International Atomic Energy Agency

INDC(SEC)-78/URSF

INDC INTERNATIONAL NUCLEAR DATA COMMITTEE

WRENDA 81/82

World Request List for Nuclear Data

N. DayDay, IAEA, Editor

Published on behalf of

National Nuclear Data Center, Brookhaven, USA (C.L. Dunford, coordinator)
NEA Data Bank, Saclay, France (N. Tubbs and P. Johnston, coordinators)
Nuclear Data Section, Vienna, Austria (N. DayDay, coordinator)
Nuclear Data Center, Obninsk, USSR (O.D. Kazachkovskij, coordinator)

July 1981

IAEA NUCLEAR DATA SECTION, WAGRAMERSTRASSE 5, A-1400 VIENNA

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ABSTRACT

WRENDA 81/82 is the seventh 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. Each request included indicates

- that the estimated accuracy of the nuclear data available does not satisfy the requirements encountered,

- and that, consequently, new data measurements and/or data evaluations with improved accuracy are highly desirable.

WRENDA is intended to serve as a guide to experimentalists, evaluators and administrators when planning nuclear data measurement and evaluation programs.

The requests in this edition come from 15 different countries and one international organization.

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APPENDICES

I. GENERAL INTRODUCTION TO WRENDA

I.A. Summary

WRENDA 81/82 is the seventh 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.

In this edition, there are some changes to the request file since the production of the previous edition. To summarize the changes, 447 requests listed in the previous edition were modified, 348 withdrawn, 57 satisfied and 264 new requests were added. The total number of requests is 1674, of which 707 are Priority 1, 782 are Priority 2 and 185 are Priority 3 requests. There are no Priority 4 requests.

The number of current requests related to the fission reactor technology (including nuclear materials safeguards) is 1667, while the number of requests related to nuclear fusion is 501.

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 the internal documents maintained by the NDS. These documents are available upon request.

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 as well as the INDC Liaison Officers in the production of the updated WRENDA file is gratefully acknowledged.

I.C. 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 welcomed and 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 *) 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 pecific edition of WRENDA only. (Compare this with the IDENTIFICATION number, discussed below).

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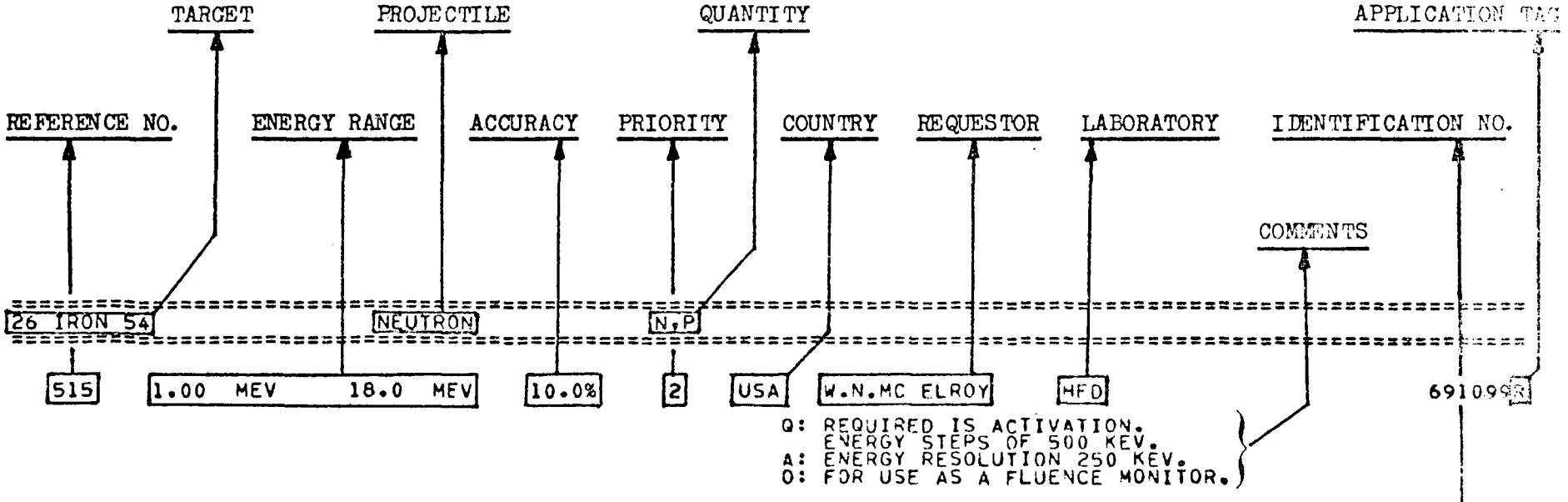
*) CINDA - An Index to the Literature on Microscopic Neutron Data published annually by the International Atomic Energy Agency.


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
HFD
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 792003R
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 1. 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).

Requestors comments

Comments by requestors follow below the requestor's 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. If average value of cross section in a typical spectrum is required, it should be clearly mentioned in the comment section. Those denoted by an A refer to further details concerning accuracy or energy resolution required. Energy resolution requirements or covariance assumptions, if any, should also be explicitly stated. The category O includes all other 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
FD	FUSION, DOSIMETRY
G	GENERAL
M	MADICINE
MI	RADIOISOTOPE PRODUCTION
MT	CANCER RADIOTHERAPY
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

Status comments

Some request blocks include a section devoted to status comments. 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 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.

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 sub-committees of INDC and NEANDC. More information on these reviews can be found in Appendix A.

Status comments are stored in a separate file from the data requests and can be updated whenever new information is available. WRENDA requestor should note that the standard accuracy requirements should be stated with 1σ - one standard deviation -, and it must be explicitly written in the comments, if otherwise. 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.

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
* ALPHA HALF LIFE
FISSION HALF LIFE
* DECAY HEAT PER GRAM
TOTAL CROSS SECTION
ELASTIC CROSS SECTION
DIFFERENTIAL ELASTIC CROSS SECTION
* VECTOR POLARIZATION PRODUCED IN ELASTIC SCATTERING
INELASTIC CROSS SECTION
ANGULAR DIFFERENTIAL INELASTIC CROSS SECTION
ENERGY DIFFERENTIAL INELASTIC CROSS SECTION
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.
* ANGULAR DISTRIBUTION OF PHOTON FROM INELASTIC SCAT
* ENERGY DISTRIBUTION OF PHOTON FROM INELASTIC SCAT
TOTAL PHOTON PRODUCTION CROSS SECTION
GAMMA RAY YIELD
ENERGY DIFF. PHOTON-PRODUCTION CROSS SECTION
ENERGY-ANGLE DIFF. PHOTON-PRODUCTION CROSS SECTION
X,N
X,N NEUTRON SPECTRA
X,2N
X,2N ANGULAR DISTRIBUTION
X,2N NEUTRON SPECTRA
* ENERGY-ANGLE DIFF.2 NEUTRON-PRODUCTION CROSS SECT.
X,3N
X,4N
X,5N
NEUTRON EMISSION CROSS SECTION
TOTAL NEUTRON YIELD
DELAYED NEUTRON YIELD
ENERGY DIFFERENTIAL NEUTRON-EMISSION CROSS SECTION
* ANGULAR DIFF. NEUTRON-EMISSION CROSS SECTION
ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION
X,P
X,P DELAYED NEUTRON YIELD
X,NP

* These quantities have been added since the previous edition

Table III. Quantity Sorting Order (Continued)

* NEUTRON AND 2-PROTON PRODUCTION CROSS SECTION
X,2P
TOTAL PROTON PRODUCTION CROSS SECTION
ENERGY DIFF. PROTON-PRODUCTION CROSS SECTION
ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION
X,D
* ENERGY DISTRIBUTION OF DEUTERONS
X,ND
X,T
* ANGULAR DISTRIBUTION OF TRITONS
* ENERGY DISTRIBUTION OF TRITONS
X,NT
* ANG.DIST.OF NEUT.FROM N AND T PRODUCING CORSS SEC.
* TOTAL TRITON PRODUCTION
X,HELIUM-3
* ENERGY DISTRIBUTION OF HE-3 PARTICLES
* TOTAL HE-3 PRODUCTION CROSS SECTION
X,ALPHA
* ANGULAR DISTRIBUTION OF ALPHA PARTICLES
X,NALPHA
X,N3ALPHA
X,N4ALPHA
* THREE ALPHA PARTICLES PRODUCTION CROSS SECTION
TOTAL ALPHA PRODUCTION CROSS SECTION
ENERGY DIFFERENTIAL ALPHA-PRODUCTION CROSS SECTION
ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION
TOTAL HYDROGEN-PRODUCTION CROSS SECTION
TOTAL HELIUM-PRODUCTION CROSS SECTION
SPECIAL QUANTITY (DESCRIPTION BELOW)
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

* **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%), 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 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 resouces or redirection of research effort in fusion programmed, 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 stufies 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 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 purposes:

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 technnique 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

1. may be neede for the nondestructive assay of materials not now included in the safeguards system by 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 nondestructive assay for which the required technology does not now exist but which may reasonably be expected to in the future.

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W R E N D A

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WRENDA INDEX

WRENDA INDEX (continued)

WRENDA INDEX (continued)

1 HYDROGEN 1 — NEUTRON — TOTAL CROSS SECTION

1	1.00	KEV	1.00	MEV	.3 %	2	USA	STEWART	LAS	781175R

Q: TO CHECK ON PRIMARY STANDARD IN LARGELY UNMEASURED REGIONS.
M: MODIFIED (PARTIALLY WITHDRAWN).

STATUS---STATUS

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

1 HYDROGEN 1 — NEUTRON — DIFFERENTIAL ELASTIC CROSS SECTION

2	10.0	MEV	50.0	MEV	1. %	1	USA	STEWART	LAS	801289R

Q: TO CONFIRM OR IMPROVE PRESENT EVALUATION.
M: NEW REQUEST.

STATUS---STATUS

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

1 HYDROGEN 1 — NEUTRON — CAPTURE CROSS SECTION

3	25.3	MV			.3 %	1	USA	STEEN	BET	781179R

Q: TO HELP RESOLVE DISCREPANCIES IN THERMAL CRITICALITY PARAMETERS.
M: MODIFIED (PARTIALLY FULFILLED).

4	10.0	MV	10.0	EV	1. %	2	USA	STEWART	LAS	801288R

Q: TO CHECK 1/V BEHAVIOR OF CAPTURE CROSS SECTION.
M: NEW REQUEST.

1 HYDROGEN 2 — NEUTRON — ELASTIC CROSS SECTION

5	1.00	EV	1.00	KEV	.5 %	1	USA	STEEN	BET	721002R

Q: NEED FREE ATOM SCATTERING CROSS SECTION.
O: FOR THERMAL REACTOR ANALYSIS.

6	1.00	KEV	10.0	MEV	5. %	1	USA	STEEN	BET	721003R

Q: NEED FREE ATOM SCATTERING CROSS SECTION.
O: FOR THERMAL REACTOR ANALYSIS.

7	1.00	EV	1.00	KEV	1. %	3	USA	VISNER	CBE	761072R

O: FOR THERMAL HWR APPLICATIONS.

1 HYDROGEN 2 — NEUTRON — N,2N

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

O: FOR THERMAL REACTOR ANALYSIS.

1 HYDROGEN 2 — NEUTRON — ENERGY-ANGLE DIFF.2 NEUTRON-PRODUCTION CROSS SECT.

9	UP TO		15.0	MEV	15.0%	2	JAP	A.TAKAHASHI	OSA	812018F

Q: ENERGY-ANGLE DIFFERENTIAL CROSS SECTIONS FOR THE (N,2N) REACTION REQUESTED FOR FUSION.
O: FOR ESTIMATION OF EMITTED NEUTRON SPECTRA FROM A D-T MIXTURE OF INERTIALLY CONFINED PLASMA
M: NEW REQUEST.

1 HYDROGEN 2 — ALPHA — ELASTIC CROSS SECTION

10	50.0	KEV	2.00	MEV		1	USA	NG	DOE	781071F

A: ACCURACY 10.0 PERCENT RELATIVE. 30.0 PERCENT ABSOLUTE REQUIRED.
O: REQUIRED TO CALCULATE HEATING OF PLASMA FUEL BY FUSION PRODUCT ALPHAS.
M: MODIFIED (PARTIALLY WITHDRAWN).

1 HYDROGEN 3 — NEUTRON — N,2N

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

A: ACCURACY REQUIRED TO BETTER THAN 20 PERCENT.

1 HYDROGEN 3 — NEUTRON — ENERGY-ANGLE DIFF.2 NEUTRON-PRODUCTION CROSS SECT.

12	UP TO		15.0	MEV	5.0 %		JAP	A.TAKAHASHI	OSA	812019F

Q: ENERGY-ANGLE DIFFERENTIAL CROSS SECTIONS FOR THE (N,2N) REACTION REQUESTED.
O: FOR ESTIMATION OF EMITTED NEUTRON SPECTRA FROM A D-T MIXTURE OF INERTIALLY CONFINED PLASMA.
M: NEW REQUEST.

1 HYDROGEN 3 — DEUTERON — D,D

13	10.0 KEV	5.00 MEV		1	USA	NG	DOE	801283F

A: ACCURACY 10 PERCENT RELATIVE, 30 PERCENT ABSOLUTE.
O: CROSS SECTIONS FOR ALTERNATE FUEL CYCLES.
M: NEW REQUEST.

1 HYDROGEN 3 — DEUTERON — D,ALPHA

14	UP TO	10.0 KEV		1	USA	NG	DOE	781069F

Q: RADIOACTIVE TARGET 12.33 YR
A: ACCURACY 10.0 PERCENT RELATIVE, 30.0 PERCENT ABSOLUTE REQUIRED.

1 HYDROGEN 3 — TRITON — T,ALPHA

15	UP TO	10.0 KEV		1	USA	NG	DOE	781070F

Q: RADIOACTIVE TARGET 12.33 YR
A: ACCURACY 10.0 PERCENT RELATIVE, 30.0 PERCENT ABSOLUTE REQUIRED.
O: DATA REQUIRED TO ANALYZE BACKGROUND NEUTRONS AND ESTIMATE TRITIUM ION TEMPERATURES.

1 HYDROGEN 3 — ALPHA — ELASTIC CROSS SECTION

16	50.0 KEV	2.00 MEV		1	USA	NG	DOE	781072F

Q: RADIOACTIVE TARGET 12.33 YR
A: ACCURACY 10.0 PERCENT RELATIVE, 30.0 PERCENT ABSOLUTE REQUIRED.
O: REQUIRED TO CALCULATE HEATING OF PLASMA FUEL BY FUSION PRODUCT ALPHAS.
M: MODIFIED (PARTIALLY WITHDRAWN).

2 HELIUM 3 — NEUTRON — N,P

17	10.0 KEV	3.00 MEV	1. %	2	USA	HEMMIG	DOE	691001R

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

18	5.00 KEV	200. KEV	2. %	1	USA	STEWART	LAS	691003R

Q: ABSOLUTE VALUES REQUIRED.
O: INCREASINGLY USEFUL AS A STANDARD AND FOR SPECTROMETERS.
M: MODIFIED (PARTIALLY WITHDRAWN).

19	200. KEV	3.00 MEV	3. %	1	USA	STEWART	LAS	691004R

Q: ABSOLUTE VALUES REQUIRED.
O: INCREASINGLY USEFUL AS A STANDARD AND FOR SPECTROMETERS.

20	100. KEV	1.00 MEV	2.0%	2	UK	E.LYNN	HAR	692003R

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

21	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.

22	2.00 MEV	40.0 MEV	10. %	1	USA	MCELROY	HED	801234F

A: ACCURACY 20 PERCENT ABOVE 30 MEV.
O: FOR FMIT DOSIMETRY.
M: NEW REQUEST.

2 HELIUM 3 — NEUTRON — N,NP

23	UP TO	40.0 MEV	10. %	1	USA	MCELROY	HED	801235F

A: ACCURACY 20 PERCENT ABOVE 30 MEV.
O: FOR FMIT DOSIMETRY.
M: NEW REQUEST.

2 HELIUM 3 — NEUTRON — N,2P

24	UP TO	40.0 MEV	10. %	1	USA	MCELROY	HED	801233F

A: ACCURACY 20 PERCENT ABOVE 30 MEV.
O: FOR FMIT DOSIMETRY.
M: NEW REQUEST.

2 HELIUM 3 — DEUTERON — D,P

25	2.00 MEV	5.00 MEV		1	USA	NG	DOE	801285F

A: ACCURACY 10 PERCENT RELATIVE, 30 PERCENT ABSOLUTE.
O: CROSS SECTIONS FOR ALTERNATE FUEL CYCLES.
M: NEW REQUEST.

2 HELIUM 3 DEUTERON D,D

26	500.	KEV	1.00	MEV		1	USA	NG	DOE	801284F

A: ACCURACY 10 PERCENT RELATIVE, 30 PERCENT ABSOLUTE.
O: CROSS SECTIONS FOR ALTERNATE FUEL CYCLES.
M: NEW REQUEST.

2 HELIUM 4 HELIUM-3 HELIUM-3,HELIUM-3

27	50.0	KEV	8.00	MEV		2	USA	NG	DOE	801075F

A: ACCURACY 10 PERCENT RELATIVE, 30 PERCENT ABSOLUTE.
O: CROSS SECTIONS FOR ALTERNATE FUEL CYCLES.
M: NEW REQUEST.

3 LITHIUM NEUTRON TOTAL PROTON PRODUCTION CROSS SECTION

28	9.00	MEV	15.0	MEV	10. %	1	USA	NG	DOE	801040F

Q: TOTAL HYDROGEN PRODUCTION.
O: RADIATION DAMAGE CALCULATIONS.
M: NEW REQUEST.

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

29	15.0	MEV				2	USA	NG	DOE	801093F

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

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

30	15.0	MEV				2	USA	NG	DOE	801094F

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

3 LITHIUM ALPHA ALPHA,N

31	100.	KEV	6.50	MEV	6. %	2	USA	WALTON	LAS	781167N

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

3 LITHIUM 6 NEUTRON DIFFERENTIAL ELASTIC CROSS SECTION

32	1.00	MEV	15.0	MEV	10.0%	2	GER	J.DARVAS	JUL	722060F

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

33	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

34	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.

35	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.

3 LITHIUM 6 NEUTRON INELASTIC CROSS SECTION

36	10.0	KEV	40.0	MEV	10. %	1	USA	MCELROY	HED	801230F

A: ACCURACY 20 PERCENT ABOVE 30 MEV.
O: FOR FMIT DOSIMETRY.
M: NEW REQUEST.

3 LITHIUM 6 NEUTRON ANGULAR DIFFERENTIAL INELASTIC CROSS SECTION

37	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.

3 LITHIUM 6 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

38	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.

39	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

40		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.

41	10.0	KEV	40.0	MEV	10. %	1	USA	MCELROY	HED	801231F

A: ACCURACY 20 PERCENT ABOVE 30 MEV.
O: FOR FMIT DOSIMETRY.
M: NEW REQUEST.

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

42		UP TO	15.0	MEV	20.0%	2	GER	J.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.

3 LITHIUM 6 NEUTRON N,P

43		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.

3 LITHIUM 6 NEUTRON TOTAL PROTON PRODUCTION CROSS SECTION

44		UP TO	40.0	MEV	10. %	1	USA	MCELROY	HED	801295F

A: ACCURACY 20 PERCENT ABOVE 30 MEV.
O: REQUIRED FOR FMIT DOSIMETRY.
M: NEW REQUEST.

3 LITHIUM 6 NEUTRON N,ND

45		UP TO	15.0	MEV	10.0%	2	GER	J.DARVAS	JUL	722151F

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

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

O: NEUTRONICS CALCULATIONS AND ENERGY DEPOSITION IN BLANKET MATERIALS.

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

O: NEUTRONICS CALCULATIONS AND ENERGY DEPOSITION

48		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.

3 LITHIUM 6 NEUTRON N,T

49	1.00	KEV	3.00	MEV	1. %	1	USA	SMITH HEMMIG	ANL DOE	691009R

Q: ABSOLUTE VALUES REQUIRED.
A: ACCURACY OF 3 PERCENT USEFUL.
ENERGY RESOLUTION MUST REPRODUCE TRUE SHAPE.
O: FOR USE AS STANDARD.

50	500.	EV	3.00	MEV		2	USA	HALE	LAS	691011R

Q: ABSOLUTE VALUES REQUIRED.
A: ACCURACY RANGE 1. TO 3. PERCENT.
ENERGY RESOLUTION MUST REPRODUCE TRUE SHAPE.
O: FOR USE AS STANDARD.

51	5.00	KEV	15.0	MEV	5.0%	1	GER	M.KUECHLE	KFK	692004R

O: STANDARD.

52	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.

53	10.0	EV	100.	KEV	1. %	1	USA	HALE	LAS	721009R

O: FOR USE AS STANDARD BELOW 1 MEV.

54	300. KEV	15.0 MEV	5.0%	1	GER	J.DARVAS	JUL	722062F

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

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

O: FOR TRITIUM BREEDING AND ENERGY DEPOSITION.

56	1.00 MEV	20.0 MEV	5.0%	1	BLG	G.DELEEUW-GIERTS	MOL	742024F

Q: SECONDARY ANGULAR DISTRIBUTION REQUIRED IN THE SAME ENERGY RANGE.
A: ANGULAR RESOLUTION - 10 DEGREES FROM 0 TO 90.
O: DETERMINATION OF NEUTRON SPECTRA FROM TRITON ENERGY DISTRIBUTIONS.
M: SUBSTANTIAL MODIFICATIONS.

57	5.00 KEV	15.0 MEV	5.0%	1	GER	M.KUECHLE	KFK	742110F

O: STANDARD.

58	3.00 MEV	15.0 MEV	5. %	1	JAP	Y.SEKI	JAE	762053F

O: TRITIUM BREEDING AND ENERGY DEPOSITION CALCULATION

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

O: EVALUATION REQUIREMENT.
FOR TRITIUM BREEDING CALCULATIONS.

60	500. KEV	5.00 MEV	10. %	1	USA	NG	DOE	781160F

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

61	10.0 MV	10.0 EV	1. %	1	USA	CARLSON	NBS	801290R

O: TO STUDY ATOMIC BINDING AND RELATED EFFECTS.
M: NEW REQUEST.

STATUS----------STATUS

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

3 LITHIUM 6 NEUTRON ANGULAR DISTRIBUTION OF TRITONS

62	500. EV	100. KEV	5. %	1	USA	HALE	LAS	801291R

Q: ABSOLUTE CROSS SECTION AS A FUNCTION OF ANGLE.
O: NEEDED FOR USE OF LI-6(N,ALPHA) AS STANDARD.
M: NEW REQUEST.

3 LITHIUM 6 NEUTRON N,NT

63	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.

3 LITHIUM 6 NEUTRON N,ALPHA

64	10.0 KEV	40.0 MEV	10. %	1	USA	MCELROY	HED	801228F

A: ACCURACY 20 PERCENT ABOVE 30 MEV.
O: FOR FMIT DOSIMETRY.
M: NEW REQUEST.

STATUS----------STATUS

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

3 LITHIUM 6 NEUTRON TOTAL ALPHA PRODUCTION CROSS SECTION

65	UP TO	40.0 MEV	10. %	1	USA	MCELROY	HED	801205F

Q: TOTAL HE PRODUCTION FOR MASS SPECTROMETRY.
A: ACCURACY 20 PERCENT ABOVE 25 MEV.
O: FOR FMIT DOSIMETRY.
FOR USE AS A FLUENCE MONITOR.
M: NEW REQUEST.

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

66	UP TO	10.0 MEV	5.0%	1	FR	C.A.PHILIS	BRC	812063R

Q: NEUTRONS EMITTED PER NON-ELASTIC PROCESS SECONDARY ENERGY-ANGLE DISTRIBUTIONS REQUIRED
M: NEW REQUEST.

3 LITHIUM 6 HELIUM-3 HELIUM-3,HELIUM-3

67	150. KEV	5.00 MEV		2	USA	NG	DOE	801074F

A: ACCURACY 10 PERCENT RELATIVE, 30 PERCENT ABSOLUTE.
O: CROSS SECTIONS FOR ALTERNATE FUEL CYCLES.
M: NEW REQUEST.

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

68	UP TO	5.00	MEV		2	USA	NG	DOE		801076F

Q: BRANCHING RATIOS FOR OTHER REACTIONS.
A: ACCURACY 10 PERCENT RELATIVE, 30 PERCENT ABSOLUTE.
O: CROSS SECTIONS FOR ALTERNATE FUEL CYCLES.
M: NEW REQUEST.

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

69	500.	KEV	2.00	MEV	2	USA	NG	DOE		781074F

Q: CROSS SECTION FOR ALL SIGNIFICANT CHARGED PARTICLE REACTIONS WANTED.
A: ACCURACY 10.0 PERCENT RELATIVE, 30.0 PERCENT ABSOLUTE REQUIRED.
O: FOR ADVANCED FUEL FUSION DEVICES.
M: SUBSTANTIAL MODIFICATIONS.

3 LITHIUM 7 NEUTRON DIFFERENTIAL ELASTIC CROSS SECTION

70	1.00	MEV	15.0	MEV	10.0%	1	GER	J.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.

71	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.
O: FOR TRITIUM BREEDING AND ENERGY DEFOSITION.

72	14.0	MEV			10.0%	1	FR	B.DUCHEMIN	SAC	732003F

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: EVALUATION OF NEUTRON BALANCE.
M: SUBSTANTIAL MODIFICATIONS.

73	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.

3 LITHIUM 7 NEUTRON INELASTIC CROSS SECTION

74	500.	KEV	15.0	MEV	10.0%	2	GER	J.DARVAS	JUL	722068F

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

75	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.

3 LITHIUM 7 NEUTRON ANGULAR DIFFERENTIAL INELASTIC CROSS SECTION

76	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.

3 LITHIUM 7 NEUTRON ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

77	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.

3 LITHIUM 7 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

78	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.

79	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

80	UP TO		15.0	MEV	20.0%	2	GER	J.DARVAS	JUL	722071F

Q: THREE OR FOUR DATA POINTS USEFUL.
O: FOR ESTIMATES OF NEUTRON MULTIPLICATION.

81	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.

82	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.

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

83	9.00 MEV	15.0 MEV	10. %	1	USA	NG	DOE		781042F

O: FOR SHIELDING AND TRANSPORT STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.
M: MODIFIED (PARTIALLY WITHDRAWN).

3 LITHIUM 7 NEUTRON N,NP

84	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.

3 LITHIUM 7 NEUTRON TOTAL PROTON PRODUCTION CROSS SECTION

85	9.00 MEV	15.0 MEV	10. %	1	USA	NG	DOE		781051F

Q: TOTAL HYDROGEN PRODUCTION WANTED.
O: FOR RADIATION DAMAGE STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.

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

86	15.0 MEV			2	USA	NG	DOE		781135F

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

3 LITHIUM 7 NEUTRON N,ND

87	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.

3 LITHIUM 7 NEUTRON N,NT

88	UP TO	15.0 MEV	5.0%	1	GER	J.DARVAS	JUL		722069F

A: RESOLUTION AND ENERGY STEPS OF .2 TO .5 MEV SUFFICIENT.
O: DETERMINATION OF MORE ACCURATE TRITIUM BREEDING RATIOS.

89	UP TO	15.0 MEV	5.0%	1	CCP	I.N.GOLOVIN	KUR		724007F

O: FOR TRITIUM BREEDING AND ENERGY DEPOSITION.

90	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.

91	3.00 MEV	14.0 MEV	5.0%	1	FR	B.DUCHEMIN	SAC		732004F

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: EVALUATION OF NEUTRON BALANCE.
M: SUBSTANTIAL MODIFICATIONS.

92	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.

93	5.00 MEV	16.0 MEV		1	USA	NG	DOE		781159F

A: ACCURACY RANGE 5. TO 10. PERCENT.
O: NEEDED TO DESCRIBE BREEDING IN D-T SYSTEMS.
M: SUBSTANTIAL MODIFICATIONS.

94	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.

3 LITHIUM 7 NEUTRON TOTAL ALPHA PRODUCTION CROSS SECTION

95	9.00 MEV	15.0 MEV	10. %	1	USA	NG	DOE		781060F

Q: TOTAL HELIUM PRODUCTION WANTED.
O: FOR RADIATION DAMAGE STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.

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

96	15.0	MEV			2	USA	NG	DOE	781114F

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

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

97	UP TO	10.0	MEV	5.0%	1	FR	C.A.PHILIS	BRC	812062R

Q: NEUTRONS EMITTED PER NON-ELASTIC PROCESS
SECONDARY ENERGY-ANGLE DISTRIBUTIONS REQUIRED
M: NEW REQUEST.

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

98	UP TO	10.0	MEV	5.0%	1	FR	C.A.PHILIS	BRC	812064R

Q: NEUTRONS EMITTED PER NON-ELASTIC PROCESS
SECONDARY ENERGY-ANGLE DISTRIBUTIONS REQUIRED
M: NEW REQUEST.

4 BERYLLIUM 7 | NEUTRON | N,2P

99	UP TO	3.00	MEV		2	USA	NG	DOE	801077F

Q: RADIOACTIVE TARGET 53.3 DAY
A: ACCURACY 10 PERCENT RELATIVE, 30 PERCENT ABSOLUTE.
O: CROSS SECTIONS FOR ALTERNATE FUEL CYCLES.
M: NEW REQUEST.

4 BERYLLIUM 7 | DEUTERON | D,P

100	UP TO	2.00	MEV		1	USA	NG	DOE	801080F

Q: RADIOACTIVE TARGET 53.3 DAY
A: ACCURACY 10 PERCENT RELATIVE, 30 PERCENT ABSOLUTE.
O: CROSS SECTIONS FOR ALTERNATE FUEL CYCLES.
M: NEW REQUEST.

4 BERYLLIUM 9 | NEUTRON | DIFFERENTIAL ELASTIC CROSS SECTION

101	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

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

O: NEUTRONICS CALCULATIONS FOR BLANKET AND SHIELD.

4 BERYLLIUM 9 | NEUTRON | ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION

103	8.00	MEV	15.0	MEV	10.0%	2	GER	J.DARVAS	JUL	722074F
104	UP TO		15.0	MEV	10.0%	1	FR	C.PHILIS	BRC	792001F

O: NEUTRON TRANSPORT CALCULATIONS

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

105	8.00	MEV	15.0	MEV	10.0%	2	GER	J.DARVAS	JUL	722075F

Q: ENERGY DISTRIBUTION OF GAMMA RAYS REQUIRED.

4 BERYLLIUM 9 | NEUTRON | TOTAL PHOTON PRODUCTION CROSS SECTION

106	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

107	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.

108	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.

109	UP TO	15.0	MEV	10. %	1	USA	ENGHOLM	GA	801020F

O: DATA FOR NEUTRON MULTIPLIER.
M: NEW REQUEST.

4 BERYLLIUM 9 NEUTRON N,3N

110	UP TO	15.0	MEV	20. %	3	USA	ENGHOLM	GA	801012F

Q: TOTAL CROSS SECTION AND SECONDARY NEUTRON SPECTRUM.
D: FOR FISSION-SUPPRESSED HYBRID REACTOR BLANKET DESIGNS.
M: NEW REQUEST.

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

111	1.80	MEV	5.00	MEV	15. %	2	USA	HEMMIG	DOE	621002R

Q: MUST RECORD NEUTRONS DOWN TO A FEW HUNDRED KEV.
A: INCIDENT ENERGY RESOLUTION: 5. PERCENT.
ACCURACY 50 MB AT 2 - 3 MEV.
RESOLUTION ON E(N') - 500 KEV.
D: FOR BE MODERATED FAST SPECTRUM REACTORS AND FOR THERMAL BREEDERS OR CONVERTORS AND NEUTRON ECONOMY CALCULATIONS.

4 BERYLLIUM 9 NEUTRON N,P DELAYED NEUTRON YIELD

112	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.
D: ALLOWANCE FOR BACKGROUND IN DELAYED NEUTRON COUNTING

4 BERYLLIUM 9 NEUTRON TOTAL PROTON PRODUCTION CROSS SECTION

113	9.00	MEV	15.0	MEV	10. %	2	USA	NG	DOE	781103F

Q: TOTAL HYDROGEN PRODUCTION WANTED.
D: FOR RADIATION DAMAGE CALCULATIONS.

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

114	15.0	MEV				2	USA	NG	DOE	781145F

A: ACCURACY TO BE DETERMINED.
D: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.

4 BERYLLIUM 9 NEUTRON N,ALPHA

115	8.00	MEV	15.0	MEV	10.0%	1	GER	F.FROEHNER	KFK	722078F

Q: TOTAL ALPHA PRODUCTION REQUIRED.
D: CALCULATION OF NEUTRON TRANSPORT.

116	8.00	MEV	15.0	MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR	724014F

D: FOR HELIUM ACCUMULATION CALCULATIONS.

117	8.00	MEV	15.0	MEV	15. %	3	JAP	Y.SEKI	JAE	762063F

D: HELIUM ACCUMULATION CALCULATIONS

4 BERYLLIUM 9 NEUTRON TOTAL ALPHA PRODUCTION CROSS SECTION

118	9.00	MEV	15.0	MEV	10. %	2	USA	NG	DOE	781091F

D: FOR RADIATION DAMAGE CALCULATIONS.

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

119	15.0	MEV				2	USA	NG	DOE	781124F

A: ACCURACY TO BE DETERMINED.
D: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.

4 BERYLLIUM 9 NEUTRON SPECIAL QUANTITY (DESCRIPTION BELOW)

120	9.00	MEV	15.0	MEV	10. %	2	USA	NG	DOE	801089F

Q: ALL SIGNIFICANT ACTIVATION REACTION CROSS SECTIONS.
D: DATA NEEDED FOR SHIELDING, ACTIVATION AND NEUTRON TRANSPORT CALCULATIONS.
M: NEW REQUEST.

4 BERYLLIUM 9 ALPHA ALPHA,N

121	100.	KEV	6.50	MEV	6. %	2	USA	WALTON	LAS	781168N

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

4 BERYLLIUM 10 NEUTRON N,NALPHA

122	14.0	MEV			25. %	3	USA	MUIR	LAS	801115F

Q: RADIOACTIVE TARGET 1.6X(10**6) YR
PRODUCTION OF HE-6 WANTED, RADIOACTIVE TARGET.
D: NEEDED FOR ACTIVATION OF GRAPHITE STRUCTURES.
M: NEW REQUEST.

5 BORON NEUTRON TOTAL CROSS SECTION

123	4.50	MEV	15.0	MEV		2	USA	HEMMIG	DOE	741001R

A: ACCURACY RANGE 3. TO 4. PERCENT.
D: FOR SHIELDING EFFECT OF B(4)C.

5 BORON NEUTRON DIFFERENTIAL ELASTIC CROSS SECTION

124	4.50	MEV	15.0	MEV	15. %	2	USA	HEMMIG	DOE	741003R

5 BORON NEUTRON ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION

125	UP TO		15.0	MEV	10. %	2	USA	HEMMIG	DOE	741005R

A: INCIDENT ENERGY RESOLUTION: 10. PERCENT.
15 PERCENT IN ENERGY SPECTRA.
20 PERCENT IN ANGULAR DISTRIBUTION IF NOT ISOTROPIC.
DELTA E(N') - 10 PERCENT.

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

126	1.00	KEV	15.0	MEV	15. %	2	USA	HEMMIG	DOE	741007R

A: INCIDENT ENERGY RESOLUTION: 10. PERCENT.
20 PERCENT IN ANGULAR DISTRIBUTION IF NOT ISOTROPIC.
DELTA E(GAMMA) - 10 PERCENT.

5 BORON ALPHA ALPHA,N

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

D: NEUTRON OUTPUT OF SOLIDIFIED NUCLEAR WASTE

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

128	750.	KEV	15.0	MEV	10. %	2	USA	NG	DOE	781156F

D: DATA NEEDED FOR BLANKET, SHIELD AND MAGNET HEAT DEPOSITION CALCULATIONS.

5 BORON 10 NEUTRON N,2N

129	8.00	MEV	14.0	MEV	15.0%	2	FR	B.DUCHEMIN	SAC	732006F

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
D: FOR IMPROVED CALCULATION OF NEUTRON BALANCE.
M: SUBSTANTIAL MODIFICATIONS.

5 BORON 10 NEUTRON N,3N

130	10.0	MEV	14.0	MEV	15.0%	2	FR	B.DUCHEMIN	SAC	732007F

A: QUOTED ACCURACY AT 2 STANDARD DEVAITIONS.
D: FOR IMPROVED CALCULATION OF NEUTRON BALANCE.
M: SUBSTANTIAL MODIFICATIONS.

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

131	9.00	MEV	15.0	MEV	10. %	1	USA	NG	DOE	781088F

D: DATA NEEDED FOR SHIELDING AND NEUTRON TRANSPORT CALCULATIONS.

5 BORON 10 NEUTRON TOTAL PROTON PRODUCTION CROSS SECTION

132	9.00	MEV	14.0	MEV		2	USA	NG	DOE	781112F

A: ACCURACY RANGE 10. TO 50. PERCENT.
ACCURACY TO BE DETERMINED FROM SENSITIVITY STUDIES
D: FOR RADIATION DAMAGE CALCULATIONS.

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

133	15.0	MEV				2	USA	NG	DOE	781154F

A: ACCURACY TO BE DETERMINED.
D: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.

5 BORON 10 NEUTRON N,ALPHA

134	100. KEV	1.00 MEV	2.0%	1	UK	E.LYNN	HAR			642001R
						Q: ALSO (N,ALPHA GAMMA). A: ENERGY DEPENDENCE NEEDED MORE ACCURATELY. O: USED AS A STANDARD IN CROSS SECTION MEASUREMENTS.				
135	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.				
136	1.00 KEV	100. KEV	1. %	1	USA	SMITH HEMMIG	ANL DOE			691364R
						Q: ABSOLUTE VALUES REQUIRED. ALPHA(0)/ALPHA(1) RATIO NEEDED FOR BOTH ALPHA AND GAMMA DETECTION. A: 3 PERCENT ACCURACY USEFUL TO 100 KEV, 10 PERCENT O: FOR USE AS STANDARD.				
137	100. KEV	300. KEV	3. %	1	USA	SMITH HEMMIG	ANL DOE			691365R
						Q: ABSOLUTE VALUES REQUIRED. ALPHA(0)/ALPHA(1) RATIO NEEDED FOR BOTH ALPHA AND GAMMA DETECTION. A: ACCURACY USEFUL ABOVE 100 KEV. O: FOR USE AS STANDARD.				
138	300. KEV	10.0 MEV	5. %	1	USA	SMITH HEMMIG	ANL DOE			691366R
						Q: ABSOLUTE VALUES REQUIRED. ALPHA(0)/ALPHA(1) RATIO NEEDED FOR BOTH ALPHA AND GAMMA DETECTION. O: FOR USE AS STANDARD.				
139	30.0 KEV	100. KEV	1. %	1	USA	SMITH HEMMIG	ANL DOE			691373R
						Q: ABSOLUTE VALUES REQUIRED FOR 480 KEV GAMMA. A: 3 PERCENT ACCURACY USEFUL TO 100 KEV, 10 PERCENT ABOVE. O: FOR USE AS STANDARD.				
140	100. KEV	300. KEV	3. %	1	USA	SMITH HEMMIG	ANL DOE			691374R
						Q: ABSOLUTE VALUES REQUIRED FOR 480 KEV GAMMA. A: 3 PERCENT ACCURACY USEFUL TO 100 KEV, 10 PERCENT ABOVE. O: FOR USE AS STANDARD.				
141	300. KEV	10.0 MEV	5. %	1	USA	SMITH HEMMIG	ANL DOE			691375R
						Q: ABSOLUTE VALUES REQUIRED FOR 480 KEV GAMMA. A: 3 PERCENT ACCURACY USEFUL TO 100 KEV, 10 PERCENT ABOVE. O: FOR USE AS STANDARD.				
142	50.0 KEV	200. KEV	1. %	1	USA	HALE	LAS			721028R
						Q: BOTH TOTAL(N,ALPHA) AND (N,ALPHA(1)) CROSS SECTIONS REQUIRED.				
143	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.				
144	10.0 MV	10.0 EV	1. %	2	USA	CARLSON	NBS			781176R
						Q: TO CHECK FOR MOLECULAR BINDING EFFECTS. M: SUBSTANTIAL MODIFICATIONS.				
145	100. KEV	1.00 MEV	2.0%	1	GER	H.KUESTERS	KFK			792187R

STATUS

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

5 BORON 10 NEUTRON ANGULAR DISTRIBUTION OF ALPHA PARTICLES

146	50.0 KEV	200. KEV	5. %	2	USA	HALE	LAS			801293R
						Q: NEEDED FOR R-MATRIX FIT. M: NEW REQUEST.				

5 BORON 10 NEUTRON TOTAL ALPHA PRODUCTION CROSS SECTION

147	9.00 MEV	14.0 MEV		2	USA	NG	DOE			781100F
						A: ACCURACY RANGE 10. TO 50. PERCENT. ACCURACY TO BE DETERMINED FROM SENSITIVITY STUDIES O: FOR RADIATION DAMAGE CALCULATIONS.				
148	UP TO	40.0 MEV	10. %	1	USA	MCELROY	HED			801238F
						Q: TOTAL HE PRODUCTION FOR MASS SPECTROMETRY. A: ACCURACY 20 PERCENT ABOVE 25 MEV. O: FOR EMIT DOSIMETRY. FOR USE AS FLUENCE MONITOR. M: NEW REQUEST.				

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

149 15.0 MEV 2 USA NG DOE 791133F
A: ACCURACY TO BE DETERMINED.
O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.

5 BORON 10 NEUTRON SPECIAL QUANTITY (DESCRIPTION BELOW)

150 9.00 MEV 15.0 MEV 10. % 1 USA NG DOE 801048F
Q: ALL SIGNIFICANT ACTIVATION REACTION CROSS SECTIONS.
O: DATA NEEDED FOR SHIELDING, ACTIVATION AND NEUTRON TRANSPORT CALCULATIONS.
M: NEW REQUEST.

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

151 2.10 MEV 15.0 MEV 10. % 2 USA NG DOE 781157F
O: DATA NEEDED FOR BLANKET, SHIELD AND MAGNET HEAT DEPOSITION CALCULATIONS.

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

152 9.00 MEV 15.0 MEV 10. % 2 USA NG DOE 781047F
O: FOR SHIELDINGN AND TRANSPORT STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.

5 BORON 11 NEUTRON TOTAL PROTON PRODUCTION CROSS SECTION

153 9.00 MEV 15.0 MEV 10. % 2 USA NG DOE 781056F
Q: TOTAL HYDROGEN PRODUCTION WANTED.
O: FOR RADIATION DAMAGE STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.

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

154 15.0 MEV 2 USA NG DOE 791140F
A: ACCURACY TO BE DETERMINED.
O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.

5 BORON 11 NEUTRON N,ALPHA

155 UP TO 40.0 MEV 10. % 2 USA MCELROY HED 801221F
Q: ACTIVATION IS REQUIRED.
A: ACCURACY 20 PERCENT ABOVE 25 MEV.
O: FOR EMIT DOSIMETRY.
M: NEW REQUEST.

5 BORON 11 NEUTRON TOTAL ALPHA PRODUCTION CROSS SECTION

156 9.00 MEV 15.0 MEV 10. % 2 USA NG DOE 781065F
Q: TOTAL HELIUM PRODUCTION WANTED.
O: FOR RADIATION DAMAGE STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.
M: SUBSTANTIAL MODIFICATIONS.

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

157 15.0 MEV 2 USA NG DOE 781119F
A: ACCURACY TO BE DETERMINED.
O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.

5 BORON 11 NEUTRON SPECIAL QUANTITY (DESCRIPTION BELOW)

158 9.00 MEV 15.0 MEV 10. % 2 USA NG DOE 801084F
Q: ALL SIGNIFICANT ACTIVATION REACTION CROSS SECTIONS.
O: DATA NEEDED FOR SHIELDING, ACTIVATION AND NEUTRON TRANSPORT CALCULATIONS.
M: NEW REQUEST.

5 BORON 11 PROTON CAPTURE CROSS SECTION

159 200. KEV 2.00 MEV 2 USA NG DOE 801079F
A: ACCURACY 10 PERCENT RELATIVE, 30 PERCENT ABSOLUTE.
O: CROSS SECTIONS FOR ALTERNATE FUEL CYCLES.
M: NEW REQUEST.

5 BORON 11 PROTON P,N

160 4.00 MEV 10.0 MEV 1 USA NG DOE 801287F

A: ACCURACY 10 PERCENT RELATIVE, 30 PERCENT ABSOLUTE.
O: CROSS SECTIONS FOR ALTERNATE FUEL CYCLES.
M: NEW REQUEST.

5 BORON 11 PROTON P,D

161 200. KEV 2.00 MEV 2 USA NG DOE 801081F

A: ACCURACY 10 PERCENT RELATIVE, 30 PERCENT ABSOLUTE.
O: CROSS SECTIONS FOR ALTERNATE FUEL CYCLES.
M: NEW REQUEST.

5 BORON 11 PROTON THREE ALPHA PARTICLES PRODUCTION CROSS SECTION

162 1.60 MEV 5.00 MEV 1 USA NG DOE 801286F

A: ACCURACY 10 PERCENT RELATIVE,30 PERCENT ABSOLUTE.
O: CROSS SECTIONS FOR ALTERNATE FUEL CYCLES.
M: NEW REQUEST.

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

163 200. KEV 2.00 MEV 2 USA NG DOE 801078F

A: ACCURACY 10 PERCENT RELATIVE, 30 PERCENT ABSOLUTE.
O: CROSS SECTIONS FOR ALTERNATE FUEL CYCLES.
M: NEW REQUEST.

5 BORON 11 ALPHA ALPHA,N

164 500. KEV 2.00 MEV 2 USA NG DOE 781077F

A: ACCURACY 10.0 PERCENT RELATIVE, 30.0 PERCENT ABSOLUTE REQUIRED.
O: FOR ADVANCED FUEL FUSION DEVICES.
M: SUBSTANTIAL MODIFICATIONS.

5 BORON 11 ALPHA ALPHA,P

165 500. KEV 2.00 MEV 2 USA NG DOE 781076F

A: ACCURACY 10.0 PERCENT RELATIVE, 30.0 PERCENT ABSOLUTE REQUIRED.
O: FOR ADVANCED FUEL FUSION DEVICES.
M: SUBSTANTIAL MODIFICATIONS.

6 CARBON NEUTRON DIFFERENTIAL ELASTIC CROSS SECTION

166 20.0 MEV 50.0 MEV 1 USA NG DOE 781006F

A: ACCURACY RANGE 10. TO 15. PERCENT.
O: FOR SHIELD DESIGN IN FMIT FACILITY.

STATUS----------STATUS

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

6 CARBON NEUTRON NON-ELASTIC CROSS SECTION

167 20.0 MEV 50.0 MEV 1 USA NG DOE 781009F

A: ACCURACY RANGE 10. TO 15. PERCENT.
O: FOR SHIELD DESIGN IN FMIT FACILITY.

6 CARBON NEUTRON ANGULAR DISTRIBUTION OF PHOTON FROM INELASTIC SCAT

168 5.00 MEV 20.0 MEV 5.0% 1 USA FU ORL 741177R

Q: FOR 4.43 MEV GAMMA'S ONLY.
MEASURE FOR AT LEAST FOUR ANGLES.

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

169 9.00 MEV 15.0 MEV 10. % 1 USA NG DOE 781043F

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

6 CARBON NEUTRON N,P

170 14.0 MEV 40.0 MEV 1 USA NG DOE 801179F

A: ACCURACY RANGE 10. TO 20. PERCENT.
O: FOR TRACK RECORDERS FOR FMIT DOSIMETRY.
M: NEW REQUEST.

6 CARBON | NEUTRON | TOTAL PROTON PRODUCTION CROSS SECTION

171	9.00	MEV	15.0	MEV	10. %	1	USA	NG	DOE	781052F

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

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

172	15.0	MEV				2	USA	NG	DOE	781136F

A: ACCURACY TO BE DETERMINED.
D: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.

6 CARBON | NEUTRON | N,ALPHA

173	14.0	MEV	40.0	MEV		1	USA	NG	DOE	801180F

A: ACCURACY RANGE 10. TO 20. PERCENT.
D: FOR TRACK RECORDERS FOR FMIT DOSIMETRY.
M: NEW REQUEST.

6 CARBON | NEUTRON | TOTAL ALPHA PRODUCTION CROSS SECTION

174	9.00	MEV	15.0	MEV	10. %	2	USA	NG	DOE	781061F

D: FOR RADIATION DAMAGE STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.
M: SUBSTANTIAL MODIFICATIONS.

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

175	15.0	MEV				2	USA	NG	DOE	781115F

A: ACCURACY TO BE DETERMINED.
D: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.

6 CARBON | NEUTRON | SPECIAL QUANTITY (DESCRIPTION BELOW)

176	1.00	MEV	15.0	MEV	10. %	1	USA	ENGHOLM	GA	801015F

Q: DAMAGE CROSS SECTION.
D: DAMAGE TO GRAPHITE ARMOR.
M: NEW REQUEST.

177	9.00	MEV	15.0	MEV	10. %	1	USA	NG	DOE	801051F

Q: ALL SIGNIFICANT ACTIVATION REACTION CROSS SECTIONS.
D: DATA NEEDED FOR SHIELDING, ACTIVATION AND NEUTRON TRANSPORT CALCULATIONS.
M: NEW REQUEST.

6 CARBON | ALPHA | ALPHA,N

178	100.	KEV	6.50	MEV	6. %	2	USA	WALTON	LAS	781169N

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

6 CARBON 12 | NEUTRON | DIFFERENTIAL ELASTIC CROSS SECTION

179	8.00	MEV	15.0	MEV	10.0%	2	CCP	I.N.GOLOVIN	KUR	724016F

D: NEUTRON TRANSMISSION CALCULATIONS.

STATUS----------STATUS

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

6 CARBON 12 | NEUTRON | N,ALPHA

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

D: NEUTRON ABSORPTION CALCULATIONS.

181	15.0	MEV	50.0	MEV	10. %	2	USA	CASWELL	NBS	761111G

Q: MEASUREMENT AT THRESHOLD AND SEVERAL ENERGIES THROUGHOUT THE RANGE SHOULD BE SUFFICIENT. GAMMA-RAY PRODUCTION AND CHARGED-PARTICLE SPECTRA ARE OF INTEREST.
D: NEEDED FOR ENERGY DEPOSITION CALCULATIONS FOR RADIOTHERAPY.
M: SUBSTANTIAL MODIFICATIONS.

6 CARBON 12 | NEUTRON | N,N3ALPHA

182	UP TO		15.0	MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR	724018F

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

183	UP TO		20.0	MEV	15. %	1	USA	FU	ORL	7411748

184	UP TO	50.0 MEV	10. %	1	USA	CASWELL	NBS		761112G

Q: MEASUREMENT AT THRESHOLD AND SEVERAL ENERGIES THROUGHOUT THE RANGE SHOULD BE SUFFICIENT. ALPHA SPECTRA ARE OF INTEREST.
O: NEEDED FOR ENERGY DEPOSITION CALCULATIONS FOR RADIOTHERAPY. DISCREPANCY EXISTS AT 20 MEV NEUTRON ENERGY BETWEEN EXPERIMENTAL DATA AND THEORETICAL CALCULATIONS OF SECONDARY PARTICLE ENERGY DEPOSITION SPECTRA.
M: SUBSTANTIAL MODIFICATIONS.

185	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 13 NEUTRON N,ALPHA

186	5.00 MEV	15.0 MEV	15. %	3	USA	MUIR	LAS		801117F

Q: PRODUCTION OF BE-10 WANTED.
A: 25 PERCENT ACCURACY ADEQUATE BELOW 10 MEV.
O: NEEDED FOR ACTIVATION AND PARASITIC ABSORPTION IN GRAPHITE STRUCTURES.
M: NEW REQUEST.

6 CARBON 13 ALPHA ALPHA,N

187	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.

7 NITROGEN NEUTRON CAPTURE CROSS SECTION

188	1.00 KEV	1.00 MEV	10. %	2	USA	HEMMIG	DOE		741009R

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

7 NITROGEN NEUTRON N,P

189	14.0 MEV	40.0 MEV		1	USA	NG	DOE		801183F

A: ACCURACY RANGE 10. TO 20. PERCENT.
O: FOR TRACK RECORDERS FOR FMIT DOSIMETRY.
M: NEW REQUEST.

7 NITROGEN NEUTRON TOTAL PROTON PRODUCTION CROSS SECTION

190	9.00 MEV	15.0 MEV	10. %	1	USA	NG	DOE		781109F

O: FOR RADIATION DAMAGE CALCULATIONS.

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

191	15.0 MEV			2	USA	NG	DOE		781151F

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

7 NITROGEN NEUTRON N,ALPHA

192	14.0 MEV	40.0 MEV		1	USA	NG	DOE		801184F

A: ACCURACY RANGE 10. TO 20. PERCENT.
O: FOR TRACK RECORDERS FOR FMIT DOSIMETRY.
M: NEW REQUEST.

7 NITROGEN NEUTRON TOTAL ALPHA PRODUCTION CROSS SECTION

193	9.00 MEV	15.0 MEV	10. %	1	USA	NG	DOE		781097F

O: FOR RADIATION DAMAGE CALCULATIONS.

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

194	15.0 MEV			2	USA	NG	DOE		781130F

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

7 NITROGEN			NEUTRON		SPECIAL QUANTITY (DESCRIPTION BELOW)					
195	9.00	MEV	15.0	MEV	10. %	1	USA	NG	DOE	801041F
							Q: ALL SIGNIFICANT ACTIVATION REACTION CROSS SECTIONS. O: DATA NEEDED FOR SHIELDING, ACTIVATION AND NEUTRON TRANSPORT CALCULATIONS. M: NEW REQUEST.			
7 NITROGEN 14			NEUTRON		DIFFERENTIAL ELASTIC CROSS SECTION					
196	1.00	MEV	15.0	MEV	20.0%	2	FR	A.MICHAUDON	BRC	6920152
							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					
197	1.00	KEV	15.0	MEV	10.0%	1	FR	C.PHILIS	BRC	7920022
							O: EVALUATION SUFFICIENT			
7 NITROGEN 14			NEUTRON		NEUTRON EMISSION CROSS SECTION					
198	4.00	MEV	15.0	MEV	20.0%	2	FR	A.MICHAUDON	BRC	6920172
							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					
199	9.00	MEV	15.0	MEV	10. %	1	USA	NG	DOE	781085F
							O: DATA NEEDED FOR SHIELDING AND NEUTRON TRANSPORT CALCULATIONS.			
8 OXYGEN			NEUTRON		ELASTIC CROSS SECTION					
200	5.00	KEV	10.0	MEV	5. %	1	USA	STEEN	BET	761050R
							O: TO RESOLVE DISCREPANCIES BETWEEN CALCULATED AND MEASURED MULTIPLICATION FACTORS IN SMALL CRITICAL FACILITIES.			
8 OXYGEN			NEUTRON		DIFFERENTIAL ELASTIC CROSS SECTION					
201	10.0	KEV	20.0	MEV	5. %	1	USA	HEMMIG	DOE	661028R
							O: NEEDED FOR FAST REACTOR REFLECTOR WORTHS. M: SUBSTANTIAL MODIFICATIONS.			
202	100.	KEV	15.0	MEV		3	SWD	H.HAEGGBLOM	AE	712004R
							A: 5 PERC. BETWEEN 100 KEV- 4 MEV, 10 PERC. BETWEEN 4-15 MEV. O: FOR FAST REACTOR CALCULATIONS. M: SUBSTANTIAL MODIFICATIONS.			
203	5.00	KEV	10.0	MEV	5. %	1	USA	STEEN	BET	761051R
							O: TO RESOLVE DISCREPANCIES BETWEEN CALCULATED AND MEASURED MULTIPLICATION FACTORS IN SMALL CRITICAL FACILITIES.			
204	20.0	MEV	50.0	MEV		1	USA	NG	DOE	791206F
							A: ACCURACY RANGE 10. TO 15. PERCENT. O: FOR SHIELD DESIGN IN FMIT FACILITY.			
8 OXYGEN			NEUTRON		TOTAL PHOTON PRODUCTION CROSS SECTION					
205	1.00	KEV	15.0	MEV	10.0%	2	FR	A.MICHAUDON	BRC	7420282
							O: FOR SHIELDING CALCULATION.			
8 OXYGEN			NEUTRON		ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION					
206	9.00	MEV	15.0	MEV	10. %	1	USA	NG	DOE	781089F
							O: DATA NEEDED FOR SHIELDING, ACTIVATION AND NEUTRON TRANSPORT CALCULATIONS.			
8 OXYGEN			NEUTRON		N,P					
207	14.0	MEV	40.0	MEV		1	USA	NG	DOE	801181F
							A: ACCURACY RANGE 10. TO 20. PERCENT. O: FOR TRACK RECORDERS FOR FMIT DOSIMETRY. M: NEW REQUEST.			

8 OXYGEN — NEUTRON — TOTAL PROTON PRODUCTION CROSS SECTION

208	9.00	MEV	15.0	MEV	10. %	1	USA	NG	DOE	781113F

O: FOR RADIATION DAMAGE CALCULATIONS.

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

209	15.0	MEV				2	USA	NG	DOE	781155F

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

8 OXYGEN — NEUTRON — N,ALPHA

210	14.0	MEV	40.0	MEV		1	USA	NG	DOE	801182F

A: ACCURACY RANGE 10. TO 20. PERCENT.
O: FOR TRACK RECORDERS FOR FMIT DOSIMETRY.
M: NEW REQUEST.

8 OXYGEN — NEUTRON — TOTAL ALPHA PRODUCTION CROSS SECTION

211	9.00	MEV	15.0	MEV	10. %	1	USA	NG	DOE	781101F

O: FOR RADIATION DAMAGE CALCULATIONS.

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

212	15.0	MEV				2	USA	NG	DOE	781134F

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

8 OXYGEN — NEUTRON — SPECIAL QUANTITY (DESCRIPTION BELOW)

213	9.00	MEV	15.0	MEV	10. %	1	USA	NG	DOE	801042F

Q: ALL SIGNIFICANT ACTIVATION REACTION CROSS SECTIONS.
O: DATA NEEDED FOR SHIELDING, ACTIVATION AND NEUTRON TRANSPORT CALCULATIONS.
M: NEW REQUEST.

8 OXYGEN — ALPHA — ALPHA,N

214	UP TO		15.0	MEV	20.0%	3	FR	L.COSTA	CAD	752138R

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

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

O: NEUTRON OUTPUT OF SOLIDIFIED NUCLEAR WASTE

216	100.	KEV	6.50	MEV	6. %	2	USA	WALTON	LAS	781170N

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

217	UP TO		7.00	MEV	30.0%	1	JK	C.G.CAMPBELL V.BARNES	WIN UKW	792119R

O: FOR FAST REACTORS AND FOR FUEL REPROCESSING

218	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.

8 OXYGEN 16 — NEUTRON — TOTAL CROSS SECTION

219	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.

8 OXYGEN 16 — NEUTRON — N,ALPHA

220	UP TO		50.0	MEV	10. %	2	JSA	CASWELL	NBS	761113G

O: MEASUREMENT AT THRESHOLD AND SEVERAL ENERGIES THROUGHOUT THE RANGE SHOULD BE SUFFICIENT. GAMMA-RAY PRODUCTION AND CHARGED-PARTICLE SPECTRA ARE OF INTEREST.
O: NEEDED FOR ENERGY DEPOSITION CALCULATIONS FOR RADIOTHERAPY.
M: SUBSTANTIAL MODIFICATIONS.

221	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,ALPHA (CONTINUED)

222 UP TO 15.0 MEV 1 USA NG DOE 801069F

A: ACCURACY TO 10 PERCENT NEAR 15 MEV AND 50 PERCENT NEAR 2.5 MEV.
O: DATA NEEDED FOR DIAGNOSTICS.
M: NEW REQUEST.

8 OXYGEN 16 NEUTRON N,NALPHA

223 UP TO 50.0 MEV 10. % 2 USA CASWELL NBS 761114G

Q: MEASUREMENT AT THRESHOLD AND SEVERAL ENERGIES THROUGHOUT THE RANGE SHOULD BE SUFFICIENT. GAMMA-RAY PRODUCTION AND CHARGED-PARTICLE SPECTRA ARE OF INTEREST.
O: NEEDED FOR ENERGY DEPOSITION CALCULATIONS FOR RADIOTHERAPY.
M: SUBSTANTIAL MODIFICATIONS.

224 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

225 UP TO 50.0 MEV 10. % 1 USA CASWELL NBS 761115G

Q: AT LEAST ONE MEASUREMENT URGENTLY NEEDED FOR NORMALIZATION.
MEASUREMENT AT THRESHOLD AND SEVERAL ENERGIES THROUGHOUT THE RANGE SHOULD BE SUFFICIENT. ALPHA SPECTRA ARE OF INTEREST.
O: NEEDED FOR ENERGY DEPOSITION CALCULATIONS FOR RADIOTHERAPY.
M: SUBSTANTIAL MODIFICATIONS.

8 OXYGEN 16 TRITON T,N

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

Q: EXPERIMENTAL DATA WANTED.
A: 5% ENERGY RESOLUTION DESIRABLE.
O: FOR PRECISE ESTIMATION OF LI2O 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.

8 OXYGEN 17 NEUTRON N,ALPHA

227 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.

8 OXYGEN 17 ALPHA ALPHA,N

228 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.

8 OXYGEN 18 NEUTRON N,ALPHA

229 1.50 MEV 20.0% 2 SWD J.ELKERT AKA 792093R

Q: INCIDENT ENERGY: FISSION SPECTRUM

8 OXYGEN 18 ALPHA ALPHA,N

230 UP TO 9.00 MEV 10. % 3 USA STEEN BET 661010R

A: INCIDENT ENERGY RESOLUTION: 200 KEV.
O: NEEDED FOR INTRINSIC SOURCE.

231 4.00 MEV 7.50 MEV 30.0% 2 FR B.DUCHEMIN SAC 6920293R

Q: SECONDARY ENERGY DISTRIBUTION REQUIRED.
A: RESOLUTION FOR E AND E', 1.0 MEV. QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: FOR SHIELDING OF ALPHA EMITTING SAMPLES. NEW EVALUATION TO BE DONE IF NEW EXPERIMENTAL DATA.
M: SUBSTANTIAL MODIFICATIONS.

232 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.

8 OXYGEN 18 — ALPHA — TOTAL NEUTRON YIELD

233	5.10	MEV	5.50	MEV	5. %	2	JAP	S.SUZUKI	PNC	762041N

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

9 FLUORINE 19 — NEUTRON — DIFFERENTIAL ELASTIC CROSS SECTION

234	1.00	MEV	15.0	MEV	10.0%	2	GER	J.DARVAS	JUL	722080F

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

235	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

236	1.00	MEV	15.0	MEV	10.0%	2	GER	J.DARVAS	JUL	722081F

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

237	1.00	MEV	15.0	MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR	724020F

O: NEUTRONICS CALCULATIONS FOR BLANKET AND SHIELD.

238	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

239	1.00	MEV	15.0	MEV	20.0%	2	GER	J.DARVAS	JUL	722083F

O: CALCULATION OF HEAT GENERATION AND SHIELDING ESTIMATES.

240	100.	KEV	20.0	MEV	15. %	1	USA	FU	ORL	741169R

O: ONLY DATA AT 14 MEV AND BELOW 3.6 MEV.

9 FLUORINE 19 — NEUTRON — ABSORPTION CROSS SECTION

241	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.

242	2.00	MEV	20.0	MEV	5. %	1	USA	FU	ORL	741170R
243	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.

244	1.00	MEV	15.0	MEV	20.0%	2	GER	J.DARVAS	JUL	722084F

Q: ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAYS REQUIRED.
O: CALCULATION OF HEAT GENERATION AND SHIELDING ESTIMATES.

9 FLUORINE 19 — NEUTRON — TOTAL PHOTON PRODUCTION CROSS SECTION

245	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 — ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

246	9.00	MEV	15.0	MEV	10. %	2	USA	NG	DOE	781087F

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

9 FLUORINE 19 — NEUTRON — TOTAL PROTON PRODUCTION CROSS SECTION

247	9.00	MEV	15.0	MEV	10. %	2	USA	NG	DOE	781111F

Q: TOTAL HYDROGEN PRODUCTION WANTED.
O: FOR RADIATION DAMAGE CALCULATIONS.

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

248	15.0	MEV			2	USA	NG	DOE	781153F

A: ACCURACY TO BE DETERMINED.
D: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.

9 FLUORINE 19 NEUTRON N,ALPHA

249	UP TO	15.0	MEV	10.0%	2	GER	J.DARVAS	JUL	722086F

D: CALCULATION OF NEUTRON ABSORPTION AND TRANSMISSION RATES.

9 FLUORINE 19 NEUTRON TOTAL ALPHA PRODUCTION CROSS SECTION

250	9.00	MEV	15.0	MEV	10. %	2	USA	NG	DOE	781099F

Q: TOTAL HELIUM PRODUCTION WANTED.
D: FOR RADIATION DAMAGE CALCULATIONS.

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

251	15.0	MEV				2	USA	NG	DOE	781132F

A: ACCURACY TO BE DETERMINED.
D: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.

9 FLUORINE 19 NEUTRON SPECIAL QUANTITY (DESCRIPTION BELOW)

252	9.00	MEV	15.0	MEV	10. %	2	USA	NG	DOE	801083F

Q: ALL SIGNIFICANT ACTIVATION REACTION CROSS SECTIONS.
D: DATA NEEDED FOR SHIELDING, ACTIVATION AND NEUTRON TRANSPORT CALCULATIONS.
M: NEW REQUEST.

9 FLUORINE 19 ALPHA ALPHA,N

253	UP TO	15.0	MEV	30.0%	2	FR	B.DUCHEMIN	SAC	732039R

Q: ENERGY DISTRIBUTION REQUIRED.
A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
D: FOR SHIELDING OF ALPHA-EMITTING MATERIALS.
M: SUBSTANTIAL MODIFICATIONS.

254	UP TO	10.0	MEV	20.0%	3	SWD	H.HAEGGBLOM	AE	762161N

D: NEUTRON OUTPUT OF SOLIDIFIED NUCLEAR WASTE.
M: SUBSTANTIAL MODIFICATIONS.

255	100.	KEV	6.50	MEV	6. %	2	USA	WALTON	LAS	781171N

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

11 SODIUM NEUTRON SPECIAL QUANTITY (DESCRIPTION BELOW)

256	UP TO	40.0	MEV		1	USA	NG	DOE	801203F

Q: ALL SIGNIFICANT ACTIVATION REACTION CROSS SECTIONS.
A: CONTACT FMIT PROJECT AT HANFORD FOR ACCURACY.
D: FOR FMIT PROJECT.
M: NEW REQUEST.

11 SODIUM 22 NEUTRON CAPTURE CROSS SECTION

257	25.0	MV	15.0	MEV	15.0%	1	GER	H.KUESTERS	KFK	792194R

Q: EVALUATION WANTED.
D: REDUCTION OF NA22.

11 SODIUM 23 NEUTRON TOTAL CROSS SECTION

258	100.	KEV	500.	KEV	2.0%	2	JK	J.BUTLER	WIN	792120R

11 SODIUM 23 NEUTRON DIFFERENTIAL ELASTIC CROSS SECTION

259	10.0	KEV	15.0	MEV	10. %	2	USA	HEMMIG	DOE	741012R

A: 15 PERCENT IN ANGULAR DISTRIBUTION.

11 SODIUM 23 NEUTRON ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

260	2.00	MEV	10.0	MEV	10. %	2	USA	SMITH	ANL	621006R

Q: TOTAL INTEGRAL OVER 4PI REQUIRED.
SPECTRA AT SEVERAL ANGLES IF SIGNIFICANTLY ANISOTROPIC.
A: INCIDENT ENERGY RESOLUTION: 10. PERCENT.
DELTA E(N') LE 10 PERCENT.

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

261	UP TO	15.0	MEV	10.0%	2	SWD	H.HAEGGBLOM	AE		712005R
							Q: FOR FAST REACTOR CALCULATIONS.			
262	UP TO	2.00	MEV	5. %	2	USA	HEMMIG	DOE		741014R
							A: INCIDENT ENERGY RESOLUTION: 10. PERCENT. ACCURACY OF 15 PERCENT IN ENERGY SPECTRA. DELTA E(N') - 10 PERCENT.			
263	2.00 MEV	15.0	MEV	10. %	2	USA	HEMMIG	DOE		741015R
							A: INCIDENT ENERGY RESOLUTION: 10. PERCENT. ACCURACY OF 15 PERCENT IN ENERGY SPECTRA. DELTA E(N') - 10 PERCENT.			
264	15.0 MEV	35.0	MEV	15. %	2	USA	CARTER	HED		801113F
							Q: FOR MATERIAL DAMAGE CALCULATIONS FOR FMIT WITH NA-K COOLANT. M: NEW REQUEST.			

11 SODIUM 23 — NEUTRON — CAPTURE CROSS SECTION

265	100. EV	100.	KEV		2	UK	C.G.CAMPBELL	WIN		642002R
							A: ACCURACY 10 PERCENT UP TO 10 KEV, 20 PERCENT ABOVE. Q: FOR FAST REACTORS. DISCREPANCY IN RADIATION WIDTH DATA AT 3 KEV RESONANCE.			
266	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.			
267	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.			
268	500. KEV	40.0	MEV	10. %	2	USA	MCELROY	HED		801222F
							Q: ACTIVATION IS REQUIRED. A: ACCURACY 20 PERCENT ABOVE 22 MEV. O: FOR FMIT DOSIMETRY. M: NEW REQUEST.			

11 SODIUM 23 — NEUTRON — CAPTURE GAMMA RAY SPECTRUM

269	3.00 KEV			10. %	2	USA	SMITH	ANL		721032R
							A: SUFFICIENT ACCURACY IN E(GAMMA)(3 KEV) TO COMPARE WITH E(GAMMA)(THERMAL).			

11 SODIUM 23 — NEUTRON — N,2N

270	UP TO	20.0	MEV	15. %	2	USA	HEMMIG	DOE		741020R
							O: NEEDED FOR COOLANT ACTIVATION. M: SUBSTANTIAL MODIFICATIONS.			
271	UP TO	50.0	MEV		1	USA	NG	DOE		801027F
							A: ACCURACY RANGE 10. TO 20. PERCENT. ACCURACY 10-20 PERCENT, 20 PERCENT ABOVE 25 MEV. O: DOSIMETRY FOR FMIT FACILITY. M: NEW REQUEST.			

11 SODIUM 23 — NEUTRON — N,P

272	UP TO	20.0	MEV	10. %	2	USA	LARSON	ORL		801262R
							Q: ACTIVATION MEASUREMENT TO GUIDE MODEL CALCULATIONS. M: NEW REQUEST.			

11 SODIUM 23 — NEUTRON — N,ALPHA

273	UP TO	20.0 MEV	10. %	1	USA	LARSON	ORL		801263R

Q: ACTIVATION MEASUREMENT TO GUIDE MODEL CALCULATIONS.
M: NEW REQUEST.

11 SODIUM 23 — NEUTRON — RESONANCE PARAMETERS

274	2.95 KEV		10. %	1	USA	SMITH	ANL		621008R

Q: ELASTIC AND GAMMA WIDTHS WANTED.

275	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----------STATUS

UNDER CONTINUOUS REVIEW BY NEANDC. SEE APPENDIX A.

12 MAGNESIUM — ALPHA — ALPHA,N

276	100. KEV	6.50 MEV	6. %	2	USA	WALTON	LAS		781174N

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

12 MAGNESIUM 24 — NEUTRON — N,P

277	UP TO	40.0 MEV	10. %	1	USA	MCELROY	HED		801224F

Q: ACTIVATION IS REQUIRED.
A: ACCURACY 20 PERCENT ABOVE 20 MEV.
O: FOR FMIT DOSIMETRY.
M: NEW REQUEST.

13 ALUMINUM 27 — NEUTRON — DIFFERENTIAL ELASTIC CROSS SECTION

278	15.0 MEV	35.0 MEV		2	USA	NG	DOE		801061F

A: ACCURACY RANGE 10. TO 40. PERCENT.
O: FOR MATERIALS DAMAGE CALCULATIONS.
M: NEW REQUEST.

13 ALUMINUM 27 — NEUTRON — ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

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

O: FOR NEUTRON TRANSPORT CALCULATIONS.

13 ALUMINUM 27 — NEUTRON — TOTAL PHOTON PRODUCTION CROSS SECTION

280	25.3 MV	15.0 MEV	15. %	3	JAP	M.KASAI	MAP		752075F

O: GAMMA-RAY HEATING CALCULATIONS

13 ALUMINUM 27 — NEUTRON — N,2N

281	UP TO	16.0 MEV	15. %	2	USA	YOUNG	LAS		801119F

Q: (N,2N) CROSS SECTION FOR PRODUCTION OF 6-SEC. ISOMER.
O: NEEDED TO RESOLVE EXPERIMENTAL DISCREPANCIES AND FOR POTENTIAL USE IN FUSION DIAGNOSTICS.
M: NEW REQUEST.

13 ALUMINUM 27 — NEUTRON — NEUTRON EMISSION CROSS SECTION

282	500. KEV	15.0 MEV	15.0%	2	SWD	G.ENGSTROEM	FOA		752163R

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

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

283	9.00 MEV	15.0 MEV	10. %	1	USA	NG	DOE		781078F

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

284	15.0 MEV	35.0 MEV		2	USA	NG	DOE		801054F

A: ACCURACY RANGE 10. TO 40. PERCENT.
O: FOR MATERIALS DAMAGE CALCULATIONS.
M: NEW REQUEST.

13 ALUMINUM 27 | NEUTRON | TOTAL PROTON PRODUCTION CROSS SECTION

285 9.00 MEV 35.0 MEV 10. % 1 USA NG DOE 801057F
Q: MATERIALS DAMAGE CALCULATIONS.
M: NEW REQUEST.

13 ALUMINUM 27 | NEUTRON | N,D

286 UP TO 15.0 MEV 15. % 3 JAP M.KASAI MAP 762072F
Q: HYDROGEN ACCUMULATION CALCULATIONS

13 ALUMINUM 27 | NEUTRON | N,T

287 UP TO 15.0 MEV 15. % 3 JAP M.KASAI MAP 762073F
Q: HYDROGEN ACCUMULATION CALCULATIONS

13 ALUMINUM 27 | NEUTRON | N,ALPHA

288 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.

STATUS
UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

13 ALUMINUM 27 | NEUTRON | TOTAL ALPHA PRODUCTION CROSS SECTION

289 9.00 MEV 40.0 MEV 10. % 1 USA NG DOE 801056F
Q: MATERIALS DAMAGE CALCULATIONS AND DOSIMETRY.
M: NEW REQUEST.

13 ALUMINUM 27 | NEUTRON | SPECIAL QUANTITY (DESCRIPTION BELOW)

290 9.00 MEV 40.0 MEV 10. % 1 USA NG DOE 801053F
Q: ALL SIGNIFICANT ACTIVATION REACTION CROSS SECTIONS.
A: CONTACT FMIT PROJECT AT HANFORD FOR ACCURACY REQUIRED FOR 40 MEV DATA.
O: DATA NEEDED FOR SHIELDING, ACTIVATION AND NEUTRON TRANSPORT CALCULATIONS. FOR FMIT PROJECT.
M: NEW REQUEST.

13 ALUMINUM 27 | ALPHA | ALPHA,N

291 100. KEV 6.50 MEV 6. % 2 USA WALTON LAS 781172N
Q: THICK TARGET YIELDS REQUIRED.
A: INCIDENT ENERGY RESOLUTION: 100 KEV. RELATIVE ERROR OF 3.0 PERCENT NEEDED. ALPHA ENERGY RESOLUTION 100 KEV.

14 SILICON | NEUTRON | CAPTURE CROSS SECTION

292 25.3 MV 200. KEV 10.0% 3 UK J.FELL WIN 792164R
Q: FOR THERMAL REACTORS. EVALUATION REQUIREMENT.

14 SILICON | NEUTRON | NEUTRON EMISSION CROSS SECTION

293 500. 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

294 9.00 MEV 15.0 MEV 10. % 1 USA NG DOE 781045F
Q: FOR SHIELDING AND TRANSPORT STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.

14 SILICON | NEUTRON | TOTAL PROTON PRODUCTION CROSS SECTION

295 9.00 MEV 15.0 MEV 10. % 1 USA NG DOE 781054F
Q: FOR RADIATION DAMAGE STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.

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

296	15.0	MEV				2	USA	NG	DOE	781138F

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

14 SILICON NEUTRON TOTAL ALPHA PRODUCTION CROSS SECTION

297	9.00	MEV	15.0	MEV	10. %	1	USA	NG	DOE	781063F

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

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

298	15.0	MEV				2	USA	NG	DOE	781117F

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

14 SILICON NEUTRON SPECIAL QUANTITY (DESCRIPTION BELOW)

299	9.00	MEV	15.0	MEV	10. %	2	USA	NG	DOE	801044F

Q: ALL SIGNIFICANT ACTIVATION REACTION CROSS SECTIONS.
O: DATA NEEDED FOR SHIELDING, ACTIVATION AND NEUTRON TRANSPORT CALCULATIONS.
M: NEW REQUEST.

14 SILICON 30 NEUTRON CAPTURE CROSS SECTION

300	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.

16 SULFUR NEUTRON TOTAL CROSS SECTION

301	10.0	KEV	500.	KEV	3. %	2	USA	HEMMIG	DOE	741021R

O: FOR SHIELDING EFFECT OF CONCRETE.

302	1.00	MEV	40.0	MEV	10. %	2	USA	DIVADEENAM	BNL	801144R

O: FOR EVALUATION AND MODEL TESTING PURPOSES.
M: NEW REQUEST.

16 SULFUR NEUTRON CAPTURE CROSS SECTION

303	10.0	KEV	500.	KEV	10. %	2	USA	HEMMIG	DOE	741023R

O: FOR SHIELDING EFFECT OF CONCRETE.

304	25.3	MV			10. %	2	USA	DIVADEENAM	BNL	801145R

O: FOR EVALUATION NEEDS.
THERMAL CAPTURE FOR MANGANESE BATH EXPERIMENTS.
M: NEW REQUEST.

305	1.00	KEV	1.00	MEV	10. %	2	USA	DIVADEENAM	BNL	801146R

O: FOR EVALUATION NEEDS.
M: NEW REQUEST.

16 SULFUR NEUTRON CAPTURE GAMMA RAY SPECTRUM

306	10.0	KEV	500.	KEV	15. %	2	USA	HEMMIG	DOE	741025R

O: FOR SHIELDING EFFECT OF CONCRETE.

16 SULFUR 32 NEUTRON N,P

307	UP TO		20.0	MEV	5.0%	2	EUR	NEUTRON DOSIMETRY GROUP	GEL	812001R

A: COVARIANCE DATA ON CROSS SECTION FROM THRESHOLD EVALUATION REQUIREMENT.
M: NEW REQUEST.

STATUS----------STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

18 ARGON 40 NEUTRON CAPTURE CROSS SECTION

308	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.

309	25.0	MV	15.0	MEV	15.0%	1	GER	H.KUESTERS	KFK	792195R

Q: EVALUATION WANTED.
O: PRODUCTION OF AR41.

19 POTASSIUM | NEUTRON | ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION

310	15.0 MEV	35.0 MEV	15. %	2	USA	CARTER	HED			801114F

Q: FOR MATERIAL DAMAGE CALCULATIONS FOR FMIT WITH NA-K COOLANT.
M: NEW REQUEST.

19 POTASSIUM | NEUTRON | SPECIAL QUANTITY (DESCRIPTION BELOW)

311	UP TO	40.0 MEV		1	USA	NG	DOE			801204F

Q: ALL SIGNIFICANT ACTIVATION REACTION CROSS SECTIONS.
A: CONTACT FMIT PROJECT AT HANFORD FOR ACCURACY.
O: FOR FMIT PROJECT.
M: NEW REQUEST.

19 POTASSIUM 39 | NEUTRON | N,P

312	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.

19 POTASSIUM 41 | NEUTRON | N,P

313	UP TO	15.0 MEV	30.0%	2	UK	C.G.CAMPBELL	WIN			792128R

O: FOR FAST REACTOR CIRCUIT ACTIVITY.
EVALUATION REQUIREMENT.

20 CALCIUM | NEUTRON | ELASTIC CROSS SECTION

314	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

315	1.00 MEV	15.0 MEV	15. %	3	JAP	Y.SEKI	JAE			762076F

O: INCLUDED IN CONCRETE
SHIELDING DESIGN

20 CALCIUM | NEUTRON | CAPTURE CROSS SECTION

316	1.00 KEV	500. KEV	10. %	2	USA	HEMMIG	DOE			741029R

O: FOR SHIELDING EFFECT OF CONCRETE.

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. %	2	USA	WALTON	LAS			781173N

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

21 SCANDIUM 45 | NEUTRON | CAPTURE CROSS SECTION

320	100. KEV	18.0 MEV	10. %	2	USA	MCELROY	HED			691065R

Q: ACTIVATION IS REQUIRED.
O: FOR USE AS FLUENCE MONITOR.

22 TITANIUM | GAMMA | GAMMA,P

321	UP TO	20.0 MEV	50. %	1	USA	NG	DOE			801072F

O: REACTION USED TO IDENTIFY RUNAWAY ELECTRONS THAT HIT PDX LIMITERS.
M: NEW REQUEST.

22 TITANIUM NEUTRON TOTAL CROSS SECTION

322 35.0 MEV 50.0 MEV 5. % 1 USA NG DOE 801194F
D: DATA NEEDED TO VALIDATE CALCULATIONS OR MEASUREMENTS MADE FOR FMIT PROJECT.
M: NEW REQUEST.

22 TITANIUM NEUTRON DIFFERENTIAL ELASTIC CROSS SECTION

323 15.0 MEV 35.0 MEV 1 USA NG DOE 781033F
A: ACCURACY RANGE 10. TO 40. PERCENT. ACCURACY TO BE DETERMINED FROM SENSITIVITY STUDIES.
D: FOR MATERIAL DAMAGE CALCULATIONS.

324 35.0 MEV 50.0 MEV 5. % 1 USA NG DOE 801187F
D: DATA NEEDED TO VALIDATE CALCULATIONS OR MEASUREMENTS MADE FOR FMIT PROJECT.
M: NEW REQUEST.

22 TITANIUM NEUTRON ABSORPTION CROSS SECTION

325 500. EV 15.0 MEV 25.0% 3 FR P.HAMMER CAD 712007R
A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
D: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

22 TITANIUM NEUTRON CAPTURE CROSS SECTION

326 100. EV 100. KEV 20.0% 2 UK C.G.CAMPBELL WIN 692065R
D: 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
D: POTENTIAL CONSTITUENT OF STRUCTURAL MATERIAL GAMMA-RAY HEATING CALCULATIONS

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

328 15.0 MEV 35.0 MEV 1 USA NG DOE 781039F
A: ACCURACY RANGE 10. TO 40. PERCENT. ACCURACY TO BE DETERMINED FROM SENSITIVITY STUDIES.
D: FOR MATERIAL DAMAGE CALCULATIONS.

22 TITANIUM NEUTRON TOTAL PROTON PRODUCTION CROSS SECTION

329 9.00 MEV 35.0 MEV 10. % 1 USA NG DOE 781027F
D: FOR MATERIAL DAMAGE CALCULATIONS.

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

330 15.0 MEV 2 USA NG DOE 781146F
A: ACCURACY TO BE DETERMINED.
D: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.

22 TITANIUM NEUTRON N,ALPHA

331 0.00 EV 15.0 MEV 15. % 3 JAP M.KASAI MAP 762082F
D: POTENTIAL CONSTITUENT OF STRUCTURAL MATERIAL HELIUM ACCUMULATION CALCULATIONS

22 TITANIUM NEUTRON TOTAL ALPHA PRODUCTION CROSS SECTION

332 9.00 MEV 40.0 MEV 10. % 1 USA NG DOE 781212F
D: FOR MATERIAL DAMAGE CALCULATIONS AND DOSIMETRY.
M: SUBSTANTIAL MODIFICATIONS.

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

333 15.0 MEV 2 USA NG DOE 781125F
A: ACCURACY TO BE DETERMINED.
D: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.

22 TITANIUM — NEUTRON — SPECIAL QUANTITY (DESCRIPTION BELOW)

334	9.00	MEV	15.0	MEV	10. %	2	USA	NG	DOE	801082F

Q: ALL SIGNIFICANT ACTIVATION REACTION CROSS SECTIONS.
D: DATA NEEDED FOR SHIELDING, ACTIVATION AND NEUTRON TRANSPORT CALCULATIONS.
M: NEW REQUEST.

335	2.50	EV	15.0	MEV	20. %	1	USA	ENGHOLM	GA	801100F

Q: ACTIVATION CROSS SECTION.
D: FUSION REACTOR SHUTDOWN DOSE RATES.
M: NEW REQUEST.

336	UP TO		40.0	MEV		1	USA	NG	DOE	801201F

Q: ALL SIGNIFICANT ACTIVATION REACTION CROSS SECTIONS.
A: CONTACT FMIT PROJECT AT HANFORD FOR ACCURACY.
M: NEW REQUEST.

337	UP TO		35.0	MEV	5.0%	2	EUR	NEUTRON DOSIMETRY GROUP	GEL	812002R

Q: FOR PRODUCTION OF SC-46.
REACTION INCLUDES TI-46(N,P), TI-47(N,D), TI-47(N,NP). FOR TI-46(N,P) THE ENERGY RANGE SHOULD EXTEND TO 20MEV
D: FOR HIGH ENERGY ACCELERATOR BASED NEUTRON SOURCES
M: NEW REQUEST.

338	UP TO		35.0	MEV	5.0%	2	EUR	NEUTRON DOSIMETRY GROUP	GEL	812003R

Q: FOR PRODUCTION OF SC-47.
REACTION INCLUDES TI-47(N,P), TI-48(N,D) AND TI-48(N,NP). FOR TI-47(N,P) THE ENERGY RANGE EXTENDS TO 20MEV.
D: FOR HIGH ENERGY ACCELERATOR BASED NEUTRON SOURCES
M: NEW REQUEST.

22 TITANIUM 47 — NEUTRON — N,P

339	2.10	MEV	7.00	MEV	5.0%	2	EUR	NEUTRON DOSIMETRY GROUP	GEL	742127R

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

STATUS----------STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

22 TITANIUM 48 — NEUTRON — N,P

340	UP TO		20.0	MEV	5.0%	2	EUR	NEUTRON DOSIMETRY GROUP	GEL	812004R

D: FOR HIGH ENERGY ACCELERATOR BASED NEUTRON SOURCES
M: NEW REQUEST.

STATUS----------STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

23 VANADIUM — NEUTRON — ELASTIC CROSS SECTION

341	2.00	MEV	15.0	MEV	10.0%	1	CCP	I.N.GOLOVIN	KUR	724023F

D: POTENTIAL USE AS STRUCTURAL MATERIAL.
FOR DETERMINATION OF NEUTRON TRANSMISSION.

342	25.3	MV	20.0	MEV	3.0%	2	IND	S.B.GARG	TRM	753040R

D: REQUIRED FOR STRUCTURAL-MATERIAL CALCULATIONS.

23 VANADIUM — NEUTRON — DIFFERENTIAL ELASTIC CROSS SECTION

343	1.40	MEV	10.0	MEV	10. %	3	USA	SMITH HEMMIG	ANL DOE	621009R

A: INCIDENT ENERGY RESOLUTION: 500 KEV.
ANGULAR RESOLUTION 10 DEGR.

344	15.0	MEV	35.0	MEV		1	USA	NG	DOE	791032F

A: ACCURACY RANGE 10. TO 40. PERCENT.
ACCURACY TO BE DETERMINED FROM SENSITIVITY STUDIES.
D: FOR MATERIAL DAMAGE CALCULATIONS.

23 VANADIUM — NEUTRON — INELASTIC CROSS SECTION

345	3.00	MEV	14.0	MEV	10.0%	2	FR	B.DUCHEMIN	SAC	732013F

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
D: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.
M: SUBSTANTIAL MODIFICATIONS.

346	UP TO		20.0	MEV	3.0%	2	IND	S.B.GARG	TRM	753041R

D: REQUIRED FOR STRUCTURAL-MATERIAL CALCULATIONS.

23 VANADIUM NEUTRON ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

347	1.50 MEV	10.0 MEV	15. %	3	USA	SMITH HEMMIG	ANL DOE			621011R
						Q: TOTAL INTEGRAL OVER 4PI REQUIRED. SPECTRA AT SEVERAL ANGLES IF SIGNIFICANTLY ANISOTROPIC.				
348	2.00 MEV	15.0 MEV	15.0%	1	CCP	I.N.GOLOVIN	KUR			724024F
						D: NEUTRONICS CALCULATIONS FOR BLANKET AND SHIELD.				

23 VANADIUM NEUTRON ABSORPTION CROSS SECTION

349	1.00 KEV	150. KEV	10. %	3	USA	SMITH HEMMIG	ANL DOE			621015R
						A: INCIDENT ENERGY RESOLUTION: 10. PERCENT. D: TO RESOLVE DISCREPANCIES IN EXISTING DATA.				
350	500. EV	15.0 MEV	25.0%	3	FR	P.HAMMER	CAD			712010R
						A: QUOTED ACCUARCY AT 2 STANDARD DEVIATIONS. D: FOR FAST REACTOR CALCULATIONS. M: SUBSTANTIAL MODIFICATIONS.				

23 VANADIUM NEUTRON CAPTURE CROSS SECTION

351	100. EV	100. KEV	10.0%	2	UK	C.G.CAMPBELL	WIN			692073R
						D: FOR FAST REACTORS.				
352	1.00 KEV	2.00 MEV	15.0%	1	CCP	I.N.GOLOVIN	KUR			724027F
						D: NEUTRON ABSORPTION, GAMMA RAY HEATING, AND PRODUCTION OF HIGHER ISOTOPES.				
353	14.0 MEV		15.0%	1	CCP	I.N.GOLOVIN	KUR			724028F
						D: NEUTRON ABSORPTION, GAMMA RAY HEATING, AND PRODUCTION OF HIGHER ISOTOPES.				
354	25.3 MV	20.0 MEV	3.0%	2	IND	S.B.GARG	TRM			753042R
						D: REQUIRED FOR STRUCTURAL-MATERIAL CALCULATIONS.				

23 VANADIUM NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

355	300. KEV	15.0 MEV	15.0%	1	CCP	I.N.GOLOVIN	KUR			724029F
						D: GAMMA RAY SPECTRUM ALSO WANTED. D: GAMMA RAY HEATING CALCULATIONS.				
356	25.3 MV	15.0 MEV	10. %	2	JAP	M.KASAI	MAP			762089F
						D: POTENTIAL CONSTITUENT OF STRUCTURAL MATERIAL GAMMA-RAY HEATING CALCULATIONS				

23 VANADIUM NEUTRON N,2N

357	2.00 MEV	15.0 MEV	15.0%	1	CCP	I.N.GOLOVIN	KUR			724025F
						D: NEUTRON BLANKET CALCULATIONS.				
358	14.0 MEV		15.0%	1	CCP	I.N.GOLOVIN	KUR			724026F
						Q: ENERGY AND ANGULAR DEPENDENCE OF SECONDARY NEUTRONS REQUIRED. D: NEUTRON BLANKET CALCULATIONS.				
359	UP TO	14.0 MEV	10.0%	2	FR	B.DUCHEMIN	SAC			732014F
						A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS. D: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL. M: SUBSTANTIAL MODIFICATIONS.				
360	UP TO	15.0 MEV	10. %	2	JAP	M.KASAI	MAP			762085F
						D: POTENTIAL CONSTITUENT OF STRUCTURAL MATERIAL NEUTRON MULTIPLICATION CALCULATIONS				

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

361	15.0 MEV	35.0 MEV		2	USA	NG	DOE			781038F
						A: ACCURACY RANGE 10. TO 40. PERCENT. ACCURACY TO BE DETERMINED FROM SENSITIVITY STUDIES. D: FOR MATERIAL DAMAGE CALCULATIONS. M: SUBSTANTIAL MODIFICATIONS.				
362	9.00 MEV	15.0 MEV	10. %	2	USA	NG	DOE			781086F
						D: DATA NEEDED FOR SHIELDING AND NEUTRON TRANSPORT CALCULATIONS.				

23 VANADIUM — NEUTRON — N,P

363	UP TO	15.0	MEV	15.0%	1	CCP	I.N.GOLOVIN	KUR	724030F
							O: FOR HYDROGEN ACCUMULATION CALCULATIONS.		
364	UP TO	14.0	MEV	10.0%	2	FR	B.DUCHEMIN	SAC	732015F
							A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS. O: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL. M: SUBSTANTIAL MODIFICATIONS.		

23 VANADIUM — NEUTRON — TOTAL PROTON PRODUCTION CROSS SECTION

365	9.00 MEV	35.0	MEV	10. %	1	USA	NG	DOE	781026F
							O: FOR MATERIAL DAMAGE CALCULATIONS.		

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

366	15.0 MEV				2	USA	NG	DOE	781152F
							A: ACCURACY TO BE DETERMINED. O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.		

23 VANADIUM — NEUTRON — N,ALPHA

367	UP TO	15.0	MEV	15.0%	1	CCP	I.N.GOLOVIN	KUR	724031F
							O: HELIUM ACCUMULATION CALCULATIONS.		
368	UP TO	14.0	MEV	10.0%	2	FR	B.DUCHEMIN	SAC	732016F
							A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS. O: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL. M: SUBSTANTIAL MODIFICATIONS.		

23 VANADIUM — NEUTRON — TOTAL ALPHA PRODUCTION CROSS SECTION

369	9.00 MEV	35.0	MEV	10. %	1	USA	NG	DOE	781211F
							O: FOR MATERIAL DAMAGE CALCULATIONS.		

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

370	15.0 MEV				2	USA	NG	DOE	781131F
							A: ACCURACY TO BE DETERMINED. O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.		

23 VANADIUM — NEUTRON — SPECIAL QUANTITY (DESCRIPTION BELOW)

371	9.00 MEV	15.0	MEV	10. %	2	USA	NG	DOE	801085F
							O: ALL SIGNIFICANT ACTIVATION REACTION CROSS SECTIONS. O: DATA NEEDED FOR SHIELDING, ACTIVATION AND NEUTRON TRANSPORT CALCULATIONS. M: NEW REQUEST.		

24 CHROMIUM — NEUTRON — TOTAL CROSS SECTION

372	1.00 KEV	20.0	MEV	3. %	2	USA	HEMMIG	DOE	721035R
							A: 5 PERCENT ACCURACY MINIMA. ENERGY RESOLUTION - SUFFICIENT TO RESOLVE MAJOR STRUCTURE.		

24 CHROMIUM — NEUTRON — ELASTIC CROSS SECTION

373	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

374	100. KEV	15.0	MEV	10. %	3	USA	HEMMIG	DOE	741032R
375	15.0 MEV	35.0	MEV		1	USA	NG	DOE	781217F
							A: ACCURACY RANGE 10. TO 40. PERCENT. ACCURACY TO BE DETERMINED FROM SENSITIVITY STUDIES O: FOR MATERIAL DAMAGE CALCULATIONS.		
376	35.0 MEV	50.0	MEV	5. %	1	USA	NG	DOE	801188F
							O: DATA NEEDED TO VALIDATE CALCULATIONS OR MEASUREMENTS MADE FOR FMIT PROJECT. M: NEW REQUEST.		

24 CHROMIUM	NEUTRON	INELASTIC CROSS SECTION						
377	3.00 MEV	14.0 MEV	10.0%	3	FR	B.DUCHEMIN	SAC	732017F
		A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS. O: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL. M: SUBSTANTIAL MODIFICATIONS.						
378	UP TO	20.0 MEV	3.0%	2	IND	S.B.GARG	TRM	753032R
		O: REQUIRED FOR STRUCTURAL-MATERIAL CALCULATIONS.						
379	UP TO	15.0 MEV	30.0%	2	UK	G.M.MC CRACKEN	CUL	762238F
		O: EVALUATION REQUIREMENT. FOR NEUTRON ECONOMY CALCULATIONS.						
24 CHROMIUM	NEUTRON	ENERGY DIFFERENTIAL INELASTIC CROSS SECTION						
380	500. KEV	15.0 MEV	10. %	2	USA	HEMMIG	DOE	661012R
		Q: TOTAL INTEGRAL OVER 4PI REQUIRED. SPECTRA AT SEVERAL ANGLES IF SIGNIFICANTLY ANISOTROPIC. A: ENERGY RESOLUTION REQUIRED TO DETERMINE MAJOR STRUCTURE.						
381	UP TO	15.0 MEV	20.0%	3	FR	P.HAMMER	CAD	732040R
		A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS. O: FOR FAST REACTOR CALCULATIONS. M: SUBSTANTIAL MODIFICATIONS.						
24 CHROMIUM	NEUTRON	ABSORPTION CROSS SECTION						
382	500. EV	15.0 MEV	5.0%	1	FR	P.HAMMER	CAD	712014R
		A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS. O: FOR FAST REACTOR CALCULATIONS. M: SUBSTANTIAL MODIFICATIONS.						
24 CHROMIUM	NEUTRON	CAPTURE CROSS SECTION						
383	100. EV	100. KEV	20.0%	1	UK	C.G.CAMPBELL	WIN	692082R
		O: FOR FAST REACTORS.						
384	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. O: CAPTURE WIDTHS NEEDED BECAUSE OF LARGE DISCREPANCIES BETWEEN DIRECTLY MEASURED INFINITE CAPTURE RESONANCE INTEGRAL AND THAT CALCULATED FROM DIFFERENTIAL CAPTURE MEASUREMENTS.						
385	500. EV	1.00 MEV	5.0%	1	FR	P.HAMMER	CAD	692084R
		Q: NEED OF RESONANCE PARAMETERS FOR THE MAIN ISOTOPES. A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS. O: FAST REACTOR CALCULATIONS. EVALUATION AND EXPERIMENT NEEDED. M: SUBSTANTIAL MODIFICATIONS.						
386	1.00 KEV	200. KEV	15. %	2	USA	HEMMIG	DOE	721036R
		Q: RESONANCE PARAMETERS NEEDED, ESPECIALLY GAMMA WIDTHS. A: INCIDENT ENERGY RESOLUTION: 20. PERCENT.						
387	25.3 MV	20.0 MEV	3.0%	2	IND	S.B.GARG	TRM	753033R
		O: REQUIRED FOR STRUCTURAL-MATERIAL CALCULATIONS.						
388	25.3 MV	15.0 MEV	30.0%	2	UK	G.M.MC CRACKEN	CUL	762247F
		O: EVALUATION REQUIREMENT. FOR NEUTRON ECONOMY CALCULATIONS.						
389	100. EV	100. KEV	20.0%	1	GER	H.KUESTERS	KFK	792198R
STATUS								STATUS
UNDER CONTINUOUS REVIEW BY INDC AND NEANDC. SEE APPENDIX A.								
24 CHROMIUM	NEUTRON	TOTAL PHOTON PRODUCTION CROSS SECTION						
390	25.3 MV	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. QUOTED ACCURACY AT 2 STANDARD DEVIATIONS. O: EVALUATION MAY BE SUFFICIENT. M: SUBSTANTIAL MODIFICATIONS.						

391	0.00	EV	15.0	MEV	15. %	2	JAP	Y.SEKI	JAE	762094F

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

24 CHROMIUM NEUTRON N,2N

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

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.
M: SUBSTANTIAL MODIFICATIONS.

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

I: NEUTRON BALANCE CALCULATIONS

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

N: EVALUATION REQUIREMENT FOR FUSION REACTORS.
FOR NEUTRON ECONOMY.

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

395	9.00	MEV	15.0	MEV	10. %	1	USA	NG	DOE	781049F

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

396	15.0	MEV	35.0	MEV		1	USA	NG	DOE	781218F

A: ACCURACY RANGE 10. TO 40. PERCENT.
ACCURACY TO BE DETERMINED FROM SENSITIVITY STUDIES
O: FOR MATERIAL DAMAGE CALCULATIONS.

24 CHROMIUM NEUTRON N,P

397					30.0%	3	UK	C.G.CAMPBELL	WIN	692086R

Q: FISSION SPECTRUM AVERAGE WANTED.
O: FOR FAST REACTORS.

398		UP TO	15.0	MEV	10.0%	1	FR	P.HAMMER	CAD	712016R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

399		UP TO	14.0	MEV	10.0%		FR	B.DUCHEMIN	SAC	732019F

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.
M: SUBSTANTIAL MODIFICATIONS.

400		UP TO	15.0	MEV	20. %	2	JAP	Y.SEKI	JAE	762096F

O: HYDROGEN ACCUMULATION CALCULATIONS

401		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.

402		UP TO	15.0	MEV	30.0%	1	GER	H.KUESTERS	KFK	792199R

24 CHROMIUM NEUTRON TOTAL PROTON PRODUCTION CROSS SECTION

403	9.00	MEV	15.0	MEV	10. %	1	USA	NG	DOE	781058F

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

404	15.0	MEV	35.0	MEV	10. %	2	USA	NG	DOE	781215F

O: FOR MATERIAL DAMAGE CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

24 CHROMIUM NEUTRON ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION

405	15.0	MEV				2	USA	NG	DOE	781142F

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

24 CHROMIUM NEUTRON N,ALPHA

406		UP TO	15.0	MEV	10.0%	2	FR	B.DUCHEMIN	SAC	732020F

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.
M: SUBSTANTIAL MODIFICATIONS.

407	3.00	MEV	15.0	MEV	10.0%	1	FR	P.HAMMER	CAD	732041R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

408	0.00	EV	15.0	MEV	20. %	2	JAP	Y.SEKI	JAE	762097F
								O: HELIUM ACCUMULATION CALCULATIONS		
409		UP TO	15.0	MEV	25.0%	2	UK	G.M.MC CRACKEN	CUL	762243F
								O: EVALUATION REQUIREMENT. FOR HELIUM GAS PRODUCTION RATES AND NEUTRON ECONOMY CALCULATIONS.		
410		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.		
411		UP TO	15.0	MEV	30.0%	1	GER	H.KUESTERS	KFK	792200R
412		UP TO	14.0	MEV	20. %	2	USA	PRINCE	BNL	801125R
								O: HELIUM PRODUCTION EVALUATION. M: NEW REQUEST.		

24 CHROMIUM NEUTRON TOTAL ALPHA PRODUCTION CROSS SECTION

413	9.00	MEV	15.0	MEV	10. %	1	USA	NG	DOE	781067F
								O: FOR RADIATION DAMAGE STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.		
414	15.0	MEV	35.0	MEV	10. %	2	USA	NG	DOE	781216F
								O: FOR MATERIAL DAMAGE CALCULATIONS. M: SUBSTANTIAL MODIFICATIONS.		

24 CHROMIUM NEUTRON ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION

415	15.0	MEV				2	USA	NG	DOE	781121F
								A: ACCURACY TO BE DETERMINED. O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.		

24 CHROMIUM NEUTRON SPECIAL QUANTITY (DESCRIPTION BELOW)

416	1.00	MEV	15.0	MEV	10. %	1	USA	ENGHOLM	GA	801013F
								Q: DAMAGE CROSS SECTION. O: DAMAGE TO STAINLESS STEEL FIRST WALL. M: NEW REQUEST.		
417	9.00	MEV	15.0	MEV	10. %	1	USA	NG	DOE	801046F
								Q: ALL SIGNIFICANT ACTIVATION REACTION CROSS SECTIONS. O: DATA NEEDED FOR SHIELDING, ACTIVATION AND NEUTRON TRANSPORT CALCULATIONS. M: NEW REQUEST.		
418	2.50	EV	15.0	MEV	20. %	1	USA	ENGHOLM	GA	801098F
								Q: ACTIVATION CROSS SECTION. O: FUSION REACTOR SHUTDOWN DOSE RATES. M: NEW REQUEST.		
419		UP TO	40.0	MEV		1	USA	NG	DOE	801197F
								Q: ALL SIGNIFICANT ACTIVATION REACTION CROSS SECTIONS. A: CONTACT FMIT PROJECT AT HANFORD FOR ACCURACY. M: NEW REQUEST.		

24 CHROMIUM 50 NEUTRON CAPTURE CROSS SECTION

420	100.	EV	1.00	MEV	25.0%	1	JK	C.G.CAMPBELL	WIN	792129R
								O: FOR FAST REACTOR CIRCUIT ACTIVITY. EVALUATION REQUIREMENT.		
421	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.		
422	25.3	MV	3.00	MEV	10.0%	1	FR	L.COSTA	CAD	792252R
								O: OUT-OF-CORE CYCLE		
423	25.3	MV	300.	KEV	10. %	1	USA	PRINCE	BNL	801124R
								O: ACTIVATION FILE. M: NEW REQUEST.		

24 CHROMIUM 50 NEUTRON N,2N

424	14.0	MEV	20.0	MEV	20. %	1	USA	PRINCE	BNL	801123R
								O: ACTIVATION FILE. M: NEW REQUEST.		

24 CHROMIUM 50			NEUTRON		RESONANCE PARAMETERS					
425	UP TO	300. KEV	10. %	2	USA	PRINCE		BNL		741033R
					Q: ENERGY REQUESTED IS A MAXIMUM VALUE ONLY. NEUTRON WIDTH, GAMMA-WIDTH, SPIN AND PARITY WANTED. M: MODIFIED (PARTIALLY WITHDRAWN).					
24 CHROMIUM 52			NEUTRON		N,2N					
426	14.0 MEV	20.0 MEV	20. %	1	USA	PRINCE		BNL		801122R
					D: ACTIVATION FILE. M: NEW REQUEST.					
24 CHROMIUM 52			NEUTRON		N,P					
427	UP TO	15.0 MEV		1	GER	B.GOEL		KFK		692088R
					A: ACCURACY 10-20 PERCENT DESIRED. D: MAIN ABSORPTION PROCESS IN MEV RANGE.					
428	7.00 MEV	18.0 MEV	25. %	2	USA	PRINCE		BNL		801126R
					D: HYDROGEN PRODUCTION EVALUATION. M: NEW REQUEST.					
24 CHROMIUM 52			NEUTRON		RESONANCE PARAMETERS					
429	UP TO	300. KEV	10. %	2	USA	PRINCE		BNL		741034R
					Q: ENERGY REQUESTED IS A MAXIMUM VALUE ONLY. NEUTRON WIDTH, GAMMA-WIDTH, SPIN AND PARITY WANTED. M: MODIFIED (PARTIALLY WITHDRAWN).					
24 CHROMIUM 53			NEUTRON		RESONANCE PARAMETERS					
430	UP TO	300. KEV	10. %	2	USA	PRINCE		BNL		741035R
					Q: ENERGY REQUESTED IS A MAXIMUM VALUE ONLY. NEUTRON WIDTH, GAMMA-WIDTH, SPIN AND PARITY WANTED. M: MODIFIED (PARTIALLY WITHDRAWN).					
25 MANGANESE			NEUTRON		SPECIAL QUANTITY (DESCRIPTION BELOW)					
431	2.50 EV	15.0 MEV	20. %	2	USA	ENGHOLM		GA		801101F
					Q: ACTIVATION CROSS SECTION. D: FUSION REACTOR SHUTDOWN DOSE RATES. M: NEW REQUEST.					
432	UP TO	40.0 MEV		2	USA	NG		DOE		801198F
					Q: ALL SIGNIFICANT ACTIVATION REACTION CROSS SECTIONS. A: CONTACT FMIT PROJECT AT HANFORD FOR ACCURACY. M: NEW REQUEST.					
25 MANGANESE 54			NEUTRON		CAPTURE CROSS SECTION					
433	25.3 MV		5.0%	2	BLG	N.MAENE		MOL		692092R
					D: FOR BURN-UP CALCULATION OF FE-54(N,P) MN-54 REACTION PRODUCT.					
434	25.3 MV		5.0%	2	EUR	NEUTRON DOSIMETRY GROUP			GEL	812005R
					D: TO RESOLVE DISCREPANCY BETWEEN EXPERIMENTAL EVIDENCE AND BNL-325 FOR BURNUP OF MN-54 WHEN USED AS A FLUENCE MONITOR. SEE ALSO REQUEST FOR RESONANCE INTEGRAL 812006 M: NEW REQUEST.					
25 MANGANESE 54			NEUTRON		CAPTURE RESONANCE INTEGRAL					
435	0.50 EV		5.0%	2	EUR	NEUTRON DOSIMETRY GROUP			GEL	812006R
					D: TO RESOLVE DISCREPANCY BETWEEN EXPERIMENTAL EVIDENCE AND BNL-325 FOR BURNUP OF MN-54 WHEN USED AS A FLUENCE MONITOR. SEE ALSO REQUEST FOR THERMAL CAPTURE SIGMA 812005 M: NEW REQUEST.					
25 MANGANESE 55			NEUTRON		TOTAL CROSS SECTION					
436			4. %	2	USA	FU		ORL		741195R
					Q: NEED VALUES IN FE WINDOWS.					

25 MANGANESE 55 NEUTRON ABSORPTION CROSS SECTION

437	500.	EV	15.0	MEV	7.00%	2	FR	P.HAMMER	CAD	712017R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

25 MANGANESE 55 NEUTRON CAPTURE CROSS SECTION

438	100.	EV	100.	KEV	20.0%	2	UK	C.G.CAMPBELL	WIN	682010R

O: FOR FAST REACTORS.

439	1.00	MV	0.50	EV	1. %	2	USA	STEEN	BET	761052R

O: NEEDED TO INTERPRET MANGANESE BATH MEASUREMENTS OF NUBAR AND ETA.

25 MANGANESE 55 NEUTRON N,2N

440	UP TO		16.0	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.
M: SUBSTANTIAL MODIFICATIONS.

441	UP TO		50.0	MEV		1	USA	NG	DOE	801022F

A: ACCURACY RANGE 10. TO 20. PERCENT.
O: DOSIMETRY FOR FMIT FACILITY.
M: NEW REQUEST.

STATUS----------STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

25 MANGANESE 55 NEUTRON CAPTURE RESONANCE INTEGRAL

442	0.50	EV			5. %	2	USA	STEEN	BET	741036R

O: ENERGY REQUESTED IS A MINIMUM VALUE ONLY.
O: NEEDED FOR ANALYSIS OF MANGANESE BATH EXPERIMENTS.

26 IRON NEUTRON TOTAL CROSS SECTION

443	500.	EV	15.0	MEV	1.0%	2	FR	P.HAMMER	CAD	712021R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

444	10.0	KEV	1.00	MEV	5.0%	2	CCP	M.V.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.

26 IRON NEUTRON ELASTIC CROSS SECTION

445	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

446	500.	KEV	3.00	MEV	5. %	1	USA	BARTINE	ORL	691085R

Q: REQUIRED AT SEVERAL PEAKS AND IN VALLEYS.
A: INCIDENT ENERGY RESOLUTION: 1. PERCENT.
O: REQUIRED IN VALLEYS FOR SHIELDING.

447	1.00	KEV	15.0	MEV	10. %	1	USA	SMITH	ANL	691086R

A: ENERGY RESOLUTION - TO AT LEAST RESOLVE INTERMEDIATE STRUCTURE.

448	1.00	KEV	15.0	MEV	10. %	1	USA	HEMMIG	DOE	691087R

449	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.

450	15.0 MEV	35.0 MEV		1	USA	NG	DOE	781030F
					A: ACCURACY RANGE 10. TO 40. PERCENT. ACCURACY TO BE DETERMINED FROM SENSITIVITY STUDIES.			
					D: FOR MATERIAL DAMAGE CALCULATIONS.			
451	20.0 MEV	50.0 MEV		1	USA	NG	DOE	781205F
					A: ACCURACY RANGE 10. TO 15. PERCENT.			
					D: FOR SHIELD DESIGN IN FMIT FACILITY.			
452	35.0 MEV	50.0 MEV	5. %	1	USA	NG	DOE	801190F
					D: DATA NEEDED TO VALIDATE CALCULATIONS OR MEASUREMENTS MADE FOR FMIT PROJECT.			
					M: NEW REQUEST.			

26 IRON NEUTRON INELASTIC CROSS SECTION

453	UP TO	15.0 MEV	20.0%	2	UK	G.M.MC CRACKEN	CUL	722102F
					D: EVALUATION REQUIREMENT. FOR BLANKET HEATING CALCULATIONS.			
454	3.00 MEV	14.0 MEV	10.0%	2	FR	B.DUCHEMIN	SAC	732021F
					A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS. D: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL. M: SUBSTANTIAL MODIFICATIONS.			
455	UP TO	20.0 MEV	3.0%	2	IND	S.B.GARG	TRM	753035R
					D: REQUIRED FOR STRUCTURAL-MATERIAL CALCULATIONS.			
456	UP TO	15.0 MEV	15. %	2	JAP	Y.SEKI M.KAWAI	JAE NIG	762099F
					Q: INELASTIC GAMMA RAY SPECTRA ALSO REQUIRED. D: NEUTRON TRANSPORT AND GAMMA-RAY HEATING CALC.			

26 IRON NEUTRON ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

457	2.00 MEV	5.00 MEV	10. %	2	USA	HEMMIG	DOE	661017R
					Q: TOTAL INTEGRAL OVER 4PI REQUIRED. SPECTRA AT SEVERAL ANGLES IF SIGNIFICANTLY ANISOTROPIC. A: INCIDENT ENERGY RESOLUTION: 20 KEV. DELTA E(N') = 20 KEV			
458	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			
459	UP TO	14.0 MEV	5.0%	1	FR	P.HAMMER	CAD	702007R
					A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS. D: FOR FAST REACTOR CALCULATIONS. M: SUBSTANTIAL MODIFICATIONS.			
460	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. D: SEE GENERAL COMMENTS IN THE INTRODUCTION.			
461	2.00 MEV	15.0 MEV	10. %	2	USA	BARTINE	ORL	761075R
					D: TO RESOLVE SPECTRA MEASUREMENTS FROM STAINLESS STEEL. M: SUBSTANTIAL MODIFICATIONS.			

26 IRON NEUTRON ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION

462	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 D: EVALUATION REQUIREMENT. FOR FAST REACTORS AND SHIELDING.			
463	UP TO	4.00 MEV	5.0%	1	GER	H.KUESTERS	KFK	792205R
464	4.00 MEV	15.0 MEV		1	GER	H.KUESTERS	KFK	792206R
					A: ACCURACY OF 5-30 PERCENT REQUIRED.			

26 IRON — NEUTRON — NON-ELASTIC CROSS SECTION

465	20.0	MEV	50.0	MEV		1	USA	NG	DOE	791207F

A: ACCURACY RANGE 10. TO 15. PERCENT.
O: FOR SHIELD DESIGN IN FMIT FACILITY.

26 IRON — NEUTRON — ABSORPTION CROSS SECTION

466	500.	EV	15.0	MEV	5.0%	1	FR	P.HAMMER	CAD	712023R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

26 IRON — NEUTRON — CAPTURE CROSS SECTION

467	100.	EV	1.00	MEV		1	JK	C.G.CAMPBELL	WIN	692101R

A: ACCURACY REQUIRED 10 PERCENT TO 100 KEV, 20. PERCENT ABOVE.
O: FOR FAST REACTORS.

468	500.	EV	1.00	MEV	5.0%	1	FR	P.HAMMER	CAD	692104R

Q: NEED OF RESONANCE PARAMETERS FOR THE MAIN ISOTOPES.
A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

469	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.

470	25.3	MV	20.0	MEV	3.0%	2	IND	S.B.GARG	TRM	753036R

O: REQUIRED FOR STRUCTURAL-MATERIAL CALCULATIONS.

471	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.

472	100.	EV	100.	KEV		1	GER	H.KUESTERS	KFK	792201R

A: ACCURACY OF 5-10 PERCENT REQUIRED.

473	100.	KEV	1.00	MEV		1	GER	H.KUESTERS	KFK	792202R

A: ACCURACY OF 10-20 PERCENT REQUIRED.

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

26 IRON — NEUTRON — CAPTURE GAMMA RAY SPECTRUM

474	24.0	KEV			10. %	1	USA	FU	ORL	741179R

O: NO MEASUREMENTS AVAILABLE IN 24 KEV IRON WINDOW.

475	1.00	KEV	1.00	MEV	5. %	2	USA	FU	ORL	741184R
476	1.00	KEV	5.00	KEV	5. %	1	USA	DONCALS	WEW	761039R

26 IRON — NEUTRON — TOTAL PHOTON PRODUCTION CROSS SECTION

477	25.3	MV	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.
QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: FOR SHIELDING CALCULATIONS.
EVALUATION MAY BE SUFFICIENT.
M: SUBSTANTIAL MODIFICATIONS.

478	25.3	MV	15.0	MEV	10. %	2	JAP	M.KASAI	MAP	762104F

O: GAMMA-RAY HEATING CALCULATIONS

479	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

480	1.00	MEV	15.0	MEV	10.0%	2	CCP	I.N.GOLOVIN	KUR	794012F

O: FOR GAMMA-RAY HEATING AND SHIELDING CALCULATIONS.

26 IRON — NEUTRON — N,2N

481	UP TO	15.0	MEV	10.0%	2	UK	G.M.MC CRACKEN	CUL	722106F
						D:	EVALUATION REQUIREMENT. FOR NEUTRON ECONOMY CALCULATIONS.		
482	UP TO	14.0	MEV	10.0%	2	FR	B.DUCHEMIN	SAC	732022F
						A:	QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.		
						D:	POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.		
						M:	SUBSTANTIAL MODIFICATIONS.		
483	UP TO	15.0	MEV	10. %	2	JAP	Y.SEKI	JAE	762101F
						D:	NEUTRON MULTIPLICATION CALCULATIONS		

26 IRON — NEUTRON — ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

484	15.0 MEV	35.0	MEV		1	USA	NG	DOE	781036F
						A:	ACCURACY RANGE 10. TO 40. PERCENT. ACCURACY TO BE DETERMINED FROM SENSITIVITY STUDIES.		
						D:	FOR MATERIAL DAMAGE CALCULATIONS.		
485	9.00 MEV	15.0	MEV	10. %	1	USA	NG	DOE	781048F
						D:	FOR SHIELDING AND TRANSPORT STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.		

26 IRON — NEUTRON — N,P

486	UP TO	15.0	MEV	10.0%	1	FR	P.HAMMER	CAD	712026R
						A:	QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.		
						D:	FOR FAST REACTOR CALCULATIONS.		
						M:	SUBSTANTIAL MODIFICATIONS.		
487	UP TO	15.0	MEV	20.0%	2	UK	G.M.MC CRACKEN	CUL	722107F
						D:	EVALUATION REQUIREMENT. FOR HYDROGEN GAS PRODUCTION RATES AND NEUTRON ECONOMY CALCULATIONS.		
488	UP TO	14.0	MEV	10.0%	2	FR	B.DUCHEMIN	SAC	732023F
						A:	QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.		
						D:	POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.		
						M:	SUBSTANTIAL MODIFICATIONS.		
489	0.00 EV	15.0	MEV	20. %	2	JAP	Y.SEKI	JAE	762102F
						D:	HYDROGEN ACCUMULATION CALCULATIONS		
490	UP TO	15.0	MEV	30.0%	1	GER	H.KUESTERS	KFK	7922037R

STATUS---STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

26 IRON — NEUTRON — TOTAL PROTON PRODUCTION CROSS SECTION

491	9.00 MEV	35.0	MEV	10. %	1	USA	NG	DOE	781024F
						D:	FOR MATERIAL DAMAGE CALCULATIONS. FOR RADIATION DAMAGE STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.		

26 IRON — NEUTRON — ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION

492	15.0 MEV				2	USA	NG	DOE	781141F
						A:	ACCURACY TO BE DETERMINED.		
						D:	DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.		

26 IRON — NEUTRON — N,ALPHA

493	UP TO	15.0	MEV	20.0%	2	UK	G.M.MC CRACKEN	CUL	722108F
						D:	EVALUATION REQUIREMENT. FOR HELIUM GAS PRODUCTION RATES AND NEUTRON ECONOMY CALCULATIONS.		
494	UP TO	15.0	MEV	10.0%	2	FR	B.DUCHEMIN	SAC	732024F
						A:	QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.		
						D:	POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.		
						M:	SUBSTANTIAL MODIFICATIONS.		
495	UP TO	15.0	MEV	10.0%	1	FR	P.HAMMER	CAD	732042R
						A:	QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.		
						D:	FOR FAST REACTOR CALCULATIONS.		
						M:	SUBSTANTIAL MODIFICATIONS.		
496	0.00 EV	15.0	MEV	20. %	2	JAP	Y.SEKI	JAE	762103F
						D:	HELIUM ACCUMULATION CALCULATIONS		

497	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.

498	UP TO	15.0	MEV	30.0%	1	GER	H.KUESTERS	KFK	792204R

26 IRON NEUTRON TOTAL ALPHA PRODUCTION CROSS SECTION

499	9.00 MEV	40.0	MEV	10. %	1	USA	NG	DOE	801066F

O: TOTAL HELIUM PRODUCTION CROSS SECTION FOR DOSIMETRY AND RADIATION DAMAGE STUDIES.
M: NEW REQUEST.

26 IRON NEUTRON ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION

500	15.0 MEV				2	USA	NG	DOE	781120F

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

26 IRON NEUTRON SPECIAL QUANTITY (DESCRIPTION BELOW)

501	1.00 MEV	15.0	MEV	10. %	1	USA	ENGHOLM	GA	801014F

Q: DAMAGE CROSS SECTION.
O: DAMAGE TO STAINLESS STEEL FIRST WALL.
M: NEW REQUEST.

502	9.00 MEV	40.0	MEV	10. %	1	USA	NG	DOE	801047F

Q: ALL SIGNIFICANT ACTIVATION REACTION CROSS SECTIONS.
A: CONTACT FMIT PROJECT AT HANFORD FOR ACCURACY.
O: DATA NEEDED FOR SHIELDING AND NEUTRON TRANSPORT CALCULATIONS.
M: NEW REQUEST.

503	2.50 EV	15.0	MEV	20. %	1	USA	ENGHOLM	GA	801097F

Q: ACTIVATION CROSS SECTION.
O: FUSION REACTOR SHUTDOWN DOSE RATES.
M: NEW REQUEST.

504	1.00 MEV	35.0	MEV	5.0%	2	EUR	NEUTRON DOSIMETRY GROUP	GEL	812007R

Q: FOR PRODUCTION OF MN-54 FOR USE AS A FLUENCE MONITOR. THE REACTION INCLUDES FE-54(N,P), FE-56(N,T), FE-56(N,ND) AND FE-56(N,2NP). FOR THE REACTION FE-54(N,P) THE ENERGY RANGE EXTENDS TO 20MEV
O: FOR HIGH ENERGY ACCELERATOR BASED NEUTRON SOURCES
M: NEW REQUEST.

26 IRON 54 NEUTRON CAPTURE CROSS SECTION

505	25.3 MV	3.00	MEV	20.0%	1	FR	L.COSTA	CAD	792007R

O: OUT-OF-CORE CYCLE

26 IRON 54 NEUTRON N,P

506	18.0 MEV	50.0	MEV		1	USA	NG	DOE	781018F

A: ACCURACY RANGE 10. TO 20. PERCENT.
O: DOSIMETRY FOR FMIT FACILITY.
M: SUBSTANTIAL MODIFICATIONS.

507	25.3 MV	3.00	MEV	10.0%	1	FR	L.COSTA	CAD	792008R

O: OUT-OF-CORE CYCLE

STATUS----------STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

26 IRON 54 NEUTRON N,T

508	UP TO	50.0	MEV		1	USA	NG	DOE	801038F

A: ACCURACY RANGE 10. TO 20. PERCENT.
O: DOSIMETRY FOR FMIT FACILITY.
M: NEW REQUEST.

26 IRON 54 NEUTRON N,ALPHA

509	UP TO	50.0	MEV		1	USA	NG	DOE	781019F

A: ACCURACY RANGE 10. TO 20. PERCENT.
O: DOSIMETRY FOR FMIT FACILITY.

510	UP TO	15.0	MEV	5.0%	2	EUR	NEUTRON DOSIMETRY GROUP	GEL	812008R

O: FEW EXPERIMENTAL DATA EXIST AND CURRENT EVALUATIONS ARE HEAVILY BASED ON CALCULATIONS. NEW AND SUPPLEMENTARY MEASUREMENTS ARE REQUESTED
M: NEW REQUEST.

26 IRON 54 — NEUTRON — RESONANCE PARAMETERS

511		UP TO	100.	KEV	10. %	2	USA	FU HEMMIG SMITH	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,T

512	12.0	MEV	40.0	MEV	20. %	2	USA	SCHENTER	HED	801007F

Q: ALL REACTIONS LEADING TO MN-54 NEEDED.
O: NEEDED FOR FMIT DOSIMETRY AND ACTIVATION.
M: NEW REQUEST.

26 IRON 56 — NEUTRON — RESONANCE PARAMETERS

513		UP TO	400.	KEV	10. %	1	USA	FU HEMMIG SMITH	ORL DOE ANL	741046R

Q: ENERGY REQUESTED IS A MAXIMUM VALUE ONLY.
NEUTRON WIDTH, GAMMA-WIDTH, SPIN AND PARITY WANTED.

26 IRON 57 — NEUTRON — INELASTIC CROSS SECTION

514		UP TO	800.	KEV	10.0%	2	JAP	M.KAWAI	NIG	812031R

O: FOR REACTOR SHIELDING CALCULATIONS
M: NEW REQUEST.

26 IRON 57 — NEUTRON — RESONANCE PARAMETERS

515		UP TO	100.	KEV	10. %	2	USA	FU HEMMIG SMITH	ORL DOE ANL	741049R

Q: ENERGY REQUESTED IS A MAXIMUM VALUE ONLY.
NEUTRON WIDTH, GAMMA-WIDTH, SPIN AND PARITY WANTED.

26 IRON 59 — NEUTRON — CAPTURE CROSS SECTION

516	25.3	MV	3.00	MEV	10.0%	1	FR	L.COSTA	CAD	792009R

O: OUT-OF-CORE CYCLE

27 COBALT 58 — NEUTRON — CAPTURE CROSS SECTION

517					10. %	2	USA	STEEN	BET	721045R

Q: 9.1 HR ISOMER
THERMAL CROSS SECTION MOST IMPORTANT.
RESONANCE INTEGRAL ALSO NEEDED.
O: FOR INTERPRETATION OF NI-58(N,P) FLUENCE MONITOR DATA.

518					10. %	2	USA	STEEN	BET	721046R

Q: RADIOACTIVE TARGET 71.3 DAY
THERMAL CROSS SECTION MOST IMPORTANT.
RESONANCE INTEGRAL ALSO NEEDED.
O: FOR INTERPRETATION OF NI-58(N,P) FLUENCE MONITOR DATA.

519	25.0	MV	15.0	MEV	15.0%	1	GER	H.KUESTERS	KFK	792196R

Q: EVALUATION WANTED.
O: REDUCTION OF CO58.

520	25.3	MV	100.	EV	20.0%	2	BLG	H.TOURWE	MOL	812049N

Q: META-STABLE STATE CAPTURE CROSS SECTION
O: FOR BURN-UP CALCULATION OF NI-58(NP)CO-58 IN HIGH FLUX REACTOR
M: NEW REQUEST.

27 COBALT 59 — NEUTRON — CAPTURE CROSS SECTION

521	1.00	KEV	18.0	MEV	10. %	2	USA	MCELROY	HED	691106R

Q: ACTIVATION IS REQUIRED.
TO GROUND AND METASTABLE STATES.
O: FOR USE AS A FLUENCE MONITOR.

STATUS----------STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

27 COBALT 59 — NEUTRON — N,2N

522		UP TO	50.0	MEV		1	USA	NG	DOE	781014F

A: ACCURACY RANGE 10. TO 20. PERCENT.
O: DOSIMETRY FOR FMIT FACILITY.

27 COBALT 59 NEUTRON N,3N

523	UP TO	50.0	MEV		1	USA	NG		DOE		781015F
							A: ACCURACY RANGE 10. TO 20. PERCENT.				
							O: DOSIMETRY FOR FMIT FACILITY.				
524	24.0 MEV	40.0	MEV	5.0%	2	EUR	NEUTRON DOSIMETRY GROUP			GEL	812010R
							O: MEASURED UP TO 24MEV. EXTENSION TO 40MEV REQUIRED FOR HIGH ENERGY ACCELERATOR BASED NEUTRON SOURCES				
							M: NEW REQUEST.				

27 COBALT 59 NEUTRON N,4N

525	UP TO	50.0	MEV		1	USA	NG		DOE		781016F
							A: ACCURACY RANGE 10. TO 20. PERCENT.				
							O: DOSIMETRY FOR FMIT FACILITY.				

27 COBALT 59 NEUTRON N,P

526	UP TO	50.0	MEV		1	USA	NG		DOE		781017F
							A: ACCURACY RANGE 10. TO 20. PERCENT.				
							O: DOSIMETRY FOR FMIT FACILITY.				
527	UP TO	25.0	MEV	5.0%	2	EUR	NEUTRON DOSIMETRY GROUP			GEL	812009R
							O: FOR HIGH ENERGY ACCELERATOR BASED NEUTRON SOURCES				
							M: NEW REQUEST.				

27 COBALT 59 NEUTRON TOTAL ALPHA PRODUCTION CROSS SECTION

528	15.0 MEV	40.0	MEV	20. %	1	USA	SCHENTER		HED		801004F
							A: ONLY SELECTED ENERGIES NEEDED.				
							O: NEEDED FOR FMIT DOSIMETRY.				
							M: NEW REQUEST.				

27 COBALT 59 NEUTRON SPECIAL QUANTITY (DESCRIPTION BELOW)

529	UP TO	40.0	MEV		1	USA	NG		DOE		801202F
							Q: ALL SIGNIFICANT ACTIVATION REACTION CROSS SECTIONS.				
							A: CONTACT FMIT PROJECT AT HANFORD FOR ACCURACY.				
							M: NEW REQUEST.				

28 NICKEL NEUTRON TOTAL CROSS SECTION

530	1.00 KEV	20.0	MEV	3. %	2	USA	HEMMIG		DOE		721047R
							A: ACCURACY NEEDED TO 3-5 PERCENT IN DEEP MINIMA. ENERGY RESOLUTION SUFFICIENT TO RESOLVE MAJOR STRUCTURE.				
							O: FOR USE IN INCONEL SHIELD CALCULATIONS.				

28 NICKEL NEUTRON ELASTIC CROSS SECTION

531	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

532	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).				
533	8.00 MEV	15.0	MEV	20.0%	2	GER	B.GOEL		KFK		692122F
							O: FOR SHIELDING CALCULATIONS.				
534	100. KEV	15.0	MEV		2	USA	SMITH HEMMIG		ANL DOE		721048R
							A: ACCURACY RANGE 5. TO 10. PERCENT. ENERGY RESOLUTION - RESOLUTION OF INTERMEDIATE STRUCTURE PROBABLY ADEQUATE.				
535	15.0 MEV	35.0	MEV		1	USA	NG		DOE		781031F
							A: ACCURACY RANGE 10. TO 40. PERCENT. ACCURACY TO BE DETERMINED FROM SENSITIVITY STUDIES.				
							O: FOR MATERIAL DAMAGE CALCULATIONS.				
536	35.0 MEV	50.0	MEV	5. %	1	USA	NG		DOE		801189F
							O: DATA NEEDED TO VALIDATE CALCULATIONS FOR MEASUREMENTS MADE FOR FMIT PROJECT.				
							M: NEW REQUEST.				

28 NICKEL — NEUTRON — INELASTIC CROSS SECTION

537	3.00	MEV	14.0	MEV	10.0%	3	FR	B.DUCHEMIN	SAC	732025F
								A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS. O: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL. M: SUBSTANTIAL MODIFICATIONS.		
538		UP TO	20.0	MEV	3.0%	2	IND	S.B.GARG	TRM	753038R
								O: REQUIRED FOR STRUCTURAL-MATERIAL CALCULATIONS.		
539		UP TO	20.0	MEV	5. %	1	JAP	Y.SEKI M.KASAI M.KAWAI	JAE MAP NIG	762105F
								Q: INELASTIC GAMMA RAY SPECTRA ALSO REQUIRED O: NEUTRON TRANSPORT AND GAMMA-RAY HEATING CALC. M: SUBSTANTIAL MODIFICATIONS.		

28 NICKEL — NEUTRON — ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

540		UP TO	15.0	MEV	30.0%	3	FR	P.HAMMER	CAD	702008R
								A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS. O: FOR FAST REACTOR CALCULATIONS. M: SUBSTANTIAL MODIFICATIONS.		

28 NICKEL — NEUTRON — ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION

541		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.		
542		UP TO	4.00	MEV	5.0%	1	GER	H.KUESTERS	KFK	792211R
543	4.00	MEV	15.0	MEV		1	GER	H.KUESTERS	KFK	792251R
								A: ACCURACY OF 5-30 PERCENT REQUIRED.		

28 NICKEL — NEUTRON — ABSORPTION CROSS SECTION

544	500.	EV	15.0	MEV	5.0%	1	FR	P.HAMMER	CAD	712031R
								A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS. O: FOR FAST REACTOR CALCULATIONS. M: SUBSTANTIAL MODIFICATIONS.		

28 NICKEL — NEUTRON — CAPTURE CROSS SECTION

545	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. O: FOR FAST REACTORS.		
546	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.		
547	500.	EV	1.00	MEV	5.0%	1	FR	P.HAMMER	CAD	702009R
								Q: RESONANCE PARAMETERS ALSO REQUIRED. A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS. O: FOR FAST REACTOR CALCULATIONS. M: SUBSTANTIAL MODIFICATIONS.		
548	1.00	KEV	1.00	MEV	10. %	2	USA	DIVADEENAM HEMMIG SMITH DONCALS	BNL DOE ANL WEW	741053R
549	25.3	MV	20.0	MEV	3.0%	2	IND	S.B.GARG	TRM	753039R
								O: REQUIRED FOR STRUCTURAL-MATERIAL CALCULATIONS.		
550	25.3	MV	15.0	MEV	30.0%	2	UK	G.M.MC CRACKEN	CUL	762249F
								O: EVALUATION REQUIREMENT. FOR NEUTRON ECONOMY CALCULATIONS.		
551	100.	EV	100.	KEV	10.0%	1	GER	H.KUESTERS	KFK	792207R
552	100.	KEV	1.00	MEV	20.0%	1	GER	H.KUESTERS	KFK	792208R

STATUS

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

28 NICKEL — NEUTRON — TOTAL PHOTON PRODUCTION CROSS SECTION

553	25.3	MV	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.
QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: FOR FAST REACTOR SHIELDING CALCULATIONS.
EVALUATION MAY BE SUFFICIENT.
M: SUBSTANTIAL MODIFICATIONS.

554	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

555	25.3	MV	600.	KEV	20. %	1	USA	HEMMIG	DOE	721052R

Q: ALL GAMMA'S ARE OF INTEREST.
O: FOR SHIELDING AND GAMMA HEATING CALCULATIONS.

28 NICKEL — NEUTRON — N,2N

556	UP TO		14.0	MEV	10.0%	3	FR	B.DUCHEMIN	SAC	732026F

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.
M: SUBSTANTIAL MODIFICATIONS.

557	UP TO		15.0	MEV	15. %	2	JAP	Y.SEKI M.KASAI	JAE MAP	762106F

O: NEUTRON BALANCE CALCULATIONS

558	UP TO		15.0	MEV	30.0%	2	UK	G.M.MC CRACKEN	CUL	762240F

O: EVALUATION REQUIREMENT.
FOR NEUTRON ECONOMY CALCULATIONS.

STATUS----------STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

28 NICKEL — NEUTRON — NEUTRON EMISSION CROSS SECTION

559	14.0	MEV	40.0	MEV	20. %	2	USA	DIVADEENAM	BNL	801131R

O: FOR EVALUATION AND MODEL TESTING PURPOSES.
MEASUREMENTS AT A FEW ENERGIES.
M: NEW REQUEST.

28 NICKEL — NEUTRON — ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

560	15.0	MEV	35.0	MEV		1	USA	NG	DOE	781037F

A: ACCURACY RANGE 10. TO 40. PERCENT.
ACCURACY TO BE DETERMINED FROM SENSITIVITY STUDIES.
O: FOR MATERIAL DAMAGE CALCULATIONS.

561	9.00	MEV	15.0	MEV	10. %	1	USA	NG	DOE	781044F

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

28 NICKEL — NEUTRON — N,P

562	UP TO		15.0	MEV	10.0%	1	FR	P.HAMMER	CAD	702010R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

563	UP TO		14.0	MEV	10.0%	3	FR	B.DUCHEMIN	SAC	732027F

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.
M: SUBSTANTIAL MODIFICATIONS.

564	0.00	EV	15.0	MEV	20. %	2	JAP	Y.SEKI M.KASAI	JAE MAP	762107F

O: HYDROGEN ACCUMULATION CALCULATIONS

565	UP TO		15.0	MEV	20.0%	2	UK	G.M.MC CRACKEN	CUL	762242F

O: EVALUATION REQUIREMENT.
FOR HYDROGEN GAS PRODUCTION RATES AND NEUTRON ECONOMY CALCULATIONS.

566	UP TO		15.0	MEV	30.0%	1	GER	H.KUESTERS	KFK	792209R

STATUS----------STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

28 NICKEL — NEUTRON — TOTAL PROTON PRODUCTION CROSS SECTION

567	9.00 MEV	35.0 MEV	10. %	1	USA	NG		DOE		781025F

Q: FOR MATERIAL DAMAGE CALCULATIONS AND NEXT GENERATION D-T REACTOR DESIGNS.
M: SUBSTANTIAL MODIFICATIONS.

28 NICKEL — NEUTRON — ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION

568	15.0 MEV			2	USA	NG		DOE		781137F

A: ACCURACY TO BE DETERMINED.
Q: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.

28 NICKEL — NEUTRON — N,ALPHA

569	UP TO	15.0 MEV	10.0%	2	FR	B.DUCHEMIN		SAC		732028F

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
Q: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.
M: SUBSTANTIAL MODIFICATIONS.

570	UP TO	15.0 MEV	10.0%	1	FR	P.HAMMER		CAD		732044R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
Q: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

571	0.00 EV	15.0 MEV	20. %	2	JAP	Y.SEKI M.KASAI		JAE MAP		762108F

Q: HELIUM ACCUMULATION CALCULATIONS

572	UP TO	15.0 MEV	30.0%	3	UK	G.M.MC CRACKEN		CUL		752244F

Q: EVALUATION REQUIREMENT.
FOR HELIUM GAS PRODUCTION RATES AND NEUTRON ECONOMY CALCULATIONS.

573	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.

574	UP TO	15.0 MEV	30.0%	1	GER	H.KUESTERS		KFK		792210R

575	25.3 MV	20.0 MEV	10. %	2	USA	DIVADEENAM		BNL		801147R

Q: FOR EVALUATION AND MODEL TESTING PURPOSES.
M: NEW REQUEST.

STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

28 NICKEL — NEUTRON — TOTAL ALPHA PRODUCTION CROSS SECTION

576	9.00 MEV	35.0 MEV	10. %	1	USA	NG		DOE		781062F

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

577	UP TO	40.0 MEV	5. %	1	USA	NG		DOE		801064F

Q: TOTAL HELIUM PRODUCTION CROSS SECTION FOR DOSIMETRY.
M: NEW REQUEST.

28 NICKEL — NEUTRON — ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION

578	15.0 MEV			2	USA	NG		DOE		781116F

A: ACCURACY TO BE DETERMINED.
Q: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.

28 NICKEL — NEUTRON — SPECIAL QUANTITY (DESCRIPTION BELOW)

579	1.00 MEV	15.0 MEV	10. %	1	USA	ENGHOLM		GA		801015F

Q: DAMAGE CROSS SECTION.
Q: DAMAGE TO STAINLESS STEEL FIRST WALL.
M: NEW REQUEST.

580	2.50 EV	15.0 MEV	20. %	1	USA	ENGHOLM		GA		801019F

Q: ACTIVATION CROSS SECTION.
Q: FUSION REACTOR SHUTDOWN DOSE RATES.
M: NEW REQUEST.

581	9.00 MEV	15.0 MEV	10. %	1	USA	NG		DOE		801050F

Q: ALL SIGNIFICANT ACTIVATION REACTION CROSS SECTIONS.
Q: DATA NEEDED FOR SHIELDING, ACTIVATION AND NEUTRON TRANSPORT CALCULATIONS.
M: NEW REQUEST.

28 NICKEL | NEUTRON | SPECIAL QUANTITY (DESCRIPTION BELOW) | (CONTINUED)

582 UP TO 40.0 MEV 1 USA NG DOE 801200F
Q: ALL SIGNIFICANT ACTIVATION REACTION CROSS SECTIONS.
A: CONTACT FMIT PROJECT AT HANFORD FOR ACCURACY.
O: FOR FMIT PROJECT.
M: NEW REQUEST.

28 NICKEL 58 | NEUTRON | TOTAL CROSS SECTION

583 1.00 MEV 15.0 MEV 10.0% 2 FR E.FORT CAD 792012R
O: EVALUATION PROBLEMS

28 NICKEL 58 | NEUTRON | ELASTIC CROSS SECTION

584 1.00 MEV 15.0 MEV 10.0% 2 FR E.FORT CAD 792013R
O: EVALUATION PROBLEMS

28 NICKEL 58 | NEUTRON | CAPTURE CROSS SECTION

585 25.3 MV 3.00 MEV 20.0% 1 FR L.COSTA CAD 792010R
O: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL

586 1.00 KEV 2.00 MEV 10. % 2 USA DIVADEENAM BNL 801136R
O: FOR EVALUATION NEEDS.
AVERAGE CAPTURE CROSS SECTION.
FOR HELIUM BUILD-UP VIA NI-59(N,ALPHA) REACTION.
M: NEW REQUEST.

28 NICKEL 58 | NEUTRON | N,2N

587 UP TO 50.0 MEV 1 USA NG DOE 781020F
A: ACCURACY RANGE 10. TO 20. PERCENT.
O: DOSIMETRY FOR FMIT FACILITY.

588 UP TO 15.0 MEV 10.0% 2 UK J.BUTLER WIN 792121R
O: ACTIVATION DETECTOR.

589 UP TO 30.0 MEV 5.0% 2 EUR NEUTRON DOSIMETRY GROUP GEL 812012R
O: FOR HIGH ENERGY ACCELERATOR BASED NEUTRON SOURCES
M: NEW REQUEST.

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

28 NICKEL 58 | NEUTRON | N,3N

590 UP TO 50.0 MEV 1 USA NG DOE 781021F
A: ACCURACY RANGE 10. TO 20. PERCENT.
O: DOSIMETRY FOR FMIT FACILITY.

28 NICKEL 58 | NEUTRON | N,P

591 UP TO 15.0 MEV 5. % 3 USA STEEN BET 721055R
O: FOR USE AS FLUENCE MONITOR.

592 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.

593 UP TO 50.0 MEV 1 USA NG DOE 781022F
A: ACCURACY RANGE 10. TO 20. PERCENT.
O: DOSIMETRY FOR FMIT FACILITY.

594 25.3 MV 3.00 MEV 10.0% 1 FR L.COSTA CAD 792011R
O: OUT-OF-CORE CYCLE

595 UP TO 25.0 MEV 5.0% 2 EUR NEUTRON DOSIMETRY GROUP GEL 812011R
O: FOR HIGH ENERGY ACCELERATOR BASED NEUTRON SOURCES
M: NEW REQUEST.

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

28 NICKEL 58 | NEUTRON | N,T

596 15.0 MEV 40.0 MEV 20. % 1 USA SCHENTER HED 801003F
Q: ALL REACTIONS LEADING TO CO-56 ARE NEEDED.
O: NEEDED FOR FMIT ACTIVATION AND DOSIMETRY.
M: NEW REQUEST.

28 NICKEL 58 NEUTRON RESONANCE PARAMETERS

597		UP TO	100.	KEV	10. %	2	USA	HEMMIG SMITH	DOE ANL	741056R

Q: ENERGY REQUESTED IS A MAXIMUM VALUE ONLY. NEUTRON WIDTH, GAMMA-WIDTH, SPIN AND PARITY WANTED.

598	100.	KEV	700.	KEV	10. %	2	USA	DIVADEENAM	BNL	801135R

O: FOR EVALUATION NEEDS. PRECISE CAPTURE CROSS SECTION NECESSARY FOR ESTIMATING HELIUM BUILD-UP VIA NI-59(N,ALPHA) REACTION.
M: NEW REQUEST.

28 NICKEL 59 NEUTRON N,ALPHA

599	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.

600	25.3	MV	10.0	MEV	25.0%	2	GER	B.GOEL	KFK	762251R

O: FOR NEUTRON DAMAGE PREDICTION.

601	5.00	KEV	14.0	MEV	10. %	2	USA	DIVADEENAM	BNL	801128F

Q: RADIOACTIVE TARGET 7.5X(10**4) YR
O: ALPHA CHANNEL IS OPEN AT ZERO NEUTRON ENERGY. IMPORTANT FOR HELIUM PRODUCTION.
M: NEW REQUEST.

28 NICKEL 59 NEUTRON RESONANCE PARAMETERS

602	25.3	MV	500.	KEV	10. %	2	USA	DIVADEENAM	BNL	801127R

Q: RADIOACTIVE TARGET 7.5X(10**4) YR
O: ELASTIC, GAMMA, ALPHA AND PROTON WIDTHS.
M: NEW REQUEST.

28 NICKEL 60 NEUTRON N,P

603		UP TO	50.0	MEV		1	USA	NG	DOE	781023F

A: ACCURACY RANGE 10. TO 20. PERCENT.
O: DOSIMETRY FOR FMIT FACILITY.

28 NICKEL 60 NEUTRON N,T

604	15.0	MEV	40.0	MEV	20. %	2	USA	SCHENTER	HED	801009F

Q: ALL REACTIONS LEADING TO CO-58 ARE NEEDED.
O: NEEDED FOR FMIT DOSIMETRY AND ACTIVATION.
M: NEW REQUEST.

28 NICKEL 60 NEUTRON RESONANCE PARAMETERS

605		UP TO	100.	KEV	10. %	2	USA	HEMMIG SMITH	DOE ANL	741059R

Q: ENERGY REQUESTED IS A MAXIMUM VALUE ONLY. NEUTRON WIDTH, GAMMA-WIDTH, SPIN AND PARITY WANTED.

606	100.	KEV	700.	KEV	10. %	2	USA	DIVADEENAM	BNL	801141R

O: FOR EVALUATION NEEDS.
M: NEW REQUEST.

28 NICKEL 61 NEUTRON RESONANCE PARAMETERS

607		UP TO	100.	KEV	10. %	3	USA	HEMMIG SMITH	DOE ANL	741062R

Q: ENERGY REQUESTED IS A MAXIMUM VALUE ONLY. NEUTRON WIDTH, GAMMA-WIDTH, SPIN AND PARITY WANTED.

608	100.	KEV	700.	KEV	10. %	3	USA	DIVADEENAM	BNL	801142R

O: FOR EVALUATION NEEDS.
M: NEW REQUEST.

28 NICKEL 62 NEUTRON TOTAL CROSS SECTION

609	1.00	MEV	15.0	MEV	10.0%	2	FR	E.FORT	CAD	792014R

O: EVALUATION PROBLEMS

28 NICKEL 62 NEUTRON ELASTIC CROSS SECTION

610	1.00 MEV	15.0 MEV	10.0%	2	FR	E.FORT	CAD	792015R
						J: EVALUATION PROBLEMS		

28 NICKEL 62 NEUTRON CAPTURE CROSS SECTION

611	25.3 MV	3.00 MEV	20.0%	1	FR	L.COSTA	CAD	762139R
						D: PROBLEMS OF FUEL-CYCLE OUT-OF-CORE		
612	100. EV	1.00 MEV	25.0%	2	UK	C.G.CAMPBELL	WIN	792130R
						D: FOR FAST REACTOR CIRCUIT ACTIVITY. EVALUATION REQUIREMENT.		

28 NICKEL 62 NEUTRON RESONANCE PARAMETERS

613	UP TO	100. KEV	10. %	3	USA	HEMMIG SMITH	DOE ANL	741065R
						Q: ENERGY REQUESTED IS A MAXIMUM VALUE ONLY. NEUTRON WIDTH, GAMMA-WIDTH, SPIN AND PARITY WANTED.		
614	100. KEV	700. KEV	10. %	2	USA	DIVADEENAM	BNL	801157R
						D: FOR EVALUATION NEEDS. M: NEW REQUEST.		

28 NICKEL 63 HALF LIFE

615			10. %	2	USA	STEEN	BET	761054R
						Q: RADIOACTIVE TARGET 100 YR D: FLUX MONITOR FROM CU(N,P) REACTION.		

28 NICKEL 63 NEUTRON CAPTURE CROSS SECTION

616	1.00 MV	10.0 MEV	10. %	2	USA	STEEN	BET	761053R
						Q: RADIOACTIVE TARGET 100 YR D: FLUX MONITOR FROM CU(N,P) REACTION.		

28 NICKEL 64 NEUTRON RESONANCE PARAMETERS

617	UP TO	100. KEV	10. %	3	USA	HEMMIG SMITH	DOE ANL	741068R
						Q: ENERGY REQUESTED IS A MAXIMUM VALUE ONLY. NEUTRON WIDTH, GAMMA-WIDTH, SPIN AND PARITY WANTED.		
618	100. KEV	700. KEV	10. %	3	USA	DIVADEENAM	BNL	801143R
						D: FOR EVALUATION NEEDS. M: NEW REQUEST.		

29 COPPER NEUTRON ELASTIC CROSS SECTION

619	8.00 MEV	15.0 MEV	10.0%	2	CCP	I.N.GOLOVIN	KUR	724032F
						D: NEUTRON TRANSMISSION CALCULATIONS.		

29 COPPER NEUTRON DIFFERENTIAL ELASTIC CROSS SECTION

620	15.0 MEV	35.0 MEV		1	USA	NG	DOE	781034F
						A: ACCURACY RANGE 10. TO 40. PERCENT. ACCURACY TO BE DETERMINED FROM SENSITIVITY STUDIES. D: FOR MATERIAL DAMAGE CALCULATIONS.		

29 COPPER NEUTRON PHOTON PRODUCTION CROSS SECTION IN INELASTIC SCAT.

621	UP TO	15.0 MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR	724033F
						D: NEUTRONICS CALCULATIONS FOR BLANKET AND SHIELD.		

29 COPPER NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

622	500. KEV	15.0 MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR	724034F
						Q: GAMMA RAY SPECTRA ALSO WANTED. D: GAMMA RAY HEATING AND SHIELDING CALCULATIONS.		
623	25.3 MV	15.0 MEV	15. %	2	JAP	Y.SEKI	JAE	762113F
						Q: GAMMA RAY SPECTRA ALSO REQUIRED. D: GAMMA-RAY HEATING IN MAGNETS		

29 COPPER NEUTRON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

624 15.0 MEV 35.0 MEV 1 USA NG DOE 781040F
A: ACCURACY RANGE 10. TO 40. PERCENT. ACCURACY TO BE DETERMINED FROM SENSITIVITY STUDIES.
O: FOR MATERIAL DAMAGE CALCULATIONS.

625 9.00 MEV 15.0 MEV 10. % 1 USA NG DOE 781046F
O: FOR SHIELDING AND TRANSPORT STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.

29 COPPER NEUTRON N,P

626 UP TO 15.0 MEV 15.0% 2 CCP I.N.GOLOVIN KUR 724035F
O: HYDROGEN ACCUMULATION CALCULATIONS.

29 COPPER NEUTRON TOTAL PROTON PRODUCTION CROSS SECTION

627 9.00 MEV 35.0 MEV 10. % 1 USA NG DOE 781028F
O: FOR MATERIAL DAMAGE CALCULATIONS AND NEXT GENERATION D-T REACTOR DESIGNS.
M: SUBSTANTIAL MODIFICATIONS.

29 COPPER NEUTRON ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION

628 15.0 MEV 2 USA NG DOE 781139F
A: ACCURACY TO BE DETERMINED.
O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.

29 COPPER NEUTRON N,ALPHA

629 UP TO 15.0 MEV 15.0% 2 CCP I.N.GOLOVIN KUR 724036F
O: HELIUM ACCUMULATION CALCULATIONS.

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

29 COPPER NEUTRON TOTAL ALPHA PRODUCTION CROSS SECTION

630 9.00 MEV 35.0 MEV 10. % 1 USA NG DOE 781064F
O: FOR RADIATION DAMAGE STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.
M: SUBSTANTIAL MODIFICATIONS.

631 UP TO 40.0 MEV 5. % 1 USA NG DOE 801063F
O: TOTAL HELIUM PRODUCTION CROSS SECTION FOR DOSIMETRY.
M: NEW REQUEST.

29 COPPER NEUTRON ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION

632 15.0 MEV 2 USA NG DOE 781118F
A: ACCURACY TO BE DETERMINED.
O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.

29 COPPER NEUTRON SPECIAL QUANTITY (DESCRIPTION BELOW)

633 9.00 MEV 15.0 MEV 10. % 1 USA NG DOE 801049F
Q: ALL SIGNIFICANT ACTIVATION REACTION CROSS SECTIONS.
O: DATA NEEDED FOR SHIELDING, ACTIVATION AND NEUTRON TRANSPORT CALCULATIONS.
M: NEW REQUEST.

634 2.50 EV 15.0 MEV 20. % 1 USA ENGHOLM GA 801096F
Q: ACTIVATION CROSS SECTION.
O: FUSION REACTOR SHUTDOWN DOSE RATES.
M: NEW REQUEST.

635 UP TO 40.0 MEV 1 USA NG DOE 801195F
Q: ALL SIGNIFICANT ACTIVATION REACTION CROSS SECTIONS.
A: CONTACT FMIT PROJECT AT HANFORD FOR ACCURACY.
M: NEW REQUEST.

29 COPPER 63 NEUTRON CAPTURE CROSS SECTION

636 25.3 MV 1.00 KEV 2 USA HEMMIG DOF 671001R
A: ACCURACY - 2 PERCENT NEAR THERMAL, 5 PERCENT ABOVE THERMAL.
O: FOR DETECTOR APPLICATIONS.

637	1.00	KEV	18.0	MEV	10. %	2	USA	MCELROY	HED	691132R

Q: ACTIVATION OF CU-64 IS REQUIRED.
O: FOR USE AS FLUENCE MONITOR.

638	1.00	MV	15.0	MEV	5. %	2	USA	STEEN	BET	761056R

O: NEEDED FOR LONG TERM FLUX MONITOR.

29 COPPER 63 NEUTRON N,P

639	UP TO		15.0	MEV	5. %	2	USA	STEEN	BET	761055R

O: NEEDED FOR LONG TERM FLUX MONITOR.

29 COPPER 63 NEUTRON N,ALPHA

640	6.00	MEV	18.0	MEV	5.0%	1	BLG	H.TOURWE	MOL	792111R

Q: REQUIRED IS ACTIVATION.
O: FOR USE AS A FLUENCE MONITOR.

29 COPPER 65 NEUTRON CAPTURE CROSS SECTION

641	25.3	MV	1.00	KEV		2	USA	HEMMIG	DOE	671002R

A: ACCURACY - 2 PERCENT NEAR THERMAL, 5 PERCENT ABOVE THERMAL.
O: FOR DETECTOR APPLICATIONS.

30 ZINC 64 NEUTRON CAPTURE CROSS SECTION

642	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.

643	25.0	MV	15.0	MEV	15.0%	1	GER	H.KUESTERS	KFK	792197R

Q: EVALUATION WANTED.
O: PRODUCTION OF ZN65.

30 ZINC 64 NEUTRON N,P

644	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.

645	UP TO		15.0	MEV		1	USA	NG	DOE	801070F

A: ACCURACY TO 10 PERCENT NEAR 15 MEV AND 50 PERCENT NEAR 2.5 MEV.
O: DATA NEEDED FOR DIAGNOSTICS.
M: NEW REQUEST.

35 BROMINE NEUTRON N,P

646	14.0	MEV	40.0	MEV		1	USA	NG	DOE	801177F

A: ACCURACY RANGE 10. TO 20. PERCENT.
O: FOR TRACK RECORDERS FOR FMIT DOSIMETRY.
M: NEW REQUEST.

35 BROMINE NEUTRON N,ALPHA

647	14.0	MEV	40.0	MEV		1	USA	NG	DOE	801178F

A: ACCURACY RANGE 10. TO 20. PERCENT.
O: FOR TRACK RECORDERS FOR FMIT DOSIMETRY.
M: NEW REQUEST.

35 BROMINE 81 NEUTRON CAPTURE CROSS SECTION

648	25.3	MV	10.0	KEV	10. %	2	USA	CARTER	HED	801111R

O: NEED BETTER MEASUREMENTS OF RESONANCE PARAMETERS FROM THERMAL TO 10 KEV FOR ISOTOPES IN WHICH CAPTURE LEADS TO BUILD-UP OF GAS-TAG ISOTOPES FOR FFTF.
M: NEW REQUEST.

35 BROMINE 87 GAMMA RAY YIELD

649					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

650				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 — NEUTRON — RESONANCE PARAMETERS

651	UP TO	1.00	KEV	10. %	2	USA	PRINCE	BNL	801121R

Q: CALCULATION OF (N,GAMMA) CROSS SECTION AND RESONANCE INTEGRAL.
DATA NEEDED FOR TAGGING MATERIAL STUDY.
ALSO IMPORTANT FOR FISSION PRODUCT FILES.
M: NEW REQUEST.

36 KRYPTON 78 — NEUTRON — CAPTURE CROSS SECTION

652	25.3 MV	10.0	KEV	10. %	2	USA	CARTER	HED	801104R

O: NEED BETTER MEASUREMENTS OF RESONANCE PARAMETERS FROM THERMAL TO 10 KEV FOR ISOTOPES USED IN GAS-TAGGING OF FFTF.
M: NEW REQUEST.

36 KRYPTON 80 — NEUTRON — CAPTURE CROSS SECTION

653	25.3 MV	10.0	KEV	10. %	2	USA	CARTER	HED	801105R

O: NEED BETTER MEASUREMENTS OF RESONANCE PARAMETERS FROM THERMAL TO 10 KEV FOR ISOTOPES USED IN GAS-TAGGING OF FFTF.
M: NEW REQUEST.

36 KRYPTON 82 — NEUTRON — CAPTURE CROSS SECTION

654	40.0 EV			10. %	1	USA	BOWMAN	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: SUBSTANTIAL MODIFICATIONS.

655	25.3 MV	10.0	KEV	10. %	2	USA	CARTER	HED	801106R

O: NEED BETTER MEASUREMENTS OF RESONANCE PARAMETERS FROM THERMAL TO 10 KEV FOR ISOTOPES USED IN GAS-TAGGING OF FFTF.
M: NEW REQUEST.

36 KRYPTON 83 — NEUTRON — RESONANCE PARAMETERS

656	1.00 MV	1.00	KEV	10. %	2	USA	STEEN FEINER	BET KAP	671190R

O: FOR FISSION PRODUCT ABSORPTION CALCULATION.

36 KRYPTON 90 — GAMMA RAY YIELD

657				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

39 YTTRIUM 89 — NEUTRON — N,2N

658	UP TO	50.0	MEV		1	USA	NG	DOE	801033F

A: ACCURACY RANGE 10. TO 20. PERCENT.
O: DOSIMETRY FOR FMIT FACILITY.
M: NEW REQUEST.

39 YTTRIUM 89 — NEUTRON — N,3N

659	UP TO	50.0	MEV		1	USA	NG	DOE	801032F

A: ACCURACY RANGE 10. TO 20. PERCENT.
O: DOSIMETRY FOR FMIT FACILITY.
M: NEW REQUEST.

39 YTTRIUM 89 — NEUTRON — N,P

660	UP TO	50.0	MEV		1	USA	NG	DOE	801034F

A: ACCURACY RANGE 10. TO 20. PERCENT.
O: DOSIMETRY FOR FMIT FACILITY.
M: NEW REQUEST.

40 ZIRCONIUM — NEUTRON — ELASTIC CROSS SECTION

661	5.00	MEV	15.0	MEV	10.0%	2	CCP	I.N.GOLOVIN	KUR	724037F

D: NEUTRON TRANSMISSION CALCULATIONS.

40 ZIRCONIUM — NEUTRON — ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

662	UP TO		15.0	MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR	724038F

D: NEUTRONICS CALCULATIONS FOR BLANKET AND SHIELD.

40 ZIRCONIUM — NEUTRON — ABSORPTION CROSS SECTION

663	500.	EV	15.0	MEV	25.0%	3	FR	P.HAMMER	CAD	712034R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
D: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

40 ZIRCONIUM — NEUTRON — CAPTURE CROSS SECTION

664	25.3	MV	1.00	KEV	5. %	2	USA	ORTON	RL	671005R

D: FOR REACTOR MODERATION AND REACTIVITY EFFECTS.

665	1.00	MV	50.0	KEV	10. %	2	USA	STEEN	BET	761057R

Q: LOW RESOLUTION MEASUREMENT ABOVE THERMAL DESIRED.
A: WANT 2 PERCENT ACCURACY IN THERMAL VALUE.
D: FOR VERIFICATION OF RECENT MEASUREMENTS.

666	25.0	MV	2.50	KEV	5.00%	1	FR	H.TELLIER	SAC	762137R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
D: CLAD AND STRUCTURE MATERIAL
M: SUBSTANTIAL MODIFICATIONS.

667	25.3	MV	3.00	MEV	10.0%	1	FR	B.DUCHEMIN	SAC	792017R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
D: FOR SHIELDING CALCULATIONS - EVALUATION MAY BE SUFFICIENT
M: SUBSTANTIAL MODIFICATIONS.

40 ZIRCONIUM — NEUTRON — TOTAL PHOTON PRODUCTION CROSS SECTION

668	UP TO		15.0	MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR	724039F

D: GAMMA RAY HEATING AND SHIELDING CALCULATIONS.

669	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
QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
D: FOR SHIELDING CALCULATIONS - EVALUATION MAY BE SUFFICIENT
M: SUBSTANTIAL MODIFICATIONS.

40 ZIRCONIUM — NEUTRON — N,2N

670	UP TO		15.0	MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR	724040F

D: FOR NEUTRON MULTIPLICATION CALCULATIONS.

40 ZIRCONIUM — NEUTRON — ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

671	3.00	MEV	14.0	MEV	10. %	1	USA	FEINER	KAP	671003R

A: INCIDENT ENERGY RESOLUTION: 10. PERCENT.
DELTA E(N') = 10 PERCENT.
D: FOR DESIGN OF PRESSURIZED WATER REACTORS USING ZR.

672	3.00	MEV	14.0	MEV	10. %	1	USA	SMITH	ANL	671004R

A: INCIDENT ENERGY RESOLUTION: 10. PERCENT.
DELTA E(N') = 10 PERCENT.

40 ZIRCONIUM — NEUTRON — N,P

673	UP TO		15.0	MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR	724041F

D: HYDROGEN ACCUMULATION CALCULATIONS.

40 ZIRCONIUM — NEUTRON — N,ALPHA

674	UP TO		15.0	MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR	724042F

D: HELIUM ACCUMULATION CALCULATIONS.

40 ZIRCONIUM NEUTRON SPECIAL QUANTITY (DESCRIPTION BELOW)

675 UP TO 40.0 MEV 10. % 1 USA MCELROY HED 801207F

Q: ACTIVATION IS REQUIRED.
REACTION TO ZR-89.
A: ACCURACY 20 PERCENT ABOVE 26 MEV.
O: FOR FMIT DOSIMETRY.
M: NEW REQUEST.

40 ZIRCONIUM NEUTRON CAPTURE RESONANCE INTEGRAL

676 0.50 EV 2. % 1 USA FEINER KAP 691143R
STEEN BET

Q: ENERGY REQUESTED IS A MINIMUM VALUE ONLY.
SHIELDED INTEGRALS DOWN TO 0.4 TIMES DILUTE INTEGRAL ALSO WANTED.
O: TO RESOLVE DISCREPANCIES IN EXISTING DATA.

677 0.50 EV 5.00% 1 FR H.TELLIER SAC 762136R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: C_AD AND STRUCTURE MATERIAL
M: SUBSTANTIAL MODIFICATIONS.

40 ZIRCONIUM 90 NEUTRON N,2N

678 UP TO 50.0 MEV 1 USA NG DOE 801036F

A: ACCURACY RANGE 10. TO 20. PERCENT.
O: DOSIMETRY FOR FMIT FACILITY.
M: NEW REQUEST.

STATUS----------STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

40 ZIRCONIUM 90 NEUTRON N,3N

679 UP TO 50.0 MEV 1 USA NG DOE 801035F

A: ACCURACY RANGE 10. TO 20. PERCENT.
O: DOSIMETRY FOR FMIT FACILITY.
M: NEW REQUEST.

40 ZIRCONIUM 90 NEUTRON N,P

680 UP TO 50.0 MEV 1 USA NG DOE 801037F

A: ACCURACY RANGE 10. TO 20. PERCENT.
O: DOSIMETRY FOR FMIT FACILITY.
M: NEW REQUEST.

40 ZIRCONIUM 91 NEUTRON TOTAL CROSS SECTION

681 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

682 2.00 MV 100. EV 10.0% 2 TUK A.ISYAR CNA 752091R

O: FOR REACTIVITY EFFECTS MEASUREMENTS.

40 ZIRCONIUM 91 NEUTRON RESONANCE PARAMETERS

683 290. EV 2 USA FEINER KAP 801120R

Q: GEEL-BOLOGNA MEASUREMENTS DISAGREE WITH PREVIOUS WORK ON SPIN ASSIGNMENT.
THE SPIN IS IMPORTANT IN DETERMINING SHIELDED RESONANCE INTEGRALS.
A: NEED TO KNOW IF J IS 2 OR 3.
M: NEW REQUEST.

40 ZIRCONIUM 93 NEUTRON CAPTURE CROSS SECTION

684 100. EV 500. KEV 20.0% 2 JAP S.IIJIMA NIG 752004R
H.MATSUNOBU SAE

O: FOR FAST REACTOR BURNUP CALCULATIONS.
SEE ALSO REQUEST NUMBER 792068.
NO EXPERIMENTAL DATA ABOVE 100 EV.

685 10.0 KEV 100. KEV 30. % 2 USA SCHENTER HED 801266R

A: ACCURACY DETERMINATION SHOULD REFLECT FAST REACTOR FLUX WEIGHTING SPECTRUM.
O: FOR CALCULATIONS OF REACTIVITY AND BURN-UP IN FAST REACTORS.
M: NEW REQUEST.

40 ZIRCONIUM 93 — NEUTRON — RESONANCE PARAMETERS

686	100.	EV	500.	KEV	20.0%	2	JAP	H.MATSUNOBU S.IIJIMA	SAE NIG		792068R

Q: 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.

40 ZIRCONIUM 95 — NEUTRON — CAPTURE CROSS SECTION

687	1.00	EV	10.0	KEV	20. %	3	USA	STEEN	BET		671010R

Q: RADIOACTIVE TARGET 64.0 DAY
THERMAL CROSS SECTION AND RI WANTED.
A: ENERGIES ABOVE 1 EV OF INTEREST TO GIVE -
10 PERCENT IN RI IF >1000 BARNS, 20 PERCENT IF 100-1000 BARNS.
O: DECAYS TO IMPORTANT FISSION PRODUCT.

688	0.50	EV	10.0	KEV		2	USA	FEINER	KAP		671011R

Q: RADIOACTIVE TARGET 64.0 DAY
THERMAL CROSS SECTION AND RI WANTED.
A: ACCURACY -
10 PERCENT IF SIGMA>100 BARNS, 20 PERCENT IF 10-100 BARNS.
ENERGIES ABOVE 1 EV OF INTEREST TO GIVE -
10 PERCENT IN RI IF >1000 BARNS, 20 PERCENT IF 100-1000 BARNS.
O: DECAYS TO IMPORTANT FISSION PRODUCT.

689	25.3	MV				3	CAN	W.H.WALKER	CRC		691802R

A: ACCURACY REQUIRED 20 BARNS.
O: FISSION PRODUCT, UNKNOWN CROSS SECTION.

690	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.

691	10.0	KEV	100.	KEV	30. %	2	USA	SCHENTER	HED		801267R

Q: RADIOACTIVE TARGET 64.0 DAY
A: ACCURACY DETERMINATION SHOULD REFLECT FAST REACTOR FLUX WEIGHTING SPECTRUM.
O: FOR CALCULATIONS OF REACTIVITY AND BURN-UP IN FAST REACTORS.
M: NEW REQUEST.

40 ZIRCONIUM 96 — NEUTRON — RESONANCE PARAMETERS

692	300.	EV			10. %	1	USA	FEINER	KAP		741074R

Q: NEUTRON AND GAMMA- WIDTHS REQUIRED.
O: NEEDED TO VERIFY MEASUREMENT ON 300 EV RESONANCE AND REMOVE DISCREPANCIES.

41 NIOBIUM 93 — NEUTRON — TOTAL CROSS SECTION

693	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

694	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

695	1.00	MEV	15.0	MEV	10.0%	2	GER	J.DARVAS	JUL		722125F

Q: ANGULAR DISTRIBUTIONS AT A FEW SELECTED ENERGIES WOULD BE SUFFICIENT.
O: RADIATION DAMAGE ESTIMATES.

696	3.00	MEV	15.0	MEV	10.0%	1	CCP	I.N.GOLOVIN	KUR		724043F

O: NEUTRON TRANSMISSION CALCULATIONS.

697	15.0	MEV	35.0	MEV		1	USA	NG	DOE		781221F

A: ACCURACY RANGE 10. TO 50. PERCENT.
ACCURACY TO BE DETERMINED FROM SENSITIVITY STUDIES
O: FOR MATERIAL DAMAGE CALCULATIONS.

41 NIOBIUM 93 — NEUTRON — INELASTIC CROSS SECTION

698	UP TO		15.0	MEV	10.0%	1	SWT	F.HEGEDUES	WUR		692155R

Q: FORMATION OF THE 15.0 YEAR ISOMER (E* = 29 KEV).
O: FOR FAST FLUX MEASUREMENTS.

699 UP TO 15.0 MEV 10.0% 2 GER J.DARVAS JUL 722126F
Q: FORMATION OF 13.6 YEAR ISOMER WANTED.
O: CALCULATION OF HEAT GENERATION AND RADIOACTIVE AFTERHEAT.

700 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.

701 UP TO 20.0 MEV 3.0% 2 IND S.B.GARG TRM 753044R
O: REQUIRED FOR STRUCTURAL-MATERIAL CALCULATIONS.

702 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.

703 UP TO 15.0 MEV 10.0% 1 UK J.BUTLER WIN 792122R
C.G.CAMPBELL WIN
O: DETECTOR FOR DAMAGE MONITORING.

704 UP TO 15.0 MEV 10.0% 2 GER H.KUESTERS KFK 792190R
Q: PRODUCTION OF ISOMER.
EVALUATION WANTED.

705 UP TO 40.0 MEV 10. % 1 USA MCELROY HED 801260F
Q: ACTIVATION IS REQUIRED.
REACTION TO ISOMERIC STATE.
A: ACCURACY 20 PERCENT ABOVE 15 MEV.
O: FOR FMIT DOSIMETRY.
M: NEW REQUEST.

706 25.3 MV 20.0 MEV 10.0% 1 JAP M.SASAKI PNC 812029R
K.SAKURAI JAE
Q: PRODUCTION OF 13.6 YR ISOMER
O: FOR NEUTRON DOSIMETRY.
M: NEW REQUEST.

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

41 NIOBIUM 93 NEUTRON ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

707 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

708 25.3 MV 5.00 MEV 20.0% 1 FR P.HAMMER CAD 712037R
A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

41 NIOBIUM 93 NEUTRON CAPTURE CROSS SECTION

709 1.00 KEV 100. KEV 10. % 2 USA HEMMIG DOE 621049R
SMITH ANL
A: ACCURACY - 5 PERCENT IN CALCULATED DILUTE AND SELF- SHIELDED RESONANCE INTEGRAL.
O: FOR FAST REACTOR CALCULATIONS, TO RESOLVE DISCREPANCIES IN THERMIONIC REACTOR WORTHS.

710 100. EV 100. KEV 20.0% 2 UK C.G.CAMPBELL WIN 682020R
O: FOR FAST REACTORS.

711 10.0 MEV 15.0 MEV 15.0% 1 CCP I.N.GOLOVIN KUR 724045F
O: HEAVIER ISOTOPE ACCUMULATION CALCULATIONS.

712 2.00 MV 25.0 MV 10.0% 2 TUK A.ISYAR CNA 752089R
O: FOR REACTIVITY EFFECTS MEASUREMENTS.

713 25.3 MV 20.0 MEV 3.0% 2 IND S.B.GARG TRM 753045R
O: REQUIRED FOR STRUCTURAL-MATERIAL CALCULATIONS.

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

41 NIOBIUM 93 NEUTRON PHOTON PRODUCTION CROSS SECTION IN INELASTIC SCAT.

714 1.00 MEV 15.0 MEV 20.0% 2 GER J.DARVAS JUL 722130F
Q: ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAYS REQUIRED.
O: RADIATION DAMAGE ESTIMATES.

41 NIOBIUM 93 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

715 UP TO 15.0 MEV 15.0% 1 CCP I.N.GOLOVIN KUR 724046F
O: GAMMA RAY HEATING AND SHIELDING CALCULATIONS.

716 25.3 MV 15.0 MEV 15. % 2 JAP Y.SEKI JAE 762124F
Q: GAMMA RAY SPECTRA ALSO REQUESTED
O: GAMMA-RAY HEATING CALCULATIONS

717 1.00 EV 20.0 MEV 20.0% 2 JAP K.SHIN KTO 812027F
Q: LARGE DIFFERENCES BETWEEN EXPERIMENTAL DATA MEASURED AT ORNL, LASL AND KYOTO UNIV.
O: CONFIRMATORY EXPERIMENTAL DATA REQUIRED
M: NEW REQUEST.

41 NIOBIUM 93 NEUTRON N,N

718 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.

41 NIOBIUM 93 NEUTRON N,2N

719 UP TO 15.0 MEV 10.0% 2 GER J.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.

720 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.

721 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.

722 UP TO 50.0 MEV 1 USA NG DOE 801028F
A: ACCURACY RANGE 10. TO 20. PERCENT.
O: DOSIMETRY FOR FMIT FACILITY.
M: NEW REQUEST.

STATUS----------STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

41 NIOBIUM 93 NEUTRON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

723 20.0 MEV 35.0 MEV 1 USA NG DOE 781222F
A: ACCURACY RANGE 10. TO 50. PERCENT.
ACCURACY TO BE DETERMINED FROM SENSITIVITY STUDIES
O: FOR MATERIAL DAMAGE CALCULATIONS.
M: MODIFIED (PARTIALLY FULFILLED).

41 NIOBIUM 93 NEUTRON N,P

724 3.00 MEV 15.0 MEV 20.0% 2 GER J.DARVAS JUL 722136F
O: RADIATION DAMAGE ESTIMATES, CALCULATION OF TRANSMUTATION RATES AND RADIOACTIVE AFTERHEAT.

725 UP TO 15.0 MEV 15.0% 1 CCP I.N.GOLOVIN KUR 724048F
O: HYDROGEN ACCUMULATION CALCULATIONS.

726 0.00 EV 15.0 MEV 20. % 2 JAP M.KASAI MAP 762119F
K.IOKI MAP
O: HYDROGEN ACCUMULATION CALCULATIONS

41 NIOBIUM 93 NEUTRON TOTAL PROTON PRODUCTION CROSS SECTION

727 9.00 MEV 14.0 MEV 10. % 2 USA NG DOE 791105F
O: FOR RADIATION DAMAGE CALCULATIONS.

728 15.0 MEV 35.0 MEV 1 USA NG DOE 781219F
A: ACCURACY RANGE 10. TO 50. PERCENT.
ACCURACY TO BE DETERMINED FROM SENSITIVITY STUDIES
O: FOR MATERIAL DAMAGE CALCULATIONS.

41 NIOBIUM 93 NEUTRON ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION

729 15.0 MEV 2 USA NG DOE 791147F
A: ACCURACY TO BE DETERMINED.
O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.

41 NIOBIUM 93 | NEUTRON | N,ALPHA

730 UP TO 15.0 MEV 15.0% 1 CCP I.N.GOLOVIN KUR 724049F
O: HELIUM ACCUMULATION CALCULATIONS.

41 NIOBIUM 93 | NEUTRON | TOTAL ALPHA PRODUCTION CROSS SECTION

731 0.00 EV 15.0 MEV 15. % 2 JAP K.IOKI MAP 762121F
O: HELIUM ACCUMULATION CALCULATIONS

732 9.00 MEV 15.0 MEV 10. % 2 USA NG DOE 781093F
O: FOR RADIATION DAMAGE CALCULATIONS.

733 15.0 MEV 35.0 MEV 1 USA NG DOE 781220F
A: ACCURACY RANGE 10. TO 50. PERCENT.
ACCURACY TO BE DETERMINED FROM SENSITIVITY STUDIES
O: FOR MATERIAL DAMAGE CALCULATIONS.

41 NIOBIUM 93 | NEUTRON | ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION

734 15.0 MEV 2 USA NG DOE 781126F
A: ACCURACY TO BE DETERMINED.
O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.

41 NIOBIUM 93 | NEUTRON | SPECIAL QUANTITY (DESCRIPTION BELOW)

735 9.00 MEV 15.0 MEV 10. % 2 USA NG DOE 801088F
Q: ALL SIGNIFICANT ACTIVATION REACTION CROSS SECTIONS.
O: DATA NEEDED FOR SHIELDING,ACTIVATION AND NEUTRON TRANSPORT CALCULATIONS.
M: NEW REQUEST.

41 NIOBIUM 93 | NEUTRON | CAPTURE RESONANCE INTEGRAL

736 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.

41 NIOBIUM 94 | NEUTRON | CAPTURE CROSS SECTION

737 100. EV 1.00 MEV 25.0% 2 UK C.G.CAMPBELL WIN 792131R
O: FOR FAST REACTOR CIRCUIT ACTIVITY.
EVALUATION REQUIREMENT.

41 NIOBIUM 95 | NEUTRON | CAPTURE CROSS SECTION

738 25.3 MV 2 USA FEINER KAP 671012R
Q: RADIOACTIVE TARGET 35.1 DAY
THERMAL AVERAGE USEFUL.
A: ACCURACY - 20 PERCENT IF ABSORPTION CROSS SECTION IS 10-100 BARNS, 10 PERCENT IF GREATER.
O: DECAYS TO IMPORTANT FISSION PRODUCT POISON.

42 MOLYBDENUM | NEUTRON | DIFFERENTIAL ELASTIC CROSS SECTION

739 1.00 MEV 15.0 MEV 10.0% 2 GER J.DARVAS JUL 722140F
Q: DISTRIBUTIONS FOR ENERGY STEPS OF 10 TO 20 PERCENT WOULD SUFFICE.
O: CONFIRMATION OF ANL DATA USEFUL.
RADIATION DAMAGE ESTIMATES.

740 3.00 MEV 15.0 MEV 10.0% 1 CCP I.N.GOLOVIN KUR 724050F
O: NEUTRON TRANSMISSION CALCULATIONS.

42 MOLYBDENUM | NEUTRON | INELASTIC CROSS SECTION

741 3.00 MEV 14.0 MEV 10.0% 3 FR B.DUCHEMIN SAC 732029F
A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.
M: SUBSTANTIAL MODIFICATIONS.

742 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

743	1.50 MEV	3.00 MEV	20. %	3	USA	SMITH HEMMIG	ANL DOE		721070R
						Q: TOTAL INTEGRAL OVER 4PI IS REQUIRED. SPECTRA AT SEVERAL ANGLES IF SIGNIFICANTLY ANISOTROPIC. A: INCIDENT ENERGY RESOLUTION: 20. PERCENT. DELTA E(N') = 20 PERCENT.			
744	UP TO	15.0 MEV	15.0%	1	CCP	I.N.GOLOVIN	KUR		724051F
						Q: NEUTRON CALCULATIONS FOR BLANKET AND SHIELDING.			

42 MOLYBDENUM — NEUTRON — ABSORPTION CROSS SECTION

745	500. EV	15.0 MEV	7.00%	2	FR	P.HAMMER	CAD		712040R
						A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS. Q: FOR FAST REACTOR CALCULATIONS. M: SUBSTANTIAL MODIFICATIONS.			

42 MOLYBDENUM — NEUTRON — CAPTURE CROSS SECTION

746	100. EV	1.00 MEV		2	UK	C.G.CAMPBELL	WIN		692157R
						A: ACCURACY 10 PERCENT TO 100 KEV, 20 PERCENT ABOVE. Q: FOR FAST REACTORS.			
747	1.00 KEV	1.00 MEV	10. %	3	USA	HEMMIG	DOE		721072R
						Q: TO RESOLVE DISCREPANCY IN REACTIVITY WORTH MEASUREMENTS.			
748	10.0 MEV	15.0 MEV	15.0%	1	CCP	I.N.GOLOVIN	KUR		724052F
						Q: HEAVY ISOTOPE ACCUMULATION CALCULATIONS.			

42 MOLYBDENUM — NEUTRON — TOTAL PHOTON PRODUCTION CROSS SECTION

749	25.3 MV	15.0 MEV	15.0%	1	CCP	I.N.GOLOVIN	KUR		724053F
						Q: GAMMA RAY HEATING AND SHIELDING CALCULATIONS.			
750	25.3 MV	15.0 MEV	15. %	2	JAP	Y.SEKI K.IOKI	JAE MAP		762131F
						Q: GAMMA RAY SPECTRA ALSO REQUIRED. Q: NEUTRON BALANCE AND GAMMA-RAY HEATING CALCULATION M: SUBSTANTIAL MODIFICATIONS.			

42 MOLYBDENUM — NEUTRON — N,2N

751	UP TO	15.0 MEV	10.0%	2	GER	J.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. Q: CALCULATION OF NEUTRON MULTIPLICATION AND RADIATION DAMAGE.			
752	UP TO	15.0 MEV	15.0%	1	CCP	I.N.GOLOVIN	KUR		724054F
						Q: SECONDARY ENERGY SPECTRUM REQUIRED AT 14.0 MEV. Q: NEUTRON MULTIPLICATION CALCULATIONS.			
753	UP TO	15.0 MEV	10.0%	3	FR	B.DUCHEMIN	SAC		732030F
						A: QUOTED ACCUARCY AT 2 STANDARD DEVIATIONS. Q: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL. M: SUBSTANTIAL MODIFICATIONS.			

42 MOLYBDENUM — NEUTRON — ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

754	1.00 MEV	15.0 MEV	10. %	2	JAP	Y.SEKI	JAE		762126F
						Q: CROSS SECTION FOR EACH ISOTOPE ARE ALSO REQUESTED. Q: NEJTRON TRANSPORT CALCULATIONS M: SUBSTANTIAL MODIFICATIONS.			
755	9.00 MEV	15.0 MEV	10. %	2	USA	NG	DOE		781084F
						Q: DATA NEEDED FOR SHIELDING AND NEUTRON TRANSPORT CALCULATIONS.			

42 MOLYBDENUM — NEUTRON — N,P

756	UP TO	14.0 MEV	10.0%	2	GER	B.GOEL	KFK		692159R
757	1.50 MEV	15.0 MEV	20.0%	2	GER	J.DARVAS	JUL		722148F
						Q: RADIATION DAMAGE ESTIMATES, CALCULATION OF TRANSMUTATION RATES AND RADIOACTIVE AFTERHEAT.			
758	UP TO	15.0 MEV	15.0%	1	CCP	I.N.GOLOVIN	KUR		724055F
						Q: HYDROGEN ACCUMULATION CALCULATIONS.			

759	UP TO	14.0	MEV	10.0%	3	FR	B.DUCHEMIN	SAC	732031F

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.
M: SUBSTANTIAL MODIFICATIONS.

760	0.00 EV	15.0	MEV	10. %	2	JAP	Y.SEKI K.IOKI H.IIDA	JAE MAP JAE	762129F

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 TOTAL PROTON PRODUCTION CROSS SECTION

761	9.00 MEV	15.0	MEV	10. %	2	USA	NG	DOE	781108F

O: FOR RADIATION DAMAGE CALCULATIONS.

42 MOLYBDENUM NEUTRON ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION

762	15.0 MEV				2	USA	NG	DOE	781150F

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

42 MOLYBDENUM NEUTRON N,ALPHA

763	5.00 MEV	15.0	MEV	20.0%	2	GER	J.DARVAS	JUL	722149F

O: RADIATION DAMAGE ESTIMATES, CALCULATION OF TRANSMUTATION RATES AND RADIOACTIVE AFTERHEAT.

764	UP TO	15.0	MEV	15.0%	1	CCP	I.N.GOLOVIN	KUR	724056F

O: HELIUM ACCUMULATION CALCULATIONS.

765	UP TO	14.0	MEV	10.0%	3	FR	B.DUCHEMIN	SAC	732032F

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.
M: SUBSTANTIAL MODIFICATIONS.

766	0.00 EV	15.0	MEV	20. %	2	JAP	Y.SEKI K.IOKI	JAE MAP	762130F

Q: CROSS SECTIONS FOR EACH ISOTOPE ARE ALSO REQUESTED
O: HELIUM ACCUMULATION CALCULATIONS

42 MOLYBDENUM NEUTRON TOTAL ALPHA PRODUCTION CROSS SECTION

767	9.00 MEV	15.0	MEV	10. %	2	USA	NG	DOE	781096F

O: FOR RADIATION DAMAGE CALCULATIONS.

42 MOLYBDENUM NEUTRON ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION

768	15.0 MEV				2	USA	NG	DOE	781129F

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

42 MOLYBDENUM NEUTRON SPECIAL QUANTITY (DESCRIPTION BELOW)

769	9.00 MEV	15.0	MEV	10. %	2	USA	NG	DOE	801086F

Q: ALL SIGNIFICANT ACTIVATION REACTION CROSS SECTIONS.
O: DATA NEEDED FOR SHIELDING, ACTIVATION AND NEUTRON TRANSPORT CALCULATIONS.
M: NEW REQUEST.

770	2.50 EV	15.0	MEV	20. %	1	USA	ENGHOLM	GA	801102F

Q: ACTIVATION CROSS SECTION.
O: FUSION REACTOR SHUTDOWN DOSE RATES.
M: NEW REQUEST.

42 MOLYBDENUM 92 NEUTRON N,NP

771	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.

42 MOLYBDENUM 94 NEUTRON N,2N

772	UP TO	15.0	MEV	10. %	2	JAP	K.IOKI	MAP	762133F

O: NEUTRON BALANCE AND TRANSMUTATION CALCULATIONS

42 MOLYBDENUM 95 NEUTRON CAPTURE RESONANCE INTEGRAL

773	0.50	EV	10.0	KEV	10. %	3	USA	STEEN	BET	741075R

O: MAJOR FISSION PRODUCT FOR THERMAL REACTORS.

42 MOLYBDENUM 97 NEUTRON CAPTURE CROSS SECTION

774	100.	KEV	1.00	MEV	20. %	2	USA	SCHENTER	HED	801268R

A: ACCURACY DETERMINATION SHOULD REFLECT FAST REACTOR FLUX WEIGHTING SPECTRUM.
O: FOR CALCULATIONS OF REACTIVITY AND BURN-UP IN FAST REACTORS.
M: NEW REQUEST.

42 MOLYBDENUM 99 NEUTRON CAPTURE CROSS SECTION

775	1.00	MV	1.00	KEV		3	USA	STEEN FEINER	BET KAP	671013R

Q: RADIOACTIVE TARGET 66 HR
RESONANCE PARAMETERS ALSO WANTED.
A: ACCURACY -
10 PERCENT IF SIGMA>100 BARNS, 20 PERCENT IF 10-100 BARNS.
ENERGIES ABOVE 1 EV OF INTEREST TO GIVE -
10 PERCENT IN RI IF >1000 BARNS, 20 PERCENT IF 100-1000 BARNS.
O: DECAYS TO IMPORTANT FISSION PRODUCT.

776	25.3	MV				3	CAN	W.H.WALKER	CRC	691803R

A: ACCURACY REQUIRED 600 B.
O: FISSION PRODUCT, UNKNOWN CROSS SECTION.

43 TECHNETIUM 99 NEUTRON CAPTURE CROSS SECTION

777	1.00	MV	10.0	KEV	10. %	2	USA	STEEN	BET	741076R

Q: RADIOACTIVE TARGET 2.14X(10**5) YR
THERMAL CROSS SECTION AND RI WANTED.
O: IMPORTANT FISSION PRODUCT FOR THERMAL REACTORS.

778	25.0	KEV	500.	EV	10.0%	1	JAP	S.IIJIMA H.MATSUNOBU	NIG SAE	752007R

O: FOR FAST REACTOR BURNUP CALCULATIONS.
A SINGLE ABSOLUTE DATA POINT AT 25 KEV REQUIRED.
M: SUBSTANTIAL MODIFICATIONS.

779	20.0	KEV	1.00	MEV	10. %	2	USA	SCHENTER	HED	801269R

A: ACCURACY DETERMINATION SHOULD REFLECT FAST REACTOR FLUX WEIGHTING SPECTRUM.
O: FOR CALCULATIONS OF REACTIVITY AND BURN-UP IN FAST REACTORS.
M: NEW REQUEST.

44 RUTHENIUM 101 NEUTRON CAPTURE CROSS SECTION

780	1.00	MV	10.0	KEV	10. %	3	USA	STEEN	BET	741077R

Q: THERMAL CROSS SECTION AND RI WANTED.
O: CALCULATION OF FISSION PRODUCT POISON FOR THERMAL REACTORS.

781	1.00	KEV	1.00	MEV	10. %	2	USA	SCHENTER	HED	801270R

A: ACCURACY DETERMINATION SHOULD REFLECT FAST REACTOR FLUX WEIGHTING SPECTRUM.
O: FOR CALCULATIONS OF REACTIVITY AND BURN-UP IN FAST REACTORS.
M: NEW REQUEST.

44 RUTHENIUM 102 NEUTRON CAPTURE CROSS SECTION

782	1.00	KEV	1.00	MEV	10. %	2	USA	SCHENTER	HED	801271R

A: ACCURACY DETERMINATION SHOULD REFLECT FAST REACTOR FLUX WEIGHTING SPECTRUM.
O: FOR CALCULATIONS OF REACTIVITY AND BURN-UP IN FAST REACTORS.
M: NEW REQUEST.

44 RUTHENIUM 102 NEUTRON RESONANCE PARAMETERS

783	UP TO	3.00	KEV	20.0%		2	JAP	S.IIJIMA H.MATSUNOBU	NIG SAE	812033N

Q: ONLY 3 LEVELS ARE KNOWN UP TO 1.3KEV.
O: FOR FAST REACTOR BURN-UP CALCULATIONS
M: NEW REQUEST.

44 RUTHENIUM 103 GAMMA RAY YIELD

784				1.0%	2	JAP	K.TASAKA	JAE	722002N

Q: YIELDS PER DISINTEGRATION OF 497 AND 610 KEV GAMMA RAY REQUIRED. (FOLLOWING BETA DECAY EVENT)
D: FOR BURN UP CALCULATION FROM NON-DESTRUCTIVE MEASUREMENT.

44 RUTHENIUM 103 NEUTRON CAPTURE CROSS SECTION

785	1.00	MV	1.00	KEV	3	USA	STEEN FEINER	BET KAP	671015R

Q: RADIOACTIVE TARGET 39.4 DAY
A: ACCURACY - 10 PERCENT IF SIGMA>100 BARNS, 20 PERCENT IF 10-100 BARNS.
ENERGIES ABOVE 1 EV OF INTEREST TO GIVE - 10 PERCENT IN RI IF >1000 BARNS, 20 PERCENT IF 100-1000 BARNS.
D: FOR CALCULATION OF FISSION PRODUCT POISONS.

786	25.3	MV			3	CAN	W.H.WALKER	CRC	691804R

A: ACCURACY REQUIRED 35 B.
D: FISSION PRODUCT, UNKNOWN CROSS SECTION.

787	100.	EV	500.	KEV	20.0%	2	JAP	S.IIJIMA H.MATSUNOBU	NIG SAE	792079N

Q: EXPERIMENTAL DATA REQUIRED.
D: FOR FAST REACTOR BURNUP CALCULATION,40 DAYS T(1/2)
NO DIFFERENTIAL OR INTEGRAL DATA EXIST.
VERY LARGE DISCREPANCIES BETWEEN EVALUATIONS.
M: SUBSTANTIAL MODIFICATIONS.

788	10.0	KEV	100.	KEV	30. %	2	USA	SCHENTER	HED	801272R

Q: RADIOACTIVE TARGET 39.4 DAY
A: ACCURACY DETERMINATION SHOULD REFLECT FAST REACTOR FLUX WEIGHTING SPECTRUM.
D: FOR CALCULATIONS OF REACTIVITY AND BURN-UP IN FAST REACTORS.
M: NEW REQUEST.

44 RUTHENIUM 104 NEUTRON RESONANCE PARAMETERS

789	UP TO	3.00	KEV	20.0%	2	JAP	S.IIJIMA H.MATSUNOBU	NIG SAE	812034N

Q: ONLY 4 LEVELS ARE KNOWN UP TO 1.06 KEV.
D: FOR FAST REACTOR BURN-UP CALCULATIONS
M: NEW REQUEST.

44 RUTHENIUM 106 NEUTRON CAPTURE CROSS SECTION

790	25.3	MV			10.0%	3	CCP	S.A.SKVORTSOV O.A.MILLER	KUR KUR	704006N

Q: ALSO WANTED FOR .06 EV INCIDENT NEUTRONS.
D: FOR ASSAY OF U AND PU IN FUEL ELEMENTS FROM FISSION PRODUCT GAMMA RADIATION.

791	1.00	KEV	1.00	MEV	20. %	2	USA	SCHENTER	HED	801273R

Q: RADIOACTIVE TARGET-367 DAY
A: ACCURACY DETERMINATION SHOULD REFLECT FAST REACTOR FLUX WEIGHTING SPECTRUM.
D: FOR CALCULATIONS OF REACTIVITY AND BURN-UP IN FAST REACTORS.
M: NEW REQUEST.

45 RHODIUM 103 NEUTRON INELASTIC CROSS SECTION

792	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.
D: THRESHOLD DETECTOR.

793	UP TO	15.0	MEV	5.0%	1	GER	H.KUESTERS	KFK	792191R

Q: PRODUCTION OF ISOMER.
EVALUATION WANTED.

794	UP TO	40.0	MEV	10. %	1	USA	MCELROY	HED	801258F

Q: ACTIVATION IS REQUIRED.
REACTION TO ISOMERIC STATE.
A: ACCURACY 20 PERCENT ABOVE 15 MEV.
D: FOR FMIT DOSIMETRY.
M: NEW REQUEST.

STATUS----------STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

45 RHODIUM 103 NEUTRON CAPTURE CROSS SECTION

795	1.00	MV	1.00	KEV	5.0%	3	DEN	C.F.HOEJERUP	RIS	712044R

D: WANTED FOR FISSION PRODUCT CALCULATIONS.

45 RHODIUM 103 NEUTRON CAPTURE CROSS SECTION (CONTINUED)

796	10.0	MV	5.00	KEV	10.0%	2	FR	H.TELLIER	SAC	732058R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

45 RHODIUM 105 NEUTRON CAPTURE CROSS SECTION

797	10.0	MV	500.	EV		3	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.

46 PALLADIUM 105 NEUTRON RESONANCE PARAMETERS

798	2.00	KEV	3.00	KEV	10.0%	2	JAP	S.IIJIMA H.MATSUNOBU	NIG SAE	812035N

Q: RESONANCE PARAMETERS BELOW 2KEV MEASURED BY STANELOS (1979), ABOVE 3KEV CAPTURE DATA OF MACKLIN ET AL AGREE WITH THOSE BY HOCKENBURY ET AL
O: FOR FAST REACTOR BURN-UP CALCULATIONS.
M: NEW REQUEST.

46 PALLADIUM 107 NEUTRON CAPTURE CROSS SECTION

799	25.3	MV				3	CAN	W.H.WALKER	CRC	691806R

A: ACCURACY REQUIRED 10 BARNS.
O: PU FISSION PRODUCT, UNKNOWN CROSS SECTION.

800	500.	EV	500.	KEV	10.0%	1	JAP	S.IIJIMA H.MATSUNOBU	NIG SAE	752012R

O: FOR FAST REACTOR BURNUP CALCULATIONS.
EVALUATIONS ARE VERY DISCREPANT.
M: SUBSTANTIAL MODIFICATIONS.

801	1.00	KEV	1.00	MEV	10. %	2	USA	SCHENTER	HED	801274R

Q: RADIOACTIVE TARGET 6.5X(10**6) YR
A: ACCURACY DETERMINATION SHOULD REFLECT FAST REACTOR FLUX WEIGHTING SPECTRUM.
O: FOR CALCULATIONS OF REACTIVITY AND BURN-UP IN FAST REACTORS.
M: NEW REQUEST.

47 SILVER NEUTRON N,P

802	14.0	MEV	40.0	MEV		1	USA	NG	DOE	801176F

A: ACCURACY RANGE 10. TO 20. PERCENT.
O: FOR TRACK RECORDERS FOR FMIT DOSIMETRY.
M: NEW REQUEST.

47 SILVER NEUTRON N,ALPHA

803	14.0	MEV	40.0	MEV		1	USA	NG	DOE	801175F

A: ACCURACY RANGE 10. TO 20. PERCENT.
O: FOR TRACK RECORDERS FOR FMIT DOSIMETRY.
M: NEW REQUEST.

47 SILVER 107 NEUTRON N,2N

804	UP TO		50.0	MEV		1	USA	NG	DOE	801026F

A: ACCURACY RANGE 10. TO 20. PERCENT.
O: DOSIMETRY FOR FMIT FACILITY.
M: NEW REQUEST.

47 SILVER 107 NEUTRON N,3N

805	UP TO		50.0	MEV		1	USA	NG	DOE	801025F

A: ACCURACY RANGE 10. TO 20. PERCENT.
O: DOSIMETRY FOR FMIT FACILITY.
M: NEW REQUEST.

47 SILVER 109 NEUTRON CAPTURE CROSS SECTION

806	3.00	KEV	1.00	MEV	10.0%	1	FR	E.FORT	CAD	792018R

O: REACTOR CALCULATIONS

807	1.00	KEV	1.00	MEV	20. %	2	USA	SCHENTER	HED	801275R

A: ACCURACY DETERMINATION SHOULD REFLECT FAST REACTOR FLUX WEIGHTING SPECTRUM.
O: FOR CALCULATIONS OF REACTIVITY AND BURN-UP IN FAST REACTORS.
M: NEW REQUEST.

48 CADMIUM 113 | NEUTRON | CAPTURE CROSS SECTION

808	UP TO	100. EV	5.0%	3	FR	H.TELLIER	SAC		732063R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: CONTROL AND POISON.
M: SUBSTANTIAL MODIFICATIONS.

49 INDIUM 115 | GAMMA | SPECIAL QUANTITY (DESCRIPTION BELOW)

809	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.

49 INDIUM 115 | NEUTRON | INELASTIC CROSS SECTION

810	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.

811			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.

812	UP TO	15.0 MEV	5.0%	1	GER	H.KUESTERS	KFK		792192R

Q: PRODUCTION OF ISOMER. EVALUATION WANTED.

STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

50 TIN | NEUTRON | DIFFERENTIAL ELASTIC CROSS SECTION

813	15.0 MEV	35.0 MEV		1	USA	NG	DOE		791035F

A: ACCURACY RANGE 10. TO 40. PERCENT. ACCURACY TO BE DETERMINED FROM SENSITIVITY STUDIES.
O: FOR MATERIAL DAMAGE CALCULATIONS.

50 TIN | NEUTRON | ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

814	15.0 MEV	35.0 MEV		1	USA	NG	DOE		781041F

A: ACCURACY RANGE 10. TO 40. PERCENT. ACCURACY TO BE DETERMINED FROM SENSITIVITY STUDIES.
O: FOR MATERIAL DAMAGE CALCULATIONS.

815	9.00 MEV	15.0 MEV	10. %	2	USA	NG	DOE		781083F

O: DATA NEEDED FOR SHIELDING AND NEUTRON TRANSPORT CALCULATIONS.

50 TIN | NEUTRON | TOTAL PROTON PRODUCTION CROSS SECTION

816	9.00 MEV	35.0 MEV	10. %	1	USA	NG	DOE		781029F

O: FOR MATERIAL DAMAGE CALCULATIONS.

50 TIN | NEUTRON | ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION

817	15.0 MEV			2	USA	NG	DOE		781149F

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

50 TIN | NEUTRON | TOTAL ALPHA PRODUCTION CROSS SECTION

818	9.00 MEV	35.0 MEV	10. %	1	USA	NG	DOE		781214F

O: FOR MATERIAL DAMAGE CALCULATIONS.

50 TIN | NEUTRON | ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION

819	15.0 MEV			2	USA	NG	DOE		781128F

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

50 TIN NEUTRON SPECIAL QUANTITY (DESCRIPTION BELOW)

820 9.00 MEV 15.0 MEV 10. % 2 USA NG DOE 801087F
Q: ALL SIGNIFICANT ACTIVATION REACTION CROSS SECTIONS.
O: DATA NEEDED FOR SHIELDING, ACTIVATION AND NEUTRON TRANSPORT CALCULATIONS.
M: NEW REQUEST.

50 TIN 126 NEUTRON CAPTURE CROSS SECTION

821 25.3 MV 3 CAN W.H.WALKER CRC 691807R
A: ACCURACY REQUIRED 120 BARNS.
O: FISSION PRODUCT, UNKNOWN CROSS SECTION.

51 ANTIMONY 124 NEUTRON CAPTURE CROSS SECTION

822 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.

51 ANTIMONY 125 NEUTRON CAPTURE CROSS SECTION

823 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

824 25.3 MV 3 CAN W.H.WALKER CRC 691809R
A: ACCURACY REQUIRED 4000 BARNS.
O: FISSION PRODUCT, UNKNOWN CROSS SECTION.

52 TELLURIUM 127 NEUTRON CAPTURE CROSS SECTION

825 1.00 MV 1.00 EV 20. % 2 USA FEINER KAP 671022R
Q: 109 DAY ISOMER
THERMAL AVERAGE OR 0.025 EV VALUE USEFUL.
O: FOR CALCULATION OF FISSION PRODUCT POISONS.

826 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

827 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 CAPTURE CROSS SECTION

828 25.3 MV 10.0 KEV 10. % 2 USA CARTER HED 801112R
O: NEED BETTER MEASUREMENTS OF RESONANCE PARAMETERS FROM THERMAL TO 10 KEV FOR ISOTOPES IN WHICH CAPTURE LEADS TO BUILD-UP OF GAS-TAG ISOTOPES FOR FFTF.
M: NEW REQUEST.

53 IODINE 127 NEUTRON N,2N

829 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

830 10.0 MV 1.00 MEV 20.0% 1 GER H.KUESTERS KFK 792223R
Q: EVALUATION WANTED.
O: FOR THERMAL REACTORS.

831 10.0 KEV 100. KEV 30. % 2 USA SCHENTER HED 801276R
Q: RADIOACTIVE TARGET 1.6X(10**7) YR
A: ACCURACY DETERMINATION SHOULD REFLECT FAST REACTOR FLUX WEIGHTING SPECTRUM.
O: FOR CALCULATIONS OF REACTIVITY AND BURN-UP IN FAST REACTORS.
M: NEW REQUEST.

832	100.	EV	500.	KEV	20.0%	2	JAP	S.IIJIMA H.MATSUNOBU	NIG SAE	812036N

Q: NO EXPERIMENTAL DATA
O: FOR FAST REACTOR BURN-UP CALCULATIONS
M: NEW REQUEST.

53 IODINE 129 NEUTRON RESONANCE PARAMETERS

833	100.	EV	500.	KEV	20.0%	2	JAP	S.IIJIMA H.MATSUNOBU	NIG SAE	812037N

O: FOR FAST REACTOR BURN-UP CALCULATIONS
M: NEW REQUEST.

53 IODINE 133 NEUTRON CAPTURE CROSS SECTION

834	1.00	MV	1.00	KEV	20. %	2	USA	STEEN	BET	671024R

Q: RADIOACTIVE TARGET 20.8 HR
A: ACCURACY 10 PERCENT IF SIGMA>9000 BARNS.
ABOVE 1 EV WANT RI TO 20 PERCENT IF IN RANGE
9000-90,000 BARNS, TO 10 PERCENT IF LARGER.
O: FOR CALCULATION OF FISSION PRODUCT POISONS.

53 IODINE 135 GAMMA RAY YIELD

835					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

836					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

837					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

838					10. %	3	JAP	H.SHIMOJIMA	TOS	762013N

O: DETECTION OF FAILED FUEL

53 IODINE 139 GAMMA RAY YIELD

839					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 124 NEUTRON CAPTURE CROSS SECTION

840	25.3	MV	10.0	KEV	10. %	2	USA	CARTER	HED	801107R

O: NEED BETTER MEASUREMENTS OF RESONANCE PARAMETERS FROM THERMAL TO 10 KEV FOR ISOTOPES USED IN GAS-TAGGING OF FFTF.
M: NEW REQUEST.

54 XENON 126 NEUTRON CAPTURE CROSS SECTION

841	25.3	MV	10.0	KEV	10. %	2	USA	CARTER	HED	801108R

O: NEED BETTER MEASUREMENTS OF RESONANCE PARAMETERS FROM THERMAL TO 10 KEV FOR ISOTOPES USED IN GAS-TAGGING OF FFTF.
M: NEW REQUEST.

54 XENON 128 NEUTRON CAPTURE CROSS SECTION

842	25.3	MV	10.0	KEV	10. %	2	USA	CARTER	HED	801109R

O: NEED BETTER MEASUREMENTS OF RESONANCE PARAMETERS FROM THERMAL TO 10 KEV FOR ISOTOPES USED IN GAS-TAGGING OF FFTF.
M: NEW REQUEST.

54 XENON 129 NEUTRON CAPTURE CROSS SECTION

843	25.3	MV	10.0	KEV	10. %	2	USA	CARTER	HED	801110R

Q: NEED BETTER MEASUREMENTS OF RESONANCE PARAMETERS FROM THERMAL TO 10 KEV FOR ISOTOPES USED IN GAS-TAGGING OF FFTF.
M: NEW REQUEST.

54 XENON 131 NEUTRON CAPTURE CROSS SECTION

844	1.00	MV	1.00	KEV	10. %	1	USA	STEEN	BET	671025R

Q: THERMAL CROSS SECTION AND RI WANTED.
A: ENERGIES ABOVE 1 EV OF INTEREST TO GIVE RI TO 10 PERCENT.
O: IMPORTANT FISSION PRODUCT POISON.

845	10.0	MV	5.00	KEV	10.0%	2	FR	H.TELLIER	SAC	732064R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

846	100.	EV	500.	KEV	20.0%	1	JAP	S.IIJIMA H.MATSUNOBU	NIG SAE	752014N

O: FOR FAST REACTOR BURNUP CALCULATIONS. NO EXPERIMENTAL DATA IN KEV REGION. RESONANCE PARAMETERS ARE KNOWN UP TO 4 KEV.
M: SUBSTANTIAL MODIFICATIONS.

847	1.00	KEV	1.00	MEV	20. %	2	USA	SCHENTER	HED	801277R

A: ACCURACY DETERMINATION SHOULD REFLECT FAST REACTOR FLUX WEIGHTING SPECTRUM.
O: FOR CALCULATIONS OF REACTIVITY AND BURN-UP IN FAST REACTORS.
M: NEW REQUEST.

54 XENON 132 NEUTRON CAPTURE CROSS SECTION

848	100.	EV	500.	KEV	20.0%	2	JAP	S.IIJIMA H.MATSUNOBU	NIG SAE	812038N

Q: NO EXPERIMENTAL DATA
O: FOR FAST REACTOR BURN-UP CALCULATIONS
M: NEW REQUEST.

54 XENON 132 NEUTRON RESONANCE PARAMETERS

849	100.	EV	500.	KEV	20.0%	2	JAP	S.IIJIMA H.MATSUNOBU	NIG SAE	812039N

Q: ONLY 3 LEVELS BELOW 3.85 KEV ARE KNOWN
O: FOR FAST REACTOR BURN-UP CALCULATIONS
M: NEW REQUEST.

54 XENON 133 NEUTRON CAPTURE CROSS SECTION

850	1.00	MV	1.00	KEV	5.0%	3	DEN	C.F.HOEJERUP	RIS	712045R

O: WANTED FOR FISSION PRODUCT CALCULATIONS.

851	1.00	MV	5.00	KEV	10. %	2	USA	STEEN	BET	741088R

Q: RADIOACTIVE TARGET 5.29 DAY THERMAL CROSS SECTION AND RI WANTED.
O: FOR FISSION PRODUCT POISON CALCULATIONS.

54 XENON 135 NEUTRON CAPTURE CROSS SECTION

852	10.0	MV	5.00	KEV	10.0%	2	FR	H.TELLIER	SAC	732065R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

853	1.00	MV	5.00	EV	2. %	1	USA	STEEN	BET	741089R

Q: RADIOACTIVE TARGET 9.17 HR
A: THERMAL CROSS SECTION WANTED TO 2 PERCENT.
O: FOR FISSION PRODUCT POISON CALCULATIONS.

854	5.00	EV	5.00	KEV	5. %	1	USA	STEEN	BET	741224R

Q: RADIOACTIVE TARGET 9.17 HR
A: THERMAL CROSS SECTION WANTED TO 2 PERCENT.
O: FOR FISSION PRODUCT POISON CALCULATIONS.

855	1.00	MV	5.00	EV	3. %	2	USA	FEINER	KAP	761070R

Q: RADIOACTIVE TARGET 9.17 HR
A: THERMAL CROSS SECTION WANTED TO 2 PERCENT.
O: FOR FISSION PRODUCT POISON CALCULATIONS.

54 XENON 135 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

856 25.3 MV 1.00 KEV 20.0% 1 FR B.DUCHEMIN SAC 812059R
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 INSTRUMENTATION AND SHIELDING CALCULATIONS EVALUATION MAY BE SUFFICIENT
M: NEW REQUEST.

54 XENON 135 NEUTRON ENERGY DIFF. PHOTON-PRODUCTION CROSS SECTION

857 25.3 MV 2 USA FEINER KAP 671029R
Q: RADIOACTIVE TARGET 9.17 HR FOR GAMMA ENERGIES 1-8 MEV.
A: ACCURACY RANGE 10. TO 20. PERCENT. GAMMA-ENERGY RESOLUTION - 10-20 PERCENT.
O: FOR GAMMA SHIELDING AND HEAT CALCULATIONS.

54 XENON 139 GAMMA RAY YIELD

858 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 CAPTURE CROSS SECTION

859 25.3 MV 3.0% 2 CCP S.A.SKVORTSOV KUR 704007N
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.

55 CESIUM 134 NEUTRON CAPTURE CROSS SECTION

860 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.

861 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.

862 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

863 10.0 MV 1.00 MEV 20.0% 1 GER H.KUESTERS KFK 792224R
Q: EVALUATION WANTED.
O: FOR THERMAL REACTORS.

55 CESIUM 135 NEUTRON CAPTURE CROSS SECTION

864 1.00 MV 10.0 KEV 10. % 2 USA STEEN BET 741090R
Q: RADIOACTIVE TARGET 3.0X(10**6) YR THERMAL CROSS SECTION AND RI WANTED.
O: FOR FISSION PRODUCT POISON CALCULATIONS.

865 100. 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.

866 1.00 KEV 1.00 MEV 20. % 2 USA SCHENTER HED 801278R
Q: RADIOACTIVE TARGET 3.0X(10**6) YR
A: ACCURACY DETERMINATION SHOULD REFLECT FAST REACTOR FLUX WEIGHTING SPECTRUM.
O: FOR CALCULATIONS OF REACTIVITY AND BURN-UP IN FAST REACTORS.
M: NEW REQUEST.

55 CESIUM 135 NEUTRON RESONANCE PARAMETERS

867 100. EV 500. KEV 10.0% 1 JAP S.IIJIMA NIG 812040N
H.MATSUNOBU SAE
O: FOR FAST REACTOR BURN-UP CALCULATIONS
M: NEW REQUEST.

55 CESIUM 137 — NEUTRON — CAPTURE CROSS SECTION

868	25.3	MV		10.0%	2	CCP	S.A.SKVORTSOV O.A.MILLER	KUR KUR	704013N

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 140 — NEUTRON — CAPTURE CROSS SECTION

869	25.3	MV		5.0%	3	CCP	S.A.SKVORTSOV O.A.MILLER	KUR KUR	704015N

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

870				1.0%	2	CCP	S.A.SKVORTSOV O.A.MILLER	KUR KUR	704016N

Q: YIELD OF GAMMA QUANTA PER BETA DECAY EVENT WANTED FOR 328.8 AND 815.8 KEV GAMMAS.
O: FOR ASSAY OF U AND PU IN FUEL ELEMENTS FROM FISSION PRODUCT GAMMA RADIATION.

58 CERIUM 144 — GAMMA RAY YIELD

871				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.
O: FOR ASSAY OF U AND PU IN FUEL ELEMENTS FROM FISSION PRODUCT GAMMA RADIATION.

58 CERIUM 144 — NEUTRON — CAPTURE CROSS SECTION

872	10.0	KEV	100.	KEV	30. %	2	USA	SCHENTER	HED	8012798

Q: RADIOACTIVE TARGET 284 DAY
A: ACCURACY DETERMINATION SHOULD REFLECT FAST REACTOR FLUX WEIGHTING SPECTRUM.
O: FOR CALCULATIONS OF REACTIVITY AND BURN-UP IN FAST REACTORS.
M: NEW REQUEST.

60 NEODYMIUM 143 — NEUTRON — CAPTURE RESONANCE INTEGRAL

873	0.50	EV	1.00	KEV	5. %	1	USA	STEEN	BET	6710348

O: FOR CALCULATION OF FISSION PRODUCT POISONS.

60 NEODYMIUM 145 — NEUTRON — CAPTURE RESONANCE INTEGRAL

874	0.50	EV	1.00	KEV	10. %	1	USA	STEEN	BET	6710368

O: FOR CALCULATION OF FISSION PRODUCT POISONS.

60 NEODYMIUM 146 — NEUTRON — CAPTURE CROSS SECTION

875	500.	EV	200.	KEV	20.0%	2	FR	P.HAMMER	CAD	7320758

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: BURN UP STUDY.
M: SUBSTANTIAL MODIFICATIONS.

60 NEODYMIUM 147 — NEUTRON — CAPTURE CROSS SECTION

876	1.00	MV	1.00	KEV		2	USA	FEINER	KAP	6710398

Q: RADIOACTIVE TARGET 11 DAY
THERMAL CROSS SECTION AND RI WANTED.
A: ACCURACY RANGE 5. TO 10. PERCENT.

877	1.00	MV	1.00	KEV		1	USA	STEEN	BET	6710408

Q: RADIOACTIVE TARGET 11 DAY
THERMAL CROSS SECTION AND RI WANTED.
A: ACCURACY RANGE 5. TO 10. PERCENT.

878	25.3	MV				3	CAN	W.H.WALKER	CRC	6918128

A: REQUIRED WITH 350 BARN ACCURACY.
O: FISSION PRODUCT WITH UNKNOWN CROSS SECTION.

879	1.00	MV	1.00	KEV	5.0%	3	DEN	C.F.HOEJERUP	RIS	7120468

O: WANTED FOR FISSION PRODUCT CALCULATIONS.

880	10.0	MV	5.00	KEV	10.0%	1	FR	H.TELLIER	SAC	7320768

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: BURN UP PHYSICS.
M: SUBSTANTIAL MODIFICATIONS.

60 NEODYMIUM 148 NEUTRON CAPTURE CROSS SECTION

881	500.	EV	200.	KEV	20.0%	2	FR	P.HAMMER	CAD	732077R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: BURN UP STUDY.
M: SUBSTANTIAL MODIFICATIONS.

61 PROMETHIUM 147 NEUTRON CAPTURE CROSS SECTION

882	1.00	MV	1.00	KEV	5.0%	3	DEN	C.F.HOEJERUP	RIS	712047R

O: WANTED FOR FISSION PRODUCT CALCULATIONS.

883	100.	EV	500.	KEV	10.0%	1	JAP	S.IIJIMA H.MATSUNOBU	NIG SAE	752019N

M: SUBSTANTIAL MODIFICATIONS.

884	1.00	KEV	1.00	MEV	10. %	2	USA	SCHENTER	HED	801280R

Q: RADIOACTIVE TARGET 2.6234 YR
A: ACCURACY DETERMINATION SHOULD REFLECT FAST REACTOR FLUX WEIGHTING SPECTRUM.
O: FOR CALCULATIONS OF REACTIVITY AND BURN-UP IN FAST REACTORS.
M: NEW REQUEST.

61 PROMETHIUM 148 NEUTRON CAPTURE CROSS SECTION

885	1.00	MV	1.00	KEV	10. %	2	USA	STEEN	BET	671044R

Q: 41.3 DAY ISOMER
THERMAL CROSS SECTION AND RI WANTED.
A: ENERGIES ABOVE 1 EV OF INTEREST TO GIVE RI TO 10 PERCENT.
O: FOR CALCULATION OF FISSION PRODUCT POISONS.

886	1.00	MV	1.00	KEV	10. %	2	USA	STEEN	BET	671046R

Q: RADIOACTIVE TARGET 5.37 DAY
THERMAL CROSS SECTION AND RI WANTED.
LOOK FOR 1/V ABOVE 1 EV.
O: FOR CALCULATION OF FISSION PRODUCT POISONS.

887	1.00	MV	1.00	EV	10. %	2	USA	FEINER	KAP	671048R

Q: RADIOACTIVE TARGET 5.37 DAY
THERMAL CROSS SECTION AND RI WANTED.
O: FOR CALCULATION OF FISSION PRODUCT POISONS.

888	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.

61 PROMETHIUM 149 NEUTRON CAPTURE CROSS SECTION

889	1.00	MV	1.00	KEV		2	USA	STEEN	BET	671049R

Q: RADIOACTIVE TARGET 53.1 HR
THERMAL CROSS SECTION AND RI WANTED.
A: ACCURACY - 10 PERCENT IF SIGMA>1000 BARNS.
20 PERCENT IF FROM 10-1000 BARNS.
ENERGIES ABOVE 1 EV OF INTEREST TO GIVE -
10 PERCENT IN RI IF > 10,000 BARNS, 20 PERCENT IF 1000-10,000 BARNS.

890	1.00	MV	1.00	EV		2	USA	FEINER	KAP	671051R

Q: RADIOACTIVE TARGET 53.1 HR
THERMAL CROSS SECTION AND RI WANTED.
A: ACCURACY RANGE 10. TO 20. PERCENT.
ACCURACY - 10 PERCENT IF SIGMA>1000 BARNS.
20 PERCENT IF FROM 10-1000 BARNS.

61 PROMETHIUM 151 NEUTRON CAPTURE CROSS SECTION

891	1.00	MV	1.00	KEV	10. %	2	USA	STEEN	BET	671057R

Q: RADIOACTIVE TARGET 28.4 HR
THERMAL CROSS SECTION AND RI WANTED.
A: ENERGIES ABOVE 1 EV OF INTEREST TO GIVE RI TO 10 PERCENT.
O: FOR CALCULATION OF FISSION PRODUCT POISONS.

62 SAMARIUM 147 NEUTRON CAPTURE CROSS SECTION

892	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.
A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: FISSION PRODUCT EFFECT IN FAST REACTORS.
M: SUBSTANTIAL MODIFICATIONS.

62 SAMARIUM 149 NEUTRON CAPTURE CROSS SECTION

893	1.00	MV	1.00	KEV	5.0%	3	DEN	C.F.HOEJERUP	RIS	712048R

O: WANTED FOR FISSION PRODUCT CALCULATIONS.

894	25.0	KEV			5.0%	1	JAP	S.IIJIMA H.MATSUNOBU	NIG SAE	752020N

D: FOR FAST REACTOR BURNUP CALCULATIONS.
DISCREPANCY BETWEEN STEK DATA AND RECENT DIFFERENTIAL DATA.
ONE ABSOLUTE DATA POINT AT 25 KEV REQUIRED.
M: SUBSTANTIAL MODIFICATIONS.

895	1.00	MV	0.50	EV	10. %	2	USA	STEEN	BET	761058R

D: IMPORTANT THERMAL FISSION PRODUCT.

896	1.00	KEV	1.00	MEV	10. %	2	USA	SCHENTER	HED	801281R

A: ACCURACY DETERMINATION SHOULD REFLECT FAST REACTOR FLUX WEIGHTING SPECTRUM.
D: FOR CALCULATIONS OF REACTIVITY AND BURN-UP IN FAST REACTORS.
M: NEW REQUEST.

62 SAMARIUM 149 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

897	25.3	MV	1.00	KEV	20.0%	1	FR	B.DUCHEMIN	SAC	812060R

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.
D: FOR INSTRUMENTATION AND SHIELDING CALCULATIONS-EVALUATION MAY BE SUFFICIENT
M: NEW REQUEST.

62 SAMARIUM 151 NEUTRON CAPTURE CROSS SECTION

898	1.00	MV	1.00	KEV	5. %	2	USA	STEEN	BET	671054R

Q: RADIOACTIVE TARGET 93 YR
THERMAL CROSS SECTION AND RI WANTED.
A: INCIDENT ENERGY RESOLUTION: 5. PERCENT.
ENERGIES ABOVE 1 EV OF INTEREST TO GIVE RI TO 10 PERCENT.
D: FOR CALCULATION OF FISSION PRODUCT POISONS.

899	10.0	MV	5.00	KEV	10.0%	2	FR	H.TELLIER	SAC	732082R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
D: REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

900	100.	EV	500.	KEV	10.0%	1	JAP	S.IIJIMA H.MATSUNOBU	NIG SAE	752021R

D: FOR FAST REACTOR BURNUP CALCULATIONS.
NO KEV DATA.

901	10.0	MV	1.00	MEV	20.0%	1	GER	H.KUESTERS	KFK	792225R

Q: EVALUATION WANTED.

902	1.00	KEV	1.00	MEV	20. %	2	USA	SCHENTER	HED	801282R

Q: RADIOACTIVE TARGET 90 YR
A: ACCURACY DETERMINATION SHOULD REFLECT FAST REACTOR FLUX WEIGHTING SPECTRUM.
D: FOR CALCULATIONS OF REACTIVITY AND BURN-UP IN FAST REACTORS.
M: NEW REQUEST.

62 SAMARIUM 151 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

903	25.3	MV	1.00	KEV	20.0%	1	FR	B.DUCHEMIN	SAC	812061R

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.
D: FOR INSTRUMENTATION AND SHIELDING CALCULATIONS-EVALUATION MAY BE SUFFICIENT
M: NEW REQUEST.

62 SAMARIUM 153 NEUTRON CAPTURE CROSS SECTION

904	1.00	MV	1.00	KEV		2	USA	STEEN FEINER	BET KAP	671061R

Q: RADIOACTIVE TARGET 46.5 HR
THERMAL CROSS SECTION AND RI WANTED.
A: ACCURACY - 10 PERCENT IF SIGMA>30,000 BARNS, 20 PERCENT IF LOWER.
ENERGIES ABOVE 1 EV OF INTEREST TO GIVE - 10 PERCENT IN RI IF >300 BARNS, 20 PERCENT IF 30-300 BARNS.
D: FOR CALCULATION OF FISSION PRODUCT POISONS.

905	25.3	MV				3	CAN	W.H.WALKER	CRC	691814R

A: REQUIRED WITH A 10000 BARN ACCURACY.
D: FISSION PRODUCT WITH UNKNOWN CROSS SECTION.

63 EUROPIUM 151 NEUTRON CAPTURE CROSS SECTION

906	25.3	MV	5.00	KEV	5.0%	3	FR	H.TELLIER	SAC	732084R
								A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS. O: REACTOR CALCULATIONS. M: SUBSTANTIAL MODIFICATIONS.		
907	1.00	KEV	1.00	MEV	5. %	1	USA	HEMMIG	DOE	741099R
908	1.00	KEV	1.00	MEV	10. %	2	USA	HEMMIG FU	DOE ORL	741102R
								Q: RATIO GROUND STATE TO ISOMER CAPTURE WANTED.		
909	0.50	EV	5.00	KEV	5. %	1	USA	MUGHABGHAB	BNL	761076R
910	1.00	EV	2.00	MEV	10.0%	2	FR	P.HAMMER	CAD	792019R
								A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS. M: SUBSTANTIAL MODIFICATIONS.		

63 EUROPIUM 151 NEUTRON CAPTURE GAMMA RAY SPECTRUM

911	1.00	KEV	1.00	MEV	10. %	2	USA	HEMMIG FU	DOE ORL	741100R

63 EUROPIUM 152 NEUTRON CAPTURE CROSS SECTION

912	1.00	MV	1.00	KEV	10. %	1	USA	MUGHABGHAB	BNL	761077R
								Q: RADIOACTIVE TARGET 13 YR ALSO REQUIRE RESONANCE PARAMETERS AND RESONANCE INTEGRAL.		
913	100.	EV	500.	KEV	10.0%	1	JAP	S.IIJIMA H.MATSUNOBU	NIG SAE	812041N
								Q: NO KEV DATA O: FOR CONTROL ROD AND THERMAL REACTOR BURN UP CALCULATIONS. M: NEW REQUEST.		

63 EUROPIUM 152 NEUTRON RESONANCE PARAMETERS

914	100.	EV	500.	KEV	10.0%	1	JAP	S.IIJIMA H.MATSUNOBU	NIG SAE	812042N
								Q: NO DATA EXIST EXCEPT THOSE BY VERTENBNJE ET AL (1977) IN 0.88 TO 17 EV O: FOR CONTROL ROD AND THERMAL REACTOR BURN-UP CALCULATIONS. M: NEW REQUEST.		

63 EUROPIUM 153 NEUTRON CAPTURE CROSS SECTION

915	1.00	MV	5.00	KEV		1	USA	MUGHABGHAB	BNL	671064R
								A: ACCURACY RANGE 2. TO 5. PERCENT. ACCURACY - 2 PERCENT NEAR THERMAL, 5 PERCENT ABOVE. ENERGIES ABOVE 1 EV OF INTEREST TO GIVE RI TO 10 PERCENT. O: FOR CALCULATION OF FISSION PRODUCT POISONS.		
916	1.00	EV	5.00	KEV	10.0%	3	FR	H.TELLIER	SAC	732085R
								A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS. O: REACTOR CALCULATIONS. M: SUBSTANTIAL MODIFICATIONS.		
917	1.00	KEV	1.00	MEV	5. %	1	USA	HEMMIG	DOE	741105R
918	1.00	EV	2.00	MEV	10.0%	2	FR	P.HAMMER	CAD	792020R
								A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS. M: SUBSTANTIAL MODIFICATIONS.		
919	25.3	MV			10.0%	1	BLG	L.LEENDERS	MOL	812065N
								O: FOR BURN UP MEASUREMENTS FROM NON-DESTRUCTIVE FUEL ANALYSIS. M: NEW REQUEST.		

63 EUROPIUM 153 NEUTRON CAPTURE GAMMA RAY SPECTRUM

920	1.00	KEV	1.00	MEV	10. %	2	USA	HEMMIG FU	DOE ORL	741106R

63 EUROPIUM 153 NEUTRON CAPTURE RESONANCE INTEGRAL

921	0.50	EV	1.00	MEV	5.0%	1	BLG	L.LEENDERS	MOL	812066N
								O: FOR BURN UP MEASUREMENTS FROM NON-DESTRUCTIVE FUEL ANALYSIS. M: NEW REQUEST.		

63 EUROPIUM 154 NEUTRON CAPTURE CROSS SECTION

922	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.

923	100.	EV	500.	KEV	10.0%	1	JAP	S.IIJIMA H.MATSUNOBU	NIG SAE	812043N

Q: NO EXPERIMENTAL DATA.
O: FOR CONTROL ROD AND THERMAL REACTOR BURN-UP CALCULATIONS
M: NEW REQUEST.

924	25.3	MV			2.0%	1	BLG	L.LEENDERS	MOL	812067N

Q: HALF-LIFE ALSO REQUIRED TO 1 PERCENT ACCURACY.
O: FOR BURN UP MEASUREMENTS FROM NON-DESTRUCTIVE FUEL ANALYSIS.
M: NEW REQUEST.

63 EUROPIUM 154 NEUTRON RESONANCE PARAMETERS

925	100.	EV	500.	KEV	10.0%	1	JAP	S.IIJIMA H.MATSUNOBU	NIG SAE	812044N

Q: INSUFFICIENT RESONANCE DATA.
O: FOR CONTROL ROD AND THERMAL REACTOR BURN-UP CALCULATIONS
M: NEW REQUEST.

63 EUROPIUM 154 NEUTRON CAPTURE RESONANCE INTEGRAL

926	0.50	EV	1.00	MEV	20.0%	1	BLG	L.LEENDERS	MOL	812068N

O: FOR BURN UP MEASUREMENTS FROM NON-DESTRUCTIVE FUEL ANALYSIS.
M: NEW REQUEST.

63 EUROPIUM 155 GAMMA RAY YIELD

927					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

928	1.00	MV	1.00	KEV	5.0%	3	DEN	C.F.HOEJERUP	RIS	712050R

O: WANTED FOR FISSION PRODUCT CALCULATIONS.

929	100.	EV	500.	KEV	20.0%	2	JAP	S.IIJIMA H.MATSUNOBU	NIG SAE	812045N

Q: NO EXPERIMENTAL DATA
O: FOR FAST REACTOR BURN-UP CALCULATIONS
M: NEW REQUEST.

63 EUROPIUM 155 NEUTRON RESONANCE PARAMETERS

930	100.	EV	500.	KEV	20.0%	2	JAP	S.IIJIMA H.MATSUNOBU	NIG SAE	812046N

Q: INSUFFICIENT RESONANCE DATA.
O: FOR FAST REACTOR BURN-UP CALCULATIONS
M: NEW REQUEST.

63 EUROPIUM 156 NEUTRON CAPTURE CROSS SECTION

931	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 155 NEUTRON CAPTURE CROSS SECTION

932	10.0	MV	5.00	KEV	5.0%	2	FR	H.TELLIER	SAC	732086R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: CONSUMABLE POISON.
M: SUBSTANTIAL MODIFICATIONS.

64 GADOLINIUM 157 NEUTRON CAPTURE CROSS SECTION

933	1.00	MV	1.00	KEV	5.0%	3	DEN	C.F.HOEJERUP	RIS	712051R

O: WANTED FOR FISSION PRODUCT CALCULATIONS.

934	10.0	MV	5.00	KEV	5.0%	2	FR	H.TELLIER	SAC	732087R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: CONSUMABLE POISON.
M: SUBSTANTIAL MODIFICATIONS.

68 ERBIUM 166			NEUTRON		CAPTURE CROSS SECTION					
935	1.00	MV	1.00	KEV	5. %	2	USA	SCHENTER	HED	781199R
								Q: RESONANCE PARAMETERS OF INTEREST. O: FOR THERMAL AND INTERMEDIATE SPECTRUM REACTORS.		
68 ERBIUM 167			NEUTRON		CAPTURE CROSS SECTION					
936	UP TO		2.00	EV	3. %	2	USA	DAHLBERG	GA	741133R
								Q: ENERGY REQUESTED IS A MAXIMUM VALUE ONLY. O: NEEDED FOR BURNABLE POISON IN TRIGA REACTORS.		
937	1.00	MV	1.00	EV	2. %	1	USA	SCHENTER	HED	781202R
								Q: RESONANCE PARAMETERS OF INTEREST. O: FOR THERMAL AND INTERMEDIATE SPECTRUM REACTORS.		
68 ERBIUM 168			NEUTRON		CAPTURE CROSS SECTION					
938	1.00	MV	1.00	KEV	5. %	2	USA	SCHENTER	HED	781200R
								Q: RESONANCE PARAMETERS OF INTEREST. O: FOR THERMAL AND INTERMEDIATE SPECTRUM REACTORS.		
69 THULIUM 169			NEUTRON		N,2N					
939	UP TO		50.0	MEV		1	USA	NG	DOE	801031F
								A: ACCURACY RANGE 10. TO 20. PERCENT. O: DOSIMETRY FOR FMIT FACILITY. M: NEW REQUEST.		
69 THULIUM 169			NEUTRON		N,3N					
940	UP TO		50.0	MEV		1	USA	NG	DOE	801030F
								A: ACCURACY RANGE 10. TO 20. PERCENT. O: DOSIMETRY FOR FMIT FACILITY. M: NEW REQUEST.		
69 THULIUM 169			NEUTRON		N,4N					
941	UP TO		40.0	MEV	20. %	1	USA	MCELROY	HED	801251F
								Q: ACTIVATION IS REQUIRED. O: FOR FMIT DOSIMETRY. M: NEW REQUEST.		
69 THULIUM 169			NEUTRON		N,5N					
942	UP TO		50.0	MEV		1	USA	NG	DOE	801029F
								A: ACCURACY RANGE 10. TO 20. PERCENT. O: DOSIMETRY FOR FMIT FACILITY. M: NEW REQUEST.		
70 YTTERBIUM 170			NEUTRON		CAPTURE CROSS SECTION					
943	1.00	MV	1.00	KEV	5. %	2	USA	SCHENTER	HED	781201R
								Q: RESONANCE PARAMETERS OF INTEREST. O: FOR THERMAL AND INTERMEDIATE SPECTRUM REACTORS.		
72 HAFNIUM			NEUTRON		CAPTURE CROSS SECTION					
944	1.00	MV	1.00	EV	2. %	1	USA	STEEN FEINER	BET KAP	621024R
								O: TO RESOLVE DISCREPANCIES IN THERMAL DATA. FOR MONTE CARLO CALCULATIONS OF BURN-UP IN THERMAL REACTORS.		
72 HAFNIUM 176			NEUTRON		CAPTURE CROSS SECTION					
945	1.00	MV	5.00	KEV		1	USA	STEEN FEINER	BET KAP	621026R
								A: ACCURACY - THERMAL VALUE: 20 PERCENT, <1 EV: 40 PERCENT, - 10-100 EV: GAMMA(TOT), GAMMA(N), GAMMA(GAMMA) TO 10 PERCENT, - 100 EV-5 KEV: GAMMA(TOT), GAMMA(N), GAMMA(GAMMA) TO 20 PERCENT, - AVERAGE P-WAVE GAMMA(GAMMA) TO 20 PERCENT, - S-WAVE STRENGTH FUNCTION TO 40 PERCENT. O: TO RESOLVE DISCREPANCIES IN RI. FOR MONTE CARLO BURN-UP CALCULATIONS.		
946	10.0	MV	5.00	KEV	10.0%	1	FR	H.TELLIER	SAC	732088R
								A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS. O: REACTOR CALCULATIONS. M: SUBSTANTIAL MODIFICATIONS.		

72 HAFNIUM 177 NEUTRON CAPTURE CROSS SECTION

947	1.00	MV	5.00	KEV		1	USA	STEEN FEINER	BET KAP	621028R

A: ACCURACY - <1 EV: 4 PERCENT,
- 10-100 EV: GAMMA(TOT), GAMMA(N), GAMMA(GAMMA) TO 10 PERCENT,
- 100 EV-5 KEV: GAMMA(TOT), GAMMA(N), GAMMA(GAMMA) TO 20 PERCENT,
- 5.89, 6.37, 8.87 EV: WIDTHS TO 5 PERCENT,
- AVERAGE P-WAVE GAMMA(GAMMA) TO 20 PERCENT,
- S-WAVE STRENGTH FUNCTION TO 20 PERCENT.
O: TO RESOLVE DISCREPANCIES IN RI.
FOR MONTE CARLO BURN-UP CALCULATIONS.

948	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.
QUOTED ACCURACIES AT 2 STANDARD DEVIATIONS.
O: EVALUATION MAY SUFFICE IF IT EXPLAINS DISCREPANCIES.
M: SUBSTANTIAL MODIFICATIONS.

72 HAFNIUM 178 NEUTRON CAPTURE CROSS SECTION

949	1.00	MV	5.00	KEV		1	USA	STEEN FEINER	BET KAP	621030R

A: ACCURACY - <1 EV: 5 PERCENT,
- 10-100 EV: GAMMA(TOT), GAMMA(N), GAMMA(GAMMA) TO 10 PERCENT,
- 100 EV- 5 KEV: GAMMA(TOT), GAMMA(N), GAMMA(GAMMA) TO 20 PERCENT,
- 7.78 EV: WIDTHS TO 3 PERCENT,
- AVERAGE P-WAVE GAMMA(GAMMA) TO 20 PERCENT,
- S-WAVE STRENGTH FUNCTION TO 20 PERCENT.
O: TO RESOLVE DISCREPANCIES IN RI.
FOR MONTE CARLO BURN-UP CALCULATIONS.

950	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.
QUOTED ACCURACIES AT 2 STANDARD DEVIATIONS.
O: EVALUATION MAY SUFFICE IF IT EXPLAINS DISCREPANCIES.
M: SUBSTANTIAL MODIFICATIONS.

72 HAFNIUM 179 NEUTRON CAPTURE CROSS SECTION

951	1.00	MV	5.00	KEV		1	USA	STEEN FEINER	BET KAP	621032R

A: ACCURACY - <1 EV: 5 PERCENT,
- 10-100 EV: GAMMA(TOT), GAMMA(N), GAMMA(GAMMA) TO 10 PERCENT,
- 100 EV- 5 KEV: GAMMA(TOT), GAMMA(N), GAMMA(GAMMA) TO 20 PERCENT,
- 5.68 EV: WIDTHS TO 5 PERCENT,
- AVERAGE P-WAVE GAMMA(GAMMA) TO 20 PERCENT,
- S-WAVE STRENGTH FUNCTION TO 20 PERCENT.
O: TO RESOLVE DISCREPANCIES IN RI.
FOR MONTE CARLO BURN-UP CALCULATIONS.

952	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.
QUOTED ACCURACIES AT 2 STANDARD DEVIATIONS.
O: EVALUATION MAY SUFFICE IF IT EXPLAINS DISCREPANCIES.
M: SUBSTANTIAL MODIFICATIONS.

72 HAFNIUM 180 NEUTRON CAPTURE CROSS SECTION

953	1.00	MV	5.00	KEV		1	USA	STEEN FEINER	BET KAP	671080R

A: ACCURACY - <1 EV: 4 PERCENT,
10-100 EV: GAMMA(TOT), GAMMA(N), GAMMA(GAMMA) TO 10 PERCENT, 100 EV- 5 KEV: GAMMA(TOT), GAMMA(N), GAMMA(GAMMA) TO 20 PERCENT. AVERAGE P-WAVE GAMMA(GAMMA) TO 20 PERCENT. S-WAVE STRENGTH FN. TO 20 PERCENT.
O: TO RESOLVE DISCREPANCIES IN RI.
FOR MONTE CARLO BURN-UP CALCULATIONS.

954	10.0	MV	5.00	KEV	5.0%	1	FR	H.TELLIER	SAC	732089R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

73 TANTALUM NEUTRON ENERGY DIFF. PHOTON-PRODUCTION CROSS SECTION

955	2.50	EV	15.0	MEV	20. %	2	USA	ENGHOLM	GA	801018F

Q: CAPTURE GAMMA SPECTRUM ALSO NEEDED.
O: USE AS ADVANCED SHIELDING MATERIAL.
M: NEW REQUEST.

73 TANTALUM — NEUTRON — ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

956	5.00	MEV	15.0	MEV	20. %	2	USA	ENGHOLM	GA	801017F

Q: NEUTRON SPECTRUM ALSO NEEDED.
O: USE AS ADVANCED SHIELDING MATERIAL.
M: NEW REQUEST.

73 TANTALUM — NEUTRON — SPECIAL QUANTITY (DESCRIPTION BELOW)

957	2.50	EV	15.0	MEV	20. %	1	USA	ENGHOLM	GA	801099F

Q: ACTIVATION CROSS SECTION.
O: FUSION REACTOR SHUTDOWN DOSE RATES.
M: NEW REQUEST.

73 TANTALUM 181 — NEUTRON — CAPTURE CROSS SECTION

958	1.00	EV	1.00	KEV	10. %	2	USA	HEMMIG	DOE	691192R

A: DOUBLE ACCURACY USEFUL.
O: FAST BREEDER CONTROL AND BURN-UP CALCULATIONS.

959	1.00	KEV	150.	KEV	5. %	2	USA	HEMMIG	DOE	691193R

A: DOUBLE ACCURACY USEFUL.
O: FAST BREEDER CONTROL AND BURN-UP CALCULATIONS.

960	150.	KEV	500.	KEV	10. %	2	USA	HEMMIG	DOE	691194R

A: DOUBLE ACCURACY USEFUL.
O: FAST BREEDER CONTROL AND BURN-UP CALCULATIONS.

73 TANTALUM 181 — NEUTRON — TOTAL PHOTON PRODUCTION CROSS SECTION

961	1.00	EV	16.0	MEV	15. %	2	USA	HEMMIG	DOE	741111R

Q: GAMMA-RAYS BELOW 1 MEV IMPORTANT.

73 TANTALUM 182 — NEUTRON — CAPTURE CROSS SECTION

962	25.3	MV			10.0%	3	JAP	M.KOYAMA	KTC	792084R

Q: EXPERIMENTAL DATA REQUIRED
O: FOR ESTIMATION OF NEUTRON FLUENCE AND SPECTRUM

74 TUNGSTEN — NEUTRON — DIFFERENTIAL ELASTIC CROSS SECTION

963	15.0	MEV	35.0	MEV		1	USA	NG	DOE	801060F

A: ACCURACY RANGE 10. TO 40. PERCENT.
O: FOR MATERIALS DAMAGE CALCULATIONS.
M: NEW REQUEST.

74 TUNGSTEN — NEUTRON — INELASTIC CROSS SECTION

964	3.00	MEV	14.0	MEV	10.0%	3	FR	B.DUCHEMIN	SAC	732033F

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.
M: SUBSTANTIAL MODIFICATIONS.

74 TUNGSTEN — NEUTRON — N,2N

965	UP TO		14.0	MEV	10.0%	3	FR	B.DUCHEMIN	SAC	732034F

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.
M: SUBSTANTIAL MODIFICATIONS.

74 TUNGSTEN — NEUTRON — ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

966	4.00	MEV	16.0	MEV	5. %	2	USA	BARTINE	ORL	661040R

Q: LOW ENERGY NEUTRONS SHOULD BE INCLUDED.
SPECTRA AT A FEW ANGLES MAY SUFFICE.
A: INCIDENT ENERGY RESOLUTION: 5. PERCENT.
ANGULAR RESOLUTION, 10 DEGR.
DELTA E(N') = 500 KEV

967	9.00	MEV	15.0	MEV	10. %	1	USA	NG	DOE	781082F

O: DATA NEEDED FOR SHIELDING AND NEUTRON TRANSPORT CALCULATIONS.

968	15.0	MEV	35.0	MEV		1	USA	NG	DOE	801055F

O: FOR MATERIALS DAMAGE CALCULATIONS.
M: NEW REQUEST.

74 TUNGSTEN — NEUTRON — N,P

969	UP TO		14.0	MEV	10.0%	3	FR	B.DUCHEMIN	SAC	732035F

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.
M: SUBSTANTIAL MODIFICATIONS.

74 TUNGSTEN | NEUTRON | TOTAL PROTON PRODUCTION CROSS SECTION

970 9.00 MEV 35.0 MEV 10. % 1 USA NG DOE 801058F
O: MATERIALS DAMAGE CALCULATIONS.
M: NEW REQUEST.

74 TUNGSTEN | NEUTRON | ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION

971 15.0 MEV 2 USA NG DOE 781148F
A: ACCURACY TO BE DETERMINED.
O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.

74 TUNGSTEN | NEUTRON | N,ALPHA

972 UP TO 14.0 MEV 10.0% 3 FR B.DUCHEMIN SAC 732037F
A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.
M: SUBSTANTIAL MODIFICATIONS.

74 TUNGSTEN | NEUTRON | TOTAL ALPHA PRODUCTION CROSS SECTION

973 9.00 MEV 40.0 MEV 10. % 1 USA NG DOE 801059F
O: MATERIALS DAMAGE CALCULATIONS AND DOSIMETRY.
M: NEW REQUEST.

74 TUNGSTEN | NEUTRON | ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION

974 15.0 MEV 2 USA NG DOE 781127F
A: ACCURACY TO BE DETERMINED.
O: DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.

74 TUNGSTEN | NEUTRON | SPECIAL QUANTITY (DESCRIPTION BELOW)

975 9.00 MEV 15.0 MEV 10. % 1 USA NG DOE 801043F
O: ALL SIGNIFICANT ACTIVATION REACTION CROSS SECTIONS.
O: DATA NEEDED FOR SHIELDING, ACTIVATION AND NEUTRON TRANSPORT CALCULATIONS.
M: NEW REQUEST.

976 2.50 EV 15.0 MEV 20. % 1 USA ENGHOLM GA 801103F
O: ACTIVATION CROSS SECTIONS.
O: FUSION REACTOR SHUTDOWN DOSE RATES.
M: NEW REQUEST.

78 PLATINUM | NEUTRON | DIFFERENTIAL ELASTIC CROSS SECTION

977 10.0 MV 10.0 EV 10. % 1 USA EISENHAUER NBS 781177R
O: FOR SCATTERING CORRECTIONS IN PT FISSION DEPOSIT BACKINGS.

79 GOLD 197 | NEUTRON | CAPTURE CROSS SECTION

978 0.50 EV 1.00 KEV 1. % 2 USA STEEN BET 671082R
O: INDIVIDUAL AND AVERAGE RESONANCE PARAMETERS REQUIRED.
A: ENERGIES ABOVE 0.5 EV WANTED SO AS TO GIVE INFINITE DILUTE RI TO 1 PERCENT.
O: FOR USE AS STANDARD.

979 10.0 KEV 3.00 MEV 3.0% 1 BLG A.FABRY MOL 682041R
O: DETECTOR APPLICATIONS.

980 10.0 KEV 1.00 MEV 2. % 1 USA MUGHABGHAB BNL 721073R

981 500. KEV 5.00 MEV 5.0% 2 FR E.FORT CAD 792021R
O: STANDARD CROSS SECTION

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

79 GOLD 197 | NEUTRON | N,2N

982 UP TO 50.0 MEV 1 USA NG DOE 781010F
A: ACCURACY RANGE 10. TO 20. PERCENT.
O: DOSIMETRY FOR FMIT FACILITY.

983 UP TO 40.0 MEV 5.0% 2 EUR NEUTRON DOSIMETRY GROUP GEL 812013R
O: FOR HIGH ENERGY ACCELERATOR BASED NEUTRON SOURCES
M: NEW REQUEST.

79 GOLD 197 NEUTRON N,3N

984	UP TO	50.0	MEV		1	USA	NG	DOE		781011F

A: ACCURACY RANGE 10. TO 20. PERCENT.
O: DOSIMETRY FOR FMIT FACILITY.

79 GOLD 197 NEUTRON N,4N

985	UP TO	50.0	MEV		1	USA	NG	DOE		781012F

A: ACCURACY RANGE 10. TO 20. PERCENT.
O: DOSIMETRY FOR FMIT FACILITY.

986	28.0 MEV	40.0	MEV	5.0%	2	EUR	NEUTRON DOSIMETRY GROUP		GEL	812014R

O: MEASURED UP TO 28MEV, EXTENSION REQUESTED TO 40MEV FOR HIGH ENERGY ACCELERATOR BASED NEUTRON SOURCES
M: NEW REQUEST.

79 GOLD 197 NEUTRON N,5N

987	UP TO	40.0	MEV	20. %	1	USA	NG	DOE		791013F

O: DOSIMETRY FOR FMIT FACILITY.

79 GOLD 197 NEUTRON TOTAL ALPHA PRODUCTION CROSS SECTION

988	UP TO	40.0	MEV	5. %	1	USA	NG	DOE		801065F

O: TOTAL HELIUM PRODUCTION CROSS SECTION FOR DOSIMETRY.
M: NEW REQUEST.

79 GOLD 198 NEUTRON CAPTURE CROSS SECTION

989	25.3 MV			10.0%	3	JAP	M.KOYAMA	KTC		792085R

Q: EXPERIMENTAL DATA REQUIRED
O: FOR ESTIMATION OF NEUTRON FLUENCE AND SPECTRUM

80 MERCURY 199 NEUTRON INELASTIC CROSS SECTION

990	500. KEV	14.0	MEV	10.0%	3	JAP	K.SAKURAI	JAE		812030R

Q: PRODUCTION CROSS SECTION FOR 42.6 MIN ISOMER THROUGH INELASTIC SCATTERING.
O: FOR NEUTRON DOSIMETRY.
M: NEW REQUEST.

82 LEAD NEUTRON INELASTIC CROSS SECTION

991	3.00 MEV	15.0	MEV	15.0%	2	FR	B.DUCHEMIN	SAC		792024F

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: NEUTRON MULTIPLIER
M: SUBSTANTIAL MODIFICATIONS.

82 LEAD NEUTRON CAPTURE GAMMA RAY SPECTRUM

992	2.00 KEV	600.	KEV	5. %	2	USA	FU	ORL		741186F

82 LEAD NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

993	25.3 MV	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. QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: FOR SHIELDING CALCULATION. NEW EVALUATION TO BE DONE IF NEW EXPERIMENTAL DATA.
M: SUBSTANTIAL MODIFICATIONS.

994	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.

995	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

996	1.00 KEV	15.0	MEV	10.0%	2	FR	P.HAMMER	CAD		792022R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
M: SUBSTANTIAL MODIFICATIONS.

82 LEAD | NEUTRON | N,2N

997 UP TO 15.0 MEV 15.0% 2 CCP I.N.GOLOVIN KUR 724058F
O: POSSIBLE USE AS NEUTRON MULTIPLIER.

998 UP TO 15.0 MEV 15.0% 2 FR B.DUCHEMIN SAC 792023F
A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: NEUTRON MULTIPLIER
M: SUBSTANTIAL MODIFICATIONS.

999 UP TO 15.0 MEV 10. % 2 USA ENGHOLM GA 801021F
Q: SECONDARY NEUTRON SPECTRA REQUIRED.
M: NEW REQUEST.

82 LEAD | NEUTRON | ENERGY-ANGLE DIFF.2 NEUTRON-PRODUCTION CROSS SECT.

1000 6.77 MEV 15.0 MEV 20.0% 1 GER H.BROCKMANN JUL 812070F
O: FOR NEUTRON MULTIPLICATION,AND TRITIUM BREEDING IN FUSION.
M: NEW REQUEST.

82 LEAD | NEUTRON | N,3N

1001 5.00 MEV 15.0 MEV 20. % 3 USA ENGHOLM GA 801011F
Q: TOTAL CROSS SECTION AND SECONDARY NEUTRON SPECTRUM.
O: FOR FISSION-SUPPRESSED HYBRID REACTOR BLANKET DESIGNS.
M: NEW REQUEST.

82 LEAD | NEUTRON | NEUTRON EMISSION CROSS SECTION

1002 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) QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: FOR SHIELDING CALCULATION. NEW EVALUATION TO BE DONE IF NEW EXPERIMENTAL DATA.
M: SUBSTANTIAL MODIFICATIONS.

82 LEAD | NEUTRON | ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

1003 2.00 MEV 16.0 MEV 5. % 3 USA BARTINE ORL 631005R
Q: ANGULAR DEPENDENCE ONLY IF SIGNIFICANTLY ANISOTROPIC. ENERGY INTERVALS - 500 KEV.
A: INCIDENT ENERGY RESOLUTION: 250 KEV. ANGULAR RESOLUTION - 3 DEGR IN 10 DEGR INTERVALS.

1004 9.00 MEV 15.0 MEV 10. % 1 USA NG DOE 781050F
O: FOR SHIELDING, ACTIVATION AND TRANSPORT STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.

82 LEAD | NEUTRON | SPECIAL QUANTITY (DESCRIPTION BELOW)

1005 9.00 MEV 15.0 MEV 10. % 1 USA NG DOE 801045F
Q: ALL SIGNIFICANT ACTIVATION REACTION CROSS SECTIONS.
O: DATA NEEDED FOR SHIELDING, ACTIVATION AND NEUTRON TRANSPORT CALCULATIONS.
M: NEW REQUEST.

82 LEAD 206 | NEUTRON | N,ALPHA

1006 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.

83 BISMUTH 209 | NEUTRON | TOTAL CROSS SECTION

1007 25.3 MV 15.0 MEV 5.0% 1 FR B.DUCHEMIN SAC 812053R
O: FOR INSTRUMENTATION AND SHIELDING CALCULATION- EVALUATION MAY BE SUFFICIENT.
M: NEW REQUEST.

83 BISMUTH 209 | NEUTRON | DIFFERENTIAL ELASTIC CROSS SECTION

1008 25.3 MV 15.0 MEV 20.0% 1 FR B.DUCHEMIN SAC 812056R
O: FOR INSTRUMENTATION AND SHIELDING CALCULATIONS EVALUATION MAY BE SUFFICIENT
M: NEW REQUEST.

83 BISMUTH 209 NEUTRON ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

1009	25.3	MV	15.0	MEV	20.0%	1	FR	B.DUCHEMIN	SAC	812057R

D: FOR INSTRUMENTATION AND SHIELDING CALCULATION-EVALUATION MAY BE SUFFICIENT
M: NEW REQUEST.

83 BISMUTH 209 NEUTRON ABSORPTION CROSS SECTION

1010	25.3	MV	15.0	MEV	5.0%	1	FR	B.DUCHEMIN	SAC	812054R

D: FOR INSTRUMENTATION AND SHIELDING CALCULATION-EVALUATION MAY BE SUFFICIENT.
M: NEW REQUEST.

83 BISMUTH 209 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

1011	25.3	MV	15.0	MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR	724059F

Q: GAMMA RAY SPECTRA REQUIRED.
D: GAMMA RAY HEATING AND SHIELDING CALCULATIONS.

1012	25.3	MV	15.0	MEV	10.0%	1	FR	B.DUCHEMIN	SAC	812058R

A: ENERGY RESOLUTION OF 250KEV FOR GAMMA RAYS LESS THAN 1MEV AND 500KEV FOR ENERGIES GREATER THAN 1 MEV
D: FOR INSTRUMENTATION AND SHIELDING CALCULATIONS-EVALUATION MAY BE SUFFICIENT.
M: NEW REQUEST.

83 BISMUTH 209 NEUTRON N,2N

1013	UP TO		15.0	MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR	724060F

D: POSSIBLE USE AS NEUTRON MULTIPLIER.

1014	25.3	MV	15.0	MEV	20.0%	1	FR	B.DUCHEMIN	SAC	812055R

D: FOR INSTRUMENTATION AND SHIELDING CALCULATIONS-EVALUATION MAY BE SUFFICIENT.
M: NEW REQUEST.

83 BISMUTH 209 NEUTRON N,3N

1015	14.0	MEV	16.0	MEV	25. %	3	USA	MUIR	LAS	801115F

A: MEASUREMENT SHOULD INCLUDE SEVERAL ENERGIES BELOW 15 MEV.
ACCURACY 25 PERCENT OR 1 MB.
D: NEEDED FOR ACTIVATION OF BI NEUTRON MULTIPLIERS.
M: NEW REQUEST.

90 THORIUM 230 NEUTRON CAPTURE CROSS SECTION

1016	25.3	MV	1.00	MEV	10. %	2	USA	BARTINE	ORL	781196R

Q: RADIOACTIVE TARGET 8.0X(10**4) YR
D: KEY REACTION FOR PRODUCTION OF U-232.

90 THORIUM 232 NEUTRON TOTAL CROSS SECTION

1017	1.00	MV	6.00	EV	.5 %	2	USA	LEONARD	BNW	761080R

D: NEEDED FOR THERMAL CROSS SECTION EVALUATION.

1018	1.00	MV	20.0	EV	.5 %	2	USA	STEEN	BET	781181R
1019	60.0	EV	100.	KEV	2. %	1	USA	PEELLE	ORL	781197R

D: FOR RESOLVED RESONANCE PARAMETER EVALUATION.

90 THORIUM 232 NEUTRON DIFFERENTIAL ELASTIC CROSS SECTION

1020	1.00	MEV	5.00	MEV	10. %	3	USA	SMITH	ANL	721074R

90 THORIUM 232 NEUTRON ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

1021	UP TO		10.0	MEV	10.0%	3	GER	H.GERWIN	JUL	692325R
1022	1.00	MEV	4.00	MEV	5. %	3	USA	SMITH	ANL	721075R

A: INCIDENT ENERGY RESOLUTION: 20. PERCENT.
DELTA E(N') = 20 PERCENT.
ACCURACY OF 20 PERCENT IN (1-COS THETA), IF ANISOTROPIC.

90 THORIUM 232 NEUTRON CAPTURE CROSS SECTION

1023	1.00 MV	20.0 EV	2. %	1	USA	STEEN	BET		621034R
					Q:	THICK SAMPLE TRANSMISSION AND SELF-INDICATION EXPERIMENTS DESIRABLE. RESONANCE PARAMETERS AND RESONANCE INTEGRAL ALSO NEEDED.			
					A:	NEED THERMAL VALUE TO 0.5 PERCENT. NEED ACCURACY OF 5 PERCENT IN RESONANCE PARAMETERS.			
					O:	THERMAL SHAPE IMPORTANT FOR THERMAL BREEDER CALCULATIONS.			
1024	20.0 EV	5.00 KEV	5. %	1	USA	STEEN	BET		621035R
					Q:	THICK SAMPLE TRANSMISSION AND SELF-INDICATION EXPERIMENTS DESIRABLE. RESONANCE PARAMETERS AND RESONANCE INTEGRAL ALSO NEEDED.			
					A:	NEED ACCURACY OF 5 PERCENT IN RESONANCE PARAMETERS.			
1025	1.00 KEV	1.00 MEV	3.0%	3	UK	C.G.CAMPBELL	WIN		692329R
					O:	FOR FAST REACTORS.			
1026	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.			
1027	25.3 MV		2.0%	3	FR	H.TELLIER	SAC		732090R
					A:	QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.			
					M:	SUBSTANTIAL MODIFICATIONS.			
1028	25.3 MV	20.0 MEV	3. %	2	USA	VISNER	CBE		761079R
					O:	FOR THERMAL REACTOR FUEL CYCLE EVALUATION.			
1029	25.3 MV	3.00 MEV	10.0%	2	FR	L.COSTA	CAD		762140R
					O:	FAST REACTOR PROJECT			

STATUS----------STATUS

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

90 THORIUM 232 NEUTRON N,2N

1030	UP TO	10.0 MEV	20.0%	3	GER	H.GERWIN	JUL		692326R
					Q:	SECONDARY ENERGY DISTRIBUTION REQUIRED.			
1031	UP TO	15.0 MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR		724061F
					O:	POSSIBLE USE AS NEUTRON MULTIPLIER.			
1032	UP TO	15.0 MEV	5. %	2	USA	STEEN	BET		751065R
					O:	FOR CALCULATION OF FUEL ACTIVITY IN TH-232 CYCLE REACTORS.			
1033	11.0 MEV	14.0 MEV	10. %	2	USA	NG	DOE		781161F
					O:	FOR HYBRID SYSTEM DESIGN.			
1034	14.2 MEV		15.0%	2	FR	B.DUCHEMIN	SAC		792026F
					A:	QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.			
					O:	NEUTRON MULTIPLIER			
					M:	SUBSTANTIAL MODIFICATIONS.			

90 THORIUM 232 NEUTRON N,3N

1035	UP TO	15.0 MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR		724062F
					O:	POSSIBLE USE AS NEUTRON MULTIPLIER.			
1036	11.0 MEV	14.0 MEV	10. %	2	USA	NG	DOE		781162F
					O:	FOR HYBRID SYSTEM DESIGN.			
1037	14.2 MEV		15.0%	2	FR	B.DUCHEMIN	SAC		792027F
					A:	QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.			
					O:	NEUTRON MULTIPLIER			
					M:	SUBSTANTIAL MODIFICATIONS.			

90 THORIUM 232 NEUTRON FISSION CROSS SECTION

1038	25.3 MV	10.0 MEV	5.0%	2	GER	H.GERWIN	JUL		692328R
					O:	SPECTRUM INDEX.			
1039	100. KEV	10.0 MEV	10.0%	3	FR	H.TELLIER	SAC		732091R
					A:	QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.			
					M:	SUBSTANTIAL MODIFICATIONS.			

1040	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.			
1041	14.2 MEV		15.0%	2	FR	B.DUCHEMIN	SAC		792025F
						A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS. O: NEUTRON MULTIPLIER			
1042	UP TO	5.00 MEV	5.0%	3	UK	C.G.CAMPBELL	WIN		792136R
						O: FOR FAST REACTORS. EVALUATION REQUIREMENT.			
1043	20.0 MEV	40.0 MEV	10. %	1	USA	MCELROY	HED		801243F
						A: ACCURACY 20 PERCENT ABOVE 25 MEV. O: FOR EMIT DOSIMETRY. M: NEW REQUEST.			

STATUS----------STATUS

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

90 THORIUM 232 NEUTRON ENERGY SPECTRUM OF DELAYED FISSION NEUTRONS

1044			2. %	1	USA	STEEN	BET		781182R
						Q: NEED FAST GROUP YIELDS AND SPECTRA. O: TO VERIFY EXISTING EVALUATIONS.			

90 THORIUM 232 NEUTRON RESONANCE PARAMETERS

1045	UP TO	10.0 KEV	10.0%	1	GER	H.GERWIN H.KUESTERS	JUL KFK		692323R
						Q: RADIATION WIDTH NEEDED.			
1046	UP TO	10.0 KEV	10.0%	1	GER	H.KUESTERS	KFK		792214R

91 PROTACTINIUM 231 NEUTRON CAPTURE CROSS SECTION

1047	25.3 MV	10.0 MEV	10. %	2	USA	LEONARD	BNW		691219R
						Q: RADIOACTIVE TARGET 3.28X(10**4) YR O: FOR CONTROL OF U-232 PRODUCTION.			
1048	1.00 MV	1.00 KEV		2	USA	STEEN	BET		761066R
						Q: RADIOACTIVE TARGET 3.28X(10**4) YR ALSO NEED RESONANCE PARAMETERS AND RESONANCE INTEGRAL. A: ACCURACY RANGE 5. TO 10. PERCENT. O: FOR CALCULATION OF FUEL ACTIVITY IN TH-232 CYCLE REACTORS.			

91 PROTACTINIUM 231 NEUTRON ENERGY SPECTRUM OF DELAYED FISSION NEUTRONS

1049			5. %	1	USA	STEEN	BET		781183R
						Q: RADIOACTIVE TARGET 3.28X(10**4) YR NEED FAST GROUP YIELDS AND SPECTRA. O: TO VERIFY EXISTING EVALUATIONS.			

91 PROTACTINIUM 233 NEUTRON TOTAL CROSS SECTION

1050	UP TO	3.00 MEV	3. %	2	USA	PEELLE	ORL		781198R
						Q: RADIOACTIVE TARGET 27.0 DAY O: FOR THORIUM CYCLE REACTOR EVALUATION.			

91 PROTACTINIUM 233 NEUTRON ABSORPTION CROSS SECTION

1051	25.3 MV	500. EV	5.0%	1	GER	H.KUESTERS MAERKL	KFK SRE		692333R

91 PROTACTINIUM 233 NEUTRON CAPTURE CROSS SECTION

1052	1.00 MV	100. EV	5. %	2	USA	STEEN	BET		761059R
						Q: RADIOACTIVE TARGET 27.0 DAY RESONANCE PARAMETERS ALSO DESIRED. O: NEEDED FOR ANALYSIS OF TH-232 CYCLE THERMAL REACTORS.			
1053	500. EV	3.00 MEV	15.0%	2	FR	P.HAMMER	CAD		762142R
						A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS. O: FAST REACTOR PROJECT M: SUBSTANTIAL MODIFICATIONS.			
1054	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 CAPTURE CROSS SECTION (CONTINUED)

1055	25.3	MV	1.00	EV	5.0%	2	FR	H.TELLIER	SAC	812051R

A: ACCURACY QUOTED IS FOR A CONFIDENCE LIMIT OF 90PC
O: FOR THORIUM FUEL CYCLE STUDIES.
M: NEW REQUEST.

91 PROTACTINIUM 233 NEUTRON FISSION CROSS SECTION

1056	500.	EV	3.00	MEV	15.0%	2	FR	P.HAMMER	CAD	762141R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: FAST REACTOR PROJECT
M: SUBSTANTIAL MODIFICATIONS.

91 PROTACTINIUM 233 NEUTRON ABSORPTION RESONANCE INTEGRAL

1057	0.50	EV			10.0%	1	GER	H.KUESTERS MAERKL	KFK SRE	692334R

91 PROTACTINIUM 234 NEUTRON TOTAL CROSS SECTION

1058	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

1059	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

1060	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

1061	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

1062	25.3	MV	20.0	MEV	5.0%	2	IND	S.B.GARG	TRM	753020R

O: REQUIRED FOR THORIUM FUEL-CYCLE STUDIES.

92 URANIUM 232 NEUTRON CAPTURE CROSS SECTION

1063	1.00	MV	1.00	KEV		2	USA	STEEN	BET	761067R

Q: RADIOACTIVE TARGET 72 YR
ALSO NEED RESONANCE PARAMETERS AND RESONANCE INTEGRAL.
A: ACCURACY RANGE 2. TO 5. PERCENT.
O: FOR CALCULATION OF FUEL ACTIVITY IN TH-232 CYCLE REACTORS.

1064	1.00	KEV	3.00	MEV	50.0%	3	FR	P.HAMMER	CAD	792028R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: EVALUATION SUFFICIENT
M: SUBSTANTIAL MODIFICATIONS.

92 URANIUM 232 NEUTRON FISSION CROSS SECTION

1065	1.00	KEV	3.00	MEV	50.0%	3	FR	P.HAMMER	CAD	792029R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: EVALUATION SUFFICIENT
M: SUBSTANTIAL MODIFICATIONS.

92 URANIUM 233 HALF LIFE

1066					.5 %	1	USA	STEEN	BET	741115R

Q: RADIOACTIVE TARGET 1.592X(10**5) YR
O: VERIFICATION OF LATEST MEASUREMENTS DESIRED.

STATUS----------STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

92 URANIUM 233 SPONTANEOUS ALPHA HALF LIFE

1067					1. %	1	USA	GILLIAM	NBS	761119R

Q: RADIOACTIVE TARGET 1.592X(10**5) YR.
O: FOR MASS DETERMINATION OF FISSIONABLE DEPOSITS.

92 URANIUM 233 NEUTRON TOTAL CROSS SECTION

1068	1.00	MV	2.00	EV	.5 %	2	USA	LEONARD	BNW	761082R
							Q: RADIOACTIVE TARGET 1.592X(10**5) YR O: NEEDED FOR THERMAL CROSS SECTION EVALUATION.			
1069	60.0	EV	100.	KEV	3. %	1	USA	STEWART	LAS	791001R
							Q: RADIOACTIVE TARGET 1.592X(10**5) YR O: NEEDED TO COVER THE UNRESOLVED RANGE AND OVERLAP THE RECENT ANL DATA WHICH BEGINS AT 42 KEV.			

92 URANIUM 233 NEUTRON ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

1070	40.0	KEV	7.00	MEV		2	USA	SMITH	ANL	671086R
							Q: RADIOACTIVE TARGET 1.592X(10**5) YR A: ACCURACY RANGE 10. TO 20. PERCENT. ACCURACY OF 5-10 PERCENT ABOVE 0.5 MEV.			

92 URANIUM 233 NEUTRON ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION

1071	UP TO		5.00	MEV	20.0%	3	UK	C.G.CAMPBELL	WIN	692339R
							O: FOR FAST REACTORS.			

92 URANIUM 233 NEUTRON CAPTURE CROSS SECTION

1072	25.3	MV	1.00	MEV	20.0%	1	GER	H.GERWIN	JUL	692350R
							O: ACCURACY INSUFFICIENT.			
1073	1.00	MEV	10.0	MEV	20.0%	2	GER	H.GERWIN	JUL	692352R
							Q: ALPHA ALSO USEFUL. O: ACCURACY INSUFFICIENT.			
1074	UP TO		10.0	KEV	3.0%	3	FR	H.TELLIER	SAC	732093R
							A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS. O: EVALUATION PROBABLY NOT SUFFICIENT. M: SUBSTANTIAL MODIFICATIONS.			
1075	1.00	MV	0.50	EV	1. %	1	USA	STEEN	BET	741112R
							Q: RADIOACTIVE TARGET 1.592X(10**5) YR O: VERIFICATION OF RECENT ORNL RESULTS DESIRED.			
1076	0.50	EV	2.00	EV	2. %	1	USA	STEEN	BET	741114R
							Q: RADIOACTIVE TARGET 1.592X(10**5) YR O: VERIFICATION OF RECENT ORNL RESULTS DESIRED.			
1077	100.	EV	1.50	MEV		1	USA	PEELLE	ORL	761081R
							Q: RADIOACTIVE TARGET 1.592X(10**5) YR MOST IMPORTANT BELOW 0.5 MEV. A: ACCURACY RANGE 5. TO 10. PERCENT.			
1078	500.	EV	3.00	MEV	10.0%	2	FR	P.HAMMER	CAD	762143R
							A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS. O: FAST REACTOR PROJECT M: SUBSTANTIAL MODIFICATIONS.			
1079	60.0	EV	500.	KEV		1	USA	STEWART	LAS	791002R
							Q: RADIOACTIVE TARGET 1.592X(10**5) YR A: ACCURACY RANGE 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.			
1080	1.00	MEV	20.0	MEV	10.0%	1	JAP	N.ASANO	SAE	792083R
							Q: EXPERIMENTAL DATA REQUIRED.			
1081	25.3	MV	1.00	MEV	20.0%	1	GER	H.KUESTERS	KFK	792217R
1082	25.3	MV	1.00	EV	2.0%	2	FR	H.TELLIER	SAC	812052R
							A: THE QUOTED ACCURACY IS FOR A CONFIDENCE LIMIT OF 90 PERCENT O: FOR THORIUM FUEL CYCLE STUDIES. M: NEW REQUEST.			

92 URANIUM 233 NEUTRON N,2N

1083	UP TO		15.0	MEV	10. %	2	USA	HEMMIG	DOE	671088R
							Q: RADIOACTIVE TARGET 1.592X(10**5) YR O: FOR CONTAMINATION OF U-233 BY U-232.			
1084	UP TO		15.0	MEV	10.0%	1	FR	C.PHILIS	BRC	692341R
1085	UP TO		15.0	MEV	10.0%	2	FR	L.COSTA	CAD	792030R
							O: IN- AND OUT-OF-CORE CYCLE			

1086	UP TO	20.0	MEV	10.0%	1	JAP	N.ASANO	SAE	792092R

Q: EXPERIMENTAL DATA WANTED.

92 URANIUM 233 NEUTRON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

1087	1.00	MEV			2	USA	STEWART	LAS	791004R

Q: RADIOACTIVE TARGET 1.592X(10**5) YR
ABSOLUTE CROSS SECTIONS REQUIRED.
MEASURE AT SEVERAL ANGLES AND DETECT LOW ENERGY NEUTRONS.
A: ACCURACY RANGE 5. TO 10. PERCENT.

92 URANIUM 233 NEUTRON FISSION CROSS SECTION

1088	1.00	KEV	10.0	MEV	1. %	1	USA	HEMMIG	DOE	691226R

Q: 1.592X(10**5) YR
RATIO TO U-235 FISSION WANTED.
A: INCIDENT ENERGY RESOLUTION: 3. PERCENT.
ACCURACY OF 2-3 PERCENT USEFUL.
ENERGY CALIBRATION - 1 PERCENT.

1089	25.3	MV	50.0	EV	2.0%	2	GER	H.GERWIN	JUL	692342R
1090	50.0	EV	10.0	MEV		2	GER	H.GERWIN	JUL	692343R

A: ACCURACY REQUIRED TO BETTER THAN 10.0 PERCENT.
O: SPECTRUM INDEX.

1091	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.
QUOTED ACCURACIES ARE AT 2 STANDARD DEVIATIONS.
M: SUBSTANTIAL MODIFICATIONS.

1092	UP TO	10.0	KEV	3.0%	3	FR	H.TELLIER	SAC	732092R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
M: SUBSTANTIAL MODIFICATIONS.

1093	1.00	MV	20.0	MEV		1	USA	STEEN	BET	781184R

Q: RADIOACTIVE TARGET 1.592X(10**5) YR
A: ACCURACY WANTED - 1 PERCENT BELOW 100 EV, 5 PERCENT ABOVE.
O: FOR THERMAL REACTOR ANALYSIS.

1094	60.0	EV	100.	KEV		1	USA	STEWART	LAS	791003R

Q: RADIOACTIVE TARGET 1.592X(10**5) YR
MEASUREMENTS RELATIVE TO U-235 NOT DESIRED DUE T LARGE CROSS SECTION FLUCTUATIONS.
A: ACCURACY RANGE 5. TO 8. PERCENT.
O: NEEDED TO COVER THE UNRESOLVED RANGE AND OVERLAP THE RATIO MEASUREMENTS OF CARLSON.

STATUS----------STATUS

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

92 URANIUM 233 NEUTRON CAPTURE TO FISSION RATIO (ALPHA)

1095	0.50	EV	10.0	KEV	3. %	2	USA	STEEN	BET	621039R

Q: RADIOACTIVE TARGET 1.592X(10**5) YR
CAPTURE CROSS SECTION EQUALLY USEFUL.
INTEGRAL EXPERIMENTS NEEDED TO RESOLVE DISCREPANCIES.
A: 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).
WANT ETA TO 2 PERCENT FROM 1 - 30 KEV.
O: WANT VERIFICATION OF RECENT ORNL AND BETTIS WORK.

1096	10.0	KEV	20.0	MEV		2	USA	STEEN	BET	621040R

Q: RADIOACTIVE TARGET 1.592X(10**5) YR
CAPTURE CROSS SECTION EQUALLY USEFUL.
INTEGRAL EXPERIMENTS NEEDED TO RESOLVE DISCREPANCIES.
A: ACCURACY RANGE 5. TO 10. 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).
WANT ETA TO 2 PERCENT FROM 1 - 30 KEV.
O: WANT VERIFICATION OF RECENT ORNL AND BETTIS WORK.

1097	5.00	MV	0.50	EV		1	USA	STEEN	BET	621041R

Q: RADIOACTIVE TARGET 1.592X(10**5) YR
CAPTURE CROSS SECTION EQUALLY USEFUL.
INTEGRAL EXPERIMENTS NEEDED TO RESOLVE DISCREPANCIES.
A: ACCURACY RANGE 2. TO 8. 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).
WANT ETA TO 2 PERCENT FROM 1 - 30 KEV.
O: WANT VERIFICATION OF RECENT ORNL AND BETTIS WORK.

92 URANIUM 233 NEUTRON CAPTURE TO FISSION RATIO (ALPHA) (CONTINUED)

1098	1.00	KEV	3.00	MEV		1	USA	SMITH	ANL	621043R

Q: RADIOACTIVE TARGET 1.592X(10**5) YR
CAPTURE CROSS SECTION EQUALLY USEFUL.
A: ACCURACY RANGE 10. TO 20. PERCENT.
WANT ETA TO 2 PERCENT FROM 1 - 30 KEV.

1099	1.00	KEV	3.00	MEV		2	USA	HEMMIG	DOE	671090R

Q: RADIOACTIVE TARGET 1.592X(10**5) YR
CAPTURE CROSS SECTION EQUALLY USEFUL.
A: ACCURACY RANGE 10. TO 20. PERCENT.
WANT ETA TO 2 PERCENT FROM 1 - 30 KEV.

1100	1.00	KEV	100.	KEV	5.0%	3	UK	C.G.CAMPBELL	WIN	692346R

O: FOR FAST REACTORS.

92 URANIUM 233 NEUTRON NEUTRONS EMITTED PER NEUTRON ABSORPTION (ETA)

1101	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 REACTORS.

1102	1.00	MV	1.00	EV	.4 %	1	USA	STEEN	BET	741113R

Q: RADIOACTIVE TARGET 1.592X(10**5) YR
THERMAL VALUE AND SHAPE NEEDED.
O: TO VERIFY MANGANESE BATH RESULTS.

STATUS----------STATUS

THERMAL VALUE UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

92 URANIUM 233 NEUTRON NEUTRONS EMITTED PER FISSION (NU BAR)

1103	1.00	MV	30.0	EV	.25 %	1	USA	STEEN	BET	691443R

Q: RADIOACTIVE TARGET 1.592X(10**5) YR
MEASUREMENT RELATIVE TO U-235 AND PU-239 PREFERRED.
LOW ENERGY STRUCTURE MAY BE IMPORTANT.
O: NEEDED TO RESOLVE DISCREPANCIES IN THERMAL PARAMETERS AND BREEDING PREDICTION.

1104	30.0	EV	1.00	KEV	1. %	1	USA	STEEN	BET	691444R

Q: RADIOACTIVE TARGET 1.592X(10**5) YR
MEASUREMENT RELATIVE TO U-235 AND PU-239 PREFERRED.
LOW ENERGY STRUCTURE MAY BE IMPORTANT.
O: NEEDED TO RESOLVE DISCREPANCIES IN THERMAL PARAMETERS AND BREEDING PREDICTION.

1105	1.00	KEV	10.0	KEV	2. %	1	USA	STEEN	BET	691445R

Q: RADIOACTIVE TARGET 1.592X(10**5) YR
MEASUREMENT RELATIVE TO U-235 AND PU-239 PREFERRED.
LOW ENERGY STRUCTURE MAY BE IMPORTANT.
O: NEEDED TO RESOLVE DISCREPANCIES IN THERMAL PARAMETERS AND BREEDING PREDICTION.

1106	30.0	KEV	10.0	MEV	1.0%	2	GER	H.GERWIN	JUL	692486R

STATUS----------STATUS

THERMAL VALUE UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

92 URANIUM 233 NEUTRON DELAYED NEUTRONS EMITTED PER FISSION

1107	25.3	MV			5. %	1	USA	STEEN	BET	741116R

Q: RADIOACTIVE TARGET 1.592X(10**5) YR
O: TO RESOLVE DISCREPANCIES.

STATUS----------STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

92 URANIUM 233 NEUTRON ENERGY SPECTRUM OF FISSION NEUTRONS

1108	25.3	MV			1. %	1	USA	STEEN	BET	781185R

Q: RADIOACTIVE TARGET 1.592X(10**5) YR
NEED SHAPE OF NEUTRON ENERGY DISTRIBUTION FROM 100 KEV TO 15 MEV.
A: RELATIVE PEAK TO 1 PERCENT.
O: NEEDED FOR CRITICALITY CALCULATIONS.

1109	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.

92 URANIUM 233 NEUTRON FISSION PRODUCT MASS YIELD SPECTRUM

1110	25.3	MV		1.0%	3	CAN	W.H.WALKER	CRC	711801R

Q: YIELD OF XE-135 WANTED.
O: FOR CALCULATION OF FISSION PRODUCT ABSORPTION.

1111	25.3	MV		1. %	1	USA	STEEN FEINER	BET KAP	781191R

Q: RADIOACTIVE TARGET 1.592X(10**5) YR
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.

STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

92 URANIUM 233 NEUTRON RESONANCE PARAMETERS

1112	25.3	MV	100.	EV	10. %	3	USA	SMITH HEMMIG	ANL DOE	671195R

Q: RADIOACTIVE TARGET 1.592X(10**5) YR
MULTILEVEL PARAMETERS, STATISTICAL DISTRIBUTIONS
IN EV RANGE.
O: FOR THERMAL BREEDER CALCULATIONS.

1113	100.	EV	5.00	KEV		3	USA	SMITH HEMMIG	ANL DOE	671200R

Q: RADIOACTIVE TARGET 1.592X(10**5) YR
MULTILEVEL PARAMETERS, STATISTICAL DISTRIBUTIONS
IN EV RANGE.
A: ACCURACY RANGE 20. TO 30. PERCENT.
O: FOR THERMAL BREEDER CALCULATIONS.

92 URANIUM 234 SPONTANEOUS ALPHA HALF LIFE

1114				.3 %	1	USA	GILLIAM	NBS	751120R

O: FOR MASS DETERMINATION OF FISSIONABLE DEPOSITS.

92 URANIUM 234 NEUTRON CAPTURE CROSS SECTION

1115	1.00	MV	2.00	EV	3. %	2	USA	SMITH	ANL	691400R

O: TO EVALUATE ISOTOPE BUILDUP IN THERMAL REACTORS.

1116	2.00	EV	10.0	KEV	6. %	2	USA	SMITH	ANL	691401R

O: TO EVALUATE ISOTOPE BUILDUP IN THERMAL REACTORS.

1117	10.0	KEV	1.00	MEV	10. %	2	USA	SMITH	ANL	691402R

O: TO EVALUATE ISOTOPE BUILDUP IN THERMAL REACTORS.

1118	1.00	MEV	10.0	MEV	20. %	2	USA	SMITH	ANL	691403R

O: TO EVALUATE ISOTOPE BUILDUP IN THERMAL REACTORS.

1119	1.00	EV	10.0	MEV	15.0%	2	GER	H.GERWIN	JUL	692356R
1120	UP TO		10.0	KEV	5.0%	3	FR	H.TELLIER	SAC	732094R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
M: SUBSTANTIAL MODIFICATIONS.

1121	1.00	KEV	3.00	MEV	50.0%	3	FR	P.HAMMER	CAD	792031R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: EVALUATION SUFFICIENT
M: SUBSTANTIAL MODIFICATIONS.

92 URANIUM 234 NEUTRON N,2N

1122	UP TO		15.0	MEV	10.0%	1	FR	J.SALVY	BRC	682050R

92 URANIUM 234 NEUTRON N,3N

1123	UP TO		15.0	MEV	15.0%	1	FR	J.SALVY	BRC	682051R

92 URANIUM 234 NEUTRON FISSION CROSS SECTION

1124	4.00	MEV	10.0	MEV	15.0%	2	GER	H.GERWIN	JUL	692353R

O: SPECTRUM INDEX.

1125	1.00	KEV	3.00	MEV	50.0%	3	FR	P.HAMMER	CAD	792032R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: EVALUATION SUFFICIENT
M: SUBSTANTIAL MODIFICATIONS.

92 URANIUM 234 | NEUTRON | ENERGY SPECTRUM OF DELAYED FISSION NEUTRONS

1126				5. %	1	USA	STEEN	BET	781187R

Q: NEED FAST GROUP YIELDS AND SPECTRA.
O: NO MEASUREMENTS AVAILABLE.
FOR NON-DESTRUCTIVE ASSAY OF U-233-TH-232 FUEL

92 URANIUM 235 | SPONTANEOUS | ALPHA HALF LIFE

1127				.3 %	1	USA	GILLIAM	NBS	761121R

O: FOR MASS DETERMINATION OF FISSIONABLE DEPOSITS.

92 URANIUM 235 | NEUTRON | TOTAL CROSS SECTION

1128	1.00	MV	1.00	EV	.5 %	1	USA	LEONARD	BNW	761083R

O: NEEDED FOR THERMAL CROSS SECTION EVALUATION.

92 URANIUM 235 | NEUTRON | ELASTIC CROSS SECTION

1129				10.0%	3	UK	J.FELL	WIN	692360R

Q: THERMAL AVERAGE INCIDENT ENERGY.
O: FOR LONG TERM IMPROVEMENT OF THE ABSORPTION CROSS SECTION.

1130	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

1131	1.00	MEV	5.00	MEV	20. %	2	USA	SMITH HEMMIG	ANL DOE	691237R

A: INCIDENT ENERGY RESOLUTION: .5 MEV.
O: NEEDED FOR ANALYZING FAST CRITICAL EXPERIMENTS.

1132	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

1133	UP TO		15.0	MEV	10.0%	3	SWD	H.HAEGGBLOM	AE	692363R

O: FAST CRITICAL SYSTEMS.
M: SUBSTANTIAL MODIFICATIONS.

1134	UP TO		15.0	MEV	10.0%	2	FR	A.MICHAUDON	BRC	742070R

O: FOR CRITICAL ASSEMBLIES.

1135	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.

92 URANIUM 235 | NEUTRON | ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

1136	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.

1137	50.0	KEV	6.00	MEV	10. %	2	USA	SMITH HEMMIG	ANL DOE	721076R

Q: ABSOLUTE SPECTRA AT 30 DEGR AND 75 DEGR MAY SUFFICE.
LOW ENERGY (<300 KEV) NEUTRONS MUST BE INCLUDED.
A: INCIDENT ENERGY RESOLUTION: 10. PERCENT.
DELTA E(N') = 10 PERCENT.

92 URANIUM 235 | NEUTRON | ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION

1138	UP TO		15.0	MEV	20.0%	2	FR	A.MICHAUDON	BRC	742071R

O: FOR CRITICAL ASSEMBLIES.

92 URANIUM 235 NEUTRON CAPTURE CROSS SECTION

1139	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.

1140	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.

1141	1.00	MV	1.00	EV	1. %	1	USA	STEEN	BET	741117R

Q: SHAPE ESPECIALLY IMPORTANT AT LOW ENERGY.
O: TO RESOLVE DISCREPANCIES IN THERMAL PARAMETERS.

1142	200.	EV	500.	KEV	3.0%	3	SWD	H.HAEGGBLOM	AE	742005R

O: FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

1143	UP TO		3.00	MEV	5.0%	1	FR	A.MICHAUDON	BRC	742079R

O: FOR CRITICAL ASSEMBLIES.

1144	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.

92 URANIUM 235 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

1145	1.00	KEV	15.0	MEV	10.0%	1	FR	A.MICHAUDON	BRC	742069R

O: FOR SHIELDING.

92 URANIUM 235 NEUTRON N,3N

1146	UP TO		15.0	MEV	15.0%	1	FR	A.MICHAUDON	BRC	742072R

O: FOR CRITICAL ASSEMBLIES.

92 URANIUM 235 NEUTRON FISSION CROSS SECTION

1147	1.00	EV	1.00	KEV	3. %	2	USA	BHAT	BNL	691241R

O: FOR USE AS A STANDARD AT HIGHER ENERGIES.

1148	10.0	KEV	20.0	MEV	1. %	1	USA	POENITZ	ANL	691245R

Q: EXCITATION FUNCTION WITH ABSOLUTE CALIBRATION AT SEVERAL ENERGIES.
M: SUBSTANTIAL MODIFICATIONS.

1149	1.00	KEV	14.0	MEV	1. %	1	USA	SMITH HEMMIG	ANL DOE	691246R

Q: RATIO TO H(N,P) AND B-10(N,ALPHA) WANTED.

1150	1.00	KEV	20.0	KEV	2. %	1	USA	HEMMIG DONCALS	DOE WEW	691449R

Q: ABSOLUTE VALUES REQUIRED.
A: ACCURACY OF 3-5 PERCENT USEFUL.
O: FOR FAST REACTOR CALCULATIONS AND FOR USE AS STANDARD.

1151	20.0	KEV	3.00	MEV	1. %	1	USA	HEMMIG DONCALS	DOE WEW	691450R

Q: ABSOLUTE VALUES REQUIRED.
A: ACCURACY OF 3-5 PERCENT USEFUL.
O: FOR FAST REACTOR CALCULATIONS AND FOR USE AS STANDARD.

1152	3.00	MEV	14.0	MEV	2. %	1	USA	HEMMIG DONCALS	DOE WEW	691451R

Q: ABSOLUTE VALUES REQUIRED.
A: ACCURACY OF 3-5 PERCENT USEFUL.
O: FOR FAST REACTOR CALCULATIONS AND FOR USE AS STANDARD.

1153	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.

1154	1.00	MEV	5.00	MEV	1.5%	2	UK	C.G.CAMPBELL	WIN	692368R

A: ACCURACY FOR AVERAGE VALUE OF THE ERROR BETWEEN E AND 2E.
O: STANDARD
M: SUBSTANTIAL MODIFICATIONS.

1155	200.	EV	500.	KEV	2.0%	2	SWD	H.HAEGGBLOM	AE	692496R

O: FAST REACTOR CALCULATIONS.

1156	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.

1157	1.00	MV	1.00	EV	5. %	1	USA	STEEN	BET	741118R

Q: SHAPE ESPECIALLY IMPORTANT AT LOW ENERGY.

1158	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.

1159	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.

1160	5.00	MV	1.00	EV	1. %	1	USA	CARLSON	NBS	761107R

O: NEEDED AS A REFERENCE STANDARD FOR CROSS SECTION MEASUREMENT FOR THERMAL REACTORS.

1161	7.50	EV	11.5	EV	1. %	1	USA	CARLSON	NBS	761108R

O: FOR NORMALIZATION OF U-235 MEASUREMENTS.

1162	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.

1163	14.0	MEV	40.0	MEV		1	USA	NG	DOE	801185F

A: ACCURACY RANGE 10. TO 20. PERCENT.
O: FOR TRACK RECORDERS FOR FMIT DOSIMETRY.
M: NEW REQUEST.

1164	7.50	EV	30.0	KEV	1. %	1	USA	CARLSON	NBS	801294R

O: TO RESOLVE DISCREPANCY IN RECENT CROSS SECTION MEASUREMENTS.
M: NEW REQUEST.

STATUS----------

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

92 URANIUM 235 NEUTRON CAPTURE TO FISSION RATIO (ALPHA)

1165	1.00	MV	7.00	MEV		2	USA	SMITH HEMMIG	ANL DOE	691249R

Q: CAPTURE CROSS SECTION EQUALLY USEFUL.
A: ACCURACY RANGE 5. TO 10. PERCENT.
O: EXPERIMENTAL UNCERTAINTIES NEED VERIFICATION.

1166	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.

1167 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 SHIELDING. 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.

1168 1.00 MV 1.00 EV 1. % 1 USA STEEN BET 721077R

Q: CAPTURE CROSS SECTION EQUALLY USEFUL.
O: EXPERIMENTAL UNCERTAINTIES NEED VERIFICATION.

STATUS----------STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

92 URANIUM 235 NEUTRON NEUTRONS EMITTED PER NEUTRON ABSORPTION (ETA)

1169 25.3 MV 50.0 KEV 2 USA SMITH, HEMMIG ANL, DOE 671100R

A: ACCURACY 0.5 PERCENT AT THERMAL, 2 PERCENT ELSEWHERE.

1170 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.

1171 1.00 MV 1.00 EV .4 % 1 USA STEEN BET 741119R

Q: SHAPE ESPECIALLY IMPORTANT AT LOW ENERGY. USE TECHNIQUE OTHER THAN MANGANESE BATH.

1172 10.0 MV 0.40 EV 0.5% 2 GER H.<UESTERS KFK 792218R

Q: VALUE RELATIVE TO 25.3 MV ETA WANTED.

STATUS----------STATUS

THERMAL VALUE UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

92 URANIUM 235 NEUTRON NEUTRONS EMITTED PER FISSION (NU BAR)

1173 25.3 MV 3.00 MEV 1. % 1 USA SMITH, HEMMIG ANL, DOE 691253R

A: BETTER THAN .5 PERCENT REQUIRED AT THERMAL.
O: TO CROSS CHECK WITH OTHER ISOTOPES.

1174 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 _ETHARGY RESOLUTION IN THE REGION BELOW 2.5 MEV.
O: SEE GENERAL COMMENTS IN THE INTRODUCTION.

1175 UP TO 15.0 MEV 1 FR A.MICHAUDON BRC 742075R

A: ACCURACY 2 PERCENT TO 1 KEV, 1 PERCENT ABOVE.
O: FOR CRITICAL ASSEMBLIES.

1176 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.

1177 1.00 MV 1.00 EV .2 % 1 USA STEEN BET 781189R

Q: MEASUREMENTS RELATIVE TO U-233 AND PU-239 WANTED.

STATUS----------STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

92 URANIUM 235 NEUTRON DELAYED NEUTRONS EMITTED PER FISSION

1178 3. % 1 USA STEEN BET 741120R

Q: FOR THE ENTIRE ENERGY RANGE.
O: TO RESOLVE UNCERTAINTIES IN AVAILABLE DATA.

1179 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----------STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

92 URANIUM 235 NEUTRON ENERGY SPECTRUM OF FISSION NEUTRONS

1180 25.3 MV 3.00 MEV 5. % 2 USA SMITH ANL 691256R
HEMMIG DOE

O: VERIFICATION OF FISSION SPECTRUM.

1181 100. KEV 2.0% 2 UK C.G.CAMPBELL WIN 692376R
V.BARNES UKW

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.

1182 25.3 MV 1. % 1 USA STEEN BET 721080R

Q: NEED SHAPE OF NEUTRON ENERGY DISTRIBUTION FROM 100 KEV TO 15 MEV.
A: RELATIVE PEAK TO 1 PERCENT.
O: NEEDED FOR CRITICALITY CALCULATIONS.

1183 UP TO 15.0 MEV 5.0% 1 FR A.MICHAUDON BRC 742077R

O: FOR CRITICAL ASSEMBLIES.

STATUS----------STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

92 URANIUM 235 NEUTRON ENERGY SPECTRUM OF DELAYED FISSION NEUTRONS

1184 25.3 MV 5.00 MEV 5. % 2 USA HEMMIG DOE 691260R

Q: YIELD, HALF-LIFE AND ENERGY NEEDED.
O: FOR ANALYSIS OF FAST CRITICALS AND TO CHECK EXISTING DATA.

92 URANIUM 235 NEUTRON SPECTRUM OF PROMPT GAMMA RAYS EMITTED IN FISSION

1185 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 PROMPT GAMMAS.

92 URANIUM 235 NEUTRON DELAYED GAMMA SPECTRUM FROM FISSION PRODUCTS

1186 25.3 MV 15. % 3 USA WALTON LAS 701029N

Q: SPECTRA 0.25-5 MEV AND TIME-DEPENDENT YIELD 1 MSEC-12 HR.
ASSOCIATE GAMMAS WITH FISSION PRODUCTS.
A: GE(LI) RESOLUTION - 2.5 KEV AT 1.2 MEV.
O: FOR NON-DESTRUCTIVE ASSAYS OF U-235.

92 URANIUM 235 NEUTRON FISSION PRODUCT MASS YIELD SPECTRUM

1187 25.3 MV 1.0% 2 CCP S.A.SKVORTSOV KUP 704022N
O.A.MILLER KUP

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.

1188 25.3 MV 1.0% 3 CAN W.H.WALKER CRC 711802R

Q: YIELD OF XE-135 WANTED.
O: CALCULATION OF FISSION PRODUCT POISONS.

1189 25.3 MV 1. % 1 USA STEEN BET 781192R
FEINER KAP

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.

STATUS----------STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

92 URANIUM 235 NEUTRON RESONANCE PARAMETERS

1190	25.3	MV	200.	EV	10. %	1	USA	SMITH HEMMIG	ANL DOE	691262R

Q: MULTILEVEL FIT WHERE FEASIBLE.
O: FOR EXTRAPOLATION TO UNRESOLVED RESONANCE REGION.

1191	25.3	MV	200.	EV	10. %	2	USA	STEEN	BET	691263R

Q: MULTILEVEL FIT WHERE FEASIBLE.
O: VERIFICATION OF EXISTING DATA USEFUL.

1192	1.00	EV	200.	EV	3.0%	2	FR	H.TELLIER	SAC	702025R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: FOR RESONANCE SELF SHIELDING.
M: SUBSTANTIAL MODIFICATIONS.

STATUS----------STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

92 URANIUM 236 NEUTRON ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

1193	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

1194	1.00	KEV	3.00	MEV	10.0%	1	FR	J.SALVY	BRC	682060R
1195	1.00	EV	10.0	MEV	20.0%	2	GER	H.GERWIN	JUL	692381R
1196	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.
A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

1197	500.	EV	1.40	MEV	7.0%	2	CCP	M.N.NIKOLAEV	FEI	714015R

Q: RATIO WANTED RELATIVE TO U-235 FISSION.
O: SEE GENERAL COMMENTS IN THE INTRODUCTION.

1198	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

1199	4.00	MEV	10.0	MEV	5.0%	2	GER	H.GERWIN	JUL	692380R
1200	1.00	KEV	3.00	MEV	50.0%	3	FR	P.HAMMER	CAD	712062R

Q: WANTED RELATIVE TO U-235 FISSION CROSS SECTION.
A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

1201	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)

1202	500.	EV	15.0	MEV	3.0%	3	FR	P.HAMMER	CAD	712063R

A: ACCURACY RELATIVE TO NU CF-252.
QUOTED ACCURACY IS AT 2 STANDARD DEVIATIONS.
O: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

1203	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

1204					5. %	1	USA	STEEN	BET	781188R

Q: RADIOACTIVE TARGET 2.342X(10**7) YR
NEED FAST GROUP YIELDS AND SPECTRA.
O: NO MEASUREMENTS AVAILABLE.
FOR NON-DESTRUCTIVE ASSAY OF U-233-TH-232 FUEL

92 URANIUM 236 NEUTRON RESONANCE PARAMETERS

1205	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

1206		5.0%	2	JAP	Y.NODA H.OKABAYASHI	NIS NIS		792090R

O: 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%.

92 URANIUM 237 NEUTRON CAPTURE CROSS SECTION

1207	1.00 KEV	3.00 MEV	50.0%	3	FR	P.HAMMER	CAD		792034R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: EVALUATION SUFFICIENT
M: SUBSTANTIAL MODIFICATIONS.

92 URANIUM 237 NEUTRON FISSION CROSS SECTION

1208	1.00 KEV	3.00 MEV	50.0%	3	FR	P.HAMMER	CAD		792035R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: EVALUATION SUFFICIENT
M: SUBSTANTIAL MODIFICATIONS.

92 URANIUM 238 NEUTRON ELASTIC CROSS SECTION

1209	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

1210	1.00 KEV	300. KEV	10. %	1	USA	HEMMIG	DOE		691407R

M: SUBSTANTIAL MODIFICATIONS.

1211	300. KEV	2.00 MEV	5. %	1	USA	SMITH HEMMIG	ANL DOE		691408R
1212	300. KEV	2.00 MEV	5. %	1	USA	GREEBLER	GEB		691409R
1213	300. KEV	10.0 MEV	10. %	1	USA	SMITH	ANL		691468R
1214	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

1215	UP TO	15.0 MEV	5.0%	1	FR	P.HAMMER	CAD		692387R

O: ALTERNATE QUANTITY - NONELASTIC CROSS SECTION.
A: QUOTED ACCURACY IS AT 2 STANDARD DEVIATIONS.
O: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

1216	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.

1217	UP TO	15.0 MEV	5.0%	2	FR	C.PHILIS	BRC		742083R

O: FOR CRITICAL ASSEMBLIES.

1218	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.

STATUS----------STATUS

UNDER CONTINUOUS REVIEW BY NEANDC. SEE APPENDIX A.

92 URANIUM 238 NEUTRON ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

1219	50.0 KEV	10.0 MEV	5. %	1	USA	SMITH HEMMIG	ANL DOE		691270R

Q: EMISSION CROSS SECTIONS INSTEAD OF INELASTIC AND (N,2N) MIGHT BE USEFUL.
A: INCIDENT ENERGY RESOLUTION: 5. PERCENT.

1220	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. QUOTED ACCURACIES ARE AT 2 STANDARD DEVIATIONS.
O: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

1221	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.

STATUS----------STATUS

UNDER CONTINUOUS REVIEW BY NEANDC. SEE APPENDIX A.

92 URANIUM 238 NEUTRON ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION

1222	500. KEV	5.00 MEV	5.0%	1	UK	C.G.CAMPBELL	WIN		692392R

O: FOR FAST REACTORS.

1223	UP TO	15.0 MEV	5.0%	2	FR	C.PHILIS	BRC		742084R
1224	500. KEV	5.00 MEV	5.0%	1	GER	H.KUESTERS	KFK		792219R

92 URANIUM 238 NEUTRON NON-ELASTIC CROSS SECTION

1225	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

1226	500. EV	1.00 KEV	6. %	1	USA	HEMMIG	DOE		691419R

O: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

1227	1.00 KEV	300. KEV	1. %	1	USA	SMITH	ANL		691420R

O: FOR FAST REACTOR CALCULATIONS.

1228	1.00 KEV	300. KEV	2. %	1	USA	HEMMIG	DOE		691422R

O: FOR FAST REACTOR CALCULATIONS.

1229	300. KEV	500. KEV	1.5 %	1	USA	SMITH	ANL		691423R

O: FOR FAST REACTOR CALCULATIONS.

1230	300. KEV	500. KEV	3. %	1	USA	HEMMIG	DOE		691425R

O: FOR FAST REACTOR CALCULATIONS.

1231	500. KEV	10.0 MEV	2.5 %	1	USA	SMITH	ANL		691426R

O: FOR FAST REACTOR CALCULATIONS.

1232	500. KEV	10.0 MEV	5. %	1	USA	HEMMIG	DOE		691428R

O: FOR FAST REACTOR CALCULATIONS.

1233	10.0 KEV	300. KEV	1.5 %	1	USA	SMITH HEMMIG	ANL DOE		691435R

Q: PRIMARY RATIO SHOULD BE TO U-235 FISSION, OTHER RATIOS TO RECOGNIZED STANDARDS DESIRABLE.
O: RATIO DATA DISCREPANT WITH ABSOLUTE MEASUREMENTS.

1234	300.	KEV	10.0	MEV	2. %	1	USA	SMITH	ANL	691436R
							Q:	PRIMARY RATIO SHOULD BE TO U-235 FISSION, OTHER RATIOS TO RECOGNIZED STANDARDS DESIRABLE.		
							O:	RATIO DATA DISCREPANT WITH ABSOLUTE MEASUREMENTS.		
1235	300.	KEV	10.0	MEV	7. %	1	USA	HEMMIG	DOE	691437R
							Q:	PRIMARY RATIO SHOULD BE TO U-235 FISSION, OTHER RATIOS TO RECOGNIZED STANDARDS DESIRABLE.		
							O:	RATIO DATA DISCREPANT WITH ABSOLUTE MEASUREMENTS.		
1236	1.00	KEV	10.0	MEV	2. %		USA	SMITH	ANL	691469R
							A:	ABOVE 10 KEV, 10 PERCENT ACCURACY USEFUL.		
							O:	FOR FAST REACTOR CALCULATIONS.		
1237	10.0	KEV	10.0	MEV	1.5 %	1	USA	SMITH	ANL	691470R
							Q:	PRIMARY RATIO SHOULD BE TO U-235 FISSION. OTHER RATIOS TO RECOGNIZED STANDARDS DESIRABLE.		
							O:	RATIO DATA DISCREPANT WITH ABSOLUTE MEASUREMENTS.		
1238	5.00	MV	6.00	EV		1	UK	J.FELL	WIN	692401R
							A:	ACCURACY REQUIRED .03 BARNS.		
							O:	FOR THERMAL REACTORS.		
1239	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.		
1240	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.		
1241	5.00	KEV	1.00	MEV	3.0%	3	SWD	H.HAEGGBLOM	AE	692406R
							O:	NEEDED FOR FAST REACTOR CALCULATIONS.		
							M:	SUBSTANTIAL MODIFICATIONS.		
1242	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 OR 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.		
1243	1.00	EV	20.0	KEV	5. %	1	USA	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-SHIELDI EXISTS.		
1244	1.00	KEV	3.00	MEV	5.0%	1	FR	C.PHILIS	BRC	742087R
							O:	FOR CRITICAL ASSEMBLIES.		
1245	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.		
1246	100.	MV	6.00	EV	.5 %	1	USA	LEONARD	BNW	761085R
							O:	FOR THERMAL CROSS SECTION EVALUATION.		
1247	10.0	MV	1.00	EV	2.0%	2	FR	H.TELLIER	SAC	792036R
							A:	QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.		
							O:	TO CHECK CAREFULLY IF THE CAPTURE CROSS SECTION IS 1/V DEPENDENT OR NOT		
1248	10.0	KEV	80.0	KEV	3.0%	2	GER	H.KUESTERS	KFK	792220R

STATUS----------STATUS

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

92 URANIUM 238 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

1249	25.0	MV	5.00	MEV	20.0%	3	UK	C.G.CAMPBELL	WIN	712066R

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

1250	1.00	MV	15.0	MEV	10. %	2	USA	HEMMIG	DOE	721079R

Q: FOR ALL GAMMA ENERGIES.
A: GAMMA-ENERGY INTERVALS - 500 KEV.
O: FOR SHIELDING AND GAMMA HEATING CALCULATIONS.

92 URANIUM 238 NEUTRON N,2N

1251		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.

1252		UP TO	15.0	MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR	724063F

O: POSSIBLE USE AS NEUTRON MULTIPLIER.

1253					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.

1254	14.0	MEV	20.0	MEV	10. %	2	USA	SMITH	ANL	801001R

A: ENERGY RESOLUTION 10 PERCENT.
M: NEW REQUEST.

1255	14.0	MEV	50.0	MEV		1	USA	NG	DOE	801024F

A: ACCURACY RANGE 10. TO 20. PERCENT.
O: DOSIMETRY FOR FMIT FACILITY.
M: NEW REQUEST.

92 URANIUM 238 NEUTRON N,3N

1256		UP TO	15.0	MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR	724064F

O: POSSIBLE USE AS NEUTRON MULTIPLIER.

1257	14.0	MEV	20.0	MEV	10. %	2	USA	SMITH	ANL	801002R

A: ENERGY RESOLUTION 10 PERCENT.
M: NEW REQUEST.

1258	11.0	MEV	14.0	MEV	10. %	2	USA	NG	DOE	801090F

O: FOR HYBRID SYSTEM DESIGN.
M: NEW REQUEST.

92 URANIUM 238 NEUTRON FISSION CROSS SECTION

1259					2.0%	2	UK	C.G.CAMPBELL J.FELL	WIN WIN	712067R

Q: FISSION SPECTRUM AVERAGE WANTED.
O: EVALUATION REQUIREMENT.
FOR FAST AND THERMAL REACTORS.

1260	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.

1261	UP TO	15.0 MEV	3.0%	1	FR	C.PHILIS	BRC		742086R
					Q: FOR CRITICAL ASSEMBLIES.				
1262			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.				
1263	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.				
1264	20.0 MEV	50.0 MEV		1	USA	NG	DOE		801023F
					A: ACCURACY RANGE 10. TO 20. PERCENT. O: DOSIMETRY FOR FMIT FACILITY. FOR TRACK RECORDERS FOR FMIT DOSIMETRY FROM 14-40 MEV. M: NEW REQUEST.				
1265	500. EV	1.30 MEV	4. %	1	USA	SMITH	ANL		801296R
					Q: RATIO TO U-235(N,F) WANTED. A: INCIDENT ENERGY RESOLUTION: 3. PERCENT. INTERMEDIATE ACCURACY USEFUL. ENERGY CALIBRATION - 1 PERCENT. M: NEW REQUEST.				
1266	1.30 MEV	5.00 MEV	2. %	1	USA	SMITH	ANL		801297R
					Q: RATIO TO U-235(N,F) WANTED. A: INTERMEDIATE ACCURACY USEFUL. ENERGY CALIBRATION - 1 PERCENT. M: NEW REQUEST.				
1267	5.00 MEV	14.0 MEV	3. %	1	USA	SMITH	ANL		801298R
					Q: RATIO TO U-235(N,F) WANTED. A: INTERMEDIATE ACCURACY USEFUL. ENERGY CALIBRATION - 1 PERCENT. M: NEW REQUEST.				
1268	14.0 MEV	20.0 MEV	5. %	2	USA	SMITH	ANL		801299R
					Q: RATIO TO U-235(N,F) WANTED. A: INTERMEDIATE ACCURACY USEFUL. ENERGY CALIBRATION - 1 PERCENT. M: NEW REQUEST.				

STATUS----------STATUS

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

92 URANIUM 238 NEUTRON NEUTRONS EMITTED PER FISSION (NU BAR)

1269	UP TO	10.0 MEV	1. %	1	USA	HEMMIG	DOE		691275R
					Q: ENERGY REQUESTED IS A MAXIMUM VALUE ONLY. RATIO TO CF-252 WANTED. O: TO VERIFY MEASUREMENT OF SOLEILAC.				
1270	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.				
1271	UP TO	15.0 MEV	1.0%	1	FR	C.PHILIS	BRC		742088R
					O: FOR CRITICAL ASSEMBLIES.				
1272	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.				

STATUS----------STATUS

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

92 URANIUM 238 NEUTRON DELAYED NEUTRONS EMITTED PER FISSION

1273	5.00 MEV	14.0 MEV	5. %	3	USA	WALTON	LAS		701035N
					O: CALCULATION OF MODERATING ASSEMBLIES FOR U ASSAY. DATA NEEDED FOR EXTRAPOLATION TO 15 MEV.				
1274	UP TO	5.00 MEV	5. %	1	USA	HEMMIG	DOE		761087R
1275	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----------STATUS

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

92 URANIUM 238 NEUTRON ENERGY SPECTRUM OF FISSION NEUTRONS

1276	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.

1277	UP TO 5.00 MEV			1	USA	HEMMIG	DOE	721145R

Q: WANT AVERAGE SECONDARY ENERGY TO 5 PERCENT.
O: TO RESOLVE DISCREPANCIES IN EXISTING DATA.

1278	UP TO 15.0 MEV		2.0%	1	FR	C.PHILIS	BRC	742089R

O: FOR CRITICAL ASSEMBLIES.

STATUS----------STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

92 URANIUM 238 NEUTRON FISSION PRODUCT MASS YIELD SPECTRUM

1279			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----------STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

92 URANIUM 238 NEUTRON RESONANCE PARAMETERS

1280	1.00 EV	20.0 KEV	10. %	1	USA	HEMMIG SMITH	DOE ANL	691286R

Q: TO AS HIGH ENERGY AS CAN BE MEASURED.
O: FOR DOPPLER EFFECT ON FAST BREEDERS.
TO RESOLVE QUESTIONS OF MISSING P-WAVE LEVELS AND UNCERTAINTIES OF GAMMA-WIDTHS.
EXISTING DATA > 1 KEV DISCREPANT.

1281	2.00 KEV	5.00 KEV	3.0%	3	SWD	H.HAEGGBLOM	AE	692385R

Q: NEUTRON CAPTURE AND FISSION WIDTH NEEDED.
O: NEEDED FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

1282	UP TO 5.00 KEV			1	CCP	M.N.NIKOLAEV	FEI	714016R

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 DEPENDENCE OF LEVEL DENSITY IS OF INTEREST FROM A SCIENTIFIC AS WELL AS FROM A PRACTICAL POINT OF VIEW.

1283	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.

1284	UP TO 5.00 KEV		3. %	1	USA	PEELLE	ORL	781193R

O: NEEDED TO COMPUTE CAPTURE IN HIGHLY SELF-SHIELDED THERMAL SYSTEMS.

STATUS----------STATUS

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

93 NEPTUNIUM 236 NEUTRON CAPTURE CROSS SECTION

1285	1.00 KEV	1.00 MEV	50.0%	3	FR	P.HAMMER	CAD	792038R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
M: SUBSTANTIAL MODIFICATIONS.

93 NEPTUNIUM 236 NEUTRON FISSION CROSS SECTION

1286	1.00	KEV	1.00	MEV	50.0%	3	FR	P.HAMMER	CAD	792037R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
M: SUBSTANTIAL MODIFICATIONS.

93 NEPTUNIUM 237 SPONTANEOUS ALPHA HALF LIFE

1287					.5 %	1	USA	GILLIAM	NBS	761123R

Q: RADIOACTIVE TARGET 2.14X(10**6) YR.
O: FOR MASS DETERMINATION OF FISSIONABLE DEPOSITS.

93 NEPTUNIUM 237 NEUTRON CAPTURE CROSS SECTION

1288	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.

1289	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.

1290	500.	EV	5.00	MEV	15.0%	2	CCP	L.N.USACHEV	FEI	794006R

Q: AVERAGE CROSS SECTION IN A FAST-REACTOR SPECTRUM REQUESTED.
O: FOR FAST-REACTOR BURN-UP CALCULATION.
SEE GENERAL COMMENTS.

1291		UP TO	15.0	MEV	10.0%	2	EUR	NEUTRON DOSIMETRY GROUP	GEL	812015R

Q: TO BE INCLUDED IN IRDF FILE
O: FOR NEUTRON DOSIMETRY USING SPECTRUM UNFOLDING METHODS.
M: NEW REQUEST.

93 NEPTUNIUM 237 NEUTRON N,2N

1292		UP TO	15.0	MEV	10. %	2	USA	SHARP	SRL	671112R

Q: RADIOACTIVE TARGET 2.14X(10**6) YR
O: TO EVALUATE CONTAMINATION OF PU-238 BY PU-236.

1293		UP TO	15.0	MEV	15.0%	1	FR	L.COSTA	CAD	762147R

O: FUEL CYCLE OUT-OF-CORE

1294					15.0%	2	CCP	L.N.USACHEV	FEI	794008R

Q: AVERAGE CROSS SECTION IN A FAST-REACTOR SPECTRUM REQUESTED.
O: FOR FAST-REACTOR BURN-UP CALCULATION.
SEE GENERAL COMMENTS.

1295		UP TO	15.0	MEV	10.0%	1	BLG	CH.DE RAEDT.	MOL	812069N

Q: U-235 FISSION SPECTRUM AVERAGE REQUESTED
O: TO EVALUATE BUILD-UP OF TL-208, THE DECAY PRODUCT OF PU-236.
M: NEW REQUEST.

STATUS----------STATUS

UNDER CONTINUOUS REVIEW BY NEANDC. SEE APPENDIX A.

93 NEPTUNIUM 237 NEUTRON SPECIAL QUANTITY (DESCRIPTION BELOW)

1296	7.00	MEV	12.0	MEV	25.0%	2	UK	V.BARNES C.G.CAMPBELL	UKW WIN	812050R

Q: PRODUCTION OF PU-236
O: FOR ESTIMATION OF PU-236 IN IRRADIATED FUEL AND SAMPLES.
M: NEW REQUEST.

93 NEPTUNIUM 237 NEUTRON FISSION CROSS SECTION

1297		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.

1298	50.0	KEV	7.00	MEV	2. %	1	USA	GILLIAM	NBS	781178R

Q: RADIOACTIVE TARGET 2.14X(10**6) YR
O: FOR MATERIALS DOSIMETRY.

1299	20.0	MEV	40.0	MEV	10. %	1	USA	MCELROY	HED	801239F

Q: RADIOACTIVE TARGET 2.14X(10**6) YR
A: ACCURACY 20 PERCENT ABOVE 23 MEV.
O: FOR FMIT DOSIMETRY.
M: NEW REQUEST.

1300 UP TO 3.00 MEV 2.0% 1 EUR NEUTRON DOSIMETRY GROUP GEL 812016R
O: FOR SURVEILLANCE OF DAMAGE IN PRESSURE VESSELS USING CS-137 WITH LONG HALF LIFE.
M: NEW REQUEST.

1301 3.00 MEV 15.0 MEV 5.0% 1 EUR NEUTRON DOSIMETRY GROUP GEL 812017R
O: FOR SURVEILLANCE OF DAMAGE IN PRESSURE VESSELS USING CS-137 WITH LONG HALF LIFE
SEE ALSO REQUEST AT LOWER ENERGIES 812016
M: NEW REQUEST.

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

93 NEPTUNIUM 238 NEUTRON CAPTURE CROSS SECTION

1302 25.3 MV 20. % 2 SWD H.HAEGGBLOM AE 762169N
O: CALCULATION OF PU-238 PRODUCTION

1303 1.00 KEV 2.00 MEV 50.0% 2 FR L.COSTA CAD 792040R
O: IN- AND -OUT-OF-CORE CYCLE - EVALUATION SUFFICIENT

93 NEPTUNIUM 238 NEUTRON FISSION CROSS SECTION

1304 1.00 KEV 2.00 MEV 50.0% 2 FR L.COSTA CAD 792041R
O: IN- AND -OUT-OF-CORE CYCLE - EVALUATION SUFFICIENT

93 NEPTUNIUM 239 NEUTRON CAPTURE CROSS SECTION

1305 10.0 KEV 5.00 MEV 20.0% 3 JAP M.OHTA KYU 712075R
O: SOME POINT DATA ARE ALSO USEFUL.
O: FOR NORMALIZATION OF CALCULATED CAPTURE CROSS SECTION.
FOR BURNUP CALCULATION.

1306 1.00 KEV 2.00 MEV 50.0% 2 FR P.HAMMER CAD 762148R
A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: FAST REACTOR OPERATION
M: SUBSTANTIAL MODIFICATIONS.

1307 25.2 MV 15.0 MEV 20. % 2 JAP R.SHINDO JAE 762209R
O: FOR BURN-UP CALCULATION OF THERMAL REACTOR.

1308 25.3 MV 1.00 MEV 30.0% 2 UK C.G.CAMPBELL WIN 792138R
O: FOR FAST REACTORS.
EVALUATION REQUIREMENT.

93 NEPTUNIUM 239 NEUTRON N,2N

1309 UP TO 15.0 MEV 50.0% 2 FR L.COSTA CAD 792042R
O: IN- AND -OUT-OF-CORE CYCLE - EVALUATION SUFFICIENT

93 NEPTUNIUM 239 NEUTRON FISSION CROSS SECTION

1310 1.00 KEV 2.00 MEV 50.0% 2 FR P.HAMMER CAD 762149R
A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: FAST REACTOR OPERATION
M: SUBSTANTIAL MODIFICATIONS.

1311 25.3 MV 10.0 MEV 30.0% 2 UK C.G.CAMPBELL WIN 792137R
O: FOR FAST REACTORS.
EVALUATION REQUIREMENT.

93 NEPTUNIUM 239 NEUTRON NEUTRONS EMITTED PER FISSION (NU BAR)

1312 UP TO 15.0 MEV 50.0% 2 FR P.HAMMER CAD 762150R
A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: FAST REACTOR OPERATION
M: SUBSTANTIAL MODIFICATIONS.

93 NEPTUNIUM 240 NEUTRON CAPTURE CROSS SECTION

1313 1.00 KEV 2.00 MEV 50.0% 3 FR P.HAMMER CAD 792043R
A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: EVALUATION SUFFICIENT
M: SUBSTANTIAL MODIFICATIONS.

93 NEPTUNIUM 240 NEUTRON FISSION CROSS SECTION

1314	1.00	KEV	2.00	MEV	50.0%	3	FR	P.HAMMER	CAD	792044R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: EVALUATION SUFFICIENT
M: SUBSTANTIAL MODIFICATIONS.

94 PLUTONIUM 236 NEUTRON ABSORPTION CROSS SECTION

1315	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

1316	1.00	KEV	2.00	MEV	10.0%	1	FR	L.COSTA	CAD	792253R

O: OUT-OF-CORE CYCLE

94 PLUTONIUM 236 NEUTRON FISSION CROSS SECTION

1317	1.00	KEV	2.00	MEV	10.0%	1	FR	L.COSTA	CAD	792045R

O: OUT-OF-CORE CYCLE

94 PLUTONIUM 237 NEUTRON CAPTURE CROSS SECTION

1318	1.00	KEV	2.00	MEV	50.0%	3	FR	P.HAMMER	CAD	792046R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
M: SUBSTANTIAL MODIFICATIONS.

94 PLUTONIUM 237 NEUTRON FISSION CROSS SECTION

1319	1.00	KEV	2.00	MEV	50.0%	3	FR	P.HAMMER	CAD	792047R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
M: SUBSTANTIAL MODIFICATIONS.

94 PLUTONIUM 238 SPONTANEOUS FISSION HALF LIFE

1320					1. %	2	JAP	S.SUZUKI	PNC	762014N

O: DETECTION OF PU BY NEUTRON COINCIDENCE METHOD

94 PLUTONIUM 238 GAMMA RAY YIELD

1321					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 PRESENT STATUS OF ACCURACY SEEMED TO MEET THE REQUIREMENT CONFIRMATION IS REQUIRED.
ASSAY OF PU-ISOTOPES BY GAMMA-RAY SPECTROSCOPY

94 PLUTONIUM 238 GAMMA TOTAL NEUTRON YIELD

1322	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

1323	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

1324	UP TO	10.0	MEV	10.0%	2	CCP	V.K.MARKOV	GAC	714045N

O: PHOTONUCLEAR ASSAY OF PU.

94 PLUTONIUM 238 NEUTRON CAPTURE CROSS SECTION

1325	1.00	KEV	3.00	MEV	15.0%	1	FR	P.HAMMER	CAD	732096R

Q: VALUE RELATIVE TO U-238 CAPTURE CROSS SECTION.
A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

1326	1.00	KEV	3.00	MEV	20.0%	2	FR	J.SALVY	BRC	742093R
1327	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.

94 PLUTONIUM 238 NEUTRON CAPTURE CROSS SECTION (CONTINUED)

1328	500.	EV	15.0	MEV	10.0%	2	JAP	I.OHTAKE	PNC	792088R
								Q: EXPERIMENTAL DATA DESIRED. EVALUATED DATA ALSO REQUIRED.		
								D: FOR BURNUP CALCULATION OF THERMAL AND FAST REACTORS.		

94 PLUTONIUM 238 NEUTRON N,2N

1329		UP TO	15.0	MEV	10.0%	1	FR	J.SALVY	BRC	682062R
1330		UP TO	15.0	MEV	15.0%	1	FR	L.COSTA	CAD	792048R
								D: IN- AND -OUT-OF-CORE CYCLE		

94 PLUTONIUM 238 NEUTRON FISSION CROSS SECTION

1331		UP TO	15.0	MEV	20.0%	1	FR	J.SALVY	BRC	682064R
								D: MEASUREMENTS DONE AT LOS ALAMOS MAY SATISFY THIS REQUEST UP TO 1 MEV. EVALUATION MAY BE SUFFICIENT		
1332	1.00	KEV	3.00	MEV	15.0%	1	FR	L.COSTA	CAD	732095R
								Q: VALUE RELATIVE TO U-235 FISSION CROSS SECTION. D: FOR FAST REACTOR CALCULATIONS.		

94 PLUTONIUM 238 NEUTRON NEUTRONS EMITTED PER FISSION (NU BAR)

1333	500.	EV	15.0	MEV	4.00%	2	FR	L.COSTA	CAD	732097R
								Q: VALUE RELATIVE TO CF-252 NU. D: FOR FAST REACTOR CALCULATIONS.		

94 PLUTONIUM 238 MISC

1334					0.5%	1	JAP	S.SUZUKI	PNC	762018N
								Q: DECAY HEAT (W/G) REQUIRED. D: ASSAY OF PU BY CALORIMETRY		

94 PLUTONIUM 239 GAMMA RAY YIELD

1335					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) D: THOUGH PRESENT STATUS OF ACCURACY SEEMED TO MEET THE REQUIREMENT CONFIRMATION IS REQUIRED. ASSAY OF PU-ISOTOPES BY GAMMA-RAY SPECTROSCOPY		

94 PLUTONIUM 239 NEUTRON TOTAL CROSS SECTION

1336	1.00	EV	500.	KEV	3. %	1	USA	COWAN	GEB	741124R
								Q: RADIOACTIVE TARGET 2.41X(10**4) YR A: ENERGY RESOLUTION TO SHOW SECONDARY STRUCTURE UP TO 10 KEV.		
1337	0.50	EV	5.00	EV	1. %	1	USA	LEONARD	BNW	761088R
								Q: RADIOACTIVE TARGET 2.41X(10**4) YR D: NEEDED FOR THERMAL CROSS SECTION EVALUATION.		
1338	1.00	KEV	200.	KEV	2. %	1	JAP	M.KAWAI	NIG	762210R
								D: FISSION REACTOR CALCULATIONS. M: SUBSTANTIAL MODIFICATIONS.		

94 PLUTONIUM 239 NEUTRON ELASTIC CROSS SECTION

1339					10.0%	3	JK	J.FELL	WIN	692416R
								Q: THERMAL AVERAGE INCIDENT ENERGY. D: FOR LONG TERM IMPROVEMENT OF THE ABSORPTION CROSS SECTION.		
1340	1.00	KEV	15.0	MEV	5.0%	1	FR	C.PHILIS	BRC	742094R
								D: FOR CRITICAL ASSEMBLIES.		

94 PLUTONIUM 239 NEUTRON DIFFERENTIAL ELASTIC CROSS SECTION

1341	1.00	MEV	3.00	MEV	10. %	2	USA	SMITH HEMMIG	ANL DOE	691303R
								Q: RADIOACTIVE TARGET 2.41X(10**4) YR A: INCIDENT ENERGY RESOLUTION: 500 KEV.		
1342	1.00	KEV	15.0	MEV	5.0%	1	FR	C.PHILIS	BRC	742095R
								D: FOR CRITICAL ASSEMBLIES.		

94 PLUTONIUM 239 NEUTRON INELASTIC CROSS SECTION

1343	UP TO	15.0	MEV	10.0%	2	FR	C.PHILIS	BRC	742097R
							Q: FOR CRITICAL ASSEMBLIES.		
1344	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. Q: NEED FOR FAST REACTOR CALCULATION. FOR MORE DETAIL SEE INTRODUCTION.		

94 PLUTONIUM 239 NEUTRON ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

1345	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. Q: SEE GENERAL COMMENTS IN THE INTRODUCTION.		
1346	10.0 KEV	10.0	MEV	20. %	1	USA	HEMMIG	DOE	721084R
							Q: RADIOACTIVE TARGET 2.41X(10**4) YR		

94 PLUTONIUM 239 NEUTRON ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION

1347	UP TO	15.0	MEV	20.0%	2	FR	J.SALVY	BRC	742098R
							Q: FOR CRITICAL ASSEMBLIES.		

94 PLUTONIUM 239 NEUTRON ABSORPTION CROSS SECTION

1348	10.0 MV	0.80	EV	1.0%	1	UK	J.FELL	WIN	792167R
							Q: FOR THERMAL REACTORS. EVALUATION REQUIREMENT.		

94 PLUTONIUM 239 NEUTRON CAPTURE CROSS SECTION

1349	1.00 KEV	500.	KEV	3.0%	3	SWD	H.HAEGGBLOM	AE	692437R
							Q: NEEDED FOR FAST REACTOR CALCULATIONS. M: SUBSTANTIAL MODIFICATIONS.		
1350	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. Q: FOR BURNUP CALCULATIONS.		
1351	1.00 KEV	3.00	MEV	5.0%	1	FR	J.SALVY	BRC	742104R
							Q: FOR CRITICAL ASSEMBLIES.		
1352	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. Q: NEED FOR FAST REACTOR CALCULATIONS. FOR MORE DETAIL SEE INTRODUCTION.		

STATUS----------STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

94 PLUTONIUM 239 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

1353	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. Q: FOR STUDY OF ACTIVATION AND HEAT RELEASE IN CORE.		
1354	1.00 KEV	15.0	MEV	10.0%	1	FR	J.SALVY	BRC	742096R
							Q: FOR SHIELDING.		
1355	25.3 MV	15.0	MEV	5.0%	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 QUOTED ACCURACY AT 2 STANDARD DEVIATIONS. Q: FOR SHIELDING CALCULATIONS - EVALUATION MAY BE SUFFICIENT M: SUBSTANTIAL MODIFICATIONS.		

94 PLUTONIUM 239 NEUTRON N,2N

1356	UP TO	15.0	MEV	10.0%	1	FR	C.PHILIS	BRC	682067R

1357	6.00 MEV	10.0 MEV	10. %	2	USA	HEMMIG	DOE		691306R
						Q: RADIOACTIVE TARGET 2.41X(10**4) YR O: TO PREDICT BUILDUP OF PU-238.			
1358	UP TO	15.0 MEV	15.0%	2	FR	L.COSTA	CAD		762152R
						O: FUEL CYCLE IN-CORE			

94 PLUTONIUM 239 NEUTRON N,3N

1359	UP TO	15.0 MEV	20.0%	1	FR	J.SALVY	BRC		682068R

94 PLUTONIUM 239 NEUTRON FISSION CROSS SECTION

1360	1.00 EV	3.00 MEV	2. %	1	USA	SMITH HEMMIG	ANL DOE		691467R
						Q: RADIOACTIVE TARGET 2.41X(10**4) YR A: VERIFICATION OF CURRENT ACCURACY OR INTERMEDIATE ACCURACY USEFUL. NEED RELATED ACCURACY FOR 5-10 PERCENT ENERGY BINS. O: FOR FAST REACTOR CALCULATIONS.			
1361	3.00 MEV	10.0 MEV	3. %	1	USA	SMITH HEMMIG	ANL DOE		691471R
						Q: RADIOACTIVE TARGET 2.41X(10**4) YR A: VERIFICATION OF CURRENT ACCURACY OR INTERMEDIATE ACCURACY USEFUL. NEED RELATED ACCURACY FOR 5-10 PERCENT ENERGY BINS. O: FOR FAST REACTOR CALCULATIONS.			
1362	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.			
1363	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.			
1364	25.3 MV	1.00 KEV	1. %	2	USA	COWAN	GEB		721085R
						Q: RADIOACTIVE TARGET 2.41X(10**4) YR O: IMPROVED PRECISION NEEDED FOR THERMAL REACTORS. DIRECT MEASUREMENTS DISAGREE. U AND PU HALF LIVES SHOULD BE CONFIRMED AS THEY AFFECT THESE MEASUREMENTS.			
1365	10.0 KEV	14.0 MEV	2. %	1	USA	HEMMIG	DOE		721086R
						Q: RADIOACTIVE TARGET 2.41X(10**4) YR RATIO TO U-235(N,F) REQUIRED. A: INCIDENT ENERGY RESOLUTION: 3. PERCENT. AVG. OVER 10-20 PERCENT ENERGY INTERVALS			
1366	10.0 KEV	1.00 MEV	2. %	2	USA	COWAN	GEB		741125R
						Q: RADIOACTIVE TARGET 2.41X(10**4) YR RATIO TO U-235(N,F) WANTED.			
1367	1.00 KEV	1.00 MEV	2.0 %	3	SWD	H.HAEGGBLOM	AE		742006R
						O: FAST REACTOR CALCULATIONS. M: SUBSTANTIAL MODIFICATIONS.			
1368	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.			
1369	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.			
1370	1.00 EV	20.0 KEV	3. %	1	USA	DONCALS	WEW		761038R
						Q: RADIOACTIVE TARGET 2.41X(10**4) YR O: NEEDED FOR FAST REACTOR CALCULATIONS.			

1371	20.0	KEV	3.00	MEV	5. %	1	USA	DONCALS	WEW	761040R

Q: RADIOACTIVE TARGET 2.41X(10**4) YR
O: NEEDED FOR FAST REACTOR CALCULATIONS.

1372	100.	KEV	20.0	MEV	2. %	2	USA	COWAN	GEB	761089R

Q: RADIOACTIVE TARGET 2.41X(10**4) YR
ABSOLUTE MEASUREMENT DESIRED.

1373	10.0	KEV	20.0	MEV	3. %	1	JAP	M.KAWAI	NIG	762211R

O: FISSION REACTOR CALCULATIONS.
CORE DESIGN AND ANALYSIS.
LARGE DISCREPANCIES BETWEEN EXPERIMENTAL DATA FROM 50 KEV TO 1.0 MEV.

1374	1.00	KEV	100.	KEV	2.0%	1	GER	H.KUESTERS	KFK	792221R
1375	20.0	MEV	40.0	MEV	20. %	1	USA	MCELROY	HED	801240F

Q: RADIOACTIVE TARGET 2.41X(10**4) YR
O: FOR FMIT DOSIMETRY.
M: NEW REQUEST.

STATUS----------STATUS

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

94 PLUTONIUM 239 NEUTRON CAPTURE TO FISSION RATIO (ALPHA)

1376	100.	EV	1.00	KEV	8. %	1	USA	SMITH HEMMIG	ANL DOE	691314R

Q: RADIOACTIVE TARGET 2.41X(10**4) YR
CAPTURE CROSS SECTION EQUALLY USEFUL.

1377	1.00	KEV	50.0	KEV	4. %	1	USA	SMITH HEMMIG	ANL DOE	691315R

Q: RADIOACTIVE TARGET 2.41X(10**4) YR
CAPTURE CROSS SECTION EQUALLY USEFUL.

1378	50.0	KEV	600.	KEV	6. %	1	USA	SMITH HEMMIG	ANL DOE	691316R

Q: RADIOACTIVE TARGET 2.41X(10**4) YR
CAPTURE CROSS SECTION EQUALLY USEFUL.

1379	600.	KEV	10.0	MEV	10. %	1	USA	SMITH HEMMIG	ANL DOE	691317R

Q: RADIOACTIVE TARGET 2.41X(10**4) YR
CAPTURE CROSS SECTION EQUALLY USEFUL.

1380	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.

1381	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.

1382	1.00	MEV	20.0	MEV	10.0%	2	JAP	M.SASAKI	PNC	812032R

O: INSUFFICIENT EXPERIMENTAL DATA FOR CALCULATION OF FBR BREEDING RATIO, EVALUATION REQUESTED
M: NEW REQUEST.

STATUS----------STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

94 PLUTONIUM 239 NEUTRON NEUTRONS EMITTED PER NEUTRON ABSORPTION (ETA)

1383	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.
O: FOR TEMPERATURE COEFFICIENT WORK.

STATUS----------STATUS

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

94 PLUTONIUM 239 NEUTRON NEUTRONS EMITTED PER FISSION (NU BAR)

1384	25.3	MV	3.00	MEV	.3 %	1	USA	SMITH HEMMIG	ANL DOE	661050R
								Q: RADIOACTIVE TARGET 2.41X(10**4) YR A: ACCURACY OF 0.5 PERCENT USEFUL. O: FOR FAST REACTOR CALCULATIONS.		
1385		UP TO	15.0	MEV	0.5 %	1	JAP	M.KAWAI	NIG	702037R
								A: ACCURACY REQUIRED TO BETTER THAN 0.2 PERCENT IF POSSIBLE. O: FOR FAST REACTOR AND HYBRID FUSION REACTOR CALCULATIONS. M: SUBSTANTIAL MODIFICATIONS.		
1386	25.3	MV	2.50	MEV	0.5%	2	CCP	M.N.NIKOLAEV	FEI	714026R
								O: 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.		
1387	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.		
1388		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.		
1389	5.00	KEV	10.0	MEV		2	CCP	L.N.USACHEV	FEI	754011R
								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.		
1390	25.3	MV	1.00	KEV	1. %	1	USA	DONCALS	WEW	761041R
								Q: RADIOACTIVE TARGET 2.41X(10**4) YR O: ESSENTIAL FOR ACCURATE FAST REACTOR CALCULATIONS.		
1391	1.00	KEV	3.00	KEV	.5 %	1	USA	DONCALS	WEW	761126R
								Q: RADIOACTIVE TARGET 2.41X(10**4) YR O: ESSENTIAL FOR ACCURATE FAST REACTOR CALCULATIONS.		
1392	3.00	KEV	10.0	MEV	1. %	1	USA	DONCALS	WEW	761127R
								Q: RADIOACTIVE TARGET 2.41X(10**4) YR O: ESSENTIAL FOR ACCURATE FAST REACTOR CALCULATIONS.		
1393	1.00	MV	1.00	EV	.2 %	1	USA	STEEN	BET	781190R
								Q: 2.41X(10**4) YR MEASUREMENTS RELATIVE TO U-233 AND U-235 WANTE		

STATUS----------STATUS

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

94 PLUTONIUM 239 NEUTRON DELAYED NEUTRONS EMITTED PER FISSION

1394	25.3	MV	5.00	MEV	5. %	2	USA	SMITH	ANL	761090R
								Q: RADIOACTIVE TARGET 2.41X(10**4) YR		
1395	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----------STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

94 PLUTONIUM 239 NEUTRON ENERGY SPECTRUM OF FISSION NEUTRONS

1396	100.	KEV			2.0%	1	UK	C.G.CAMPBELL	WIN	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.		
1397		UP TO	15.0	MEV	1.0%	1	FR	C.PHILIS	BRC	742103R
								O: FOR CRITICAL ASSEMBLIES.		

1398 25.3 MV 20.0 MEV 10. % 2 USA COWAN GEB 7610913
Q: RADIOACTIVE TARGET 2.41X(10**4) YR

1399 25.3 MV 1. % 2 USA STEEN BET 7811863
Q: RADIOACTIVE TARGET 2.41X(10**4) YR
NEED SHAPE OF NEUTRON ENERGY DISTRIBUTION FROM 100 KEV TO 15 MEV.
A: RELATIVE PEAK TO 1 PERCENT.
O: NEEDED FOR CRITICALITY CALCULATIONS.

1400 100. KEV 2.0% 1 GER H.KUESTERS KFK 7922223
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.

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

94 PLUTONIUM 239 NEUTRON ENERGY SPECTRUM OF DELAYED FISSION NEUTRONS

1401 25.3 MV 5.00 MEV 2 USA SMITH ANL 6913123
HEMMIG DOE
Q: RADIOACTIVE TARGET 2.41X(10**4) YR
HALF-LIFE AND ENERGY SPECTRUM NEEDED.
O: FOR ANALYSIS OF FAST CRITICALS AND FAST REACTOR CALCULATIONS.

94 PLUTONIUM 239 NEUTRON SPECTRUM OF PROMPT GAMMA RAYS EMITTED IN FISSION

1402 25.3 MV 14.0 MEV 2.0 % 3 CCP S.S.KOVALENKO PI 7340023
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

1403 25.3 MV 15. % 3 USA WALTON LAS 7010433
Q: RADIOACTIVE TARGET 2.41X(10**4) YR
SPECTRA 0.25-5 MEV AND TIME-DEPENDENT YIELD FOR 1 MSEC-12 HR.
ASSOCIATE GAMMA'S WITH FISSION PRODUCTS, IF POSSIBLE.
A: GE(LI) RESOLUTION - 2.5 KEV AT 1.2 MEV.
O: FOR NON-DESTRUCTIVE ASSAYS OF PU-239.

94 PLUTONIUM 239 NEUTRON FISSION PRODUCT MASS YIELD SPECTRUM

1404 25.3 MV 3. % 2 USA STEEN BET 6711253
Q: RADIOACTIVE TARGET 2.41X(10**4) YR
CUMULATIVE AND DIRECT YIELD OF XE-135 (INCLUSIVE OF 15-MIN ISOMER).
YIELDS OF ND-147 AND SM-149 WANTED.
O: FOR CALCULATION OF FISSION PRODUCT POISONS.

1405 25.3 MV 1. % 2 USA STEEN BET 6711263
Q: RADIOACTIVE TARGET 2.41X(10**4) YR
YIELD OF CS-137 WANTED.
O: FOR BURN-UP INDICATOR STANDARD.

1406 25.3 MV 1.0% 1 CCP S.A.SKVORTSOV KUR 7040203
O.A.MILLER KUR
Q: YIELDS OF CS-133 AND CS-137 WANTED.
O: FOR ASSAY OF PU IN SPENT FUEL ELEMENTS BY THE FISSION PRODUCT GAMMA RAYS.

1407 25.3 MV 1.0% 2 CCP S.A.SKVORTSOV KUR 7040233
O.A.MILLER KUR
Q: YIELDS OF ZR-95, RU-106, BA-140 AND CE-144 ARE REQUIRED.
O: FOR ASSAY OF PU IN SPENT FUEL ELEMENTS BY THE FISSION PRODUCT GAMMA RAYS.

1408 25.3 MV 1.0% 3 CAN W.H.WALKER CRC 7118033
Q: YIELD OF XE-135 WANTED.
O: FOR CALCULATION OF FISSION PRODUCT ABSORPTION.

1409 25.3 MV 15.0 MEV 5. % 2 USA COWAN GEB 7411263
Q: RADIOACTIVE TARGET 2.41X(10**4) YR
ALL FISSION PRODUCTS.

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

94 PLUTONIUM 239 NEUTRON RESONANCE PARAMETERS

1410	25.3 MV	600. EV	10. %	2	USA	SMITH VISNER	ANL CBE		691319R

Q: RADIOACTIVE TARGET 2.41X(10**4) YR
D: FOR THERMAL REACTORS, AND TO DETERMINE STATISTICAL PARAMETERS FOR EXTRAPOLATION TO HIGHER ENERGY. FOR FAST REACTOR CALCULATIONS.

1411	25.3 MV	50.0 EV	10. %	2	USA	HEMMIG	DOE		691320R

Q: RADIOACTIVE TARGET 2.41X(10**4) YR
D: FOR THERMAL REACTORS, AND TO DETERMINE STATISTICAL PARAMETERS FOR EXTRAPOLATION TO HIGHER ENERGY. FOR FAST REACTOR CALCULATIONS.

1412	250. EV	1.00 KEV	3.0%	3	SWD	H.HAEGGBLOM	AE		692415R

Q: NEUTRON, CAPTURE AND FISSION WIDTH NEEDED.
D: NEEDED FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

STATUS----------STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

94 PLUTONIUM 239 MISC

1413			0.5%	1	JAP	S.SUZUKI	PNC		762019N

Q: DECAY HEAT (W/G) REQUIRED.
D: ASSAY OF PU BY CALORIMETRY

94 PLUTONIUM 240 SPONTANEOUS ALPHA HALF LIFE

1414			1. %	1	USA	GILLIAM	NBS		761125R

D: FOR MASS DETERMINATION OF FISSIONABLE DEPOSITS.

94 PLUTONIUM 240 SPONTANEOUS FISSION HALF LIFE

1415			1. %	2	JAP	S.SUZUKI	PNC		762016N

D: DETECTION OF PU BY NEUTRON COINCIDENCE METHOD

94 PLUTONIUM 240 GAMMA RAY YIELD

1416			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)
D: THOUGH PRESENT STATUS OF ACCURACY SEEMED TO MEET THE REQUIREMENT CONFIRMATION IS REQUIRED. ASSAY OF PU-ISOTOPES BY GAMMA-RAY SPECTROSCOPY

94 PLUTONIUM 240 NEUTRON TOTAL CROSS SECTION

1417	5.00 KEV	20.0 MEV	1. %	2	USA	WESTON	ORL		801264R

Q: RADIOACTIVE TARGET 6.57X(10**3) YR
NEEDED IN EVALUATION TO LIMIT MODEL CALCULATIONS.
M: NEW REQUEST.

94 PLUTONIUM 240 NEUTRON INELASTIC CROSS SECTION

1418	1.50 MEV	10.0 MEV	20. %	2	USA	HEMMIG WESTON	DOE ORL		721087R

Q: RADIOACTIVE TARGET 6.57X(10**3) YR
EMISSION CROSS SECTION MIGHT BE EQUALLY USEFUL AT THE HIGHER ENERGIES.

94 PLUTONIUM 240 NEUTRON ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

1419	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.
D: SEE GENERAL COMMENTS IN THE INTRODUCTION.

94 PLUTONIUM 240 NEUTRON ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION

1420	UP TO	4.00 MEV	40.0%	2	UK	C.G.CAMPBELL	WIN		692443R

D: FOR FAST REACTORS.

94 PLUTONIUM 240 NEUTRON CAPTURE CROSS SECTION

1421	25.3 MV	100. EV	3. %	1	USA	WESTON	ORL		671194R

Q: RADIOACTIVE TARGET 6.57X(10**3) YR
D: IMPROVED PRECISION NEEDED FOR THERMAL REACTOR.

1422	500.	EV	150.	KEV	5. %	1	USA	SMITH	ANL	691389R
							Q: RADIOACTIVE TARGET 6.57X(10**3) YR A: ACCURACY OF 15 PERCENT WOULD BE USEFUL. O: FOR FAST REACTOR CALCULATIONS.			
1423	150.	KEV	1.00	MEV	10. %	1	USA	HEMMIG	DOE	691390R
							Q: RADIOACTIVE TARGET 6.57X(10**3) YR A: ACCURACY OF 15 PERCENT USEFUL. O: FOR FAST REACTOR CALCULATIONS.			
1424	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. A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS. O: FOR FAST REACTOR CALCULATIONS. M: SUBSTANTIAL MODIFICATIONS.			
1425	100.	KEV	500.	KEV	10.0%	3	SWD	H.HAEGGBLOM	AE	692452R
							A: ENERGY DEPENDANCE WITHIN 10 PERCENT. O: NEEDED FOR FAST REACTOR CALCULATIONS. M: SUBSTANTIAL MODIFICATIONS.			
1426	5.00	KEV	1.00	MEV	10.0%	2	GER	B.GOEL	KFK	692453R
							A: 1 NS/M RESOLUTION NEEDED.			
1427	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			
1428	150.	KEV	1.00	MEV	10. %	1	USA	WESTON	ORL	721137R
							Q: RADIOACTIVE TARGET 6.57X(10**3) YR O: FOR FAST REACTOR CALCULATIONS.			
1429	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.			
1430	500.	EV	5.00	MEV	4.0%	2	CCP	L.N.USACHEV	FEI	794001R
							Q: AVERAGE CROSS SECTION IN A FAST-REACTOP SPECTRUM REQUESTED. O: FOR FAST-REACTOR BURN-UP CALCULATION. SEE GENERAL COMMENTS.			

94 PLUTONIUM 240 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

1431	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.			
1432	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 QUOTED ACCURACY AT 2 STANDARD DEVIATIONS. O: FOR SHIELDING CALCULATIONS - EVALUATION MAY BE SUFFICIENT			

94 PLUTONIUM 240 NEUTRON FISSION CROSS SECTION

1433	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.			
1434	500.	KEV	10.0	MEV	5. %	2	USA	WESTON	ORL	721088R
							Q: RADIOACTIVE TARGET 6.57X(10**3) YR O: FOR FAST REACTOR CALCULATIONS.			
1435	500.	EV	100.	KEV	9. %	2	USA	HEMMIG	DOE	721089R
							Q: RADIOACTIVE TARGET 6.57X(10**3) YR O: FOR FAST REACTOR CALCULATIONS.			
1436	1.00	KEV	100.	KEV	5. %	3	USA	HEMMIG	DOE	721090R
							Q: 6.57X(10**3) YR RATIO TO U-235(N,F) WANTED. A: ACCURACY OF 5 PERCENT USEFUL.			
1437	1.00	KEV	15.0	MEV	5.0%	1	GER	B.GOEL	KFK	742022R

1438	1.00	KEV	15.0	MEV	3.0%	2	FR	J.SALVY	BRC	742105R
								Q: FOR CRITICAL ASSEMBLIES.		
1439	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.		
								Q: NEED FOR FAST REACTOR CALCULATIONS. FOR MORE DETAIL SEE INTRODUCTION.		
1440	25.2	MV	1.00	MEV	10. %	1	JAP	M.SASAKI	PNC	762213R
								Q: FOR FAST REACTOR CALCULATIONS		

94 PLUTONIUM 240 NEUTRON NEUTRONS EMITTED PER FISSION (NU BAR)

1441	UP TO		10.0	MEV	3. %	2	USA	HEMMIG	DOE	691323R
								Q: RADIOACTIVE TARGET 6.57X(10**3) YR		
1442	UP TO		5.00	MEV	1.0%	2	CCP	M.N.NIKOLAEV	FEI	714031R
								Q: RATIO TO CF-252 NU-BAR WANTED.		
								Q: SEE GENERAL COMMENTS IN THE INTRODUCTION.		
1443	UP TO		10.0	MEV	3. %	2	USA	SMITH	ANL	721092R
								Q: RADIOACTIVE TARGET 6.57X(10**3) YR		
								A: ACCURACY OF 5 PERCENT USEFUL.		
1444	1.00	KEV	15.0	MEV	1.0%	2	FR	J.SALVY	BRC	742106R
								Q: FOR CRITICAL ASSEMBLIES.		
1445	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.		
								Q: NEED FOR FAST REACTOR CALCULATIONS. FOR MORE DETAIL SEE INTRODUCTION.		

94 PLUTONIUM 240 NEUTRON DELAYED NEUTRONS EMITTED PER FISSION

1446	25.3	MV	5.00	MEV	10. %	2	USA	HEMMIG	DOE	761092R
								Q: RADIOACTIVE TARGET 6.57X(10**3) YR		
1447	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.		
								Q: INCIDENT ENERGY STEP LESS THAN 2 MEV. ACTIVE ASSAY OF MIXED FRESH AND IRRADIATED FUEL		

STATUS----------STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

94 PLUTONIUM 240 NEUTRON ENERGY SPECTRUM OF FISSION NEUTRONS

1448	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. QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.		
								M: SUBSTANTIAL MODIFICATIONS.		

94 PLUTONIUM 240 NEUTRON RESONANCE PARAMETERS

1449	100.	EV	5.00	KEV	10. %	2	USA	SMITH HEMMIG	ANL DOE	691391R
								Q: RADIOACTIVE TARGET 6.57X(10**3) YR		
								Q: TO RESOLVE DISCREPANCIES IN EXISTING DATA. FOR FAST REACTOR CALCULATIONS, INCLUDING DOPPLER EFFECT.		
1450	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.		
								Q: AVERAGE S AND P WAVE RESONANCE PARAMETERS SHOULD BE DERIVED. STATISTICAL ANALYSIS OF MEASURED RESONANCE PARAMETERS WANTED. SEE ALSO GENERAL COMMENTS IN THE INTRODUCTION.		
1451	100.	EV	5.00	KEV	10. %	2	USA	VISNER	CBE	761093R
								Q: RADIOACTIVE TARGET 6.57X(10**3) YR		
								Q: FOR THERMAL REACTOR APPLICATIONS INCLUDING DOPPLER EFFECTS.		
1452	1.00	EV	10.0	KEV		1	JAP	M.SASAKI	PNC	762215R
								Q: FOR FAST REACTOR CALCULATIONS		

1453	1.00	EV		1. %	1	USA	WESTON	ORL	781194R

Q: RADIOACTIVE TARGET 6.57X(10**3) YR
O: RESONANCE STRONGLY INFLUENCES THERMAL CROSS-SECTION EVALUATION.

94 PLUTONIUM 240 MISC

1454				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.
O: FOR CALORIMETRIC PU DETERMINATION.

1455				0.5%	1	JAP	S.SUZUKI	PNC	762020N

Q: DECAY HEAT (W/G) REQUIRED.
O: ASSAY OF PU BY CALORIMETRY

94 PLUTONIUM 241 GAMMA RAY YIELD

1456				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

1457	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

1458	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

1459	UP TO	10.0	MEV	10.0%	2	CCP	V.K.MARKOV	GAC	714048N

O: FOR PHOTONUCLEAR ASSAY OF PU.

94 PLUTONIUM 241 NEUTRON TOTAL CROSS SECTION

1460	1.00	KEV	15.0	MEV	10.0%	2	GER	B.GOEL	KFK	692455R
1461	10.0	MV	3.00	EV	1. %	1	USA	WESTON	ORL	781195R

Q: RADIOACTIVE TARGET 14.4 YR
O: TOTAL CROSS-SECTION NOT CONSISTENT WITH PARTIALS.

1462	1.00	KEV	20.0	MEV	1. %	2	USA	WESTON	ORL	801265R

Q: RADIOACTIVE TARGET 14.4 YR NEEDED IN EVALUATION TO LIMIT MODEL CALCULATIONS.
M: NEW REQUEST.

94 PLUTONIUM 241 NEUTRON ABSORPTION CROSS SECTION

1463	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.

1464	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

1465	25.3	MV	30.0	KEV	3. %	1	USA	WESTON	ORL	671132R

Q: RADIOACTIVE TARGET 14.4 YR ALPHA ALSO WANTED.
A: ACCURACY OF 3 PERCENT IN ETA.
O: IMPROVED PRECISION NEEDED FOR THERMAL REACTORS. ALSO WANTED FOR FAST REACTORS.

1466	1.00	KEV	5.00	MEV	10.0%	3	SWD	H.HAEGGBLOM	AE	692470R

O: FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

1467	200.	EV	1.00	MEV	10.0%	2	GER	B.GOEL	KFK	692471R

Q: ALPHA IS USEFUL.

1468	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.

1469	25.3	MV	30.0	KEV	3. %	3	USA	VISNER	CBE	751094R

Q: RADIOACTIVE TARGET 14.4 YR
O: FOR THERMAL REACTOR CALCULATIONS.

1470	500.	EV	5.00	MEV	7.0%	2	CCP	L.N.USACHEV	FEI	794002R

Q: AVERAGE CROSS SECTION IN A FAST-REACTOR SPECTRUM REQUESTED.
O: FOR FAST-REACTOR BURN-UP CALCULATION.
SEE GENERAL COMMENTS.

94 PLUTONIUM 241 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

1471	120.	KEV			20.0%	3	UK	C.G.CAMPBELL	WIN	692460R

Q: GAMMA SPECTRUM WANTED.
A: INCIDENT ENERGY, ABOJT 120 KEV.
LOW RESOLUTION ADEQUATE FOR INCIDENT ENERGY AND PHOTON SPECTRUM.
O: FOR STUDY OF ACTIVATION AND HEAT RELEASE IN CORE.

1472	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
QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: FOR SHIELDING CALCULATIONS - EVALUATION MAY BE SUFFICIENT

94 PLUTONIUM 241 NEUTRON N,2N

1473	UP TO		15.0	MEV	20. %	2	JAP	T.HOJUYAMA	MAP	762221R

O: FOR FAST REACTOR CALCULATIONS

94 PLUTONIUM 241 NEUTRON FISSION CROSS SECTION

1474	25.3	MV	10.0	EV	3. %	1	USA	SMITH WESTON	ANL ORL	691328R

Q: RADIOACTIVE TARGET 14.4 YR
RATIO TO U-235 OR PU-239 WOULD BE USEFUL.

1475	20.0	KEV	400.	KEV	3. %	1	USA	HEMMIG	DOE	721094R

Q: RADIOACTIVE TARGET 14.4 YR
RATIO TO U-235(N,F) WANTED.

1476	UP TO		5.00	KEV	5.0%	2	FR	H.TELLIER	SAC	732099R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

1477	1.00	KEV	15.0	MEV	10.0%	2	GER	B.GOEL	KFK	742013R
1478	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.

1479	10.0	EV	30.0	KEV	10. %	1	USA	DONCALS	WEW	761042R

Q: RADIOACTIVE TARGET 14.4YR
RATIO TO U-235 OR PU-239 WOULD BE USEFUL.

1480	1.00	MV	3.00	EV	1. %	1	USA	LEONARD	BNW	761095R

Q: RADIOACTIVE TARGET 14.4 YR
O: FOR THERMAL CROSS SECTION EVALUATION.

1481	1.00	EV	1.00	MEV	1-5.%	1	RUM	S.RAPEANU	RUM	763007R
1482	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.

94 PLUTONIUM 241 NEUTRON CAPTURE TO FISSION RATIO (ALPHA)

1483	1.00	KEV	2.00	MEV	10. %	1	USA	WESTON	ORL	691331R

Q: RADIOACTIVE TARGET 14.4 YR
CAPTURE CROSS SECTION EQUALLY USEFUL.

1484	1.00	KEV	2.00	MEV	10. %	1	USA	HEMMIG	DOE	691332R

Q: RADIOACTIVE TARGET 14.4 YR

1485	25.3	MV			1.0%	2	FR	H.TELLIER	SAC	702043R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: EVALUATION MAY SUFFICE IF IT EXPLAINS DISCREPANCIES.
M: SUBSTANTIAL MODIFICATIONS.

1486	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.

STATUS----------STATUS

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

94 PLUTONIUM 241 NEUTRON NEUTRONS EMITTED PER NEUTRON ABSORPTION (ETA)

1487	10.0	MV	15.0	EV		1	UK	J.FELL	WIN	642007R

Q: VALUE RELATIVE TO 25.3 MV ETA WANTED.
A: ACCURACY 2 PERCENT TO 1 EV, 6 PERCENT ABOVE.
O: FOR THERMAL REACTORS.
EVALUATION REQUIREMENT.
M: SUBSTANTIAL MODIFICATIONS.

1488	25.3	MV			1.0%	2	FR	H.TELLIER	SAC	692464R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: FOR THERMAL REACTOR CALCULATIONS.
EVALUATION MAY SUFFICE IF IT EXPLAINS DISCREPANCIES.
M: SUBSTANTIAL MODIFICATIONS.

STATUS----------STATUS

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

94 PLUTONIUM 241 NEUTRON NEUTRONS EMITTED PER FISSION (NU BAR)

1489	1.00	KEV	1.00	MEV	2. %	1	USA	HEMMIG	DOE	691330R

Q: RADIOACTIVE TARGET 14.4 YR

1490	1.00	KEV	15.0	MEV	5.0%	2	GER	B.GOEL	KFK	692466R

1491	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.

STATUS----------STATUS

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

94 PLUTONIUM 241 NEUTRON DELAYED NEUTRONS EMITTED PER FISSION

1492	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.
O: 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

1493	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.

1494	25.3	MV			1.0%	3	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

1495	25.3 MV	100. EV	5. %	2	USA	SMITH	ANL	721140R
					Q: RADIOACTIVE TARGET 14.4 YR			
1496	100. EV	400. EV	10. %	2	USA	SMITH	ANL	721141R
					Q: RADIOACTIVE TARGET 14.4 YR			
1497	25.3 MV	400. EV	10. %	2	USA	VISNER	CBE	761096R
					Q: RADIOACTIVE TARGET 14.4 YR O: FOR THERMAL REACTOR APPLICATIONS AT HIGH BURN-UP.			

94 PLUTONIUM 241 MISC

1498			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. O: FOR CALORIMETRIC PU DETERMINATION.			
1499			0.5%	1	JAP	S.SUZUKI	PNC	752021N
					Q: DECAY HEAT (W/G) REQUIRED. O: ASSAY OF PU BY CALORIMETRY			

94 PLUTONIUM 242 SPONTANEOUS FISSION HALF LIFE

1500			1. %	2	JAP	S.SUZUKI	PNC	762017N
					O: DETECTION OF PU BY NEUTRON COINCIDENCE METHOD			

94 PLUTONIUM 242 NEUTRON TOTAL CROSS SECTION

1501	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			

94 PLUTONIUM 242 NEUTRON CAPTURE CROSS SECTION

1502	25.3 MV		5.0%	1	FR	H.TELLIER	SAC	702047R
					A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS. O: EVALUATION MAY SUFFICE IF IT EXPLAINS DISCREPANCIES. M: SUBSTANTIAL MODIFICATIONS.			
1503	UP TO	5.00 KEV	5.0%	2	FR	H.TELLIER	SAC	702048R
					A: ACCURACY FOR RATIO TO THERMAL CROSS SECTION. QUOTED ACCURACY AT 2 STANDARD DEVIATIONS. O: EVALUATION MAY SUFFICE IF IT EXPLAINS DISCREPANCIES. M: SUBSTANTIAL MODIFICATIONS.			
1504	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.			
1505	1.00 KEV	7.00 MEV		1	USA	HEMMIG	DOE	721098R
					Q: RADIOACTIVE TARGET 3.76X(10**5) YR A: ACCURACY RANGE 15. TO 20. PERCENT. O: FOR FAST BREEDER CALCULATIONS. CM. CF PRODUCTION.			
1506	25.3 MV	100. EV	3. %	1	USA	SCHENTER	HED	721142R
					Q: RADIOACTIVE TARGET 3.76X(10**5) YR A: WANT RESONANCE PARAMETERS TO 10-20 PERCENT BELOW 10 KEV. O: FOR FAST BREEDER CALCULATIONS. CM. CF PRODUCTION.			
1507	100. EV	1.00 KEV	10. %	1	USA	SCHENTER	HED	721143R
					Q: RADIOACTIVE TARGET 3.76X(10**5) YR A: WANT RESONANCE PARAMETERS TO 10-20 PERCENT BELOW 10 KEV. O: FOR FAST BREEDER CALCULATIONS. CM. CF PRODUCTION.			
1508	25.3 MV	14.0 MEV		2	JAP	Y.NAITO	JAE	722043N
					A: ACCURACY REQUIRED AT THERMAL IS 5 PERCENT, 10 PERCENT ABOVE. O: FOR BURN UP CALCULATION OF A PU LOADED THERMAL REACTOR.			
1509	200. KEV	5.00 MEV	10.0%	3	SWD	H.HAEGGBLOM	AE	742010R
					O: FAST REACTOR CALCULATIONS. M: SUBSTANTIAL MODIFICATIONS.			

1510	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.

1511	25.3	MV	1.00	KEV	3. %	2	USA	VISNER	CBE	761097R

Q: RADIOACTIVE TARGET 3.76X(10**5) YR
O: FOR THERMAL REACTOR APPLICATIONS AT HIGH BURN-UP.

1512	10.0	MV	4.00	EV	10.0%	2	UK	J.FELL	WIN	792168R

O: FOR STUDIES OF PLUTONIUM RECYCLE.
EVALUATION REQUIREMENT.

1513	500.	EV	5.00	MEV	15.0%	2	CCP	L.N.USACHEV	FEI	794003R

Q: AVERAGE CROSS SECTION IN A FAST-REACTOR SPECTRUM REQUESTED.
O: FOR FAST-REACTOR BURN-UP CALCULATION.
SEE GENERAL COMMENTS.

94 PLUTONIUM 242 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

1514	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

94 PLUTONIUM 242 NEUTRON FISSION CROSS SECTION

1515	1.00	EV	1.00	MEV	1-5.%	1	RUM	S.RAPEANU	RUM	763008R
1516	1.00	KEV	3.00	MEV	10.0%	1	FR	L.COSTA	CAD	792053R

O: OUT-OF-CORE CYCLE

94 PLUTONIUM 242 NEUTRON NEUTRONS EMITTED PER FISSION (NU BAR)

1517	500.	KEV	10.0	MEV	5. %	2	USA	HEMMIG	DOE	691334R

Q: RADIOACTIVE TARGET 3.76X(10**5) YR

1518	500.	EV	15.0	MEV	5.0%	2	FR	P.HAMMER	CAD	712100R

Q: RELATIVE TO CF-252 NU.
A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

94 PLUTONIUM 242 MISC

1519					0.5%	1	JAP	S.SUZUKI	PNC	762022N

Q: DECAY HEAT (W/G) REQUIRED.
O: ASSAY OF PU BY CALORIMETRY

94 PLUTONIUM 243 NEUTRON CAPTURE CROSS SECTION

1520	1.00	KEV	3.00	MEV	50.0%	3	FR	P.HAMMER	CAD	792054R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
M: SUBSTANTIAL MODIFICATIONS.

94 PLUTONIUM 243 NEUTRON FISSION CROSS SECTION

1521	1.00	KEV	3.00	MEV	50.0%	3	FR	P.HAMMER	CAD	792055R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
M: SUBSTANTIAL MODIFICATIONS.

95 AMERICIUM 241 GAMMA TOTAL NEUTRON YIELD

1522	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

1523	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

1524	UP TO	10.0	MEV	10.0%	2	CCP	V.K.MARKOV	GAC	714050N

Q: FOR PHOTONUCLEAR ASSAY OF PU.

95 AMERICIUM 241 NEUTRON TOTAL CROSS SECTION

1525	25.3 MV	1.00	MEV	10.0%	1	GER	F.FROEHNER	KFK	792256R

A: 5-10 PERCENT ENERGY RESOLUTION SUFFICIENT
Q: NEEDED FOR CONSISTENT EVALUATIONS OF PARTIAL CROSS SECTIONS. EXISTING THERMAL CROSS SECTIONS SHOULD BE CHECKED

95 AMERICIUM 241 NEUTRON INELASTIC CROSS SECTION

1526	UP TO	3.00	MEV	10.0%	2	FR	E.FORT	CAD	792057R

Q: EVALUATION PROBLEMS

95 AMERICIUM 241 NEUTRON ABSORPTION CROSS SECTION

1527	25.3 MV			5.0%	2	FR	H.TELLIER	SAC	712106R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
M: SUBSTANTIAL MODIFICATIONS.

95 AMERICIUM 241 NEUTRON CAPTURE CROSS SECTION

1528	25.3 MV	1.00	KEV	10. %	2	USA	ORTON	RL	671136R

Q: RADIOACTIVE TARGET 433 YR
PRODUCTION OF BOTH AM-242 AND AM-242M WANTED.
Q: FOR PU-238 PROGRAM AND PRODUCTION OF CM-244.

1529	100. EV	100.	KEV	8.0%	1	UK	C.G.CAMPBELL	WIN	712109R

Q: EVALUATION ALSO REQUIRED, THERMAL TO 15.0MEV FOR FAST REACTORS.
M: SUBSTANTIAL MODIFICATIONS.

1530	1.00 KEV	2.00	MEV	20. %	1	USA	HEMMIG	DOE	741127R

Q: RADIOACTIVE TARGET 433 YR
PRODUCTION OF BOTH AM-242 AND AM-242M WANTED.
Q: FOR SPENT FUEL SHIELDING.

1531	1.00 KEV	3.00	MEV	5.0%	2	FR	C.PHILIS	BRC	742108R

Q: FOR CRITICAL ASSEMBLIES.

1532	500. KEV	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
Q: 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.

1533	25.3 MV	10.0	MEV	10. %	2	USA	VISNER	CBE	761098R

Q: RADIOACTIVE TARGET 433 YR
Q: FOR SPENT FUEL SHIELDING.
FAST BREEDER APPLICATIONS.
M: MODIFIED (PARTIALLY FULFILLED).

1534	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
Q: FUEL CYCLE IN- AND OUT-OF-CORE

1535	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.
Q: ACTINIDE PRODUCTION CALCULATIONS

1536	100. EV	100.	KEV	20.0%	1	GER	H.KUESTERS	KFK	792228R

Q: MEASUREMENT WANTED.

1537	25.3 MV	15.0	MEV	20.0%	1	GER	H.KUESTERS	KFK	792230R

Q: EVALUATION WANTED.

1538	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.

95 AMERICIUM 241 NEUTRON FISSION CROSS SECTION

1539	1.00	KEV	15.0	MEV	3.0%	1	FR	C.PHILIS	BRC	742107R
								Q: FOR CRITICAL ASSEMBLIES.		
1540	10.0	KEV	1.50	MEV		2	USA	PEELLE	ORL	761099R
								Q: RADIOACTIVE TARGET 433 YR A: ACCURACY RANGE 5. TO 10. PERCENT.		
1541	100.	EV	100.	KEV	20.0%	1	GER	H.KUESTERS	KFK	792227R
								Q: MEASUREMENT WANTED.		
1542	25.3	MV	15.0	MEV	20.0%	1	GER	H.KUESTERS	KFK	792229R
								Q: EVALUATION WANTED.		

95 AMERICIUM 241 NEUTRON NEUTRONS EMITTED PER FISSION (NU BAR)

1543	25.3	MV	10.0	MEV	5.0%	1	GER	B.GOEL	KFK	712104R
								A: 10 PERCENT ACCURACY BELOW 100EV AND ABOVE 1.0MEV O: FOR FAST REACTOR DESIGN.		
1544	500.	EV	14.0	MEV	10.0%	2	FR	P.HAMMER	CAD	712105R
								Q: RELATIVE TO CF-252 NU. A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS. O: FOR FUEL CYCLE CALCULATIONS. M: SUBSTANTIAL MODIFICATIONS.		
1545	25.3	MV	15.0	MEV	20.0%	1	GER	H.KUESTERS	KFK	792232R
								Q: EVALUATION WANTED.		

95 AMERICIUM 241 NEUTRON ABSORPTION RESONANCE INTEGRAL

1546					10.0%	2	FR	H.TELLIER	SAC	712107R
								A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS. M: SUBSTANTIAL MODIFICATIONS.		

95 AMERICIUM 241 MISC

1547					0.5%	1	JAP	S.SUZUKI	PNC	762023N
								Q: DECAY HEAT (W/G) REQUIRED. O: ASSAY OF PU BY CALORIMETRY		
1548	25.3	MV	100.	KEV	20.0%	1	UK	C.G.CAMPBELL	WIN	792142R
								Q: BRANCHING RATIO. O: FOR FAST REACTORS. M: SUBSTANTIAL MODIFICATIONS.		

95 AMERICIUM 242 NEUTRON TOTAL CROSS SECTION

1549	25.3	MV	15.0	MEV	10.0%	1	GER	F.FROEHNER	KFK	792257R
								A: 5-10 PERCENT ENERGY RESOLUTION SUFFICIENT FOR AVERAGES. O: THERMAL CROSS SECTIONS. RESONANCES AND ABOVE 1KEV AVERAGE PARAMETERS NEEDED FOR CONSISTENT EVALUATION OF PARTIAL CROSS SECTIONS.		

95 AMERICIUM 242 NEUTRON ABSORPTION CROSS SECTION

1550	25.3	MV			10.0%	1	UK	J.FELL V.BARNES	WIN UKW	792171R
								Q: FOR METASTABLE STATE AM-242M. O: FOR STUDIES OF PLUTONIUM RECYCLING AND FOR FUEL REPROCESSING AND STORAGE. EVALUQTION REQUIREMENT. M: SUBSTANTIAL MODIFICATIONS.		

95 AMERICIUM 242 NEUTRON CAPTURE CROSS SECTION

1551	25.3	MV	10.0	KEV		2	USA	SHARP	SRL	691341R
								Q: RADIOACTIVE TARGET 16.01-HR AND 152-YR ISOMERS THERMAL VALUE AND RI WANTED A: ACCURACY RANGE 10. TO 20. PERCENT. O: FOR PU-238 PRODUCTION.		
1552	25.3	MV				3	CAN	W.H.WALKER	CRC	711805R
								Q: FOR 16 HOUR ISOMER. A: ACCURACY REQUIRED 500 B. O: UNKNOWN CROSS SECTION.		
1553	10.0	MV	5.00	KEV	10.0%	2	FR	H.TELLIER	SAC	732101R
								Q: FOR METASTABLE STATE OF AM-242 (152 YEARS). A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS. O: FOR BURN UP PHYSICS. EVALUATION MAY BE SUFFICIENT. M: SUBSTANTIAL MODIFICATIONS.		

1554	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.
A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: FOR FUEL CYCLE CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

1555	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.
O: REACTOR BURN-UP CALCULATIONS AND ESTIMATION OF TRANS-URANIUM NUCLIDE BUILD-UP IN SPENT FUEL. NEUTRON SHIELDING OF SPENT-FUEL TRANSPORT CASK.

1556	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.
O: ACTINIDE PRODUCTION CALCULATIONS

1557	25.3	MV	15.0	MEV	30.0%	1	UK	C.G.CAMPBELL	WIN	792144R

O: FOR FAST REACTORS.

1558	25.3	MV	15.0	MEV	30.0%	1	GER	H.KUESTERS	KFK	792234R

Q: TARGET IN METASTABLE STATE. EVALUATION WANTED.

1559	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.
O: FOR FAST-REACTOR BURN-UP CALCULATION. SEE GENERAL COMMENTS.

95 AMERICIUM 242 NEUTRON FISSION CROSS SECTION

1560	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.
A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: FOR FUEL CYCLE CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

1561	25.3	MV	15.0	MEV	15.0%	1	UK	C.G.CAMPBELL	WIN	792143R

O: FOR FAST REACTORS. EVALUATION REQUIREMENT.

1562	25.3	MV			10.0%	1	UK	J.FELL V.BARNES	WIN UKW	792173R

O: FOR STUDIES OF PLUTONIUM RECYCLING AND FOR FUEL REPROCESSING AND STORAGE. EVALUATION REQUIREMENT.

1563	25.3	MV	15.0	MEV	15.0%	1	GER	H.KUESTERS	KFK	792233R

Q: TARGET IN METASTABLE STATE. EVALUATION WANTED.

1564	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.

95 AMERICIUM 242 NEUTRON NEUTRONS EMITTED PER FISSION (NU BAR)

1565	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.
A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: FOR FUEL CYCLE CALCULATIONS
M: SUBSTANTIAL MODIFICATIONS.

1566	25.3	MV	15.0	MEV	15.0%	1	UK	C.G.CAMPBELL	WIN	792145R

Q: FOR METASTABLE STATE AM-242M.
O: FOR FAST REACTORS. EVALUATION REQUIREMENT.
M: SUBSTANTIAL MODIFICATIONS.

1567	25.3	MV	15.0	MEV	15.0%	1	GER	H.KUESTERS	KFK	792235R

Q: TARGET IN METASTABLE STATE. EVALUATION WANTED.

95 AMERICIUM 242 NEUTRON ABSORPTION RESONANCE INTEGRAL

1568	0.55	EV	2.00	MEV	10.0%	1	UK	J.FELL V.BARNES	WIN UKW	792172R

O: FOR STUDIES OF PLUTONIUM RECYCLING AND FOR FUEL REPROCESSING AND STORAGE. EVALUATION REQUIREMENT.

95 AMERICIUM 242 NEUTRON FISSION RESONANCE INTEGRAL

1569	0.55	EV	2.00	MEV	10.0%	1	UK	J.FELL V.BARNES	WIN UKW	792174R

Q: FOR STUDIES OF PLUTONIUM RECYCLING AND FOR FUEL REPROCESSING AND STORAGE.
EVALUATION REQUIREMENT.

95 AMERICIUM 243 NEUTRON TOTAL CROSS SECTION

1570	25.3	MV	15.0	MEV	10.0%	1	GER	F.FROEHNER	KFK	792258R

A: 5-10 PERCENT ENERGY RESOLUTION SUFFICIENT
Q: THERMAL CROSS SECTIONS, RESONANCES AND ABOVE 5KEV AVERAGE PARAMETERS NEEDED FOR CONSISTENT EVALUATION OF PARTIAL CROSS SECTIONS.

95 AMERICIUM 243 NEUTRON ABSORPTION CROSS SECTION

1571	25.3	MV			5.0%	2	FR	H.TELLIER	SAC	712113R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
M: SUBSTANTIAL MODIFICATIONS.

95 AMERICIUM 243 NEUTRON CAPTURE CROSS SECTION

1572	25.3	MV	10.0	MEV	10. %	1	USA	SCHENTER	HED	721101R

Q: RADIOACTIVE TARGET 7.37X(10**3) YR
A: ACCURACY OF 5-10 PERCENT IN THERMAL VALUE AND RI.
Q: TO DETERMINE CM-244 PRODUCTION.
FOR LONG TERM REACTIVITY CALCULATIONS AND FOR SPENT FUEL SHIELDING.

1573	1.00	KEV	3.00	MEV	10.0%	1	FR	L.COSTA	CAD	732104R

Q: FOR FUEL CYCLE CALCULATIONS.
NEUTRON DOSE FOR CYCLE OUT-OF-CORE.

1574	1.00	KEV	200.	KEV	30. %	1	USA	HEMMIG	DOE	741128R

Q: RADIOACTIVE TARGET 7.37X(10**3) YR
Q: FOR SPENT FUEL SHIELDING.

1575	25.3	MV	10.0	MEV	10. %	2	USA	VISNER	CBE	761100R

Q: RADIOACTIVE TARGET 7.37X(10**3) YR
Q: FOR SPENT FUEL SHIELDING.
FAST REACTOR APPLICATIONS.
M: MODIFIED (PARTIALLY FULFILLED).

1576	25.3	MV	2.00	MEV	20. %	3	JAP	M.YATA	NFI	762028N

A: 10 PER CENT ACCURACY FOR 25 MV.
20 PER CENT ACCURACY FOR HIGHER ENERGY REGION.
J: BURN-UP ANALYSIS OF FAST BREEDER REACTORS

1577	25.3	MV	15.0	MEV	10.0%	1	UK	C.G.CAMPBELL V.BARNES	WIN UKW	792147R

Q: FOR FAST REACTORS AND FOR FUEL REPROCESSING AND STORAGE.
EVALUATION REQUIREMENT.
M: SUBSTANTIAL MODIFICATIONS.

1578	25.3	MV	15.0	MEV	30.0%	1	GER	H.KUESTERS	KFK	792237R

Q: EVALUATION WANTED.

1579	500.	EV	5.00	MEV	20.0%	2	CCP	L.N.USACHEV	FEI	794005R

Q: AVERAGE CROSS SECTION IN A FAST-REACTOR SPECTRUM REQUESTED.
Q: FOR FAST-REACTOR BURN-UP CALCULATION.
SEE GENERAL COMMENTS.

1580	20.0	EV	15.0	MEV	10.0%	1	JAP	R.YUMOTO H.MATSUNOBU R.SHINDO T.HOJUYAMA	PNC SAE JAE MAP	812047N

Q: CAPTURE CROSS SECTIONS TO GROUND AND ISOMER STATES OF AM-244 REQUIRED. EXPERIMENTAL DATA VERY SCARCE IN KEV AND MEV REGIONS
A: ACCURACY FROM 5 PERCENT TO 20 PERCENT REQUIRED.
Q: FOR BURN-UP CALCULATIONS OF THERMAL AND FAST REACTORS. ESTIMATION OF BUILD UP OF TRANSURANIUM NUCLIDES IN SPENT FUEL, AND NEUTRON SHIELDING OF TRANSPORT CASKS FOR SPENT FUEL.
M: NEW REQUEST.

95 AMERICIUM 243 NEUTRON FISSION CROSS SECTION

1581	1.00	KEV	3.00	MEV	10.0%	1	FR	L.COSTA	CAD	712111R

Q: RELATIVE TO U-235 FISSION.
Q: FOR FUEL CYCLE CALCULATIONS.

1582	25.3	MV	15.0	MEV	15.0%	1	UK	C.G.CAMPBELL V.BARNES	WIN UKW	792146R

Q: FOR FAST REACTORS AND FOR FUEL REPROCESSING AND STORAGE.
EVALUATION REQUIREMENT.

1583	25.3	MV	15.0	MEV	15.0%	1	GER	H.KUESTERS	KFK	792236R

Q: EVALUATION WANTED.

95 AMERICIUM 243 NEUTRON NEUTRONS EMITTED PER FISSION (NU BAR)

1584	500.	EV	15.0	MEV	25.0%	2	FR	L.COSTA	CAD	712112R

Q: RELATIVE TO CF-252 NU.
O: FOR FUEL CYCLE CALCULATIONS.

1585	25.3	MV	15.0	MEV	15.0%	1	UK	C.G.CAMPBELL V.BARNES	WIN UKW	792148R

O: FOR FAST REACTORS AND FOR FUEL REPROCESSING AND STORAGE.
EVALUATION REQUIREMENT.

1586	25.3	MV	15.0	MEV	15.0%	1	GER	H.KUESTERS	KFK	792238R

Q: EVALUATION WANTED.

95 AMERICIUM 243 NEUTRON ABSORPTION RESONANCE INTEGRAL

1587					10.0%	2	FR	H.TELLIER	SAC	712114R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
M: SUBSTANTIAL MODIFICATIONS.

96 CURIUM 242 NEUTRON CAPTURE CROSS SECTION

1588	25.3	MV			20. %	2	USA	SHARP	SRL	671139R

Q: RADIOACTIVE TARGET 163 DAY
O: FOR PU-238 PRODUCTION.

1589	10.0	MV	5.00	KEV	10.0%	2	FR	H.TELLIER	SAC	732107R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: BURN UP PHYSICS.
M: SUBSTANTIAL MODIFICATIONS.

1590	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.

1591	500.	EV	200.	KEV	50.0%	2	FR	L.COSTA	CAD	762154R

O: FUEL CYCLE IN- AND OUT-OF-CORE

1592	1.00	MV	1.00	KEV	15. %	2	SWD	H.HAEGGBLOM	AE	762173R

Q: THERMAL CROSS SECTION AND RI WANTED.
O: ACTINIDE PRODUCTION CALCULATIONS

1593	25.3	MV	15.0	MEV	30.0%	1	UK	C.G.CAMPBELL V.BARNES	WIN UKW	792151R

O: FOR FAST REACTORS AND FOR FUEL REPROCESSING AND STORAGE.
EVALUATION REQUIREMENT.

1594	25.3	MV	15.0	MEV	30.0%	1	GER	H.KUESTERS	KFK	792240R

Q: EVALUATION WANTED.

96 CURIUM 242 NEUTRON N,2N

1595	UP TO		15.0	MEV	30.0%	1	UK	C.G.CAMPBELL V.BARNES	WIN UKW	792149R

O: FOR FAST REACTORS AND FOR FUEL REPROCESSING AND STORAGE.
EVALUATION REQUIREMENT.

1596	UP TO		15.0	MEV	30.0%	1	GER	H.KUESTERS	KFK	792241R

Q: EVALUATION WANTED.

96 CURIUM 242 NEUTRON FISSION CROSS SECTION

1597	500.	EV	15.0	MEV	25.0%	2	FR	L.COSTA	CAD	732105R

Q: VALUE RELATIVE TO U-235 FISSION CROSS SECTION.
O: FOR FUEL CYCLE CALCULATIONS.

1598	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.

1599	UP TO	15.0	MEV	30.0%	1	UK	C.G.CAMPBELL V.BARNES	WIN UKW		792150R
							Q: FOR FAST REACTORS AND FOR FUEL REPROCESSING AND STORAGE. EVALUATION REQUIREMENT.			
1600	25.3 MV	15.0	MEV	30.0%	1	GER	H.KUESTERS	KFK		792239R
							Q: EVALUATION WANTED.			

96 CURIUM 242 NEUTRON NEUTRONS EMITTED PER FISSION (NU BAR)

1601	500. EV	15.0	MEV	30.0%	2	FR	L.COSTA	CAD		732106R
							Q: VALUE RELATIVE TO CF-252 NU. O: FOR FUEL CYCLE CALCULATIONS.			
1602	UP TO	15.0	MEV	30.0%	1	UK	C.G.CAMPBELL V.BARNES	WIN UKW		792152R
							O: FOR FAST REACTORS AND FOR FUEL REPROCESSING AND STORAGE. EVALUATION REQUIREMENT.			
1603	25.3 MV	15.0	MEV	30.0%	1	GER	H.KUESTERS	KFK		792242R
							Q: EVALUATION WANTED.			

96 CURIUM 242 NEUTRON RESONANCE PARAMETERS

1604	25.3 MV	1.00	KEV	20. %	3	USA	ORTON	RL		671192R
							Q: RADIOACTIVE TARGET 163 DAY ELASTIC AND GAMMA-WIDTHS WANTED. O: FOR PU-238 PRODUCTION.			
1605	25.3 MV	1.00	KEV	20. %	2	USA	VISNER	CBE		761101R
							Q: RADIOACTIVE TARGET 163 DAY O: FOR FAST BREEDER APPLICATIONS.			

96 CURIUM 243 NEUTRON CAPTURE CROSS SECTION

1606	20.0 EV	10.0	MEV		1	JAP	R.YUMOTO H.MATSUNOBU	PNC SAE		752047R
							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.			
1607	500. EV	200.	KEV	50.0%	2	FR	L.COSTA	CAD		762156R
							O: FUEL CYCLE. TRANSACTINIUM BUILD-UP			
1608	1.00 MV	1.00	KEV	15. %	2	SWD	H.HAEGGBLOM	AE		762174R
							Q: THERMAL CROSS SECTION AND RI WANTED. O: ACTINIDE PRODUCTION CALCULATIONS			
1609	25.3 MV	15.0	MEV	30.0%	1	UK	C.G.CAMPBELL	WIN		792154R
							O: FOR FAST REACTORS. EVALUATION REQUIREMENT.			
1610	25.3 MV	15.0	MEV	30.0%	2	GER	H.KUESTERS	KFK		792248R
							Q: EVALUATION WANTED.			

96 CURIUM 243 NEUTRON FISSION CROSS SECTION

1611	3.00 MEV	10.0	MEV		1	JAP	R.YUMOTO H.MATSUNOBU	PNC SAE		752045R
							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.			
1612	500. EV	15.0	MEV	50.0%	2	FR	L.COSTA	CAD		762155R
							O: FUEL CYCLE. TRANSACTINIUM BUILD-UP			
1613	25.3 MV	15.0	MEV	30.0%	1	UK	C.G.CAMPBELL	WIN		792153R
							O: FOR FAST REACTORS. EVALUATION REQUIREMENT.			
1614	25.3 MV	15.0	MEV	30.0%	2	GER	H.KUESTERS	KFK		792247R
							Q: EVALUATION WANTED.			

96 CURIUM 244 NEUTRON TOTAL CROSS SECTION

1615	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.			

96 CURIUM 244			NEUTRON		CAPTURE CROSS SECTION					
1616	10.0	MV	5.00	KEV	10.0%	2	FR	H.TELLIER	SAC	732109R
								A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS. O: BURN UP PHYSICS. M: SUBSTANTIAL MODIFICATIONS.		
1617	10.0	KEV	10.0	MEV	10. %	2	USA	VISNER	CBE	761102R
								Q: RADIOACTIVE TARGET 18.11 YR O: FOR SPENT FUEL SHIELDING. FAST REACTOR APPLICATIONS.		
1618	500.	EV	15.0	MEV	10.0%	1	FR	L.COSTA	CAD	762157R
								O: FUEL CYCLE. TRANSACTINIUM BUILD-UP		
1619	25.3	MV	15.0	MEV	30.0%	1	UK	C.G.CAMPBELL V.BARNES	WIN UKW	792157R
								O: FOR FAST REACTORS AND FOR FUEL REPROCESSING. EVALUATION REQUIREMENT.		
1620	25.3	MV	15.0	MEV	30.0%	1	GER	H.KUESTERS	KFK	792244R
								Q: EVALUATION WANTED.		
96 CURIUM 244			NEUTRON		N,2N					
1621		UP TO	15.0	MEV	30.0%	1	UK	C.G.CAMPBELL V.BARNES	WIN UKW	792155R
								O: FOR FAST REACTORS AND FOR FUEL REPROCESSING EVALUATION REQUIREMENT.		
1622		UP TO	15.0	MEV	30.0%	1	GER	H.KUESTERS	KFK	792245R
								Q: EVALUATION WANTED.		
96 CURIUM 244			NEUTRON		FISSION CROSS SECTION					
1623	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.		
1624	25.3	MV	15.0	MEV	30.0%	1	UK	C.G.CAMPBELL V.BARNES	WIN UKW	792156R
								O: FOR FAST REACTORS AND FOR FUEL REPROCESSING. EVALUATION REQUIREMENT.		
1625	25.3	MV	15.0	MEV	30.0%	1	GER	H.KUESTERS	KFK	792243R
								Q: EVALUATION WANTED.		
96 CURIUM 244			NEUTRON		NEUTRONS EMITTED PER FISSION (NU BAR)					
1626	500.	EV	15.0	MEV	30.0%	2	FR	P.HAMMER	CAD	732110R
								Q: VALUE RELATIVE TO CF-252 NU. A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS. O: FOR FUEL CYCLE CALCULATIONS. M: SUBSTANTIAL MODIFICATIONS.		
1627	25.3	MV	15.0	MEV	30.0%	1	UK	C.G.CAMPBELL V.BARNES	WIN UKW	792158R
								O: FOR FAST REACTORS AND FOR FUEL REPROCESSING. EVALUATION REQUIREMENT.		
1628	25.3	MV	15.0	MEV	30.0%	1	GER	H.KUESTERS	KFK	792246R
								Q: EVALUATION WANTED.		
96 CURIUM 245			NEUTRON		CAPTURE CROSS SECTION					
1629	25.3	MV	10.0	KEV	10. %	2	USA	VISNER	CBE	761103R
								Q: RADIOACTIVE TARGET 8.5X(10**3) YR O: FOR FAST BREEDER APPLICATIONS.		
1630	500.	EV	200.	KEV	50.0%	2	FR	L.COSTA	CAD	762159R
								O: FUEL CYCLE. TRANSACTINIUM BUILD-UP		
1631	25.3	MV	15.0	MEV	30.0%	1	UK	C.G.CAMPBELL	WIN	792160R
								O: FOR FAST REACTORS. EVALUATION REQUIREMENT.		
1632	25.3	MV	15.0	MEV	30.0%	2	GER	H.KUESTERS	KFK	792250R
								Q: EVALUATION WANTED.		

96 CURIUM 245 NEUTRON FISSION CROSS SECTION

1633	25.3	MV	10.0	KEV	10. %	2	USA	VISNER	CBE	761104R
								Q: RADIOACTIVE TARGET 8.5X(10**3) YR O: FOR FAST BREEDER APPLICATIONS.		
1634	500.	EV	15.0	MEV	50.0%	2	FR	..COSTA	CAD	762158R
								O: FUEL CYCLE. TRANSACTINIUM BUILD-UP		
1635	25.3	MV	15.0	MEV	30.0%	1	UK	C.G.CAMPBELL	WIN	792159R
								O: FOR FAST REACTORS. EVALUATION REQUIREMENT.		
1636	25.3	MV	15.0	MEV	30.0%	2	GER	H.KUESTERS	KFK	792249R
								Q: EVALUATION WANTED.		

96 CURIUM 246 NEUTRON TOTAL CROSS SECTION

1637	25.3	MV	10.0	KEV	10. %	2	USA	SHARP	SRL	671146R
								Q: RADIOACTIVE TARGET 4.7X(10**3) YR SHAPE OF THERMAL CROSS SECTION ESPECIALLY IMPORTANT. RESONANCE STRUCTURE NEEDED. A: ACCURACY OF 10 PERCENT IN RI.		
1638	25.3	MV	10.0	KEV	10. %	2	USA	VISNER	CBE	761105R
								Q: RADIOACTIVE TARGET 4.7X(10**3) YR O: FOR FAST BREEDER APPLICATIONS.		

96 CURIUM 246 NEUTRON CAPTURE CROSS SECTION

1639	25.3	MV	10.0	KEV	10. %	2	USA	SHARP	SRL	691350R
								Q: RADIOACTIVE TARGET 4.7X(10**3) YR A: ACCURACY OF 10 PERCENT IN RI. O: TO EVALUATE CF PRODUCTION.		
1640	1.00	KEV	3.00	MEV	50.0%	3	FR	L.COSTA	CAD	792058R
								O: OUT-OF-CORE CYCLE - EVALUATION SUFFICIENT		

96 CURIUM 246 NEUTRON FISSION CROSS SECTION

1641	1.00	KEV	3.00	MEV	50.0%	3	FR	L.COSTA	CAD	792059R
								O: OUT-OF-CORE CYCLE - EVALUATION SUFFICIENT		

96 CURIUM 247 NEUTRON CAPTURE CROSS SECTION

1642	25.3	MV	10.0	KEV		2	USA	SHARP	SRL	671149R
								Q: RADIOACTIVE TARGET 1.6X(10**7) YR SHAPE OF THERMAL CROSS SECTION ESPECIALLY IMPORTANT. A: ACCURACY RANGE 5. TO 10. PERCENT. ACCURACY OF 5-10 PERCENT IN THERMAL VALUE AND RI. O: TO EVALUATE CF PRODUCTION.		
1643	1.00	KEV	3.00	MEV	50.0%	3	FR	L.COSTA	CAD	792060R
								O: OUT-OF-CORE CYCLE - EVALUATION SUFFICIENT		

96 CURIUM 247 NEUTRON FISSION CROSS SECTION

1644	25.3	MV	10.0	KEV		1	USA	SHARP	SRL	671148R
								Q: RADIOACTIVE TARGET 1.6X(10**7) YR SHAPE OF THERMAL CROSS SECTION ESPECIALLY IMPORTANT. A: ACCURACY RANGE 5. TO 10. PERCENT. ACCURACY OF 5-10 PERCENT IN THERMAL VALUE AND RI.		
1645	1.00	KEV	3.00	MEV	50.0%	3	FR	L.COSTA	CAD	792061R
								O: OUT-OF-CORE CYCLE - EVALUATION SUFFICIENT		

96 CURIUM 247 NEUTRON RESONANCE PARAMETERS

1646	25.3	MV	10.0	KEV	20. %	1	USA	SHARP	SRL	671147R
								Q: RADIOACTIVE TARGET 1.6X(10**7) YR A: ACCURACY OF 20 PERCENT IN RI. O: TO EVALUATE CF PRODUCTION.		

96 CURIUM 248 NEUTRON CAPTURE CROSS SECTION

1647	1.00	KEV	3.00	MEV	50.0%	3	FR	L.COSTA	CAD	792062R
								O: OUT-OF-CORE CYCLE - EVALUATION SUFFICIENT		

96 CURIUM 248 NEUTRON FISSION CROSS SECTION

1648	1.00	KEV	3.00	MEV	50.0%	3	FR	L.COSTA	CAD	792063R

D: OUT-OF-CORE CYCLE - EVALUATION SUFFICIENT

97 BERKELIUM 249 NEUTRON CAPTURE CROSS SECTION

1649	1.00	KEV	3.00	MEV	50.0%	3	FR	L.COSTA	CAD	792064R

D: OUT-OF-CORE CYCLE - EVALUATION SUFFICIENT

97 BERKELIUM 249 NEUTRON FISSION CROSS SECTION

1650	1.00	KEV	3.00	MEV	50.0%	3	FR	L.COSTA	CAD	792065R

D: OUT-OF-CORE CYCLE - EVALUATION SUFFICIENT

98 CALIFORNIUM 249 NEUTRON CAPTURE CROSS SECTION

1651	1.00	KEV	3.00	MEV	50.0%	3	FR	L.COSTA	CAD	792066R

D: OUT-OF-CORE CYCLE - EVALUATION SUFFICIENT

1652	1.00	KEV	3.00	MEV	50.0%	3	FR	L.COSTA	CAD	792067R

D: OUT-OF-CORE CYCLE - EVALUATION SUFFICIENT

98 CALIFORNIUM 250 NEUTRON CAPTURE CROSS SECTION

1653	25.3	MV	10.0	KEV	10. %	1	USA	SHARP	SRL	691357R

Q: RADIOACTIVE TARGET 13.1 YR
A: ACCURACY OF 10 PERCENT IN RI.
D: TO EVALUATE CF PRODUCTION.

98 CALIFORNIUM 250 NEUTRON FISSION CROSS SECTION

1654	25.3	MV	10.0	KEV	10. %	1	USA	SHARP	SRL	671153R

Q: RADIOACTIVE TARGET 13.1 YR
A: ACCURACY OF 10 PERCENT IN RI.
D: TO EVALUATE CF PRODUCTION.

98 CALIFORNIUM 250 NEUTRON RESONANCE PARAMETERS

1655	25.3	MV	10.0	KEV	20. %	2	USA	SHARP	SRL	671152R

Q: RADIOACTIVE TARGET 13.1 YR
A: ACCURACY OF 20 PERCENT IN RI.
D: TO EVALUATE CF PRODUCTION.

98 CALIFORNIUM 251 NEUTRON CAPTURE CROSS SECTION

1656	25.3	MV	10.0	KEV	10. %	1	USA	SHARP	SRL	671154R

Q: RADIOACTIVE TARGET 9.0X(10**2) YR
A: ACCURACY OF 10 PERCENT IN RI.
D: TO EVALUATE CF PRODUCTION.

98 CALIFORNIUM 251 NEUTRON FISSION CROSS SECTION

1657	25.3	MV	10.0	KEV	10. %	2	USA	SHARP	SRL	741132R

Q: RADIOACTIVE TARGET 9.0X(10**2) YR
THERMAL CROSS SECTION SHAPE ESPECIALLY IMPORTANT.
A: 10 PERCENT IN RESONANCE INTEGRAL.
D: TO EVALUATE CF PRODUCTION.

98 CALIFORNIUM 251 NEUTRON RESONANCE PARAMETERS

1658	25.3	MV	10.0	KEV	10. %	2	USA	SHARP	SRL	761106R

Q: RADIOACTIVE TARGET 9.0X(10**2) YR

98 CALIFORNIUM 252 SPONTANEOUS NEUTRONS EMITTED PER FISSION (NU BAR)

1659					.25 %	1	USA	CARLSON	NBS	691359R

Q: RADIOACTIVE TARGET 2.64 YR
D: FOR USE AS STANDARD.

1660					0.3%	1	FR	E.FORT	CAD	712119R

D: DISCREPANCY BETWEEN DIFFERENTIAL AND MAXWELL SPECTRUM EXPERIMENTS HAVE TO BE RESOLVED FOR 2200M/S DATA.

1661 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.

1662 .25 % 1 USA HEMMIG DOE 721103R

Q: RADIOACTIVE TARGET 2.64 YR
A: ACCURACY OF 1 PERCENT USEFUL.
O: FOR USE AS STANDARD.

1663 .25 % 1 USA STEEN BET 761063R

Q: RADIOACTIVE TARGET 2.64 YR

STATUS----------STATUS

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

98 CALIFORNIUM 252 SPONTANEOUS ENERGY SPECTRUM OF FISSION NEUTRONS

1664 5. % 1 USA EISENHAUER NBS 721105R

Q: RADIOACTIVE TARGET 2.64 YR
INFORMATION AT LOW ENERGIES STILL NEEDED.
A: DELTA E(N') - 5 PERCENT.

1665 2.0% 2 UK E.LYNN 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.
M: SUBSTANTIAL MODIFICATIONS.

1666 1. % 1 USA STEEN BET 761064R

Q: RADIOACTIVE TARGET 2.64 YR
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 NUBAR RATIO MEASUREMENTS.

1667 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.

STATUS----------STATUS

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

98 CALIFORNIUM 252 NEUTRON FISSION CROSS SECTION

1668 25.3 MV 10.0 KEV 10. % 2 USA SHARP SRL 741129R

Q: RADIOACTIVE TARGET 2.64 YR
A: ACCURACY OF 10 PERCENT IN RI.
O: TO EVALUATE CF PRODUCTION.

FISSION PRODUCTS NEUTRON INELASTIC CROSS SECTION

1669 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.

STATUS----------STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

FISSION PRODUCTS NEUTRON CAPTURE CROSS SECTION

1670 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.

1671 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.

1672 100. EV 1.00 MEV 20.0% 2 UK C.G.CAMPBELL WIN 792161R

O: FOR FAST REACTORS.
EVALUATION REQUIREMENT.
M: SUBSTANTIAL MODIFICATIONS.

STATUS STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

STEEL NEUTRON CAPTURE CROSS SECTION

1673	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.

1674	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.

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 81/82 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).

There would be two separate lists: one for "satisfied" and the other for "withdrawn" requests.

LIST OF SATISFIED REQUESTS

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3 LITHIUM 6 — HELIUM-3 — HELIUM-3,P

(53) 1.80 MEV 5.00 MEV 1 USA NG DOE 781073F
ACCURACY 10.0 PERCENT RELATIVE, 30.0 PERCENT ABSOLUTE REQUIRED.
FOR ADVANCED FUEL FUSION DEVICES.

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

(104) 9.00 MEV 15.0 MEV 10. % 2 USA NG DOE 781079F
DATA NEEDED FOR SHIELDING, ACTIVATION AND NEUTRON TRANSPORT CALCULATIONS.

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8 OXYGEN — NEUTRON — NON-ELASTIC CROSS SECTION

(188) 20.0 MEV 50.0 MEV 1 USA NG DOE 781208F
ACCURACY RANGE 10. TO 15. PERCENT.
FOR SHIELD DESIGN IN FMIT FACILITY.

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8 OXYGEN 17 — NEUTRON — CAPTURE CROSS SECTION

(207) 25.3 MV 2 CAN G.C.HANNA CRC 691801R
ACCURACY 0.2 BARNS.
FOR UNDERSTANDING ABSORPTION IN HEAVY WATER.

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11 SODIUM 23 — NEUTRON — CAPTURE CROSS SECTION

(251) 1.00 KEV 100. KEV 20. % 2 USA HEMMIG DOE 741016R
ACCURACY OF .5 MB OR 20 PERCENT WANTED.

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

(254) 2.00 MEV 15.0 MEV 15. % 2 USA HEMMIG DOE 741018R
INCIDENT ENERGY RESOLUTION: 10. PERCENT.
20 PERCENT IN ANGULAR DISTRIBUTION IF NOT ISOTROPIC.
DELTA E(GAMMA) - 10 PERCENT.

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

(267) 15.0 MEV 2 USA NG DOE 781144F
ACCURACY TO BE DETERMINED.
DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.

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13 ALUMINUM 27 — NEUTRON — N,ALPHA

(271) 6.40 MEV 11.9 MEV 5.0% 2 EUR NEUTRON DOSIMETRY GROUP GEL 742123R
FOR NEUTRON DOSIMETRY USING SPECTRUM UNFOLDING METHODS.
GREATER THAN 10 PERCENT DISCREPANCY BETWEEN INTEGRAL AND DIFFERENTIAL MEASUREMENTS.

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

(272) 15.0 MEV 2 USA NG DOE 781123F
ACCURACY TO BE DETERMINED.
DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.

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14 SILICON — NEUTRON — DIFFERENTIAL ELASTIC CROSS SECTION

(277) 20.0 MEV 50.0 MEV 1 USA NG DOE 781004F
ACCURACY RANGE 10. TO 15. PERCENT.
FOR SHIELD DESIGN IN FMIT FACILITY.

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15 PHOSPHORUS 31 — NEUTRON — N,P

(288) UP TO 15.0 MEV 2 SWT F.HEGEDUES WUR 692050R
REQUIRED 5. PERCENT ACCURACY TO 6. MEV AND 10. PERCENT ABOVE.
FAST FLUX MEASUREMENTS IN SHIELDS.
DISAGREEMENT BETWEEN DIFFERENT MEASUREMENTS OF INSUFFICIENT ACCURACY.
NO DATA BETWEEN 10 AND 14 MEV.

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15 PHOSPHORUS 31 — NEUTRON — N,P

(289) 2.20 MEV 7.00 MEV 5.0% 2 EUR NEUTRON DOSIMETRY GROUP GEL 742124R
FOR NEUTRON DOSIMETRY USING SPECTRUM UNFOLDING METHODS.
GREATER THAN 10 PERCENT DISCREPANCY BETWEEN INTEGRAL AND DIFFERENTIAL MEASUREMENTS.

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16 SULFUR 32 — NEUTRON — N,P

(293) UP TO 15.0 MEV 2 SWT F.HEGEDUES WUR 692053R
REQUIRED 5. PERCENT ACCURACY TO 6. MEV AND 10. PERCENT ABOVE.
STANDARD FOR FLUX MEASUREMENTS.

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20 CALCIUM — NEUTRON — DIFFERENTIAL ELASTIC CROSS SECTION

(313) 20.0 MEV 50.0 MEV 1 USA NG DOE 781005F
ACCURACY RANGE 10. TO 15. PERCENT.
FOR SHIELD DESIGN IN FMIT FACILITY.

22 TITANIUM			NEUTRON		ENERGY-ANGLE DIFF. PHOTON-PRODUCTION CROSS SECTION				
(328)	10.0	KEV	16.0	MEV	20. %	3	USA	BARTINE ORL FOR USE IN SHIELDING CALCULATIONS.	691068R
22 TITANIUM			NEUTRON		ENERGY-ANGLE DIFF. PHOTON-PRODUCTION CROSS SECTION				
(329)	160.	KEV	15.0	MEV	10. %	2	USA	NG DOE DATA NEEDED FOR BLANKET, SHIELD AND MAGNET HEAT DEPOSITION CALCULATIONS.	781158F
22 TITANIUM			NEUTRON		ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION				
(332)	9.00	MEV	15.0	MEV	10. %	2	USA	NG DOE DATA NEEDED FOR SHIELDING, ACTIVATION AND NEUTRON TRANSPORT CALCULATIONS.	781080F
22 TITANIUM			NEUTRON		N,P				
(333)	3.40	MEV	12.5	MEV	5.0%	1	EUR	NEUTRON DOSIMETRY GROUP GEL ROUTINE FAST NEUTRON FLUENCE MONITOR.	742118R
22 TITANIUM 46			NEUTRON		N,P				
(344)	3.40	MEV	12.5	MEV	5.0%	2	EUR	NEUTRON DOSIMETRY GROUP GEL FOR NEUTRON DOSIMETRY USING SPECTRUM UNFOLDING METHODS. GREATER THAN 10 PERCENT DISCREPANCY BETWEEN INTEGRAL AND DIFFERENTIAL MEASUREMENTS.	742126R
22 TITANIUM 48			NEUTRON		N,P				
(348)	6.60	MEV	12.8	MEV	5.0%	2	EUR	NEUTRON DOSIMETRY GROUP GEL FOR NEUTRON DOSIMETRY USING SPECTRUM UNFOLDING METHODS. GREATER THAN 10 PERCENT DISCREPANCY BETWEEN INTEGRAL AND DIFFERENTIAL MEASUREMENTS.	742128R
24 CHROMIUM			NEUTRON		ENERGY DIFF. PHOTON-PRODUCTION CROSS SECTION				
(410)	UP TO		15.0	MEV	10. %	2	USA	HEMMIG DOE ENERGY REQUESTED IS A MAXIMUM VALUE ONLY. GAMMA-RAY INTERVALS - 500 KEV. FOR USE IN SHIELDING CALCULATIONS.	721037R
26 IRON			NEUTRON		CAPTURE CROSS SECTION				
(475)	25.3	MV	300.	KEV	10.0%	1	GER	F.FROEHNER KFK 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 EXISTING DATA DISAGREE UP TO 200 PERCENT. STRONG DISAGREEMENT BETWEEN 10 AND 100 KEV.	692103R
26 IRON			NEUTRON		CAPTURE CROSS SECTION				
(478)	1.00	KEV	1.00	MEV		1	USA	HEMMIG DOE SMITH ANL ACCURACY RANGE 5. TO 10. PERCENT.	741040R
26 IRON 54			NEUTRON		N,P				
(515)	1.00	MEV	18.0	MEV	10. %	2	USA	MCELROY HED ACTIVATION WANTED. ENERGY INTERVALS - 500 KEV. INCIDENT ENERGY RESOLUTION: 250 KEV. FOR USE AS FLUENCE MONITOR.	691099R
26 IRON 58			NEUTRON		CAPTURE CROSS SECTION				
(523)	25.3	MV	18.0	MEV	10. %	2	USA	MCELROY HED ACTIVATION IS REQUIRED. FOR USE AS FLUENCE MONITOR.	691104R
28 NICKEL 58			NEUTRON		N,P				
(597)	2.10	MEV	7.00	MEV	5.0%	2	EUR	NEUTRON DOSIMETRY GROUP GEL ROUTINE FAST NEUTRON FLUENCE MONITOR. STRONG DISCREPANCY BETWEEN DIFFERENTIAL DATA AND AVERAGE VALUE IN U-235 FISSION NEUTRON SPECTRUM.	742117R
29 COPPER 63			NEUTRON		N,2N				
(635)	11.9	MEV	16.4	MEV	5.0%	2	EUR	NEUTRON DOSIMETRY GROUP GEL FOR NEUTRON DOSIMETRY USING SPECTRUM UNFOLDING METHODS. GREATER THAN 10 PERCENT DISCREPANCY BETWEEN INTEGRAL AND DIFFERENTIAL MEASUREMENTS.	742130R
29 COPPER 63			NEUTRON		N,ALPHA				
(637)	2.00	MEV	18.0	MEV	10. %	2	USA	MCELROY HED ACTIVATION IS REQUIRED. FOR USE AS FLUENCE MONITOR. NEED DATA TO THRESHOLD.	691133R

29 COPPER 63 — NEUTRON — N,ALPHA

(638)	6.10 MEV	11.3 MEV	5.0%	1	EUR	NEUTRON DOSIMETRY GROUP ROUTINE FAST NEUTRON FLUENCE MONITOR.	GEL	742120R

41 NIOBIUM 93 — NEUTRON — ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

(709)	9.00 MEV	15.0 MEV	10. %	2	USA	NG DATA NEEDED FOR SHIELDING, ACTIVATION AND NEUTRON TRANSPORT CALCULATIONS.	DOE		781081F

45 RHODIUM 103 — NEUTRON — INELASTIC CROSS SECTION

(798)	UP TO	10.0 MEV	5.0%	1	EUR	NEUTRON DOSIMETRY GROUP PRODUCTION OF 57 MINUTE ISOMER WANTED. PROMISING FAST NEUTRON FLUENCE MONITOR DUE TO LOW THRESHOLD ENERGY.	GEL		742122R

49 INDIUM 115 — NEUTRON — INELASTIC CROSS SECTION

(817)	5.00 MEV	15.0 MEV	10.0%	2	SWT	F.HEGEDUES FORMATION OF THE 4.5 HOUR ISOMER (E' = .335 MEV). FOR FAST FLUX MEASUREMENTS.	WUR		692194R

55 CESIUM 133 — NEUTRON — CAPTURE RESONANCE INTEGRAL

(866)	0.50 EV	1.00 KEV	10. %	1	USA	GREEBLER FOR CALCULATION OF FISSION PRODUCT POISONS.	GEB		671032R

55 CESIUM 133 — NEUTRON — CAPTURE RESONANCE INTEGRAL

	0.50 EV	1.00 KEV	10. %	1	USA	STEEN FOR CALCULATION OF FISSION PRODUCT POISONS.	BET		671033R

61 PROMETHIUM 148 — NEUTRON — CAPTURE CROSS SECTION

(904)	5.00 EV	500. EV	20.0%	3	CAN	W.H.WALKER FOR THE ISOMERIC STATE (42 D). ADDITIONAL DATA NEEDED TO DETERMINE DEPENDENCE ON NEUTRON TEMPERATURE AND EPITHERMAL FLUX.	CRC		691813R

74 TUNGSTEN — NEUTRON — ENERGY-ANGLE DIFF. PHOTON-PRODUCTION CROSS SECTION

(990)	1.00 KEV	1.00 MEV	20. %	2	USA	BARTINE ALL GAMMA ENERGIES OF INTEREST. FOR USE IN SHIELDING CALCULATIONS.	ORL		631004S

90 THORIUM 232 — NEUTRON — ENERGY DIFF. PHOTON-PRODUCTION CROSS SECTION

(1056)	100. KEV	10.0 MEV		1	USA	BARTINE ACCURACY RANGE 5. TO 10. PERCENT. NEEDED FOR GAS COOLED FAST REACTOR SHIELDING.	ORL		761078R

90 THORIUM 232 — NEUTRON — FISSION CROSS SECTION

(1069)	11.0 MEV	14.0 MEV	10. %	2	USA	NG FOR HYBRID SYSTEM DESIGN.	DOE		781163F

92 URANIUM 235 — NEUTRON — FISSION CROSS SECTION

(1203)			2.0%	2	EUR	NEUTRON DOSIMETRY GROUP AVERAGE CROSS SECTION IN A U-235 FISSION SPECTRUM DESIRED. FOR NORMALIZATION OF AVERAGE CROSS SECTIONS FOR DOSIMETRY PURPOSES.	GEL		742113R

92 URANIUM 236 — NEUTRON — CAPTURE CROSS SECTION

(1238)	1.00 EV	500. EV	5.0%	2	CAN	W.H.WALKER DISAGREEMENT BETWEEN INTEGRAL AND DIFFERENTIAL MEASUREMENTS.	CRC		681801R

92 URANIUM 238 — SPONTANEOUS — ALPHA HALF LIFE

(1255)			.3 %	1	USA	GRUNDL FOR MASS DETERMINATION OF FISSIONABLE DEPOSITS.	NBS		761122R

92 URANIUM 238 — NEUTRON — N,2N

(1291)	UP TO	10.0 MEV	7. %	1	USA	GREEBLER IMPORTANT TO PRODUCTION OF U-238.	GEB		721078R

93 NEPTUNIUM 238 — NEUTRON — CAPTURE CROSS SECTION

(1340)	25.3 MV			2	CAN	W.H.WALKER ACCURACY REQUIRED 100 B. UNKNOWN CROSS SECTION.	CRC		681802R

94 PLUTONIUM 238			NEUTRON			CAPTURE CROSS SECTION			
(1369)	25.3	MV			5.0%	2	CAN	W.H.WALKER CRC DISAGREEMENT BETWEEN INTEGRAL (APPROX 450 B) AND DIFFERENTIAL (APPROX 530 B) MEASUREMENTS.	681803R
94 PLUTONIUM 240			NEUTRON			TOTAL CROSS SECTION			
(1465)	10.0	KEV	1.00	MEV	10.0%	2	GER	B.GOEL KFK BETWEEN 10 AND 100 KEV AT 1 NS/M RESOLUTION.	692439R
94 PLUTONIUM 240			NEUTRON			FISSION CROSS SECTION			
(1488)	UP TO		5.00	MEV	10.0%	2	SWD	H.HAEGGBLOM AE FAST REACTOR CALCULATIONS.	742008R
94 PLUTONIUM 241			NEUTRON			FISSION CROSS SECTION			
(1531)	1.00	KEV	5.00	MEV	10.0%	2	SWD	H.HAEGGBLOM AE NEEDED FOR FAST REACTOR CALCULATIONS.	692463R
94 PLUTONIUM 241			NEUTRON			RESONANCE PARAMETERS			
(1552)	35.0	EV	200.	EV	10.0%	2	GER	B.GOEL KFK NEUTRON WIDTHS NEEDED.	692459R
94 PLUTONIUM 242			NEUTRON			FISSION CROSS SECTION			
(1577)	1.00	KEV	5.00	MEV	10.0%	3	SWD	H.HAEGGBLOM AE FAST REACTOR CALCULATIONS.	742009R
94 PLUTONIUM 245			NEUTRON			FISSION CROSS SECTION			
(1586)	25.3	MV				2	CAN	W.H.WALKER CRC ACCURACY REQUIRED 200 B. UNKNOWN CROSS SECTION.	681804R
95 AMERICIUM 241			NEUTRON			ABSORPTION CROSS SECTION			
(1595)	25.3	MV			5.0%	2	CAN	W.H.WALKER CRC WIDE SPREAD OF AVAILABLE VALUES.	681805R
95 AMERICIUM 241			NEUTRON			ABSORPTION CROSS SECTION			
(1596)	1.00	EV	500.	EV	10.0%	2	CAN	W.H.WALKER CRC DESIRE CONFIRMATION OF RESONANCE INTEGRAL.	681806R
95 AMERICIUM 241			NEUTRON			CAPTURE CROSS SECTION			
(1601)	25.3	MV			5.0%	2	CAN	W.H.WALKER CRC PRODUCTION OF BOTH AM-242 ISOMERS WANTED.	681807R
95 AMERICIUM 241			NEUTRON			CAPTURE CROSS SECTION			
(1602)	1.00	EV	500.	EV	10.0%	2	CAN	W.H.WALKER CRC DESIRE CONFIRMATION OF RESONANCE INTEGRAL MEASUREMENT OF BAK (AE 23 316).	681808R
95 AMERICIUM 242			NEUTRON			FISSION CROSS SECTION			
(1652)	1.00	MV	1.00	KEV	20. %	2	SWD	H.HAEGGBLOM AE ACTINIDE PRODUCTION CALCULATIONS	762172R
95 AMERICIUM 243			NEUTRON			CAPTURE CROSS SECTION			
(1664)	25.3	MV			5.0%	2	CAN	W.H.WALKER CRC DISAGREEMENT BETWEEN INTEGRAL (90 B) AND DIFFERENTIAL MEASUREMENTS (180 B).	711806R
96 CURIUM 243			NEUTRON			CAPTURE CROSS SECTION			
(1700)	25.3	MV				2	CAN	W.H.WALKER CRC ACCURACY REQUIRED 50 B. UNKNOWN CROSS SECTION.	711807R

LIST OF WITHDRAWN REQUESTS

(15)	752096F	FR	2 HELIUM 3	NEUTRON	N,P
(17)	792107R	UK	3 LITHIUM	ALPHA	ALPHA,N
(18)	762168F	JAP	3 LITHIUM 6	NEUTRON	ELASTIC CROSS SECTION
(22)	732001F	FR	3 LITHIUM 6	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(23)	762051F	JAP	3 LITHIUM 6	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(38)	692005R	UK	3 LITHIUM 6	NEUTRON	N,T
(39)	712002R	UK	3 LITHIUM 6	NEUTRON	N,T
(45)	732002F	FR	3 LITHIUM 6	NEUTRON	N,T
(52)	691012R	USA	3 LITHIUM 6	NEUTRON	TOTAL ALPHA PRODUCTION CROSS SECTION
(55)	762230F	JAP	3 LITHIUM 7	NEUTRON	ELASTIC CROSS SECTION
(59)	762055F	JAP	3 LITHIUM 7	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(63)	762231F	JAP	3 LITHIUM 7	NEUTRON	INELASTIC CROSS SECTION
(66)	762056F	JAP	3 LITHIUM 7	NEUTRON	ENERGY DIFFERENTIAL INELASTIC CROSS SECTION
(72)	762232F	JAP	3 LITHIUM 7	NEUTRON	N,2N ANGULAR DISTRIBUTION
(73)	762057F	JAP	3 LITHIUM 7	NEUTRON	N,2N NEUTRON SPECTRA
(91)	762060F	JAP	4 BERYLLIUM 9	NEUTRON	INELASTIC CROSS SECTION
(94)	792163R	UK	4 BERYLLIUM 9	NEUTRON	THERMAL SCATTERING LAW
(99)	732005F	FR	4 BERYLLIUM 9	NEUTRON	N,2N
(100)	762061F	JAP	4 BERYLLIUM 9	NEUTRON	N,2N
(101)	762233F	JAP	4 BERYLLIUM 9	NEUTRON	N,2N ANGULAR DISTRIBUTION
(102)	762062F	JAP	4 BERYLLIUM 9	NEUTRON	N,2N NEUTRON SPECTRA
(119)	792113R	UK	5 BORON	ALPHA	ALPHA,N
(131)	761110R	USA	5 BORON 10	NEUTRON	N,ALPHA
(133)	792124R	UK	5 BORON 10	NEUTRON	N,ALPHA
(134)	792125R	UK	5 BORON 10	NEUTRON	N,ALPHA
(136)	691026R	USA	5 BORON 10	NEUTRON	TOTAL ALPHA PRODUCTION CROSS SECTION
(140)	792126R	UK	5 BORON 11	NEUTRON	TOTAL CROSS SECTION
(141)	792127R	UK	5 BORON 11	NEUTRON	ELASTIC CROSS SECTION
(148)	781075F	USA	5 BORON 11	PROTON	P,N
(151)	781003F	USA	6 CARBON	NEUTRON	TOTAL CROSS SECTION
(162)	762064F	JAP	6 CARBON 12	NEUTRON	INELASTIC CROSS SECTION
(169)	792114R	UK	6 CARBON 12	ALPHA	ALPHA,N
(180)	792115R	UK	7 NITROGEN 14	ALPHA	ALPHA,N
(181)	781204F	USA	8 OXYGEN	NEUTRON	TOTAL CROSS SECTION
(186)	761073R	USA	8 OXYGEN	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(223)	732008F	FR	9 FLUORINE 19	NEUTRON	ABSORPTION CROSS SECTION
(228)	792003F	FR	9 FLUORINE 19	NEUTRON	N,2N
(230)	792004F	FR	9 FLUORINE 19	NEUTRON	N,P
(233)	792005F	FR	9 FLUORINE 19	NEUTRON	N,ALPHA
(240)	792116R	UK	9 FLUORINE 19	ALPHA	ALPHA,N
(242)	741010R	USA	11 SODIUM 23	NEUTRON	TOTAL CROSS SECTION
(245)	792006F	FR	11 SODIUM 23	NEUTRON	INELASTIC CROSS SECTION
(259)	792117R	UK	12 MAGNESIUM	ALPHA	ALPHA,N
(261)	762074F	JAP	13 ALUMINUM 27	NEUTRON	CAPTURE CROSS SECTION
(263)	762070F	JAP	13 ALUMINUM 27	NEUTRON	N,2N
(266)	762071F	JAP	13 ALUMINUM 27	NEUTRON	N,P
(273)	781102F	USA	13 ALUMINUM 27	NEUTRON	TOTAL PROTON PRODUCTION CROSS SECTION
(274)	781090F	USA	13 ALUMINUM 27	NEUTRON	TOTAL ALPHA PRODUCTION CROSS SECTION
(276)	781001F	USA	14 SILICON	NEUTRON	TOTAL CROSS SECTION
(278)	781007F	USA	14 SILICON	NEUTRON	NON-ELASTIC CROSS SECTION
(286)	792118R	UK	14 SILICON	ALPHA	ALPHA,N
(294)	792177R	UK	17 CHLORINE	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION

(295)	792178R	UK	17	CHLORINE	NEUTRON	ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION
(296)	792179R	UK	17	CHLORINE	NEUTRON	CAPTURE CROSS SECTION
(297)	692054R	UK	17	CHLORINE	NEUTRON	N,P
(298)	792180R	UK	17	CHLORINE	NEUTRON	N,P
(299)	792181R	UK	17	CHLORINE	NEUTRON	N,ALPHA
(300)	792182R	UK	17	CHLORINE 37	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(301)	792183R	UK	17	CHLORINE 37	NEUTRON	ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION
(302)	792184R	UK	17	CHLORINE 37	NEUTRON	CAPTURE CROSS SECTION
(303)	792185R	UK	17	CHLORINE 37	NEUTRON	N,P
(304)	792186R	UK	17	CHLORINE 37	NEUTRON	N,ALPHA
(305)	762177R	JAP	18	ARGON 36	NEUTRON	N,P
(310)	781002F	USA	20	CALCIUM	NEUTRON	TOTAL CROSS SECTION
(314)	781008F	USA	20	CALCIUM	NEUTRON	NON-ELASTIC CROSS SECTION
(316)	762077F	JAP	20	CALCIUM	NEUTRON	CAPTURE CROSS SECTION
(321)	692062R	FR	21	SCANDIUM 45	NEUTRON	CAPTURE CROSS SECTION
(323)	732009F	FR	22	TITANIUM	NEUTRON	INELASTIC CROSS SECTION
(324)	762079F	JAP	22	TITANIUM	NEUTRON	INELASTIC CROSS SECTION
(330)	762080F	JAP	22	TITANIUM	NEUTRON	N,2N
(334)	762081F	JAP	22	TITANIUM	NEUTRON	N,P
(340)	781104F	USA	22	TITANIUM	NEUTRON	TOTAL PROTON PRODUCTION CROSS SECTION
(336)	732012F	FR	22	TITANIUM	NEUTRON	N,ALPHA
(341)	781092F	USA	22	TITANIUM	NEUTRON	TOTAL ALPHA PRODUCTION CROSS SECTION
(343)	691069R	USA	22	TITANIUM 46	NEUTRON	N,P
(345)	691071R	USA	22	TITANIUM 47	NEUTRON	N,P
(347)	691073R	USA	22	TITANIUM 48	NEUTRON	N,P
(355)	762084F	JAP	23	VANADIUM	NEUTRON	INELASTIC CROSS SECTION
(364)	762088F	JAP	23	VANADIUM	NEUTRON	CAPTURE CROSS SECTION
(375)	762086F	JAP	23	VANADIUM	NEUTRON	N,P
(382)	781110F	USA	23	VANADIUM	NEUTRON	TOTAL PROTON PRODUCTION CROSS SECTION
(379)	762087F	JAP	23	VANADIUM	NEUTRON	N,ALPHA
(383)	781098F	USA	23	VANADIUM	NEUTRON	TOTAL ALPHA PRODUCTION CROSS SECTION
(385)	762091F	JAP	23	VANADIUM 50	NEUTRON	N,2N
(386)	762092F	JAP	23	VANADIUM 50	NEUTRON	N,ALPHA
(388)	741031R	USA	24	CHROMIUM	NEUTRON	TOTAL CROSS SECTION
(390)	692077R	FR	24	CHROMIUM	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(395)	762093F	JAP	24	CHROMIUM	NEUTRON	INELASTIC CROSS SECTION
(403)	692085R	FR	24	CHROMIUM	NEUTRON	CAPTURE CROSS SECTION
(414)	692079R	FR	24	CHROMIUM	NEUTRON	NEUTRON ÉMISSION CROSS SECTION
(439)	762098F	JAP	24	CHROMIUM 52	NEUTRON	N,2N
(452)	781203F	USA	26	IRON	NEUTRON	TOTAL CROSS SECTION
(464)	661016R	USA	26	IRON	NEUTRON	ENERGY DIFFERENTIAL INELASTIC CROSS SECTION
(480)	762100F	JAP	26	IRON	NEUTRON	CAPTURE CROSS SECTION
(511)	781057F	USA	26	IRON	NEUTRON	TOTAL PROTON PRODUCTION CROSS SECTION
(502)	692105R	GER	26	IRON	NEUTRON	N,ALPHA
(512)	781066F	USA	26	IRON	NEUTRON	TOTAL ALPHA PRODUCTION CROSS SECTION
(513)	781209F	USA	26	IRON	NEUTRON	TOTAL ALPHA PRODUCTION CROSS SECTION
(520)	721040R	USA	26	IRON 56	NEUTRON	N,ALPHA
(524)	762179R	JAP	26	IRON 58	NEUTRON	CAPTURE CROSS SECTION
(528)	712027R	FR	27	COBALT 59	NEUTRON	ABSORPTION CROSS SECTION
(530)	712028R	JAP	27	COBALT 59	NEUTRON	CAPTURE CROSS SECTION
(539)	692123R	FR	28	NICKEL	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(545)	661024R	USA	28	NICKEL	NEUTRON	ENERGY DIFFERENTIAL INELASTIC CROSS SECTION
(556)	762110F	JAP	28	NICKEL	NEUTRON	CAPTURE CROSS SECTION

(566)	692124R	FR	28	NICKEL	NEUTRON	NEUTRON EMISSION CROSS SECTION
(586)	781053F	USA	28	NICKEL	NEUTRON	TOTAL PROTON PRODUCTION CROSS SECTION
(575)	762109F	JAP	28	NICKEL	NEUTRON	N,T
(576)	721051R	USA	28	NICKEL	NEUTRON	N,ALPHA
(581)	762250R	GER	28	NICKEL	NEUTRON	N,ALPHA
(588)	781210F	USA	28	NICKEL	NEUTRON	TOTAL ALPHA PRODUCTION CROSS SECTION
(600)	692135R	GER	28	NICKEL 58	NEUTRON	N,ALPHA
(617)	762114F	JAP	29	COPPER	NEUTRON	CAPTURE CROSS SECTION
(619)	762112F	JAP	29	COPPER	NEUTRON	PHOTON PRODUCTION CROSS SECTION IN INELASTIC SCAT.
(629)	781055F	USA	29	COPPER	NEUTRON	TOTAL PROTON PRODUCTION CROSS SECTION
(631)	781213F	USA	29	COPPER	NEUTRON	TOTAL ALPHA PRODUCTION CROSS SECTION
(648)	742040R	FR	36	KRYPTON 84	NEUTRON	CAPTURE CROSS SECTION
(650)	692147R	FR	37	RUBIDIUM 85	NEUTRON	N,2N
(652)	691295R	USA	40	ZIRCONIUM	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(653)	691296R	USA	40	ZIRCONIUM	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(670)	741071R	USA	40	ZIRCONIUM 93	NEUTRON	CAPTURE CROSS SECTION
(677)	741073R	USA	40	ZIRCONIUM 95	NEUTRON	CAPTURE CROSS SECTION
(679)	762115F	JAP	41	NIOBIUM 92	NEUTRON	N,ALPHA
(699)	762122F	JAP	41	NIOBIUM 93	NEUTRON	CAPTURE CROSS SECTION
(700)	762123F	JAP	41	NIOBIUM 93	NEUTRON	CAPTURE CROSS SECTION
(708)	762118F	JAP	41	NIOBIUM 93	NEUTRON	N,2N
(716)	762120F	JAP	41	NIOBIUM 93	NEUTRON	N,ALPHA
(724)	762125F	JAP	41	NIOBIUM 94	NEUTRON	CAPTURE CROSS SECTION
(727)	762235F	JAP	42	MOLYBDENUM	NEUTRON	ELASTIC CROSS SECTION
(735)	762127F	JAP	42	MOLYBDENUM	NEUTRON	ENERGY DIFFERENTIAL INELASTIC CROSS SECTION
(736)	792132R	UK	42	MOLYBDENUM	NEUTRON	ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION
(746)	762128F	JAP	42	MOLYBDENUM	NEUTRON	N,2N
(758)	792133R	UK	42	MOLYBDENUM	NEUTRON	N,ALPHA
(762)	762132F	JAP	42	MOLYBDENUM 92	NEUTRON	CAPTURE CROSS SECTION
(763)	762181R	JAP	42	MOLYBDENUM 92	NEUTRON	CAPTURE CROSS SECTION
(765)	762183R	JAP	42	MOLYBDENUM 94	NEUTRON	TOTAL CROSS SECTION
(766)	762184R	JAP	42	MOLYBDENUM 94	NEUTRON	CAPTURE CROSS SECTION
(768)	762186R	JAP	42	MOLYBDENUM 94	NEUTRON	N,P
(769)	762187R	JAP	42	MOLYBDENUM 94	NEUTRON	N,ALPHA
(770)	762188R	JAP	42	MOLYBDENUM 95	NEUTRON	TOTAL CROSS SECTION
(771)	762189R	JAP	42	MOLYBDENUM 95	NEUTRON	INELASTIC CROSS SECTION
(772)	762191R	JAP	42	MOLYBDENUM 95	NEUTRON	N,ALPHA
(774)	762193R	JAP	42	MOLYBDENUM 96	NEUTRON	CAPTURE CROSS SECTION
(775)	762195R	JAP	42	MOLYBDENUM 96	NEUTRON	N,ALPHA
(776)	762196R	JAP	42	MOLYBDENUM 97	NEUTRON	TOTAL CROSS SECTION
(777)	762197R	JAP	42	MOLYBDENUM 97	NEUTRON	INELASTIC CROSS SECTION
(778)	762198R	JAP	42	MOLYBDENUM 97	NEUTRON	N,ALPHA
(779)	762200R	JAP	42	MOLYBDENUM 98	NEUTRON	N,ALPHA
(782)	762203R	JAP	42	MOLYBDENUM 100	NEUTRON	N,P
(783)	762204R	JAP	42	MOLYBDENUM 100	NEUTRON	N,ALPHA
(787)	741078R	USA	44	RUTHENIUM 101	NEUTRON	CAPTURE CROSS SECTION
(788)	752008R	JAP	44	RUTHENIUM 101	NEUTRON	CAPTURE CROSS SECTION
(792)	741079R	USA	44	RUTHENIUM 103	NEUTRON	CAPTURE CROSS SECTION
(800)	671018R	USA	45	RHODIUM 103	NEUTRON	CAPTURE CROSS SECTION
(794)	741081R	USA	45	RHODIUM 104	NEUTRON	CAPTURE CROSS SECTION
(803)	671019R	USA	45	RHODIUM 105	NEUTRON	CAPTURE CROSS SECTION
(805)	722004N	JAP	45	RHODIUM 106		GAMMA RAY YIELD
(796)	741082R	USA	45	RHODIUM 106	NEUTRON	CAPTURE CROSS SECTION

(806)	741086R	USA	46	PALLADIUM 105	NEUTRON	CAPTURE CROSS SECTION
(807)	752011R	JAP	46	PALLADIUM 105	NEUTRON	CAPTURE CROSS SECTION
(809)	741084R	USA	46	PALLADIUM 107	NEUTRON	CAPTURE CROSS SECTION
(811)	671021R	USA	47	SILVER 109	NEUTRON	CAPTURE CROSS SECTION
(812)	752013R	JAP	47	SILVER 109	NEUTRON	CAPTURE CROSS SECTION
(826)	781107F	USA	50	TIN	NEUTRON	TOTAL PROTON PRODUCTION CROSS SECTION
(827)	781095F	USA	50	TIN	NEUTRON	TOTAL ALPHA PRODUCTION CROSS SECTION
(830)	762205R	JAP	51	ANTIMONY 121	NEUTRON	CAPTURE CROSS SECTION
(831)	762206R	JAP	51	ANTIMONY 123	NEUTRON	CAPTURE CROSS SECTION
(833)	722006N	JAP	51	ANTIMONY 125		GAMMA RAY YIELD
(840)	741087R	USA	53	IODINE 129	NEUTRON	CAPTURE CROSS SECTION
(849)	671026R	USA	54	XENON 131	NEUTRON	CAPTURE CROSS SECTION
(852)	792069R	JAP	54	XENON 131	NEUTRON	RESONANCE PARAMETERS
(853)	671027R	USA	54	XENON 133	NEUTRON	CAPTURE CROSS SECTION
(856)	671028R	USA	54	XENON 135	NEUTRON	CAPTURE CROSS SECTION
(862)	732069R	FR	55	CESIUM 133	NEUTRON	ABSORPTION CROSS SECTION
(864)	722021N	JAP	55	CESIUM 133	NEUTRON	CAPTURE CROSS SECTION
(865)	752015R	JAP	55	CESIUM 133	NEUTRON	CAPTURE CROSS SECTION
(867)	722007N	JAP	55	CESIUM 134		GAMMA RAY YIELD
(873)	741091R	USA	55	CESIUM 135	NEUTRON	CAPTURE CROSS SECTION
(876)	762207R	JAP	56	BARIUM 133		MISC
(879)	722009N	JAP	57	LANTHANUM 140		GAMMA RAY YIELD
(881)	722011N	JAP	58	CERIUM 144		GAMMA RAY YIELD
(882)	741093R	USA	58	CERIUM 144	NEUTRON	CAPTURE CROSS SECTION
(883)	722023N	JAP	59	PRASEODYMIUM 141	NEUTRON	CAPTURE CROSS SECTION
(884)	722012N	JAP	59	PRASEODYMIUM 144		GAMMA RAY YIELD
(885)	671035R	USA	60	NEODYMIUM 143	NEUTRON	CAPTURE CROSS SECTION
(886)	752017R	JAP	60	NEODYMIUM 143	NEUTRON	CAPTURE CROSS SECTION
(888)	671037R	USA	60	NEODYMIUM 145	NEUTRON	CAPTURE CROSS SECTION
(889)	741094R	USA	60	NEODYMIUM 145	NEUTRON	CAPTURE CROSS SECTION
(890)	752018R	JAP	60	NEODYMIUM 145	NEUTRON	CAPTURE CROSS SECTION
(911)	741095R	USA	62	SAMARIUM 149	NEUTRON	CAPTURE CROSS SECTION
(916)	741096R	USA	62	SAMARIUM 151	NEUTRON	CAPTURE CROSS SECTION
(922)	732111R	UK	63	EUROPIUM	NEUTRON	CAPTURE CROSS SECTION
(928)	792134R	UK	63	EUROPIUM 151	NEUTRON	CAPTURE CROSS SECTION
(936)	792135R	UK	63	EUROPIUM 153	NEUTRON	CAPTURE CROSS SECTION
(938)	671067R	USA	63	EUROPIUM 154	NEUTRON	CAPTURE CROSS SECTION
(941)	671069R	USA	63	EUROPIUM 155	NEUTRON	CAPTURE CROSS SECTION
(943)	741108R	USA	63	EUROPIUM 155	NEUTRON	CAPTURE CROSS SECTION
(945)	671070R	USA	64	GADOLINIUM	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(946)	671071R	USA	64	GADOLINIUM	NEUTRON	ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION
(947)	691180R	USA	64	GADOLINIUM	NEUTRON	CAPTURE RESONANCE INTEGRAL
(948)	671072R	USA	64	GADOLINIUM 155	NEUTRON	CAPTURE CROSS SECTION
(950)	691182R	USA	64	GADOLINIUM 155	NEUTRON	RESONANCE PARAMETERS
(951)	691181R	USA	64	GADOLINIUM 155	NEUTRON	CAPTURE RESONANCE INTEGRAL
(952)	671073R	USA	64	GADOLINIUM 156	NEUTRON	CAPTURE CROSS SECTION
(953)	691183R	USA	64	GADOLINIUM 156	NEUTRON	RESONANCE PARAMETERS
(954)	691298R	USA	64	GADOLINIUM 156	NEUTRON	CAPTURE RESONANCE INTEGRAL
(955)	671074R	USA	64	GADOLINIUM 157	NEUTRON	CAPTURE CROSS SECTION
(958)	691185R	USA	64	GADOLINIUM 157	NEUTRON	RESONANCE PARAMETERS
(959)	691184R	USA	64	GADOLINIUM 157	NEUTRON	CAPTURE RESONANCE INTEGRAL
(960)	741109R	USA	64	GADOLINIUM 158	NEUTRON	RESONANCE PARAMETERS
(961)	741110R	USA	64	GADOLINIUM 160	NEUTRON	RESONANCE PARAMETERS

(966)	692290R	FR	69	THULIUM 169	NEUTRON	N,P
(967)	692291R	FR	69	THULIUM 169	NEUTRON	N,ALPHA
(969)	682037R	FR	71	LUTETIUM 175	NEUTRON	CAPTURE CROSS SECTION
(970)	792165R	UK	72	HAFNIUM	NEUTRON	ELASTIC CROSS SECTION
(972)	792166R	UK	72	HAFNIUM	NEUTRON	CAPTURE CROSS SECTION
(986)	742046R	FR	74	TUNGSTEN	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(988)	742047R	FR	74	TUNGSTEN	NEUTRON	ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION
(989)	742049R	FR	74	TUNGSTEN	NEUTRON	CAPTURE CROSS SECTION
(998)	781106F	USA	74	TUNGSTEN	NEUTRON	TOTAL PROTON PRODUCTION CROSS SECTION
(999)	781094F	USA	74	TUNGSTEN	NEUTRON	TOTAL ALPHA PRODUCTION CROSS SECTION
(1000)	691202R	USA	74	TUNGSTEN 182	NEUTRON	CAPTURE CROSS SECTION
(1001)	691203R	USA	74	TUNGSTEN 183	NEUTRON	CAPTURE CROSS SECTION
(1002)	691204R	USA	74	TUNGSTEN 184	NEUTRON	CAPTURE CROSS SECTION
(1003)	692309R	FR	74	TUNGSTEN 184	NEUTRON	CAPTURE CROSS SECTION
(1004)	691207R	USA	74	TUNGSTEN 186	NEUTRON	CAPTURE CROSS SECTION
(1005)	692313R	FR	74	TUNGSTEN 186	NEUTRON	CAPTURE CROSS SECTION
(1006)	742054R	FR	78	PLATINUM	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(1008)	742055R	FR	78	PLATINUM	NEUTRON	ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION
(1009)	742058R	FR	78	PLATINUM	NEUTRON	CAPTURE CROSS SECTION
(1010)	742056R	FR	78	PLATINUM	NEUTRON	TOTAL PHOTON PRODUCTION CROSS SECTION
(1011)	742059R	FR	78	PLATINUM 190	NEUTRON	N,P
(1012)	742060R	FR	78	PLATINUM 192	NEUTRON	N,P
(1013)	742061R	FR	78	PLATINUM 198	NEUTRON	CAPTURE CROSS SECTION
(1014)	742062R	FR	79	GOLD 197	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(1015)	742063R	FR	79	GOLD 197	NEUTRON	ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION
(1025)	651008R	USA	81	THALLIUM 203	NEUTRON	CAPTURE CROSS SECTION
(1038)	781059F	USA	82	LEAD	NEUTRON	TOTAL PROTON PRODUCTION CROSS SECTION
(1036)	781143F	USA	82	LEAD	NEUTRON	ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION
(1039)	781068F	USA	82	LEAD	NEUTRON	TOTAL ALPHA PRODUCTION CROSS SECTION
(1037)	781122F	USA	82	LEAD	NEUTRON	ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION
(1057)	671083R	USA	90	THORIUM 232	NEUTRON	N,2N
(1078)	753011R	IND	91	PROTACTINIUM 233	NEUTRON	TOTAL CROSS SECTION
(1080)	753012R	IND	91	PROTACTINIUM 233	NEUTRON	ELASTIC CROSS SECTION
(1081)	753013R	IND	91	PROTACTINIUM 233	NEUTRON	INELASTIC CROSS SECTION
(1083)	671085R	USA	91	PROTACTINIUM 233	NEUTRON	CAPTURE CROSS SECTION
(1084)	753014R	IND	91	PROTACTINIUM 233	NEUTRON	CAPTURE CROSS SECTION
(1090)	753015R	IND	91	PROTACTINIUM 233	NEUTRON	FISSION CROSS SECTION
(1098)	761118R	USA	92	URANIUM	SPONTANEOUS	ALPHA HALF LIFE
(1099)	741134	USA	92	URANIUM 232	NEUTRON	CAPTURE CROSS SECTION
(1105)	753021R	IND	92	URANIUM 233	NEUTRON	TOTAL CROSS SECTION
(1108)	753022R	IND	92	URANIUM 233	NEUTRON	ELASTIC CROSS SECTION
(1109)	753023R	IND	92	URANIUM 233	NEUTRON	INELASTIC CROSS SECTION
(1116)	753024R	IND	92	URANIUM 233	NEUTRON	CAPTURE CROSS SECTION
(1127)	621036R	USA	92	URANIUM 233	NEUTRON	FISSION CROSS SECTION
(1134)	753025R	IND	92	URANIUM 233	NEUTRON	FISSION CROSS SECTION
(1138)	621042R	USA	92	URANIUM 233	NEUTRON	CAPTURE TO FISSION RATIO (ALPHA)
(1144)	661075R	USA	92	URANIUM 233	NEUTRON	NEUTRONS EMITTED PER FISSION (NU BAR)
(1154)	753026R	IND	92	URANIUM 234	NEUTRON	TOTAL CROSS SECTION
(1155)	753027R	IND	92	URANIUM 234	NEUTRON	ELASTIC CROSS SECTION
(1156)	753028R	IND	92	URANIUM 234	NEUTRON	INELASTIC CROSS SECTION
(1160)	753029R	IND	92	URANIUM 234	NEUTRON	CAPTURE CROSS SECTION
(1165)	753030R	IND	92	URANIUM 234	NEUTRON	FISSION CROSS SECTION
(1169)	762034N	JAP	92	URANIUM 235	GAMMA	FISSION PRODUCT MASS YIELD SPECTRUM

(1170)	762042N	JAP	92 URANIUM 235	GAMMA	FISSION PRODUCT MASS YIELD SPECTRUM
(1189)	792033R	FR	92 URANIUM 235	NEUTRON	N,2N
(1237)	671109R	USA	92 URANIUM 236	NEUTRON	CAPTURE CROSS SECTION
(1244)	682058R	FR	92 URANIUM 236	NEUTRON	FISSION CROSS SECTION
(1256)	762035N	JAP	92 URANIUM 238	GAMMA	FISSION PRODUCT MASS YIELD SPECTRUM
(1257)	762043N	JAP	92 URANIUM 238	GAMMA	FISSION PRODUCT MASS YIELD SPECTRUM
(1265)	692390R	GER	92 URANIUM 238	NEUTRON	ANGULAR DIFFERENTIAL INELASTIC CROSS SECTION
(1268)	692394R	GER	92 URANIUM 238	NEUTRON	ENERGY DIFFERENTIAL INELASTIC CROSS SECTION
(1270)	761084R	USA	92 URANIUM 238	NEUTRON	ENERGY DIFFERENTIAL INELASTIC CROSS SECTION
(1293)	762144R	FR	92 URANIUM 238	NEUTRON	N,2N
(1297)	691416R	USA	92 URANIUM 238	NEUTRON	FISSION CROSS SECTION
(1300)	732112R	UK	92 URANIUM 238	NEUTRON	FISSION CROSS SECTION
(1324)	692409R	UK	93 NEPTUNIUM 237	GAMMA	GAMMA,N
(1325)	762145R	FR	93 NEPTUNIUM 237	GAMMA	GAMMA,N
(1326)	671115R	USA	93 NEPTUNIUM 237	NEUTRON	CAPTURE CROSS SECTION
(1327)	762146R	FR	93 NEPTUNIUM 237	NEUTRON	CAPTURE CROSS SECTION
(1332)	691290R	USA	93 NEPTUNIUM 237	NEUTRON	N,2N
(1339)	792039R	FR	93 NEPTUNIUM 237	NEUTRON	FISSION CROSS SECTION
(1345)	762025N	JAP	93 NEPTUNIUM 239	NEUTRON	CAPTURE CROSS SECTION
(1350)	762032N	JAP	93 NEPTUNIUM 239	NEUTRON	FISSION CROSS SECTION
(1361)	741151N	USA	94 PLUTONIUM 238	SPONTANEOUS	FISSION HALF LIFE
(1364)	741154N	USA	94 PLUTONIUM 238	SPONTANEOUS	NEUTRONS EMITTED PER FISSION (NU BAR)
(1368)	762036N	JAP	94 PLUTONIUM 238	GAMMA	FISSION PRODUCT MASS YIELD SPECTRUM
(1380)	762015N	JAP	94 PLUTONIUM 239	SPONTANEOUS	FISSION HALF LIFE
(1382)	762037N	JAP	94 PLUTONIUM 239	GAMMA	FISSION PRODUCT MASS YIELD SPECTRUM
(1383)	762045N	JAP	94 PLUTONIUM 239	GAMMA	FISSION PRODUCT MASS YIELD SPECTRUM
(1401)	701044N	USA	94 PLUTONIUM 239	NEUTRON	CAPTURE GAMMA RAY SPECTRUM
(1402)	741138N	USA	94 PLUTONIUM 239	NEUTRON	CAPTURE GAMMA RAY SPECTRUM
(1425)	712078R	UK	94 PLUTONIUM 239	NEUTRON	CAPTURE TO FISSION RATIO (ALPHA)
(1429)	671124R	USA	94 PLUTONIUM 239	NEUTRON	NEUTRONS EMITTED PER NEUTRON ABSORPTION (ETA)
(1450)	671128R	USA	94 PLUTONIUM 239	NEUTRON	FISSION PRODUCT MASS YIELD SPECTRUM
(1460)	741152N	USA	94 PLUTONIUM 240	SPONTANEOUS	FISSION HALF LIFE
(1463)	741155N	USA	94 PLUTONIUM 240	SPONTANEOUS	NEUTRONS EMITTED PER FISSION (NU BAR)
(1464)	762038N	JAP	94 PLUTONIUM 240	GAMMA	FISSION PRODUCT MASS YIELD SPECTRUM
(1477)	762214R	JAP	94 PLUTONIUM 240	NEUTRON	CAPTURE CROSS SECTION
(1479)	741139N	USA	94 PLUTONIUM 240	NEUTRON	CAPTURE GAMMA RAY SPECTRUM
(1487)	721091R	USA	94 PLUTONIUM 240	NEUTRON	FISSION CROSS SECTION
(1497)	792139R	UK	94 PLUTONIUM 240	NEUTRON	NEUTRONS EMITTED PER FISSION (NU BAR)
(1511)	762039N	JAP	94 PLUTONIUM 241	GAMMA	FISSION PRODUCT MASS YIELD SPECTRUM
(1513)	762216R	JAP	94 PLUTONIUM 241	NEUTRON	TOTAL CROSS SECTION
(1522)	762217R	JAP	94 PLUTONIUM 241	NEUTRON	CAPTURE CROSS SECTION
(1524)	741140N	USA	94 PLUTONIUM 241	NEUTRON	CAPTURE GAMMA RAY SPECTRUM
(1530)	692462R	UK	94 PLUTONIUM 241	NEUTRON	FISSION CROSS SECTION
(1542)	762219R	JAP	94 PLUTONIUM 241	NEUTRON	CAPTURE TO FISSION RATIO (ALPHA)
(1543)	792140R	UK	94 PLUTONIUM 241	NEUTRON	CAPTURE TO FISSION RATIO (ALPHA)
(1555)	762222R	JAP	94 PLUTONIUM 241	NEUTRON	RESONANCE PARAMETERS
(1560)	741156N	USA	94 PLUTONIUM 242	SPONTANEOUS	NEUTRONS EMITTED PER FISSION (NU BAR)
(1571)	762223R	JAP	94 PLUTONIUM 242	NEUTRON	CAPTURE CROSS SECTION
(1574)	741141N	USA	94 PLUTONIUM 242	NEUTRON	CAPTURE GAMMA RAY SPECTRUM
(1578)	762224R	JAP	94 PLUTONIUM 242	NEUTRON	FISSION CROSS SECTION
(1590)	762040N	JAP	95 AMERICIUM 241	GAMMA	FISSION PRODUCT MASS YIELD SPECTRUM
(1591)	691336R	USA	95 AMERICIUM 241	NEUTRON	TOTAL CROSS SECTION
(1598)	792169R	UK	95 AMERICIUM 241	NEUTRON	ABSORPTION CROSS SECTION

(1599)	671135R USA	95	AMERICIUM 241	NEUTRON	CAPTURE CROSS SECTION
(1603)	712108R GER	95	AMERICIUM 241	NEUTRON	CAPTURE CROSS SECTION
(1605)	712110R FR	95	AMERICIUM 241	NEUTRON	CAPTURE CROSS SECTION
(1606)	721099R USA	95	AMERICIUM 241	NEUTRON	CAPTURE CROSS SECTION
(1609)	752032R JAP	95	AMERICIUM 241	NEUTRON	CAPTURE CROSS SECTION
(1617)	741142N USA	95	AMERICIUM 241	NEUTRON	CAPTURE GAMMA RAY SPECTRUM
(1618)	712103R FR	95	AMERICIUM 241	NEUTRON	FISSION CROSS SECTION
(1619)	732115R UK	95	AMERICIUM 241	NEUTRON	FISSION CROSS SECTION
(1620)	742018R GER	95	AMERICIUM 241	NEUTRON	FISSION CROSS SECTION
(1627)	792141R UK	95	AMERICIUM 241	NEUTRON	NEUTRONS EMITTED PER FISSION (NU BAR)
(1630)	792170R UK	95	AMERICIUM 241	NEUTRON	ABSORPTION RESONANCE INTEGRAL
(1633)	671137R USA	95	AMERICIUM 242	NEUTRON	TOTAL CROSS SECTION
(1638)	721100R USA	95	AMERICIUM 242	NEUTRON	CAPTURE CROSS SECTION
(1639)	722045N JAP	95	AMERICIUM 242	NEUTRON	CAPTURE CROSS SECTION
(1643)	762026N JAP	95	AMERICIUM 242	NEUTRON	CAPTURE CROSS SECTION
(1649)	691339R USA	95	AMERICIUM 242	NEUTRON	FISSION CROSS SECTION
(1651)	762033N JAP	95	AMERICIUM 242	NEUTRON	FISSION CROSS SECTION
(1674)	762227R JAP	95	AMERICIUM 243	NEUTRON	FISSION CROSS SECTION
(1684)	762029N JAP	96	CURIUM 242	NEUTRON	CAPTURE CROSS SECTION
(1702)	762030N JAP	96	CURIUM 243	NEUTRON	CAPTURE CROSS SECTION
(1712)	671142R USA	96	CURIUM 244	NEUTRON	CAPTURE CROSS SECTION
(1715)	762031N JAP	96	CURIUM 244	NEUTRON	CAPTURE CROSS SECTION
(1727)	671144R USA	96	CURIUM 245	NEUTRON	TOTAL CROSS SECTION
(1728)	691348R USA	96	CURIUM 245	NEUTRON	CAPTURE CROSS SECTION
(1733)	671145R USA	96	CURIUM 245	NEUTRON	FISSION CROSS SECTION
(1750)	691354R USA	97	BERKELIUM 249	NEUTRON	CAPTURE CROSS SECTION
(1753)	671151R USA	97	BERKELIUM 249	NEUTRON	RESONANCE PARAMETERS
(1768)	741131R USA	98	CALIFORNIUM 252	SPONTANEOUS	ENERGY SPECTRUM OF FISSION NEUTRONS
(1771)	671155R USA	98	CALIFORNIUM 252	NEUTRON	CAPTURE CROSS SECTION
(1774)	692476R UK	FISSION PRODUCTS		NEUTRON	ABSORPTION CROSS SECTION
(1778)	692495R UK	FISSION PRODUCTS		NEUTRON	ABSORPTION RESONANCE INTEGRAL

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.

The reports of the Standards and Discrepancies Subcommittees of the INDC (11th Meeting, 16-20 June 1980) were sent to the WRENDA Requestors. It is advisable to take the conclusions reached by these Subcommittees into consideration when formulating or reviewing the requests for WRENDA 83/84, the next WRENDA publication. 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

QUANTITY	Reviewed by: INDC	NEANDC
$H(n,n)$	x	x
$^{6}Li(n,t)\alpha$	x	x
$^{10}B(n,\alpha)$	x	x
$^{12}C(n,n)$	x	x
$^{197}Au(n,\gamma)$	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
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 res. parameters	x	x
α-values of ^{235}U and ^{239}Pu (> 100 eV)	x	-
Resonance parameter data of ^{235}U and ^{239}U	x	-
Resonance parameter data of ^{238}U	x	x
^{241}Am Fission resonance integral	-	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

QUANTITY	Reviewed by: INDC	NEANDC
^{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	-
Delayed neutron emitters: ^{233}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	-
$^{93}Nb(n,n')^{93m}Nb$	x	-
$^{237}Np(n,f)F.P.$	x	-
$^{237}Np(n,2n)^{236}Pu$	-	x
$^{103}Rh(n,n')^{103m}Rh$	x	x
Th-232 fast neutron capture and fission	x	x

LIST OF COUNTRY CODES

ARG	ARGENTINA
AUL	AUSTRALIA
AUS	AUSTRIA
BAN	BANGLA DESH
BLG	BELGIJM
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

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ABD	US ARMY ABERDEEN RESEARCH AND DEVEL. CENT., ABERDEEN, MD.	USA
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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
AJA	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
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GEV	GENERAL ELECTRIC CO., VALLECITOS, CALIF.	USA
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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

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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, FUKJOKA	JAP
LAS	LOS ALAMOS SCIENTIFIC LABORATORY, NEW MEXICO	JSA
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 JNIVERSITY, HAMILTON, ONTARIO	CAN
MGT	MICHIGAN TECHNOLOGICAL UNIVERSITY	JSA
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.	JSA
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 GROJP	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	JSA
ORL	OAK RIDGE NATIONAL LABORATORY, TENNESSEE	USA
OSA	OSAKA UNIV.,OSAKA	JAP
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.	JAP
PTN	PRINCETON UNIVERSITY, PRINCETON, N.J.	USA
RAM	ATOMIC ENERGY CENTRE, RAMNA, DACCA	BAN
RCN	REACTOR CENTRJM 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, ER_ANGEN	GER
SRL	SAVANNAH RIVER LABORATORIES, AIKEN, S.C.	JSA
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 DEVE_OPMENT LABS., UKAEA	UK
UMK	UNION MINIERE DU HAUT KATANGA, BRUSSE_S	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
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WMU	WESTERN MICHIGAN UNIVERSITY	USA
WUR	EIDG. INSTITUT FUER REAKTORFORSCHUNG, WUERENLINGEN	SWT
WWA	WARSAW UNIVERSITY	POL
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APPENDIX D

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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
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ARSENIC	AS	33	INDIUM	IN	49	RADON	RN	86
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BARIUM	BA	56	IRIDIUM	IR	77	RHODIUM	RH	45
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CALCIUM	CA	20	LITHIUM	LI	3	SILVER	AG	47
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CHLORINE	CL	17	MERCURY	HG	80	TECHNETIUM	TC	43
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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

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