
A: 15.0 % REQUIRED FOR NEUTRON TRANSPORT CALCULATIONS
O: TRANSMUTATION AND NEUTRON TRANSPORT CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

690	UP TO		15.0	MEV	10.0%	1	UK	J.BUTLER	WIN	792122R

O: DETECTOR FOR DAMAGE MONITORING.
M: NEW REQUEST.

691	UP TO		15.0	MEV	10.0%	2	GER	H.KUESTERS	KFK	792190R

Q: PRODUCTION OF ISOMER. EVALUATION WANTED.
M: NEW REQUEST.

STATUS---STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

41 NIOBIUM 93 NEUTRON ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

692	UP TO		15.0	MEV	15.0%	1	CCP	I.N.GOLOVIN	KUR	724044F

O: NEUTRON CALCULATIONS FOR BLANKET AND SHIELD.

41 NIOBIUM 93 NEUTRON ABSORPTION CROSS SECTION

693	25.3	MV	5.00	MEV	20.0%	1	FR	P.HAMMER	CAD	712037R

Q: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

41 NIOBIUM 93 NEUTRON CAPTURE CROSS SECTION

694	1.00	KEV	100.	KEV	10.0%	2	USA	P.B.HEMMIG C.E.TILL	DOE ANL	621049R

Q: LOOK FOR NON-1/V BELOW 1 EV.
A: ACCURACY - 5 PERCENT IN CALCULATED DILUTE AND SELF-SHIELDED RESONANCE INTEGRAL.
O: FOR FAST REACTOR CALCULATIONS, TO RESOLVE DISCREPANCIES IN THERMIONIC REACTOR WORTHS.

695	100.	EV	100.	KEV	20.0%	2	UK	C.G.CAMPBELL	WIN	682020R

C: FOR FAST REACTORS.

696	10.0	MEV	15.0	MEV	15.0%	1	CCP	I.N.GOLOVIN	KUR	724045F

O: HEAVIER ISOTOPE ACCUMULATION CALCULATIONS.

697	2.00	MV	25.0	MV	10.0%	2	TUK	A.ISYAR	CNA	752089R

O: FOR REACTIVITY EFFECTS MEASUREMENTS.

698	25.3	MV	20.0	MEV	3.0%	2	IND	S.B.GARG	TRM	753045R

O: REQUIRED FOR STRUCTURAL-MATERIAL CALCULATIONS.

699	25.3	MV	15.0	MEV	15. %	2	JAP	Y.SEKI	JAE	762122F

Q: GAMMA RAY SPECTRA ALSO REQUIRED.
O: GAMMA-RAY HEATING CALCULATIONS

700	25.3	MV	15.0	MEV	20. %	3	JAP	M.KASAI	MAP	762123F

Q: CAPTURE CROSS-SECTION TO NB-94M IS REQUESTED.
O: TRANSMUTATION CALCULATIONS

STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

41 NIOBIUM 93 NEUTRON PHOTON PRODUCTION CROSS SECTION IN INELASTIC SCAT.

701	1.00	MEV	15.0	MEV	20.0%		GER	D.DARVAS	JUL	722130F

Q: ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAYS REQUIRED.
O: RADIATION DAMAGE ESTIMATES.
M: SUBSTANTIAL MODIFICATIONS.

41 NIOBIUM 93 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

702	UP TO		15.0	MEV	15.0%	1	CCP	I.N.GOLOVIN	KUR	724046F

O: GAMMA RAY HEATING AND SHIELDING CALCULATIONS.

703	25.3	MV	15.0	MEV	15. %	2	JAP	Y.SEKI	JAE	762124F

Q: GAMMA RAY SPECTRA ALSO REQUESTED
O: GAMMA-RAY HEATING CALCULATIONS

41 NIOBIUM 93 NEUTRON N,N

704	UP TO		15.0	MEV	10.0%	1	BLG	H.TOURWE	MOL	792112R

Q: FORMATION OF THE 14 YEAR ISOMER.
O: FOR USE AS A FLUENCE MONITOR.
M: NEW REQUEST.

41 NIOBIUM 93 NEUTRON N,2N

705	UP TO		15.0	MEV	10.0%	2	GER	D.DARVAS	JUL	722134F

Q: A MEASUREMENT COUNTING THE OUTCOMING NEUTRONS WOULD BE PREFERRED TO CLARIFY THE SITUATION OF HITHERTO UNOBSERVED DECAY MODES.
O: FOR RADIATION DAMAGE ESTIMATES.
M: SUBSTANTIAL MODIFICATIONS.

706	UP TO		15.0	MEV	10.0%	1	CCP	I.N.GOLOVIN	KUR	724047F

Q: ENERGY AND ANGULAR DEPENDENCE OF SECONDARY NEUTRONS REQUIRED.
O: FOR NEUTRON MULTIPLICATION AND RADIATION DAMAGE ESTIMATES.

707	UP TO		15.0	MEV	5.0%	2	EUR	NEUTRON DOSIMETRY GROUP	GEL	742133R

O: FOR NEUTRON DOSIMETRY USING SPECTRUM UNFOLDING METHODS.
GREATER THAN 10 PERCENT DISCREPANCY BETWEEN INTEGRAL AND DIFFERENTIAL MEASUREMENTS.

708	UP TO		15.0	MEV	10. %	2	JAP	M.KASAI	MAP	762118F

O: NEUTRON MULTIPLICATION CALCULATIONS

STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

41 NIOBIUM 93 NEUTRON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

709	9.00 MEV	14.0 MEV	10.0%	2	USA	C.R.HEAD	DOE	781081F
						O: DATA NEEDED FOR SHIELDING, ACTIVATION AND NEUTRON TRANSPORT CALCULATIONS.		
						M: NEW REQUEST.		
710	15.0 MEV	35.0 MEV	10.0%	1	USA	C.R.HEAD	DOE	781222F
						A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES.		
						O: FOR MATERIAL DAMAGE CALCULATIONS.		
						M: NEW REQUEST.		

41 NIOBIUM 93 NEUTRON N,P

711	3.00 MEV	15.0 MEV	20.0%	2	GER	D.DARVAS	JUL	722136F
						O: RADIATION DAMAGE ESTIMATES, CALCULATION OF TRANSMUTATION RATES AND RADIOACTIVE AFTERHEAT.		
						M: SUBSTANTIAL MODIFICATIONS.		
712	UP TO	15.0 MEV	15.0%	1	CCP	I.N.GOLOVIN	KUR	724048F
						O: HYDROGEN ACCUMULATION CALCULATIONS.		
713	0.00 EV	15.0 MEV	20. %	2	JAP	M.KASAI K.IOKI	MAP MAP	762119F
						O: HYDROGEN ACCUMULATION CALCULATIONS		

41 NIOBIUM 93 NEUTRON ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION

714	14.0 MEV			2	USA	C.R.HEAD	DOE	781147F
						A: ACCURACY TO BE DETERMINED.		
						O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.		
						M: NEW REQUEST.		

41 NIOBIUM 93 NEUTRON N,ALPHA

715	UP TO	15.0 MEV	15.0%	1	CCP	I.N.GOLOVIN	KUR	724049F
						O: HELIUM ACCUMULATION CALCULATIONS.		
716	0.00 EV	15.0 MEV	15. %	2	JAP	M.KASAI K.IOKI	MAP MAP	762120F
						O: HELIUM ACCUMULATION CALCULATIONS		

41 NIOBIUM 93 NEUTRON TOTAL ALPHA PRODUCTION CROSS SECTION

717	0.00 EV	15.0 MEV	15. %	2	JAP	K.IOKI	MAP	762121F
						O: HELIUM ACCUMULATION CALCULATIONS		

41 NIOBIUM 93 NEUTRON ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION

718	14.0 MEV			2	USA	C.R.HEAD	DOE	781126F
						A: ACCURACY TO BE DETERMINED.		
						O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.		
						M: NEW REQUEST.		

41 NIOBIUM 93 NEUTRON TOTAL HYDROGEN-PRODUCTION CROSS SECTION

719	9.00 MEV	14.0 MEV	10.0%	2	USA	C.R.HEAD	DOE	781105F
						A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES		
						O: FOR RADIATION DAMAGE CALCULATIONS.		
						M: NEW REQUEST.		
720	15.0 MEV	35.0 MEV	10.0%	1	USA	C.R.HEAD	DOE	781219F
						A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES.		
						O: FOR MATERIAL DAMAGE CALCULATIONS.		
						M: NEW REQUEST.		

41 NIOBIUM 93 NEUTRON TOTAL HELIUM-PRODUCTION CROSS SECTION

721	9.00 MEV	14.0 MEV	10.0%	2	USA	C.R.HEAD	DOE	781093F
						A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES		
						O: FOR RADIATION DAMAGE CALCULATIONS.		
						M: NEW REQUEST.		

722	15.0	MEV	35.0	MEV	10.0%	1	USA	C.R.HEAD	DOE		781220F

A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES.
Q: FOR MATERIAL DAMAGE CALCULATIONS.
M: NEW REQUEST.

41 NIOBIUM 93 NEUTRON CAPTURE RESONANCE INTEGRAL

723	1.00	EV	10.0	KEV	5.0%	2	EUR	NEUTRON DOSIMETRY GROUP		GEL	792106R

Q: PRODUCTION OF NB-94 (20000 YEARS) WANTED.
O: POSSIBLE LONG TERM FLUENCE MONITOR.
M: NEW REQUEST.

41 NIOBIUM 94 NEUTRON CAPTURE CROSS SECTION

724	25.3	MV	15.0	MEV	10. %	3	JAP	M.KASAI	MAP		762125F

O: TRANSMUTATION CALCULATIONS

725	100.	EV	1.00	MEV	25.0%	2	UK	C.G.CAMPBELL	WIN		792131R

O: FOR FAST REACTOR CIRCUIT ACTIVITY.
M: NEW REQUEST.

41 NIOBIUM 95 NEUTRON CAPTURE CROSS SECTION

726	25.3	MV				2	USA	F.FEINER	KAP		671012R

Q: RADIOACTIVE TARGET - 35 D. THERMAL AVERAGE WILL BE USEFUL.
A: WANT 20 PERCENT ACCURACY IF ABSORPTION CROSS SECTION IS 10 TO 100 B. 10 PERCENT IF GREATER.
O: DECAYS TO AN IMPORTANT FISSION PRODUCT POISON.

42 MOLYBDENUM NEUTRON ELASTIC CROSS SECTION

727	1.00	MEV	15.0	MEV	10.0%	2	JAP	Y.SEKI	JAE		762235F

Q: CROSS-SECTIONS FOR EACH ISOTOPE ARE REQUESTED
O: NEUTRON TRANSPORT CALCULATIONS

42 MOLYBDENUM NEUTRON DIFFERENTIAL ELASTIC CROSS SECTION

728	1.00	MEV	15.0	MEV	10.0%	2	GER	D.DARVAS	JUL		722140F

Q: DISTRIBUTIONS FOR ENERGY STEPS OF 10 TO 20 PERCENT WOULD SUFFICE.
O: CONFIRMATION OF ANL DATA USEFUL. RADIATION DAMAGE ESTIMATES.
M: SUBSTANTIAL MODIFICATIONS.

729	3.00	MEV	15.0	MEV	10.0%	1	CCP	I.N.GOLOVIN	KUR		724050F

O: NEUTRON TRANSMISSION CALCULATIONS.

730	1.00	MEV	15.0	MEV	10. %	2	JAP	Y.SEKI	JAE		762126F

Q: CROSS SECTION FOR EACH ISOTOPE ARE ALSO REQUESTED.
O: NEUTRON TRANSPORT CALCULATIONS

42 MOLYBDENUM NEUTRON INELASTIC CROSS SECTION

731	3.00	MEV	14.0	MEV	10.0%	3	FR	B.DUCHEMIN	SAC		732029F

O: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.

732	UP TO		15.0	MEV	15.0%	2	JAP	Y.SEKI	JAE		762236F

Q: CROSS-SECTIONS FOR EACH ISOTOPE ARE REQUESTED GAMMA-RAY SPECTRA ALSO REQUIRED.
O: NEUTRON TRANSPORT CALCULATIONS

42 MOLYBDENUM NEUTRON ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

733	1.50	MEV	3.00	MEV	20.0%	3	USA	C.E.TILL P.B.HEMMIG	ANL DOE		721070R

Q: TOTAL INTEGRAL OVER 4 PI REQUIRED. SPECTRA AT SEVERAL ANGLES IF SIGNIFICANTLY ANISOTROPIC.
A: ENERGY RESOLUTION OF PRIMARY AND SCATTERED NEUTRONS 20 PERCENT.

734	UP TO		15.0	MEV	15.0%	1	CCP	I.N.GOLOVIN	KUR		724051F

O: NEUTRON CALCULATIONS FOR BLANKET AND SHIELDING.

735	UP TO		15.0	MEV	15. %	2	JAP	Y.SEKI	JAE		762127F

Q: CROSS SECTIONS FOR EACH ISOTOPE ARE ALSO REQUESTED GAMMA RAY SPECTRA ALSO REQUIRED.
O: NEUTRON TRANSPORT CALCULATIONS

42 MOLYBDENUM — NEUTRON — ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION

736	1.50	MEV	5.00	MEV	10.0%	2	UK	C.G.CAMPBELL	WIN	792132R

C: FOR FAST REACTORS.
M: NEW REQUEST.

42 MOLYBDENUM — NEUTRON — ABSORPTION CROSS SECTION

737	500.	EV	15.0	MEV	7.00%	2	FR	P.HAMMER	CAD	712040R

O: FOR FAST REACTOR CALCULATIONS.

42 MOLYBDENUM — NEUTRON — CAPTURE CROSS SECTION

738	100.	EV	1.00	MEV		2	UK	C.G.CAMPBELL	WIN	692157R

A: ACCURACY 10 PERCENT TO 100 KEV, 20 PERCENT ABOVE.
O: FOR FAST REACTORS.

739	1.00	KEV	1.00	MEV	10.0%	3	USA	P.B.HEMMIG	DOE	721072R

O: TO RESOLVE DISCREPANCY IN REACTIVITY WORTH MEASUREMENTS.

740	10.0	MEV	15.0	MEV	15.0%	1	CCP	I.N.GOLOVIN	KUR	724052F

O: HEAVY ISOTOPE ACCUMULATION CALCULATIONS.

741	1.00	MEV	15.0	MEV	15. %	2	JAP	Y.SEKI K.IOKI	JAE MAP	762131F

Q: CROSS SECTIONS FOR EACH ISOTOPE ARE ALSO REQUESTED GAMMA RAY SPECTRA ALSO REQUIRED.
O: NEUTRON EALANCE AND GAMMA-RAY HEATING CALCULATION

42 MOLYBDENUM — NEUTRON — TOTAL PHOTON PRODUCTION CROSS SECTION

742	25.3	MV	15.0	MEV	15.0%	1	CCP	I.N.GOLOVIN	KUR	724053F

O: GAMMA RAY HEATING AND SHIELDING CALCULATIONS.

42 MOLYBDENUM — NEUTRON — N,2N

743	UP TO		15.0	MEV	10.0%	2	GER	D.DARVAS	JUL	722146F

Q: COUNTING OF OUTGOING NEUTRONS TO DETERMINE NEUTRON MULTIPLICATION BY TRANSMISSION IS *REQUIRED*, SINCE ACTIVITY IS PRODUCED BY MO-92 AND MO-100 ONLY.
O: CALCULATION OF NEUTRON MULTIPLICATION AND RADIATION DAMAGE.
M: SUBSTANTIAL MODIFICATIONS.

744	UP TO		15.0	MEV	15.0%	1	CCP	I.N.GOLOVIN	KUR	724054F

Q: SECONDARY ENERGY SPECTRUM REQUIRED AT 14.0 MEV.
O: NEUTRON MULTIPLICATION CALCULATIONS.

745	UP TO		15.0	MEV	10.0%	3	FR	B.DUCHEMIN	SAC	732030F

O: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.

746	UP TO		15.0	MEV	10. %	2	JAP	Y.SEKI	JAE	762128F

Q: CROSS SECTIONS FOR EACH ISOTOPE ARE ALSO REQUESTED
O: NEUTRON TRANSPORT CALCULATIONS

42 MOLYBDENUM — NEUTRON — ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

747	9.00	MEV	14.0	MEV	10.0%	2	USA	C.R.HEAD	DOE	781084F

O: DATA NEEDED FOR SHIELDING, ACTIVATION AND NEUTRON TRANSPORT CALCULATIONS.
M: NEW REQUEST.

42 MOLYBDENUM — NEUTRON — N,P

748	UP TO		14.0	MEV	10.0%	2	GER	B.GOEL	KFK	692159R
749	1.50	MEV	15.0	MEV	20.0%	2	GER	D.DARVAS	JUL	722148F

O: RADIATION DAMAGE ESTIMATES, CALCULATION OF TRANSMUTATION RATES AND RADIOACTIVE AFTERHEAT.
M: SUBSTANTIAL MODIFICATIONS.

750	UP TO		15.0	MEV	15.0%	1	CCP	I.N.GOLOVIN	KUR	724055F

O: HYDROGEN ACCUMULATION CALCULATIONS.

751	UP TO		14.0	MEV	10.0%	3	FR	B.DUCHEMIN	SAC	732031F

O: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.

752 0.00 EV 15.0 MEV 10. % 2 JAP Y.SEKI JAE 762129F
K.IOKI MAP
H.IIDA JAE
Q: CROSS SECTION FOR EACH ISOTOPE ARE ALSO REQUESTED. ESPECIALLY, DATA OF MO 95.96 ARE REQUIRED FOR ESTIMATION OF DOSE RATES AROUND THE MOLYBDENUM STRUCTURES.
O: HYDROGEN ACCUMULATION CALCULATIONS AND FOR CALCULATION OF INDUCED ACTIVITIES.

42 MOLYBDENUM NEUTRON ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION

753 14.0 MEV 2 USA C.R.HEAD DOE 781150F
A: ACCURACY TO BE DETERMINED.
O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

42 MOLYBDENUM NEUTRON N,ALPHA

754 5.00 MEV 15.0 MEV 20.0% 2 GER D.DARVAS JUL 722149F
O: RADIATION DAMAGE ESTIMATES, CALCULATION OF TRANSMUTATION RATES AND RADIOACTIVE AFTERHEAT.
M: SUBSTANTIAL MODIFICATIONS.

755 UP TO 15.0 MEV 15.0% 1 CCP I.N.GOLOVIN KUR 724056F
O: HELIUM ACCUMULATION CALCULATIONS.

756 UP TO 14.0 MEV 10.0% 3 FR B.DUCHEMIN SAC 732032F
O: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.

757 0.00 EV 15.0 MEV 20. % 2 JAP Y.SEKI JAE 762130F
K.IOKI MAP
Q: CROSS SECTIONS FOR EACH ISOTOPE ARE ALSO REQUESTED
O: HELIUM ACCUMULATION CALCULATIONS

758 UP TO 15.0 MEV 25.0% 2 UK C.G.CAMPBELL WIN 792133R
O: RADIATION DAMAGE IN FAST REACTORS.
M: NEW REQUEST.

42 MOLYBDENUM NEUTRON ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION

759 14.0 MEV 2 USA C.R.HEAD DOE 781129F
A: ACCURACY TO BE DETERMINED.
O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

42 MOLYBDENUM NEUTRON TOTAL HYDROGEN-PRODUCTION CROSS SECTION

760 9.00 MEV 14.0 MEV 10.0% 2 USA C.R.HEAD DOE 781108F
A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES
O: FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

42 MOLYBDENUM NEUTRON TOTAL HELIUM-PRODUCTION CROSS SECTION

761 9.00 MEV 14.0 MEV 10.0% 2 USA C.R.HEAD DOE 781096F
A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES
O: FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

42 MOLYBDENUM 92 NEUTRON CAPTURE CROSS SECTION

762 25.3 MV 15.0 MEV 10. % 2 JAP K.IOKI MAP 762132F
O: NEUTRON BALANCE AND TRANSMUTATION CALCULATIONS

763 25.2 MV 10.0 MEV 20. % 2 JAP T.HOJUYAMA MAP 762181R
O: FOR FAST REACTOR CALCULATIONS
M: SUBSTANTIAL MODIFICATIONS.

42 MOLYBDENUM 92 NEUTRON N,NP

764 UP TO 15.0 MEV 20.0% 2 JAP H.IIDA JAE 792078F
Q: EXPERIMENTAL DATA REQUIRED.
O: FOR CALCULATION OF INDUCED ACTIVITIES AROUND MOLYBDENUM STRUCTURES.
M: NEW REQUEST.

42 MOLYBDENUM 94 NEUTRON TOTAL CROSS SECTION

765 25.2 MV 1.50 MEV 10. % 2 JAP T.HOJUYAMA MAP 762183R
O: FOR FAST REACTOR CALCULATIONS
M: SUBSTANTIAL MODIFICATIONS.

42 MOLYBDENUM 94 NEUTRON CAPTURE CROSS SECTION

766 25.2 MV 100. KEV 20. % 2 JAP T.HOJUYAMA MAP 762184R
O: FOR FAST REACTOR CALCULATIONS
M: SUBSTANTIAL MODIFICATIONS.

42 MOLYBDENUM 94 NEUTRON N,2N

767 UP TO 15.0 MEV 10. % 2 JAP K.IOKI MAP 762133F
O: NEUTRON BALANCE AND TRANSMUTATION CALCULATIONS

42 MOLYBDENUM 94 NEUTRON N,P

768 UP TO 15.0 MEV 30. % 2 JAP T.HOJUYAMA MAP 762186R
O: FOR FAST REACTOR CALCULATIONS

42 MOLYBDENUM 94 NEUTRON N,ALPHA

769 25.2 MV 15.0 MEV 30. % 2 JAP T.HOJUYAMA MAP 762187R
O: FOR FAST REACTOR CALCULATIONS

42 MOLYBDENUM 95 NEUTRON TOTAL CROSS SECTION

770 25.2 MV 15.0 MEV 10. % 2 JAP T.HOJUYAMA MAP 762188R
O: FOR FAST REACTOR CALCULATIONS

42 MOLYBDENUM 95 NEUTRON INELASTIC CROSS SECTION

771 UP TO 15.0 MEV 20. % 2 JAP T.HOJUYAMA MAP 762189R
O: FOR FAST REACTOR CALCULATIONS

42 MOLYBDENUM 95 NEUTRON N,ALPHA

772 25.2 MV 15.0 MEV 20. % 2 JAP T.HOJUYAMA MAP 762191R
O: FOR FAST REACTOR CALCULATIONS

42 MOLYBDENUM 95 NEUTRON CAPTURE RESONANCE INTEGRAL

773 0.50 EV 10.0 KEV 10.0% 3 USA N.STEEN BET 741075R
O: MAJOR FISSION PRODUCT FOR THERMAL REACTORS.
M: SUBSTANTIAL MODIFICATIONS.

42 MOLYBDENUM 96 NEUTRON CAPTURE CROSS SECTION

774 25.2 MV 100. KEV 20. % 2 JAP T.HOJUYAMA MAP 762193R
O: FOR FAST REACTOR CALCULATIONS
M: SUBSTANTIAL MODIFICATIONS.

42 MOLYBDENUM 96 NEUTRON N,ALPHA

775 25.2 MV 15.0 MEV 30. % 2 JAP T.HOJUYAMA MAP 762195R
O: FOR FAST REACTOR CALCULATIONS

42 MOLYBDENUM 97 NEUTRON TOTAL CROSS SECTION

776 25.2 MV 100. KEV 10. % 2 JAP T.HOJUYAMA MAP 762196R
O: FOR FAST REACTOR CALCULATIONS
M: SUBSTANTIAL MODIFICATIONS.

42 MOLYBDENUM 97 NEUTRON INELASTIC CROSS SECTION

777 UP TO 15.0 MEV 30. % 2 JAP T.HOJUYAMA MAP 762197R
O: FOR FAST REACTOR CALCULATIONS

42 MOLYBDENUM 97 NEUTRON N,ALPHA

778 25.2 MV 15.0 MEV 30. % 2 JAP T.HOJUYAMA MAP 762198R
O: FOR FAST REACTOR CALCULATIONS

42 MOLYBDENUM 98 NEUTRON N,ALPHA

779 25.2 MV 15.0 MEV 30. % 2 JAP T.HOJUYAMA MAP 762200R
O: FOR FAST REACTOR CALCULATIONS

42 MOLYBDENUM 99 NEUTRON CAPTURE CROSS SECTION

780 1.00 MV 1.00 KEV 3 USA N.STEEN BET 671013R
F.FEINER KAP
Q: RADIOACTIVE TARGET 66 HOURS.
RESONANCE PARAMETERS ALSO WANTED.
A: WANT 20 PERCENT ACCURACY IF ABSORPTION CROSS SECTION IS 10 TO 100 B, 10 PERCENT IF GREATER.
ENERGIES ABOVE 1 EV OF INTEREST TO GIVE 10 PERCENT IN RESONANCE INTEGRAL IF GREATER THAN 1000 BARNS AND 20 PERCENT IF BETWEEN 100 AND 1000 BARNS.
O: THE DECAY IS TO AN IMPORTANT FISSION PRODUCT.
M: SUBSTANTIAL MODIFICATIONS.

781 25.3 MV 2 CAN W.H.WALKER CRC 691803R
A: ACCURACY REQUIRED 600 B.
O: FISSION PRODUCT, UNKNOWN CROSS SECTION.

42 MOLYBDENUM 100 NEUTRON N,P

782 UP TO 15.0 MEV 30. % 2 JAP T.HOJUYAMA MAP 762203R
O: FOR FAST REACTOR CALCULATIONS

42 MOLYBDENUM 100 NEUTRON N,ALPHA

783 25.2 MV 15.0 MEV 30. % 2 JAP T.HOJUYAMA MAP 762204R
O: FOR FAST REACTOR CALCULATIONS

43 TECHNETIUM 99 NEUTRON CAPTURE CROSS SECTION

784 1.00 MV 10.0 KEV 10.0% 2 USA N.STEEN BET 741076R
Q: THERMAL CROSS SECTION AND RI WANTED.
O: IMPORTANT FISSION PRODUCT FOR THERMAL REACTORS.
M: SUBSTANTIAL MODIFICATIONS.

785 100. EV 500. EV 10.0% 1 JAP S.IIJIMA NIG 752007R
H.MATSUNOBU SAE
Q: DESIRED WITH LOWER PRIORITY FOR WIDER ENERGY RANGE
O: FOR FAST REACTOR BURNUP CALCULATIONS.
ONLY ONE SET OF DATA FOR E LESS THAN 50 KEV.
M: SUBSTANTIAL MODIFICATIONS.

44 RUTHENIUM 101 NEUTRON CAPTURE CROSS SECTION

786 1.00 MV 10.0 KEV 10.0% 3 USA N.STEEN BET 741077R
Q: THERMAL CROSS SECTION AND RI WANTED.
O: CALCULATION OF FISSION PRODUCT POISON FOR THERMAL REACTORS.
M: SUBSTANTIAL MODIFICATIONS.

787 1.00 KEV 10.0 MEV 10.0% 1 USA R.E.SCHENTER HED 741078R
O: CALCULATION OF FISSION PRODUCT POISON FOR FAST REACTORS.

788 100. EV 500. KEV 10.0% 1 JAP S.IIJIMA NIG 752008R
H.MATSUNOBU SAE
O: FOR FAST REACTOR BURNUP CALCULATIONS.
EVALUATIONS ARE VERY DISCREPANT.
M: SUBSTANTIAL MODIFICATIONS.

44 RUTHENIUM 103 GAMMA RAY YIELD

789 1.0% 2 JAP K.TASAKA JAE 722002N
Q: YIELDS PER DISINTEGRATION OF 497 AND 610 KEV GAMMA RAY REQUIRED.
(FOLLOWING BETA DECAY EVENT)
O: FOR BURN UP CALCULATION FROM NON-DESTRUCTIVE MEASUREMENT.

44 RUTHENIUM 103 NEUTRON CAPTURE CROSS SECTION

790 1.00 MV 1.00 KEV 3 USA N.STEEN BET 671015R
F.FEINER KAP
Q: RADIOACTIVE TARGET 40 DAYS.
A: 20 PERCENT ACCURACY DESIRED IF CROSS SECTION IN RANGE 10 TO 100 BARNS, 10 PERCENT IF LARGER.
ENERGIES ABOVE 1 EV OF INTEREST TO GIVE 10 PERCENT IN RESONANCE INTEGRAL IF GREATER THAN 1000 BARNS AND 20 PERCENT IF BETWEEN 100 AND 1000 BARNS.
O: WANTED FOR FISSION PRODUCT POISON CALCULATIONS IN THERMAL REACTORS.
M: SUBSTANTIAL MODIFICATIONS.

791 25.3 MV 2 CAN W.H.WALKER CRC 691804R
A: ACCURACY REQUIRED 35 B.
O: FISSION PRODUCT, UNKNOWN CROSS SECTION.

792	1.00	KEV	10.0	MEV	20.0%	2	USA	R.E.SCHENTER	HED	741079R

Q: RADIOACTIVE TARGET 39.6 DAY.
O: CALCULATION OF FISSION PRODUCT POISON FOR FAST REACTORS.

793	100.	EV	500.	KEV	20.0%	2	JAP	S.IIJIMA	NIG	792079R

Q: EXPERIMENTAL DATA REQUIRED.
O: FOR FAST REACTOR CALCULATION, 40 DAYS LIFETIME. NO DIFFERENTIAL OR INTEGRAL DATA EXIST. VERY LARGE DISCREPANCIES BETWEEN EVALUATIONS.
M: NEW REQUEST.

44 RUTHENIUM 104 NEUTRON CAPTURE CROSS SECTION

794	1.00	KEV	10.0	MEV	10.0%	1	USA	R.E.SCHENTER	HED	741081R

Q: RADIOACTIVE TARGET 4.35 MIN.
O: CALCULATION OF FISSION PRODUCT POISON FOR FAST REACTORS.

44 RUTHENIUM 106 NEUTRON CAPTURE CROSS SECTION

795	25.3	MV			10.0%	3	CCP	S.A.SKVORTSOV O.A.MILLER	KUR KUR	704006N

Q: ALSO WANTED FOR .06 EV INCIDENT NEUTRONS.
O: FOR ASSAY OF U AND PU IN FUEL ELEMENTS FROM FISSION PRODUCT GAMMA RADIATION.

796	1.00	KEV	10.0	MEV	10.0%	1	USA	R.E.SCHENTER	HED	741082R

Q: RADIOACTIVE TARGET 2.18 HOUR.
O: CALCULATION OF FISSION PRODUCT POISON FOR FAST REACTORS.

45 RHODIUM 103 NEUTRON INELASTIC CROSS SECTION

797	UP TO		15.0	MEV	5.0%	1	GER	M.KUECHLE	KFK	692477R

Q: CROSS SECTION LEADING TO ISOMERIC STATE AFTER GAMMA DE-EXCITATION IS WANTED.
O: THRESHOLD DETECTOR.
M: SUBSTANTIAL MODIFICATIONS.

798	UP TO		10.0	MEV	5.0%	1	EUR	NEUTRON DOSIMETRY GROUP	GEL	742122R

Q: PRODUCTION OF 57 MINUTE ISOMER WANTED.
O: PROMISING FAST NEUTRON FLUENCE MONITOR DUE TO LOW THRESHOLD ENERGY.

799	UP TO		15.0	MEV	5.0%	1	GER	H.KUESTERS	KFK	792191R

Q: PRODUCTION OF ISOMER. EVALUATION WANTED.
M: NEW REQUEST.

STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

45 RHODIUM 103 NEUTRON CAPTURE CROSS SECTION

800	1.00	MV	1.00	EV	10.0%	2	USA	P.GREEBLER	GEB	671018R

O: FOR CALCULATION OF FISSION PRODUCT POISONS.

801	1.00	MV	1.00	KEV	5.0%	3	DEN	C.F.HOEJERUP	RIS	712044R

O: WANTED FOR FISSION PRODUCT CALCULATIONS.

802	10.0	MV	5.00	KEV	10.0%	2	FR	H.TELLIER	SAC	732058R

O: REACTOR CALCULATIONS.

45 RHODIUM 105 NEUTRON CAPTURE CROSS SECTION

803	1.00	MV	1.00	EV	10.0%	2	USA	P.GREEBLER	GEB	671019R

Q: RADIOACTIVE TARGET 36 HOURS.
O: FOR CALCULATION OF FISSION PRODUCT POISONS.

804	10.0	MV	500.	EV		2	CAN	W.H.WALKER	CRC	691805R

A: ACCURACY 5. PERCENT TO 10 EV, 20 PERCENT ABOVE.
O: AVAILABLE DATA SUGGEST LARGE RESONANCE NEAR CADMIUM CUT-OFF.
ADDITIONAL DATA NEEDED TO DETERMINE DEPENDANCE ON NEUTRON TEMPERATURE AND EPITHERMAL FLUX.

45 RHODIUM 106 GAMMA RAY YIELD

805					1.0%	2	JAP	K.TASAKA	JAE	722004N

Q: YIELD PER DISINTEGRATION OF 512,616,622 AND 1050 KEV GAMMA RAYS REQUIRED. (FOLLOWING BETA DECAY EVENT)
O: FOR BURN UP CALCULATION FROM NON-DESTRUCTIVE MEASUREMENT.

46 PALLADIUM 105 NEUTRON CAPTURE CROSS SECTION

806	1.00	KEV	10.0	MEV	10.0%	1	USA	R.E.SCHENTER	HED	741086R

Q: CALCULATION OF FISSION PRODUCT POISON FOR FAST REACTORS.

807	100.	EV	500.	KEV	10.0%	1	JAP	S.IIJIMA H.MATSUNOBU	NIG SAE	752011R

Q: EVALUATION ALSO REQUIRED.
O: FOR FAST REACTOR BURNUP CALCULATIONS. DATA BETWEEN 160 EV TO A FEW KEV ARE LACKING. NO EXPERIMENTAL DATA ABOVE 100 EV.
M: SUBSTANTIAL MODIFICATIONS.

46 PALLADIUM 107 NEUTRON CAPTURE CROSS SECTION

808	25.3	MV				2	CAN	W.H.WALKER	CRC	691806R

A: ACCURACY REQUIRED 10 BARNS.
O: PU FISSION PRODUCT, UNKNOWN CROSS SECTION.

809	1.00	KEV	10.0	MEV	10.0%	1	USA	R.E.SCHENTER	HED	741084R

Q: RADIOACTIVE TARGET - 6.5 MILLION YEARS.
O: CALCULATION OF FISSION PRODUCT POISON FOR FAST REACTORS.

810	100.	EV	500.	KEV	10.0%	1	JAP	S.IIJIMA H.MATSUNOBU	NIG SAE	752012R

O: FOR FAST REACTOR BURNUP CALCULATIONS. EVALUATIONS ARE VERY DISCREPANT. NO KEV DATA
M: SUBSTANTIAL MODIFICATIONS.

47 SILVER 109 NEUTRON CAPTURE CROSS SECTION

811	1.00	MV	1.00	EV	10.0%	2	USA	P.GREEBLER	GEB	671021R

O: FISSION PRODUCT POISON.

812	100.	EV	500.	KEV	10.0%	2	JAP	S.IIJIMA H.MATSUNOBU	NIG SAE	752013R

A: 10.0 TO 20.0%
O: FOR FAST REACTOR CALCULATIONS. DISCREPANT SERIES OF DATA IN KEV REGION. DATA ARE ALSO AVAILABLE FOR AG 107 AND NATURAL AG.
M: SUBSTANTIAL MODIFICATIONS.

813	3.00	KEV	1.00	MEV	10.0%	1	FR	E.FORT	CAD	792018R

O: REACTOR CALCULATIONS
M: NEW REQUEST.

48 CADMIUM 113 NEUTRON CAPTURE CROSS SECTION

814	UP TO	100.	EV		5.0%	3	FR	H.TELLIER	SAC	732063R

O: CONTROL AND POISON.

49 INDIUM 115 GAMMA SPECIAL QUANTITY (DESCRIPTION BELOW)

815	500.	KEV	10.0	MEV	20.0%	3	JAP	Y.OKA	TOK	792080R

Q: EXPERIMENTAL DATA WANTED FOR (G,G') REACTION.
O: FOR CORRECTION OF IN-115M PRODUCTION THROUGH IN-115(N,N')IN-115M, FOR REACTOR SHIELDING AND DOSIMETRY APPLICATIONS.
M: NEW REQUEST.

49 INDIUM 115 NEUTRON INELASTIC CROSS SECTION

816	UP TO	15.0	MEV		3.0%	1	GER	M.KUECHLE	KFK	692180R

Q: CROSS SECTION LEADING TO ISOMERIC STATE AFTER GAMMA DE-EXCITATION IS NEEDED.
O: THRESHOLD DETECTOR.

817	5.00	MEV	15.0	MEV	10.0%	2	SWT	F.HEGEDUES	WUR	692194R

Q: FORMATION OF THE 4.5 HOUR ISOMER (E' = .335 MEV).
O: FOR FAST FLUX MEASUREMENTS.

818					2.0%	1	EUR	NEUTRON DOSIMETRY GROUP	GEL	742116R

Q: PRODUCTION OF IN-115 (4.5 HOUR) ISOMER. AVERAGE CROSS SECTION IN A U-235 FISSION SPECTRUM DESIRED.
O: FOR NORMALIZATION OF AVERAGE CROSS SECTIONS FOR DOSIMETRY PURPOSES.

819	UP TO	15.0	MEV		5.0%	1	GER	H.KUESTERS	KFK	792192R

Q: PRODUCTION OF ISOMER. EVALUATION WANTED.
M: NEW REQUEST.

STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

50 TIN NEUTRON DIFFERENTIAL ELASTIC CROSS SECTION

820	15.0	MEV	35.0	MEV	10.0%	1	USA	C.R.HEAD	DOE	781035F

A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES.
O: FOR MATERIAL DAMAGE CALCULATIONS.
M: NEW REQUEST.

50 TIN NEUTRON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

821	15.0	MEV	35.0	MEV	10.0%	1	USA	C.R.HEAD	DOE	781041F

A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES.
O: FOR MATERIAL DAMAGE CALCULATIONS.
M: NEW REQUEST.

822	9.00	MEV	14.0	MEV	10.0%	2	USA	C.R.HEAD	DOE	781083F

O: DATA NEEDED FOR SHIELDING, ACTIVATION AND NEUTRON TRANSPORT CALCULATIONS.
M: NEW REQUEST.

50 TIN NEUTRON ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION

823	14.0	MEV				2	USA	C.R.HEAD	DOE	781149F

A: ACCURACY TO BE DETERMINED.
O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

50 TIN NEUTRON ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION

824	14.0	MEV				2	USA	C.R.HEAD	DOE	781128F

A: ACCURACY TO BE DETERMINED.
O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

50 TIN NEUTRON TOTAL HYDROGEN-PRODUCTION CROSS SECTION

825	15.0	MEV	35.0	MEV	10.0%	1	USA	C.R.HEAD	DOE	781029F

A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES.
O: FOR MATERIAL DAMAGE CALCULATIONS.
M: NEW REQUEST.

826	9.00	MEV	14.0	MEV	10.0%	2	USA	C.R.HEAD	DOE	781107F

A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES
O: FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

50 TIN NEUTRON TOTAL HELIUM-PRODUCTION CROSS SECTION

827	9.00	MEV	14.0	MEV	10.0%	2	USA	C.R.HEAD	DOE	781095F

A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES
O: FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

828	15.0	MEV	35.0	MEV	10.0%	1	USA	C.R.HEAD	DOE	781214F

A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES.
O: FOR MATERIAL DAMAGE CALCULATIONS.
M: NEW REQUEST.

50 TIN 126 NEUTRON CAPTURE CROSS SECTION

829	25.3	MV				2	CAN	W.H.WALKER	CRC	691807R

A: ACCURACY REQUIRED 120 BARNS.
O: FISSION PRODUCT, UNKNOWN CROSS SECTION.

51 ANTIMONY 121 NEUTRON CAPTURE CROSS SECTION

830	25.2	MV	15.0	MEV	15. %	2	JAP	T.HOJUYAMA	MAP	762205R

O: FOR NEUTRON SOURCE CALCULATION.

51 ANTIMONY 123 NEUTRON CAPTURE CROSS SECTION

831	25.2	MV	15.0	MEV	15. %	2	JAP	T.HOJUYAMA	MAP	762206R

O: FOR NEUTRON SOURCE CALCULATION.

51 ANTIMONY 124 NEUTRON CAPTURE CROSS SECTION

832	25.3	MV			20.0%	3	JAP	K.NISHIMURA	JAE	792082R

Q: EXPERIMENTAL DATA REQUIRED.
O: FOR ESTIMATION OF SB 124 PRODUCTION IN SB-BE NEUTRON SOURCE.
VERY LARGE DISCREPANCIES EXIST AMONG EXPERIMENTAL DATA.
M: NEW REQUEST.

51 ANTIMONY 125 GAMMA RAY YIELD

833					1.0%	2	JAP	K.TASAKA	JAE	722006N

Q: YIELD PER DISINTEGRATION OF 176, 381, 428, 464, 601, 607, 636 AND 672 KEV GAMMA RAYS REQUIRED. (FOLLOWING BETA DECAY EVENT)
O: FOR BURN UP CALCULATION FROM NON-DESTRUCTIVE MEASUREMENT.

51 ANTIMONY 125 NEUTRON CAPTURE CROSS SECTION

834	25.3	MV				3	CAN	W.H.WALKER	CRC	691808R

A: ACCURACY REQUIRED 300 BARNS.
O: FISSION PRODUCT, UNKNOWN CROSS SECTION.

51 ANTIMONY 127 NEUTRON CAPTURE CROSS SECTION

835	25.3	MV				3	CAN	W.H.WALKER	CRC	691809P

A: ACCURACY REQUIRED 4000 BARNS.
O: FISSION PRODUCT, UNKNOWN CROSS SECTION.

52 TELLURIUM 127 NEUTRON CAPTURE CROSS SECTION

836	1.00	MV	1.00	EV	20.0%	2	USA	F.FEINER	KAP	671022R

Q: RADIOACTIVE TARGET 105 DAY ISOMER.
THERMAL OR THERMAL AVERAGE VALUE USEFUL.
O: NEEDED FOR CALCULATION OF FISSION PRODUCT POISONS.

837	25.3	MV				3	CAN	W.H.WALKER	CRC	691810R

Q: FOR THE ISOMERIC STATE (105 D).
A: ACCURACY REQUIRED 900 BARNS.
O: FISSION PRODUCT.

52 TELLURIUM 129 NEUTRON CAPTURE CROSS SECTION

838	25.3	MV				3	CAN	W.H.WALKER	CRC	691811R

Q: FOR THE ISOMERIC STATE (33 D).
A: ACCURACY REQUIRED 1000 BARNS.
O: FISSION PRODUCT.

53 IODINE 127 NEUTRON N,2N

839	10.0	MEV	14.6	MEV	5.0%	2	EUR	NEUTRON DOSIMETRY GROUP	GEL	742134R

O: FOR NEUTRON DOSIMETRY USING SPECTRUM UNFOLDING METHODS.
MORE THAN 25 PERCENT DISCREPANCY BETWEEN INTEGRAL AND DIFFERENTIAL MEASUREMENTS.

53 IODINE 129 NEUTRON CAPTURE CROSS SECTION

840	1.00	KEV	10.0	MEV	20.0%	2	USA	R.E.SCHENTER	HED	741087R

Q: RADIOACTIVE TARGET - 15.9 MILLION YEARS.
O: CALCULATION OF FISSION PRODUCT POISON FOR FAST REACTORS.

841	10.0	MV	1.00	MEV	20.0%	1	GER	H.KUESTERS	KFK	792223R

Q: EVALUATION WANTED.
O: FOR THERMAL REACTORS.
M: NEW REQUEST.

53 IODINE 133 NEUTRON CAPTURE CROSS SECTION

842	1.00	MV	1.00	KEV	20.0%	2	USA	N.STEEN	BET	671024R

Q: RADIOACTIVE TARGET 21 HOURS.
A: ACCURACY 10 PERCENT IF CROSS SECTION LARGER THAN 9000 BARNS.
ABOVE 1 EV RESONANCE INTEGRAL WANTED TO 20 PERCENT IF BETWEEN 9000 AND 90000 BARNS AND 10 PERCENT IF LARGER THAN 90000 BARNS.
O: WANTED FOR FISSION PRODUCT POISON CALCULATIONS.

53 IODINE 135 — GAMMA RAY YIELD

843 — 10. % — 3 — JAP — H.SHIMOJIMA — TOS — 762004N

Q: YIELD PER DISINTEGRATION OF 527,1132,1260 AND 1458 KEV GAMMA RAYS REQUIRED.
(FOLLOWING BETA DECAY EVENT)
O: DETECTION OF FAILED FUEL

53 IODINE 137 — GAMMA RAY YIELD

844 — 10. % — 3 — JAP — H.SHIMOJIMA — TOS — 762005N

Q: YIELD PER DESINTEGRATION OF MAJOR GAMMA RAYS REQUIRED.
(FOLLOWING BETA DECAY EVENT)
O: DETECTION OF FAILED FUEL

53 IODINE 138 — GAMMA RAY YIELD

845 — 10. % — 3 — JAP — H.SHIMOJIMA — TOS — 762006N

Q: YIELD PER DISINTEGRATION OF 589 KEV GAMMA RAY REQUIRED.
(FOLLOWING BETA DECAY EVENT)
O: DETECTION OF FAILED FUEL

53 IODINE 139 — HALF LIFE

846 — 10. % — 3 — JAP — H.SHIMOJIMA — TOS — 762013N

O: DETECTION OF FAILED FUEL

53 IODINE 139 — GAMMA RAY YIELD

847 — 10. % — 3 — JAP — H.SHIMOJIMA — TOS — 762007N

Q: YIELD PER DISINTEGRATION OF MAJOR GAMMA RAYS REQUIRED.
(FOLLOWING BETA DECAY EVENT)
O: DETECTION OF FAILED FUEL

54 XENON 131 — NEUTRON — CAPTURE CROSS SECTION

848 — 1.00 MV — 1.00 KEV — 10.0% — 1 — USA — N.STEEN — BET — 671025R

Q: THERMAL CROSS SECTION AND RESONANCE INTEGRAL WANTED.
A: ENERGIES ABOVE 1 EV OF INTEREST TO GIVE 10 PERCENT ACCURACY IN RESONANCE INTEGRAL.
O: FISSION PRODUCT.
M: SUBSTANTIAL MODIFICATIONS.

849 — 1.00 MV — 1.00 KEV — 10.0% — 2 — USA — P.GREEBLER — GEB — 671026R

Q: THERMAL CROSS SECTION AND RESONANCE INTEGRAL WANTED.
A: ENERGIES ABOVE 1 EV OF INTEREST TO GIVE 10 PERCENT ACCURACY IN RESONANCE INTEGRAL.
O: FISSION PRODUCT.
M: NEW REQUEST.

850 — 10.0 MV — 5.00 KEV — 10.0% — 2 — FR — H.TELLIER — SAC — 732064R

O: REACTOR CALCULATIONS.

851 — 100. EV — 500. KEV — 20.0% — 2 — JAP — S.IIJIMA, H.MATSUNOBU — NIG, SAE — 752014R

O: FOR FAST REACTOR BURNUP CALCULATIONS.
EVALUATIONS ARE ALSO REQUIRED.
EVALUATIONS ARE VERY DISCREPANT.
NO KEV DATA AT ALL.
SEE ALSO REQUEST NUMBER 792069.
M: SUBSTANTIAL MODIFICATIONS.

54 XENON 131 — NEUTRON — RESONANCE PARAMETERS

852 — 100. EV — 500. KEV — 20.0% — 2 — JAP — S.IIJIMA, H.MATSUNOBU — NIG, SAE — 792069R

O: FOR FAST REACTOR BURNUP CALCULATIONS.
SEE ALSO REQUEST NUMBER 752014.
NO KEV DATA AT ALL.
EVALUATIONS ARE VERY DISCREPANT.
EVALUATIONS ARE ALSO REQUIRED.
M: NEW REQUEST.

54 XENON 133 — NEUTRON — CAPTURE CROSS SECTION

853 — 25.3 MV — 10.0% — 2 — USA — P.GREEBLER — GEB — 671027R

Q: RADIOACTIVE TARGET 5.3 DAYS.
THERMAL OR THERMAL AVERAGE VALUE WANTED.
O: WANTED FOR FISSION PRODUCT POISON CALCULATIONS.

854 — 1.00 MV — 1.00 KEV — 5.0% — 3 — DEN — C.F.HOEJERUP — RIS — 712045R

O: WANTED FOR FISSION PRODUCT CALCULATIONS.

855	1.00	MV	5.00	KEV	10.0%	2	USA	N.STEEN	BET	741088R

Q: RADIOACTIVE TARGET - 5.29 DAY.
THERMAL CROSS SECTION AND RESONANCE INTEGRAL WANTED.
O: FOR FISSION PRODUCT POISON CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

54 XENON 135 NEUTRON CAPTURE CROSS SECTION

856	1.00	MV	2.00	EV	5.0%	2	USA	R.H.DAHLBERG	GA	671028R

Q: RADIOACTIVE TARGET 9.17 HOUR.
O: FOR DESIGN OF THORIUM CYCLE REACTORS.

857	10.0	MV	5.00	KEV	10.0%	2	FR	H.TELLIER	SAC	732065R

O: REACTOR CALCULATIONS.

858	1.00	MV	5.00	KEV		1	USA	N.STEEN	BET	741089R

Q: RADIOACTIVE TARGET - 9.17 HOUR.
A: ACCURACY REQUIRED - BELOW 5 EV, 2 PERCENT, ABOVE 5 EV, 5 PERCENT.
O: FOR FISSION PRODUCT POISON CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

859	1.00	MV	5.00	EV	3.0%	2	USA	F.FEINER	KAP	761070R

O: BETTER DATA NEEDED TO IMPROVE XENON POISONING CALCULATIONS.
M: NEW REQUEST.

54 XENON 135 NEUTRON ENERGY DIFF. PHOTON-PRODUCTION CROSS SECTION

860	25.3	MV				2	USA	F.FEINER	KAP	671029R

Q: RADIOACTIVE TARGET 9.17 HOUR.
GAMMA RAY SPECTRA WANTED FOR GAMMA RAY ENERGIES BETWEEN 1 AND 8 MEV.
A: GAMMA RESOLUTION 10-20 PERCENT.
O: NEEDED FOR GAMMA SHIELDING AND HEATING CALCULATIONS.

54 XENON 139 GAMMA RAY YIELD

861					10. %	3	JAP	H.SHIMOJIMA	TOS	762008N

Q: YIELD PER DISINTEGRATION OF 175,219,290,297 AND 393 KEV GAMMA RAYS REQUIRED.
(FOLLOWING BETA DECAY EVENT)
O: DETECTION OF FAILED FUEL

55 CESIUM 133 NEUTRON ABSORPTION CROSS SECTION

862	500.	EV	15.0	MEV	30.0%	2	FR	B.DUCHEMIN	SAC	732069R

O: FOR FAST REACTOR CALCULATIONS.

55 CESIUM 133 NEUTRON CAPTURE CROSS SECTION

863	25.3	MV			3.0%	2	CCP	S.A.SKVORTSOV O.A.MILLER	KUR KUR	704007N

Q: ALSO WANTED FOR .06 EV INCIDENT NEUTRONS.
O: FOR ASSAY OF U AND PU IN FUEL ELEMENTS FROM FISSION PRODUCT GAMMA RADIATION.

864	25.3	MV	14.0	MEV	3.0%	1	JAP	H.OKASHITA	JAE	722021N

Q: RESONANCE INTEGRAL ALSO WANTED.
O: FOR BURN UP CALCULATION FROM NON-DESTRUCTIVE MEASUREMENT.

865	100.	EV	500.	KEV	10.0%	1	JAP	S.IIJIMA H.MATSUNOBU	NIG SAE	752015R

O: FOR FAST REACTOR BURNUP CALCULATIONS.
EVALUATIONS ARE ALSO REQUIRED.
SYSTEMATIC DISCREPANCY BETWEEN THE KEV DATA SETS.
M: SUBSTANTIAL MODIFICATIONS.

55 CESIUM 133 NEUTRON CAPTURE RESONANCE INTEGRAL

866	0.50	EV	1.00	KEV	10.0%	1	USA	P.GREEBLER N.STEEN	GEB BET	671032R

O: FOR CALCULATION OF FISSION PRODUCT POISONS.

55 CESIUM 134 GAMMA RAY YIELD

867					1.0%	2	JAP	H.OKASHITA	JAE	722007N

Q: YIELD PER DISINTEGRATION OF 563,569,796,802 AND 1365 KEV GAMMA RAYS REQUIRED.
(FOLLOWING BETA DECAY EVENT)
O: FOR BURN UP CALCULATION FROM NON-DESTRUCTIVE MEASUREMENT.

55 CESIUM 134 NEUTRON CAPTURE CROSS SECTION

868 25.3 MV 3.0% 2 CCP S.A.SKVORTSOV KUR 704008N
O.A.MILLER KUR
Q: ALSO WANTED FOR .06 EV INCIDENT NEUTRONS.
O: FOR ASSAY OF U AND PU IN FUEL ELEMENTS FROM FISSION PRODUCT GAMMA RADIATION.

869 25.3 MV 3.0% 1 JAP H.OKASHITA JAE 722022N
Q: RESONANCE INTEGRAL ALSO WANTED.
O: FOR BURN UP CALCULATION FROM NON-DESTRUCTIVE MEASUREMENT.

870 25.3 MV 10.0 MEV 20. % 1 JAP K.TASAKA JAE 762024N
Q: CROSS SECTION VALUES AT HIGHER NEUTRON ENERGIES ARE NEEDED, AS WELL AS AT THERMAL ENERGY.
A: 10 PER CENT ACCURACY FOR 25.3 MV, 20 PER CENT ACCURACY FOR HIGHER ENERGY REGION.
O: BURN-UP DETERMINATION BASED ON ABSOLUTE MEASUREMENT OF ACTIVITY RATIO CS-134/CS-137 ESTIMATION OF THE DECAY POWER OF FISSION PRODUCTS

871 10.0 MV 1.00 MEV 20.0% 1 GER H.KUESTERS KFK 792224R
Q: EVALUATION WANTED.
C: FOR THERMAL REACTORS.
M: NEW REQUEST.

55 CESIUM 135 NEUTRON CAPTURE CROSS SECTION

872 1.00 MV 10.0 KEV 10.0% 2 USA N.STEEN BET 741090R
Q: RADIOACTIVE TARGET - 3.3 MILLION YEARS. THERMAL CROSS SECTION AND RESONANCE INTEGRAL WANTED.
O: FOR FISSION PRODUCT POISON CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

873 1.00 KEV 10.0 MEV 10.0% 1 USA R.E.SCHENTER HED 741091R
Q: RADIOACTIVE TARGET - 3.3 MILLION YEARS.
O: CALCULATION OF FISSION PRODUCT POISON FOR FAST REACTORS.

874 100. EV 500. KEV 10.0% 1 JAP S.IIJIMA NIG 752016R
H.MATSUNOBU SAE
O: FOR FAST REACTOR BURNUP CALCULATIONS. EVALUATIONS ARE VERY DISCREPANT. NO DATA AT ALL. NO EXPERIMENTAL DATA FROM 100 EV TO 400 KEV.
M: SUBSTANTIAL MODIFICATIONS.

55 CESIUM 137 NEUTRON CAPTURE CROSS SECTION

875 25.3 MV 10.0% 2 CCP S.A.SKVORTSOV KUR 704013N
O.A.MILLER KUR
Q: ALSO WANTED FOR .06 EV INCIDENT NEUTRONS.
O: FOR ASSAY OF U AND PU IN FUEL ELEMENTS FROM FISSION PRODUCT GAMMA RADIATION.

56 BARIUM 133 MISC

876 3. % 3 JAP K.HISATAKE TIT 762207R
Q: RELATIVE YIELDS OF 53.2,79.6,81.0,160.6,276.4,302. AND 356.0 KEV GAMMA RAYS
O: INTENSITY STANDARDS FOR GAMMA RAY MEASUREMENTS.

56 BARIUM 140 NEUTRON CAPTURE CROSS SECTION

877 25.3 MV 5.0% 3 CCP S.A.SKVORTSOV KUR 704015N
O.A.MILLER KUR
Q: ALSO WANTED FOR .06 EV INCIDENT NEUTRONS.
O: FOR ASSAY OF U AND PU IN FUEL ELEMENTS FROM FISSION PRODUCT GAMMA RADIATION.

57 LANTHANUM 140 GAMMA RAY YIELD

878 1.0% 2 CCP S.A.SKVORTSOV KUR 704016N
O.A.MILLER KUR
Q: YIELD OF GAMMA QUANTA PER BETA DECAY EVENT WANTED FOR 328.8 AND 815.8 KEV GAMMAS.
C: FOR ASSAY OF U AND PU IN FUEL ELEMENTS FROM FISSION PRODUCT GAMMA RADIATION.

879 1.0% 2 JAP K.TASAKA JAE 722009N
Q: YIELD PER DISINTEGRATION OF 328.8, 487.0, 815.8, AND 2522.0 KEV GAMMA RAYS REQUIRED. (FOLLOWING BETA DECAY EVENT)
O: FOR BURN UP CALCULATION FROM NON-DESTRUCTIVE MEASUREMENT.

58 CERIUM 144 GAMMA RAY YIELD

880					1.0%	2	CCP	S.A.SKVORTSOV O.A.MILLER	KUR KUR	704018N

Q: YIELD OF GAMMA QUANTA PER BETA DECAY EVENT WANTED FOR 133.5 KEV GAMMA.
C: FOR ASSAY OF U AND PU IN FUEL ELEMENTS FROM FISSION PRODUCT GAMMA RADIATION.

881					1.0%	2	JAP	H.OKASHITA	JAE	722011N

Q: YIELD PER DISINTEGRATION OF 133.5 KEV GAMMA RAY REQUIRED. (FOLLOWING BETA DECAY EVENT)
O: FOR BURN UP CALCULATION FROM NON-DESTRUCTIVE MEASUREMENT.

58 CERIUM 144 NEUTRON CAPTURE CROSS SECTION

882	1.00	KEV	10.0	MEV	10.0%	1	USA	R.E.SCHENTER	HED	741093R

Q: RADIOACTIVE TARGET - 284 DAY.
O: CALCULATION OF FISSION PRODUCT POISON FOR FAST REACTORS.

59 PRASEODYMIUM 141 NEUTRON CAPTURE CROSS SECTION

883	25.3	MV	14.0	MEV	3.0%	1	JAP	H.OKASHITA	JAE	722023N

Q: RESONANCE INTEGRAL ALSO WANTED.
O: FOR BURN UP CALCULATION FROM DESTRUCTIVE MEASUREMENT.

59 PRASEODYMIUM 144 GAMMA RAY YIELD

884					1.0%	1	JAP	H.OKASHITA	JAE	722012N

Q: YIELD PER DISINTEGRATION OF 696.5, 1498.1, AND 2185.7 KEV GAMMA RAYS REQUIRED. (FOLLOWING BETA DECAY EVENT)
O: FOR BURN UP CALCULATION FROM NON-DESTRUCTIVE MEASUREMENT.

60 NEODYMIUM 143 NEUTRON CAPTURE CROSS SECTION

885	1.00	MV	1.00	KEV	10.0%	1	USA	P.GREEBLER	GEB	671035R

Q: THERMAL CROSS SECTION AND RESONANCE INTEGRAL WANTED.
A: ENERGIES ABOVE 1 EV OF INTEREST TO GIVE 10 PERCENT IN RESONANCE INTEGRAL.
O: FOR CALCULATION OF FISSION PRODUCT POISONS.
M: NEW REQUEST.

886	100.	EV	400.	KEV	20.0%	1	JAP	S.IIJIMA H.MATSUNOBU	NIG SAE	752017R

Q: DESIRED WITH LOWER PRIORITY FOR WIDER ENERGY RANGE
O: FOR FAST REACTOR CALCULATIONS.

60 NEODYMIUM 143 NEUTRON CAPTURE RESONANCE INTEGRAL

887	0.50	EV	1.00	KEV	5.0%	1	USA	N.STEEN F.FEINER	BET KAP	671034R

O: FOR CALCULATION OF FISSION PRODUCT POISONS.
M: SUBSTANTIAL MODIFICATIONS.

60 NEODYMIUM 145 NEUTRON CAPTURE CROSS SECTION

888	1.00	MV	1.00	KEV	10.0%	1	USA	P.GREEBLER	GEB	671037R

Q: THERMAL CROSS SECTION AND RESONANCE INTEGRAL WANTED.
A: ENERGIES ABOVE 1 EV OF INTEREST TO GIVE 10 PERCENT IN RESONANCE INTEGRAL.
O: FOR CALCULATION OF FISSION PRODUCT POISONS.
M: NEW REQUEST.

889	1.00	KEV	10.0	MEV	10.0%	1	USA	R.E.SCHENTER	HED	741094R

O: CALCULATION OF FISSION PRODUCT POISON FOR FAST REACTORS.

890	100.	EV	400.	KEV	20.0%	1	JAP	S.IIJIMA H.MATSUNOBU	NIG SAE	752018R

Q: DESIRED WITH LOWER PRIORITY FOR WIDER ENERGY RANGE
O: FOR FAST REACTOR CALCULATIONS.
NO EXPERIMENTAL DATA FROM 100 EV TO 400 KEV.

60 NEODYMIUM 145 NEUTRON CAPTURE RESONANCE INTEGRAL

891	0.50	EV	1.00	KEV	10.0%	1	USA	N.STEEN	BET	671036R

O: FOR CALCULATION OF FISSION PRODUCT POISONS.
M: SUBSTANTIAL MODIFICATIONS.

60 NEODYMIUM 146 NEUTRON CAPTURE CROSS SECTION

892	500.	EV	200.	KEV	20.0%	2	FR	P.HAMMER	CAD	732075R

Q: BURN UP STUDY.

60 NEODYMIUM 147 NEUTRON CAPTURE CROSS SECTION

893	1.00	MV	1.00	KEV		2	USA	F.FEINER	KAP	671039R

Q: RADIOACTIVE TARGET, 11 DAYS.
THERMAL CROSS SECTION AND RESONANCE INTEGRAL WANTED.
M: SUBSTANTIAL MODIFICATIONS.

894	1.00	MV	1.00	KEV		2	USA	N.STEEN	BET	671040R

Q: RADIOACTIVE TARGET - 11 DAYS.
THERMAL CROSS SECTION AND RESONANCE INTEGRAL WANTED.
A: ACCURACY *REQUIRED - 5 TO 10 PERCENT.*
M: NEW REQUEST.

895	25.3	MV				2	CAN	W.H.WALKER	CRC	691812R

A: REQUIRED WITH 350 BARN ACCURACY.
O: FISSION PRODUCT WITH UNKNOWN CROSS SECTION.

896	1.00	MV	1.00	KEV	5.0%	3	DEN	C.F.HOEJERUP	RIS	712046R

O: WANTED FOR FISSION PRODUCT CALCULATIONS.

897	10.0	MV	5.00	KEV	10.0%	1	FR	H.TELLIER	SAC	732076R

O: BURN UP PHYSICS.

60 NEODYMIUM 148 NEUTRON CAPTURE CROSS SECTION

898	500.	EV	200.	KEV	20.0%	2	FR	P.HAMMER	CAD	732077R

O: BURN UP STUDY.

61 PROMETHIUM 147 NEUTRON CAPTURE CROSS SECTION

899	1.00	MV	1.00	KEV	5.0%	3	DEN	C.F.HOEJERUP	RIS	712047R

O: WANTED FOR FISSION PRODUCT CALCULATIONS.

900	100.	EV	500.	KEV	10.0%	1	JAP	S.IIJIMA H.MATSUNOBU	NIG SAE	752019R

O: FOR FAST REACTOR CALCULATIONS.
NO KEV DATA.
M: SUBSTANTIAL MODIFICATIONS.

61 PROMETHIUM 148 NEUTRON CAPTURE CROSS SECTION

901	1.00	MV	1.00	KEV	10.0%	2	USA	N.STEEN P.GREEBLER	BET GEB	671044R

Q: RADIOACTIVE TARGET - 41 DAY ISOMER.
THERMAL CROSS SECTION AND RI WANTED.
A: ENERGIES ABOVE 1.0 EV OF INTEREST TO GIVE 10 PERCENT IN RESONANCE INTEGRAL.
O: FOR CALCULATION OF FISSION PRODUCT POISONS.
M: SUBSTANTIAL MODIFICATIONS.

902	1.00	MV	1.00	KEV	10.0%	2	USA	N.STEEN P.GREEBLER	BET GEB	671046R

Q: RADIOACTIVE TARGET - 5.37 DAY.
THERMAL CROSS SECTION AND RI WANTED.
LOOK FOR 1/V ABOVE 1 EV.
O: FOR FISSION PRODUCT POISON CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

903	1.00	MV	1.00	EV	10.0%	2	USA	F.FEINER	KAP	671048R

Q: RADIOACTIVE TARGET - 5.37 DAY.
THERMAL AVERAGE OR VALUE AT 0.025 EV WANTED.
O: FOR FISSION PRODUCT POISON CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

904	5.00	EV	500.	EV	20.0%	3	CAN	W.H.WALKER	CRC	691813R

Q: *FOR THE ISOMERIC STATE (42 D).*
ADDITIONAL DATA NEEDED TO DETERMINE DEPENDENCE ON NEUTRON TEMPERATURE AND EPITHERMAL FLUX.

905	10.0	MV	1.00	MEV	20.0%	1	GER	H.KUESTERS	KFK	792226R

Q: TARGET IN METASTABLE STATE.
EVALUATION WANTED.
O: FOR THERMAL REACTORS.
M: NEW REQUEST.

61 PROMETHIUM 149 NEUTRON CAPTURE CROSS SECTION

906	1.00	MV	1.00	KEV	20.0%	2	USA	N.STEEN P.GREEBLER	BET GEB	671049R

Q: RADIOACTIVE TARGET - 53 HOUR.
THERMAL CROSS SECTION AND RI WANTED.
A: ACCURACY 10 PERCENT WANTED IF CROSS SECTION GREATER THAN 1000 BARNS, 20 PERCENT IF BETWEEN 10 AND 1000 BARNS.
ENERGIES ABOVE 1 EV OF INTEREST TO GIVE RESONANCE INTEGRAL TO 10 PERCENT IF GREATER THAN 10000 BARNS OR 20 PERCENT IF BETWEEN 1000 AND 10000 BARNS.
M: SUBSTANTIAL MODIFICATIONS.

907	1.00	MV	1.00	EV	20.0%	2	USA	F.FEINER	KAP	671051R

Q: RADIOACTIVE TARGET - 53 HOUR.
THERMAL AVERAGE OR VALUE AT 0.025 EV WANTED.
A: ACCURACY 10 PERCENT WANTED IF CROSS SECTION GREATER THAN 1000 BARNS, 20 PERCENT IF BETWEEN 10 AND 1000 BARNS.
M: SUBSTANTIAL MODIFICATIONS.

61 PROMETHIUM 151 NEUTRON CAPTURE CROSS SECTION

908	1.00	MV	1.00	KEV	10.0%	2	USA	N.STEEN P.GREEBLER	BET GEB	671057R

Q: RADIOACTIVE TARGET 28 HOUR.
THERMAL CROSS SECTION AND RI WANTED.
A: ENERGIES ABOVE 1 EV OF INTEREST TO GIVE RESONANCE INTEGRAL TO 10 PERCENT.
O: FOR CALCULATION OF FISSION PRODUCT POISONS.

62 SAMARIUM 147 NEUTRON CAPTURE CROSS SECTION

909	500.	EV	200.	KEV	20.0%	1	FR	P.HAMMER	CAD	732079R

Q: RELATIVE VALUE VERSUS ENERGY OR VALUE RELATIVE TO CAPTURE IN ANOTHER NUCLEUS SUCH AS U-238.
O: FISSION PRODUCT EFFECT IN FAST REACTORS.

62 SAMARIUM 149 NEUTRON CAPTURE CROSS SECTION

910	1.00	MV	1.00	KEV	5.0%	3	DEN	C.F.HOEJERUP	RIS	712048R

O: WANTED FOR FISSION PRODUCT CALCULATIONS.

911	1.00	KEV	10.0	MEV	10.0%	1	USA	R.E.SCHENTER	HED	741095R

O: CALCULATION OF FISSION PRODUCT POISON FOR FAST REACTORS.

912	100.	EV	500.	KEV	10.0%	1	JAP	S.IIJIMA H.MATSUNOBU	NIG SAE	752020R

O: FOR FAST REACTOR BURNUP CALCULATIONS.
DISCREPANCY BETWEEN STEK DATA AND RECENT DIFFERENTIAL DATA.
NO EXPERIMENTAL DATA EXCEPT A MEASUREMENT AT 30 KEV.
M: SUBSTANTIAL MODIFICATIONS.

913	1.00	MV	0.50	EV	10.0%	2	USA	N.STEEN	BET	761058R

O: IMPORTANT THERMAL FISSION PRODUCT.
M: NEW REQUEST.

62 SAMARIUM 151 NEUTRON CAPTURE CROSS SECTION

914	1.00	MV	1.00	KEV	5.0%	2	USA	N.STEEN P.GREEBLER	BET GEB	671054R

Q: RADIOACTIVE TARGET - 93 YEARS.
THERMAL CROSS SECTION AND RI WANTED.
A: DESIRED ENERGY RESOLUTION 5 PERCENT.
ENERGIES ABOVE 1 EV OF INTEREST TO GIVE RESONANCE INTEGRAL TO 10 PERCENT.
O: WANTED FOR CALCULATION OF FISSION PRODUCT POISONS.
M: SUBSTANTIAL MODIFICATIONS.

915	10.0	MV	5.00	KEV	10.0%	2	FR	H.TELLIER	SAC	732082R

O: REACTOR CALCULATIONS.

916	1.00	KEV	10.0	MEV	10.0%	1	USA	R.E.SCHENTER	HED	741096R

Q: RADIOACTIVE TARGET - 93 YEARS.
O: CALCULATION OF FISSION PRODUCT POISON FOR FAST REACTORS.

917	100.	EV	500.	KEV	10.0%	1	JAP	S.IIJIMA H.MATSUNOBU	NIG SAE	752021R

O: FOR FAST REACTOR BURNUP CALCULATIONS.
NO KEV DATA.
M: SUBSTANTIAL MODIFICATIONS.

918	10.0	MV	1.00	MEV	20.0%	1	GER	H.KUESTERS	KFK	792225R

Q: EVALUATION WANTED.
M: NEW REQUEST.

62 SAMARIUM 153 NEUTRON CAPTURE CROSS SECTION

919	1.00	MV	1.00	KEV		2	USA	N.STEEN F.FEINER	BET KAP	671061R

Q: RADIOACTIVE TARGET - 47 HOURS.
THERMAL CROSS SECTION AND RI WANTED.
A: ACCURACY OF 10 PERCENT REQUIRED IF CROSS SECTION GREATER THAN 30000 BARNS, 20 PERCENT IF LOWER.
ENERGIES ABOVE 1 EV OF INTEREST TO GIVE RESONANCE INTEGRAL TO 20 PERCENT IF BETWEEN 30 AND 300 BARNS OR 10 PERCENT IF LARGER.
O: FOR CALCULATION OF FISSION PRODUCT POISONS.
M: SUBSTANTIAL MODIFICATIONS.

920	25.3	MV				3	CAN	W.H.WALKER	CRC	691814R

A: REQUIRED WITH A 10000 BARN ACCURACY.
O: FISSION PRODUCT WITH UNKNOWN CROSS SECTION.

63 EUROPIUM NEUTRON TOTAL CROSS SECTION

921	1.00	EV	15.0	MEV	15.0%	2	USA	P.GREEBLER P.B.HEMMIG	GEB DOE	741097R

O: NEEDED FOR RESONANCE SELF-SHIELDING.

63 EUROPIUM NEUTRON CAPTURE CROSS SECTION

922	100.	EV	15.0	MEV	10.0%	2	UK	C.G.CAMPBELL	WIN	732111R

O: EVALUATION REQUIREMENT.
FOR FAST REACTORS.

63 EUROPIUM 151 NEUTRON CAPTURE CROSS SECTION

923	25.3	MV	5.00	KEV	5.0%	3	FR	H.TELLIER	SAC	732084R

O: REACTOR CALCULATIONS.

924	1.00	KEV	1.00	MEV	5.0%	1	USA	P.B.HEMMIG	DOE	741099R
925	1.00	KEV	1.00	MEV	10.0%	2	USA	P.B.HEMMIG F.G.PEREY	DOE ORL	741102R

Q: RATIO GROUND STATE TO ISOMER CAPTURE WANTED.

926	0.50	EV	5.00	KEV	5.0%	1	USA	P.GREEBLER	GEB	761076R

M: NEW REQUEST.

927	1.00	EV	2.00	MEV	10.0%	2	FR	P.HAMMER	CAD	792019R

M: NEW REQUEST.

928	100.	EV	15.0	MEV	15.0%	2	UK	C.G.CAMPBELL	WIN	792134R

C: FOR FAST REACTORS.
M: NEW REQUEST.

63 EUROPIUM 151 NEUTRON CAPTURE GAMMA RAY SPECTRUM

929	1.00	KEV	1.00	MEV	10.0%	2	USA	P.B.HEMMIG F.G.PEREY	DOE ORL	741100R

63 EUROPIUM 152 NEUTRON CAPTURE CROSS SECTION

930	1.00	MV	1.00	KEV	10.0%	1	USA	P.GREEBLER	GEB	761077R

Q: RADIOACTIVE TARGET- 13 YEARS
ALSO REQUIRE RESONANCE PARAMETERS AND RESONANCE INTEGRAL.
M: NEW REQUEST.

63 EUROPIUM 153 NEUTRON CAPTURE CROSS SECTION

931	1.00	MV	5.00	KEV		1	USA	P.GREEBLER	GEB	671064R

A: ACCURACY OF 2 PERCENT NEAR THERMAL AND 5 PERCENT ABOVE.
ENERGIES ABOVE 1 EV OF INTEREST TO GIVE RESONANCE INTEGRAL TO 10 PERCENT.
O: FOR CALCULATION OF FISSION PRODUCT POISON.
M: SUBSTANTIAL MODIFICATIONS.

932	25.3	MV	14.0	MEV	5.0%	1	JAP	H.OKASHITA	JAE	722038N

Q: RESONANCE INTEGRAL ALSO WANTED.
O: FOR BURN UP CALCULATION FROM NON-DESTRUCTIVE MEASUREMENT.

933	1.00	EV	5.00	KEV	10.0%	3	FR	H.TELLIER	SAC	732085R

O: REACTOR CALCULATIONS.

934	1.00	KEV	1.00	MEV	5.0%	1	USA	P.B.HEMMIG	DOE	741105R
935	1.00	EV	2.00	MEV	10.0%	2	FR	P.HAMMER	CAD	792020R

M: NEW REQUEST.

936	100.	EV	15.0	MEV	15.0%	2	UK	C.G.CAMPBELL	WIN	792135R

Q: FOR FAST REACTORS.
M: NEW REQUEST.

63 EUROPIUM 153 NEUTRON CAPTURE GAMMA RAY SPECTRUM

937	1.00	KEV	1.00	MEV	10.0%	2	USA	P.B.HEMMIG F.G.PEREY	DOE ORL	741106R

63 EUROPIUM 154 NEUTRON CAPTURE CROSS SECTION

938	1.00	MV	1.00	KEV	10.0%	1	USA	P.GREEBLER	GEB	671067R

Q: RADIOACTIVE TARGET - 8.6 YEARS.
THERMAL CROSS SECTION AND RI WANTED.
RESONANCE PARAMETERS WANTED.
A: ENERGIES ABOVE 1 EV OF INTEREST TO GIVE RESONANCE INTEGRAL TO 10 PERCENT.
O: FOR CALCULATION OF FISSION PRODUCT POISONS.
M: NEW REQUEST.

939	25.3	MV			5.0%	1	JAP	H.OKASHITA	JAE	722039N

Q: RESONANCE INTEGRAL ALSO WANTED.
O: FOR BURN UP CALCULATION FROM NON-DESTRUCTIVE MEASUREMENT.

63 EUROPIUM 155 GAMMA RAY YIELD

940					1.0%	2	JAP	K.TASAKA	JAE	722015N

Q: YIELD PER DISINTEGRATION OF 86.5 AND 105.3 KEV GAMMA RAYS REQUIRED.
(FOLLOWING BETA DECAY EVENT)
O: FOR BURN UP CALCULATION FROM NON-DESTRUCTIVE MEASUREMENT.

63 EUROPIUM 155 NEUTRON CAPTURE CROSS SECTION

941	1.00	MV	1.00	KEV	10.0%	1	USA	P.GREEBLER	GEB	671069R

Q: RADIOACTIVE TARGET - 4.8 YEARS.
THERMAL CROSS SECTION AND RI WANTED.
RESONANCE PARAMETERS NEEDED.
A: ENERGIES ABOVE 1 EV OF INTEREST TO GIVE RESONANCE INTEGRAL TO 10 PERCENT.
O: FOR CALCULATION OF FISSION PRODUCT POISONS.
M: NEW REQUEST.

942	1.00	MV	1.00	KEV	5.0%	3	DEN	C.F.HOEJERUP	RIS	712050R

O: WANTED FOR FISSION PRODUCT CALCULATIONS.

943	1.00	KEV	10.0	MEV	20.0%	2	USA	R.E.SCHENTER	HED	741108R

Q: RADIOACTIVE TARGET - 4.8 YEARS.
O: CALCULATIONS OF FISSION PRODUCT POISON FOR FAST REACTORS.

63 EUROPIUM 156 NEUTRON CAPTURE CROSS SECTION

944	25.3	MV				3	CAN	W.H.WALKER	CRC	691815R

A: REQUIRED WITH A 700 BARN ACCURACY.
O: FISSION PRODUCT WITH UNKNOWN CROSS SECTION.

64 GADOLINIUM NEUTRON DIFFERENTIAL ELASTIC CROSS SECTION

945	1.50	MEV	10.0	MEV	10.0%	1	USA	P.GREEBLER	GEB	671070R

64 GADOLINIUM NEUTRON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

946	1.50	MEV	10.0	MEV	15.0%	1	USA	P.GREEBLER	GEB	671071R

A: INCIDENT AND EXIT RESOLUTION 15 PERCENT.
O: FOR DESIGN OF THERMAL REACTORS HAVING APPRECIABLE QUANTITIES OF GD.

64 GADOLINIUM NEUTRON CAPTURE RESONANCE INTEGRAL

947	0.50	EV			5.0%	1	USA	P.GREEBLER	GEB	691180R

O: FOR EVALUATING RESONANCE PARAMETERS.

64 GADOLINIUM 155 NEUTRON CAPTURE CROSS SECTION

948	0.50	EV	1.00	KEV	5.0%	1	USA	P.GREEBLER	GEB	671072R

A: ENERGIES ABOVE 1 EV OF INTEREST TO GIVE RESONANCE INTEGRAL TO 5 PERCENT.
O: NEEDED TO DEFINE NEGATIVE ENERGY RESONANCE IN EITHER GD-155 OR GD-157.

949	10.0	MV	5.00	KEV	5.0%	2	FR	H.TELLIER	SAC	732086R

Q: CONSUMABLE POISON.

64 GADOLINIUM 155 NEUTRON RESONANCE PARAMETERS

950	UP TO	500.	EV	10.0%	1	USA	P.GREEBLER	GEB	691182R

Q: NEUTRON AND CAPTURE WIDTH NEEDED.
MINIMUM ENERGY MUST INCLUDE LOWEST RESOLVED RESONANCE.
O: REQUIRED TO VERIFY EXISTING MEASUREMENTS.

64 GADOLINIUM 155 NEUTRON CAPTURE RESONANCE INTEGRAL

951	0.50	EV			5.0%	1	USA	P.GREEBLER	GEB	691181R

Q: ENERGY REQUESTED IS A MINIMUM VALUE ONLY.
O: FOR EVALUATING RESONANCE PARAMETERS.
NEEDED TO DEFINE NEGATIVE ENERGY RESONANCE IN EITHER GD-155 OR GD-157.

64 GADOLINIUM 156 NEUTRON CAPTURE CROSS SECTION

952	1.00	MV	1.00	KEV	5.0%	1	USA	P.GREEBLER	GEB	671073R

A: ENERGIES ABOVE 1 EV OF INTEREST TO GIVE RESONANCE INTEGRAL TO 5 PERCENT.
O: FOR CALCULATING OF BURN UP IN THERMAL REACTORS.

64 GADOLINIUM 156 NEUTRON RESONANCE PARAMETERS

953	UP TO	2.00	KEV	5.0%	1	USA	P.GREEBLER	GEB	691183R

Q: NEUTRON AND CAPTURE WIDTH NEEDED.
MINIMUM ENERGY TO INCLUDE LOWEST RESOLVED RESONANCE.
O: REQUIRED TO VERIFY EXISTING MEASUREMENTS.

64 GADOLINIUM 156 NEUTRON CAPTURE RESONANCE INTEGRAL

954	0.50	EV			5.0%	1	USA	P.GREEBLER	GEB	691298R

O: FOR EVALUATING RESONANCE PARAMETERS.

64 GADOLINIUM 157 NEUTRON CAPTURE CROSS SECTION

955	0.50	EV	1.00	KEV	5.0%	1	USA	P.GREEBLER	GEB	671074R

A: ENERGIES ABOVE 1 EV OF INTEREST TO GIVE RESONANCE INTEGRAL TO 5 PERCENT.
O: FOR CALCULATION OF BURN UP IN THERMAL REACTORS.

956	1.00	MV	1.00	KEV	5.0%	3	DEN	C.F.HOEJERUP	RIS	712051R

O: WANTED FOR FISSION PRODUCT CALCULATIONS.

957	10.0	MV	5.00	KEV	5.0%	2	FR	H.TELLIER	SAC	732087R

O: CONSUMABLE POISON.

64 GADOLINIUM 157 NEUTRON RESONANCE PARAMETERS

958	UP TO	1.00	KEV	10.0%	1	USA	P.GREEBLER	GEB	691185R

Q: NEUTRON AND CAPTURE WIDTH NEEDED.
MINIMUM ENERGY TO INCLUDE LOWEST RESOLVED RESONANCE.
O: REQUIRED TO VERIFY EXISTING MEASUREMENTS.

64 GADOLINIUM 157 NEUTRON CAPTURE RESONANCE INTEGRAL

959	0.50	EV			5.0%	1	USA	P.GREEBLER	GEB	691184R

O: FOR EVALUATING RESONANCE PARAMETERS.

64 GADOLINIUM 158 NEUTRON RESONANCE PARAMETERS

960	UP TO	2.00	KEV	10.0%	1	USA	P.GREEBLER	GEB	741109R

Q: ELASTIC AND GAMMA WIDTH WANTED.
ENERGY TO INCLUDE LOWEST RESOLVED RESONANCE.
O: TO VERIFY EXISTING MEASUREMENTS.

64 GADOLINIUM 160 NEUTRON RESONANCE PARAMETERS

961	UP TO	2.00	KEV	10.0%	1	USA	P.GREEBLER	GEB	741110R

Q: ELASTIC AND GAMMA WIDTH WANTED.
ENERGY TO INCLUDE LOWEST RESOLVED RESONANCE.
O: TO VERIFY EXISTING MEASUREMENTS.

68 ERBIUM 166 NEUTRON CAPTURE CROSS SECTION

962 1.00 MV 1.00 KEV 5.0% 2 USA P.GREEBLER GEB 781199R

Q: RESONANCE PARAMETERS OF INTEREST.
O: FOR THERMAL AND INTERMEDIATE SPECTRUM REACTORS.
M: NEW REQUEST.

68 ERBIUM 167 NEUTRON CAPTURE CROSS SECTION

963 UP TO 2.00 EV 3.0% 2 USA R.H.DAHLBERG GA 741133R

Q: ENERGY REQUESTED IS A MAXIMUM VALUE ONLY.
O: NEEDED FOR BURNABLE POISON IN TRIGA REACTORS.

964 1.00 MV 1.00 EV 2.0% 1 USA P.GREEBLER GEB 781202R

Q: RESONANCE PARAMETERS OF INTEREST.
O: FOR THERMAL AND INTERMEDIATE SPECTRUM REACTORS.
M: NEW REQUEST.

68 ERBIUM 168 NEUTRON CAPTURE CROSS SECTION

965 1.00 MV 1.00 KEV 5.0% 2 USA P.GREEBLER GEB 781200R

Q: RESONANCE PARAMETERS OF INTEREST.
O: FOR THERMAL AND INTERMEDIATE SPECTRUM REACTORS.
M: NEW REQUEST.

69 THULIUM 169 NEUTRON N,P

966 UP TO 15.0 MEV 10.0% 1 FR C.PHILIS BRC 692290R

Q: PRODUCTION OF ER-169 (9.4 DAY).
O: ACTIVATION DETECTOR.

69 THULIUM 169 NEUTRON N,ALPHA

967 UP TO 15.0 MEV 10.0% 2 FR C.PHILIS BRC 692291R

Q: PRODUCTION OF HO-166 (27 HOUR).
O: ACTIVATION DETECTOR.

70 YTTERBIUM 170 NEUTRON CAPTURE CROSS SECTION

968 1.00 MV 1.00 KEV 5.0% 2 USA P.GREEBLER GEB 781201R

Q: RESONANCE PARAMETERS OF INTEREST.
O: FOR THERMAL AND INTERMEDIATE SPECTRUM REACTORS.
M: NEW REQUEST.

71 LUTETIUM 175 NEUTRON CAPTURE CROSS SECTION

969 1.00 KEV 1.00 MEV 20.0% 3 FR C.PHILIS BRC 682037R

Q: PRODUCTION OF LU-176 (30 THOUSAND-MILLION YEARS) AND LU-176M (3.7 HOURS).
C: ACTIVATION DETECTOR.
DISCREPANCY AT 10 KEV (2.5 AND 7 B).

72 HAFNIUM NEUTRON ELASTIC CROSS SECTION

970 25.3 MV 10.0 MEV 10.0% 2 UK J.FELL WIN 792165R

O: FOR THERMAL REACTORS.
M: NEW REQUEST.

72 HAFNIUM NEUTRON CAPTURE CROSS SECTION

971 1.00 MV 1.00 EV 2.0% 1 USA N.STEEN BET 621024R
F.FEINER KAP

O: NEEDED FOR MONTE CARLO CALCULATIONS OF BURNUP IN THERMAL REACTORS.
TO RESOLVE DISCREPANCIES IN THERMAL DATA.

972 25.3 MV 10.0 MEV 10.0% 2 UK J.FELL WIN 792166R

C: FOR THERMAL REACTORS.
M: NEW REQUEST.

72 HAFNIUM 176 NEUTRON CAPTURE CROSS SECTION

973 1.00 MV 5.00 KEV 1 USA N.STEEN BET 621026R
F.FEINER KAP

A: THERMAL VALUE WANTED TO 20 PERCENT.
BELOW 1 EV, 40 PERCENT ACCURACY NEEDED.
BETWEEN 10 AND 100 EV, TOTAL, NEUTRON AND CAPTURE WIDTHS NEEDED WITH 10 PERCENT ACCURACY.
ABOVE 100 EV, 20 PERCENT ACCURACY REQUIRED.
AVERAGE P-WAVE CAPTURE WIDTH TO 20 PERCENT.
S-WAVE STRENGTH FUNCTION TO 40 PERCENT.
O: TO RESOLVE DISCREPANCIES IN RESONANCE INTEGRAL.
NEEDED FOR MONTE CARLO BURN UP CALCULATIONS.

974	10.0	MV	5.00	KEV	10.0%	1	FR	H.TELLIER	SAC	732088R

Q: REACTOR CALCULATIONS.

72 HAFNIUM 177 NEUTRON CAPTURE CROSS SECTION

975	1.00	MV	5.00	KEV		1	USA	N.STEEN F.FEINER	BET KAP	621028R

A: S-WAVE STRENGTH FUNCTION TO 20 PERCENT.
NEED AVERAGE P-WAVE CAPTURE WIDTH TO 20 PERCENT.
BELOW 1 EV, 4 PERCENT ACCURACY NEEDED.
BETWEEN 10 AND 100 EV, TOTAL, NEUTRON AND CAPTURE WIDTHS NEEDED WITH 10 PERCENT ACCURACY.
ABOVE 100 EV, 20 PERCENT ACCURACY REQUIRED.
5.89, 6.57, AND 8.87 EV RESONANCE WIDTHS 5 PERCENT.
Q: TO RESOLVE DISCREPANCIES IN RESONANCE INTEGRAL.
NEEDED FOR MONTE CARLO BURN UP CALCULATIONS.

976	10.0	MV	5.00	KEV	5.0%	1	FR	H.TELLIER	SAC	692302R

Q: RESONANCE INTEGRAL ALSO WANTED.
A: ACCURACY 1 PERCENT AT THERMAL AND 5 PERCENT FOR RESONANCE INTEGRAL.
Q: EVALUATION MAY SUFFICE IF IT EXPLAINS DISCREPANCIES.

72 HAFNIUM 178 NEUTRON CAPTURE CROSS SECTION

977	1.00	MV	5.00	KEV		1	USA	N.STEEN F.FEINER	BET KAP	621030R

A: BELOW 1 EV, 5 PERCENT ACCURACY NEEDED.
BETWEEN 10 AND 100 EV, TOTAL, NEUTRON AND CAPTURE WIDTHS NEEDED WITH 10 PERCENT ACCURACY.
ABOVE 100 EV, 20 PERCENT ACCURACY REQUIRED.
7.78-EV RESONANCE WIDTH TO 3 PERCENT.
S-WAVE STRENGTH FUNCTION TO 20 PERCENT.
P-WAVE AVERAGE CAPTURE WIDTH TO 20 PERCENT.
Q: TO RESOLVE DISCREPANCIES IN RESONANCE INTEGRAL.
NEEDED FOR MONTE CARLO BURN UP CALCULATIONS.

978	10.0	MV	5.00	KEV	5.0%	1	FR	H.TELLIER	SAC	692304R

Q: RESONANCE INTEGRAL ALSO WANTED.
A: ACCURACY 1 PERCENT AT THERMAL AND 5 PERCENT FOR RESONANCE INTEGRAL.
Q: EVALUATION MAY SUFFICE IF IT EXPLAINS DISCREPANCIES.

72 HAFNIUM 179 NEUTRON CAPTURE CROSS SECTION

979	1.00	MV	5.00	KEV		1	USA	N.STEEN F.FEINER	BET KAP	621032R

A: BELOW 1 EV, 5 PERCENT ACCURACY NEEDED.
BETWEEN 10 AND 100 EV, TOTAL, NEUTRON AND CAPTURE WIDTHS NEEDED WITH 10 PERCENT ACCURACY.
ABOVE 100 EV, 20 PERCENT ACCURACY REQUIRED.
5.68-EV RESONANCE WIDTHS TO 5 PERCENT.
S-WAVE STRENGTH FUNCTION TO 20 PERCENT.
AVERAGE P-WAVE CAPTURE WIDTH TO 20 PERCENT.
Q: TO RESOLVE DISCREPANCIES IN RESONANCE INTEGRAL.
NEEDED FOR MONTE CARLO BURN UP CALCULATIONS.

980	10.0	MV	5.00	KEV	5.0%	1	FR	H.TELLIER	SAC	692305R

Q: RESONANCE INTEGRAL ALSO WANTED.
A: ACCURACY 1 PERCENT AT THERMAL AND 5 PERCENT FOR RESONANCE INTEGRAL.
Q: EVALUATION MAY SUFFICE IF IT EXPLAINS DISCREPANCIES.

72 HAFNIUM 180 NEUTRON CAPTURE CROSS SECTION

981	1.00	MV	5.00	KEV		1	USA	N.STEEN F.FEINER	BET KAP	671080R

A: BELOW 1 EV, 4 PERCENT ACCURACY NEEDED.
BETWEEN 10 AND 100 EV, TOTAL, NEUTRON AND CAPTURE WIDTHS NEEDED WITH 10 PERCENT ACCURACY.
ABOVE 100 EV, 20 PERCENT ACCURACY REQUIRED.
S-WAVE STRENGTH FUNCTION TO 20 PERCENT.
AVERAGE P-WAVE CAPTURE WIDTH TO 20 PERCENT.
Q: TO RESOLVE DISCREPANCIES IN RESONANCE INTEGRAL.
NEEDED FOR MONTE CARLO BURN UP CALCULATIONS.

982	10.0	MV	5.00	KEV	5.0%	1	FR	H.TELLIER	SAC	732089R

Q: REACTOR CALCULATIONS.

73 TANTALUM 181 NEUTRON CAPTURE CROSS SECTION

983	1.00	EV	500.	KEV		2	USA	P.B.HEMMIG	DOE	691192R

A: ACCURACY - 1 EV TO 1 KEV, 10 PERCENT.
- 1 KEV TO 150 KEV, 5 PERCENT.
- 150 KEV TO 500 KEV, 10 PERCENT.
DOUBLE ACCURACY USEFUL.
Q: FAST BREEDER CONTROL AND BURN-UP CALCULATIONS.

73 TANTALUM 181 | NEUTRON | ENERGY DIFF. PHOTON-PRODUCTION CROSS SECTION

984	1.00	EV	16.0	MEV	15.0%	2	USA	P.B.HEMMIG	DOE	741111R

Q: GAMMA RAYS BELOW 1 MEV IMPORTANT.

73 TANTALUM 182 | NEUTRON | CAPTURE CROSS SECTION

985	25.3	MV			10.0%	3	JAP	M.KOYAMA	KTO	792084R

Q: EXPERIMENTAL DATA REQUIRED
O: FOR ESTIMATION OF NEUTRON FLUENCE AND SPECTRUM
M: NEW REQUEST.

74 TUNGSTEN | NEUTRON | DIFFERENTIAL ELASTIC CROSS SECTION

986	1.00	KEV	15.0	MEV	10.0%	1	FR	C.PHILIS	BRC	742046P

C: FOR CRITICAL ASSEMBLIES.

74 TUNGSTEN | NEUTRON | INELASTIC CROSS SECTION

987	3.00	MEV	14.0	MEV	10.0%	3	FR	B.DUCHEMIN	SAC	732033F

O: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.

74 TUNGSTEN | NEUTRON | ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION

988	UP TO		15.0	MEV	10.0%	1	FR	C.PHILIS	BRC	742047P

O: FOR CRITICAL ASSEMBLIES.

74 TUNGSTEN | NEUTRON | CAPTURE CROSS SECTION

989	1.00	KEV	3.00	MEV	10.0%	1	FR	C.PHILIS	BRC	742049R

C: FOR CRITICAL ASSEMBLIES.

74 TUNGSTEN | NEUTRON | ENERGY-ANGLE DIFF. PHOTON-PRODUCTION CROSS SECTION

990	1.00	KEV	1.00	MEV	20.0%	2	USA	D.BARTINE	ORL	631004S

Q: ALL GAMMA ENERGIES OF INTEREST.
O: FOR USE IN SHIELDING CALCULATIONS.

74 TUNGSTEN | NEUTRON | N,2N

991	UP TO		14.0	MEV	10.0%	3	FR	B.DUCHEMIN	SAC	732034F

O: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.

74 TUNGSTEN | NEUTRON | ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

992	4.00	MEV	16.0	MEV	5.0%	2	USA	D.BARTINE	ORL	661040R

Q: LOW ENERGY NEUTRONS SHOULD BE INCLUDED.
SPECTRA AT A FEW ANGLES MAY SUFFICE.
A: ANGULAR RESOLUTION - 10 DEGREES.
OUTGOING ENERGY RESOLUTION - 500 KEV.
ENERGY RESOLUTION 5 PERCENT.

993	9.00	MEV	14.0	MEV	10.0%	2	USA	C.R.HEAD	DOE	781082F

O: DATA NEEDED FOR SHIELDING. ACTIVATION AND NEUTRON TRANSPORT CALCULATIONS.
M: NEW REQUEST.

74 TUNGSTEN | NEUTRON | N,P

994	UP TO		14.0	MEV	10.0%	3	FR	B.DUCHEMIN	SAC	732035F

O: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.

74 TUNGSTEN | NEUTRON | ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION

995	14.0	MEV				2	USA	C.R.HEAD	DOE	781148F

A: ACCURACY TO BE DETERMINED.
O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

74 TUNGSTEN | NEUTRON | N,ALPHA

996	UP TO		14.0	MEV	10.0%	3	FR	B.DUCHEMIN	SAC	732037F

O: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.

74 TUNGSTEN | NEUTRON | ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION

997	14.0	MEV				2	USA	C.R.HEAD	DOE	781127F

A: ACCURACY TO BE DETERMINED.
O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

74 TUNGSTEN | NEUTRON | TOTAL HYDROGEN-PRODUCTION CROSS SECTION

998	9.00	MEV	14.0	MEV	10.0%	2	USA	C.R.HEAD	DOE	781106F

A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES
O: FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

74 TUNGSTEN | NEUTRON | TOTAL HELIUM-PRODUCTION CROSS SECTION

999	9.00	MEV	14.0	MEV	10.0%	2	USA	C.R.HEAD	DOE	781094F

A: ACCURACY FROM 10. TO 50. PC TO BE DETERMINED FROM SENSITIVITY STUDIES
O: FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

74 TUNGSTEN 182 | NEUTRON | CAPTURE CROSS SECTION

1000	0.50	EV	10.0	MEV	5.0 %	2	USA	P.B.HEMMIG	DOE	691202R

Q: RESONANCE PARAMETERS ALSO OF INTEREST.
O: FAST BREEDER CONTROL AND BURNUP CALCULATIONS.

74 TUNGSTEN 183 | NEUTRON | CAPTURE CROSS SECTION

1001	0.50	EV	10.0	MEV	5.0 %	2	USA	P.B.HEMMIG	DOE	691203R

Q: RESONANCE PARAMETERS ALSO OF INTEREST.
O: FAST BREEDER CONTROL AND BURN UP CALCULATIONS.

74 TUNGSTEN 184 | NEUTRON | CAPTURE CROSS SECTION

1002	0.50	EV	10.0	MEV	5.0 %	2	USA	P.B.HEMMIG	DOE	691204R

Q: RESONANCE PARAMETERS ALSO OF INTEREST.
O: FAST BREEDER CONTROL AND BURNUP CALCULATIONS.

1003	1.00	KEV	3.00	MEV	10.0%	1	FR	C.PHILIS	BRC	692309R

Q: PRODUCTION OF W-185 (74 DAY).
O: ACTIVATION DETECTOR.

74 TUNGSTEN 186 | NEUTRON | CAPTURE CROSS SECTION

1004	0.50	EV	10.0	MEV	5.0 %	2	USA	P.B.HEMMIG	DOE	691207R

Q: RESONANCE PARAMETERS ALSO OF INTEREST.
O: FAST BREEDER CONTROL AND BURNUP CALCULATIONS.

1005	1.00	KEV	3.00	MEV	10.0%	1	FR	C.PHILIS	BRC	692313R

Q: PRODUCTION OF W-187 (24 HOUR).
O: ACTIVATION DETECTOR.

78 PLATINUM | NEUTRON | DIFFERENTIAL ELASTIC CROSS SECTION

1006	1.00	KEV	15.0	MEV	10.0%	1	FR	A.MICHAUDON	BRC	742054R
1007	10.0	MV	10.0	EV	10.0%	1	USA	R.S.CASWELL	NBS	781177R

C: FOR SCATTERING CORRECTIONS IN PT FISSION DEPOSIT BACKINGS.
M: NEW REQUEST.

78 PLATINUM | NEUTRON | ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION

1008	UP TO		15.0	MEV	10.0%	1	FR	A.MICHAUDON	BRC	742055R

78 PLATINUM | NEUTRON | CAPTURE CROSS SECTION

1009	1.00	KEV	3.00	MEV	10.0%	1	FR	A.MICHAUDON	BRC	742058R

78 PLATINUM | NEUTRON | TOTAL PHOTON PRODUCTION CROSS SECTION

1010	1.00	KEV	15.0	MEV	20.0%	2	FR	A.MICHAUDON	BRC	742056R

78 PLATINUM 190 | NEUTRON | N,P

1011	UP TO		15.0	MEV	20.0%	2	FR	A.MICHAUDON	BRC	742059R

O: FOR ACTIVATION.

78 PLATINUM 192 NEUTRON N,P

1012	UP TO	15.0	MEV	20.0%	2	FR	A.MICHAUDON	BRC	742060R

Q: FOR ACTIVATION.

78 PLATINUM 198 NEUTRON CAPTURE CROSS SECTION

1013	1.00 KEV	3.00	MEV	20.0%	2	FR	A.MICHAUDON	BRC	742061R

Q: FOR ACTIVATION.

79 GOLD 197 NEUTRON DIFFERENTIAL ELASTIC CROSS SECTION

1014	1.00 KEV	15.0	MEV	10.0%	1	FR	A.MICHAUDON	BRC	742062R

79 GOLD 197 NEUTRON ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION

1015	UP TO	15.0	MEV	10.0%	1	FR	A.MICHAUDON	BRC	742063R

79 GOLD 197 NEUTRON CAPTURE CROSS SECTION

1016	0.50 EV	1.00	KEV	1.0%	2	USA	N.STEEN	BET	671082R

Q: INDIVIDUAL AND AVERAGE RESONANCE PARAMETERS REQUIRED.
A: ENERGIES ABOVE 0.5 EV WANTED SO AS TO GIVE INFINITE DILUTION RESONANCE INTEGRAL TO 1 PERCENT.
C: FOR USE AS A STANDARD.

1017	10.0 KEV	3.00	MEV	3.0%	1	BLG	A.FABRY	MOL	682041R

Q: DETECTOR APPLICATIONS.

1018	10.0 KEV	1.00	MEV	2.0%	2	USA	R.S.CASWELL	NBS	721073R

Q: REQUIRED AS PRIMARY STANDARD.

1019	500. KEV	5.00	MEV	5.0%	2	FR	E.FORT	CAD	792021R

Q: STANDARD CROSS SECTION
M: NEW REQUEST.

STATUS----------STATUS

UNDER CONTINUOUS REVIEW BY INDC AND NEANDC. SEE APPENDIX A.

79 GOLD 197 NEUTRON N,2N

1020	8.12 MEV	40.0	MEV	20.0%	1	USA	C.R.HEAD	DOE	781010F

Q: DOSIMETRY FOR FMIT FACILITY.
M: NEW REQUEST.

79 GOLD 197 NEUTRON N,3N

1021	14.8 MEV	40.0	MEV	20.0%	1	USA	C.R.HEAD	DOE	781011F

Q: DOSIMETRY FOR FMIT FACILITY.
M: NEW REQUEST.

79 GOLD 197 NEUTRON N,4N

1022	23.2 MEV	40.0	MEV	20.0%	1	USA	C.R.HEAD	DOE	781012F

Q: DOSIMETRY FOR FMIT FACILITY.
M: NEW REQUEST.

79 GOLD 197 NEUTRON N,5N

1023	29.9 MEV	40.0	MEV	20.0%	1	USA	C.R.HEAD	DOE	781013F

Q: DOSIMETRY FOR FMIT FACILITY.
M: NEW REQUEST.

79 GOLD 198 NEUTRON CAPTURE CROSS SECTION

1024	25.3 MV			10.0%	3	JAP	M.KOYAMA	KTO	792085R

Q: EXPERIMENTAL DATA REQUIRED
Q: FOR ESTIMATION OF NEUTRON FLUENCE AND SPECTRUM
M: NEW REQUEST.

81 THALLIUM 204 NEUTRON CAPTURE CROSS SECTION

1025	25.3 MV			10.0%	2	USA	G.T.ORTON	RL	651008R

Q: RADIOACTIVE TARGET - 3.8 YEAR.
Q: WANTED TO TEST FEASIBILITY OF TL-204 PRODUCTION.

82 LEAD — NEUTRON — INELASTIC CROSS SECTION

1026	3.00	MEV	15.0	MEV	15.0%	2	FR	B.DUCHEMIN	SAC	792024F

Q: NEUTRON MULTIPLIER
M: NEW REQUEST.

82 LEAD — NEUTRON — TOTAL PHOTON PRODUCTION CROSS SECTION

1027	1.00	KEV	16.0	MEV	10.0%	2	FR	B.DUCHEMIN	SAC	692319R

Q: ENERGY RESOLUTION OF 250 KEV FOR GAMMA RAYS LESS THAN 1 MEV AND 500 KEV FOR ENERGIES GREATER THAN 1 MEV
A: NEUTRON AND GAMMA ENERGY RESOLUTION 500 KEV.
O: FOR SHIELDING CALCULATION.
NEW EVALUATION TO BE DONE IF NEW EXPERIMENTAL DATA.

1028	25.3	MV	15.0	MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR	724057F

Q: GAMMA RAY SPECTRA REQUIRED.
O: GAMMA RAY HEATING AND SHIELDING CALCULATIONS.

1029	25.3	MV	15.0	MEV	15. %	2	JAP	Y.SEKI	JAE	762134F

Q: GAMMA RAY SPECTRA ALSO REQUIRED.
A: AN UPPER LIMIT OF THE CROSS SECTION OR ACCURACY 20 PER CENT USEFUL.
NEUTRON ENERGY RESOLUTION 300 KEV ABOVE 100 KEV AND 10 PER CENT OTHERWISE.
GAMMA ENERGY RESOLUTION 1 MEV.
O: SHIELDING DESIGN AND GAMMA-RAY HEATING CALCULATION

1030	1.00	KEV	15.0	MEV	10.0%	2	FR	P.HAMMER	CAD	792022R

M: NEW REQUEST.

82 LEAD — NEUTRON — N,2N

1031	UP TO		15.0	MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR	724058F

O: POSSIBLE USE AS NEUTRON MULTIPLIER.

1032	UP TO		15.0	MEV	15.0%	2	FR	B.DUCHEMIN	SAC	792023F

O: NEUTRON MULTIPLIER
M: NEW REQUEST.

82 LEAD — NEUTRON — NEUTRON EMISSION CROSS SECTION

1033	2.00	MEV	16.0	MEV	5.0%	3	USA	D.BARTINE	ORL	631005R

Q: SECONDARY ENERGY-ANGLE DISTRIBUTIONS REQUIRED.
M: SUBSTANTIAL MODIFICATIONS.

1034	500.	KEV	16.0	MEV	10.0%	2	FR	B.DUCHEMIN	SAC	692318R

Q: SECONDARY ENERGY-ANGLE DISTRIBUTIONS REQUIRED.
ENERGY STEP - 500 KEV(INCIDENT NEUTRONS).
A: ENERGY RESOLUTION - 250 KEV(EMITTED NEUTRONS)
O: FOR SHIELDING CALCULATION.
NEW EVALUATION TO BE DONE IF NEW EXPERIMENTAL DATA.

82 LEAD — NEUTRON — ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

1035	9.00	MEV	14.0	MEV	10.0%	1	USA	C.R.HEAD	DOE	781050F

O: FOR SHIELDING, ACTIVATION AND TRANSPORT STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.
M: NEW REQUEST.

82 LEAD — NEUTRON — ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION

1036	14.0	MEV				2	USA	C.R.HEAD	DOE	781143F

A: ACCURACY TO BE DETERMINED.
O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

82 LEAD — NEUTRON — ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION

1037	14.0	MEV				2	USA	C.R.HEAD	DOE	781122F

A: ACCURACY TO BE DETERMINED.
O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

82 LEAD — NEUTRON — TOTAL HYDROGEN-PRODUCTION CROSS SECTION

1038	9.00	MEV	14.0	MEV	10.0%	1	USA	C.R.HEAD	DOE	781059F

O: FOR RADIATION DAMAGE STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.
M: NEW REQUEST.

82 LEAD | NEUTRON | TOTAL HELIUM-PRODUCTION CROSS SECTION

1039	9.00	MEV	14.0	MEV	10.0%	1	USA	C.R.HEAD	DOE	781068F

Q: FOR RADIATION DAMAGE STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.
M: NEW REQUEST.

82 LEAD 206 | NEUTRON | N,ALPHA

1040	UP TO		15.0	MEV	20.0%	2	JAP	H.IIDA	JAE	792091F

Q: EXPERIMENTAL DATA REQUIRED
O: FOR FUSION REACTOR SHIELDING CALCULATION. FOR CALCULATION OF RESIDUAL ACTIVITY. NO EXPERIMENTAL DATA EXCEPT FOR A FEW AT 14 MEV.
M: NEW REQUEST.

83 BISMUTH 209 | NEUTRON | TOTAL PHOTON PRODUCTION CROSS SECTION

1041	25.3	MV	15.0	MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR	724059F

Q: GAMMA RAY SPECTRA REQUIRED.
O: GAMMA RAY HEATING AND SHIELDING CALCULATIONS.

83 BISMUTH 209 | NEUTRON | N,2N

1042	UP TO		15.0	MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR	724060F

O: POSSIBLE USE AS NEUTRON MULTIPLIER.

90 THORIUM 230 | NEUTRON | CAPTURE CROSS SECTION

1043	25.3	MV	1.00	MEV	10.0%	2	USA	D.BARTINE	ORL	781196R

O: KEY REACTION FOR PRODUCTION OF U-232.
M: NEW REQUEST.

90 THORIUM 232 | NEUTRON | TOTAL CROSS SECTION

1044	1.00	MV	6.00	EV	0.5%	2	USA	B.R.LEONARD	BNW	761080R

O: NEEDED FOR THERMAL EVALUATION.
M: NEW REQUEST.

1045	1.00	MV	20.0	EV	0.5%	2	USA	N.STEEN	BET	781181R

M: NEW REQUEST.

1046	6.00	EV	100.	KEV	2.0%	1	USA	R.W.PEELLE	ORL	781197R

O: FOR RESOLVED RESONANCE PARAMETER EVALUATION.
M: NEW REQUEST.

90 THORIUM 232 | NEUTRON | DIFFERENTIAL ELASTIC CROSS SECTION

1047	1.00	MEV	5.00	MEV	10.0%	3	USA	C.E.TILL	ANL	721074R

90 THORIUM 232 | NEUTRON | ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

1048	UP TO		10.0	MEV	10.0%	3	GER	H.GERWIN	JUL	692325R
1049	1.00	MEV	4.00	MEV	5.0%	3	USA	C.E.TILL	ANL	721075R

A: IF ANISOTROPIC, NEED 20 PERCENT ACCURACY IN (1-COS).
INCIDENT AND EXIT ENERGY RESOLUTION 20 PERCENT.

90 THORIUM 232 | NEUTRON | CAPTURE CROSS SECTION

1050	1.00	MV	5.00	KEV		1	USA	N.STEEN	BET	621034R

Q: THICK SAMPLE TRANSMISSION AND SELF-INDICATION EXPERIMENTS DESIRABLE.
RESONANCE PARAMETERS AND RESONANCE INTEGRAL ALSO DESIRED.
A: ACCURACY REQUIRED - BELOW 20 EV, 2 PERCENT, ABOVE 20 EV, 5 PERCENT, AT THERMAL, 0.5 PERCENT.
NEED RESONANCE PARAMETERS TO BETTER THAN 5 PERCENT
O: THERMAL SHAPE VERY IMPORTANT FOR THERMAL BREEDER CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

1051	1.00	KEV	1.00	MEV	3.0%	3	UK	C.G.CAMPBELL	WIN	692329R

C: FOR FAST REACTORS.

1052	4.00	KEV	10.0	MEV		1	GER	H.GERWIN H.KUESTERS	JUL KFK	692330R

A: ACCURACY 5 PERCENT TO 2 MEV AND 10 PERCENT ABOVE.
M: SUBSTANTIAL MODIFICATIONS.

1053	25.3	MV			2.0%	3	FR	H.TELLIER	SAC	732090R

1054	25.3	MV	20.0	MEV	3.0%	2	USA	S.VISNER	CBE	761079R
							O: FOR THERMAL REACTOR FUEL CYCLE EVALUATION. M: NEW REQUEST.			
1055	25.3	MV	3.00	MEV	10.0%	2	FR	L.COSTA	CAD	762140R
							O: FAST REACTOR PROJECT M: SUBSTANTIAL MODIFICATIONS.			

90 THORIUM 232 NEUTRON ENERGY DIFF. PHOTON-PRODUCTION CROSS SECTION

1056	100.	KEV	10.0	MEV		1	USA	D.BARTINE	ORL	761078R
							A: ACCURACY - 5.0 TO 10.0 PERCENT REQUIRED. O: NEEDED FOR GAS COOLED FAST REACTOR SHIELDING. M: NEW REQUEST.			

90 THORIUM 232 NEUTRON N,2N

1057	UP TO		10.0	MEV	10.0%	1	USA	P.GREEBLER	GEB	671083R
							O: NEEDED FOR CONTROL OF U-232 PRODUCTION.			
1058	UP TO		10.0	MEV	20.0%	3	GER	H.GERWIN	JUL	692326R
							Q: SECONDARY ENERGY DISTRIBUTION REQUIRED.			
1059	UP TO		15.0	MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR	724061F
							O: POSSIBLE USE AS NEUTRON MULTIPLIER.			
1060	UP TO		15.0	MEV	5.0%	2	USA	N.STEEN	BET	761065R
							O: FOR CALCULATION OF FUEL ACTIVITY IN TH-232 CYCLE REACTORS. M: NEW REQUEST.			
1061	11.0	MEV	14.0	MEV	10.0%	2	USA	C.R.HEAD	DOE	781161F
							O: FOR HYBRID SYSTEM DESIGN. M: NEW REQUEST.			
1062	14.2	MEV			15.0%	2	FR	B.DUCHEMIN	SAC	792026F
							O: NEUTRON MULTIPLIER M: NEW REQUEST.			

90 THORIUM 232 NEUTRON N,3N

1063	UP TO		15.0	MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR	724062F
							O: POSSIBLE USE AS NEUTRON MULTIPLIER.			
1064	11.0	MEV	14.0	MEV	10.0%	2	USA	C.R.HEAD	DOE	781162F
							O: FOR HYBRID SYSTEM DESIGN. M: NEW REQUEST.			
1065	14.2	MEV			15.0%	2	FR	B.DUCHEMIN	SAC	792027F
							O: NEUTRON MULTIPLIER M: NEW REQUEST.			

90 THORIUM 232 NEUTRON *FISSION CROSS SECTION*

1066	25.3	MV	10.0	MEV	5.0%	2	GER	H.GERWIN	JUL	692328R
							O: SPECTRUM INDEX.			
1067	100.	KEV	10.0	MEV	10.0%	3	FR	H.TELLIER	SAC	732091R
1068	1.50	MEV	7.20	MEV	5.0%	2	EUR	NEUTRON DOSIMETRY GROUP	GEL	742135R
							O: FOR NEUTRON DOSIMETRY USING SPECTRUM UNFOLDING METHODS. GREATER THAN 10 PERCENT DISCREPANCY BETWEEN INTEGRAL AND DIFFERENTIAL MEASUREMENTS.			
1069	11.0	MEV	14.0	MEV	10.0%	2	USA	C.R.HEAD	DOE	781163F
							O: FOR HYBRID SYSTEM DESIGN. M: NEW REQUEST.			
1070	14.2	MEV			15.0%	2	FR	B.DUCHEMIN	SAC	792025F
							O: NEUTRON MULTIPLIER M: NEW REQUEST.			
1071	UP TO		5.00	MEV	5.0%	3	UK	C.G.CAMPBELL	WIN	792136R
							O: FOR FAST REACTORS. M: NEW REQUEST.			

STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

90 THORIUM 232 NEUTRON ENERGY SPECTRUM OF DELAYED FISSION NEUTRONS

1072				2.0%	1	USA	N.STEEN	BET	781182R

Q: NEED FAST GROUP YIELDS AND SPECTRA.
C: TO VERIFY EXISTING EVALUATIONS.
M: NEW REQUEST.

90 THORIUM 232 NEUTRON RESONANCE PARAMETERS

1073	UP TO	10.0	KEV	10.0%	1	GER	H.GERWIN H.KUESTERS	JUL KFK	692323R

Q: RADIATION WIDTH NEEDED.
M: SUBSTANTIAL MODIFICATIONS.

1074	UP TO	10.0	KEV	10.0%	1	GER	H.KUESTERS	KFK	792214R

M: NEW REQUEST.

91 PROTACTINIUM 231 NEUTRON CAPTURE CROSS SECTION

1075	25.3 MV	10.0	MEV	10.0%	2	USA	P.GREEBLER	GEB	691219R

O: NEEDED FOR CONTROL OF U-232 PRODUCTION.

1076	1.00 MV	1.00	KEV		2	USA	N.STEEN	BET	761066R

Q: ALSO NEED RESONANCE PARAMETERS AND RESONANCE INTEGRAL.
A: ACCURACY OF 5.0 TO 10.0 PERCENT REQUIRED.
O: FOR CALCULATION OF FUEL ACTIVITY IN TH-232 CYCLE REACTORS.
M: NEW REQUEST.

91 PROTACTINIUM 231 NEUTRON ENERGY SPECTRUM OF DELAYED FISSION NEUTRONS

1077				5.0%	1	USA	N.STEEN	BET	781183R

Q: NEED FAST GROUP YIELDS AND SPECTRA.
C: TO VERIFY EXISTING EVALUATIONS.
M: NEW REQUEST.

91 PROTACTINIUM 233 NEUTRON TOTAL CROSS SECTION

1078	25.3 MV	20.0	MEV	5.0%	2	IND	S.B.GARG	TRM	753011R

O: REQUIRED FOR THORIUM FUEL-CYCLE STUDIES.

1079	UP TO	3.00	MEV	3.0%	2	USA	R.W.PEELLE	ORL	781198R

O: FOR THORIUM CYCLE REACTOR EVALUATION.
M: NEW REQUEST.

91 PROTACTINIUM 233 NEUTRON ELASTIC CROSS SECTION

1080	25.3 MV	20.0	MEV	5.0%	2	IND	S.B.GARG	TRM	753012R

O: REQUIRED FOR THORIUM FUEL-CYCLE STUDIES.

91 PROTACTINIUM 233 NEUTRON INELASTIC CROSS SECTION

1081	UP TO	20.0	MEV	5.0%	2	IND	S.B.GARG	TRM	753013R

O: REQUIRED FOR THORIUM FUEL-CYCLE STUDIES.

91 PROTACTINIUM 233 NEUTRON ABSORPTION CROSS SECTION

1082	25.3 MV	500.	EV	5.0%	1	GER	MAERKL	SRE	692333R

91 PROTACTINIUM 233 NEUTRON CAPTURE CROSS SECTION

1083	1.00 MV	1.00	KEV		2	USA	R.H.DAHLBERG	GA	671085R

A: ACCURACY 5 PERCENT BELOW 2 EV, 10 PERCENT ABOVE.
O: DESIGN OF THORIUM CYCLE REACTORS.

1084	25.3 MV	20.0	MEV	5.0%	2	IND	S.B.GARG	TRM	753014R

O: REQUIRED FOR THORIUM FUEL-CYCLE STUDIES.

1085	1.00 MV	100.	EV	5.0%	2	USA	N.STEEN	BET	761059R

Q: RESONANCE PARAMETERS ALSO DESIRED.
O: NEEDED FOR ANALYSIS OF TH-232 CYCLE THERMAL REACTORS.
M: NEW REQUEST.

1086	500. EV	3.00	MEV	15.0%	2	FR	P.HAMMER	CAD	762142R

O: FAST REACTOR PROJECT
M: SUBSTANTIAL MODIFICATIONS.

1087	20.0 EV	15.0	MEV	10. %	1	JAP	R.SHINDO	JAE	762208R

O: FOR BURN-UP CALCULATION OF THORIUM FUELED THERMAL REACTORS.

91 PROTACTINIUM 233 NEUTRON N,ALPHA

1088	25.3	MV	500.	EV	5.0%	1	GER	H.KUESTERS	KFK	792215R

M: NEW REQUEST.

1089					10.0%	1	GER	H.KUESTERS	KFK	792216R

Q: RESONANCE INTEGRAL.
M: NEW REQUEST.

91 PROTACTINIUM 233 NEUTRON FISSION CROSS SECTION

1090	25.3	MV	20.0	MEV	5.0%	2	IND	S.B.GARG	TRM	753015R

O: REQUIRED FOR THORIUM FUEL-CYCLE STUDIES.

1091	500.	EV	3.00	MEV	15.0%	2	FF	P.HAMMER	CAD	762141R

O: FAST REACTOR PROJECT
M: SUBSTANTIAL MODIFICATIONS.

91 PROTACTINIUM 233 NEUTRON ABSORPTION RESONANCE INTEGRAL

1092	0.50	EV			10.0%	1	GER	MAERKL	SRE	692334R

91 PROTACTINIUM 234 NEUTRON TOTAL CROSS SECTION

1093	25.3	MV	20.0	MEV	5.0%	2	IND	S.B.GARG	TRM	753016R

O: REQUIRED FOR THORIUM FUEL-CYCLE STUDIES.

91 PROTACTINIUM 234 NEUTRON ELASTIC CROSS SECTION

1094	25.3	MV	20.0	MEV	5.0%	2	IND	S.B.GARG	TRM	753017R

O: REQUIRED FOR THORIUM FUEL-CYCLE STUDIES.

91 PROTACTINIUM 234 NEUTRON INELASTIC CROSS SECTION

1095	UP TO		20.0	MEV	5.0%	2	IND	S.B.GARG	TRM	753018R

O: REQUIRED FOR THORIUM FUEL-CYCLE STUDIES.

91 PROTACTINIUM 234 NEUTRON CAPTURE CROSS SECTION

1096	25.3	MV	20.0	MEV	5.0%	2	IND	S.B.GARG	TRM	753019R

O: REQUIRED FOR THORIUM FUEL-CYCLE STUDIES.

91 PROTACTINIUM 234 NEUTRON FISSION CROSS SECTION

1097	25.3	MV	20.0	MEV	5.0%	2	IND	S.B.GARG	TRM	753020R

O: REQUIRED FOR THORIUM FUEL-CYCLE STUDIES.

92 UPANIUM HALF LIFE

1098					0.5%	1	USA	J.GRUNDL	NBS	761118R

Q: ALPHA HALF LIFE REQUIRED.
O: FOR MASS DETERMINATION OF FISSIONABLE DEPOSITS.
M: NEW REQUEST.

92 URANIUM 232 NEUTRON CAPTURE CROSS SECTION

1099	500.	EV	10.0	MEV		2	USA	R.H.DAHLBERG	GA	741134R

A: ACCURACY REQUIRED - 2 TO 10 PERCENT.
O: FOR FAST REACTOR BLANKETS.

1100	1.00	MV	1.00	KEV		2	USA	N.STEEN	BET	761067R

Q: ALSO NEED RESONANCE PARAMETERS AND RESONANCE INTEGRAL.
A: ACCURACY OF 2.0 TO 5.0 PERCENT REQUIRED.
O: FOR CALCULATION OF FUEL ACTIVITY IN TH-232 CYCLE REACTORS.
M: NEW REQUEST.

1101	1.00	KEV	3.00	MEV	50.0%	3	FR	P.HAMMER	CAD	792028R

O: EVALUATION SUFFICIENT
M: NEW REQUEST.

92 URANIUM 232 NEUTRON FISSION CROSS SECTION

1102	1.00	KEV	3.00	MEV	50.0%	3	FR	P.HAMMER	CAD	792029R

O: EVALUATION SUFFICIENT
M: NEW REQUEST.

92 URANIUM 233 — HALF LIFE

1103				0.5%	1	USA	N.STEEN	BET	741115R
							Q: VERIFICATION OF LATEST MEASUREMENTS DESIRED.		
1104				1.0%	1	USA	J.GRUNDL	NBS	761119R
							Q: ALPHA HALF LIFE REQUIRED. O: FOR MASS DETERMINATION OF FISSIONABLE DEPOSITS. M: NEW REQUEST.		

STATUS——STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

92 URANIUM 233 — NEUTRON — TOTAL CROSS SECTION

1105	25.3	MV	20.0	MEV	5.0%	2	IND	S.B.GARG	TRM	753021R
							O: REQUIRED FOR THORIUM FUEL-CYCLE STUDIES.		
1106	1.00	MV	2.00	EV	0.5%	2	USA	B.R.LEONARD	BNW	761082R
							O: NEEDED FOR THERMAL CROSS SECTION EVALUATION. M: NEW REQUEST.		
1107	60.0	EV	100.	KEV	3.0 %	1	USA	L.STEWART	LAS	791001R
							O: NEEDED TO COVER THE UNRESOLVED RANGE AND OVERLAP THE RECENT ANL DATA WHICH BEGINS AT 42 KEV. M: NEW REQUEST.		

92 URANIUM 233 — NEUTRON — ELASTIC CROSS SECTION

1108	25.3	MV	20.0	MEV	5.0%	2	IND	S.B.GARG	TRM	753022R
							O: REQUIRED FOR THORIUM FUEL-CYCLE STUDIES.		

92 URANIUM 233 — NEUTRON — INELASTIC CROSS SECTION

1109	UP TO		20.0	MEV	5.0%	2	IND	S.B.GARG	TRM	753023R
							O: REQUIRED FOR THORIUM FUEL-CYCLE STUDIES.		

92 URANIUM 233 — NEUTRON — ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

1110	40.0	KEV	7.00	MEV	20.0%	2	USA	C.E.TILL	ANL	671086R
							A: NEED ENERGY DEPENDENCE TO 5 TO 10 PERCENT ABOVE 0.5 MEV. M: SUBSTANTIAL MODIFICATIONS.		

92 URANIUM 233 — NEUTRON — ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION

1111	UP TO		5.00	MEV	20.0%	3	UK	C.G.CAMPBELL	WIN	692339R
							C: FOR FAST REACTORS.		

92 URANIUM 233 — NEUTRON — CAPTURE CROSS SECTION

1112	25.3	MV	1.00	MEV	20.0%	1	GER	H.GERWIN	JUL	692350R
							O: ACCURACY INSUFFICIENT.		
1113	1.00	MEV	10.0	MEV	20.0%	2	GER	H.GERWIN	JUL	692352R
							Q: ALPHA ALSO USEFUL. O: ACCURACY INSUFFICIENT.		
1114	UP TO		10.0	KEV	3.0%	3	FR	H.TELLIER	SAC	732093R
							O: EVALUATION PROBABLY NOT SUFFICIENT.		
1115	1.00	MV	2.00	EV		1	USA	N.STEEN	BET	741112R
							A: ACCURACY REQUIRED - BELOW 0.5 EV, 1 PERCENT. ABOVE 0.5 EV, 2 PERCENT. O: VERIFICATION OF RECENT ORNL RESULTS DESIRED.		
1116	25.3	MV	20.0	MEV	5.0%	2	IND	S.B.GARG	TRM	753024R
							O: REQUIRED FOR THORIUM FUEL-CYCLE STUDIES.		
1117	100.	EV	1.50	MEV		1	USA	R.W.PEELLE	ORL	761081R
							Q: MOST IMPORTANT BELOW 0.5 MEV. A: REQUIRED ACCURACY - 5.0 TO 10.0 PERCENT. M: NEW REQUEST.		
1118	500.	EV	3.00	MEV	10.0%	2	FR	P.HAMMER	CAD	762143R
							O: FAST REACTOR PROJECT M: SUBSTANTIAL MODIFICATIONS.		

1119	60.0	EV	500.	KEV		1	USA	L.STEWART	LAS	791002R
								A: ACCURACY REQUIRED - 5 TO 8 PERCENT.		
								O: NEEDED TO COVER THE UNRESOLVED RANGE AND TO EXTEND TO HIGHER ENERGIES. NO DATA AVAILABLE ABOVE 2 KEV EXCEPT ALPHA MEASUREMENTS OF DIVEN.		
								M: NEW REQUEST.		
1120	1.00	MEV	20.0	MEV	10.0%	1	JAP	N.ASANO	SAE	792083R
								Q: EXPERIMENTAL DATA REQUIRED.		
								M: NEW REQUEST.		
1121	25.3	MV	1.00	MEV	20.0%	1	GER	H.KUESTERS	KFK	792217R
								M: NEW REQUEST.		

92 URANIUM 233 NEUTRON N,2N

1122	UP TO		15.0	MEV	10.0%	2	USA	P.B.HEMMIG	DOE	671088R
								O: FOR CONTAMINATION OF U-233 BY U-232.		
								M: SUBSTANTIAL MODIFICATIONS.		
1123	UP TO		15.0	MEV	10.0%	1	FR	C.PHILIS	BRC	692341R
1124	UP TO		15.0	MEV	10.0%	2	FR	L.COSTA	CAD	792030R
								O: IN- AND OUT-OF-CORE CYCLE		
								M: NEW REQUEST.		
1125	UP TO		20.0	MEV	10.0%	1	JAP	N.ASANO	SAE	792092R
								Q: EXPERIMENTAL DATA WANTED.		
								M: NEW REQUEST.		

92 URANIUM 233 NEUTRON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

1126	1.00	MEV				2	USA	L.STEWART	LAS	791004R
								Q: ABSOLUTE CROSS SECTIONS REQUIRED. MEASURE AT SEVERAL ANGLES AND DETECT LOW ENERGY NEUTRONS.		
								A: ACCURACY REQUIRED - 5 TO 10 PERCENT.		
								M: NEW REQUEST.		

92 URANIUM 233 NEUTRON FISSION CROSS SECTION

1127	1.00	MV	1.00	KEV	10.0%	1	USA	R.H.DAHLBERG	GA	621036R
								Q: SHAPE IMPORTANT AT LOW ENERGIES.		
								A: WANT ETA TO 0.25 PERCENT BELOW 1 EV. WANT INTEGRAL ETA TO 1 PERCENT BELOW 1 KEV.		
1128	10.0	KEV	15.0	MEV	1.0%	1	USA	G.E.HANSEN	LAS	671089R
								Q: RATIO WANTED RELATIVE TO U-235.		
1129	1.00	KEV	10.0	MEV	1.0%	1	USA	P.B.HEMMIG	DOE	691226R
								Q: RATIO WANTED RELATIVE TO U-235.		
								A: CALIBRATION IN ENERGY 1 PERCENT. RESOLUTION 3 PERCENT. ACCURACY OF 2 TO 3 PERCENT WOULD BE USEFUL.		
								M: SUBSTANTIAL MODIFICATIONS.		
1130	25.3	MV	50.0	EV	2.0%	2	GER	H.GERWIN	JUL	692342R
1131	50.0	EV	10.0	MEV		2	GER	H.GERWIN	JUL	692343R
								A: ACCURACY REQUIRED TO BETTER THAN 10.0 PERCENT.		
								O: SPECTRUM INDEX.		
1132	500.	EV	3.00	MEV	10.0%	2	FR	P.HAMMER	CAD	692344R
								A: THIS ACCURACY CONCERNS THE FISSION RATIO U-233 U-235. ACCURACY OF 2 PERCENT NEEDED BETWEEN 10 KEV AND 1 MEV.		
								M: SUBSTANTIAL MODIFICATIONS.		
1133	UP TO		10.0	KEV	3.0%	3	FR	H.TELLIER	SAC	732092R
1134	25.3	MV	20.0	MEV	5.0%	2	IND	S.B.GARG	TRM	753025R
								O: REQUIRED FOR THORIUM FUEL-CYCLE STUDIES.		
1135	1.00	MV	20.0	MEV		1	USA	N.STEEN	BET	781184R
								A: ACCURACY WANTED - 1 PERCENT BELOW 100 EV. 5 PERCENT ABOVE.		
								C: FOR THERMAL REACTOR ANALYSIS.		
								M: NEW REQUEST.		
1136	60.0	EV	100.	KEV		1	USA	L.STEWART	LAS	791003R
								Q: MEASUREMENTS RELATIVE TO U-235 NOT DESIRED DUE TO LARGE CROSS SECTION FLUCTUATIONS.		
								A: ACCURACY REQUIRED - 5 TO 8 PERCENT.		
								O: NEEDED TO COVER THE UNRESOLVED RANGE AND OVERLAP THE RATIO MEASUREMENTS OF CARLSON.		
								M: NEW REQUEST.		

STATUS

UNDER CONTINUOUS REVIEW BY INDC AND NEANDC. SEE APPENDIX A.

STATUS

92 URANIUM 233 NEUTRON CAPTURE TO FISSION RATIO (ALPHA)

1137	5.00	MV	20.0	MEV		1	USA	N.STEEN	BET	621041R

Q: CAPTURE CROSS SECTION EQUALLY USEFUL.
INTEGRAL EXPERIMENTS NEEDED TO RESOLVE DISCREPANCIES.
A: ACCURACY REQUIRED - 2 TO 8 PERCENT BELOW 0.5 EV, 3 PERCENT BETWEEN 0.5 EV AND 10 KEV(PRIORITY 2), 5 TO 10 PERCENT ABOVE 10 KEV (PRIORITY 2).
WANT ETA TO 0.25 PERCENT BELOW 3 EV (1 PERCENT USEFUL BELOW 1 EV), 1 PERCENT FROM 30 EV TO 1 KEV (5 PERCENT USEFUL) AND 2 PERCENT FROM 1 KEV TO 30 KEV.
O: WANT VERIFICATION OF RECENT ORNL AND BETTIS WORK.
M: SUBSTANTIAL MODIFICATIONS.

1138	1.00	MV	3.00	MEV			USA	R.H.DAHLBERG	GA	621042R

Q: CAPTURE CROSS SECTION EQUALLY USEFUL.
A: PRIORITY ENERGY RANGE ACCURACY
1 1 MV TO 1 KEV 2 TO 8 PERCENT
2 1 KEV TO 3 MEV 10 TO 20 PERCENT
WANT ETA TO 0.25 PERCENT BELOW 3 EV (1 PERCENT USEFUL BELOW 1 EV), 1 PERCENT FROM 30 EV TO 1 KEV (5 PERCENT USEFUL) AND 2 PERCENT FROM 1 KEV TO 30 KEV.

1139	1.00	KEV	3.00	MEV		1	USA	C.E.TILL	ANL	621043R

Q: CAPTURE CROSS SECTION EQUALLY USEFUL.
A: ACCURACY REQUIRED - 10 TO 20 PERCENT.
WANT ETA TO 2 PERCENT FROM 1 TO 30 EV.
M: SUBSTANTIAL MODIFICATIONS.

1140	1.00	KEV	3.00	MEV		2	USA	P.B.HEMMIG	DOE	671090R

Q: CAPTURE CROSS SECTION EQUALLY USEFUL.
A: ACCURACY REQUIRED - 10 TO 20 PERCENT.
WANT ETA TO 2 PERCENT FROM 1 TO 30 EV.
M: NEW REQUEST.

1141	1.00	KEV	100.	KEV	5.0%	3	UK	C.G.CAMPBELL	WIN	692346R

Q: FOR FAST REACTORS.

92 URANIUM 233 NEUTRON NEUTRONS EMITTED PER NEUTRON ABSORPTION (ETA)

1142	10.0	MV	0.20	EV	0.5%	2	UK	J.FELL	WIN	692345R

Q: VALUE RELATIVE TO 25.3 MV ETA WANTED.
A: ACCURACY IS FOR AVERAGE VALUES IN 0.02 EV STEPS.
O: FOR THERMAL REACTOPS.

1143	1.00	MV	1.00	EV	0.4%	1	USA	N.STEEN	BET	741113R

Q: THERMAL VALUE AND SHAPE NEEDED.
O: TO VERIFY MANGANESE BATH RESULTS.
M: SUBSTANTIAL MODIFICATIONS.

STATUS

THERMAL VALUE UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

92 URANIUM 233 NEUTRON NEUTRONS EMITTED PER FISSION (NU BAR)

1144	1.00	KEV	3.00	MEV		1	USA	R.H.DAHLBERG	GA	661075R

A: ACCURACY REQUIRED - 1 TO 3 PERCENT.
O: TO LOOK FOR STRUCTURE BELOW 1 MEV.
M: NEW REQUEST.

1145	1.00	MV	30.0	KEV		1	USA	N.STEEN	BET	691443R

Q: MEASUREMENT RELATIVE TO U-235 AND PU-239 PREFERRED.
LOW ENERGY STRUCTURE MAY BE IMPORTANT.
A: REQUIRE 0.25 PERCENT ACCURACY TO 30 EV, 1 PERCENT FROM 30 EV TO 1 KEV, AND 2 PERCENT FROM 1 KEV TO 30 KEV AND 3 PERCENT ABOVE.
O: NEEDED TO RESOLVE DISCREPANCIES IN THERMAL PARAMETERS AND BREEDING PREDICTION.
M: SUBSTANTIAL MODIFICATIONS.

1146	30.0	KEV	10.0	MEV	1.0%	2	GER	H.GERWIN	JUL	692486R

STATUS

THERMAL VALUE UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

92 URANIUM 233 NEUTRON DELAYED NEUTRONS EMITTED PER FISSION

1147	25.3	MV			5.0%	1	USA	N.STEEN	BET	741116R

Q: TO RESOLVE DISCREPANCIES.

STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

92 URANIUM 233 NEUTRON ENERGY SPECTRUM OF FISSION NEUTRONS

1148	25.3	MV		1.0%	1	USA	N.STEEN	BET	781185R

Q: NEED SHAPE OF NEUTRON ENERGY DISTRIBUTION FROM 100 KEV TO 15 MEV.
A: RELATIVE PEAK TO 1 PERCENT.
O: NEEDED FOR CRITICALITY CALCULATIONS.
M: NEW REQUEST.

1149	100.	KEV		2.0%	3	UK	C.G.CAMPBELL	WIN	792123R

A: 2 PERCENT ACCURACY ON MEAN FISS. SPECTRUM ENERGY. 10 PERCENT ACCURACY WANTED ON NUMBER OF NEUTRONS ABOVE 5 MEV AND ON NUMBER BELOW 0.25 MEV.
O: FOR FAST REACTORS.
M: NEW REQUEST.

92 URANIUM 233 NEUTRON FISSION PRODUCT MASS YIELD SPECTRUM

1150	25.3	MV		1.0%	2	CAN	W.H.WALKER	CRC	711801R

Q: YIELD OF XE-135 WANTED.
O: FOR CALCULATION OF FISSION PRODUCT ABSORPTION.

1151	25.3	MV		1.0%	1	USA	N.STEEN F.FEINER	BET KAP	781191R

Q: NUCLIDES OF INTEREST ARE Y-89, SR-90, MO-95, TC-99, RH-103, RH-105, XE-135, CS-135, XE-136, CS-137, LA-139, PR-141, PM-147, ND-147, SM-149, SM-151, SM-152 AND EU-153.
O: DATA NEEDED TO IMPROVE ACCURACY OF PREDICTED FISSION PRODUCT POISONS.
M: NEW REQUEST.

STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

92 URANIUM 233 NEUTRON RESONANCE PARAMETERS

1152	25.3	MV	5.00	KEV	3	USA	C.E.TILL P.B.HEMMIG	ANL DOE	671195R

Q: MULTILEVEL PARAMETERS AND STATISTICAL DISTRIBUTIONS WANTED IN EV RANGE.
A: ACCURACY 10 PERCENT WANTED TO 100 EV, 30 PERCENT ABOVE.
C: FOR THERMAL BREEDER CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

92 URANIUM 234 HALF LIFE

1153				0.3%	1	USA	J.GRUNDL	NBS	761120R

Q: ALPHA HALF LIFE REQUIRED.
O: FOR MASS DETERMINATION OF FISSIONABLE DEPOSITS.
M: NEW REQUEST.

92 URANIUM 234 NEUTRON TOTAL CROSS SECTION

1154	25.3	MV	20.0	MEV	5.0%	2	IND	S.B.GARG	TRM	753026R

O: REQUIRED FOR THORIUM FUEL-CYCLE STUDIES.

92 URANIUM 234 NEUTRON ELASTIC CROSS SECTION

1155	25.3	MV	20.0	MEV	5.0%	2	IND	S.B.GARG	TRM	753027R

O: REQUIRED FOR THORIUM FUEL-CYCLE STUDIES.

92 URANIUM 234 NEUTRON INELASTIC CROSS SECTION

1156	UP TO		20.0	MEV	5.0%	2	IND	S.B.GARG	TRM	753028R

O: REQUIRED FOR THORIUM FUEL-CYCLE STUDIES.

92 URANIUM 234 NEUTRON CAPTURE CROSS SECTION

1157	1.00	MV	10.0	MEV		2	USA	C.E.TILL	ANL	691400R

A: ACCURACY 3 PERCENT BELOW 2 EV, 6 PERCENT BELOW 10 KEV, 10 PERCENT BELOW 1 MEV, 20 PERCENT ABOVE.
M: SUBSTANTIAL MODIFICATIONS.

1158	1.00	EV	10.0	MEV	15.0%	2	GER	H.GERWIN	JUL	692356R
1159	UP TO		10.0	KEV	5.0%	3	FR	H.TELLIER	SAC	732094R
1160	25.3	MV	20.0	MEV	5.0%	2	IND	S.B.GARG	TRM	753029R

O: REQUIRED FOR THORIUM FUEL-CYCLE STUDIES.

1161	1.00	KEV	3.00	MEV	50.0%	3	FR	P.HAMMER	CAD	792031R

O: EVALUATION SUFFICIENT
M: NEW REQUEST.

92 URANIUM 234 NEUTRON N,2N

1162	UP TO	15.0	MEV	10.0%	1	FR	J.SALVY	BRC	682050R

92 URANIUM 234 NEUTRON N,3N

1163	UP TO	15.0	MEV	15.0%	1	FR	J.SALVY	BRC	682051R

92 URANIUM 234 NEUTRON FISSION CROSS SECTION

1164	4.00 MEV	10.0	MEV	15.0%	2	GER	H.GERWIN	JUL	692353R

O: SPECTRUM INDEX.

1165	25.3 MV	20.0	MEV	5.0%	2	IND	S.B.GARG	TRM	753030R

O: REQUIRED FOR THORIUM FUEL-CYCLE STUDIES.

1166	1.00 KEV	3.00	MEV	50.0%	3	FR	P.HAMMER	CAD	792032R

O: EVALUATION SUFFICIENT
M: NEW REQUEST.

92 URANIUM 234 NEUTRON ENERGY SPECTRUM OF DELAYED FISSION NEUTRONS

1167				5.0%	1	USA	N.STEEN	BET	781187R

Q: NEED FAST GROUP YIELDS AND SPECTRA.
O: NO MEASUREMENTS AVAILABLE.
FOR NON-DESTRUCTIVE ASSAY OF U-233 TH-232 FUEL.
M: NEW REQUEST.

92 URANIUM 235 HALF LIFE

1168				0.3%	1	USA	J.GRUNDL	NBS	761121R

Q: ALPHA HALF LIFE REQUIRED.
O: FOR MASS DETERMINATION OF FISSIONABLE DEPOSITS.
M: NEW REQUEST.

STATUS----------STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

92 URANIUM 235 GAMMA FISSION PRODUCT MASS YIELD SPECTRUM

1169	4.00 MEV	14.0	MEV	10. %	3	JAP	R.MIKI	KKU	762034N

Q: TOTAL FISSION YIELD PRODUCED BY BREMSSTRAHLUNG REQUIRED. YIELD MAY BE IN THE UNIT OF YIELD ROENTGEN*NUCLEUS OR RELATIVE TO U-238 OR OTHER PHOTO ACTIVATION YIELDS.
O: BREMSSTRAHLUNG CONVERTER (PREFERABLY TA) OF SUFFICIENT THICKNESS TO STOP ELECTRONS. NON-DESTRUCTIVE ASSAY OF U

1170	4.00 MEV	14.0	MEV	5. %	3	JAP	R.MIKI	KKU	762042N

Q: CUMULATIVE YIELDS OF HIGH FISSION YIELD ISOTOPES.
O: BREMSSTRAHLUNG CONVERTER (PREFERABLY TA) OF SUFFICIENT THICKNESS TO STOP ELECTRONS. NON-DESTRUCTIVE ASSAY OF NUCLEAR MATERIALS

92 URANIUM 235 NEUTRON TOTAL CROSS SECTION

1171	1.00 MV	1.00	EV	0.5%	1	USA	B.R.LEONARD	BNW	761083R

O: NEEDED FOR THERMAL CROSS SECTION EVALUATION.
M: NEW REQUEST.

92 URANIUM 235 NEUTRON ELASTIC CROSS SECTION

1172				10.0%	3	UK	J.FELL	WIN	692360R

Q: THERMAL AVERAGE INCIDENT ENERGY.
C: FOR LONG TERM IMPROVEMENT OF THE ABSORPTION CROSS SECTION.

1173	1.00 KEV	15.0	MEV	10.0%	1	FR	A.MICHAUDON	BRC	742067R

O: FOR CRITICAL ASSEMBLIES.

92 URANIUM 235 NEUTRON DIFFERENTIAL ELASTIC CROSS SECTION

1174	1.00 MEV	5.00	MEV	20.0%	2	USA	C.E.TILL P.B.HEMMIG	ANL DOE	691237R

A: ENERGY RESOLUTION AT LEAST 0.5 MEV.
O: NEEDED FOR ANALYZING FAST CRITICAL EXPERIMENTS.

1175	1.00 KEV	15.0	MEV	10.0%	1	FR	A.MICHAUDON	BRC	742068R

O: FOR CRITICAL ASSEMBLIES.

92 URANIUM 235 NEUTRON INELASTIC CROSS SECTION

1176	UP TO	15.0	MEV	10.0%	2	SWD	H.HAEGGBLOM	AE	692363R
							O: FAST CRITICAL SYSTEMS.		
1177	UP TO	15.0	MEV	10.0%	2	FR	A.MICHAUDON	BRC	742070R
							O: FOR CRITICAL ASSEMBLIES.		
1178	800. KEV	5.00	MEV		2	CCP	L.N.USACHEV	FEI	754024R
							A: FROM 0.8 - 1.4 MEV ACCURACY 15 PERCENT. FROM 1.4 - 2.5 MEV ACCURACY 17 PERCENT. FROM 2.5 - 5.0 MEV ACCURACY 30 PERCENT. O: NEED FOR FAST REACTOR CALCULATION. FOR MORE DETAIL SEE INTRODUCTION. M: SUBSTANTIAL MODIFICATIONS.		

92 URANIUM 235 NEUTRON ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

1179	UP TO	15.0	MEV		2	CCP	M.N.NIKOLAEV	FEI	714006R
							Q: CROSS SECTION FOR INELASTIC REMOVAL BELOW FISSION THRESHOLDS OF U-238 (7 PERCENT ACCURACY) AND OF PU-240 OR NP-237 (10 PERCENT ACCURACY) WANTED. EXCITATION CROSS SECTION FOR LOW LYING LEVELS REQUESTED WITH 15 PERCENT ACCURACY. TEMPERATURES OF THE INELASTIC SCATTERING SPECTRA AS WELL AS DIRECT AND PRE-EQUILIBRIUM MECHANISM CONTRIBUTIONS IN THE CONTINUUM ARE OF INTEREST. O: SEE GENERAL COMMENTS IN THE INTRODUCTION.		
1180	50.0 KEV	6.00	MEV	10.0%	2	USA	C.E.TILL P.B.HEMMIG	ANL DOE	721076R
							Q: LOW ENERGY NEUTRONS MUST BE INCLUDED. ABSOLUTE SPECTRA AT 30 AND 75 DEGREES MAY SUFFICE. A: INCIDENT AND EXIT ENERGY RESOLUTIONS 10. PERCENT.		

92 URANIUM 235 NEUTRON ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION

1181	UP TO	15.0	MEV	20.0%	2	FR	A.MICHAUDON	BRC	742071R
							O: FOR CRITICAL ASSEMBLIES.		

92 URANIUM 235 NEUTRON CAPTURE CROSS SECTION

1182	1.00 MEV	10.0	MEV		1	JAP	S.KATSURAGI H.MATSUNOBU	JAE SAE	682055R
							Q: ALPHA ALSO WANTED. A: REQUIRED ACCURACY - 5 TO 10 PERCENT. RESOLUTION - 1 TO 2 PERCENT. O: FOR FAST REACTORS. NUCLEAR DATA EVALUATION. NO EXPERIMENTAL DATA ABOVE 2.6 MEV. M: SUBSTANTIAL MODIFICATIONS.		
1183	10.0 KEV	10.0	MEV		2	GER	H.GERWIN	JUL	692378R
							A: ACCURACY TO OBTAIN 1 PERCENT IN ALPHA. O: ANALYSIS OF CRITICAL EXPERIMENTS.		
1184	1.00 MV	1.00	EV	1.0%	1	USA	N.STEEN	BET	741117R
							Q: SHAPE ESPECIALLY IMPORTANT AT LOW ENERGY. O: TO RESOLVE DISCREPANCIES IN THERMAL PARAMETERS.		
1185	200. EV	500.	KEV	3.0%	2	SWD	H.HAEGGBLOM	AE	742005R
							O: FAST REACTOR CALCULATIONS.		
1186	UP TO	3.00	MEV	5.0%	1	FR	A.MICHAUDON	BRC	742078R
							C: FOR CRITICAL ASSEMBLIES.		
1187	5.00 KEV	10.0	MEV		2	CCP	L.N.USACHEV	FEI	754007R
							A: FROM 5.0 - 100 KEV ACCURACY 3.7 PERCENT. FROM 0.1 - 0.8 MEV ACCURACY 10 PERCENT. FROM 0.8 - 4.5 MEV ACCURACY 50 PERCENT. ABOVE 4.5 MEV REQUIREMENTS 2 TIMES WEAKER. O: NEED FOR FAST REACTOR CALCULATIONS. FOR MORE DETAIL SEE INTRODUCTION. M: SUBSTANTIAL MODIFICATIONS.		

92 URANIUM 235 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

1188	1.00 KEV	15.0	MEV	10.0%	1	FR	A.MICHAUDON	BRC	742069R
							O: FOR SHIELDING.		

92 URANIUM 235 NEUTRON N,2N

1189	UP TO	15.0	MEV	15.0%	1	FR	C.PHILIS	BRC	792033R
							C: FOR CRITICAL ASSEMBLIES M: NEW REQUEST.		

92 URANIUM 235 NEUTRON N,3N

1190 UP TO 15.0 MEV 15.0% 1 FR A.MICHAUDON BRC 742072R
Q: FOR CRITICAL ASSEMBLIES.

92 URANIUM 235 NEUTRON FISSION CROSS SECTION

1191 10.0 KEV 15.0 MEV 1.0% 1 USA G.E.HANSEN LAS 661043R

1192 1.00 EV 1.00 KEV 3.0% 2 USA P.GREEBLER GEB 691241R
Q: USED AS STANDARD AT HIGHER ENERGIES.

1193 100. KEV 20.0 MEV 1.0% 1 USA R.S.CASWELL NBS 691245R
Q: EXCITATION FUNCTION WITH ABSOLUTE CALIBRATION AT SEVERAL ENERGIES.
M: SUBSTANTIAL MODIFICATIONS.

1194 1.00 KEV 14.0 MEV 1.0% 1 USA C.E.TILL ANL 691246R
P.B.HEMMIG DOE
F.C.MAIENSCHEIN ORL
Q: REQUIRED IS RATIO OF U-235(N,F) TO B-10(N,ALPHA), AND TO H-1(N,P) TO 1 PERCENT.
A: INTERMEDIATE ACCURACY OF 3 PERCENT USEFUL.
O: NEEDED TO COMPARE STANDARDS.

1195 1.00 KEV 14.0 MEV 1 USA P.GREEBLER GEB 691449R
P.B.HEMMIG DOE
R.A.DONCALS WEW
Q: ABSOLUTE VALUES REQUIRED.
A: FROM 1-20 KEV, ACCURACY 2 PERCENT, 5 PERCENT USEFUL.
FROM 20 KEV - 3 MEV, ACCURACY 1 PERCENT, 3 PERCENT USEFUL.
FROM 3-14 MEV, ACCURACY 2 PERCENT, 5 PERCENT USEFUL.
O: FOR FAST REACTOR CALCULATIONS AND FOR USE AS A STANDARD.

1196 100. EV 10.0 MEV 1 GER H.GERWIN JUL 692366R
A: ACCURACY 5 PERCENT FOR 100 EV - 10 KEV, 2 PERCENT FOR 10 KEV - 1 MEV AND 5 PERCENT FOR 1-10 MEV.
O: SPECTRUM INDEX.
STANDARD CROSS SECTION.

1197 1.00 MEV 5.00 MEV 3.0% 1 UK C.G.CAMPBELL WIN 692368R
A: ACCURACY FOR AVERAGE VALUE OF THE ERROR BETWEEN E AND 2E.
O: STANDARD FOR PU CROSS-SECTIONS.
FOR FAST REACTORS.

1198 200. EV 500. KEV 2.0% 2 SWD H.HAEGGBLOM AE 692496R
O: FAST REACTOR CALCULATIONS.

1199 5.00 KEV 7.00 MEV 2.0% 2 CCP M.N.NIKOLAEV FEI 714007R
Q: BELOW 20 KEV MEASUREMENTS OF TRANSMISSION CURVES BY FLAT RESPONSE DETECTOR AND BY SELF DETECTION METHOD WITH FISSION DETECTOR WANTED FOR SELFSHIELDING EVALUATION.
THESE CURVES MUST BE MEASURED WITH ATTENUATIONS OF THE PRIMARY BEAM DOWN TO 1. PERCENT.
AVERAGE CS IN FISSION NEUTRON SPECTRUM OF CF-252 TIMES NU-BAR OF CF-252 IS OF GREAT INTEREST FOR REDUCING THE DEPENDENCE OF THE ACCURACY OF NEUTRON PRODUCTION CALCULATIONS UPON THE ACCURACY OF THE CF-252 NU-BAR STANDARD (REQUIRED ACCURACY 1 PERCENT).
A: ACCURACY DETERMINED BY USE OF THIS CROSS SECTION AS STANDARD IN FISSION AND CAPTURE MEASUREMENTS FOR OTHER ISOTOPES.
IF MEASUREMENT IS ABSOLUTE AND PU-239 AND U-238 FISSION CROSS SECTIONS ARE MEASURED RELATIVE TO U-235 FISSION, THEN 2.0 PERCENT ACCURACY IS REQUIRED.
BEST ACCURACY OF 1.5 PERCENT DESIRABLE IN 1.2 TO 2.5 MEV REGION BECAUSE OF U-238 FISSION CROSS SECTION NORMALIZATION.
O: SEE GENERAL COMMENTS IN THE INTRODUCTION.
REQUEST CONSIDERED FULFILLED, WHEN AT LEAST THREE MEASUREMENTS WITH DIFFERENT METHODS AGREE WITHIN REQUESTED ACCURACY.

1200 1.00 MV 1.00 EV 5.0% 1 USA N.STEEN BET 741118R
Q: SHAPE ESPECIALLY IMPORTANT AT LOW ENERGY.

1201 400. KEV 2.00 MEV 1.5% 1 USA W.DAVEY LAS 741209R
Q: A RELATIVE MEASUREMENT NORMALIZED TO EXISTING DATA ABOVE 1 MEV IS SUFFICIENT.
O: EXTENSION OF LASL ABSOLUTE MEASUREMENT BELOW 1 MEV TO OVERLAP IMPORTANT LOWER ENERGY DATA.
A REFERENCE WHICH IS VITAL TO ALL REACTOR STUDIES.

1202 UP TO 15.0 MEV 1 FR A.MICHAUDON BRC 742073R
A: ACCURACY 3 PERCENT TO 1 KEV, 2 PERCENT ABOVE.
O: FOR CRITICAL ASSEMBLIES.

1203					2.0%	2	EUR	NEUTRON DOSIMETRY GROUP	GEL	742113R

Q: AVERAGE CROSS SECTION IN A U-235 FISSION SPECTRUM DESIRED.
C: FOR NORMALIZATION OF AVERAGE CROSS SECTIONS FOR DOSIMETRY PURPOSES.
M: SUBSTANTIAL MODIFICATIONS.

1204	5.00	KEV	10.0	MEV		2	CCP	L.N.USACHEV	FEI	754008R

A: FROM 5.0 - 100 KEV ACCURACY 1.2 PERCENT.
FROM 0.1 - 0.8 MEV ACCURACY 1.1 PERCENT.
FROM 0.8 - 4.5 MEV ACCURACY 1.4 PERCENT.
ABOVE 4.5 MEV REQUIREMENTS 2 TIMES WEAKER.
O: NEED FOR FAST REACTOR CALCULATIONS.
STANDARD CS ABOVE 100 KEV.
FOR MORE DETAIL SEE INTRODUCTION.
M: SUBSTANTIAL MODIFICATIONS.

1205	5.00	MV	1.00	EV	1.0%	1	USA	R.S.CASWELL	NBS	761107R

O: NEEDED AS A REFERENCE STANDARD FOR CROSS SECTION MEASUREMENT.
M: NEW REQUEST.

1206	7.50	EV	11.5	EV	1.0%	1	USA	R.S.CASWELL	NBS	761108R

O: FOR NORMALIZATION OF U-235 MEASUREMENTS.
M: NEW REQUEST.

1207	1.00	MEV	5.00	MEV	3.0%	1	GER	H.KUESTERS	KFK	792188R

O: AN EVALUATION IS REQUIRED FOR THE ENERGY RANGE 100 EV TO 5 MEV.
M: NEW REQUEST.

STATUS

UNDER CONTINUOUS REVIEW BY INDC AND NEANDC. SEE APPENDIX A.

92 URANIUM 235 NEUTRON CAPTURE TO FISSION RATIO (ALPHA)

1208	1.00	MV	7.00	MEV		2	USA	C.E.TILL P.GREEBLER P.B.HEMMIG	ANL GEB DOE	691249R

Q: CAPTURE CROSS SECTION EQUALLY USEFUL.
A: REQUIRED ACCURACY - 5 TO 10 PERCENT.
O: EXPERIMENTAL UNCERTAINTIES NEED VERIFICATION.

1209	100.	EV	1.00	MEV	5.0%	2	UK	C.G.CAMPBELL	WIN	692373R

A: ACCURACY FOR AVERAGE VALUE OF THE ERROR BETWEEN E AND 2E.
O: FOR FAST REACTORS.

1210	100.	EV	800.	KEV	7.0%	1	CCP	M.N.NIKOLAEV	FEI	714008R

Q: FOR EVALUATION OF THE DIFFERENCES IN THE CAPTURE- AND FISSION-RESONANCE SELF SHIEDING.
MEASUREMENTS OF TRANSMISSION CURVES WITH FLAT-RESPONSE DETECTOR AND BY SELF-INDICATION METHOD WITH CAPTURE AND FISSION DETECTORS IN THE TEMPERATURE RANGE 70-2500 DEGREES K ARE WANTED.
A: IN REGION 1-100 KEV BETTER ACCURACY DESIRABLE (ABOUT 5 PERCENT).
IN THE TRANSMISSION MEASUREMENTS ATTENUATION OF AT LEAST 1/100 WANTED.
O: SEE GENERAL COMMENTS IN THE INTRODUCTION.
ALSO NEEDED FOR COMPARISON WITH ALPHA PU-239 FOR TEST OF MEASUREMENT METHODS.
AT LEAST THREE DIFFERENT RESULTS MUST COINCIDE WITHIN REQUESTED ACCURACY.

1211	1.00	MV	1.00	EV	1.0%	1	USA	N.STEEN	BET	721077R

Q: CAPTURE CROSS SECTION EQUALLY USEFUL.
O: EXPERIMENTAL UNCERTAINTIES NEED VERIFICATION.

STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

92 URANIUM 235 NEUTRON NEUTRONS EMITTED PER NEUTRON ABSORPTION (ETA)

1212	25.3	MV	50.0	KEV		2	USA	C.E.TILL P.GREEBLER P.B.HEMMIG	ANL GEB DOE	671100R

A: ACCURACY 1/2 PERCENT AT THERMAL, 2 PERCENT ELSEWHERE.

1213	10.0	MV	0.40	EV	0.5%	1	UK	J.FELL	WIN	692370R

Q: VALUE RELATIVE TO 25.3 MV ETA WANTED.
A: ACCURACY IS FOR AVERAGE VALUES IN 20 MV STEPS UP TO 0.2 EV, AND IN 50 MV STEPS ABOVE.
O: FOR TEMPERATURE COEFFICIENT WORK.

1214	1.00	MV	1.00	EV	0.4%	1	USA	N.STEEN	BET	741119R

Q: SHAPE ESPECIALLY IMPORTANT AT LOW ENERGY.
USE TECHNIQUE OTHER THAN MANGANESE BATH.

1215	10.0	MV	0.40	EV	0.5%	2	GER	H.KUESTERS	KFK	792218R

Q: VALUE RELATIVE TO 25.3 MV ETA WANTED.
M: NEW REQUEST.

STATUS

THERMAL VALUE UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

STATUS

92 URANIUM 235 NEUTRON NEUTRONS EMITTED PER FISSION (NU BAR)

1216	25.3	MV	3.00	MEV	1.0%	1	USA	C.E.TILL P.GREEBLER P.B.HEMMIG	ANL GEB DOE	691253R

A: ACCURACY OF 2 PERCENT USEFUL.
BETTER THAN 0.5 PERCENT REQUIRED AT THERMAL.
O: NEEDED AS A CROSS CHECK WITH OTHER ISOTOPES.
M: SUBSTANTIAL MODIFICATIONS.

1217	25.3	MV	2.50	MEV	0.5%	2	CCP	M.N.NIKOLAEV	FEI	714009R

Q: RATIO TO CF-252 NU REQUIRED.
A: ABSOLUTE MEASUREMENTS OF U-235 NU-BAR FOR THERMAL NEUTRONS WITH ACCURACY NOT WORSE THAN 0.5 PERCENT AS WELL AS ETA MEASUREMENTS WOULD BE USEFUL FOR LOWERING THE DEPENDENCE ON THE CF-252 STANDARD.
ENERGY DEPENDENCE OF NU IS WANTED WITH 0.7 LETHARGY RESOLUTION IN THE REGION BELOW 2.5 MEV.
O: SEE GENERAL COMMENTS IN THE INTRODUCTION.

1218	UP TO		15.0	MEV		1	FR	A.MICHAUDON	BRC	742075R

A: ACCURACY 2 PERCENT TO 1 KEV, 1 PERCENT ABOVE.
C: FOR CRITICAL ASSEMBLIES.

1219	5.00	KEV	10.0	MEV		2	CCP	L.N.USACHEV	FEI	754010R

A: FROM 5.0 - 100 KEV ACCURACY 0.5 PERCENT.
FROM 0.1 - 0.8 MEV ACCURACY 0.5 PERCENT.
FROM 0.8 - 4.5 MEV ACCURACY 1.2 PERCENT.
ABOVE 4.5 MEV REQUIREMENTS 2 TIMES WEAKER.
O: NEED FOR FAST REACTOR CALCULATIONS.
FOR MORE DETAIL SEE INTRODUCTION.
M: SUBSTANTIAL MODIFICATIONS.

1220	1.00	MV	1.00	EV	0.2%	1	USA	N.STEEN	BET	781189R

Q: MEASUREMENTS RELATIVE TO U-233 AND PU-239 WANTED.
M: NEW REQUEST.

STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

92 URANIUM 235 NEUTRON DELAYED NEUTRONS EMITTED PER FISSION

1221	25.3	MV	5.00	MEV	5.0%	2	USA	P.B.HEMMIG	DOE	691260R

Q: DELAYED NEUTRON ENERGY SPECTRUM WANTED.
YIELD, HALF-LIFE, AND ENERGY NEEDED.
O: NEEDED FOR ANALYSIS OF FAST CRITICALS AND TO CHECK EXISTING DATA.

1222					3.0%	1	USA	N.STEEN	BET	741120R

Q: FOR THE ENTIRE ENERGY RANGE.
O: TO RESOLVE UNCERTAINTIES IN AVAILABLE DATA.

1223	25.3	MV	10.0	MEV	5. %	2	JAP	T.MURATA	NIG	762046N

Q: THE REQUESTED QUANTITIES ARE THE GROUP HALF LIVES AND GROUP YIELDS (NORMALIZED TO 1 FISSION) WHICH CAN BE USED TO FIT THE DECAY CURVE OF DELAYED NEUTRONS FOR THE TIME RANGE 0.1-300 SEC WITHIN AN ACCURACY OF 5 PER CENT.
O: INCIDENT ENERGY STEP LESS THAN 2 MEV.
ACTIVE ASSAY OF MIXED FRESH AND IRRADIATED FUEL

STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

92 URANIUM 235 NEUTRON ENERGY SPECTRUM OF FISSION NEUTRONS

1224	25.3	MV	3.00	MEV	5.0%	2	USA	C.E.TILL P.B.HEMMIG	ANL DOE	691256R

O: VERIFICATION OF FISSION SPECTRUM NEEDED.

1225	100.	KEV			2.0%	2	UK	C.G.CAMPBELL A.WHITTAKER S.B.WRIGHT	WIN UKW HAR	692376R

A: INCIDENT ENERGY, ABOUT 100 KEV.
ACCURACY FOR AVERAGE E'.
ACCURACY 10 PERCENT ON NUMBER OF NEUTRONS ABOVE 5 MEV AND BELOW .25 MEV.
LOW RESOLUTION ADEQUATE FOR INCIDENT ENERGY.
O: FOR FAST REACTORS.
FOR REACTION RATE ANALYSIS.

1226	25.3	MV			1.0%	1	USA	N.STEEN	BET	721080R

Q: NEED SHAPE OF SECONDARY NEUTRON ENERGY DISTRIBUTION FROM 100 KEV TO 15 MEV.
A: RELATIVE PEAK TO 1 PERCENT.
O: NEEDED FOR CRITICALITY CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

1227	UP TO		15.0	MEV	5.0%	1	FR	A.MICHAUDON	BRC	742077R

O: FOR CRITICAL ASSEMBLIES.

STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

92 URANIUM 235 NEUTRON SPECTRUM OF PROMPT GAMMA RAYS EMITTED IN FISSION

1228	25.3	MV	14.0	MEV	2.0 %	3	CCP	S.S.KOVALENKO	RI	734001N

Q: YIELD AND SPECTRA WANTED FOR 5 TO 15 MEV GAMMAS.
A: 10.0 KEV GAMMA RESOLUTION WANTED.
O: FOR ASSAY OF U IN FUEL ELEMENTS FROM FROMPT GAMMAS.

92 URANIUM 235 NEUTRON DELAYED GAMMA SPECTRUM FROM FISSION PRODUCTS

1229	25.3	MV			15.0%	3	USA	R.B.WALTON	LAS	701029N

Q: FISSION PRODUCT GAMMA RAY ENERGIES FROM 0.25 TO 5 MEV.
DELAY TIME FROM 1 MILLISECOND TO 12 HOURS.
ASSOCIATE GAMMA RAYS WITH FISSION PRODUCTS IF POSSIBLE.
A: GE(LI) RESOLUTION AT 1.2 MEV SHOULD BE 2.5 KEV.
C: NON-DESTRUCTIVE ASSAY OF U-235.
M: SUBSTANTIAL MODIFICATIONS.

92 URANIUM 235 NEUTRON FISSION PRODUCT MASS YIELD SPECTRUM

1230	25.3	MV			1.0%	2	CCP	S.A.SKVORTSOV O.A.MILLER	KUR KUR	704022N

Q: YIELDS OF ZR-95 AND RU-106 ARE REQUIRED.
O: FOR ASSAY OF U IN SPENT FUEL ELEMENTS BY THE FISSION PRODUCT GAMMA RAYS.

1231	25.3	MV			1.0%	2	CAN	W.H.WALKER	CRC	711802R

Q: YIELD OF XE-135 WANTED.
O: CALCULATION OF FISSION PRODUCT POISONS.

1232	25.3	MV			1.0%	1	USA	N.STEEN F.FEINER	BET KAP	781192R

Q: NUCLIDES OF INTEREST ARE RH-105, XE-135, CS-135, CS-137, ND-147, SM-149 AND EU-153.
O: DATA NEEDED TO IMPROVE ACCURACY OF PREDICTED FISSION PRODUCT POISONING.
M: NEW REQUEST.

STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

92 URANIUM 235 NEUTRON RESONANCE PARAMETERS

1233	25.3	MV	200.	EV	10.0%	1	USA	C.E.TILL P.GREEBLER P.B.HEMMIG	ANL GEB DOE	691262R

Q: MULTILEVEL FIT WANTED WHERE FEASIBLE.
O: NEEDED FOR EXTRAPOLATION TO UNRESOLVED RESONANCE REGION.
M: SUBSTANTIAL MODIFICATIONS.

1234	25.3	MV	200.	EV	10.0%	2	USA	N.STEEN	BET	691263R

Q: MULTILEVEL FIT WHERE FEASABLE.
O: VERIFICATION OF EXISTING DATA USEFUL.
M: NEW REQUEST.

1235	1.00	EV	200.	EV	3.0%	2	FR	H.TELLIER	SAC	702025R

O: FOR RESONANCE SELF SHIELDING.

STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

92 URANIUM 236 NEUTRON ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

1236	UP TO		5.00	MEV	10.0%	2	CCP	M.N.NIKOLAEV	FEI	714012R

Q: CROSS SECTION FOR INELASTIC REMOVAL BELOW FISSION THRESHOLDS OF U-236 AND U-238 WANTED.
THIN SPHERE TRANSMISSION MEASUREMENTS WITH CF-252 SOURCE AND FISSION THRESHOLD DETECTORS WOULD BE USEFUL.
O: SEE GENERAL COMMENTS IN THE INTRODUCTION.

92 URANIUM 236 NEUTRON CAPTURE CROSS SECTION

1237	25.3	MV	1.00	MEV	10.0%	1	USA	P.GREEBLER	GEB	671109R

A: REQUIRED 10 PERCENT ACCURACY IN CAPTURE WIDTHS.
O: ABOVE 1 KEV PRIORITY 2.
NEEDED FOR CONTROL OF U-232 PRODUCTION.

1238	1.00	EV	500.	EV	5.0%	2	CAN	W.H.WALKER	CRC	681801R

O: DISAGREEMENT BETWEEN INTEGRAL AND DIFFERENTIAL MEASUREMENTS.

1239	1.00	KEV	3.00	MEV	10.0%	1	FR	J.SALVY	BRC	682060R

1240	1.00	EV	10.0	MEV	20.0%	2	GER	H.GERWIN	JUL	692381R
1241	1.00	KEV	3.00	MEV	50.0%	3	FR	P.HAMMER	CAD	712064R

Q: RATIO TO U-235 FISSION OR U-238 CAPTURE NEEDED.
O: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

1242	500.	EV	1.40	MEV	7.0%	2	CCP	M.N.NIKOLAEV	FEI	714015R

Q: RATIC WANTED RELATIVE TO U-235 FISSION.
O: SEE GENERAL COMMENTS IN THE INTRODUCTION.

1243	25.3	MV	14.0	MEV		2	JAP	Y.NAITO	JAE	722040N

A: ACCURACY REQUIRED AT THERMAL IS 3 PERCENT, 10 PERCENT ABOVE.
O: FOR BURN UP CALCULATION OF A PU LOADED THERMAL REACTOR.

92 URANIUM 236 NEUTRON FISSION CROSS SECTION

1244	UP TO		15.0	MEV	10.0%	1	FR	J.SALVY	BRC	682058R

O: EVALUATION MAY BE SUFFICIENT.

1245	4.00	MEV	10.0	MEV	5.0%	2	GER	H.GERWIN	JUL	692380R
1246	1.00	KEV	3.00	MEV	50.0%	3	FR	P.HAMMER	CAD	712062R

Q: WANTED RELATIVE TO U-235 FISSION CROSS SECTION.
O: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

1247	100.	KEV	5.00	MEV	5.0%	2	CCP	M.N.NIKOLAEV	FEI	714013R

Q: RATIO WANTED RELATIVE TO U-235.
AVERAGE CS IN FISSION NEUTRON SPECTRUM OF CF-252 TIMES NU-BAR OF CF-252 WOULD BE VERY USEFUL (REQUIRED ACCURACY 1 PERCENT).
O: SEE GENERAL COMMENTS IN THE INTRODUCTION.

92 URANIUM 236 NEUTRON NEUTRONS EMITTED PER FISSION (NU BAR)

1248	500.	EV	15.0	MEV	3.0%	3	FR	P.HAMMER	CAD	712063R

A: ACCURACY RELATIVE TO NU CF-252.
O: FOR FAST REACTOR CALCULATIONS.

1249	UP TO		5.00	MEV	1.0%	2	CCP	M.N.NIKOLAEV	FEI	714014R

O: SEE GENERAL COMMENTS IN THE INTRODUCTION.

92 URANIUM 236 NEUTRON ENERGY SPECTRUM OF DELAYED FISSION NEUTRONS

1250					5.0%	1	USA	N.STEEN	BET	781188R

Q: NEED FAST GROUP YIELDS AND SPECTRA.
O: NO MEASUREMENTS AVAILABLE.
FOR NON-DESTRUCTIVE ASSAY OF U-233 TH-232 FUEL.
M: NEW REQUEST.

92 URANIUM 236 NEUTRON RESONANCE PARAMETERS

1251	10.0	EV	5.00	KEV		2	CCP	M.N.NIKOLAEV	FEI	714011R

Q: NEUTRON AND CAPTURE WIDTHS WANTED FOR EVALUATION OF SELFSHIELDING IN RESOLVED RESONANCE REGION.
A: OBSERVATION OF AT LEAST 50 PERCENT OF P-WAVE RESONANCES IN THE ENERGY INTERVAL TO 1 KEV IS DESIRED.
O: SEE GENERAL COMMENTS IN THE INTRODUCTION.
STATISTICAL ANALYSIS OF MEASURED RESONANCE PARAMETERS WANTED.
AVERAGE S AND P WAVE RESONANCE PARAMETERS SHOULD BE DERIVED.

92 URANIUM 237 GAMMA RAY YIELD

1252					5.0%	2	JAP	Y.NODA H.OKABAYASHI	NIS NIS	792090R

Q: YIELD PER DISINTEGRATION OF 59.5 AND 208 KEV GAMMA RAYS.
O: RADIATION DOSE CALCULATION FOR PU-241 DAUGHTER.
STATUS
NUCLEAR DATA SHEETS, 23 71 (1978); EVALUATION 10%.
M: NEW REQUEST.

92 URANIUM 237 NEUTRON CAPTURE CROSS SECTION

1253	1.00	KEV	3.00	MEV	50.0%	3	FR	P.HAMMER	CAD	792034R

O: EVALUATION SUFFICIENT
M: NEW REQUEST.

92 URANIUM 237 NEUTRON FISSION CROSS SECTION

1254	1.00	KEV	3.00	MEV	50.0%	3	FR	P.HAMMER	CAD	792035R

Q: EVALUATION SUFFICIENT
M: NEW REQUEST.

92 URANIUM 238 HALF LIFE

1255					0.3%	1	USA	J.GRUNDL	NBS	761122R

Q: ALPHA HALF LIFE REQUIRED.
O: FOR MASS DETERMINATION OF FISSIONABLE DEPOSITS.
M: NEW REQUEST.

92 URANIUM 238 GAMMA. FISSION PRODUCT MASS YIELD SPECTRUM

1256	4.00	MEV	14.0	MEV	10. %	3	JAP	R.MIKI	KKU	762035N

Q: TOTAL FISSION YIELD PRODUCED BY BREMSSTRAHLUNG REQUIRED. YIELD MAY BE IN THE UNIT OF YIELD/ ROENTGEN*NUCLEUS OR RELATIVE TO OTHER PHOTOACTIVATION YIELDS.
O: BREMSSTRAHLUNG CONVERTER (PREFERABLY TA) SUFFICIENT THICKNESS TO STOP ELECTRONS. NON-DESTRUCTIVE ASSAY OF U

1257	4.00	MEV	14.0	MEV	5. %	3	JAP	R.MIKI	KKU	762043N

Q: CUMULATIVE YIELDS OF HIGH FISSION YIELD ISOTOPES.
O: NON-DESTRUCTIVE ASSAY OF NUCLEAR MATERIALS

92 URANIUM 238 NEUTRON ELASTIC CROSS SECTION

1258	1.00	KEV	15.0	MEV	5.0%	2	FR	C.PHILIS	BRC	742081R

O: FOR CRITICAL ASSEMBLIES.

92 URANIUM 238 NEUTRON DIFFERENTIAL ELASTIC CROSS SECTION

1259	1.00	KEV	10.0	MEV		1	USA	C.E.TILL P.GREEBLER P.B.HEMMIG	ANL GEB DOE	691407R

A: ACCURACY 10 PERCENT FROM 1 TO 300 KEV.
5 PERCENT FROM 300 KEV TO 2 MEV.
10 PERCENT FROM 2 TO 10 MEV.
FACTORS OF 2 LOWER ACCURACY WOULD BE USEFUL ON SHORT TERM.

1260	1.00	KEV	15.0	MEV	5.0%	2	FR	C.PHILIS	BRC	742082R

O: FOR CRITICAL ASSEMBLIES.

92 URANIUM 238 NEUTRON INELASTIC CROSS SECTION

1261	UP TO		15.0	MEV	5.0%	1	FR	P.HAMMER	CAD	692387R

Q: ALTERNATE QUANTITY - NONELASTIC CROSS SECTION.
O: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

1262	1.20	MEV	2.00	MEV	10.0%	2	GER	F.WELLER	KFK	692393R

Q: LEVEL EXCITATION CROSS SECTIONS FOR THE 45 AND 148 KEV LEVELS WANTED.

1263	UP TO		15.0	MEV	5.0%	2	FR	C.PHILIS	BRC	742083R

C: FOR CRITICAL ASSEMBLIES.

1264	100.	KEV	10.0	MEV		2	CCP	L.N.USACHEV	FEI	754021R

A: FROM 0.1 - 0.8 MEV ACCURACY 3.4 PERCENT.
FROM 0.8 - 1.4 MEV ACCURACY 2.7 PERCENT.
FROM 1.4 - 2.5 MEV ACCURACY 3.0 PERCENT.
FROM 2.5 - 5.0 MEV ACCURACY 10 PERCENT.
FROM 5.0 - 6.5 MEV ACCURACY 7.0 PERCENT.
FROM 6.5 - 10 MEV ACCURACY 10 PERCENT.
O: NEED FOR FAST REACTOR CALCULATION.
FOR MORE DETAIL SEE INTRODUCTION.
M: SUBSTANTIAL MODIFICATIONS.

STATUS

UNDER CONTINUOUS REVIEW BY NEANDC. SEE APPENDIX A.

92 URANIUM 238 NEUTRON ANGULAR DIFFERENTIAL INELASTIC CROSS SECTION

1265	UP TO		2.00	MEV	10.0%	2	GER	B.GOEL	KFK	692390R

92 URANIUM 238 NEUTRON ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

1266	50.0 KEV	10.0 MEV	5.0%	1	USA	C.E.TILL P.GREEBLER P.B.HEMMIG R.A.DONCALS	ANL GEB DOE WEW		691270R
						Q: EMISSION INSTEAD OF INELASTIC AND N,2N MIGHT BE USEFUL. A: ACCURACY OF 20 PERCENT WOULD BE USEFUL. ENERGY RESOLUTION 5 PERCENT.			
1267	UP TO	15.0 MEV	5.0%	1	FR	P.HAMMER	CAD		692391R
						Q: SEPARATION OF LEVELS UP TO 2 MEV REQUIRED. A: ACCURACY ON NUCLEAR TEMPERATURE ABOVE 2 MEV. C: FOR FAST REACTOR CALCULATIONS. M: SUBSTANTIAL MODIFICATIONS.			
1268	7.00 MEV	14.0 MEV	5.0%	2	GER	B.GOEL	KFK		692394R
1269	50.0 KEV	15.0 MEV		1	CCP	M.N.NIKOLAEV	FEI		714018R
						Q: DECISION ABOUT TOTAL INELASTIC CROSS SECTION AT 1.0 TO 2.5 MEV WANTED. TEMPERATURE FOR INELASTIC NEUTRONS WANTED AT THE HIGHER ENERGIES. SPECTRA AND CROSS SECTION FOR DIRECT INELASTIC SCATTERING PROCESSES TO BE INVESTIGATED IN THE MEV REGION AS WELL AS DIRECT MECHANISM CONTRIBUTIONS. A: CROSS SECTION FOR INELASTIC REMOVAL BELOW FISSION THRESHOLD OF U-238 WANTED TO 1.5 - 2.0 PERCENT. CROSS SECTION FOR INELASTIC REMOVAL BELOW FISSION THRESHOLD OF PU-240 OR NP-237 WANTED TO 3 - 5 PERCENT. EXCITATION CS FOR FIRST LEVEL ABOVE THRESHOLD TO 2 MEV SHOULD BE MEASURED WITH 5 PERCENT ACCURACY. NEUTRON SPECTRA TO BE MEASURED WITH 5 PERCENT ACCURACY AT 2.515 MEV. O: SEE GENERAL COMMENTS IN THE INTRODUCTION. PRECISION MEASUREMENTS OF MENTIONED INTEGRAL PARAMETERS IN SHELL TRANSMISSION EXPERIMENTS WITH CF-252 NEUTRON SOURCE AND U-238 AND NP-237 FISSION THRESHOLD DETECTORS AS WELL AS BY NEUTRON SPECTROMETER SEEMS VERY USEFUL.			
1270	45.0 KEV	3.00 MEV	5.0%	1	USA	P.GREEBLER	GEB		761084R
						O: FOR FAST REACTOR CALCULATIONS. M: NEW REQUEST.			

STATUS

UNDER CONTINUOUS REVIEW BY NEANDC. SEE APPENDIX A.

92 URANIUM 238 NEUTRON ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION

1271	500. KEV	5.00 MEV	5.0%	1	UK	C.G.CAMPBELL	WIN		692392R
						C: FOR FAST REACTORS.			
1272	UP TO	15.0 MEV	5.0%	2	FR	C.PHILIS	BRC		742084R
1273	500. KEV	5.00 MEV	5.0%	1	GER	H.KUESTERS	KFK		792219R
						M: NEW REQUEST.			

92 URANIUM 238 NEUTRON NON-ELASTIC CROSS SECTION

1274	10.0 KEV	15.0 MEV		2	CCP	M.N.NIKOLAEV	FEI		714017R
						A: DIRECT MEASUREMENTS BY SHELL TRANSMISSION DESIRABLE WITH 3-5 PERCENT ACCURACY. O: FOR EVALUATION OF INELASTIC SCATTERING CROSS SECTION FOR FAST REACTORS.			

92 URANIUM 238 NEUTRON CAPTURE CROSS SECTION

1275	500. EV	10.0 MEV		1	USA	C.E.TILL P.GREEBLER P.B.HEMMIG	ANL GEB DOE		691419R
						A: ACCURACY 6 PERCENT FROM 500 EV TO 1 KEV, 4 PERCENT FROM 1 KEV TO 300 KEV, 6 PERCENT FROM 300 KEV TO 500 KEV, 10 PERCENT FROM 500 KEV TO 10 MEV. ACCURACY OF 10 PERCENT FROM 1 KEV TO 10 MEV, USEFUL. O: HIGHEST PRIORITY NEED FOR FAST REACTOR CALCULATIONS.			
1276	10.0 KEV	10.0 MEV		1	USA	C.E.TILL P.GREEBLER P.B.HEMMIG	ANL GEB DOE		691435R
						Q: NEEDED IS RATIO OF CAPTURE CROSS SECTION U-238 TO FISSION CROSS SECTION OF PU-239 OR U-235. DIRECT RATIO NEEDED TO SUPPLEMENT SEPARATE MEASUREMENT. A: ACCURACY 1.5 PERCENT BELOW 300 KEV, 7 PERCENT ABOVE. INTERMEDIATE ACCURACY USEFUL NEAR TERM.			
1277	5.00 MV	6.00 EV		1	UK	J.FELL	WIN		692401R
						A: ACCURACY REQUIRED .03 BARNS. C: FOR THERMAL REACTORS.			

1278	500.	EV	800.	KEV		1	GER	H.GERWIN	JUL	692403R
								A: ACCURACY 2 PERCENT 10 TO 400 KEV, 3 PERCENT ELSEWHERE.		
								O: FAST REACTOR CALCULATIONS.		
1279	10.0	KEV	2.00	MEV	3.0%	1	UK	C.G.CAMPBELL	WIN	692405R
								A: ACCURACY FOR AVERAGE VALUE OF THE ERROR BETWEEN E AND 2E.		
								O: MEASUREMENTS REQUIRED 10.0KEV TO 80.0KEV EVALUATION REQUIRED OVER WHOLE RANGE FOR FAST REACTORS.		
1280	5.00	KEV	1.00	MEV	3.0%	2	SWD	H.HAEGGBLOM	AE	692406R
								O: NEEDED FOR FAST REACTOR CALCULATIONS.		
1281	500.	EV	1.40	MEV	3.0%	1	CCP	M.N.NIKOLAEV	FEI	714022R
								Q: RATIO TO U-235 FISSION CS IS WANTED. ABSOLUTE MEASUREMENTS OF RATIOS TO B-10(N,ALPHA) AND LI-6(N,ALPHA) CROSS SECTIONS WOULD ALSO BE USEFUL, AND AT HIGHER ENERGIES THE RATIO TO THE NP-237 FISSION CS. TRANSMISSION MEASUREMENTS WITH FLAT-RESPONSE DETECTOR AND BY THE SELF-INDICATION METHOD WITH CAPTURE GAMMA-RAY DETECTOR IN THE TEMPERATURE RANGE 70-2500 DEGREES K ARE DESIRED FOR EVALUATION OF SELF-SHIELDING AND DOPPLER EFFECTS. SPHERICAL TRANSMISSION TIME-OF-FLIGHT MEASUREMENTS SEEM TO BE A USEFUL INDEPENDENT METHOD FOR DETERMINING THE RELIABILITY OF CAPTURE CROSS-SECTION DATA.		
								A: BETWEEN 1 AND 100 KEV INFORMATION ON RESONANCE SELFSHIELDING FACTORS (SEE BOOK BY ABAGYAN ET AL., CONSULTANTS BUREAU, NEW YORK,1964) WITH 2 PERCENT ACCURACY AND AVERAGED OVER 0.2 LETHARGY INTERVALS DESIRED. TEMPERATURE DIFFERENCES OF SELFSHIELDING FACTORS MUST BE KNOWN WITH 7 PERCENT ACCURACY.		
								O: SEE GENERAL COMMENTS IN THE INTRODUCTION. FIRST PRIORITY BECAUSE IT IS DIFFICULT TO INTERPRET THE DOPPLER-EFFECT AND SELF-SHIELDING FACTORS FROM MACROSCOPIC DATA ONLY.		
1282	1.00	EV	20.0	KEV	5.0%	1	USA	N.STEEN	BET	741123R
								Q: NEED PARAMETERS FOR LOWEST RESONANCES. THICK SAMPLE TRANSMISSION AND SELF-INDICATION MEASUREMENTS DESIRABLE.		
								O: TO RESOLVE DISCREPANCIES AMONG INTEGRAL AND DIFFERENTIAL EXPERIMENTS WHEN STRONG SELF-SHIELDING EXISTS.		
								M: SUBSTANTIAL MODIFICATIONS.		
1283	1.00	KEV	3.00	MEV	5.0%	1	FR	C.PHILIS	SRC	742087R
								C: FOR CRITICAL ASSEMBLIES.		
1284	5.00	KEV	10.0	MEV		2	CCP	L.N.USACHEV	FEI	754005R
								A: FROM 5.0 - 100 KEV ACCURACY 2.1 PERCENT. FROM 0.1 - 0.8 MEV ACCURACY 2.7 PERCENT. FROM 0.8 - 4.5 MEV ACCURACY 9.3 PERCENT. ABOVE 4.5 MEV REQUIREMENTS 2 TIMES WEAKER.		
								O: NEED FOR FAST REACTOR CALCULATIONS. FOR MORE DETAIL SEE INTRODUCTION.		
								M: SUBSTANTIAL MODIFICATIONS.		
1285	100.	MV	6.00	EV	0.5%	1	USA	B.R.LEONARD	BNW	761085R
								O: FOR THERMAL CROSS SECTION EVALUATION.		
								M: NEW REQUEST.		
1286	10.0	MV	1.00	EV	2.0%	2	FR	H.TELLIER	SAC	792036R
								O: TO CHECK CAREFULLY IF THE CAPTURE CROSS SECTION IS 1/V DEPENDENT OR NOT		
								M: NEW REQUEST.		
1287	10.0	KEV	80.0	KEV	3.0%	2	GER	H.KUESTERS	KFK	792220R
								M: NEW REQUEST.		

STATUS

UNDER CONTINUOUS REVIEW BY INDC AND NEANDC. SEE APPENDIX A.

92 URANIUM 238 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

1288	25.0	MV	5.00	MEV	20.0%	3	UK	C.G.CAMPBELL	WIN	712066P
								Q: GAMMA SPECTRUM WANTED.		
								A: LOW RESOLUTION ADEQUATE FOR INCIDENT ENERGY AND PHOTON SPECTRUM.		
								O: EVALUATION REQUIREMENT. FOR STUDY OF ACTIVATION AND HEAT RELEASE IN CORE.		

92 URANIUM 238 NEUTRON ENERGY-ANGLE DIFF. PHOTON-PRODUCTION CROSS SECTION

1289	1.00	MV	15.0	MEV	10.0%	2	USA	P.B.HEMMIG	DOE	721079R
								A: GAMMA-ENERGY INTERVALS - 500 KEV.		
								O: FOR SHIELDING AND GAMMA-HEATING CALCULATIONS.		

92 URANIUM 238 — NEUTRON — N,2N

1290 UP TO 20.0 MEV — 2 CCP M.N.NIKOLAEV FEI 714019R
Q: SECONDARY ENERGY DISTRIBUTION REQUIRED.
A: ACCURACY 5 TO 10 PERCENT WANTED.
ENERGY SPECTRA OF SECONDARY NEUTRONS DESIRABLE WITH 5 PERCENT ACCURACY AND 0.2 RESOLUTION IN LETHARGY.
O: FOR FAST REACTORS.

1291 UP TO 10.0 MEV 7.0% 1 USA P.GREEBLER GEB 721078R
O: IMPORTANT TC PRODUCTION OF U-238.

1292 UP TO 15.0 MEV 15.0% 2 CCP I.N.GOLOVIN KUR 724063F
O: POSSIBLE USE AS NEUTRON MULTIPLIER.

1293 UP TO 15.0 MEV 10.0% 1 FR P.HAMMER CAD 762144R
C: FUEL CYCLE IN-CORE
M: SUBSTANTIAL MODIFICATIONS.

1294 25.0% 2 CCP L.N.USACHEV FEI 794007R
Q: AVERAGE CROSS SECTION IN A FAST-REACTOR SPECTRUM REQUESTED.
O: FOR FAST-REACTOR BURN-UP CALCULATION.
SEE GENERAL COMMENTS.
M: NEW REQUEST.

92 URANIUM 238 — NEUTRON — N,3N

1295 UP TO 15.0 MEV 15.0% 2 CCP I.N.GOLOVIN KUR 724064F
O: POSSIBLE USE AS NEUTRON MULTIPLIER.

92 URANIUM 238 — NEUTRON — FISSION CROSS SECTION

1296 500. KEV 15.0 MEV — 1 USA G.E.HANSEN LAS 671203R
Q: RATIO TO U-235 FISSION WANTED.
A: ACCURACY 5 PERCENT TO 1.3 MEV AND 1 PERCENT ABOVE.
ENERGY RESOLUTION - 3 PERCENT.
ENERGY CALIBRATION - 1 PERCENT.
O: FOR FAST BREEDER CALCULATIONS.
FOR CURIUM AND CALIFORNIUM PRODUCTION.

1297 500. EV 14.0 MEV — 1 USA P.B.HEMMIG DOE 691416R
Q: RATIO WANTED RELATIVE TO U-235 FISSION.
A: ACCURACY 4 PERCENT BELOW 1.3 MEV, 2 PERCENT 1.3 TO 5. MEV, 3 PERCENT ABOVE 5. MEV.
ENERGY RESOLUTION 3 PERCENT, ENERGY CALIBRATION 1 PERCENT.
INTERMEDIATE ACCURACY USEFUL.

1298 2.0% 2 UK C.G.CAMPBELL WIN 712067R
J.FELL WIN
Q: FISSION SPECTRUM AVERAGE WANTED.
O: EVALUATION REQUIREMENT.
FOR FAST AND THERMAL REACTORS.

1299 800. KEV 15.0 MEV — 1 CCP M.N.NIKOLAEV FEI 714020R
Q: RATIO TO U-235 FISSION CS IS WANTED.
ABSOLUTE MEASUREMENTS AND MEASUREMENT OF THE RATIO TO THE NP-237 FISSION CS WOULD BE VERY USEFUL.
AVERAGE CS IN FISSION-NEUTRON SPECTRUM OF CF-252 TIMES NU-BAR OF CF-252 IS OF GREAT INTEREST FOR REDUCING THE DEPENDENCE OF THE ACCURACY OF NEUTRON PRODUCTION CALCULATIONS UPON THE ACCURACY OF THE CF-252 NU-BAR STANDARD (REQUIRED ACCURACY 1 PERCENT).
A: REQUESTED ACCURACIES - 5 PERCENT BELOW 1.3 MEV, AND ABOVE 6.5 MEV, AND 2 PERCENT BETWEEN 1.3 AND 6.5 MEV.
ABSOLUTE VALUES WITH 2 TO 3 PERCENT ACCURACY.
O: SEE GENERAL COMMENTS IN THE INTRODUCTION.
AT LEAST THREE DIFFERENT MEASUREMENTS WITH THESE ACCURACIES WANTED.
FIRST PRIORITY BECAUSE HIGH ACCURACY OF THE U-238 FISSION CS IS IMPORTANT IN CONNECTION WITH THE USE OF THIS CS AS A CONVENIENT STANDARD FOR THRESHOLD-REACTION MEASUREMENTS.

1300 UP TO 5.00 MEV 3.0% 1 UK C.G.CAMPBELL WIN 732112R
C: FOR FAST REACTORS.

1301 UP TO 15.0 MEV 3.0% 1 FR C.PHILIS BRC 742086R
O: FOR CRITICAL ASSEMBLIES.

1302 2.0% 1 EUR NEUTRON DOSIMETRY GROUP GEL 742112R
Q: RATIO OF AVERAGE CROSS SECTION IN A U-235 FISSION SPECTRUM TO AVERAGE U-235 FISSION CROSS SECTION IS WANTED.
O: FOR NORMALIZATION OF AVERAGE CROSS SECTIONS FOR DOSIMETRY PURPOSES.

1303 800. KEV 10.0 MEV — 2 CCP L.N.USACHEV FEI 754019R
A: FROM 0.8 - 10. MEV ACCURACY 1.8 PERCENT.
O: NEED FOR FAST REACTOR CALCULATIONS.
FOR MORE DETAIL SEE INTRODUCTION.
M: SUBSTANTIAL MODIFICATIONS.

STATUS

UNDER CONTINUOUS REVIEW BY INDC AND NEANDC. SEE APPENDIX A.

92 URANIUM 238 NEUTRON NEUTRONS EMITTED PER FISSION (NU BAR)

1304	UP TO	10.0	MEV	1.0%	1	USA	C.E.TILL P.B.HEMMIG	ANL DOE	691275R
							Q: ENERGY REQUESTED IS A MAXIMUM VALUE ONLY. RATIO TO CF-252 NU WANTED. O: TO VERIFY MEASUREMENT OF SOLEILAC.		
1305	UP TO	5.00	MEV	0.7%	2	CCP	M.N.NIKOLAEV	FEI	714021R
							Q: RATIO TO CF-252 NU WANTED. A: ENERGY DEPENDENCE MUST BE KNOWN WITH 0.7 PERCENT ACCURACY AND ABOUT 10 PERCENT ENERGY RESOLUTION. O: SEE GENERAL COMMENTS IN THE INTRODUCTION.		
1306	UP TO	15.0	MEV	1.0%	1	FR	C.PHILIS	BRC	742088R
							Q: FOR CRITICAL ASSEMBLIES.		
1307	800. KEV	10.0	MEV		2	CCP	L.N.USACHEV	FEI	754020R
							A: FROM 0.8 - 10. MEV ACCURACY 1.0 PERCENT. O: NEED FOR FAST REACTOR CALCULATIONS. FOR MORE DETAIL SEE INTRODUCTION. M: SUBSTANTIAL MODIFICATIONS.		

STATUS

UNDER CONTINUOUS REVIEW BY INDC AND NEANDC. SEE APPENDIX A.

92 URANIUM 238 NEUTRON DELAYED NEUTRONS EMITTED PER FISSION

1308	5.00 MEV	14.0	MEV	5.0%	3	USA	R.B.WALTON	LAS	701035N
							Q: DATA DESIRED FOR EXTRAPOLATION TO 15 MEV. CALCULATIONS OF MODERATING ASSEMBLIES FOR U ASSAY. M: SUBSTANTIAL MODIFICATIONS.		
1309	UP TO	5.00	MEV	5.0%	1	USA	P.B.HEMMIG	DOE	761087R
							M: NEW REQUEST.		
1310	25.3 MV	10.0	MEV	5. %	2	JAP	T.MURATA	NIG	762047N
							Q: THE REQUESTED QUANTITIES ARE THE GROUP HALF LIVES AND GROUP YIELDS (NORMALIZED TO 1 FISSION) WHICH CAN BE USED TO FIT THE DECAY CURVE OF DELAYED NEUTRONS FOR THE TIME RANGE 0.1-300 SEC WITHIN AN ACCURACY OF 5.PER CENT. O: INCIDENT ENERGY STEP LESS THAN 2 MEV. ACTIVE ASSAY OF MIXED FRESH AND IRRADIATED FUEL		

STATUS

UNDER CONTINUOUS REVIEW BY INDC AND NEANDC. SEE APPENDIX A.

92 URANIUM 238 NEUTRON ENERGY SPECTRUM OF FISSION NEUTRONS

1311	2.00 MEV			2.0%	3	UK	C.G.CAMPBELL	WIN	692400R
							A: INCIDENT ENERGY, ABOUT 2 MEV. ACCURACY FOR AVERAGE E'. ACCURACY 10 PERCENT ON NUMBER OF NEUTRONS ABOVE 5. MEV AND BELOW .25 MEV. LOW RESOLUTION ADEQUATE FOR INCIDENT ENERGY. O: EVALUATION REQUIREMENT. FOR FAST REACTORS.		
1312	UP TO	5.00	MEV	5.0%	1	USA	P.B.HEMMIG	DOE	721145R
							Q: WANT AVERAGE FISSION NEUTRON ENERGY TO 5 PERCENT. O: TO RESOLVE DISCREPANCIES IN EXISTING DATA. M: SUBSTANTIAL MODIFICATIONS.		
1313	UP TO	15.0	MEV	2.0%	1	FR	C.PHILIS	BRC	742089R
							Q: FOR CRITICAL ASSEMBLIES.		

STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

92 URANIUM 238 NEUTRON FISSION PRODUCT MASS YIELD SPECTRUM

1314				10. %	3	JAP	H.SHIMOJIMA	TOS	762044N
							Q: CUMULATIVE YIELDS OF BR-87,BR-88,KR-90,I-137,I-138 ,I-139,XE-137,XE-138 FOR FISSION NEUTRON AND 1-14 MEV NEUTRON SPECTRA. O: DETECTION OF FAILED FUEL		

STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

92 URANIUM 238 | NEUTRON | RESONANCE PARAMETERS

1315	1.00 EV	20.0 KEV	10.0%	1	USA	P.B.HEMMIG C.E.TILL P.GREEBLER R.A.DONCALS	DOE ANL GEB WEW			691286P

Q: WANTED TO AS HIGH AN ENERGY AS CAN BE MEASURED.
O: NEEDED FOR DOPPLER EFFECT IN FAST REACTORS.
NEED ANSWERS TO QUESTIONS OF MISSING P-WAVE LEVELS AND UNCERTAINTY OF GAMMA WIDTHS.

1316	2.00 KEV	5.00 KEV	3.0%	2	SWD	H.HAEGGBLOM	AE			692385R

Q: NEUTRON CAPTURE AND FISSION WIDTH NEEDED.
O: NEEDED FOR FAST REACTOR CALCULATIONS.

1317	UP TO	5.00 KEV		1	CCP	M.N.NIKOLAEV	FEI			714016P

Q: OBSERVATION OF VERY WEAK P-WAVE RESONANCES IS DESIRED.
RESOLUTION OF 90 PERCENT OF P-WAVE RESONANCES CONTROLLED BY PORTER-THOMAS DISTRIBUTION AND LEVEL SPACING DISTRIBUTION AND ALL S-WAVE RESONANCES BELOW 5 KEV IS DESIRED.
O: CAREFUL IDENTIFICATION OF S AND P WAVE RESONANCES NEEDED FOR DETERMINATION OF P WAVE STRENGTH FUNCTION.
REQUEST CONNECTED WITH PROBLEM OF SELFSHIELDING EVALUATION IN UNRESOLVED RESONANCE REGION.
ATTENTION TO BE PAID TO THE PROBABLE DIFFERENCE BETWEEN THE 1/2 (+) AND 1/2 (-) LEVEL DENSITIES.
FIRST PRIORITY BECAUSE INVESTIGATION OF THE PARITY DEPENCENCE OF LEVEL DENSITY IS OF INTEREST FROM A SCIENTIFIC AS WELL AS FROM A PRACTICAL POINT OF VIEW.

1318	6.00 EV	10.0 KEV	3.0%	1	UK	C.G.CAMPBELL	WIN			732113R

A: ACCURACY IS FOR THE AVERAGE ERROR BETWEEN E AND 2E.
BROAD RESOLUTION MEASUREMENTS COULD SUFFICE.
O: FOR FAST REACTORS.
TO GIVE SHIELDED CROSS SECTIONS TO 3 PERCENT.
TO GIVE DOPPLER CHANGE TO 5 PERCENT FOR TEMPERATURES BETWEEN 300 AND 1200 DEGREES K.

1319	UP TO	5.00 KEV	3.0%	1	USA	R.W.PEELLE	ORL			781193R

O: NEEDED TO COMPUTE CAPTURE IN HIGHLY SELF-SHIELDED THERMAL SYSTEMS.
M: NEW REQUEST.

STATUS

UNDER CONTINUOUS REVIEW BY INDC AND NEANDC. SEE APPENDIX A.

93 NEPTUNIUM 237 | NEUTRON | FISSION CROSS SECTION

1320	50.0 KEV	7.00 MEV	2.0%	1	USA	R.S.CASWELL	NBS			781178P

O: FOR MATERIALS DOSIMETRY.
M: NEW REQUEST.

93 NEPTUNIUM 236 | NEUTRON | CAPTURE CROSS SECTION

1321	1.00 KEV	1.00 MEV	50.0%	3	FR	P.HAMMER	CAD			792038P

M: NEW REQUEST.

93 NEPTUNIUM 236 | NEUTRON | FISSION CROSS SECTION

1322	1.00 KEV	1.00 MEV	50.0%	3	FR	P.HAMMER	CAD			792037R

M: NEW REQUEST.

93 NEPTUNIUM 237 | HALF LIFE

1323			1.0%	1	USA	J.GRUNDL	NBS			761123R

Q: ALPHA HALF LIFE REQUIRED.
O: FOR MASS DETERMINATION OF FISSIONABLE DEPOSITS.
M: NEW REQUEST.

93 NEPTUNIUM 237 | GAMMA | GAMMA,N

1324			20.0%	3	UK	A.WHITTAKER	UKW			692409R

Q: PRODUCTION OF PU-236.
FOR AN AVERAGE GAMMA RAY ENERGY FROM MG, C, ZIRCALOY AND STAINLESS STEEL(20/25).
O: FOR ISOTOPE PRODUCTION.

1325			50.0%	3	FR	L.COSTA	CAD			762145R

O: FUEL CYCLE OUT-OF-CORE

93 NEPTUNIUM 237 NEUTRON CAPTURE CROSS SECTION

1326	1.00	MV	5.00	MEV		1	USA	P.GREEBLER	GEB	671115R

A: ACCURACY - 3 PERCENT FROM THERMAL TO 10 EV,
10 PERCENT ABOVE 10 EV,
5 PERCENT IN NEUTRON WIDTH, 10 PERCENT IN GAMMA WIDTH FROM THERMAL TO 1 KEV.
O: ABOVE 1 KEV PRIORITY 2.
FOR THERMAL REACTOR CALCULATIONS AND PU-238 PRODUCTION.

1327	25.3	MV	2.00	MEV	15.0%	1	FR	L.COSTA	CAD	762146R

O: FUEL CYCLE IN-CORE
M: SUBSTANTIAL MODIFICATIONS.

1328	25.3	MV	1.00	KEV	10.0%	1	JAP	I.OHTAKE	PNC	792086R

Q: EXPERIMENTAL DATA WANTED.
EVALUATION DESIRABLE
RESONANCE PARAMETERS ARE ALSO REQUIRED.
O: FOR BURNUP CALCULATION OF THERMAL AND FAST REACTORS.
M: NEW REQUEST.

1329	1.00	KEV	15.0	MEV	20.0%	1	JAP	I.OHTAKE	PNC	792089R

Q: EXPERIMENTAL DATA REQUIRED.
EVALUATION DESIRABLE.
O: FOR BURNUP CALCULATION OF THERMAL AND FAST REACTORS.
M: NEW REQUEST.

1330	500.	EV	5.00	MEV	15.0%	2	CCP	L.N.USACHEV	FEI	794006R

Q: AVERAGE CROSS SECTION IN A FAST-REACTOR SPECTRUM REQUESTED.
C: FOR FAST-REACTOR BURN-UP CALCULATION.
SEE GENERAL COMMENTS.
M: NEW REQUEST.

93 NEPTUNIUM 237 NEUTRON N,2N

1331	UP TO		15.0	MEV	10.0%	2	USA	R.W.BENJAMIN	SRL	671112R

O: TO EVALUATE CONTAMINATION OF PU-238 BY PU-236.

1332	UP TO		10.0	MEV	10.0%	2	USA	P.GREEBLER	GEB	691290R

O: NEEDED FOR CONTROL OF U-232 PRODUCTION.

1333	UP TO		15.0	MEV	15.0%	1	FR	L.COSTA	CAD	762147R

O: FUEL CYCLE OUT-OF-CORE
M: SUBSTANTIAL MODIFICATIONS.

1334					15.0%	2	CCP	L.N.USACHEV	FEI	794008R

Q: AVERAGE CROSS SECTION IN A FAST-REACTOR SPECTRUM REQUESTED.
C: FOR FAST-REACTOR BURN-UP CALCULATION.
SEE GENERAL COMMENTS.
M: NEW REQUEST.

93 NEPTUNIUM 237 NEUTRON FISSION CROSS SECTION

1335	20.0	EV	50.0	KEV	10.0%	3	USA	G.E.HANSEN	LAS	661044R

Q: RATIO TO U-235 FISSION WANTED.
A: ENERGY RESOLUTION - 30 PERCENT.

1336	50.0	KEV	1.00	MEV	5.0%	1	USA	G.E.HANSEN	LAS	661045R

Q: RATIO TO U-235 FISSION WANTED.
A: ENERGY RESOLUTION - 3 PERCENT.

1337	1.00	MEV	15.0	MEV	1.0%	2	USA	G.E.HANSEN	LAS	661046R

Q: RATIO TO U-235 FISSION WANTED.
A: ENERGY RESOLUTION - 3 PERCENT.

1338	UP TO		15.0	MEV	1. %	2	JAP	Y.SEKI	JAE	762135F

Q: RATIO TO U-235 FISSION USEFUL.
A: ACCURACY 3 PER CENT USEFUL.
NEUTRON ENERGY RESOLUTION 300 KEV.
O: FOR MONITOR REACTION AND RADIATION DOSIMETRY IN NEUTRONICS EXPERIMENTS ON BLANKET SYSTEM OF FUSION REACTORS.

1339	25.3	MV	2.00	MEV	15.0%	1	FR	L.COSTA	CAD	792039R

M: NEW REQUEST.

STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

93 NEPTUNIUM 238 NEUTRON CAPTURE CROSS SECTION

1340	25.3	MV				2	CAN	W.H.WALKER	CRC	681802R

A: ACCURACY REQUIRED 100 B.
O: UNKNOWN CROSS SECTION.

1341	25.3	MV			20. %	2	SWD	H.HAEGGBLOM	AE	762169N
								Q: CALCULATION OF PU-238 PRODUCTION		
1342	1.00	KEV	2.00	MEV	50.0%	2	FR	L.COSTA	CAD	792040R
								Q: IN- AND -OUT-OF-CORE CYCLE - EVALUATION SUFFICIENT M: NEW REQUEST.		

93 NEPTUNIUM 238 NEUTRON FISSION CROSS SECTION

1343	1.00	KEV	2.00	MEV	50.0%	2	FR	L.COSTA	CAD	792041R
								Q: IN- AND -OUT-OF-CORE CYCLE - EVALUATION SUFFICIENT M: NEW REQUEST.		

93 NEPTUNIUM 239 NEUTRON CAPTURE CROSS SECTION

1344	10.0	KEV	5.00	MEV	20.0%	3	JAP	M.OHTA	KYU	712075R
								Q: SOME POINT DATA ARE ALSO USEFUL. O: FOR NORMALIZATION OF CALCULATED CAPTURE CROSS SECTION. FOR BURNUP CALCULATION. M: SUBSTANTIAL MODIFICATIONS.		
1345	25.3	MV	10.0	MEV	10. %	3	JAP	M.YADA	NFI	762025N
								O: FOR HIGHER BURN-UP CALCULATIONS		
1346	1.00	KEV	2.00	MEV	50.0%	2	FR	P.HAMMER	CAD	762148R
								O: FAST REACTOR OPERATION M: SUBSTANTIAL MODIFICATIONS.		
1347	25.2	MV	15.0	MEV	20. %	2	JAP	R.SHINOC	JAE	762209R
								C: FOR BURN-UP CALCULATION OF THERMAL REACTOR.		
1348	25.3	MV	1.00	MEV	30.0%	2	UK	C.G.CAMPBELL	WIN	792138R
								C: FOR FAST REACTORS. M: NEW REQUEST.		

93 NEPTUNIUM 239 NEUTRON N,2N

1349	UP TO		15.0	MEV	50.0%	2	FR	L.COSTA	CAD	792042R
								Q: IN- AND -OUT-OF-CORE CYCLE - EVALUATION SUFFICIENT M: NEW REQUEST.		

93 NEPTUNIUM 239 NEUTRON FISSION CROSS SECTION

1350	25.3	MV	10.0	MEV	25. %	3	JAP	M.YADA	NFI	762032N
								Q: THE VALUE OF NU ALSO WANTED. A: 10 PER CENT ACCURACY IS DESIRABLE FOR APPLICATION. O: NO EXPERIMENTAL DATA. BURN-UP ANALYSIS OF FAST BREEDER REACTORS		
1351	1.00	KEV	2.00	MEV	50.0%	2	FR	P.HAMMER	CAD	762149R
								O: FAST REACTOR OPERATION		
1352	25.3	MV	10.0	MEV	30.0%	2	UK	C.G.CAMPBELL	WIN	792137R
								O: FOR FAST REACTORS. M: NEW REQUEST.		

93 NEPTUNIUM 239 NEUTRON NEUTRONS EMITTED PER FISSION (NU BAR)

1353	UP TO		15.0	MEV	50.0%	2	FR	P.HAMMER	CAD	762150R
								C: FAST REACTOR OPERATION		

93 NEPTUNIUM 240 NEUTRON CAPTURE CROSS SECTION

1354	1.00	KEV	2.00	MEV	50.0%	3	FR	P.HAMMER	CAD	792043R
								O: EVALUATION SUFFICIENT M: NEW REQUEST.		

93 NEPTUNIUM 240 NEUTRON FISSION CROSS SECTION

1355	1.00	KEV	2.00	MEV	50.0%	3	FR	P.HAMMER	CAD	792044R
								O: EVALUATION SUFFICIENT M: NEW REQUEST.		

94 PLUTONIUM 236 NEUTRON ABSORPTION CROSS SECTION

1356	500.	EV	200.	KEV	50.0%	2	FR	L.COSTA	CAD	762151R
								O: FUEL CYCLE OUT-OF-CORE		

94 PLUTONIUM 236 NEUTRON CAPTURE CROSS SECTION

1357	1.00 KEV	2.00 MEV	10.0%	1	FR	L.COSTA	CAD	792253R

O: OUT-OF-CORE CYCLE
M: NEW REQUEST.

94 PLUTONIUM 236 NEUTRON FISSION CROSS SECTION

1358	1.00 KEV	2.00 MEV	10.0%	1	FR	L.COSTA	CAD	792045R

O: OUT-OF-CORE CYCLE
M: NEW REQUEST.

94 PLUTONIUM 237 NEUTRON CAPTURE CROSS SECTION

1359	1.00 KEV	2.00 MEV	50.0%	3	FR	P.HAMMER	CAD	792046R

M: NEW REQUEST.

94 PLUTONIUM 237 NEUTRON FISSION CROSS SECTION

1360	1.00 KEV	2.00 MEV	50.0%	3	FR	P.HAMMER	CAD	792047R

M: NEW REQUEST.

94 PLUTONIUM 238 SPONTANEOUS FISSION HALF LIFE

1361			1.0%	2	USA	R.B.PERRY	ANL	741151N

A: ACCURACY 3-5 PERCENT USEFUL IN SHORT TERM.
O: FOR CALCULATION OF THE EFFECTIVE PU-240 FOR SPONTANEOUS FISSION MEASUREMENTS OF PU IN NUCLEAR MATERIALS SAFEGUARDS.

1362			1. %	2	JAP	K.ONISHI	PNC	762014N

O: DETECTION OF PU BY NEUTRON COINCIDENCE METHOD

94 PLUTONIUM 238 GAMMA RAY YIELD

1363			1. %	1	JAP	T.SUZUKI	JAE	762009N

Q: YIELD PER DISINTEGRATION OF 43.45,99.7,152.7 KEV GAMMA RAYS REQUIRED.
(FOLLOWING ALPHA DECAY EVENT)
O: THOUGH PRESSNT STATUS OF ACCURACY SEEMED TO MEET THE REQUIREMENT CONFIRMATION IS REQUIRED.
ASSAY OF PU-ISOTOPES BY GAMMA-RAY SPECTROSCOPY

94 PLUTONIUM 238 SPONTANEOUS NEUTRONS EMITTED PER FISSION (NU BAR)

1364			1.0%	2	USA	R.B.PERRY	ANL	741154N

A: ACCURACY 3-5 PERCENT USEFUL IN SHORT TERM.
O: FOR CALCULATION OF THE EFFECTIVE PU-240 FOR SPONTANEOUS FISSION MEASUREMENTS OF PU IN NUCLEAR MATERIALS SAFEGUARDS.

94 PLUTONIUM 238 GAMMA TOTAL NEUTRON YIELD

1365	UP TO	10.0 MEV	10.0%	2	CCP	V.K.MARKOV	GAC	714046N

O: PHOTONUCLEAR ASSAY OF PU.

94 PLUTONIUM 238 GAMMA FISSION CROSS SECTION

1366	UP TO	10.0 MEV	10.0%	2	CCP	V.K.MARKOV	GAC	714044N

O: FOR PHOTONUCLEAR ASSAY OF PU.

94 PLUTONIUM 238 GAMMA FISSION PRODUCT MASS YIELD SPECTRUM

1367	UP TO	10.0 MEV	10.0%	2	CCP	V.K.MARKOV	GAC	714045N

O: PHOTONUCLEAR ASSAY OF PU.

1368	4.00 MEV	14.0 MEV	10. %	3	JAP	R.MIKI	KKU	762036N

Q: TOTAL FISSION YIELD PRODUCED BY BREMSSTRAHLUNG BREMSSTRAHLUNG CONVERTER (PREFERABLY TA) OF SUFFICIENT THICKNESS TO STOP ELECTRONS. NO EXPERIMENTAL DATA.
O: NON-DESTRUCTIVE ASSAY OF U

94 PLUTONIUM 238 NEUTRON CAPTURE CROSS SECTION

1369	25.3 MV		5.0%	2	CAN	W.H.WALKER	CRC	681803R

O: DISAGREEMENT BETWEEN INTEGRAL (APPROX 450 B) AND DIFFERENTIAL (APPROX 530 B) MEASUREMENTS.

1370	1.00	KEV	3.00	MEV	15.0%	1	FR	P.HAMMER	CAD	732096R

Q: VALUE RELATIVE TO U-238 CAPTURE CROSS SECTION.
O: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

1371	1.00	KEV	3.00	MEV	20.0%	2	FR	J.SALVY	BRC	742093R
1372	25.3	MV	500.	KEV	20.0%	2	JAP	I.OHTAKE	PNC	792087R

Q: EXPERIMENTAL DATA DESIRED.
EVALUATED DATA ALSO REQUIRED.
O: FOR BURNUP CALCULATION OF THERMAL AND FAST REACTORS.
M: NEW REQUEST.

1373	500.	EV	15.0	MEV	10.0%	2	JAP	I.OHTAKE	PNC	792088R

Q: EXPERIMENTAL DATA DESIRED.
EVALUATED DATA ALSO REQUIRED.
O: FOR BURNUP CALCULATION OF THERMAL AND FAST REACTORS.
M: NEW REQUEST.

94 PLUTONIUM 238 NEUTRON N,2N

1374	UP TO		15.0	MEV	10.0%	1	FR	J.SALVY	BRC	682062R
1375	UP TO		15.0	MEV	15.0%	1	FR	L.COSTA	CAD	792048R

O: IN- AND -OUT-OF-CORE CYCLE
M: NEW REQUEST.

94 PLUTONIUM 238 NEUTRON FISSION CROSS SECTION

1376	UP TO		15.0	MEV	20.0%	1	FR	J.SALVY	BRC	682064R

O: MEASUREMENTS DONE AT LOS ALAMOS MAY SATISFY THIS REQUEST UP TO 1 MEV.
EVALUATION MAY BE SUFFICIENT

1377	1.00	KEV	3.00	MEV	15.0%	1	FR	L.COSTA	CAD	732095R

Q: VALUE RELATIVE TO U-235 FISSION CROSS SECTION.
O: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

94 PLUTONIUM 238 NEUTRON NEUTRONS EMITTED PER FISSION (NU BAR)

1378	500.	EV	15.0	MEV	4.00%	2	FR	L.COSTA	CAD	732097R

Q: VALUE RELATIVE TO CF-252 NU.
O: FOR FAST REACTOR CALCULATIONS.

94 PLUTONIUM 238 MISC

1379					0.5%	1	JAP	K.ONISHI	PNC	762018N

Q: DECAY HEAT (W/G) REQUIRED.
O: ASSAY OF PU BY CALORIMETRY

94 PLUTONIUM 239 SPONTANEOUS FISSION HALF LIFE

1380					1. %	2	JAP	K.ONISHI	PNC	762015N

O: DETECTION OF PU BY NEUTRON COINCIDENCE METHOD

94 PLUTONIUM 239 GAMMA RAY YIELD

1381					1. %	1	JAP	T.SUZUKI	JAE	762010N

Q: YIELD PER DISINTEGRATION OF 45.2,104.2 AND 642.3 KEV GAMMA RAYS REQUIRED.
(FOLLOWING ALPHA DECAY EVENT)
O: THOUGH PRESENT STATUS OF ACCURACY SEEMED TO MEET THE REQUIREMENT CONFIRMATION IS REQUIRED.
ASSAY OF PU-ISOTOPES BY GAMMA-RAY SPECTROSCOPY

94 PLUTONIUM 239 GAMMA FISSION PRODUCT MASS YIELD SPECTRUM

1382	4.00	MEV	14.0	MEV	10. %	3	JAP	R.MIKI	KKU	762037N

Q: TOTAL FISSION YIELD PRODUCED BY BREMSSTRAHLUNG REQUIRED. YIELD MAY BE IN THE UNIT OF YIELD/ROENTGEN*NUCLEUS OR RELATIVE TO U-238 OR OTHER PHOTOACTIVATION YIELDS.
O: BREMSSTRAHLUNG CONVERTER (PREFERABLY TA) OF SUFFICIENT THICKNESS TO STOP ELECTRONS.
NON-DESTRUCTIVE ASSAY OF PU

1383	4.00	MEV	14.0	MEV	5. %	3	JAP	R.MIKI	KKU	762045N

Q: CUMULATIVE YIELDS OF HIGH FISSION YIELD ISOTOPES.
O: BREMSSTRAHLUNG CONVERTER (PREFERABLY TA) OF SUFFICIENT THICKNESS TO STOP ELECTRONS.
NON-DESTRUCTIVE ASSAY OF NUCLEAR MATERIALS

94 PLUTONIUM 239 NEUTRON TOTAL CROSS SECTION

1384	1.00	EV	500.	KEV	3.0%	1	USA	P.GREEBLER	GEB	741124R
								A: ENERGY RESOLUTION TO SHOW SECONDARY STRUCTURE UP TO 10 KEV.		
1385	0.50	EV	5.00	EV	1.0%	1	USA	B.R.LEONARD	BNW	761088R
								O: NEEDED FOR THERMAL CROSS SECTION EVALUATION. M: NEW REQUEST.		
1386	10.0	KEV	100.	KEV	2. %	1	JAP	M.KAWAI	NIG	762210R
								C: FISSION REACTOR		

94 PLUTONIUM 239 NEUTRON ELASTIC CROSS SECTION

1387					10.0%	3	UK	J.FELL	WIN	692416P
								Q: THERMAL AVERAGE INCIDENT ENERGY. O: FOR LONG TERM IMPROVEMENT OF THE ABSORPTION CROSS SECTION.		
1388	1.00	KEV	15.0	MEV	5.0%	1	FR	C.PHILIS	BPC	742094R
								C: FOR CRITICAL ASSEMBLIES.		

94 PLUTONIUM 239 NEUTRON DIFFERENTIAL ELASTIC CROSS SECTION

1389	1.00	MEV	3.00	MEV	10.0%	2	USA	C.E.TILL P.B.HEMMIG	ANL DOE	691303R
								A: ENERGY RESOLUTION 500 KEV OR BETTER.		
1390	1.00	KEV	15.0	MEV	5.0%	1	FR	C.PHILIS	BRC	742095R
								C: FOR CRITICAL ASSEMBLIES.		

94 PLUTONIUM 239 NEUTRON INELASTIC CROSS SECTION

1391	UP TO		15.0	MEV	10.0%	2	FR	C.PHILIS	BRC	742097R
								C: FOR CRITICAL ASSEMBLIES.		
1392	800.	KEV	5.00	MEV		2	CCP	L.N.USACHEV	FEI	754023R
								A: FROM 0.8 - 1.4 MEV ACCURACY 15 PERCENT. FROM 1.4 - 2.5 MEV ACCURACY 17 PERCENT. FROM 2.5 - 5.0 MEV ACCURACY 30 PERCENT. O: NEED FOR FAST REACTOR CALCULATION. FOR MORE DETAIL SEE INTRODUCTION. M: SUBSTANTIAL MODIFICATIONS.		

94 PLUTONIUM 239 NEUTRON ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

1393	UP TO		15.0	MEV		2	CCP	M.N.NIKOLAEV	FEI	714023R
								A: CROSS SECTION FOR INELASTIC REMOVAL BELOW FISSION THRESHOLDS OF U-238 AND OF PU-240 OR NP-237 DESIRED WITH 10 PERCENT ACCURACY. EXCITATION CROSS SECTION FOR LOW LYING LEVELS REQUIRED WITH 15 PERCENT ACCURACY. O: SEE GENERAL COMMENTS IN THE INTRODUCTION.		
1394	10.0	KEV	10.0	MEV	20.0%	1	USA	P.B.HEMMIG	DOE	721084R

94 PLUTONIUM 239 NEUTRON ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION

1395	UP TO		15.0	MEV	20.0%	2	FR	J.SALVY	BRC	742098R
								C: FOR CRITICAL ASSEMBLIES.		

94 PLUTONIUM 239 NEUTRON ABSORPTION CROSS SECTION

1396	10.0	MV	0.80	EV	1.0%	1	UK	J.FELL	WIN	792167R
								C: FOR THERMAL REACTORS. M: NEW REQUEST.		

94 PLUTONIUM 239 NEUTRON CAPTURE CROSS SECTION

1397	1.00	KEV	500.	KEV	3.0%	2	SWD	H.HAEGGBLOM	AE	692437R
								O: NEEDED FOR FAST REACTOR CALCULATIONS.		
1398	1.00	KEV	1.00	MEV	10.0%	2	GER	B.GOEL	KFK	712082R
								Q: ALPHA ALSO USEFUL. A: PREFER 5 PERCENT ACCURACY UP TO 100 KEV. O: FOR BURNUP CALCULATIONS.		
1399	1.00	KEV	3.00	MEV	5.0%	1	FR	J.SALVY	BRC	742104R
								O: FOR CRITICAL ASSEMBLIES.		

1400	5.00 KEV	10.0 MEV		2	CCP	L.N.USACHEV	FEI		754012R

A: FROM 5.0 - 100 KEV ACCURACY 3.7 PERCENT.
FROM 0.1 - 0.8 MEV ACCURACY 10 PERCENT.
FROM 0.8 - 4.5 MEV ACCURACY 50 PERCENT.
ABOVE 4.5 MEV REQUIREMENTS 2 TIMES WEAKER.
O: NEED FOR FAST REACTOR CALCULATIONS.
FOR MORE DETAIL SEE INTRODUCTION.
M: SUBSTANTIAL MODIFICATIONS.

STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

94 PLUTONIUM 239 NEUTRON CAPTURE GAMMA RAY SPECTRUM

1401	25.3 MV	100. EV	20.0%	3	USA	R.B.WALTON	LAS		701044N

Q: FOR GAMMA RAY ENERGIES ABOVE 1.2 MEV.
A: GAMMA RESOLUTION OF 2.5 KEV AT 1.2 MEV.
O: DEVELOPMENT OF NEW PU ASSAY TECHNIQUE.

1402	25.3 MV		20.0%	3	USA	R.B.WALTON	LAS		741138N

Q: ABSOLUTE SPECTRUM REQUIRED.
O: FOR DEVELOPMENT OF NONDESTRUCTIVE ASSAY METHODS.
M: SUBSTANTIAL MODIFICATIONS.

94 PLUTONIUM 239 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

1403	120. KEV		20.0%	2	UK	C.G.CAMPBELL	WIN		692418R

Q: GAMMA SPECTRUM WANTED.
A: INCIDENT ENERGY, ABOUT 120 KEV.
LOW RESOLUTION ADEQUATE FOR INCIDENT ENERGY AND PHOTON SPECTRUM.
O: FOR STUDY OF ACTIVATION AND HEAT RELEASE IN CORE.

1404	1.00 KEV	15.0 MEV	10.0%	1	FR	J.SALVY	BRC		742096R

O: FOR SHIELDING.

1405	25.3 MV	15.0 MEV	10.0%	1	FR	B.DUCHEMIN	SAC		792049R

Q: GAMMA SPECTRA REQUIRED
A: ENERGY RESOLUTION OF 250 KEV FOR GAMMA RAYS LESS THAN 1 MEV AND 500 KEV FOR ENERGIES GREATER THAN 1 MEV
O: FOR SHIELDING CALCULATIONS - EVALUATION MAY BE SUFFICIENT
M: NEW REQUEST.

94 PLUTONIUM 239 NEUTRON N,2N

1406	UP TO	15.0 MEV	10.0%	1	FR	C.PHILIS	BRC		682067R
1407	6.00 MEV	10.0 MEV	10.0%	2	USA	P.B.HEMMIG	DOE		691306R

O: NEEDED TO PREDICT BUILDUP OF PU-236.

1408	UP TO	15.0 MEV	15.0%	2	FR	L.COSTA	CAD		762152R

O: FUEL CYCLE IN-CORE
M: SUBSTANTIAL MODIFICATIONS.

94 PLUTONIUM 239 NEUTRON N,3N

1409	UP TO	15.0 MEV	20.0%	1	FR	J.SALVY	BRC		682068R

94 PLUTONIUM 239 NEUTRON FISSION CROSS SECTION

1410	10.0 KEV	15.0 MEV	1.0%	1	USA	G.E.HANSEN	LAS		661049P

Q: RELATIVE TO U-235.
A: ENERGY RESOLUTION 3 PERCENT, ENERGY CALIBRATION 1 PERCENT.

1411	1.00 EV	10.0 MEV		1	USA	C.E.TILL P.B.HEMMIG P.GREEBLER	ANL DOE GEB		691467R

A: ACCURACY 2 PERCENT BELOW 3 MEV, 5 PERCENT ABOVE.
O: HIGHEST PRIORITY FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

1412	1.00 MEV	5.00 MEV	3.0%	1	UK	C.G.CAMPBELL	WIN		692426R

Q: RATIO TO U-235 FISSION CROSS SECTION ACCEPTABLE.
A: ACCURACY FOR AVERAGE VALUE OF THE ERROR BETWEEN E AND 2E.
O: FOR FAST REACTORS.

1413 1.00 KEV 4.00 MEV 1 CCP M.N.NIKOLAEV FEI 714024R

Q: RATIO TO U-235 FISSION CS IS WANTED BUT ABSOLUTE MEASUREMENT AND MEASUREMENT OF RATIOS TO B-10 (N,ALPHA), LI-6(N,ALPHA) CROSS SECTIONS AND OTHER STANDARDS WOULD BE VERY USEFUL.
BELOW 30 KEV MEASUREMENTS OF TRANSMISSION CURVES BY FLAT RESPONSE DETECTOR AND BY SELF DETECTION METHOD WITH FISSION DETECTOR WANTED FOR SELFSHIELDING EVALUATION.
THESE CURVES MUST BE MEASURED WITH ATTENUATIONS OF THE PRIMARY BEAM DOWN TO 1 PERCENT.
A: ACCURACY REQUIRED TO BETTER THAN 2.0 PERCENT.
OPTIMUM PRECISION OF 1.5 PERCENT DESIRED IN REGION 20 KEV TO 1 MEV.
LETHARGY RESOLUTION OF ABOUT 0.2 CONSIDERED SUFFICIENT FOR SUCH MEASUREMENTS.
O: SEE GENERAL COMMENTS IN THE INTRODUCTION.
REQUEST CONSIDERED FULFILLED. WHEN AT LEAST THREE MEASUREMENTS WITH DIFFERENT METHODS AGREE WITHIN REQUESTED ACCURACY.
FIRST PRIORITY BECAUSE IT IS DIFFICULT TO INTERPRET THE SELF-SHIELDING FACTORS FROM MACROSCOPIC DATA ONLY.

1414 25.3 MV 1.00 KEV 1.0% 2 USA P.GREEBLER GEB 721085R

O: DIRECT MEASUREMENTS DISAGREE.
IMPROVED PRECISION NEEDED FOR THERMAL REACTORS.
U AND PU HALF LIVES SHOULD BE CONFIRMED AS THEY AFFECT THIS MEASUREMENT.

1415 10.0 KEV 14.0 MEV 2.0% 1 USA P.B.HEMMIG DOE 721086R

Q: RELATIVE TO U-235.
AVERAGES OVER 10 TO 20 PERCENT ENERGY INTERVALS WANTED.
A: ENERGY RESOLUTION 3 PERCENT, ENERGY CALIBRATION 1 PERCENT.

1416 10.0 KEV 1.00 MEV 2.0% 2 USA P.GREEBLER GEB 741125R

Q: RATIO TO U-235 (N,F) WANTED.

1417 1.00 KEV 5.00 MEV 2 SWD H.HAEGGBLOM AE 742006R

A: ACCURACY 2 PERCENT TO 1 MEV, 5 PERCENT ABOVE.
O: FAST REACTOR CALCULATIONS.

1418 UP TO 15.0 MEV 1 FR C.PHILIS BRC 742099R

A: ACCURACY 5 PERCENT TO 1 KEV, 2 PERCENT ABOVE.
O: FOR CRITICAL ASSEMBLIES.

1419 5.00 KEV 10.0 MEV 2 CCP L.N.USACHEV FEI 754009R

A: FROM 5.0 - 100 KEV ACCURACY 1.2 PERCENT.
FROM 0.1 - 0.8 MEV ACCURACY 1.3 PERCENT.
FROM 0.8 - 4.5 MEV ACCURACY 2.6 PERCENT.
ABOVE 4.5 MEV REQUIREMENTS 2 TIMES WEAKER.
O: NEED FOR FAST REACTOR CALCULATIONS.
FOR MORE DETAIL SEE INTRODUCTION.
M: SUBSTANTIAL MODIFICATIONS.

1420 1.00 EV 3.00 MEV 1 USA R.A.DONCALS WEW 761040R

A: NEED 3 PERCENT ACCURACY UP TO 20 KEV AND 5.0 PERCENT ABOVE.
O: NEEDED FOR FAST REACTOR CALCULATIONS.
M: NEW REQUEST.

1421 100. KEV 20.0 MEV 2.0% 2 USA P.GREEBLER GEB 761089R

Q: ABSOLUTE MEASUREMENT DESIRED.
M: NEW REQUEST.

1422 10.0 KEV 20.0 MEV 3. % 1 JAP M.KAWAI NIG 762211R

O: FISSION REACTOR
M: SUBSTANTIAL MODIFICATIONS.

1423 1.00 KEV 100. KEV 2.0% 1 GER H.KUESTERS KFK 792221R

M: NEW REQUEST.

STATUS

UNDER CONTINUOUS REVIEW BY INDC AND NEANDC. SEE APPENDIX A.

94 PLUTONIUM 239 NEUTRON CAPTURE TO FISSION RATIO (ALPHA)

1424 100. EV 10.0 MEV 1 USA C.E.TILL ANL 691314R
P.GREEBLER GEB
P.B.HEMMIG DOE
F.C.MAIENSCHEIN ORL

Q: CAPTURE CROSS SECTION EQUALLY USEFUL.
A: ACCURACY 100 EV TO 1 KEV, 8 PERCENT,
.. 1 KEV TO 50 KEV, 4 PERCENT,
.. 50 KEV TO 600 KEV, 6 PERCENT,
.. 600 KEV TO 10 MEV, 10 PERCENT.

1425 20.0 KEV 100. KEV 10.0% 3 UK C.G.CAMPBELL WIN 712078R

A: EVALUATION REQUIRED OVER WIDER ENERGY RANGE FROM 0.1KEV TO 100KEV.
ACCURACY FOR AVERAGE VALUE OF THE ERROR BETWEEN E AND 2E.
O: FOR FAST REACTORS.

1426	100.	EV	800.	KEV	7.0%	1	CCP	M.N.NIKOLAEV	FEI	714025R

Q: FOR EVALUATION OF DIFFERENCES IN CAPTURE AND FISSION-RESONANCE SELF SHIELDING.
MEASUREMENTS OF TRANSMISSION CURVES WITH FLAT-RESPONSE DETECTOR AND BY SELF-INDICATION METHOD WITH CAPTURE AND FISSION DETECTORS ARE WANTED.
BEAM ATTENUATION DOWN TO 1 PERCENT WANTED.
A: IN REGION 1 TO 100 KEV, 4 TO 5 PERCENT ACCURACY DESIRABLE.
LETHARGY RESOLUTION OF 0.2 SUFFICIENT FOR REGION 0.1 TO 30 KEV.
AT LEAST THREE DIFFERENT REQUESTS MUST COINCIDE WITHIN REQUESTED ACCURACY.
O: SEE GENERAL COMMENTS IN THE INTRODUCTION.
FIRST PRIORITY BECAUSE IT IS DIFFICULT TO INTERPRET THE SELF-SHIELDING FACTORS FROM MACROSCOPIC DATA ONLY.

1427	25.3	MV	14.0	MEV		2	JAP	Y.NAITO	JAE	722046N

A: ACCURACY REQUIRED AT THERMAL IS 1 PERCENT, 5 PERCENT ABOVE.
O: FOR BURN UP CALCULATION OF A PU LOADED THERMAL REACTOR.

STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

1428	10.0	MV	0.50	EV	0.75%	1	UK	J.FELL	WIN	642006R

Q: VALUE RELATIVE TO 25.3 MV ETA WANTED.
A: ACCURACY IS FOR AVERAGE VALUES IN 20 MV STEPS.
C: FOR TEMPERATURE COEFFICIENT WORK.

1429	25.3	MV	1.00	EV	0.5%	1	USA	P.GREEBLER	GEB	671124R

O: FOR PU-FUELED REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

STATUS

UNDER CONTINUOUS REVIEW BY INDC AND NEANDC. SEE APPENDIX A.

1430	25.3	MV	3.00	MEV	0.3%	1	USA	C.E.TILL P.GREEBLER P.B.HEMMIG	ANL GEB DOE	661050R

A: ACCURACY OF 0.5 PERCENT WOULD BE USEFUL.
O: HIGHEST PRIORITY FOR FAST REACTOR CALCULATIONS.
M: NEW REQUEST.

1431	UP TO		15.0	MEV		1	JAP	M.KAWAI	NIG	702037R

A: ACCURACY REQUIRED TO BETTER THAN 0.2 PERCENT.
C: FOR FAST REACTORS CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

1432	25.3	MV	2.50	MEV	0.5%	2	CCP	M.N.NIKOLAEV	FEI	714026R

Q: RATIO TO CF-252 NU REQUIRED.
ABSOLUTE MEASUREMENTS OF NU-BAR AND ETA FOR THERMAL NEUTRONS WITH ACCURACY OF AT LEAST 0.5 PERCENT WOULD BE VERY USEFUL FOR LOWERING THE DEPENDENCE OF PU-239 NU-BAR RESULTS FROM THE CF-252 NU-BAR STANDARD.
A: ENERGY DEPENDENCE OF NU IS WANTED WITH 0.7 PERCENT ACCURACY.
ENERGY RESOLUTION OF 10. PERCENT REQUIRED BELOW 2.5 MEV.
O: SEE GENERAL COMMENTS IN THE INTRODUCTION.

1433	25.3	MV			0.5%	2	JAP	Y.NAITO	JAE	722048N

Q: DATA WANTED FOR EPI-THERMAL NEUTRONS ALSO.
O: FOR BURN UP CALCULATION OF A PU LOADED THERMAL REACTOR.

1434	UP TO		15.0	MEV		1	FR	C.PHILIS	BRC	742101R

A: ACCURACY 2 PERCENT TO 1 KEV, 1 PERCENT ABOVE.
O: FOR CRITICAL ASSEMBLIES.

1435	5.00	KEV	10.0	MEV		2	CCP	L.N.USACHEV	FEI	754011P

A: FROM 5.0 - 100 KEV ACCURACY 0.5 PERCENT.
FROM 0.1 - 0.8 MEV ACCURACY 0.5 PERCENT.
FROM 0.8 - 4.5 MEV ACCURACY 1.2 PERCENT.
ABOVE 4.5 MEV REQUIREMENTS 2 TIMES WEAKER.
O: NEED FOR FAST REACTOR CALCULATIONS.
FOR MORE DETAIL SEE INTRODUCTION.
M: SUBSTANTIAL MODIFICATIONS.

1436	25.3	MV	10.0	MEV	1.0%	1	USA	R.A.DONCALS	WEW	761041R

A: NEED 0.5 PERCENT ACCURACY BETWEEN 1 AND 3 KEV.
O: ESSENTIAL FOR ACCURATE FAST REACTOR CALCULATIONS.
M: NEW REQUEST.

1437	1.00	MV	1.00	EV	0.2%	1	USA	N.STEEN	BET	781190R

Q: MEASUREMENTS RELATIVE TO U-233 AND U-235 WANTED.
M: NEW REQUEST.

STATUS

THERMAL VALUE UNDER CONTINUOUS REVIEW BY INDC AND NEANDC. SEE APPENDIX A.

94 PLUTONIUM 239 NEUTRON DELAYED NEUTRONS EMITTED PER FISSION

1438	25.3	MV	5.00	MEV		2	USA	C.E.TILL P.B.HEMMIG	ANL DOE	691312R

Q: HALF LIFE. AND ENERGY SPECTRUM NEEDED.
O: NEEDED FOR ANALYSIS OF FAST CRITICALS AND FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

1439	25.3	MV	5.00	MEV	5.0%	2	USA	C.E.TILL	ANL	761090R

M: NEW REQUEST.

1440	25.3	MV	10.0	MEV	5. %	2	JAP	T.MURATA	NIG	762048N

Q: THE REQUESTED QUANTITIES ARE THE GROUP HALF LIVES AND GROUP YIELDS (NORMALIZED TO 1 FISSION) WHICH CAN BE USED TO FIT THE DECAY CURVE OF DELAYED NEUTRONS FOR THE TIME RANGE 0.1-300 SEC WITHIN AN ACCURACY OF 5 PER CENT.
O: INCIDENT ENERGY STEP LESS THAN 2 MEV.
ACTIVE ASSAY OF MIXED FRESH AND IRRADIATED FUEL

STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

94 PLUTONIUM 239 NEUTRON ENERGY SPECTRUM OF FISSION NEUTRONS

1441	100.	KEV			2.0%	1	UK	C.G.CAMPBELL A.WHITTAKER	WIN UKW	692433R

A: INCIDENT ENERGY. ABOUT 100 KEV.
ACCURACY 2 PERCENT AVERAGE E'.
10 PERCENT ON THE NUMBER OF NEUTRONS ABOVE 5 MEV AND BELOW .25 MEV.
LOW RESOLUTION ADEQUATE FOR INCIDENT ENERGY.
O: FOR FAST REACTORS.
FOR REACTION RATE ANALYSIS.

1442	UP TO	15.0	MEV	1.0%	1	FR	C.PHILIS	BRC	742103R

C: FOR CRITICAL ASSEMBLIES.

1443	25.3	MV	20.0	MEV	10.0%	2	USA	P.GREEBLER	GEB	761091P

M: NEW REQUEST.

1444	25.3	MV			1.0%	2	USA	N.STEEN	BET	781186R

Q: NEED SHAPE OF NEUTRON ENERGY DISTRIBUTION FROM 100 KEV TO 15 MEV.
A: RELATIVE PEAK TO 1 PERCENT.
O: NEEDED FOR CRITICALITY CALCULATIONS.
M: NEW REQUEST.

1445	100.	KEV			2.0%	1	GER	H.KUESTERS	KFK	792222R

A: INCIDENT ENERGY. ABOUT 100 KEV.
2 PERCENT ACCURACY ON MEAN FISS. SPECTRUM ENERGY.
10 PERCENT ACCURACY WANTED ON THE NUMBER OF NEUTRONS ABOVE 5 MEV AND BELOW .25 MEV.
M: NEW REQUEST.

STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

94 PLUTONIUM 239 NEUTRON SPECTRUM OF PROMPT GAMMA RAYS EMITTED IN FISSION

1446	25.3	MV	14.0	MEV	2.0 %	3	CCP	S.S.KOVALENKO	RI	734002N

Q: YIELD AND SPECTRA WANTED FOR 5 TO 15 MEV GAMMAS.
A: 10.0 KEV GAMMA RESOLUTION WANTED.
O: FOR ASSAY OF PU IN FUEL ELEMENTS FROM PROMPT GAMMAS.

94 PLUTONIUM 239 NEUTRON DELAYED GAMMA SPECTRUM FROM FISSION PRODUCTS

1447	25.3	MV			15.0%	3	USA	R.B.WALTON	LAS	701043N

Q: FISSION PRODUCT GAMMA RAY ENERGIES FROM 0.25 TO 5. MEV.
DELAY TIME FROM 1 MILLISECOND TO 12 HOURS.
ASSOCIATE GAMMA RAYS WITH FISSION PRODUCTS IF POSSIBLE.
A: GE(LI) RESOLUTION AT 1.2 MEV SHOULD BE 2.5 KEV.
ACCURACY FOR ABSOLUTE GAMMA RAY YIELDS.
O: NON-DESTRUCTIVE ASSAY OF PU-239
M: SUBSTANTIAL MODIFICATIONS.

94 PLUTONIUM 239 NEUTRON FISSION PRODUCT MASS YIELD SPECTRUM

1448	25.3	MV			3.0%	2	USA	N.STEEN	BET	671125P

Q: CUMULATIVE AND DIRECT YIELD OF XE-135 INCLUSIVE OF 15 MINUTE ISOMER IS WANTED.
O: FOR CALCULATION OF FISSION PRODUCT POISONS.

1449	25.3	MV			1.0%	2	USA	N.STEEN	BET	671126R

Q: FISSION PRODUCT YIELD OF CS-137 WANTED.
O: FOR BURN UP INDICATOR STANDARD.

1450	25.3	MV			3.0%	2	USA	N.STEEN	BET	671128R

Q: FISSION PRODUCT YIELD OF ND-147 AND SM-149 WANTED.
O: FOR CALCULATION OF FISSION PRODUCT POISONS.

1451	25.3	MV			1.0%	1	CCP	S.A.SKVORTSOV O.A.MILLER	KUR KUR	704020N

Q: YIELDS OF CS-133 AND CS-137 WANTED.
O: FOR ASSAY OF PU IN SPENT FUEL ELEMENTS BY THE FISSION PRODUCT GAMMA RAYS.

1452	25.3	MV			1.0%	2	CCP	S.A.SKVORTSOV O.A.MILLER	KUR KUR	704023N

Q: YIELDS OF ZR-95, RU-106, BA-140 AND CE-144 ARE REQUIRED.
C: FOR ASSAY OF PU IN SPENT FUEL ELEMENTS BY THE FISSION PRODUCT GAMMA RAYS.

1453	25.3	MV			1.0%	2	CAN	W.H.WALKER	CRC	711803R

Q: YIELD OF XE-135 WANTED.
O: FOR CALCULATION OF FISSION PRODUCT ABSORPTION.

1454	25.3	MV	15.0	MEV	5.0%	2	USA	P.GREEBLER	GEB	741126R

Q: ALL FISSION PRODUCTS.

STATUS----------STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

94 PLUTONIUM 239 NEUTRON RESONANCE PARAMETERS

1455	25.3	MV	600.	EV	10.0%	2	USA	C.E.TILL S.VISNER	ANL CBE	691319R

C: FOR THERMAL REACTORS.
TO DETERMINE STATISTICAL PARAMETERS FOR EXTRAPOLATION TO HIGHER ENERGIES FOR FAST REACTORS.

1456	25.3	MV	50.0	EV	10.0%	2	USA	P.B.HEMMIG P.GREEBLER	DOE GEB	691320R

O: FOR EXTRAPOLATION TO HIGHER ENERGIES VIA STATISTICAL PARAMETERS.
FOR FAST REACTOR CALCULATIONS.
M: NEW REQUEST.

1457	250.	EV	1.00	KEV	3.0%	2	SWD	H.HAEGGBLOM	AE	692415R

Q: NEUTRON, CAPTURE AND FISSION WIDTH NEEDED.
O: NEEDED FOR FAST REACTOR CALCULATIONS.

STATUS----------STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

94 PLUTONIUM 239 MISC

1458					0.5%	1	JAP	K.ONISHI	PNC	762019N

Q: DECAY HEAT (W/G) REQUIRED.
O: ASSAY OF PU BY CALORIMETRY

94 PLUTONIUM 240 HALF LIFE

1459					1.0%	1	USA	J.GRUNDL	NBS	761125R

Q: ALPHA HALF-LIFE REQUIRED.
O: FOR MASS DETERMINATION OF FISSIONABLE DEPOSITS.
M: NEW REQUEST.

94 PLUTONIUM 240 SPONTANEOUS FISSION HALF LIFE

1460					1.0%	2	USA	R.B.PERRY	ANL	741152N

A: ACCURACY 3-5 PERCENT USEFUL IN SHORT TERM.
O: FOR CALCULATION OF THE EFFECTIVE PU-240 FOR SPONTANEOUS FISSION MEASUREMENTS OF PU IN NUCLEAR MATERIALS SAFEGUARDS.

1461					1. %	2	JAP	K.ONISHI	PNC	762016N

O: DETECTION OF PU BY NEUTRON COINCIDENCE METHOD

94 PLUTONIUM 240 GAMMA RAY YIELD

1462					1. %	1	JAP	T.SUZUKI	JAE	762011N

Q: YIELD PER DISINTEGRATION OF 45.2,104.2 AND 642.3 KEV GAMMA RAYS REQUIRED.
(FOLLOWING ALPHA DECAY EVENT)
O: THOUGH PRESENT STATUS OF ACCURACY SEEMED TO MEET THE REQUIREMENT CONFIRMATION IS REQUIRED.
ASSAY OF PU-ISOTOPES BY GAMMA-RAY SPECTROSCOPY

94 PLUTONIUM 240 SPONTANEOUS NEUTRONS EMITTED PER FISSION (NU BAR)

1463				1.0%	2	USA	R.B.PERRY	ANL	741155N

A: ACCURACY 3-5 PERCENT USEFUL IN SHORT TERM.
O: FOR CALCULATION OF THE EFFECTIVE PU-240 FOR SPONTANEOUS FISSION MEASUREMENTS OF PU IN NUCLEAR MATERIALS SAFEGUARDS.

94 PLUTONIUM 240 GAMMA FISSION PRODUCT MASS YIELD SPECTRUM

1464	4.00	MEV	14.0	MEV	10. %	3	JAP	R.MIKI	KKU	762038N

Q: TOTAL FISSION YIELD PRODUCED BY BREMSSTRAHLUNG REQUIRED. YIELD MAY BE IN THE UNIT OF YIELD/ROENTGEN*NUCLEUS OR RELATIVE TO U-238 OR OTHER PHOTOACTIVATION YIELDS.
C: BREMSSTRAHLUNG CONVERTER (PREFERABLY TA) OF SUFFICIENT THICKNESS TO STOP ELECTRONS. NO EXPERIMENTAL DATA.
NON-DESTRUCTIVE ASSAY OF PU

94 PLUTONIUM 240 NEUTRON TOTAL CROSS SECTION

1465	10.0	KEV	1.00	MEV	10.0%	2	GER	B.GOEL	KFK	692439R

A: BETWEEN 10 AND 100 KEV AT 1 NS/M RESOLUTION.

94 PLUTONIUM 240 NEUTRON INELASTIC CROSS SECTION

1466	1.50	MEV	10.0	MEV	20.0%	2	USA	P.GREEBLER P.B.HEMMIG	GEB DOE	721087R

Q: EMISSION CROSS SECTION MIGHT BE EQUALLY USEFUL AT THE HIGHER ENERGIES.

94 PLUTONIUM 240 NEUTRON ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

1467	UP TO		5.00	MEV	10.0%	2	CCP	M.N.NIKOLAEV	FEI	714029R

A: CROSS SECTION FOR INELASTIC REMOVAL BELOW FISSION THRESHOLDS OF U-238 AND PU-240 OR NP-237 WANTED WITH 10 PERCENT ACCURACY.
EXCITATION CS FOR LOW-LYING LEVELS REQUIRED WITH ACCURACY OF 15 PERCENT.
O: SEE GENERAL COMMENTS IN THE INTRODUCTION.

94 PLUTONIUM 240 NEUTRON ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION

1468	UP TO		4.00	MEV	40.0%	2	UK	C.G.CAMPBELL	WIN	692443R

C: FOR FAST REACTORS.

94 PLUTONIUM 240 NEUTRON CAPTURE CROSS SECTION

1469	25.3	MV	100.	EV	3.0%	1	USA	P.GREEBLER	GEB	671194R

O: IMPROVED PRECISION NEEDED FOR THERMAL REACTORS.

1470	500.	EV	150.	KEV	5.0%	1	USA	C.E.TILL	ANL	691389R

A: ACCURACY OF 15 PERCENT USEFUL.
O: HIGH PRIORITY FOR FAST REACTOR CALCULATIONS.

1471	500.	EV	1.00	MEV	5.00%	2	FR	P.HAMMER	CAD	692451R

Q: ABSOLUTE VALUES USEFUL BUT REQUEST CONCERNS MAINLY RELATIVE VALUES VERSUS ENERGY OR RELATIVE VALUES TO U-238 CAPTURE OR U-235 FISSION.
O: FOR FAST REACTOR CALCULATIONS.

1472	1.00	KEV	500.	KEV	10.0%	2	SWD	H.HAEGGBLOM	AE	692452R

A: ENERGY DEPENDANCE WITHIN 10 PERCENT.
O: NEEDED FOR FAST REACTOR CALCULATIONS.

1473	5.00	KEV	1.00	MEV	10.0%	2	GER	B.GOEL	KFK	692453R

A: 1 NS/M RESOLUTION NEEDED.

1474	500.	EV	1.40	MEV	7.0%	2	CCP	M.N.NIKOLAEV	FEI	714032R

Q: RATIO TO U-235 FISSION CS WANTED BUT RATIOS TO B-10, LI-6, HE-3 AND OTHER STANDARDS WOULD BE VERY USEFUL.
O: SEE GENERAL COMMENTS IN THE INTRODUCTION

1475	150.	KEV	1.00	MEV	10.0%	1	USA	P.GREEBLER P.B.HEMMIG	GEB DOE	721137R

A: ACCURACY OF 15 PERCENT USEFUL.
O: HIGH PRIORITY FOR FAST REACTOR CALCULATIONS.

1476	5.00	KEV	10.0	MEV		2	CCP	L.N.USACHEV	FEI	754006R

A: FROM 5.0 - 100 KEV ACCURACY 7.0 PERCENT.
FROM 0.1 - 0.8 MEV ACCURACY 14 PERCENT.
FROM 0.8 - 4.5 MEV ACCURACY 46 PERCENT.
ABOVE 4.5 MEV REQUIREMENTS 2 TIMES WEAKER.
O: NEED FOR FAST REACTOR CALCULATIONS.
FOR MORE DETAIL SEE INTRODUCTION.
M: SUBSTANTIAL MODIFICATIONS.

1477	1.00	KEV	500.	KEV	10. %	1	JAP	Y.SEKI	MAP	762214R

Q: FOR EVALUATION OF BREEDING RATIO AND BURNUP REACTIVITY CHANGE IN FAST REACTOR CALCULATIONS.

1478	500.	EV	5.00	MEV	4.0%	2	CCP	L.N.USACHEV	FEI	794001R

Q: AVERAGE CROSS SECTION IN A FAST-REACTOR SPECTRUM REQUESTED.
O: FOR FAST-REACTOR BURN-UP CALCULATION.
SEE GENERAL COMMENTS.
M: NEW REQUEST.

94 PLUTONIUM 240 NEUTRON CAPTURE GAMMA RAY SPECTRUM

1479	25.3	MV			20.0%	1	USA	R.B.WALTON	LAS	741139N

Q: ABSOLUTE SPECTRA REQUIRED.
O: FOR DEVELOPMENT OF NONDESTRUCTIVE ASSAY METHOD.
M: SUBSTANTIAL MODIFICATIONS.

94 PLUTONIUM 240 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

1480	120.	KEV			20.0%	3	UK	C.G.CAMPBELL	WIN	692442R

Q: GAMMA SPECTRUM WANTED.
A: INCIDENT ENERGY, ABOUT 120 KEV.
LOW RESOLUTION ADEQUATE FOR INCIDENT ENERGY AND PHOTON SPECTRUM.
O: FOR STUDY OF ACTIVATION AND HEAT RELEASE IN CORE.

1481	25.3	MV	15.0	MEV	10.0%	3	FR	B.DUCHEMIN	SAC	792050R

Q: GAMMA SPECTRA REQUIRED
A: ENERGY RESOLUTION OF 250 KEV FOR GAMMA RAYS LESS THAN 1 MEV AND 500 KEV FOR ENERGIES GREATER THAN 1 MEV
O: FOR SHIELDING CALCULATIONS - EVALUATION MAY BE SUFFICIENT
M: NEW REQUEST.

94 PLUTONIUM 240 NEUTRON FISSION CROSS SECTION

1482	1.00	KEV	15.0	MEV	2.0%	2	USA	G.E.HANSEN	LAS	671130R

Q: RATIO WANTED RELATIVE TO U-235.

1483	100.	KEV	5.00	MEV	5.0%	2	CCP	M.N.NIKOLAEV	FEI	714030R

Q: RATIO TO U-235 OR NP-237 FISSION CS WANTED.
MEASUREMENT OF AVERAGE CS IN FISSION-NEUTRON SPECTRUM OF CF-252 TIMES NU-BAR OF CF-252 WITH ACCURACY OF 2 PERCENT IS DESIRED.
O: SEE GENERAL COMMENTS IN THE INTRODUCTION.

1484	500.	KEV	10.0	MEV	5.0%	2	USA	P.GREEBLER	GEB	721088R

O: IMPORTANT FOR FAST REACTOR CALCULATIONS.

1485	500.	EV	100.	KEV	9.0%	2	USA	P.B.HEMMIG	DOE	721089R

O: FOR FAST REACTOR CALCULATIONS.

1486	1.00	KEV	100.	KEV	5.0%	3	USA	P.B.HEMMIG	DOE	721090R

Q: RATIO WANTED RELATIVE TO U-235.

1487	100.	KEV	2.00	MEV	3.0%	2	USA	P.B.HEMMIG	DOE	721091R

Q: RATIO WANTED RELATIVE TO U-235.
A: ACCURACY OF 5 PERCENT USEFUL.
M: SUBSTANTIAL MODIFICATIONS.

1488	UP TO		5.00	MEV	10.0%	2	SWD	H.HAEGGBLOM	AE	742008R

O: FAST REACTOR CALCULATIONS.

1489	1.00	KEV	15.0	MEV	5.0%	1	GER	B.GOEL	KFK	742022R
1490	1.00	KEV	15.0	MEV	3.0%	2	FR	J.SALVY	BRC	742105R

O: FOR CRITICAL ASSEMBLIES.

1491	5.00	KEV	10.0	MEV		2	CCP	L.N.USACHEV	FEI	754003R

A: FROM 0.1 - 0.8 MEV ACCURACY 5.3 PERCENT.
FROM 0.8 - 4.5 MEV ACCURACY 3.5 PERCENT.
ABOVE 4.5 MEV REQUIREMENTS 2 TIMES WEAKER.
O: NEED FOR FAST REACTOR CALCULATIONS.
FOR MORE DETAIL SEE INTRODUCTION.
M: SUBSTANTIAL MODIFICATIONS.

1492	25.2	MV	1.00	MEV	10. %	1	JAP	M.SASAKI	MAP	762213R

O: FOR FAST REACTOR CALCULATIONS

94 PLUTONIUM 240 NEUTRON NEUTRONS EMITTED PER FISSION (NU BAR)

1493	UP TO		5.00	MEV	1.0%	2	CCP	M.N.NIKOLAEV	FEI	714031R

Q: RATIO TO CF-252 NU-BAR WANTED.
O: SEE GENERAL COMMENTS IN THE INTRODUCTION.

1494	UP TO	10.0	MEV	3.0%	2	USA	C.E.TILL P.B.HEMMIG	ANL DOE	721092R

A: ACCURACY OF 5 PERCENT WOULD BE USEFUL.

1495	1.00 KEV	15.0	MEV	1.0%	2	FR	J.SALVY	BRC	742106R

O: FOR CRITICAL ASSEMBLIES.

1496	5.00 KEV	10.0	MEV		2	CCP	L.N.USACHEV	FEI	754004R

A: FROM 0.1 - 0.8 MEV ACCURACY 3 PERCENT.
FROM 0.8 - 4.5 MEV ACCURACY 2 PERCENT.
ABOVE 4.5 MEV REQUIREMENTS 2 TIMES WEAKER.
O: NEED FOR FAST REACTOR CALCULATIONS.
FOR MORE DETAIL SEE INTRODUCTION.
M: SUBSTANTIAL MODIFICATIONS.

1497	UP TO	5.00	MEV	2.0%	3	UK	C.G.CAMPBELL	WIN	792139R

O: FOR FAST REACTORS.
M: NEW REQUEST.

94 PLUTONIUM 240 NEUTRON DELAYED NEUTRONS EMITTED PER FISSION

1498	UP TO	5.00	MEV	10.0%	2	USA	P.B.HEMMIG	DOE	761092R

M: NEW REQUEST.

1499	25.3 MV	10.0	MEV	5. %	2	JAP	T.MURATA	NIG	762049N

Q: THE REQUESTED QUANTITIES ARE THE GROUP HALF LIVES AND GROUP YIELDS (NORMALIZED TO 1 FISSION) WHICH CAN USED TO FIT THE DECAY CURVE OF DELAYED NEUTRONS FOR THE TIME RANGE 0.1-300 SEC WITHIN AN ACCURACY OF 5 PER CENT.
O: INCIDENT ENERGY STEP LESS THAN 2 MEV.
ACTIVE ASSAY OF MIXED FRESH AND IRRADIATED FUEL

STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

STATUS

94 PLUTONIUM 240 NEUTRON ENERGY SPECTRUM OF FISSION NEUTRONS

1500	UP TO	15.0	MEV	3.0%	2	FR	P.HAMMER	CAD	732098R

A: ACCURACY FOR AVERAGE E' RELATIVE TO AVERAGE E'
U-235 OR PU-239.

94 PLUTONIUM 240 NEUTRON RESONANCE PARAMETERS

1501	100. EV	5.00	KEV	10.0%	2	USA	C.E.TILL P.B.HEMMIG	ANL DOE	691391R

O: NEEDED FOR FAST REACTOR CALCULATIONS INCLUDING DOPPLER EFFECT.

1502	10.0 EV	5.00	KEV		2	CCP	M.N.NIKOLAEV	FEI	714028R

Q: NEUTRON AND CAPTURE WIDTHS WANTED FOR EVALUATION OF SELF SHIELDING IN RESOLVED RESONANCE REGIONS AND EVALUATION OF AVERAGE RESONANCE PARAMETERS.
SELF-INDICATION CAPTURE MEASUREMENTS ARE DESIRED FOR P-WAVE RESONANCE OBSERVATION.
O: AVERAGE S AND P WAVE RESONANCE PARAMETERS SHOULD BE DERIVED.
STATISTICAL ANALYSIS OF MEASURED RESONANCE PARAMETERS WANTED.
SEE ALSO GENERAL COMMENTS IN THE INTRODUCTION.

1503	100. EV	5.00	KEV	10.0%	2	USA	S.VISNER	CBE	761093R

O: FOR THERMAL REACTOR APPLICATIONS INCLUDING DOPPLER EFFECTS.
M: NEW REQUEST.

1504	1.00 EV	10.0	KEV		1	JAP	M.SASAKI	MAP	762215R

O: FOR FAST REACTOR CALCULATIONS

94 PLUTONIUM 240 MISC

1505				0.3%	2	GER	V.SCHNEIDER	ALK	702079N

Q: SPECIFIC DECAY HEAT IN WATTS/GRAM REQUIRED.
PERCENTAGE OF HEAT CARRIED OFF BY LONG RANGE PARTICLES (X-RAYS,GAMMA RAYS) USEFUL.
C: FOR CALORIMETRIC PU DETERMINATION.

1506				0.5%	1	JAP	K.ONISHI	PNC	762020N

Q: DECAY HEAT (W/G) REQUIRED.
O: ASSAY OF PU BY CALORIMETRY

94 PLUTONIUM 241 — GAMMA RAY YIELD

1507				5. %	1	JAP	T.SUZUKI	JAE	762012N

Q: YIELD PER DISINTEGRATION OF 56.4,77,103.5,148.6 AND 160 KEV GAMMA RAYS REQUIRED. (FOLLOWING ALPHA DECAY EVENT)
A: 1 PER CENT ACCURACY FOR 103.5 AND 148.6 KEV GAMMA RAYS, 5 PER CENT ACCURACY FOR 56.4.77 AND 160 KEV GAMMA RAYS.
O: THOUGH PRESENT STATUS OF ACCURACY SEEMED TO MEET THE REQUIREMENT CONFIRMATION IS REQUIRED. ASSAY OF PU-ISOTOPES BY GAMMA-RAY SPECTROSCOPY

94 PLUTONIUM 241 — GAMMA — TOTAL NEUTRON YIELD

1508	UP TO	10.0	MEV	10.0%	2	CCP	V.K.MARKOV	GAC	714049N

O: FOR PHOTONUCLEAR ASSAY OF PU.

94 PLUTONIUM 241 — GAMMA — FISSION CROSS SECTION

1509	UP TO	10.0	MEV	10.0%	2	CCP	V.K.MARKOV	GAC	714047N

O: FOR PHOTONUCLEAR ASSAY OF PU.

94 PLUTONIUM 241 — GAMMA — FISSION PRODUCT MASS YIELD SPECTRUM

1510	UP TO	10.0	MEV	10.0%	2	CCP	V.K.MARKOV	GAC	714048N

O: FOR PHOTONUCLEAR ASSAY OF PU.

1511	4.00 MEV	14.0	MEV	10. %	3	JAP	R.MIKI	KKU	762039N

Q: TOTAL FISSION YIELD PRODUCED BY BREMSSTRAHLUNG REQUIRED. YIELD MAY BE IN THE UNIT OF YIELD/ROENTGEN*NUCLEUS OR RELATIVE TO U-238 OR OTHER PHOTOACTIVATION YIELDS.
O: BREMSSTRAHLUNG CONVERTER (PREFERABLY TA) OF SUFFICIENT THICKNESS TO STOP ELECTRONS. NON-DESTRUCTIVE ASSAY OF PU

94 PLUTONIUM 241 — NEUTRON — TOTAL CROSS SECTION

1512	1.00 KEV	15.0	MEV	10.0%	2	GER	B.GOEL	KFK	692455R

M: SUBSTANTIAL MODIFICATIONS.

1513	100. EV	15.0	MEV	10. %	1	JAP	T.HOJUYAMA	MAP	762216R

O: FOR FAST REACTOR CALCULATIONS

1514	10.0 MV	3.00	EV	1.0%	1	USA	R.W.PEELLE	ORL	781195R

O: TOTAL CROSS-SECTION NOT CONSISTENT WITH PARTIALS.
M: NEW REQUEST.

94 PLUTONIUM 241 — NEUTRON — ABSORPTION CROSS SECTION

1515	15.0 EV	300.	EV	8.0%	3	UK	J.FELL	WIN	712095R

A: ACCURACY FOR AVERAGE VALUE OF THE ERROR BETWEEN E AND 2E.
O: FOR THERMAL REACTORS.

1516	1.00 KEV	2.00	KEV	20.0%	3	UK	J.FELL	WIN	712096R

A: ACCURACY FOR AVERAGE VALUE OF THE ERROR BETWEEN E AND 2E.
O: FOR THERMAL REACTORS.

94 PLUTONIUM 241 — NEUTRON — CAPTURE CROSS SECTION

1517	25.3 MV	30.0	KEV	3.0%	1	USA	P.GREEBLER	GEB	671132R

Q: ALPHA ALSO USEFUL.
A: ACCURACY TO 3 PERCENT IN ETA.
O: IMPROVED PRECISION NEEDED FOR THERMAL REACTORS. ALSO WANTED FOR FAST REACTORS.

1518	1.00 KEV	5.00	MEV	10.0%	2	SWD	H.HAEGGBLOM	AE	692470R

O: FAST REACTOR CALCULATIONS.

1519	200. EV	1.00	MEV	10.0%	2	GER	B.GOEL	KFK	692471R

Q: ALPHA IS USEFUL.

1520	5.00 KEV	10.0	MEV		2	CCP	L.N.USACHEV	FEI	754001R

A: FROM 5.0 - 100 KEV ACCURACY 18 PERCENT.
FROM 0.1 - 0.8 MEV ACCURACY 30 PERCENT.
FROM 0.8 - 4.5 MEV ACCURACY 50 PERCENT.
ABOVE 4.5 MEV REQUIREMENTS 2 TIMES WEAKER.
O: NEED FOR FAST REACTOR CALCULATIONS.
FOR MORE DETAIL SEE INTRODUCTION.
M: SUBSTANTIAL MODIFICATIONS.

1521	25.3 MV	30.0	KEV	3.0%	2	USA	S.VISNER	CBE	761094R

O: FOR THERMAL REACTOR CALCULATIONS.
M: NEW REQUEST.

1522	100.	MV	15.0	MEV	8. %	1	JAP	T.HOJUYAMA	MAP	762217R

Q: FOR FAST REACTOR CALCULATIONS

1523	500.	EV	5.00	MEV	7.0%	2	CCP	L.N.USACHEV	FEI	794002R

Q: AVERAGE CROSS SECTION IN A FAST-REACTOR SPECTRUM REQUESTED.
C: FOR FAST-REACTOR BURN-UP CALCULATION. SEE GENERAL COMMENTS.
M: NEW REQUEST.

94 PLUTONIUM 241 NEUTRON CAPTURE GAMMA RAY SPECTRUM

1524	25.3	MV			20.0%	1	USA	R.B.WALTON	LAS	741140N

Q: ABSOLUTE SPECTRA REQUIRED.
O: FOR DEVELOPMENT OF NONDESTRUCTIVE ASSAY METHODS.
M: SUBSTANTIAL MODIFICATIONS.

94 PLUTONIUM 241 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

1525	120.	KEV			20.0%	3	UK	C.G.CAMPBELL	WIN	692460R

Q: GAMMA SPECTRUM WANTED.
A: INCIDENT ENERGY, ABOUT 120 KEV. LOW RESOLUTION ADEQUATE FOR INCIDENT ENERGY AND PHOTON SPECTRUM.
O: FOR STUDY OF ACTIVATION AND HEAT RELEASE IN CORE.

1526	25.3	MV	15.0	MEV	10.0%	3	FR	B.DUCHEMIN	SAC	792051R

Q: GAMMA SPECTRA REQUIRED
A: ENERGY RESOLUTION OF 250 KEV FOR GAMMA RAYS LESS THAN 1 MEV AND 500 KEV FOR ENERGIES GREATER THAN 1 MEV
O: FOR SHIELDING CALCULATIONS - EVALUATION MAY BE SUFFICIENT
M: NEW REQUEST.

94 PLUTONIUM 241 NEUTRON N,2N

1527	UP TO		15.0	MEV	20. %	2	JAP	T.HOJUYAMA	MAP	762221R

O: FOR FAST REACTOR CALCULATIONS

94 PLUTONIUM 241 NEUTRON FISSION CROSS SECTION

1528	100.	EV	15.0	MEV	1.0%	2	USA	G.E.HANSEN	LAS	661055R

Q: RATIO TO U-235 FISSION WANTED.
A: ENERGY RESOLUTION - 3 PERCENT.

1529	25.3	MV	10.0	EV	3.0%	1	USA	C.E.TILL P.GREEBLER	ANL GEB	691328R

Q: RATIO TO U-235 OR PU-239 USEFUL.
M: SUBSTANTIAL MODIFICATIONS.

1530	100.	EV	150.	KEV	5.0%	2	UK	C.G.CAMPBELL	WIN	692462R

A: ACCURACY FOR AVERAGE VALUE OF THE ERROR BETWEEN E AND 2E.
C: FOR FAST REACTORS.

1531	1.00	KEV	5.00	MEV	10.0%	2	SWD	H.HAEGGBLOM	AE	692463R

O: NEEDED FOR FAST REACTOR CALCULATIONS.

1532	UP TO		5.00	KEV	5.0%	2	FR	H.TELLIER	SAC	732099R

O: REACTOR CALCULATIONS.

1533	1.00	KEV	15.0	MEV	10.0%	2	GER	B.GOEL	KFK	742013R
1534	5.00	KEV	10.0	MEV		2	CCP	L.N.USACHEV	FEI	754002R

A: FROM 5.0 - 100 KEV ACCURACY 3.7 PERCENT.
FROM 0.1 - 0.8 MEV ACCURACY 5.0 PERCENT.
FROM 0.8 - 4.5 MEV ACCURACY 9.7 PERCENT.
ABOVE 4.5 MEV REQUIREMENTS 2 TIMES WEAKER.
O: NEED FOR FAST REACTOR CALCULATIONS.
FOR MORE DETAIL SEE INTRODUCTION.
M: SUBSTANTIAL MODIFICATIONS.

1535	10.0	EV	30.0	KEV	10.0%	1	USA	R.A.DONCALS	WEW	761042R

Q: RATIO TO U-235 OR PU-239 WOULD BE USEFUL.
M: NEW REQUEST.

1536	1.00	MV	3.00	EV	1.0%	1	USA	B.R.LEONARD	BNW	761095R

O: FOR THERMAL CROSS SECTION EVALUATION.
M: NEW REQUEST.

1537	1.00	EV	1.00	MEV	1-5.%	1	RUM	S.RAPEANU	RUM	763007R
1538	500.	EV	5.00	MEV	5.0%	2	CCP	L.N.USACHEV	FEI	794009R

Q: AVERAGE CROSS SECTION IN A FAST-REACTOR SPECTRUM REQUESTED.
O: FOR FAST-REACTOR BURN-UP CALCULATION. SEE GENERAL COMMENTS.
M: NEW REQUEST.

94 PLUTONIUM 241 NEUTRON CAPTURE TO FISSION RATIO (ALPHA)

1539	1.00	KEV	2.00	MEV	10.0%	1	USA	P.GREEBLER P.B.HEMMIG	GEB DOE	691331R

Q: CAPTURE CROSS SECTION EQUALLY USEFUL.

1540	25.3	MV			1.0%	2	FR	H.TELLIER	SAC	702043R

O: EVALUATION MAY SUFFICE IF IT EXPLAINS DISCREPANCIES.

1541	25.3	MV	14.0	MEV		2	JAP	Y.NAITO	JAE	722047N

A: ACCURACY REQUIRED AT THERMAL IS 1 PERCENT, 5 PERCENT ABOVE.
O: FOR BURN UP CALCULATION OF A PU LOADED THERMAL REACTOR.

1542	100.	MV	15.0	MEV	8. %	1	JAP	T.HOJUYAMA	MAP	762219R

C: FOR FAST REACTOR CALCULATIONS

1543	100.	EV	1.00	MEV	20.0%	3	UK	C.G.CAMPBELL	WIN	792140R

C: FOR FAST REACTORS.
M: NEW REQUEST.

STATUS---STATUS

THERMAL VALUE UNDER CONTINUOUS REVIEW BY INDC AND NEANDC. SEE APPENDIX A.

94 PLUTONIUM 241 NEUTRON NEUTRONS EMITTED PER NEUTRON ABSORPTION (ETA)

1544	10.0	MV	15.0	EV		2	UK	J.FELL	WIN	642007R

Q: VALUE RELATIVE TO 25.3 MV ETA WANTED.
A: ACCURACY 2 PERCENT TO 1 EV, 6 PERCENT ABOVE.
C: FOR THERMAL REACTORS.

1545	25.3	MV			1.0%	2	FR	H.TELLIER	SAC	692464R

C: FOR THERMAL REACTOR CALCULATIONS.
EVALUATION MAY SUFFICE IF IT EXPLAINS DISCREPANCIES.

STATUS---STATUS

THERMAL VALUE UNDER CONTINUOUS REVIEW BY INDC AND NEANDC. SEE APPENDIX A.

94 PLUTONIUM 241 NEUTRON NEUTRONS EMITTED PER FISSION (NU BAR)

1546	1.00	KEV	1.00	MEV	2.0%	1	USA	P.B.HEMMIG	DOE	691330R

M: SUBSTANTIAL MODIFICATIONS.

1547	1.00	KEV	15.0	MEV	5.0%	2	GER	B.GOEL	KFK	692466R
1548	5.00	KEV	10.0	MEV		2	CCP	L.N.USACHEV	FEI	754013R

A: FROM 5.0 - 100 KEV ACCURACY 1.2 PERCENT.
FROM 0.1 - 0.8 MEV ACCURACY 2.3 PERCENT.
FROM 0.8 - 4.5 MEV ACCURACY 4.0 PERCENT.
ABOVE 4.5 MEV REQUIREMENTS 2 TIMES WEAKER.
O: NEED FOR FAST REACTOR CALCULATIONS.
FOR MORE DETAIL SEE INTRODUCTION.
M: SUBSTANTIAL MODIFICATIONS.

STATUS---STATUS

THERMAL VALUE UNDER CONTINUOUS REVIEW BY INDC AND NEANDC. SEE APPENDIX A.

94 PLUTONIUM 241 NEUTRON DELAYED NEUTRONS EMITTED PER FISSION

1549	25.3	MV	10.0	MEV	5. %	2	JAP	T.MURATA	NIG	762050N

Q: THE REQUESTED QUANTITIES ARE THE GROUP HALF LIVES AND GROUP YIELDS (NORMALIZED TO 1 FISSION) WHICH CAN USED TO FIT THE DECAY CURVE OF DELAYED NEUTRONS FOR THE TIME RANGE 0.1-300 SEC WITHIN AN ACCURACY OF 5 PER CENT.
C: ACTIVE ASSAY OF MIXED FRESH AND IRRADIATED FUEL INCIDENT ENERGY STEP LESS THAN 2 MEV.

STATUS---STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

94 PLUTONIUM 241 NEUTRON FISSION PRODUCT MASS YIELD SPECTRUM

1550	25.3	MV			5.0%	3	CCP	S.A.SKVORTSOV O.A.MILLER	KUR KUR	704021N

Q: YIELD OF RU-144 WANTED.
O: FOR ASSAY OF PU IN FUEL ELEMENTS BY MEANS OF FISSION PRODUCT GAMMA RADIATION.

1551	25.3	MV			1.0%	2	CAN	W.H.WALKER	CRC	711804R

Q: YIELD OF XE-135 WANTED.
O: FOR CALCULATION OF FISSION PRODUCT ABSORPTION.

STATUS---STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

94 PLUTONIUM 241 — NEUTRON — RESONANCE PARAMETERS

1552	35.0 EV	200. EV	10.0%	2	GER	B.GOEL	KFK		692459R
	Q: NEUTRON WIDTHS NEEDED.								
1553	25.3 MV	400. EV		2	USA	C.E.TILL	ANL		721140R
	A: ACCURACY 5 PERCENT TO 100 EV AND 10 PERCENT ABOVE. ACCURACY 20 PERCENT USEFUL. O: FOR THERMAL AND FAST REACTOR CALCULATIONS.								
1554	25.3 MV	400. EV	10.0%	2	USA	S.VISNER	CBE		761096R
	C: FOR THERMAL REACTOR APPLICATIONS AT HIGH BURNUP. M: NEW REQUEST.								
1555	0.20 EV	200. EV	10. %	1	JAP	T.HOJUYAMA	MAP		762222R
	A: 10 PER CENT IN FISSION WIDTH O: FOR FAST REACTOR CALCULATIONS								
1556	1.00 EV		1.0%	1	USA	R.W.PEELLE	ORL		781194R
	O: RESONANCE STRONGLY INFLUENCES THERMAL CROSS-SECTION EVALUATION. M: NEW REQUEST.								

94 PLUTONIUM 241 — MISC

1557			1.5%	2	GER	V.SCHNEIDER	ALK		702073N
	Q: SPECIFIC DECAY HEAT IN WATTS/GRAM REQUIRED. PERCENTAGE OF HEAT CARRIED OFF BY LONG RANGE PARTICLES (X-RAYS,GAMMA RAYS) USEFUL. C: FOR CALORIMETRIC PU DETERMINATION.								
1558			0.5%	1	JAP	K.ONISHI	PNC		762021N
	Q: DECAY HEAT (W/G) REQUIRED. O: ASSAY OF PU BY CALORIMETRY								

94 PLUTONIUM 242 — SPONTANEOUS — FISSION HALF LIFE

1559			1. %	2	JAP	K.ONISHI	PNC		762017N
	O: DETECTION OF PU BY NEUTRON COINCIDENCE METHOD								

94 PLUTONIUM 242 — SPONTANEOUS — NEUTRONS EMITTED PER FISSION (NU BAR)

1560			1.0%	2	USA	R.B.PERRY	ANL		741156N
	A: ACCURACY 3-5 PERCENT USEFUL IN SHORT TERM. O: FOR CALCULATION OF THE EFFECTIVE PU-240 FOR SPONTANEOUS FISSION MEASUREMENTS OF PU IN NUCLEAR MATERIALS SAFEGUARDS.								

94 PLUTONIUM 242 — NEUTRON — TOTAL CROSS SECTION

1561	10.0 KEV	15.0 MEV	10.0%	1	GER	F.FROEHNER	KFK		792255R
	A: 5-10 PERCENT ENERGY RESOLUTION SUFFICIENT O: FOR CONSISTENT EVALUATION OF PARTIAL CROSS SECTION NO DATA AVAILABLE ABOVE 600KEV. DATA BELOW 150KEV DIFFICULT TO RECONCILE WITH OPTICAL MODEL M: NEW REQUEST.								

94 PLUTONIUM 242 — NEUTRON — CAPTURE CROSS SECTION

1562	25.3 MV		5.0%	1	FR	H.TELLIER	SAC		702047R
	O: EVALUATION MAY SUFFICE IF IT EXPLAINS DISCREPANCIES.								
1563	UP TO	5.00 KEV	5.0%	2	FR	H.TELLIER	SAC		702048R
	A: ACCURACY FOR RATIO TO THERMAL CROSS SECTION. O: EVALUATION MAY SUFFICE IF IT EXPLAINS DISCREPANCIES.								
1564	1.00 KEV	3.00 MEV	10.0%	1	FR	L.COSTA	CAD		712102R
	Q: RELATIVE VALUES VERSUS ENERGY OR TO U-238 CAPTURE. O: FOR FAST REACTOR CALCULATIONS. M: SUBSTANTIAL MODIFICATIONS.								
1565	1.00 KEV	7.00 MEV	20.0%	1	USA	P.B.HEMMIG	DOE		721098R
	O: FOR FAST BREEDER CALCULATIONS, CM AND CF PRODUCTION.								
1566	25.3 MV	7.00 MEV		1	USA	P.GREEBLER	GEB		721142R
	A: ACCURACY 3 PERCENT TO 100 EV, 10 PERCENT 100 EV TO 1 KEV, 15-20 PERCENT 1 KEV TO 7 MEV. RESONANCE PARAMETERS TO 10-20 PERCENT BELOW 10 KEV. O: FOR FAST BREEDER CALCULATIONS, CM AND CF PRODUCTION.								

1567	25.3	MV	14.0	MEV		2	JAP	Y.NAITC	JAE	722043N

A: ACCURACY REQUIRED AT THERMAL IS 5 PERCENT, 10 PERCENT ABOVE.
O: FOR BURN UP CALCULATION OF A PU LOADED THERMAL REACTOR.

1568	1.00	KEV	5.00	MEV	10.0%	3	SWD	H.HAEGGBLOM	AE	742010R

O: FAST REACTOR CALCULATIONS.

1569	5.00	KEV	10.0	MEV		2	CCP	L.N.USACHEV	FEI	754014R

A: FROM 5.0 - 100 KEV ACCURACY 30 PERCENT.
FROM 0.1 - 0.8 MEV ACCURACY 30 PERCENT.
FROM 0.8 - 4.5 MEV ACCURACY 50 PERCENT.
ABOVE 4.5 MEV REQUIREMENTS 2 TIMES WEAKER.
O: NEED FOR FAST REACTOR CALCULATIONS.
FOR MORE DETAIL SEE INTRODUCTION.
M: SUBSTANTIAL MODIFICATIONS.

1570	25.3	MV	1.00	KEV	3.0%	2	USA	S.VISNER	CBE	761097R

C: FOR THERMAL REACTOR APPLICATIONS AT HIGH BURNUP.
M: NEW REQUEST.

1571	1.00	KEV	15.0	MEV	10. %	2	JAP	T.HOJUYAMA	MAP	762223P

O: FOR SHIELDING OF SPENT FUEL.

1572	10.0	MV	4.00	EV	10.0%	2	UK	J.FELL	WIN	792168R

O: FOR STUDIES OF PLUTONIUM RECYCLE.
M: NEW REQUEST.

1573	500.	EV	5.00	MEV	15.0%	2	CCP	L.N.USACHEV	FEI	794003R

Q: AVERAGE CROSS SECTION IN A FAST-REACTOR SPECTRUM REQUESTED.
C: FOR FAST-REACTOR BURN-UP CALCULATION.
SEE GENERAL COMMENTS.
M: NEW REQUEST.

94 PLUTONIUM 242 NEUTRON CAPTURE GAMMA RAY SPECTRUM

1574	25.3	MV			20.0%	1	USA	R.B.WALTON	LAS	741141N

Q: ABSOLUTE SPECTRA REQUIRED.
O: FOR DEVELOPMENT OF NONDESTRUCTIVE ASSAY METHODS.
M: SUBSTANTIAL MODIFICATIONS.

94 PLUTONIUM 242 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

1575	25.3	MV	15.0	MEV	10.0%	3	FR	B.DUCHEMIN	SAC	792052R

Q: GAMMA SPECTRA REQUIRED
A: ENERGY RESOLUTION OF 250 KEV FOR GAMMA RAYS LESS THAN 1 MEV AND 500 KEV FOR ENERGIES GREATER THAN 1 MEV
O: FOR SHIELDING CALCULATIONS - EVALUATION MAY BE SUFFICIENT
M: NEW REQUEST.

94 PLUTONIUM 242 NEUTRON FISSION CROSS SECTION

1576	20.0	KEV	400.	KEV	3.0%	1	USA	P.B.HEMMIG	DOE	721094R

Q: RATIO WANTED RELATIVE TO U-235.
M: SUBSTANTIAL MODIFICATIONS.

1577	1.00	KEV	5.00	MEV	10.0%	3	SWD	H.HAEGGBLOM	AE	742009R

O: FAST REACTOR CALCULATIONS.

1578	1.00	KEV	15.0	MEV	10. %	2	JAP	T.HOJUYAMA	MAP	762224R

O: FOR SHIELDING OF SPENT FUEL.

1579	1.00	EV	1.00	MEV	1-5.%	1	RUM	S.RAPEANU	RUM	763008R

1580	1.00	KEV	3.00	MEV	10.0%	1	FR	L.COSTA	CAD	792053R

O: OUT-OF-CORE CYCLE
M: NEW REQUEST.

94 PLUTONIUM 242 NEUTRON NEUTRONS EMITTED PER FISSION (NU BAR)

1581	500.	KEV	10.0	MEV	5.0%	2	USA	P.B.HEMMIG	DOE	691334R
1582	500.	EV	15.0	MEV	5.0%	2	FR	P.HAMMER	CAD	712100R

Q: RELATIVE TO CF-252 NU.
O: FOR FAST REACTOR CALCULATIONS.

94 PLUTONIUM 242 MISC

1583					0.5%	1	JAP	K.ONISHI	PNC	762022N

Q: DECAY HEAT (W/G) REQUIRED.
O: ASSAY OF PU BY CALORIMETRY

94 PLUTONIUM 243 NEUTRON CAPTURE CROSS SECTION

1584	1.00	KEV	3.00	MEV	50.0%	3	FR	P.HAMMER	CAD	792054R

M: NEW REQUEST.

94 PLUTONIUM 243 NEUTRON FISSION CROSS SECTION

1585	1.00	KEV	3.00	MEV	50.0%	3	FR	P.HAMMER	CAD	792055R

M: NEW REQUEST.

94 PLUTONIUM 245 NEUTRON FISSION CROSS SECTION

1586	25.3	MV				2	CAN	W.H.WALKER	CRC	681804R

A: ACCURACY REQUIRED 200 B.
O: UNKNOWN CROSS SECTION.

95 AMERICIUM 241 GAMMA TOTAL NEUTRON YIELD

1587	UP TO		10.0	MEV	10.0%	2	CCP	V.K.MARKOV	GAC	714052N

O: FOR PHOTONUCLEAR ASSAY OF PU.

95 AMERICIUM 241 GAMMA FISSION CROSS SECTION

1588	UP TO		10.0	MEV	10.0%	2	CCP	V.K.MARKOV	GAC	714051N

O: FOR PHOTONUCLEAR ASSAY OF PU.

95 AMERICIUM 241 GAMMA FISSION PRODUCT MASS YIELD SPECTRUM

1589	UP TO		10.0	MEV	10.0%	2	CCP	V.K.MARKOV	GAC	714050N

O: FOR PHOTONUCLEAR ASSAY OF PU.

1590	4.00	MEV	14.0	MEV	10. %	3	JAP	R.MIKI	KKU	762040N

Q: TOTAL FISSION YIELD PRODUCED BY BREMSSTRAHLUNG REQUIRED. YIELD MAY BE IN THE UNIT OF YIELD/ROENTGEN*NUCLEUS OR RELATIVE TO U-238 OR OTHER PHOTOACTIVATION YIELDS
O: BREMSSTRAHLUNG CONVERTER (PREFERABLY TA) OF SUFFICIENT THICKNESS TO STOP ELECTRONS. NON-DESTRUCTIVE ASSAY OF PU

95 AMERICIUM 241 NEUTRON TOTAL CROSS SECTION

1591	25.3	MV			3.0%	2	USA	G.T.ORTON	RL	691336R
1592	1.00	KEV	1.00	MEV	10.0%	2	FR	E.FORT	CAD	792056R

O: EVALUATION PROBLEMS
M: NEW REQUEST.

1593	25.3	MV	1.00	MEV	10.0%	1	GER	F.FROEHNER	KFK	792256R

A: 5-10 PERCENT ENERGY RESOLUTION SUFFICIENT
O: NEEDED FOR CONSISTENT EVALUATIONS OF PARTIAL CROSS SECTIONS. EXISTING THERMAL CROSS SECTIONS SHOULD BE CHECKED
M: NEW REQUEST.

95 AMERICIUM 241 NEUTRON INELASTIC CROSS SECTION

1594	UP TO		3.00	MEV	10.0%	2	FR	E.FORT	CAD	792057R

O: EVALUATION PROBLEMS
M: NEW REQUEST.

95 AMERICIUM 241 NEUTRON ABSORPTION CROSS SECTION

1595	25.3	MV			5.0%	2	CAN	W.H.WALKER	CRC	681805R

O: WIDE SPREAD OF AVAILABLE VALUES.

1596	1.00	EV	500.	EV	10.0%	2	CAN	W.H.WALKER	CRC	681806R

O: DESIRE CONFIRMATION OF RESONANCE INTEGRAL.

1597	25.3	MV			5.0%	2	FR	H.TELLIER	SAC	712106R
1598	25.3	MV			10.0%	1	UK	J.FELL A.WHITTAKER	WIN UKW	792169R

O: FOR STUDIES OF PLUTONIUM RECYCLING AND FOR FUEL REPROCESSING AND STORAGE.
M: NEW REQUEST.

1599	25.3	MV	1.00	KEV	10.0%	1	USA	R.W.EENJAMIN	SPL	671135R

Q: PRODUCTION OF AM-242 AND AM-242 M WANTED.
O: NEEDED FOR PU-238 PROGRAM, AND PRODUCTION OF CM-244.

1600	25.3	MV	1.00	KEV	10.0%	2	USA	G.T.CRTON	RL	671136R

Q: PRODUCTION OF AM-242 AND AM-242 M WANTED.
O: NEEDED FOR PU-238 PROGRAM, AND PRODUCTION OF CM-244.

1601	25.3	MV			5.0%	2	CAN	W.H.WALKER	CRC	661807R

Q: PRODUCTION OF BOTH AM-242 ISOMERS WANTED.

1602	1.00	EV	500.	EV	10.0%	2	CAN	W.H.WALKER	CRC	681808R

O: DESIRE CONFIRMATION OF RESONANCE INTEGRAL MEASUREMENT OF BAK (AE 23 316).

1603	10.0	KEV	1.00	MEV	10.0%	1	GER	B.GOEL	KFK	712108R

O: FOR BURNUP CALCULATIONS.

1604	100.	EV	100.	KEV	20.0%	1	UK	C.G.CAMPBELL	WIN	712109P

O: EVALUATION ALSO REQUIRED, THERMAL TO 15.0MEV FOR FAST REACTORS.

1605	500.	EV	1.00	MEV	5.00%	2	FR	P.HAMMER	CAD	712110R

Q: RELATIVE VALUES VS.ENERGY OR TO U-238 CAPTURE
O: FOR FUEL CYCLE CALCULATIONS.

1606	25.3	MV	10.0	MEV	15.0%	2	USA	P.GREEBLER	GEB	721099R

C: FOR SPENT FUEL SHIELDING.

1607	1.00	KEV	2.00	MEV	20.0%	1	USA	P.B.HEMMIG	DOE	741127R

Q: PRODUCTION OF BOTH AM-242 AND AM-242M WANTED.
O: FOR SPENT FUEL SHIELDING.

1608	1.00	KEV	3.00	MEV	5.0%	2	FR	C.PHILIS	BRC	742108R

C: FOR CRITICAL ASSEMBLIES.

1609	10.0	MV	20.0	EV		1	JAP	R.YUMOTO H.MATSUNOBU T.HOJUYAMA	PNC SAE MAP	752032R

Q: ENERGY DEPENDENCE WANTED.
A: ACCURACY REQUIRED 5 TO 10 PERCENT.
O: REACTOR BURN-UP CALCULATIONS AND ESTIMATION OF TRANS-URANIUM NUCLIDE BUILD-UP IN SPENT FUEL. NEUTRON SHIELDING OF SPENT-FUEL TRANSPORT CASK.

1610	20.0	EV	15.0	MEV	10.0%	1	JAP	R.YUMOTO H.MATSUNOBU T.HOJUYAMA	PNC SAE MAP	752033R

Q: PRODUCTION OF AM-242 AND AM-242 M WANTED
O: REACTOR BURN-UP CALCULATIONS AND ESTIMATION OF TRANS-URANIUM NUCLIDE BUILD-UP IN SPENT FUEL. NEUTRON SHIELDING OF SPENT-FUEL TRANSPORT CASK.

1611	25.3	MV	10.0	MEV	10.0%	2	USA	S.VISNER	CBE	761098R

O: FOR SPENT FUEL SHIELDING.
FAST BREEDER APPLICATIONS.
M: NEW REQUEST.

1612	1.00	KEV	3.00	MEV	10.0%	1	FR	L.COSTA	CAD	762153R

Q: BRANCHING RATIO, AM-242, AM-242M
A: RELATIVE ACCURACY REQUESTED ON THE BRANCHING TO AM-242M
O: FUEL CYCLE IN- AND OUT-OF-CORE
M: SUBSTANTIAL MODIFICATIONS.

1613	1.00	MV	1.00	KEV	10. %	2	SWD	H.HAEGGBLOM	AE	762170R

Q: CAPTURE CROSS SECTIONS TO THE GROUND AND ISOMERIC STATES WANTED.
A: ACCURACY 10 PER CENT TO GROUND STATE AND TO ISOMERIC STATE.
O: ACTINIDE PRODUCTION CALCULATIONS

1614	100.	EV	100.	KEV	20.0%	1	GER	H.KUESTERS	KFK	792228R

Q: MEASUREMENT WANTED.
M: NEW REQUEST.

1615	25.3	MV	15.0	MEV	20.0%	1	GER	H.KUESTERS	KFK	792230R

Q: EVALUATION WANTED.
M: NEW REQUEST.

1616	25.3	MV	15.0	MEV		1	GER	H.KUESTERS	KFK	792231R

Q: WANT RATIO OF AM-242M PRODUCTION TO THAT OF GROUND STATE.
EVALUATION WANTED.
M: NEW REQUEST.

95 AMERICIUM 241 NEUTRON CAPTURE GAMMA RAY SPECTRUM

1617	25.3	MV			20.0%	2	USA	R.B.WALTON	LAS	741142N

Q: ABSOLUTE SPECTRA REQUIRED.
O: FOR DEVELOPMENT OF NONDESTRUCTIVE ASSAY METHOD.

95 AMERICIUM 241 NEUTRON FISSION CROSS SECTION

1618	1.00	KEV	3.00	MEV	10.0%	1	FR	L.COSTA	CAD	712103R

Q: RELATIVE VALUES VS. ENERGY OR TO U-235 FISSION
C: FOR FUEL CYCLE CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

1619	100.	EV	100.	KEV	20.0%	1	UK	C.G.CAMPBELL	WIN	732115R

O: EVALUATION ALSO REQUIRED, THERMAL TO 15.0MEV FOR FAST REACTORS.

1620	100.	KEV	15.0	MEV	10.0%	1	GER	B.GOEL	KFK	742018R

O: FAST REACTOR DESIGN.
M: SUBSTANTIAL MODIFICATIONS.

1621	1.00	KEV	15.0	MEV	3.0%	1	FR	C.PHILIS	BRC	742107S

O: FOR CRITICAL ASSEMBLIES.

1622	10.0	KEV	1.50	MEV		2	USA	R.W.PEELLE	ORL	761099R

A: ACCURACY REQUIRED - 5.0 TO 10.0 PERCENT.
M: NEW REQUEST.

1623	100.	EV	100.	KEV	20.0%	1	GER	H.KUESTERS	KFK	792227R

Q: MEASUREMENT WANTED.
M: NEW REQUEST.

1624	25.3	MV	15.0	MEV	20.0%	1	GER	H.KUESTERS	KFK	792229R

Q: EVALUATION WANTED.
M: NEW REQUEST.

95 AMERICIUM 241 NEUTRON NEUTRONS EMITTED PER FISSION (NU BAR)

1625	25.3	MV	10.0	MEV	5.0%	1	GER	E.GOEL	KFK	712104R

A: 10 PERCENT ACCURACY BELOW 100EV AND ABOVE 1.0MEV
C: FOR FAST REACTOR DESIGN.
M: SUBSTANTIAL MODIFICATIONS.

1626	500.	EV	14.0	MEV	10.0%	2	FR	P.HAMMER	CAD	712105R

Q: RELATIVE TO CF-252 NU.
C: FOR FUEL CYCLE CALCULATIONS.

1627	25.3	MV	15.0	MEV	20.0%	1	UK	C.G.CAMPBELL	WIN	792141R

C: FOR FAST REACTORS.
M: NEW REQUEST.

1628	25.3	MV	15.0	MEV	20.0%	1	GER	H.KUESTERS	KFK	792232R

Q: EVALUATION WANTED.
M: NEW REQUEST.

95 AMERICIUM 241 NEUTRON ABSORPTION RESONANCE INTEGRAL

1629					10.0%	2	FR	H.TELLIER	SAC	712107R
1630					10.0%	1	UK	J.FELL A.WHITTAKER	WIN UKW	792170R

O: FOR STUDIES OF PLUTONIUM RECYCLING AND FOR FUEL REPROCESSING AND STORAGE.
M: NEW REQUEST.

95 AMERICIUM 241 MISC

1631					0.5%	1	JAP	K.ONISHI	PNC	762023N

Q: DECAY HEAT (W/G) REQUIRED.
O: ASSAY OF PU BY CALORIMETRY

1632	25.3	MV	15.0	MEV	20.0%	1	UK	C.G.CAMPBELL	WIN	792142R

Q: BRANCHING RATIO.
O: FOR FAST REACTORS.
M: NEW REQUEST.

95 AMERICIUM 242 NEUTRON TOTAL CROSS SECTION

1633	25.3	MV	10.0	KEV	10.0%	2	USA	R.W.BENJAMIN	SRL	671137P

Q: NEED AM-242 AND AM-242M RESONANCE ENERGIES.
O: FOR PU-238 PRODUCTION.

1634	25.3	MV	15.0	MEV	10.0%	1	GER	F.FPOEHNER	KFK	792257R

A: 5-10 PERCENT ENERGY RESOLUTION SUFFICIENT FOR AVERAGES.
C: THERMAL CROSS SECTIONS, RESONANCES AND ABOVE 1KEV AVERAGE PARAMETERS NEEDED FOR CONSISTENT EVALUATION OF PARTIAL CROSS SECTIONS.
M: NEW REQUEST.

95 AMERICIUM 242 NEUTRON ABSORPTION CROSS SECTION

1635	25.3	MV			10.0%	1	UK	J.FELL A.WHITTAKER	WIN UKW	792171R

C: FOR STUDIES OF PLUTONIUM RECYCLING AND FOR FUEL REPROCESSING AND STORAGE.
M: NEW REQUEST.

95 AMERICIUM 242 NEUTRON CAPTURE CROSS SECTION

1636	25.3	MV	10.0	KEV		2	USA	R.W.BENJAMIN	SRL	691341R

Q: WANTED FOR BOTH 16 HOUR AND 152 YEAR ISOMERS. THERMAL VALUE AND RI WANTED.
A: REQUIRED ACCURACY - 10 TO 20 PERCENT.
C: FOR PU-238 PRODUCTION.

1637	25.3	MV				2	CAN	W.H.WALKER	CRC	711805R

Q: FOR 16 HOUR ISOMER.
A: ACCURACY REQUIRED 500 B.
C: UNKNOWN CROSS SECTION.

1638	25.3	MV	10.0	MEV	15.0%	2	USA	P.GREEBLER	GEB	721100R

C: FOR SPENT FUEL SHIELDING.

1639	25.3	MV	14.0	MEV		2	JAP	Y.NAITO	JAE	722045N

A: ACCURACY REQUIRED AT THERMAL IS 10 PERCENT, 20 PERCENT ABOVE.
C: FOR BURN UP CALCULATION OF A PU LOADED THERMAL REACTOR.

1640	10.0	MV	5.00	KEV	10.0%	2	FR	H.TELLIER	SAC	732101R

Q: FOR METASTABLE STATE OF AM-242 (152 YEARS).
C: FOR BURN UP PHYSICS.
EVALUATION MAY BE SUFFICIENT.

1641	500.	EV	15.0	MEV	50.0%	2	FR	P.HAMMER	CAD	732102R

Q: FOR METASTABLE STATE OF AM-242 (152 YEARS). VALUE RELATIVE TO U-238 CAPTURE CROSS SECTION.
C: FOR FUEL CYCLE CALCULATIONS.

1642	25.3	MV	100.	KEV		1	JAP	R.YUMOTO H.MATSUNOBU R.SHINDO	PNC SAE JAE	752036R

Q: WANTED FOR GROUND AND ISOMERIC STATES.
A: ACCURACY REQUIRED 5 TO 20 PERCENT.
C: REACTOR BURN-UP CALCULATIONS AND ESTIMATION OF TRANS-URANIUM NUCLIDE BUILD-UP IN SPENT FUEL. NEUTRON SHIELDING OF SPENT-FUEL TRANSPORT CASK.
M: SUBSTANTIAL MODIFICATIONS.

1643	25.3	MV	10.0	MEV	10. %	3	JAP	M.YADA	NFI	762026N

C: NO MEASUREMENTS OF CAPTURE CROSS SECTION BUT A FEW DATA OF FISSION CROSS SECTION ARE AVAILABLE. FOR HIGHER BURN-UP CALCULATIONS

1644	25.3	MV	10.0	MEV	10. %	3	JAP	M.YADA	NFI	762027N

Q: FOR HIGHER BURN-UP CALCULATIONS

1645	1.00	MV	1.00	KEV	20. %	2	SWD	H.HAEGGBLOM	AE	762171R

Q: THERMAL CROSS SECTION AND RI WANTED FOR THE GROUND AND ISOMERIC STATES.
C: ACTINIDE PRODUCTION CALCULATIONS

1646	25.3	MV	15.0	MEV	30.0%	1	UK	C.G.CAMPBELL	WIN	792144R

C: FOR FAST REACTORS.
M: NEW REQUEST.

1647	25.3	MV	15.0	MEV	30.0%	1	GER	H.KUESTERS	KFK	792234R

Q: TARGET IN METASTABLE STATE. EVALUATION WANTED.
M: NEW REQUEST.

1648	500.	EV	5.00	MEV	20.0%	2	CCP	L.N.USACHEV	FEI	794004R

Q: TARGET IN METASTABLE STATE. AVERAGE CROSS SECTION IN A FAST-REACTOR SPECTRUM REQUESTED.
C: FOR FAST-REACTOR BURN-UP CALCULATION. SEE GENERAL COMMENTS.
M: NEW REQUEST.

95 AMERICIUM 242 NEUTRON FISSION CROSS SECTION

1649	25.3	MV	10.0	KEV	2	USA	R.W.BENJAMIN	SRL	691339R

Q: WANTED FOR BOTH 16 HOUR AND 152 YEAR ISOMERS.
A: REQUIRED ACCURACY - 10 TO 20 PERCENT.

1650	500.	EV	15.0	MEV	15.0%	2	FR	P.HAMMER	CAD	732100R

Q: FOR METASTABLE STATE OF AM-242 (152 YEARS).
VALUE RELATIVE TO U-235 FISSION CROSS SECTION.
O: FOR FUEL CYCLE CALCULATIONS.

1651	25.3	MV	10.0	MEV	5. %	3	JAP	M.YADA	NFI	762033N

Q: THE VALUE OF NU ALSO WANTED.
A: 10 PER CENT ACCURACY IS DESIRABLE FOR APPLICATION.
O: NO EXPERIMENTAL DATA. THE VALUES OF FISSION CROSS SECTION AND NU ARE KNOWN WITHIN AN ERROR OF 5 PER CENT AT 25.3 MV.
BURN-UP ANALYSIS OF FAST BREEDER REACTORS

1652	1.00	MV	1.00	KEV	20. %	2	SWD	H.HAEGGBLOM	AE	762172R

O: ACTINIDE PRODUCTION CALCULATIONS

1653	25.3	MV	15.0	MEV	15.0%	1	UK	C.G.CAMPBELL	WIN	792143R

C: FOR FAST REACTORS.
M: NEW REQUEST.

1654	25.3	MV			10.0%	1	UK	J.FELL A.WHITTAKER	WIN UKW	792173R

O: FOR STUDIES OF PLUTONIUM RECYCLING AND FOR FUEL REPROCESSING AND STORAGE.
M: NEW REQUEST.

1655	25.3	MV	15.0	MEV	15.0%	1	GER	H.KUESTERS	KFK	792233R

Q: TARGET IN METASTABLE STATE.
EVALUATION WANTED.
M: NEW REQUEST.

1656	500.	EV	5.00	MEV	20.0%	2	CCP	L.N.USACHEV	FEI	794010R

Q: TARGET IN METASTABLE STATE.
AVERAGE CROSS SECTION IN A FAST-REACTOR SPECTRUM REQUESTED.
O: FOR FAST-REACTOR BURN-UP CALCULATION.
SEE GENERAL COMMENTS.
M: NEW REQUEST.

95 AMERICIUM 242 NEUTRON NEUTRONS EMITTED PER FISSION (NU BAR)

1657	500.	EV	15.0	MEV	10.0%	2	FR	P.HAMMER	CAD	732103R

Q: FOR METASTABLE STATE OF AM-242 (152 YEARS).
VALUE RELATIVE TO CF-252 NU.
O: FOR FUEL CYCLE CALCULATIONS

1658	25.3	MV	15.0	MEV	15.0%	1	UK	C.G.CAMPBELL	WIN	792145R

C: FOR FAST REACTORS.
M: NEW REQUEST.

1659	25.3	MV	15.0	MEV	15.0%	1	GER	H.KUESTERS	KFK	792235R

Q: TARGET IN METASTABLE STATE.
EVALUATION WANTED.
M: NEW REQUEST.

95 AMERICIUM 242 NEUTRON ABSORPTION RESONANCE INTEGRAL

1660	0.55	EV	2.00	MEV	10.0%	1	UK	J.FELL A.WHITTAKER	WIN UKW	792172R

O: FOR STUDIES OF PLUTONIUM RECYCLING AND FOR FUEL REPROCESSING AND STORAGE.
M: NEW REQUEST.

95 AMERICIUM 242 NEUTRON FISSION RESONANCE INTEGRAL

1661	0.55	EV	2.00	MEV	10.0%	1	UK	J.FELL A.WHITTAKER	WIN UKW	792174R

O: FOR STUDIES OF PLUTONIUM RECYCLING AND FOR FUEL REPROCESSING AND STORAGE.
M: NEW REQUEST.

95 AMERICIUM 243 NEUTRON TOTAL CROSS SECTION

1662	25.3	MV	15.0	MEV	10.0%	1	GER	F.FROEHNER	KFK	792258R

A: 5-10 PERCENT ENERGY RESOLUTION SUFFICIENT
O: THERMAL CROSS SECTIONS, RESONANCES AND ABOVE 5KEV AVERAGE PARAMETERS NEEDED FOR CONSISTENT EVALUATION OF PARTIAL CROSS SECTIONS.
M: NEW REQUEST.

95 AMERICIUM 243 — NEUTRON — ABSORPTION CROSS SECTION

1663	25.3	MV			5.0%	2	FR	H.TELLIER	SAC	712113R

95 AMERICIUM 243 — NEUTRON — CAPTURE CROSS SECTION

1664	25.3	MV			5.0%	2	CAN	W.H.WALKER	CRC	711806R
								O: DISAGREEMENT BETWEEN INTEGRAL (90 B) AND DIFFERENTIAL MEASUREMENTS (180 B).		
1665	UP TO		10.0	MEV	10.0%	1	USA	P.GREEBLER	GEB	721101R
								A: WANT 5 TO 10 PERCENT ACCURACY IN THERMAL VALUE AND RESONANCE INTEGRAL. O: NEEDED FOR LONG TERM REACTIVITY CALCULATIONS AND FOR SPENT FUEL SHIELDING. TO DETERMINE CM-244 PRODUCTION.		
1666	1.00	KEV	3.00	MEV	10.0%	1	FR	L.COSTA	CAD	732104R
								C: FOR FUEL CYCLE CALCULATIONS. NEUTRON DOSE FOR CYCLE OUT-OF-CORE. M: SUBSTANTIAL MODIFICATIONS.		
1667	1.00	KEV	200.	KEV	30.0%	1	USA	P.B.HEMMIG	DOE	741128R
								O: FOR SPENT FUEL SHIELDING.		
1668	25.3	MV	10.0	MEV	10.0%	2	USA	S.VISNER	CBE	761100R
								O: FOR SPENT FUEL SHIELDING. FAST REACTOR APPLICATIONS. M: NEW REQUEST.		
1669	25.3	MV	2.00	MEV	20. %	3	JAP	M.YADA K.EBIZUKA	NFI TIT	762028N
								Q: TOTAL, ELASTIC AND INELASTIC CROSS SECTIONS ARE ALSO REQUIRED BY K.EBIZUKA TIT. A: 10 PER CENT ACCURACY FOR 25 MV. 20 PER CENT ACCURACY FOR HIGHER ENERGY REGION. O: BURN-UP ANALYSIS OF FAST BREEDER REACTORS		
1670	25.3	MV	15.0	MEV	30.0%	1	UK	C.G.CAMPBELL A.WHITTAKER	WIN UKW	792147R
								C: FOR FAST REACTORS AND FOR FUEL REPROCESSING AND STORAGE. M: NEW REQUEST.		
1671	25.3	MV	15.0	MEV	30.0%	1	GER	H.KUESTERS	KFK	792237R
								Q: EVALUATION WANTED. M: NEW REQUEST.		
1672	500.	EV	5.00	MEV	20.0%	2	CCP	L.N.USACHEV	FEI	794005R
								Q: AVERAGE CROSS SECTION IN A FAST-REACTOR SPECTRUM REQUESTED. C: FOR FAST-REACTOR BURN-UP CALCULATION. SEE GENERAL COMMENTS. M: NEW REQUEST.		

95 AMERICIUM 243 — NEUTRON — FISSION CROSS SECTION

1673	1.00	KEV	3.00	MEV	10.0%	1	FR	L.COSTA	CAD	712111R
								Q: RELATIVE TO U-235 FISSION. O: FOR FUEL CYCLE CALCULATIONS. M: SUBSTANTIAL MODIFICATIONS.		
1674	25.2	MV	4.00	MEV	20. %	1	JAP	T.HOJUYAMA	MAP	762227R
								O: FOR FAST REACTOR CALCULATIONS		
1675	25.3	MV	15.0	MEV	15.0%	1	UK	C.G.CAMPBELL A.WHITTAKER	WIN UKW	792146R
								O: FOR FAST REACTORS AND FOR FUEL REPROCESSING AND STORAGE. M: NEW REQUEST.		
1676	25.3	MV	15.0	MEV	15.0%	1	GER	H.KUESTERS	KFK	792236R
								Q: EVALUATION WANTED. M: NEW REQUEST.		

95 AMERICIUM 243 — NEUTRON — NEUTRONS EMITTED PER FISSION (NU BAR)

1677	500.	EV	15.0	MEV	25.0%	2	FR	L.COSTA	CAD	712112R
								Q: RELATIVE TO CF-252 NU. C: FOR FUEL CYCLE CALCULATIONS.		
1678	25.3	MV	15.0	MEV	15.0%	1	UK	C.G.CAMPBELL A.WHITTAKER	WIN UKW	792148R
								O: FOR FAST REACTORS AND FOR FUEL REPROCESSING AND STORAGE. M: NEW REQUEST.		
1679	25.3	MV	15.0	MEV	15.0%	1	GER	H.KUESTERS	KFK	792238R
								Q: EVALUATION WANTED. M: NEW REQUEST.		

95 AMERICIUM 243 NEUTRON ABSORPTION RESONANCE INTEGRAL

1680					10.0%	2	FR	H.TELLIER	SAC	712114R

96 CURIUM 242 NEUTRON CAPTURE CROSS SECTION

1681	25.3	MV			20.0%	2	USA	R.W.BENJAMIN	SRL	671139R
								Q: TARGET HALF-LIFE 163 D. O: FOR PU-238 PRODUCTION.		
1682	10.0	MV	5.00	KEV	10.0%	2	FR	H.TELLIER	SAC	732107R
								O: BURN UP PHYSICS.		
1683	25.3	MV	15.0	MEV		1	JAP	R.YUMOTO H.MATSUNOBU T.HOJUYAMA	PNC SAE MAP	752042R
								A: ACCURACY REQUIRED 10 TO 20 PERCENT. O: REACTOR BURN-UP CALCULATIONS AND ESTIMATION OF TRANS-URANIUM NUCLIDE BUILD-UP IN SPENT FUEL. NEUTRON SHIELDING OF SPENT-FUEL TRANSPORT CASK.		
1684	25.3	MV	10.0	MEV	20. %	3	JAP	M.YADA	NFI	762029N
								A: 10 PER CENT ACCURACY FOR 25.3 MV. 20 PER CENT ACCURACY FOR HIGHER ENERGY. O: FOR HIGHER BURN-UP CALCULATIONS		
1685	500.	EV	200.	KEV	50.0%	2	FR	L.COSTA	CAD	762154R
								O: FUEL CYCLE IN- AND OUT-OF-CORE		
1686	1.00	MV	1.00	KEV	15. %	2	SWD	H.HAEGGBLOM	AE	762173R
								Q: THERMAL CROSS SECTION AND RI WANTED. O: ACTINIDE PRODUCTION CALCULATIONS		
1687	25.3	MV	15.0	MEV	30.0%	1	UK	C.G.CAMPBELL A.WHITTAKER	WIN UKW	792151R
								O: FOR FAST REACTORS AND FOR FUEL REPROCESSING AND STORAGE. M: NEW REQUEST.		
1688	25.3	MV	15.0	MEV	30.0%	1	GER	H.KUESTERS	KFK	792240R
								Q: EVALUATION WANTED. M: NEW REQUEST.		

96 CURIUM 242 NEUTRON N,2N

1689	UP TO		15.0	MEV	30.0%	1	UK	C.G.CAMPBELL A.WHITTAKER	WIN UKW	792149R
								O: FOR FAST REACTORS AND FOR FUEL REPROCESSING AND STORAGE. M: NEW REQUEST.		
1690	UP TO		15.0	MEV	30.0%	1	GER	H.KUESTERS	KFK	792241R
								Q: EVALUATION WANTED. M: NEW REQUEST.		

96 CURIUM 242 NEUTRON FISSION CROSS SECTION

1691	500.	EV	15.0	MEV	25.0%	2	FR	L.COSTA	CAD	732105R
								Q: VALUE RELATIVE TO U-235 FISSION CROSS SECTION. C: FOR FUEL CYCLE CALCULATIONS.		
1692	25.3	MV	15.0	MEV		1	JAP	R.YUMOTO H.MATSUNOBU T.HOJUYAMA	PNC SAE MAP	752041R
								A: ACCURACY REQUIRED 10 TO 20 PERCENT. O: REACTOR BURN-UP CALCULATIONS AND ESTIMATION OF TRANS-URANIUM NUCLIDE BUILD-UP IN SPENT FUEL. NEUTRON SHIELDING OF SPENT-FUEL TRANSPORT CASK.		
1693	UP TO		15.0	MEV	30.0%	1	UK	C.G.CAMPBELL A.WHITTAKER	WIN UKW	792150R
								O: FOR FAST REACTORS AND FOR FUEL REPROCESSING AND STORAGE. M: NEW REQUEST.		
1694	25.3	MV	15.0	MEV	30.0%	1	GER	H.KUESTERS	KFK	792239R
								Q: EVALUATION WANTED. M: NEW REQUEST.		

96 CURIUM 242 NEUTRON NEUTRONS EMITTED PER FISSION (NU BAR)

1695	500.	EV	15.0	MEV	30.0%	2	FR	L.COSTA	CAD	732106R
								Q: VALUE RELATIVE TO CF-252 NU. C: FOR FUEL CYCLE CALCULATIONS.		

1696 UP TC 15.0 MEV 30.0% 1 UK C.G.CAMPBELL WIN 792152R
A.WHITTAKER UKW
Q: FOR FAST REACTORS AND FOR FUEL REPPOCESSING AND STORAGE.
M: NEW REQUEST.

1697 25.3 MV 15.0 MEV 30.0% 1 GER H.KUESTERS KFK 792242R
Q: EVALUATION WANTED.
M: NEW REQUEST.

96 CURIUM 242 NEUTRON RESONANCE PARAMETERS

1698 25.3 MV 1.00 KEV 20.0% 3 USA G.T.CRTON RL 671192R
Q: ELASTIC AND GAMMA WIDTHS WANTED.
RADIATIVE CAPTURE AND NEUTRON WIDTHS WANTED.
O: FOR PU-238 PRODUCTION.

1699 25.3 MV 1.00 KEV 20.0% 3 USA S.VISNER CBE 761101R
O: FOR FAST BREEDER APPLICATIONS.
M: NEW REQUEST.

96 CURIUM 243 NEUTRON CAPTURE CROSS SECTION

1700 25.3 MV 2 CAN W.H.WALKER CRC 711807R
A: ACCURACY REQUIRED 50 B.
O: UNKNOWN CROSS SECTION.

1701 20.0 EV 10.0 MEV 1 JAP R.YUMOTO PNC 752047R
H.MATSUNOBU SAE
A: ACCURACY REQUIRED 10 TO 20 PERCENT.
O: REACTOR BURN-UP CALCULATIONS AND ESTIMATION OF TRANS-URANIUM NUCLIDE BUILD-UP IN SPENT FUEL. NEUTRON SHIELDING OF SPENT-FUEL TRANSPORT CASK.

1702 25.3 MV 10.0 MEV 20. % 3 JAP M.YADA NFI 762030N
A: 10 PER CENT ACCURACY FOR 25.3 MV.
20 PER CENT ACCURACY FOR HIGHER ENERGY REGION.
C: FOR HIGHER BURN-UP CALCULATIONS

1703 500. EV 200. KEV 50.0% 2 FR L.COSTA CAD 762156R
O: FUEL CYCLE. TRANSACTINIUM BUILD-UP

1704 1.00 MV 1.00 KEV 15. % 2 SWD H.HAEGGBLOM AE 762174R
Q: THERMAL CROSS SECTION AND RI WANTED.
O: ACTINIDE PRODUCTION CALCULATIONS

1705 25.3 MV 15.0 MEV 30.0% 1 UK C.G.CAMPBELL WIN 792154R
O: FOR FAST REACTORS.
M: NEW REQUEST.

1706 25.3 MV 15.0 MEV 30.0% 2 GER H.KUESTERS KFK 792248R
Q: EVALUATION WANTED.
M: NEW REQUEST.

96 CURIUM 243 NEUTRON FISSION CROSS SECTION

1707 3.00 MEV 10.0 MEV 1 JAP R.YUMOTO PNC 752045R
H.MATSUNOBU SAE
A: ACCURACY REQUIRED 10 TO 20 PERCENT.
O: REACTOR BURN-UP CALCULATIONS AND ESTIMATION OF TRANS-URANIUM NUCLIDE BUILD-UP IN SPENT FUEL. NEUTRON SHIELDING OF SPENT-FUEL TRANSPORT CASK.

1708 500. EV 15.0 MEV 50.0% 2 FR L.COSTA CAD 762155R
O: FUEL CYCLE. TRANSACTINIUM BUILD-UP

1709 25.3 MV 15.0 MEV 30.0% 1 UK C.G.CAMPBELL WIN 792153R
C: FOR FAST REACTORS.
M: NEW REQUEST.

1710 25.3 MV 15.0 MEV 30.0% 2 GER H.KUESTERS KFK 792247R
Q: EVALUATION WANTED.
M: NEW REQUEST.

96 CURIUM 244 NEUTRON TOTAL CROSS SECTION

1711 1.00 KEV 15.0 MEV 10.0% 2 GER F.FROEHNER KFK 792259R
A: 5-10 PERCENT ENERGY RESOLUTION SUFFICIENT
O: NEEDED FOR CONSISTENT EVALUATION OF PARTIAL CROSS SECTIONS.
M: NEW REQUEST.

96 CURIUM 244 NEUTRON CAPTURE CROSS SECTION

1712	10.0	KEV	10.0	MEV	10.0%	2	USA	P.GREEBLER	GEB	671142R

A: ACCURACY OF 5 TO 10 PERCENT IN FI.
O: FOR SPENT FUEL SHIELDING.
TO EVALUATE CF PRODUCTION.

1713	10.0	MV	5.00	KEV	10.0%	2	FR	H.TELLIER	SAC	732109R

O: BURN UP PHYSICS.

1714	10.0	KEV	10.0	MEV	10.0%	2	USA	S.VISNER	CBE	761102R

C: FOR SPENT FUEL SHIELDING.
FAST REACTOR APPLICATIONS.
M: NEW REQUEST.

1715	25.3	MV	10.0	MEV	20. %	3	JAP	M.YADA	NFI	762031N

A: 10 PER CENT ACCURACY FOR 25 MV.
20 PER CENT ACCURACY FOR HIGHER ENERGY REGION.
O: FOR HIGHER BURN-UP CALCULATIONS

1716	500.	EV	15.0	MEV	10.0%	1	FR	L.COSTA	CAD	762157R

O: FUEL CYCLE. TRANSACTINIUM BUILD-UP
M: SUBSTANTIAL MODIFICATIONS.

1717	25.3	MV	15.0	MEV	30.0%	1	UK	C.G.CAMPBELL A.WHITTAKER	WIN UKW	792157R

O: FOR FAST REACTORS AND FOR FUEL REPROCESSING.
M: NEW REQUEST.

1718	25.3	MV	15.0	MEV	30.0%	1	GER	H.KUESTERS	KFK	792244R

Q: EVALUATION WANTED.
M: NEW REQUEST.

96 CURIUM 244 NEUTRON N,2N

1719	UP TO		15.0	MEV	30.0%	1	UK	C.G.CAMPBELL A.WHITTAKER	WIN UKW	792155R

C: FOR FAST REACTORS AND FOR FUEL REPROCESSING
M: NEW REQUEST.

1720	UP TO		15.0	MEV	30.0%	1	GER	H.KUESTERS	KFK	792245R

Q: EVALUATION WANTED.
M: NEW REQUEST.

96 CURIUM 244 NEUTRON FISSION CROSS SECTION

1721	500.	EV	15.0	MEV	10.0%	1	FR	L.COSTA	CAD	732108R

Q: VALUE RELATIVE TO U-235 FISSION CROSS SECTION.
O: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

1722	25.3	MV	15.0	MEV	30.0%	1	UK	C.G.CAMPBELL A.WHITTAKER	WIN UKW	792156R

C: FOR FAST REACTORS AND FOR FUEL REPROCESSING.
M: NEW REQUEST.

1723	25.3	MV	15.0	MEV	30.0%	1	GER	H.KUESTERS	KFK	792243R

Q: EVALUATION WANTED.
M: NEW REQUEST.

96 CURIUM 244 NEUTRON NEUTRONS EMITTED PER FISSION (NU BAR)

1724	500.	EV	15.0	MEV	30.0%	2	FR	P.HAMMER	CAD	732110R

Q: VALUE RELATIVE TO CF-252 NU.
O: FOR FUEL CYCLE CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

1725	25.3	MV	15.0	MEV	30.0%	1	UK	C.G.CAMPBELL A.WHITTAKER	WIN UKW	792158R

C: FOR FAST REACTORS AND FOR FUEL REPROCESSING.
M: NEW REQUEST.

1726	25.3	MV	15.0	MEV	30.0%	1	GER	H.KUESTERS	KFK	792246R

Q: EVALUATION WANTED.
M: NEW REQUEST.

96 CURIUM 245 NEUTRON TOTAL CROSS SECTION

1727	25.3	MV	10.0	KEV	10.0%	2	USA	R.W.BENJAMIN	SRL	671144R

Q: SHAPE OF THERMAL CROSS SECTION ESPECIALLY IMPORTANT.
A: NEED 10 PERCENT IN RESONANCE INTEGRAL.
O: TO EVALUATE CF PRODUCTION.
M: SUBSTANTIAL MODIFICATIONS.

96 CURIUM 245 NEUTRON CAPTURE CROSS SECTION

1728	25.3	MV	10.0	KEV	10.0%	1	USA	R.W.BENJAMIN	SRL	691348R

Q: SHAPE OF THERMAL CROSS SECTION ESPECIALLY IMPORTANT.
RESONANCE STRUCTURE NEEDED.
A: NEED 10 PERCENT IN RESONANCE INTEGRAL.
NEED INTEGRAL ALPHA TO 10 PERCENT.
O: TO EVALUATE CF PRODUCTION.

1729	25.3	MV	10.0	KEV	10.0%	2	USA	S.VISNER	CBE	761103R

O: FOR FAST BREEDER APPLICATIONS.
M: NEW REQUEST.

1730	500.	EV	200.	KEV	50.0%	2	FR	L.COSTA	CAD	762159R

O: FUEL CYCLE. TRANSACTINIUM BUILD-UP

1731	25.3	MV	15.0	MEV	30.0%	1	UK	C.G.CAMPBELL	WIN	792160R

C: FOR FAST REACTORS.
M: NEW REQUEST.

1732	25.3	MV	15.0	MEV	30.0%	2	GER	H.KUESTERS	KFK	792250R

Q: EVALUATION WANTED.
M: NEW REQUEST.

96 CURIUM 245 NEUTRON FISSION CROSS SECTION

1733	25.3	MV	10.0	KEV	10.0%	1	USA	R.W.BENJAMIN	SRL	671145R

Q: SHAPE OF THERMAL CROSS SECTION ESPECIALLY IMPORTANT.
A: NEED 10 PERCENT IN RESONANCE INTEGRAL.
NEED INTEGRAL ALPHA TO 10 PERCENT.
O: TO EVALUATE CF PRODUCTION.

1734	25.3	MV	10.0	KEV	10.0%	2	USA	S.VISNER	CBE	761104R

O: FOR FAST BREEDER APPLICATIONS.
M: NEW REQUEST.

1735	500.	EV	15.0	MEV	50.0%	2	FR	L.COSTA	CAD	762158R

O: FUEL CYCLE. TRANSACTINIUM BUILD-UP

1736	25.3	MV	15.0	MEV	30.0%	1	UK	C.G.CAMPBELL	WIN	792159R

C: FOR FAST REACTORS.
M: NEW REQUEST.

1737	25.3	MV	15.0	MEV	30.0%	2	GER	H.KUESTEPS	KFK	792249R

Q: EVALUATION WANTED.
M: NEW REQUEST.

96 CURIUM 246 NEUTRON TOTAL CROSS SECTION

1738	25.3	MV	10.0	KEV	10.0%	2	USA	R.W.BENJAMIN	SRL	671146R

Q: SHAPE OF THERMAL CROSS SECTION ESPECIALLY IMPORTANT.
RESONANCE STRUCTURE DESIRED.
A: ACCURACY 10 PERCENT IN RESONANCE INTEGRAL.

1739	25.3	MV	10.0	KEV	10.0%	2	USA	S.VISNER	CBE	761105R

O: FOR FAST BREEDER APPLICATIONS.
M: NEW REQUEST.

96 CURIUM 246 NEUTRON CAPTURE CROSS SECTION

1740	25.3	MV	10.0	KEV	10.0%	1	USA	R.W.BENJAMIN	SRL	691350R

Q: RESONANCE STRUCTURE DESIRED.
A: NEED ACCURACY 10 PERCENT IN RESONANCE INTEGRAL.
O: TO EVALUATE CF PRODUCTION.

1741	1.00	KEV	3.00	MEV	50.0%	3	FR	L.COSTA	CAD	792058R

O: OUT-OF-CORE CYCLE - EVALUATION SUFFICIENT
M: NEW REQUEST.

96 CURIUM 246 NEUTRON FISSION CROSS SECTION

1742	1.00	KEV	3.00	MEV	50.0%	3	FR	L.COSTA	CAD	792059R

O: OUT-OF-CORE CYCLE - EVALUATION SUFFICIENT
M: NEW REQUEST.

96 CURIUM 247 NEUTRON CAPTURE CROSS SECTION

1743	25.3	MV	10.0	KEV		1	USA	R.W.BENJAMIN	SRL	671149R

Q: SHAPE OF THERMAL CROSS SECTION ESPECIALLY IMPORTANT.
A: NEED 5 TO 10 PERCENT IN RESONANCE INTEGRAL AND THERMAL VALUE.
O: NEEDED TO EVALUATE CF PRODUCTION.

1744 1.00 KEV 3.00 MEV 50.0% 3 FR L.COSTA CAD 792060R
Q: OUT-OF-CORE CYCLE - EVALUATION SUFFICIENT
M: NEW REQUEST.

96 CURIUM 247 NEUTRON FISSION CROSS SECTION

1745 25.3 MV 10.0 KEV 1 USA R.W.BENJAMIN SRL 671148R
Q: SHAPE OF THERMAL CROSS SECTION ESPECIALLY IMPORTANT.
A: NEED 5 TO 10 PERCENT IN THERMAL VALUE AND RESONANCE INTEGRAL.

1746 1.00 KEV 3.00 MEV 50.0% 3 FR L.COSTA CAD 792061R
Q: OUT-OF-CORE CYCLE - EVALUATION SUFFICIENT
M: NEW REQUEST.

96 CURIUM 247 NEUTRON RESONANCE PARAMETERS

1747 25.3 MV 10.0 KEV 20.0% 1 USA R.W.BENJAMIN SRL 671147R
A: NEED 20 PERCENT IN RESONANCE INTEGRAL.
Q: TO EVALUATE CF PRODUCTION.
M: SUBSTANTIAL MODIFICATIONS.

96 CURIUM 248 NEUTRON CAPTURE CROSS SECTION

1748 1.00 KEV 3.00 MEV 50.0% 3 FR L.COSTA CAD 792062R
Q: OUT-OF-CORE CYCLE - EVALUATION SUFFICIENT
M: NEW REQUEST.

96 CURIUM 248 NEUTRON FISSION CROSS SECTION

1749 1.00 KEV 3.00 MEV 50.0% 3 FR L.COSTA CAD 792063R
Q: OUT-OF-CORE CYCLE - EVALUATION SUFFICIENT
M: NEW REQUEST.

97 BERKELIUM 249 NEUTRON CAPTURE CROSS SECTION

1750 25.3 MV 10.0 KEV 10.0% 1 USA R.W.BENJAMIN SRL 691354R
Q: SHAPE OF THERMAL CROSS SECTION ESPECIALLY IMPORTANT.
A: 10 PERCENT THERMAL AND RESONANCE INTEGRAL.
Q: FOR CF PRODUCTION.

1751 1.00 KEV 3.00 MEV 50.0% 3 FR L.COSTA CAD 792064R
Q: OUT-OF-CORE CYCLE - EVALUATION SUFFICIENT
M: NEW REQUEST.

97 BERKELIUM 249 NEUTRON FISSION CROSS SECTION

1752 1.00 KEV 3.00 MEV 50.0% 3 FR L.COSTA CAD 792065R
Q: OUT-OF-CORE CYCLE - EVALUATION SUFFICIENT
M: NEW REQUEST.

97 BERKELIUM 249 NEUTRON RESONANCE PARAMETERS

1753 25.3 MV 10.0 KEV 20.0% 2 USA R.W.BENJAMIN SRL 671151R
A: NEED 20 PERCENT IN RESONANCE INTEGRAL.
Q: TO EVALUATE CF PRODUCTION.
M: SUBSTANTIAL MODIFICATIONS.

98 CALIFORNIUM 249 NEUTRON CAPTURE CROSS SECTION

1754 1.00 KEV 3.00 MEV 50.0% 3 FR L.COSTA CAD 792066R
Q: OUT-OF-CORE CYCLE - EVALUATION SUFFICIENT
M: NEW REQUEST.

1755 1.00 KEV 3.00 MEV 50.0% 3 FR L.COSTA CAD 792067R
Q: OUT-OF-CORE CYCLE - EVALUATION SUFFICIENT
M: NEW REQUEST.

98 CALIFORNIUM 250 NEUTRON CAPTURE CROSS SECTION

1756 25.3 MV 10.0 KEV 10.0% 1 USA R.W.BENJAMIN SRL 691357R
A: NEED 10 PERCENT IN RESONANCE INTEGRAL.
Q: TO EVALUATE CF PRODUCTION.

98 CALIFORNIUM 250 NEUTRON FISSION CROSS SECTION

1757 25.3 MV 10.0 KEV 10.0% 1 USA R.W.BENJAMIN SRL 671153R
A: ACCURACY 10 PERCENT IN RESONANCE INTEGRAL.
O: TO EVALUATE CF PRODUCTION.

98 CALIFORNIUM 250 NEUTRON RESONANCE PARAMETERS

1758 25.3 MV 10.0 KEV 20.0% 1 USA R.W.BENJAMIN SRL 671152R
A: NEED 20 PERCENT ACCURACY IN RESONANCE INTEGRAL.
O: TO EVALUATE CF PRODUCTION.
M: SUBSTANTIAL MODIFICATIONS.

98 CALIFORNIUM 251 NEUTRON CAPTURE CROSS SECTION

1759 25.3 MV 10.0 KEV 10.0% 1 USA R.W.BENJAMIN SRL 671154R
A: ACCURACY 10 PERCENT IN RESONANCE INTEGRAL.
O: TO EVALUATE CF PRODUCTION.

98 CALIFORNIUM 251 NEUTRON FISSION CROSS SECTION

1760 25.3 MV 10.0 KEV 10.0% 1 USA R.W.BENJAMIN SRL 741132R
Q: THERMAL CROSS SECTION SHAPE ESPECIALLY IMPORTANT.
A: NEED 10 PERCENT ACCURACY IN RESONANCE INTEGRAL.
O: TO EVALUATE CF PRODUCTION.

98 CALIFORNIUM 251 NEUTRON RESONANCE PARAMETERS

1761 25.3 MV 10.0 KEV 10.0% 1 USA R.W.BENJAMIN SRL 761106R
M: NEW REQUEST.

98 CALIFORNIUM 252 SPONTANEOUS NEUTRONS EMITTED PER FISSION (NU BAR)

1762 0.25% 1 USA P.G.HEMMIG DOE
R.S.CASWELL NBS 691359R
A: ACCURACY OF 1 PERCENT USEFUL.
O: FOR USE AS STANDARD.

1763 0.3% 1 FR E.FORT CAD 712119R
O: DISCREPANCY BETWEEN DIFFERENTIAL AND MAXWELL SPECTRUM EXPERIMENTS HAVE TO BE RESOLVED FOR 2200M/S DATA.

1764 1 CCP M.N.NIKOLAEV FEI 714033R
A: ACCURACY NOT WORSE THAN 0.3 PERCENT. MUST BE GUARANTEED BY AGREEMENT WITHIN 0.5 PERCENT OF AT LEAST FOUR EXPERIMENTS CARRIED OUT BY NOT LESS THAN TWO DIFFERENT METHODS.
O: SEE GENERAL COMMENTS IN THE INTRODUCTION. FIRST PRIORITY BECAUSE IT IS DIFFICULT TO RECONCILE THIS STANDARD WITH MACROSCOPIC EXPERIMENTS.

1765 1 USA N.STEEN BET 761063R
A: ACCURACY REQUIRED IS 0.25 PERCENT.
M: NEW REQUEST.

STATUS----------STATUS

UNDER CONTINUOUS REVIEW BY INDC AND NEANDC. SEE APPENDIX A.

98 CALIFORNIUM 252 SPONTANEOUS ENERGY SPECTRUM OF FISSION NEUTRONS

1766 5.0% 1 USA R.S.CASWELL NBS 721105R
Q: INFORMATION AT LOW NEUTRON ENERGIES STILL NEEDED.

1767 2.0% 1 UK B.ROSE HAR 732117R
A: ACCURACY FOR MEAN SPECTRUM ENERGY. 10 PERCENT ACCURACY WANTED FOR THE NUMBER OF NEUTRONS ABOVE 5 MEV AND BELOW .25 MEV.
O: STANDARD.

1768 1.0% 1 USA F.FEINER KAP 741131R
Q: MEAN SPECTRUM ENERGY TO 1 PERCENT.
O: FOR USE AS A STANDARD.

1769 1.0% 1 USA N.STEEN BET 761064R
Q: DETECTOR EFFICIENCY MUST BE DETERMINED FROM WELL BELOW 1 MEV TO ABOVE 10 MEV.
A: MEAN SPECTRUM ENERGY DESIRED TO 1 PERCENT.
O: FOR INTERPRETATION OF NU RATIO MEASUREMENTS.
M: NEW REQUEST.

1770 2.0% 1 GER H.KUESTERS KFK 792189R
A: 2 PERCENT ACCURACY ON MEAN FISS. SPECTRUM ENERGY. 10 PERCENT ACCURACY WANTED ON THE NUMBER OF NEUTRONS ABOVE 5 MEV AND BELOW .25 MEV.
M: NEW REQUEST.

STATUS

UNDER CONTINUOUS REVIEW BY INDC AND NEANDC. SEE APPENDIX A.

98 CALIFORNIUM 252 NEUTRON CAPTURE CROSS SECTION

1771	25.3	MV	10.0	KEV	10.0%	1	USA	R.W.BENJAMIN	SRL	671155R

A: ACCURACY 10 PERCENT IN RESONANCE INTEGRAL.
O: TO EVALUATE CF PRODUCTION.

99 EINSTEINIUM 253 NEUTRON FISSION CROSS SECTION

1772	25.3	MV	10.0	KEV	10.0%	1	USA	R.W.BENJAMIN	SRL	741129R

FISSION PRODUCTS NEUTRON INELASTIC CROSS SECTION

1773	800.	KEV	5.00	MEV		2	CCP	L.N.USACHEV	FEI	754022R

A: FROM 0.8 - 1.4 MEV ACCURACY 13 PERCENT.
FROM 1.4 - 2.5 MEV ACCURACY 15 PERCENT.
FROM 2.5 - 5.0 MEV ACCURACY 30 PERCENT.
O: NEED FOR FAST REACTOR CALCULATION.
FOR MORE DETAIL SEE INTRODUCTION.
M: SUBSTANTIAL MODIFICATIONS.

STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

FISSION PRODUCTS NEUTRON ABSORPTION CROSS SECTION

1774	25.3	MV			5.0%	2	UK	J.FELL	WIN	692476R

O: FOR THERMAL REACTORS.
INTEGRAL REQUIREMENT FOR TOTAL FISSION PRODUCT POISONING IN IRRADIATED FUEL.

STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

FISSION PRODUCTS NEUTRON CAPTURE CROSS SECTION

1775	100.	EV	100.	KEV	20.0%	2	CCP	M.N.NIKOLAEV	FEI	714036R

Q: AVERAGE CAPTURE CROSS SECTION FOR LUMPED FISSION PRODUCTS, STABLE, LONG-LIVED AND EQUILIBRIUM FISSION PRODUCTS
DATA FOR FISSION PRODUCTS OF U-235, U-238, PU-239 AND PU-240 ARE OF GREAT INTEREST.
O: SEE GENERAL COMMENTS IN THE INTRODUCTION.

1776	5.00	KEV	10.0	MEV		2	CCP	L.N.USACHEV	FEI	754015R

A: FROM 5.0 - 100 KEV ACCURACY 7 PERCENT.
FROM 0.1 - 0.8 MEV ACCURACY 14 PERCENT.
FROM 0.8 - 4.5 MEV ACCURACY 48 PERCENT.
ABOVE 4.5 MEV REQUIREMENTS 2 TIMES WEAKER.
O: NEED FOR FAST REACTOR CALCULATIONS.
FOR MORE DETAIL SEE INTRODUCTION.
M: SUBSTANTIAL MODIFICATIONS.

1777	100.	EV	1.00	MEV	20.0%	3	UK	C.G.CAMPBELL	WIN	792161R

O: FOR FAST REACTORS.
M: NEW REQUEST.

STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

FISSION PRODUCTS NEUTRON ABSORPTION RESONANCE INTEGRAL

1778	0.55	EV	2.00	MEV	10.0%	2	UK	J.FELL	WIN	692495R

C: FOR THERMAL REACTORS.
INTEGRAL REQUIREMENT FOR TOTAL FISSION PRODUCT POISONING IN IRRADIATED FUEL.

STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

STEEL NEUTRON CAPTURE CROSS SECTION

1779	500.	EV	800.	KEV		1	CCP	M.N.NIKOLAEV	FEI	714035R

Q: RATIOS WANTED RELATIVE TO U-235 FISSION, B-10, LI-6, HE-3 AND H-1 STANDARDS.
A: 10 PERCENT BELOW, 20 PERCENT ABOVE 100 KEV WANTED.
O: SEE GENERAL COMMENTS IN THE INTRODUCTION.
ANALYSIS OF FAST CRITICAL ASSEMBLIES INDICATES THAT THE CAPTURE CROSS SECTION OF STAINLESS STEEL IS MUCH GREATER THAN CALCULATED FROM MICROSCOPIC DATA.
FIRST PRIORITY BECAUSE IT IS DIFFICULT TO EVALUATE STEEL CAPTURE CROSS SECTION TO REQUESTED ACCURACY FROM MACROSCOPIC EXPERIMENTS ONLY.

1780	5.00	KEV	10.0	MEV	2	CCP	L.N.USACHEV	FEI	754018R

A: FROM 5.0 - 100 KEV ACCURACY 11 PERCENT.
FROM 0.1 - 0.8 MEV ACCURACY 15 PERCENT.
FROM 0.8 - 4.5 MEV ACCURACY 20 PERCENT.
ABOVE 4.5 MEV REQUIREMENTS 2 TIMES WEAKER.
O: NEED FOR FAST REACTOR CALCULATIONS.
FOR MORE DETAIL SEE INTRODUCTION.
M: SUBSTANTIAL MODIFICATIONS.

V. INDEX OF SATISFIED AND WITHDRAWN REQUESTS

The following index lists all requests which appeared in the previous edition but which, since then, have been removed from the request file. For convenient cross-reference, the WRENDA 76/77 reference number (see Section II.A.) of each request is listed in parentheses next to the identification number.

To remove a request from the file, the requestor may declare it either "satisfied" (if he considers that newly available data meets the expressed need) or "withdrawn" (if it is to be removed for any other reason).

It appears that requestors have not used these two designations to draw this distinction consistently in all cases, so for this edition we have combined "satisfied" and "withdrawn" requests into a single index.

(1)	721001R	USA	1	HYDROGEN 1	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(1195)	752094F	FR	1	HYDROGEN 2	NEUTRON	N,2N
(1198)	741249F	USA	2	HELIUM 3	HELIUM-3	HELIUM-3,2P
(7)	691008R	USA	3	LITHIUM 6	NEUTRON	ELASTIC CROSS SECTION
(1208)	741250F	USA	3	LITHIUM 6	NEUTRON	ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION
(16)	732038R	FR	3	LITHIUM 6	NEUTRON	N,ALPHA
(1218)	741245F	USA	3	LITHIUM 6	DEUTERON	D,N
(1219)	741244F	USA	3	LITHIUM 6	HELIUM-3	HELIUM-3,P
(1220)	741246F	USA	3	LITHIUM 6	LITHIUM-6	LITHIUM-6,T
(1221)	741247F	USA	3	LITHIUM 6	LITHIUM-6	LITHIUM-6,HELIUM-3
(1222)	741248F	USA	3	LITHIUM 6	LITHIUM-6	LITHIUM-6,ALPHA
(1239)	741251F	USA	3	LITHIUM 7	NEUTRON	ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION
(1246)	741252F	USA	3	LITHIUM 7	NEUTRON	N,NALPHA
(19)	721146R	USA	3	LITHIUM 7	ALPHA	ALPHA,N
(1247)	722073F	GER	4	BERYLLIUM 9	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(1257)	741254F	USA	4	BERYLLIUM 9	NEUTRON	N,2N
(1261)	741253F	USA	4	BERYLLIUM 9	NEUTRON	ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION
(1523)	701002N	USA	4	BERYLLIUM 9	NEUTRON	N,P DELAYED NEUTRON YIELD
(25)	691016R	USA	5	BORON 10	NEUTRON	TOTAL CROSS SECTION
(26)	691017R	USA	5	BORON 10	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(29)	691022R	USA	5	BORON 10	NEUTRON	N,ALPHA
(35)	712003R	SWD	6	CARBON	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(1267)	741255F	USA	6	CARBON	NEUTRON	ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION
(36)	691031R	USA	6	CARBON 12	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(1272)	741256F	USA	6	CARBON 12	NEUTRON	N,N3ALPHA
(1273)	741258F	USA	6	CARBON 12	NEUTRON	N,N3ALPHA
(1275)	741259F	USA	6	CARBON 13	NEUTRON	CAPTURE CROSS SECTION
(1276)	741260F	USA	6	CARBON 13	NEUTRON	N,ALPHA
(39)	692016R	SWD	7	NITROGEN 14	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(40)	693002R	HUN	7	NITROGEN 14	NEUTRON	N,2N
(42)	692018R	SWD	7	NITROGEN 14	NEUTRON	NEUTRON EMISSION CROSS SECTION
(1277)	741261F	USA	7	NITROGEN 14	NEUTRON	ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION
(43)	692020R	FR	7	NITROGEN 14	NEUTRON	N,P
(44)	762175R	JAP	7	NITROGEN 15	NEUTRON	N,P
(46)	661029R	USA	8	OXYGEN	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(47)	692021R	GER	8	OXYGEN	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(48)	692022R	GER	8	OXYGEN	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(49)	692023R	SWD	8	OXYGEN	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(1278)	741262F	USA	8	OXYGEN	NEUTRON	ANGULAR DIFFERENTIAL INELASTIC CROSS SECTION
(52)	692025R	SWD	8	OXYGEN	NEUTRON	NEUTRON EMISSION CROSS SECTION
(1279)	741263F	USA	8	OXYGEN	NEUTRON	ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION
(55)	693003R	HUN	8	OXYGEN 16	NEUTRON	N,P
(1285)	722082F	UK	9	FLUORINE 19	NEUTRON	INELASTIC CROSS SECTION
(60)	762176R	JAP	9	FLUORINE 19	NEUTRON	INELASTIC CROSS SECTION
(1288)	762237F	UK	9	FLUORINE 19	NEUTRON	INELASTIC CROSS SECTION
(61)	661011R	USA	9	FLUORINE 19	NEUTRON	CAPTURE CROSS SECTION
(62)	693004R	HUN	9	FLUORINE 19	NEUTRON	N,2N
(1295)	741264F	USA	9	FLUORINE 19	NEUTRON	ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION
(1296)	741265F	USA	9	FLUORINE 19	NEUTRON	TOTAL PROTON PRODUCTION CROSS SECTION
(1298)	741266F	USA	9	FLUORINE 19	NEUTRON	TOTAL ALPHA PRODUCTION CROSS SECTION
(64)	692032R	GER	11	SODIUM 23	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(66)	692035R	GER	11	SODIUM 23	NEUTRON	ANGULAR DIFFERENTIAL INELASTIC CROSS SECTION

(71)	692038R	JAP	11 SODIUM 23	NEUTRON	CAPTURE CROSS SECTION
(1301)	741268F	USA	13 ALUMINUM 27	NEUTRON	N,2N
(1303)	741269F	USA	13 ALUMINUM 27	NEUTRON	ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION
(1304)	741267F	USA	13 ALUMINUM 27	NEUTRON	N,P
(1306)	741276F	USA	13 ALUMINUM 27	NEUTRON	TOTAL PROTON PRODUCTION CROSS SECTION
(1307)	741277F	USA	13 ALUMINUM 27	NEUTRON	TOTAL PROTON PRODUCTION CROSS SECTION
(81)	682007R	JAP	13 ALUMINUM 27	NEUTRON	N,ALPHA
(1310)	741274F	USA	13 ALUMINUM 27	NEUTRON	TOTAL ALPHA PRODUCTION CROSS SECTION
(1311)	741275F	USA	13 ALUMINUM 27	NEUTRON	TOTAL ALPHA PRODUCTION CROSS SECTION
(1312)	741278F	USA	14 SILICON	NEUTRON	NEUTRON EMISSION CROSS SECTION
(1313)	741280F	USA	14 SILICON	NEUTRON	TOTAL ALPHA PRODUCTION CROSS SECTION
(91)	742125R	EUR	16 SULFUR 32	NEUTRON	N,P
(1314)	741282F	USA	18 ARGON 40	NEUTRON	N,2N
(95)	693009R	HUN	18 ARGON 40	NEUTRON	N,P
(96)	762178R	JAP	18 ARGON 40	NEUTRON	N,P
(97)	693010R	HUN	19 POTASSIUM 41	NEUTRON	N,P
(98)	741027R	USA	20 CALCIUM	NEUTRON	TOTAL CROSS SECTION
(103)	692061R	FR	21 SCANDIUM 45	NEUTRON	N,2N
(104)	692064R	FR	21 SCANDIUM 45	NEUTRON	N,ALPHA
(1322)	732010F	FR	22 TITANIUM	NEUTRON	N,2N
(1324)	732011F	FR	22 TITANIUM	NEUTRON	N,P
(110)	692067R	FR	22 TITANIUM 46	NEUTRON	N,P
(113)	692070R	FR	22 TITANIUM 47	NEUTRON	N,P
(116)	691074R	USA	22 TITANIUM 48	NEUTRON	N,P
(117)	692072R	FR	22 TITANIUM 48	NEUTRON	N,P
(1336)	741224F	USA	23 VANADIUM	NEUTRON	TOTAL PHOTON PRODUCTION CROSS SECTION
(1342)	741283F	USA	23 VANADIUM	NEUTRON	NEUTRON EMISSION CROSS SECTION
(1346)	741284F	USA	23 VANADIUM	NEUTRON	TOTAL PROTON PRODUCTION CROSS SECTION
(1350)	762090F	JAP	23 VANADIUM	NEUTRON	N,ALPHA
(1351)	741285F	USA	23 VANADIUM	NEUTRON	TOTAL ALPHA PRODUCTION CROSS SECTION
(127)	692075R	FR	23 VANADIUM 51	NEUTRON	N,ALPHA
(1354)	741225F	USA	24 CHROMIUM	NEUTRON	TOTAL CROSS SECTION
(131)	691076R	USA	24 CHROMIUM	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(132)	692076R	GER	24 CHROMIUM	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(134)	692078R	GER	24 CHROMIUM	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(1358)	741226F	USA	24 CHROMIUM	NEUTRON	ABSORPTION CROSS SECTION
(1361)	741230F	USA	24 CHROMIUM	NEUTRON	TOTAL PHOTON PRODUCTION CROSS SECTION
(1364)	741227F	USA	24 CHROMIUM	NEUTRON	NEUTRON EMISSION CROSS SECTION
(1368)	741228F	USA	24 CHROMIUM	NEUTRON	TOTAL PROTON PRODUCTION CROSS SECTION
(151)	682008R	FR	24 CHROMIUM	NEUTRON	N,ALPHA
(1372)	741229F	USA	24 CHROMIUM	NEUTRON	TOTAL ALPHA PRODUCTION CROSS SECTION
(153)	691077R	USA	24 CHROMIUM	NEUTRON	CAPTURE RESONANCE INTEGRAL
(1374)	741231F	USA	24 CHROMIUM 52	NEUTRON	N,P
(1375)	741232F	USA	24 CHROMIUM 52	NEUTRON	N,ALPHA
(157)	691081R	USA	24 CHROMIUM 53	NEUTRON	RESONANCE PARAMETERS
(1376)	741287F	USA	25 MANGANESE 55	NEUTRON	TOTAL PHOTON PRODUCTION CROSS SECTION
(1377)	741233F	USA	25 MANGANESE 55	NEUTRON	N,2N
(1378)	741286F	USA	25 MANGANESE 55	NEUTRON	N,2N
(167)	741037R	USA	26 IRON	NEUTRON	TOTAL CROSS SECTION
(169)	691084R	USA	26 IRON	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(174)	742029R	FR	26 IRON	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(177)	661018R	USA	26 IRON	NEUTRON	ENERGY DIFFERENTIAL INELASTIC CROSS SECTION
(179)	712022R	SWD	26 IRON	NEUTRON	ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

(182)	742030R	FR	26	IRON	NEUTRON	ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION
(185)	692102R	JAP	26	IRON	NEUTRON	CAPTURE CROSS SECTION
(188)	712024R	SWD	26	IRON	NEUTRON	CAPTURE CROSS SECTION
(190)	721039R	USA	26	IRON	NEUTRON	CAPTURE CROSS SECTION
(192)	742032R	FR	26	IRON	NEUTRON	CAPTURE CROSS SECTION
(194)	661022R	USA	26	IRON	NEUTRON	TOTAL PHOTON PRODUCTION CROSS SECTION
(1389)	762239F	UK	26	IRON	NEUTRON	N,2N
(1390)	741288F	USA	26	IRON	NEUTRON	NEUTRON EMISSION CROSS SECTION
(197)	762167R	SWD	26	IRON	NEUTRON	NEUTRON EMISSION CROSS SECTION
(198)	712025R	SWD	26	IRON	NEUTRON	N,P
(1397)	741289F	USA	26	IRON	NEUTRON	TOTAL PROTON PRODUCTION CROSS SECTION
(201)	692107R	FR	26	IRON	NEUTRON	N,ALPHA
(1398)	741290F	USA	26	IRON	NEUTRON	TOTAL ALPHA PRODUCTION CROSS SECTION
(203)	691098R	USA	26	IRON	NEUTRON	CAPTURE RESONANCE INTEGRAL
(204)	742033R	FR	26	IRON 54	NEUTRON	CAPTURE CROSS SECTION
(206)	721044R	USA	26	IRON 54	NEUTRON	N,P
(1399)	741291F	USA	26	IRON 54	NEUTRON	N,P
(207)	742119R	EUR	26	IRON 54	NEUTRON	N,P
(209)	682012R	JAP	26	IRON 56	NEUTRON	N,P
(210)	692111R	FR	26	IRON 56	NEUTRON	N,P
(213)	691102R	USA	26	IRON 57	NEUTRON	RESONANCE PARAMETERS
(1400)	741292F	USA	26	IRON 58	NEUTRON	CAPTURE CROSS SECTION
(221)	692119R	FR	27	COBALT 59	NEUTRON	N,P
(1401)	741293F	USA	28	NICKEL	NEUTRON	TOTAL CROSS SECTION
(224)	691110R	USA	28	NICKEL	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(1405)	741294F	USA	28	NICKEL	NEUTRON	ABSORPTION CROSS SECTION
(234)	692129R	JAP	28	NICKEL	NEUTRON	CAPTURE CROSS SECTION
(239)	621020R	USA	28	NICKEL	NEUTRON	TOTAL PHOTON PRODUCTION CROSS SECTION
(240)	631003R	USA	28	NICKEL	NEUTRON	TOTAL PHOTON PRODUCTION CROSS SECTION
(1415)	741295F	USA	28	NICKEL	NEUTRON	TOTAL PROTON PRODUCTION CROSS SECTION
(245)	692132R	FR	28	NICKEL	NEUTRON	N,ALPHA
(1420)	741296F	USA	28	NICKEL	NEUTRON	TOTAL ALPHA PRODUCTION CROSS SECTION
(249)	691109R	USA	28	NICKEL	NEUTRON	CAPTURE RESONANCE INTEGRAL
(250)	692133R	FR	28	NICKEL 58	NEUTRON	N,2N
(1421)	741297F	USA	28	NICKEL 58	NEUTRON	N,P
(1422)	741298F	USA	28	NICKEL 58	NEUTRON	N,P
(254)	692136R	FR	28	NICKEL 58	NEUTRON	N,NP
(1423)	741299F	USA	28	NICKEL 58	NEUTRON	N,NP
(259)	692137R	FR	28	NICKEL 60	NEUTRON	N,P
(260)	692138R	GER	28	NICKEL 60	NEUTRON	N,ALPHA
(1424)	741301F	USA	28	NICKEL 60	NEUTRON	N,ALPHA
(262)	691128R	USA	28	NICKEL 61	NEUTRON	RESONANCE PARAMETERS
(264)	682013R	FR	28	NICKEL 62	NEUTRON	CAPTURE CROSS SECTION
(267)	682014R	FR	28	NICKEL 64	NEUTRON	CAPTURE CROSS SECTION
(268)	692139R	FR	28	NICKEL 64	NEUTRON	N,2N
(1425)	741302F	USA	29	COPPER	NEUTRON	TOTAL CROSS SECTION
(1427)	741303F	USA	29	COPPER	NEUTRON	ABSORPTION CROSS SECTION
(1432)	741304F	USA	29	COPPER	NEUTRON	TOTAL PHOTON PRODUCTION CROSS SECTION
(272)	732043R	FR	29	COPPER 63	NEUTRON	CAPTURE CROSS SECTION
(1436)	741307F	USA	29	COPPER 63	NEUTRON	CAPTURE CROSS SECTION
(273)	682015R	JAP	29	COPPER 63	NEUTRON	N,2N
(274)	682016R	JAP	29	COPPER 63	NEUTRON	N,2N
(1437)	741305F	USA	29	COPPER 63	NEUTRON	N,P

(1438)	741306F	USA	29	COPPER 63	NEUTRON	N,ALPHA
(279)	682017R	JAP	29	COPPER 65	NEUTRON	N,2N
(280)	682018R	JAP	29	COPPER 65	NEUTRON	N,2N
(281)	693018R	HUN	30	ZINC 64	NEUTRON	N,2N
(1439)	741308F	USA	30	ZINC 66	NEUTRON	N,2N
(283)	742038R	FR	31	GALLIUM	NEUTRON	N,2N
(284)	693019R	HUN	31	GALLIUM 69	NEUTRON	N,2N
(285)	671118R	USA	36	KRYPTON 83	NEUTRON	TOTAL CROSS SECTION
(291)	702014R	JAP	40	ZIRCONIUM	NEUTRON	ENERGY DIFFERENTIAL INELASTIC CROSS SECTION
(294)	691142R	USA	40	ZIRCONIUM	NEUTRON	CAPTURE CROSS SECTION
(299)	691152R	USA	40	ZIRCONIUM 90		DISCRETE LEVEL STRUCTURE (ENERGY, SPIN, PARITY)
(300)	721059R	USA	40	ZIRCONIUM 90	NEUTRON	TOTAL CROSS SECTION
(301)	721060R	USA	40	ZIRCONIUM 90	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(302)	691149R	USA	40	ZIRCONIUM 90	NEUTRON	ANGULAR DIFFERENTIAL INELASTIC CROSS SECTION
(303)	721061R	USA	40	ZIRCONIUM 90	NEUTRON	ENERGY DIFFERENTIAL INELASTIC CROSS SECTION
(304)	691151R	USA	40	ZIRCONIUM 90	NEUTRON	RESONANCE PARAMETERS
(305)	691150R	USA	40	ZIRCONIUM 90	NEUTRON	CAPTURE RESONANCE INTEGRAL
(306)	691157R	USA	40	ZIRCONIUM 91		DISCRETE LEVEL STRUCTURE (ENERGY, SPIN, PARITY)
(308)	721063R	USA	40	ZIRCONIUM 91	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(309)	691153R	USA	40	ZIRCONIUM 91	NEUTRON	ANGULAR DIFFERENTIAL INELASTIC CROSS SECTION
(310)	721064R	USA	40	ZIRCONIUM 91	NEUTRON	ENERGY DIFFERENTIAL INELASTIC CROSS SECTION
(312)	691154R	USA	40	ZIRCONIUM 91	NEUTRON	N,ALPHA
(313)	691156R	USA	40	ZIRCONIUM 91	NEUTRON	RESONANCE PARAMETERS
(314)	721065R	USA	40	ZIRCONIUM 91	NEUTRON	RESONANCE PARAMETERS
(315)	691155R	USA	40	ZIRCONIUM 91	NEUTRON	CAPTURE RESONANCE INTEGRAL
(316)	691161R	USA	40	ZIRCONIUM 92		DISCRETE LEVEL STRUCTURE (ENERGY, SPIN, PARITY)
(317)	721066R	USA	40	ZIRCONIUM 92	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(318)	691158R	USA	40	ZIRCONIUM 92	NEUTRON	ANGULAR DIFFERENTIAL INELASTIC CROSS SECTION
(319)	721067R	USA	40	ZIRCONIUM 92	NEUTRON	ENERGY DIFFERENTIAL INELASTIC CROSS SECTION
(320)	691160R	USA	40	ZIRCONIUM 92	NEUTRON	RESONANCE PARAMETERS
(321)	691159R	USA	40	ZIRCONIUM 92	NEUTRON	CAPTURE RESONANCE INTEGRAL
(324)	691163R	USA	40	ZIRCONIUM 94		DISCRETE LEVEL STRUCTURE (ENERGY, SPIN, PARITY)
(325)	671008R	USA	40	ZIRCONIUM 94	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(326)	671009R	USA	40	ZIRCONIUM 94	NEUTRON	ANGULAR DIFFERENTIAL INELASTIC CROSS SECTION
(327)	741072R	USA	40	ZIRCONIUM 94	NEUTRON	ENERGY DIFFERENTIAL INELASTIC CROSS SECTION
(328)	691162R	USA	40	ZIRCONIUM 94	NEUTRON	RESONANCE PARAMETERS
(1450)	762116F	JAP	41	NIOBIUM 93	NEUTRON	INELASTIC CROSS SECTION
(1453)	722129F	GER	41	NIOBIUM 93	NEUTRON	ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION
(342)	742132R	EUR	41	NIOBIUM 93	NEUTRON	CAPTURE CROSS SECTION
(1463)	741312F	USA	41	NIOBIUM 93	NEUTRON	N,2N NEUTRON SPECTRA
(1468)	741311F	USA	41	NIOBIUM 93	NEUTRON	TOTAL PROTON PRODUCTION CROSS SECTION
(1469)	722137F	GER	41	NIOBIUM 93	NEUTRON	N,ALPHA
(1472)	741310F	USA	41	NIOBIUM 93	NEUTRON	TOTAL ALPHA PRODUCTION CROSS SECTION
(1486)	741313F	USA	42	MOLYBDENUM	NEUTRON	TOTAL PHOTON PRODUCTION CROSS SECTION
(1494)	742111F	GER	42	MOLYBDENUM	NEUTRON	N,P
(352)	762180R	JAP	42	MOLYBDENUM 92	NEUTRON	TOTAL CROSS SECTION
(353)	762182R	JAP	42	MOLYBDENUM 92	NEUTRON	INELASTIC CROSS SECTION
(356)	762185R	JAP	42	MOLYBDENUM 94	NEUTRON	INELASTIC CROSS SECTION
(362)	752005R	JAP	42	MOLYBDENUM 95	NEUTRON	CAPTURE CROSS SECTION
(363)	762190R	JAP	42	MOLYBDENUM 95	NEUTRON	N,P
(366)	762192R	JAP	42	MOLYBDENUM 96	NEUTRON	TOTAL CROSS SECTION
(367)	762194R	JAP	42	MOLYBDENUM 96	NEUTRON	INELASTIC CROSS SECTION
(368)	693020R	AUL	42	MOLYBDENUM 96	NEUTRON	CAPTURE CROSS SECTION

(373)	752006R	JAP	42	MOLYBDENUM 97	NEUTRON	CAPTURE CROSS SECTION
(375)	762199R	JAP	42	MOLYBDENUM 98	NEUTRON	INELASTIC CROSS SECTION
(379)	762201R	JAP	42	MOLYBDENUM 100	NEUTRON	TOTAL CROSS SECTION
(380)	762202R	JAP	42	MOLYBDENUM 100	NEUTRON	INELASTIC CROSS SECTION
(388)	752009R	JAP	44	RUTHENIUM 102	NEUTRON	CAPTURE CROSS SECTION
(393)	752010R	JAP	44	RUTHENIUM 104	NEUTRON	CAPTURE CROSS SECTION
(395)	741080R	USA	45	RHODIUM	NEUTRON	CAPTURE CROSS SECTION
(398)	671017R	USA	45	RHODIUM 103	NEUTRON	CAPTURE CROSS SECTION
(404)	741083R	USA	45	RHODIUM 105	NEUTRON	CAPTURE CROSS SECTION
(407)	671020R	USA	46	PALLADIUM 107	NEUTRON	CAPTURE CROSS SECTION
(411)	741085R	USA	47	SILVER 107	NEUTRON	CAPTURE CROSS SECTION
(412)	693021R	HUN	47	SILVER 107	NEUTRON	N,ALPHA
(1502)	741314F	USA	47	SILVER 109	NEUTRON	CAPTURE CROSS SECTION
(416)	702017R	JAP	49	INDIUM	NEUTRON	ENERGY DIFFERENTIAL INELASTIC CROSS SECTION
(428)	671023R	USA	52	TELLURIUM 132	NEUTRON	CAPTURE CROSS SECTION
(443)	671030R	USA	55	CESIUM 133	NEUTRON	CAPTURE CROSS SECTION
(444)	671031R	USA	55	CESIUM 133	NEUTRON	CAPTURE CROSS SECTION
(452)	741092R	USA	59	PRASEODYMIUM 141	NEUTRON	CAPTURE CROSS SECTION
(453)	692214R	ITY	59	PRASEODYMIUM 141	NEUTRON	RESONANCE PARAMETERS
(465)	671042R	USA	61	PROMETHIUM 147	NEUTRON	CAPTURE CROSS SECTION
(475)	692230R	ITY	62	SAMARIUM	NEUTRON	RESONANCE PARAMETERS
(476)	693024R	HUN	62	SAMARIUM 144	NEUTRON	N,2N
(481)	671052R	USA	62	SAMARIUM 150	NEUTRON	CAPTURE CROSS SECTION
(486)	671059R	USA	62	SAMARIUM 152	NEUTRON	CAPTURE CROSS SECTION
(488)	671062R	USA	62	SAMARIUM 153	NEUTRON	CAPTURE CROSS SECTION
(490)	692253R	GER	63	EUROPIUM	NEUTRON	TOTAL CROSS SECTION
(492)	692254R	GER	63	EUROPIUM	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(493)	692255R	GER	63	EUROPIUM	NEUTRON	INELASTIC CROSS SECTION
(494)	692257R	GER	63	EUROPIUM	NEUTRON	INELASTIC CROSS SECTION
(495)	692258R	GER	63	EUROPIUM	NEUTRON	ENERGY DIFFERENTIAL INELASTIC CROSS SECTION
(496)	692259R	GER	63	EUROPIUM	NEUTRON	CAPTURE CROSS SECTION
(502)	692260R	GER	63	EUROPIUM 151	NEUTRON	RESONANCE PARAMETERS
(505)	741104R	USA	63	EUROPIUM 153	NEUTRON	CAPTURE CROSS SECTION
(507)	752022R	JAP	63	EUROPIUM 153	NEUTRON	CAPTURE CROSS SECTION
(509)	692263R	GER	63	EUROPIUM 153	NEUTRON	RESONANCE PARAMETERS
(510)	671066R	USA	63	EUROPIUM 154	NEUTRON	CAPTURE CROSS SECTION
(511)	671068R	USA	63	EUROPIUM 155	NEUTRON	CAPTURE CROSS SECTION
(532)	692283R	ITY	66	DYSPROSIUM 161	NEUTRON	RESONANCE PARAMETERS
(533)	692286R	ITY	68	ERBIUM	NEUTRON	RESONANCE PARAMETERS
(535)	693030R	HUN	68	ERBIUM 168	NEUTRON	N,ALPHA
(536)	692289R	FR	69	THULIUM 169	NEUTRON	CAPTURE CROSS SECTION
(540)	692294R	SWT	71	LUTETIUM 175	NEUTRON	CAPTURE CROSS SECTION
(541)	682036R	FR	71	LUTETIUM 175	NEUTRON	N,2N
(542)	692296R	SWT	71	LUTETIUM 176	NEUTRON	CAPTURE CROSS SECTION
(543)	661036R	USA	72	HAFNIUM	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(545)	661037R	USA	72	HAFNIUM	NEUTRON	ENERGY DIFFERENTIAL NEUTRON-EMISSION CROSS SECTION
(546)	661038R	USA	72	HAFNIUM 174	NEUTRON	CAPTURE CROSS SECTION
(565)	692308R	FR	74	TUNGSTEN 182	NEUTRON	N,2N
(566)	693040R	HUN	74	TUNGSTEN 182	NEUTRON	N,ALPHA
(572)	692312R	FR	74	TUNGSTEN 186	NEUTRON	N,2N
(573)	701023R	USA	76	OSMIUM 186	NEUTRON	CAPTURE CROSS SECTION
(574)	701024R	USA	76	OSMIUM 187	NEUTRON	CAPTURE CROSS SECTION
(575)	742051R	FR	77	IRIDIUM 191	NEUTRON	CAPTURE CROSS SECTION

(576)	742050R	FR	77	IRIDIUM 191	NEUTRON	N,2N
(577)	742053R	FR	77	IRIDIUM 193	NEUTRON	CAPTURE CROSS SECTION
(578)	742052R	FR	77	IRIDIUM 193	NEUTRON	N,2N
(583)	742057R	FR	78	PLATINUM	NEUTRON	N,2N
(592)	682044R	FR	81	THALLIUM 203	NEUTRON	CAPTURE CROSS SECTION
(593)	682043R	FR	81	THALLIUM 203	NEUTRON	N,2N
(595)	682046R	FR	81	THALLIUM 205	NEUTRON	CAPTURE CROSS SECTION
(596)	682045R	FR	81	THALLIUM 205	NEUTRON	N,2N
(1507)	741315F	USA	82	LEAD	NEUTRON	TOTAL CROSS SECTION
(1508)	741316F	USA	82	LEAD	NEUTRON	ABSORPTION CROSS SECTION
(1512)	741317F	USA	82	LEAD 204	NEUTRON	N,2N
(600)	752093R	BLG	88	RADIUM 226	NEUTRON	CAPTURE CROSS SECTION
(601)	692322R	BLG	89	ACTINIUM 227	NEUTRON	RESONANCE PARAMETERS
(602)	753001R	IND	90	THORIUM 232	NEUTRON	TOTAL CROSS SECTION
(603)	753002R	IND	90	THORIUM 232	NEUTRON	ELASTIC CROSS SECTION
(605)	753003R	IND	90	THORIUM 232	NEUTRON	INELASTIC CROSS SECTION
(612)	741204R	USA	90	THORIUM 232	NEUTRON	CAPTURE CROSS SECTION
(613)	753004R	IND	90	THORIUM 232	NEUTRON	CAPTURE CROSS SECTION
(619)	741205R	USA	90	THORIUM 232	NEUTRON	FISSION CROSS SECTION
(621)	753005R	IND	90	THORIUM 232	NEUTRON	FISSION CROSS SECTION
(623)	753006R	IND	90	THORIUM 233	NEUTRON	TOTAL CROSS SECTION
(624)	753007R	IND	90	THORIUM 233	NEUTRON	ELASTIC CROSS SECTION
(625)	753008R	IND	90	THORIUM 233	NEUTRON	INELASTIC CROSS SECTION
(626)	753009R	IND	90	THORIUM 233	NEUTRON	CAPTURE CROSS SECTION
(627)	753010R	IND	90	THORIUM 233	NEUTRON	FISSION CROSS SECTION
(634)	691221R	USA	91	PROTACTINIUM 233	NEUTRON	CAPTURE CROSS SECTION
(657)	741206R	USA	92	URANIUM 233	NEUTRON	CAPTURE CROSS SECTION
(660)	692337R	UK	92	URANIUM 233	NEUTRON	TOTAL PHOTON PRODUCTION CROSS SECTION
(663)	621035R	USA	92	URANIUM 233	NEUTRON	FISSION CROSS SECTION
(665)	621037R	USA	92	URANIUM 233	NEUTRON	FISSION CROSS SECTION
(672)	741207R	USA	92	URANIUM 233	NEUTRON	FISSION CROSS SECTION
(680)	741114R	USA	92	URANIUM 233	NEUTRON	NEUTRONS EMITTED PER NEUTRON ABSORPTION (ETA)
(681)	691229R	USA	92	URANIUM 233	NEUTRON	NEUTRONS EMITTED PER FISSION (NU BAR)
(682)	691230R	USA	92	URANIUM 233	NEUTRON	NEUTRONS EMITTED PER FISSION (NU BAR)
(685)	741208R	USA	92	URANIUM 233	NEUTRON	NEUTRONS EMITTED PER FISSION (NU BAR)
(687)	671095R	USA	92	URANIUM 233	NEUTRON	FISSION PRODUCT MASS YIELD SPECTRUM
(688)	671096R	USA	92	URANIUM 233	NEUTRON	FISSION PRODUCT MASS YIELD SPECTRUM
(689)	671097R	USA	92	URANIUM 233	NEUTRON	FISSION PRODUCT MASS YIELD SPECTRUM
(703)	692379R	GER	92	URANIUM 235		DISCRETE LEVEL STRUCTURE (ENERGY, SPIN, PARITY)
(711)	692364R	GER	92	URANIUM 235	NEUTRON	ENERGY DIFFERENTIAL INELASTIC CROSS SECTION
(714)	682052R	JAP	92	URANIUM 235	NEUTRON	ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION
(715)	693052R	BAN	92	URANIUM 235	NEUTRON	ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION
(717)	752026R	JAP	92	URANIUM 235	NEUTRON	TOTAL SCATTERING CROSS SECTION
(718)	752027R	JAP	92	URANIUM 235	NEUTRON	DIFFERENTIAL TOTAL SCATTERING CROSS SECTION
(719)	692361R	GER	92	URANIUM 235	NEUTRON	NON-ELASTIC CROSS SECTION
(720)	693051R	BAN	92	URANIUM 235	NEUTRON	NON-ELASTIC CROSS SECTION
(723)	693060R	BAN	92	URANIUM 235	NEUTRON	CAPTURE CROSS SECTION
(728)	671103R	USA	92	URANIUM 235	NEUTRON	CAPTURE GAMMA RAY SPECTRUM
(729)	671104R	USA	92	URANIUM 235	NEUTRON	CAPTURE GAMMA RAY SPECTRUM
(730)	693053R	BAN	92	URANIUM 235	NEUTRON	PHOTON PRODUCTION CROSS SECTION IN INELASTIC SCAT.
(731)	692362R	UK	92	URANIUM 235	NEUTRON	TOTAL PHOTON PRODUCTION CROSS SECTION
(733)	752028R	JAP	92	URANIUM 235	NEUTRON	N,2N
(1562)	763001N	DDR	92	URANIUM 235	NEUTRON	DELAYED NEUTRON YIELD

(743)	693054R	BAN	92 URANIUM 235	NEUTRON	FISSION CROSS SECTION
(749)	752023R	JAP	92 URANIUM 235	NEUTRON	FISSION CROSS SECTION
(750)	752024R	JAP	92 URANIUM 235	NEUTRON	FISSION CROSS SECTION
(751)	752025R	JAP	92 URANIUM 235	NEUTRON	FISSION CROSS SECTION
(1563)	763004N	DDR	92 URANIUM 235	NEUTRON	FISSION CROSS SECTION
(760)	741121R	USA	92 URANIUM 235	NEUTRON	NEUTRONS EMITTED PER NEUTRON ABSORPTION (ETA)
(1564)	701030N	USA	92 URANIUM 235	NEUTRON	DELAYED NEUTRONS EMITTED PER FISSION
(768)	691257R	USA	92 URANIUM 235	NEUTRON	ENERGY SPECTRUM OF FISSION NEUTRONS
(772)	671105R	USA	92 URANIUM 235	NEUTRON	FISSION PRODUCT MASS YIELD SPECTRUM
(773)	671106R	USA	92 URANIUM 235	NEUTRON	FISSION PRODUCT MASS YIELD SPECTRUM
(774)	671107R	USA	92 URANIUM 235	NEUTRON	FISSION PRODUCT MASS YIELD SPECTRUM
(777)	692359R	GER	92 URANIUM 235	NEUTRON	RESONANCE PARAMETERS
(1570)	701032N	USA	92 URANIUM 236	NEUTRON	DELAYED NEUTRONS EMITTED PER FISSION
(1571)	701031N	USA	92 URANIUM 236	NEUTRON	ENERGY SPECTRUM OF FISSION NEUTRONS
(793)	742080R	FR	92 URANIUM 237	NEUTRON	CAPTURE CROSS SECTION
(794)	742079R	FR	92 URANIUM 237	NEUTRON	FISSION CROSS SECTION
(799)	692389R	SWD	92 URANIUM 238	NEUTRON	INELASTIC CROSS SECTION
(809)	693062R	BAN	92 URANIUM 238	NEUTRON	ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION
(811)	693061R	BAN	92 URANIUM 238	NEUTRON	NON-ELASTIC CROSS SECTION
(816)	692402R	FR	92 URANIUM 238	NEUTRON	CAPTURE CROSS SECTION
(818)	692404R	FR	92 URANIUM 238	NEUTRON	CAPTURE CROSS SECTION
(821)	693066R	BAN	92 URANIUM 238	NEUTRON	CAPTURE CROSS SECTION
(822)	702032R	JAP	92 URANIUM 238	NEUTRON	CAPTURE CROSS SECTION
(827)	693063R	BAN	92 URANIUM 238	NEUTRON	PHOTON PRODUCTION CROSS SECTION IN INELASTIC SCAT.
(1518)	741319F	USA	92 URANIUM 238	NEUTRON	N,2N
(1574)	763002N	DDR	92 URANIUM 238	NEUTRON	DELAYED NEUTRON YIELD
(1521)	741318F	USA	92 URANIUM 238	NEUTRON	ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION
(835)	693065R	BAN	92 URANIUM 238	NEUTRON	FISSION CROSS SECTION
(841)	742136R	EUR	92 URANIUM 238	NEUTRON	FISSION CROSS SECTION
(1575)	763005N	DDR	92 URANIUM 238	NEUTRON	FISSION CROSS SECTION
(847)	692397R	UK	92 URANIUM 238	NEUTRON	DELAYED NEUTRONS EMITTED PER FISSION
(848)	741122R	USA	92 URANIUM 238	NEUTRON	DELAYED NEUTRONS EMITTED PER FISSION
(854)	702029R	FR	92 URANIUM 238	NEUTRON	RESONANCE PARAMETERS
(1579)	732125N	GER	93 NEPTUNIUM 237	NEUTRON	CAPTURE CROSS SECTION
(1580)	732126N	GER	93 NEPTUNIUM 237	NEUTRON	CAPTURE CROSS SECTION
(1581)	732127N	GER	93 NEPTUNIUM 237	NEUTRON	N,2N
(1582)	702064N	GER	93 NEPTUNIUM 237	NEUTRON	FISSION CROSS SECTION
(874)	742092R	FR	94 PLUTONIUM 237	NEUTRON	CAPTURE CROSS SECTION
(875)	692411R	FR	94 PLUTONIUM 237	NEUTRON	FISSION CROSS SECTION
(1586)	741146N	USA	94 PLUTONIUM 238		HALF LIFE
(1587)	741143N	USA	94 PLUTONIUM 238	SPONTANEOUS	FISSION HALF LIFE
(1591)	741145N	USA	94 PLUTONIUM 238	SPONTANEOUS	NEUTRONS EMITTED PER FISSION (NU BAR)
(1597)	702066N	GER	94 PLUTONIUM 238	NEUTRON	CAPTURE CROSS SECTION
(1598)	702065N	GER	94 PLUTONIUM 238	NEUTRON	FISSION CROSS SECTION
(1600)	741147N	USA	94 PLUTONIUM 239		HALF LIFE
(891)	682066R	JAP	94 PLUTONIUM 239	NEUTRON	ENERGY DIFFERENTIAL INELASTIC CROSS SECTION
(894)	693068R	BAN	94 PLUTONIUM 239	NEUTRON	ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION
(896)	693067R	BAN	94 PLUTONIUM 239	NEUTRON	NON-ELASTIC CROSS SECTION
(898)	693078R	BAN	94 PLUTONIUM 239	NEUTRON	CAPTURE CROSS SECTION
(899)	702039R	JAP	94 PLUTONIUM 239	NEUTRON	CAPTURE CROSS SECTION
(903)	693069R	BAN	94 PLUTONIUM 239	NEUTRON	PHOTON PRODUCTION CROSS SECTION IN INELASTIC SCAT.
(1607)	763003N	DDR	94 PLUTONIUM 239	NEUTRON	DELAYED NEUTRON YIELD
(910)	762212R	JAP	94 PLUTONIUM 239	NEUTRON	N,ALPHA

(912)	691439R	USA	94	PLUTONIUM 239	NEUTRON	FISSION CROSS SECTION
(915)	693070R	BAN	94	PLUTONIUM 239	NEUTRON	FISSION CROSS SECTION
(1608)	763006N	DDR	94	PLUTONIUM 239	NEUTRON	FISSION CROSS SECTION
(929)	661063R	USA	94	PLUTONIUM 239	NEUTRON	NEUTRONS EMITTED PER FISSION (NU BAR)
(1611)	701042N	USA	94	PLUTONIUM 239	NEUTRON	DELAYED NEUTRONS EMITTED PER FISSION
(935)	732114R	UK	94	PLUTONIUM 239	NEUTRON	DELAYED NEUTRONS EMITTED PER FISSION
(937)	712080R	JAP	94	PLUTONIUM 239	NEUTRON	ENERGY SPECTRUM OF FISSION NEUTRONS
(1618)	741148N	USA	94	PLUTONIUM 240		HALF LIFE
(1619)	741144N	USA	94	PLUTONIUM 240	SPONTANEOUS	FISSION HALF LIFE
(951)	682071R	JAP	94	PLUTONIUM 240	NEUTRON	CAPTURE CROSS SECTION
(1626)	701045N	USA	94	PLUTONIUM 240	NEUTRON	DELAYED NEUTRONS EMITTED PER FISSION
(1630)	741149N	USA	94	PLUTONIUM 241		HALF LIFE
(981)	692457R	GER	94	PLUTONIUM 241	NEUTRON	TOTAL CROSS SECTION
(983)	762220R	JAP	94	PLUTONIUM 241	NEUTRON	INELASTIC CROSS SECTION
(994)	682072R	JAP	94	PLUTONIUM 241	NEUTRON	FISSION CROSS SECTION
(1002)	762218R	JAP	94	PLUTONIUM 241	NEUTRON	FISSION CROSS SECTION
(1011)	721095R	USA	94	PLUTONIUM 241	NEUTRON	NEUTRONS EMITTED PER FISSION (NU BAR)
(1638)	701046N	USA	94	PLUTONIUM 241	NEUTRON	DELAYED NEUTRONS EMITTED PER FISSION
(1643)	741153N	USA	94	PLUTONIUM 242	SPONTANEOUS	FISSION HALF LIFE
(1647)	732128N	GER	94	PLUTONIUM 242	NEUTRON	CAPTURE CROSS SECTION
(1649)	732129N	GER	94	PLUTONIUM 242	NEUTRON	FISSION CROSS SECTION
(1650)	701047N	USA	94	PLUTONIUM 242	NEUTRON	DELAYED NEUTRONS EMITTED PER FISSION
(1030)	752031R	JAP	94	PLUTONIUM 243	NEUTRON	CAPTURE CROSS SECTION
(1031)	752029R	JAP	94	PLUTONIUM 243	NEUTRON	FISSION CROSS SECTION
(1032)	752030R	JAP	94	PLUTONIUM 243	NEUTRON	FISSION CROSS SECTION
(1652)	741150N	USA	95	AMERICIUM 241		HALF LIFE
(1657)	702081N	GER	95	AMERICIUM 241	NEUTRON	CAPTURE CROSS SECTION
(1047)	742014R	GER	95	AMERICIUM 241	NEUTRON	CAPTURE CROSS SECTION
(1048)	742015R	GER	95	AMERICIUM 241	NEUTRON	CAPTURE CROSS SECTION
(1659)	702080N	GER	95	AMERICIUM 241	NEUTRON	FISSION CROSS SECTION
(1058)	762225R	JAP	95	AMERICIUM 241	NEUTRON	FISSION CROSS SECTION
(1061)	742016R	GER	95	AMERICIUM 241	NEUTRON	NEUTRONS EMITTED PER FISSION (NU BAR)
(1062)	742017R	GER	95	AMERICIUM 241	NEUTRON	NEUTRONS EMITTED PER FISSION (NU BAR)
(1662)	732131N	GER	95	AMERICIUM 242	NEUTRON	CAPTURE CROSS SECTION
(1665)	732130N	GER	95	AMERICIUM 242	NEUTRON	FISSION CROSS SECTION
(1074)	752034R	JAP	95	AMERICIUM 242	NEUTRON	FISSION CROSS SECTION
(1075)	752035R	JAP	95	AMERICIUM 242	NEUTRON	FISSION CROSS SECTION
(1077)	762226R	JAP	95	AMERICIUM 242	NEUTRON	FISSION CROSS SECTION
(1667)	732132N	GER	95	AMERICIUM 243	NEUTRON	CAPTURE CROSS SECTION
(1084)	752038R	JAP	95	AMERICIUM 243	NEUTRON	CAPTURE CROSS SECTION
(1086)	752037R	JAP	95	AMERICIUM 243	NEUTRON	FISSION CROSS SECTION
(1669)	732133N	GER	95	AMERICIUM 244	NEUTRON	CAPTURE CROSS SECTION
(1090)	752040R	JAP	95	AMERICIUM 244	NEUTRON	CAPTURE CROSS SECTION
(1091)	752039R	JAP	95	AMERICIUM 244	NEUTRON	FISSION CROSS SECTION
(1094)	742021R	GER	96	CURIUM 242	NEUTRON	CAPTURE CROSS SECTION
(1099)	742012R	GER	96	CURIUM 242	NEUTRON	FISSION CROSS SECTION
(1102)	742019R	GER	96	CURIUM 242	NEUTRON	NEUTRONS EMITTED PER FISSION (NU BAR)
(1105)	752046R	JAP	96	CURIUM 243	NEUTRON	CAPTURE CROSS SECTION
(1109)	752043R	JAP	96	CURIUM 243	NEUTRON	FISSION CROSS SECTION
(1110)	752044R	JAP	96	CURIUM 243	NEUTRON	FISSION CROSS SECTION
(1115)	752049R	JAP	96	CURIUM 244	NEUTRON	CAPTURE CROSS SECTION
(1117)	762228R	JAP	96	CURIUM 244	NEUTRON	CAPTURE CROSS SECTION
(1119)	752048R	JAP	96	CURIUM 244	NEUTRON	FISSION CROSS SECTION

(1120)	762229R	JAP	96 CURIUM 244	NEUTRON	FISSION CROSS SECTION
(1124)	752053R	JAP	96 CURIUM 245	NEUTRON	CAPTURE CROSS SECTION
(1125)	752054R	JAP	96 CURIUM 245	NEUTRON	CAPTURE CROSS SECTION
(1128)	752050R	JAP	96 CURIUM 245	NEUTRON	FISSION CROSS SECTION
(1129)	752051R	JAP	96 CURIUM 245	NEUTRON	FISSION CROSS SECTION
(1130)	752052R	JAP	96 CURIUM 245	NEUTRON	FISSION CROSS SECTION
(1134)	752058R	JAP	96 CURIUM 246	NEUTRON	CAPTURE CROSS SECTION
(1135)	752059R	JAP	96 CURIUM 246	NEUTRON	CAPTURE CROSS SECTION
(1136)	752055R	JAP	96 CURIUM 246	NEUTRON	FISSION CROSS SECTION
(1137)	752056R	JAP	96 CURIUM 246	NEUTRON	FISSION CROSS SECTION
(1138)	752057R	JAP	96 CURIUM 246	NEUTRON	FISSION CROSS SECTION
(1141)	752063R	JAP	96 CURIUM 247	NEUTRON	CAPTURE CROSS SECTION
(1143)	752060R	JAP	96 CURIUM 247	NEUTRON	FISSION CROSS SECTION
(1144)	752061R	JAP	96 CURIUM 247	NEUTRON	FISSION CROSS SECTION
(1145)	752062R	JAP	96 CURIUM 247	NEUTRON	FISSION CROSS SECTION
(1146)	752067R	JAP	96 CURIUM 248	NEUTRON	CAPTURE CROSS SECTION
(1147)	752064R	JAP	96 CURIUM 248	NEUTRON	FISSION CROSS SECTION
(1148)	752065R	JAP	96 CURIUM 248	NEUTRON	FISSION CROSS SECTION
(1149)	752066R	JAP	96 CURIUM 248	NEUTRON	FISSION CROSS SECTION
(1150)	752069R	JAP	96 CURIUM 249	NEUTRON	CAPTURE CROSS SECTION
(1151)	752068R	JAP	96 CURIUM 249	NEUTRON	FISSION CROSS SECTION
(1152)	752071R	JAP	96 CURIUM 250	NEUTRON	CAPTURE CROSS SECTION
(1153)	752070R	JAP	96 CURIUM 250	NEUTRON	FISSION CROSS SECTION
(1156)	752074R	JAP	97 BERKELIUM 249	NEUTRON	CAPTURE CROSS SECTION
(1157)	752072R	JAP	97 BERKELIUM 249	NEUTRON	FISSION CROSS SECTION
(1158)	752073R	JAP	97 BERKELIUM 249	NEUTRON	FISSION CROSS SECTION
(1159)	752076R	JAP	97 BERKELIUM 250	NEUTRON	CAPTURE CROSS SECTION
(1160)	752075R	JAP	97 BERKELIUM 250	NEUTRON	FISSION CROSS SECTION
(1161)	752077R	JAP	98 CALIFORNIUM 249	NEUTRON	CAPTURE CROSS SECTION
(1164)	752079R	JAP	98 CALIFORNIUM 250	NEUTRON	CAPTURE CROSS SECTION
(1166)	752078R	JAP	98 CALIFORNIUM 250	NEUTRON	FISSION CROSS SECTION
(1168)	752081R	JAP	98 CALIFORNIUM 251	NEUTRON	CAPTURE CROSS SECTION
(1170)	752080R	JAP	98 CALIFORNIUM 251	NEUTRON	FISSION CROSS SECTION
(1174)	741130R	USA	98 CALIFORNIUM 252	SPONTANEOUS	NEUTRONS EMITTED PER FISSION (NU BAR)
(1179)	752084R	JAP	98 CALIFORNIUM 252	NEUTRON	CAPTURE CROSS SECTION
(1180)	752082R	JAP	98 CALIFORNIUM 252	NEUTRON	FISSION CROSS SECTION
(1181)	752083R	JAP	98 CALIFORNIUM 252	NEUTRON	FISSION CROSS SECTION
(1182)	752086R	JAP	98 CALIFORNIUM 253	NEUTRON	CAPTURE CROSS SECTION
(1183)	752085R	JAP	98 CALIFORNIUM 253	NEUTRON	FISSION CROSS SECTION
(1184)	752088R	JAP	98 CALIFORNIUM 254	NEUTRON	CAPTURE CROSS SECTION
(1185)	752087R	JAP	98 CALIFORNIUM 254	NEUTRON	FISSION CROSS SECTION
(1189)	693089R	AUL	FISSION PRODUCTS	NEUTRON	CAPTURE CROSS SECTION

APPENDICES

Review Reports by INDC and NEANDC

The two technical subcommittees of the International Nuclear Data Committee (INDC), the Subcommittee on Nuclear Standard Reference Data and the Subcommittee on Discrepancies in Important Nuclear Data and Evaluations have assumed a continuing responsibility for the review of particularly important nuclear data. The Nuclear Energy Agency Nuclear Data Committee (NEANDC) has a similar Subcommittee on Standard Reference Data and Discrepancies with reviewing responsibilities similar to those of the two INDC Subcommittees. These Subcommittees of INDC and NEANDC cooperate in establishing and updating a common file of review reports. In many cases, these reports contain detailed estimates of data uncertainties.

Whenever a request for a quantity under review appears in WRENDA, the review is mentioned in a status comment. Exceptions to this are requests for fission product and transactinium isotope nuclear data. These data are under continuous review by INDC, but requests for these data are so numerous that it has been decided to omit repetitious references to such review from the actual request list.

Requests for the latest information on quantities under review should be sent to Dr. J.J. Schmidt, INDC Scientific Secretary, Nuclear Data Section, International Atomic Energy Agency, P.O. Box 100, A-1400 Vienna, Austria.

The following quantities requested in WRENDA are under review by INDC and/or NEANDC:

Quantity	Reviewed by: INDC	NEANDC
H(n,n)	x	x
^{6}Li(n,t)α	x	x
^{10}B(n,α)	x	x
^{12}C(n,n)	x	x
^{197}Au(n,γ)	x	x
^{235}U(n,f)	x	x
^{252}Cf-N(E)	x	x
^{252}Cf - $\bar{\nu}$	x	x
$T_{1/2}$ of ^{233}U, ^{235}U, ^{238}Pu, ^{241}Pu	x	-
$T_{1/2}$ of ^{239}Pu	x	x

Quantity	Reviewed by: INDC	NEANDC
Thermal parameters (^{233}U, ^{235}U, ^{239}Pu, ^{241}Pu thermal fission cross sections, $\bar{\nu}$ and η)	x	x
$^{239}Pu(n,f)$ (> 100 eV), $^{238}U(n,f)$ (above threshold), $^{239}Pu/^{235}U$ and $^{238}U/^{235}U$ fission cross section ratios	x	-
$^{239}Pu(n,f)$ (15 eV - 100 keV)	-	x
$^{233}U(n,f)$ (100 keV - 10 MeV)	-	x
$^{239}Pu/^{235}U$ and $^{233}U/^{235}U$ fission cross section ratios	-	x
$^{238}U(n,f)$ and $^{238}U/^{235}U$ fission cross section ratio (threshold - 20 MeV)	-	x
$^{238}U(n,\gamma)$ and $^{238}U(n,\gamma)/^{235}U(n,f)$ ratio (> 100 eV)	x	-
$^{238}U(n,\gamma)$ (1 keV - 1 MeV) and resolved resonance parameters	x	x
α-values of ^{235}U and ^{239}Pu (> 100 eV)	x	-
Resonance parameter data of ^{235}U and ^{239}Pu	x	-
Resonance parameter data of ^{238}U	x	x
$\bar{\nu}$-values for ^{235}U, ^{238}U and ^{239}Pu	x	x
$^{238}U(n,n')$	x	-
$^{238}U(n,n')$ (particularly for 45 keV state and for energy range 1 - 3 MeV)	-	x
$\sigma_{n\gamma}$ of Cr, Fe and Ni (> 100 eV)	x	x
^{23}Na capture and total cross sections in 3 keV resonance	x	-
Γ_γ for 2.85 keV resonance in ^{23}Na	-	x
Energy spectrum of fission neutrons of ^{235}U, ^{238}U and ^{239}Pu	x	-
Fission product nuclear data	x	x
Transactinium isotope nuclear data (TND)	x	x
Reactor dosimetry cross sections	x	x
Discrepancies and gaps in major CPND for fusion, (D,T), (T,T), etc.	x	-

Quantity	Reviewed by: INDC	NEANDC
Delayed neutron emitters: ^{232}Th, ^{233}U, ^{235}U ^{238}U, ^{239}Pu, ^{240}Pu, ^{241}Pu	x	-
Delayed neutron yield for ^{238}U (2 - 3 MeV)	-	x
$^{27}Al(n,\alpha)^{24}Na$	x	-
$^{63}Cu(n,\alpha)^{60}Co$	x	-
$^{93}Nb(n,n')^{93m}Nb$	x	-
$^{237}Np(n,f)F.P.$	x	-

LIST OF COUNTRY CODES

Appendix B

ARG	ARGENTINA
AUL	AUSTRALIA
AUS	AUSTRIA
BAN	BANGLA DESH
BLG	BELGIUM
BUL	BULGARIA
BZL	BRAZIL
CAN	CANADA
CCP	SOVIET UNION
DDR	GERMAN DEMOCRATIC REPUBLIC
DEN	DENMARK
EUR	COMMISSION OF THE EUROPEAN COMMUNITIES
FR	FRANCE
GER	FEDERAL REPUBLIC OF GERMANY
HUN	HUNGARY
IND	INDIA
ISL	ISRAEL
ITY	ITALY
JAP	JAPAN
NED	NETHERLANDS
NOR	NORWAY
POL	POLAND
RUM	ROMANIA
SAF	REPUBLIC OF SOUTH AFRICA
SF	FINLAND
SWD	SWEDEN
SWT	SWITZERLAND
TUK	TURKEY
UK	UNITED KINGDOM
UNO	UNITED NATIONS ORGANIZATION
USA	UNITED STATES
YUG	YUGOSLAVIA
ZZZ	INTERNATIONAL ORGANIZATION

ABD	US ARMY ABERDEEN RESEARCH AND DEVEL. CENT., ABERDEEN, MD.	USA
AE	AKTIEBOLAGET ATOMENERGI, STUDSVIK	SWD
AI	ATOMICS INTERNATIONAL, CANOGA PARK, CALIFORNIA	USA
AKA	ASEA-ATOM, VAESTERAS	SWD
ALD	UK AWRE, ALDERMASTON	UK
ALK	ALKEM GMBH, LEOPOLDSHAFEN	GER
ANC	AEROJET NUCLEAR CORP., IDAHO FALLS, IDAHO	USA
ANL	ARGONNE NATIONAL LABORATORY, LEMONT, ILLINOIS	USA
ARL	AEROSPACE RES.LABS, WRIGHT-PATTERSON AIR-FORCE BASE, OHIO	USA
AUA	AUSTRALIAN AEC RESEARCH ESTABLISHMENT, LUCAS HEIGHTS	AUL
AUB	AUBURN UNIVERSITY, ALABAMA	USA
BET	WESTINGHOUSE, BETTIS ATOMIC POWER LAB., PITTSBURGH, PA.	USA
BIR	UNIVERSITY OF BIRMINGHAM, ENGLAND	UK
BNL	BROOKHAVEN NATIONAL LABORATORY, UPTON, NEW YORK	USA
BNW	BATTELLE NORTHWEST LABORATORY, RICHLAND, WASHINGTON	USA
BOL	COMISION NACIONAL DE ENERGIA ATOMICA, BOLOGNA	ITY
BRC	CEN BRUYERE LE CHATEL	FR
BRK	UNIVERSITY OF CALIFORNIA, LAWRENCE BERKELEY LAB. BERKELEY	USA
BUC	INSTITUTE FOR ATOMIC PHYSICS, BUCHAREST	RUM
CAD	CADARACHE, BOUCHES-DU-RHONE	FR
CBE	COMBUSTION ENGINEERING, WINDSOR, CONNECTICUT	USA
CCP	SOVIET UNION	CCP
CNA	CEKMECE NUCLEAR RESEARCH CENTER, ISTANBUL	TUK
COL	COLUMBIA UNIVERSITY, NEW YORK CITY, NEW YORK	USA
CRC	CHALK RIVER NUCLEAR LABORATORIES, ONTARIO	CAN
CSE	CASE INSTITUTE OF TECHNOLOGY, CLEVELAND, OHIO	USA
CUL	CULHAM LABORATORY, UNITED KINGDOM	UK
DEB	ATOMMAG KUTATO INTEZET, DEBRECEN	HUN
DKE	DUKE UNIVERSITY, DURHAM, NORTH CAROLINA	USA
DOE	US DEPARTMENT OF ENERGY, WASHINGTON, D.C.	USA
DUB	JOINT INSTITUTE FOR NUCLEAR RESEARCH, DUBNA	ZZZ
FAR	CEA FONTENAY-AUX-ROSES, SEINE	FR
FE	FUJI ELECTRIC	JAP
FEI	FIZIKO-ENERGETICHESKIJ INSTITUT, OBNINSK	CCP
FOA	RESEARCH INSTITUTE OF NATIONAL DEFENSE, STOCKHOLM	SWD
FRK	J.W.GOETHE UNIVERSITY, FRANKFURT	GER
GA	GENERAL ATOMIC, SAN DIEGO, CALIFORNIA	USA
GAC	INSTITUTE FOR GEO- AND ANALYTIC CHEMISTRY, MOSCOW	CCP
GEB	GENERAL ELECTRIC, BRDO, SUNNYVALE, CALIF.	USA
GEL	B.C.M.N. EURATOM, GEEL	EUR
GEV	GENERAL ELECTRIC CO., VALLECITOS, CALIF.	USA
GIT	GEORGIA INSTITUTE OF TECHNOLOGY, ATLANTA, GEORGIA	USA
GRE	CEA AND UNIVERSITY, GRENOBLE	FR
GRT	GULF RADIATION TECHNOLOGY, SAN DIEGO, CALIFORNIA	USA
HAM	INSTITUT FUER EXPERIMENTALPHYSIK, HAMBURG	GER
HAR	UK ATOMIC ENERGY RESEARCH ESTABLISHMENT, HARWELL	UK
HED	HANFORD ENGINEERING DEVELOPMENT LAB., RICHLAND, WASH.	USA
HFA	TECHNION HAIFA	ISL
HLS	UNIVERSITY OF HELSINKI	SF
HOK	HOKKAIDO UNIVERSITY	JAP
HRV	HARVARD UNIVERSITY, CAMBRIDGE, MASS	USA
IAE	INTERNATIONAL ATOMIC ENERGY AGENCY, VIENNA	UNO
IFU	INSTITUT FIZIKI AN UKRAINSKOI SSR, KIEV	CCP
IIT	ILLINOIS INSTITUTE OF TECHNOLOGY, CHICAGO, ILLINOIS	USA
IJI	INSTITUT JADERNYKH ISSLEDOVANIJ, KIEV	CCP
IRT	INTELCOM RADIATION TECHNOLOGY, SAN DIEGO, CALIF.	USA
JAE	JAPAN ATOMIC ENERGY RESEARCH INSTITUTE, TOKAI	JAP
JAP	JAPAN	JAP
JUL	KERNFORSCHUNGSANLAGE, JUELICH	GER
KAP	KNOLLS ATOMIC POWER LABORATORY, SCHENECTADY, NEW YORK	USA

KFK	KERNFORSCHUNGSZENTRUM, KARLSRUHE	GER
KGU	GOSUDARSTVENNYJ UNIVERSITY, KIEV	CCP
KKU	KINKI UNIVERSITY ATOMIC ENERGY RESEARCH INSTITUTE	JAP
KOS	KOSSUTH UNIVERSITY, DEBRECEN	HUN
KTO	KYOTO UNIVERSITY	JAP
KTY	UNIVERSITY OF KENTUCKY, LEXINGTON, KENTUCKY	USA
KUR	I.V. KURCHATOV ATOMIC ENERGY INST., MOSCOW	CCP
KYU	KYUSHU UNIVERSITY, FUKUOKA	JAP
LAS	LOS ALAMOS SCIENTIFIC LABORATORY, NEW MEXICO	USA
LOU	UNIVERSITY OF LODZ, LODZ	POL
LRL	LAWRENCE LIVERMORE LABORATORY, LIVERMORE, CALIFORNIA	USA
LTI	LOWELL TECHNOLOGICAL INSTITUTE, LOWELL, MASS.	USA
MAP	MITSUBISHI A.P.I., INC.	JAP
MCM	MCMASTER UNIVERSITY, HAMILTON, ONTARIO	CAN
MGT	MICHIGAN TECHNOLOGICAL UNIVERSITY	USA
MHG	UNIVERSITY OF MICHIGAN	USA
MIT	MASSACHUSETTS INSTITUTE OF TECHNOLOGY, CAMBRIDGE, MASS.	USA
MND	MOUND LABORATORY, MIAMISBURG, OHIO	USA
MOL	C.E.N., MOL	BLG
MTR	IDAHO NUCLEAR CORP., IDAHO FALLS, IDAHO	USA
MUA	MUSLIM UNIVERSITY, ALIGARH	IND
MUN	TECH. HOCHSCHULE, MUENCHEN	GER
NBS	NATIONAL BUREAU OF STANDARDS, WASHINGTON, D.C.	USA
NDC	NEA NUCLEAR DATA COMPILATION CENTER, SACLAY, FRANCE	ZZZ
NEL	U.S. ARMY NUCLEAR EFFECTS LABORATORY, ABERDEEN, MARYLAND	USA
NEU	UNIVERSITY OF NEUCHATEL	SWT
NFI	NUCLEAR FUEL INDUSTRIES	JAP
NIG	NIPPON ATOMIC INDUSTRY GROUP	JAP
NIS	NATIONAL INSTITUTE OF RADIOLOGICAL SCIENCES, CHIBA	JAP
NPL	NATIONAL PHYSICAL LABORATORY, TEDDINGTON	UK
NRD	U.S. NAVAL RADIOLOGICAL DEFENSE LAB., SAN FRANCISCO	USA
NYU	NEW YORK UNIVERSITY, NEW YORK CITY	USA
OHO	OHIO UNIVERSITY, ATHENS, OHIO	USA
ORE	UNIVERSITY OF OREGON, EUGENE, OREGON	USA
ORL	OAK RIDGE NATIONAL LABORATORY, TENNESSEE	USA
OSL	UNIVERSITY OF OSLO	NOR
PAD	UNIVERSITY OF PADUA	ITY
PAR	UNIVERSITY OF PARIS (INCL.ORSAY) PARIS	FR
PEL	AE BOARD, PELINDABA, PRETORIA	SAF
PNC	POWER REACTOR AND NUCLEAR FUEL DEV. CORP., TOKAI-MURA	JAP
PTN	PRINCETON UNIVERSITY, PRINCETON, N.J.	USA
RAM	ATOMIC ENERGY CENTRE, RAMNA, DACCA	BAN
RCN	REACTOR CENTRUM NEDERLAND, PETTEN	NED
REH	REHOVOTH LAB., ISRAEL AEC.	ISL
RI	KHLOPIN RADIUM INSTITUTE, LENINGRAD	CCP
RIS	RISO, ROSKILDE	DEN
RL	RICHLAND OPERATIONS OFFICE, RICHLAND, WASHINGTON	USA
ROS	ROSSENDORF BEI DRESDEN	DDR
RPI	RENNSELAER POLYTECHNIC INSTITUTE, TROY, NEW YORK	USA
RUM	ROMANIA	RUM
SAC	C.E.N. SACLAY, GIF-SUR-YVETTE	FR
SAE	SUMITOMO ATOMIC ENERGY INDUSTRIES, LTD., TOKYO	JAP
SAI	SCIENTIFIC APPLICATIONS INC., LA JOLLA, CALIFORNIA	USA
SAS	UNIV. OF SASKATCHEWAN, SASKATOON	CAN
SGA	OEST.STUDIENGES.F.ATOMENERGIE, VIENNA	AUS
SOR	SOREQ RESEARCH CENTER, YAVNE	ISL
SRE	SIEMENS REAKTORENTWICKLUNG, ERLANGEN	GER
SRL	SAVANNAH RIVER LABORATORIES, AIKEN, S.C.	USA
SUN	SOUTHERN UNIVERSITIES NUCLEAR INST., FAURE, CAPE PROV.	SAF
SWD	SWEDEN	SWD

THD	TECH. HOCHSCHULE, DARMSTADT	GER
TIT	TOKYO INSTITUTE OF TECHNOLOGY	JAP
TNC	TEXAS NUCLEAR CORPORATION, AUSTIN, TEXAS	USA
TOK	UNIVERSITY OF TOKYO	JAP
TOS	TOSHIBA RESEARCH AND DEVELOPMENT CENTER	JAP
TRM	BHABHA ATOMIC RESEARCH CENTRE, TROMBAY	IND
TUD	DRESDEN, TECHNICAL UNIVERSITY AT DRESDEN AND PIRNA	DDR
UK	UNITED KINGDOM	UK
UKW	WINDSCALE REACTOR DEVELOPMENT LABS., UKAEA	UK
UMK	UNION MINIERE DU HAUT KATANGA, BRUSSELS	BLG
UPP	UNIVERSITY OF UPPSALA	SWD
USA	UNITED STATES OF AMERICA	USA
USP	UNIVERSITY OF SAO PAULO, SAO PAULO	BZL
VDN	CENTRAL BUREAU DER V.D.E.N., ARNHEM	NED
WEW	WESTINGHOUSE ADVANCED REACTOR DIVISION, PITTSBURG, PA.	USA
WIN	UK ATOMIC ENERGY ESTABLISHMENT, WINFRITH	UK
WIS	UNIVERSITY OF WISCONSON, MADISON, WISCONSON	USA
WMU	WESTERN MICHIGAN UNIVERSITY	USA
WUR	EIDG. INSTITUT FUER REAKTORFORSCHUNG, WUERENLINGEN	SWT
WWA	WARSAW UNIVERSITY	POL
YAL	YALE UNIVERSITY, NEW HAVEN, CONNECTICUT	USA
YOK	RIKKYO UNIVERSITY, YOKOSUKA	JAP

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LIST OF ELEMENTS

ACTINIUM	AC	89	HAFNIUM	HF	72	POTASSIUM	K	19
ALUMINUM	AL	13	HAHNIUM	HA	105	PRASEODYMIUM	PR	59
AMERICIUM	AM	95	HELIUM	HE	2	PROMETHIUM	PM	61
ANTIMONY	SB	51	HOLMIUM	HO	67	PROTACTINIUM	PA	91
ARGON	AR	18	HYDROGEN	H	1	RADIUM	RA	88
ARSENIC	AS	33	INDIUM	IN	49	RADON	RN	86
ASTATINE	AT	35	IODINE	I	53	RHENIUM	RE	75
BARIUM	BA	56	IRIDIUM	IR	77	RHODIUM	RH	45
BERKELIUM	BK	97	IRON	FE	26	RUBIDIUM	RB	37
BERYLLIUM	BE	4	KRYPTON	KR	36	RUTHENIUM	RU	44
BISMUTH	BI	83	KURCHATOVIUM	KU	104	SAMARIUM	SM	62
BORON	B	5	LANTHANUM	LA	57	SCANDIUM	SC	21
BROMINE	BR	35	LAWRENCIUM	LR	103	SELENIUM	SE	34
CADMIUM	CD	48	LEAD	PB	82	SILICON	SI	14
CALCIUM	CA	20	LITHIUM	LI	3	SILVER	AG	47
CALIFORNIUM	CF	98	LUTETIUM	LU	71	SODIUM	NA	11
CARBON	C	6	MAGNESIUM	MG	12	STRONTIUM	SR	38
CERIUM	CE	58	MANGANESE	MN	25	SULFUR	S	16
CESIUM	CS	55	MENDELEVIUM	MD	101	TANTALUM	TA	73
CHLORINE	CL	17	MERCURY	HG	80	TECHNETIUM	TC	43
CHROMIUM	CR	24	MOLYBDENUM	MO	42	TELLURIUM	TE	52
COBALT	CO	27	NEODYMIUM	ND	60	TERBIUM	TB	65
COPPER	CU	29	NEON	NE	10	THALLIUM	TL	81
CURIUM	CM	96	NEPTUNIUM	NP	93	THORIUM	TH	90
DYSPROSIUM	DY	66	NICKEL	NI	28	THULIUM	TM	69
EINSTEINIUM	ES	99	NIOBIUM	NB	41	TIN	SN	50
ERBIUM	ER	68	NITROGEN	N	7	TITANIUM	TI	22
EUROPIUM	EU	63	NOBELIUM	NO	102	TUNGSTEN	W	74
FERMIUM	FM	100	OSMIUM	OS	76	URANIUM	U	92
FLUORINE	F	9	OXYGEN	O	8	VANADIUM	V	23
FRANCIUM	FR	87	PALLADIUM	PD	46	XENON	XE	54
GADOLINIUM	GD	64	PHOSPHORUS	P	15	YTTERBIUM	YB	70
GALLIUM	GA	31	PLATINUM	PT	78	YTTRIUM	Y	39
GERMANIUM	GE	32	PLUTONIUM	PU	94	ZINC	ZN	30
GOLD	AU	79	POLONIUM	PO	84	ZIRCONIUM	ZR	40