International Atomic Energy Agency

INDC(SEC)-88/URSF

INDC INTERNATIONAL NUCLEAR DATA COMMITTEE

WRENDA 83/84

World Request List for Nuclear Data

V. Piksaikin, IAEA, Editor

Published on behalf of

National Nuclear Data Center, Brookhaven, USA (M.R. Bhat, coordinator)
NEA Data Bank, Saclay, France (N. Tubbs and G. Coddens, coordinators)
Nuclear Data Section, Vienna, Austria (V. Piksaikin, coordinator)
Nuclear Data Center, Obninsk, USSR (O.D. Kazachkovskij, coordinator)

November 1983

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ABSTRACT

WRENDA 83/84 is the eighth 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 83/84 is the eighth edition of the World Request List for Nuclear Data. The request list is intended to serve as 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 organization.

In this edition, there are some changes to the request file since the production of the previous edition. To summarize the changes, 424 requests listed in the previous edition were modified, 318 withdrawn, 135 satisfied and 136 new requests were added. The total number of requests is 1378 of which 435 are Priority 1, 762 are Priority 2 and 181 are Priority 3 requests. There are no Priority 4 requests.

The number of current requests related to fission reactor technology is 902, while the number of requests related to nuclear fusion is 392 and that related to nuclear materials safeguards and other applications is 84.

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 four 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 specific edition of WRENDA only. (Compare this with the IDENTIFICATION number, discussed below).

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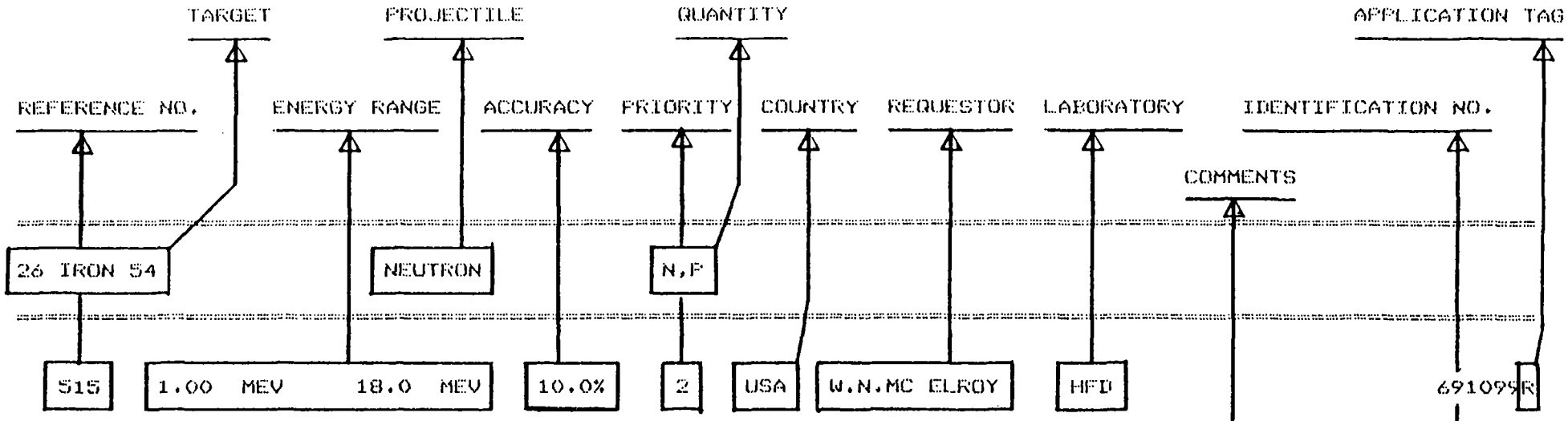
*) CINDA - The Index to the Literature and Computer Files on Microscopic Neutron Data
published annually by the International Atomic Energy Agency.



Q: REQUIRED IS ACTIVATION.
ENERGY STEPS OF 500 KEV.
A: ENERGY RESOLUTION 250 KEV.
O: FOR USE AS A FLUENCE MONITOR

516	1.00	MEV	40.0	MEV	20.0%	1	USA	C.R.HEAD	DOE		781018F

O: DOSIMETRY FOR FMIT FACILITY.
M: NEW REQUEST.

517	25.3	MV	3.00	MEV	10.0%	1	FR	L.COSTA	CAD		792008R

O: OUT-OF-CORE CYCLE.
M: NEW REQUEST.

STATUS STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

Energy

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

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

Accuracy

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

Priority

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

Requestor

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

Identification number

The number in the ninth field of the first line of each request is the IDENTIFICATION number. The number assigned is unique and remains associated with a request from one edition to the next.

When a request is withdrawn, this number is not assigned to another request. The first two digits of the identification number are the last two digits of the year in which the request was originated. The third digit represents the responsible nuclear data center (1 = NNDC, 2 = NEA-DB, 3 = NDS, 4 = CJD) and the final three digits are a sequence number. The nuclear 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 occurring 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	MEDICINE
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
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

Table III. Quantity Sorting Order (Continued)

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

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 had been withdrawn in WRENDA 81/82.

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 for 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 technique for nondestructive assay and that are now obtained either by extrapolation or by an empirical method but for which experimental confirmation is desirable, or

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

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

Priority 3

Third priority shall be given to those requests

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)

1 HYDROGEN 1 — NEUTRON — TOTAL CROSS SECTION

1	1.00	KEV	500.	KEV	.3 %	2	USA	STEWART	LAS	781175R

Q: TO CHECK ON PRIMARY STANDARD IN LARGELY UNMEASURED REGIONS.
M: SUBSTANTIAL MODIFICATIONS.

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. %	2	USA	STEWART	LAS	801289R

Q: TO CONFIRM OR IMPROVE PRESENT EVALUATION. ABSOLUTE VALUES AT A FEW INCIDENT ENERGIES REQUIRED.

3	5.00	MEV	15.0	MEV	0.5%	3	JAP	T.MICHIKAWA	JAP	832023G

Q: DIFFERENTIAL ELASTIC SCATTERING CROSS SECTION AT 180. DEGREES. STANDARD FOR ABSOLUTE MEASUREMENTS OF MONO-ENERGETIC FAST NEUTRON FLUENCE.
A: THE PRESENT ACCURACY IS 1 PERCENT. PRECISE MEASUREMENTS AND EVALUATIONS ARE REQUIRED.
Q: A PRECISE EVALUATION OF THE ELASTIC SCATTERING CROSS SECTION FROM 10 KEV TO 20 MEV IS ALSO WANTED
M: NEW REQUEST.

STATUS---STATUS

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

1 HYDROGEN 1 — NEUTRON — CAPTURE CROSS SECTION

4	25.3	MV	10.0	EV	0.3 %	1	USA	HEMMIG	DOE	821001R

Q: TO HELP RESOLVE DISCREPANCIES IN THERMAL CRITICALITY PARAMETERS. THIS REQUEST WAS REVIEWED BY CSEWG AND RECOMMENDED AS DESERVING SPECIAL EMPHASIS.
M: NEW REQUEST.

1 HYDROGEN 1 — NEUTRON — SPECIAL QUANTITY (DESCRIPTION BELOW)

5	100.	EV	1.00	MEV	30. %	2	USA	BOWMAN	NBS	821050R

Q: ELECTRON EXCITATION OR REMOVAL INDUCED BY SUDDEN ACCELERATION OF NUCLEUS IN NEUTRON-NUCLEUS SCATTER (N,N'E).
A: INCIDENT ENERGY RESOLUTION: 30. PERCENT.
Q: NEUTRON SPECTRUM CALCULATIONS.
M: NEW REQUEST.

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

6	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.
Q: FOR ESTIMATION OF EMITTED NEUTRON SPECTRA FROM A D-T MIXTURE OF INERTIALLY CONFINED PLASMA

1 HYDROGEN 3 — NEUTRON — N,2N

7	UP TO		20.0	MEV		2	FR	A.MICHAUDON	BRC	752055F

A: ACCURACY REQUIRED TO BETTER THAN 20 PERCENT.
M: SUBSTANTIAL MODIFICATIONS.

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

8	UP TO		15.0	MEV	5.0%	2	JAP	A.TAKAHASHI	OSA	812019F

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

2 HELIUM 3 — NEUTRON — N,P

9	10.0	KEV	3.00	MEV	1. %	2	USA	HEMMIG	DOE	691001R

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

10	5.00	KEV	200.	KEV	2. %	2	USA	STEWART	LAS	691003R

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

11	200.	KEV	3.00	MEV	3. %	2	USA	STEWART	LAS	691004R

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

2 HELIUM 3 NEUTRON N,P (CONTINUED)

12	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.		
13	2.00 MEV	30.0 MEV	10. %	3	USA	MCELROY	HED	801234F
						O: FOR FMIT DOSIMETRY.		
14	30.0 MEV	40.0 MEV	20. %	3	USA	MCELROY	HED	801300F
						O: FOR FMIT DOSIMETRY.		

2 HELIUM 3 NEUTRON N,NP

15	UP TO	30.0 MEV	10. %	3	USA	MCELROY	HED	801235F
					O: FOR FMIT DOSIMETRY.			
16	30.0 MEV	40.0 MEV	20. %	3	USA	MCELROY	HED	801301F
					O: FOR FMIT DOSIMETRY.			

2 HELIUM 3 NEUTRON N,2P

17	UP TO	30.0 MEV	10. %	3	USA	MCELROY	HED	801233F
					O: FOR FMIT DOSIMETRY.			
18	30.0 MEV	40.0 MEV	20. %	3	USA	MCELROY	HED	801302F
					O: FOR FMIT DOSIMETRY.			

3 LITHIUM ALPHA ALPHA,N

19	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

20	1.00 MEV	15.0 MEV	10.0%	2	GER	J.DARVAS H.BROCKMANN	JUL JUL	722060F
					Q: AN IMPROVEMENT IN ACCURACY BELOW 6 MEV REQUIRED. O: CALCULATION OF NEUTRON TRANSPORT.			
21	1.00 KEV	15.0 MEV	20.0%	3	UK	R.HANCOX	CUL	722061F
					Q: EVALUATION REQUIREMENT. FOR SHIELDING CALCULATIONS AND NEUTRON TRANSPORT			
22	4.00 MEV	15.0 MEV	10.0%	2	CCP	I.N.GOLOVIN	KUR	724061F
					Q: REFINEMENT OF DATA BELOW 7 MEV AND ADDITIONAL DATA ABOVE 7 MEV REQUIRED. O: CALCULATION OF NEUTRON TRANSMISSION.			
23	1.00 MEV	20.0 MEV	15.0%	1	ITY	C.COCEVA	BOL	792094F
					Q: ANGULAR DISTRIBUTION OF REACTION PRODUCTS NEEDED. O: BLANKET CALCULATIONS IN FUSION REACTORS. M: SUBSTANTIAL MODIFICATIONS.			

3 LITHIUM 6 NEUTRON ANGULAR DIFFERENTIAL INELASTIC CROSS SECTION

24	2.50 MEV	15.0 MEV	15.0%	1	ITY	C.COCEVA	BOL	792095F
					Q: ANGULAR DISTRIBUTION OF REACTION PRODUCTS NEEDED. O: BLANKET CALCULATIONS IN FUSION REACTORS. M: SUBSTANTIAL MODIFICATIONS.			

3 LITHIUM 6 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

25	9.00 MEV	15.0 MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR	724064F
					Q: GAMMA RAY PRODUCTION CROSS SECTIONS AND GAMMA RAY SPECTRA ARE REQUIRED. O: GAMMA RAY HEATING AND SHIELDING CALCULATIONS.			

3 LITHIUM 6 NEUTRON N,2N

26	UP TO	20.0 MEV	20.0%	1	ITY	C.COCEVA	BOL	792096F
					Q: ANGULAR DISTRIBUTION AND SPECTRUM OF EMITTED NEUTRONS NEEDED. O: BLANKET CALCULATIONS IN FUSION REACTORS. M: SUBSTANTIAL MODIFICATIONS.			

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

27	UP TO	15.0	MEV	20.0%	2	GER	J.DARVAS H.BROCKMANN	JUL 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.

28	2.00 MEV	15.0	MEV	10.0%	2	JAP	A.TAKAHASHI Y.SEKI	OSA JAE		832035F

Q: ENERGY-ANGLE DOUBLE DIFFERENTIAL CROSS SECTION REQUIRED WITH AN INCIDENT ENERGY STEP OF 0.5 MEV.
O: NEUTRON TRANSPORT AND TRITIUM PRODUCTION RATE CALCULATIONS. ANGULAR DISTRIBUTIONS OF INELASTICALLY SCATTERED NEUTRONS FOR ALL AVAILABLE LEVELS ALSO REQUIRED.
M: NEW REQUEST.

3 LITHIUM 6 NEUTRON N,P

29	3.00 MEV	15.0	MEV	15.0%	1	ITY	C.COCEVA	BOL		792097F

Q: ANGULAR DISTRIBUTION OF REACTION PRODUCTS NEEDED. ALSO PARTIAL CROSS SECTIONS FOR RESIDUAL NUCLEUS IN GROUND STATE AND FIRST EXCITED STATE NEEDED.
O: BLANKET CALCULATIONS IN FUSION REACTORS.
M: SUBSTANTIAL MODIFICATIONS.

3 LITHIUM 6 NEUTRON N,ND

30	UP TO	15.0	MEV	10.0%	2	GER	J.DARVAS H.BRUCKMANN	JUL JUL		722151F

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

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

O: NEUTRONICS CALCULATIONS AND ENERGY DEPOSITION IN BLANKET MATERIALS.

32	UP TO	20.0	MEV	15.0%	1	ITY	C.COCEVA	BOL		792098F

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

3 LITHIUM 6 NEUTRON N,T

33	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.

34	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.

35	5.00 KEV	15.0	MEV	5.0%	1	GER	M.KUECHLE	KFK		692004R

O: STANDARD.

36	10.0 EV	100.	KEV	1. %	1	USA	HALE	LAS		721009R

O: FOR USE AS STANDARD BELOW 1 MEV.

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

O: FOR TRITIUM BREEDING AND ENERGY DEPOSITION.

38	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.

39	3.00 MEV	15.0	MEV	5. %	1	JAP	Y.SEKI	JAE		762053F

O: TRITIUM BREEDING AND ENERGY DEPOSITION CALCULATION

40	100. KEV	2.00	MEV	10.0%	2	UK	R.HANCOX	CUL		762245F

O: EVALUATION REQUIREMENT.
FOR TRITIUM BREEDING CALCULATIONS.

41	10.0 MV	10.0	EV	1. %	1	USA	CARLSON	NBS		801290R

O: TO STUDY ATOMIC BINDING AND RELATED EFFECTS.

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

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

3 LITHIUM 6 — NEUTRON — ANGULAR DISTRIBUTION OF TRITONS

42	500.	EV	3.00	MEV	5. %	2	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: SUBSTANTIAL MODIFICATIONS.

3 LITHIUM 6 — NEUTRON — N,NT

43		UP TO	20.0	MEV	15.0%	1	ITY	C.COCEVA	BOL	792099F

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

3 LITHIUM 6 — NEUTRON — TOTAL ALPHA PRODUCTION CROSS SECTION

44		UP TO	25.0	MEV	10. %	2	USA	MCELROY	HED	801205F

Q: TOTAL HE PRODUCTION FOR MASS SPECTROMETRY.
O: FOR FMIT DOSIMETRY AND DAMAGE CALCULATIONS.

45	25.0	MEV	40.0	MEV	20. %	2	USA	MCELROY	HED	801303F

Q: TOTAL HE PRODUCTION FOR MASS SPECTROMETRY.
O: FOR FMIT DOSIMETRY AND DAMAGE CALCULATIONS.

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

46		UP TO	10.0	MEV	5.0%	1	FR	C.A.PHILIS	BRC	812063F

Q: NEUTRONS EMITTED PER NON-ELASTIC PROCESS
SECONDARY ENERGY-ANGLE DISTRIBUTIONS REQUIRED

3 LITHIUM 6 — TRITON — NEUTRON EMISSION CROSS SECTION

47		UP TO	10.0	MEV	15.0%	1	FR	C.A.PHILIS	BRC	832001F

M: NEW REQUEST.

3 LITHIUM 7 — NEUTRON — DIFFERENTIAL ELASTIC CROSS SECTION

48	2.00	MEV	15.0	MEV	10.0%	1	CCP	I.N.GOLOVIN	KUR	724005F

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

49	14.0	MEV			10.0%	1	FR	B.DUCHEMIN	SAC	732003F

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

50	1.00	MEV	20.0	MEV	15.0%	1	ITY	C.COCEVA	BOL	792100F

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

3 LITHIUM 7 — NEUTRON — INELASTIC CROSS SECTION

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

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

52	2.00	MEV	14.0	MEV	5.0 %	1	IND	V.R.NARGUNDKAR	TRM	833045F

A: ENERGY STEPS 0.5 MEV
O: FUSION BLANKET NEUTRONICS
M: NEW REQUEST.

3 LITHIUM 7 — NEUTRON — ANGULAR DIFFERENTIAL INELASTIC CROSS SECTION

53	1.00	MEV	20.0	MEV	15.0%	1	ITY	C.COCEVA	BOL	792101F

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

3 LITHIUM 7 — NEUTRON — ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

54		UP TO	15.0	MEV	20.0%	3	UK	T.D.BEYNON R.HANCOX	BIR CUL	732119F

O: EVALUATION REQUIREMENT.
FOR TRITIUM BREEDING CALCULATIONS.

3 LITHIUM 7 — NEUTRON — TOTAL PHOTON PRODUCTION CROSS SECTION

55	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.

3 LITHIUM 7 NEUTRON N,2N

56 UP TO 15.0 MEV 20.0% 2 GER J.DARVAS JUL 722071F
H.BROCKMANN JUL
Q: THREE OR FOUR DATA POINTS USEFUL.
O: FOR ESTIMATES OF NEUTRON MULTIPLICATION.

57 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.

58 8.00 MEV 15.0 MEV 20.0% 1 ITY C.COCEVA BOL 792102F
Q: ANGULAR DISTRIBUTION OF REACTION PRODUCTS NEEDED.
O: BLANKET CALCULATIONS IN FUSION REACTORS.
M: SUBSTANTIAL MODIFICATIONS.

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

59 2.00 MEV 15.0 MEV 10.0% 2 JAP Y.SEKI JAE 832037F
A.TAKAHASHI OSA
Q: ENERGY-ANGLE DIFFERENTIAL CROSS SECTIONS FOR TOTAL NEUTRON EMISSION REQUIRED.
O: NEUTRON TRANSPORT AND TRITIUM PRODUCTION CALCULATIONS.
ANGULAR DISTRIBUTIONS OF INELASTICALLY SCATTERED NEUTRONS FOR ALL AVAILABLE DISCRETE LEVELS ALSO REQUIRED.
M: NEW REQUEST.

3 LITHIUM 7 NEUTRON N,NP

60 8.50 MEV 15.0 MEV 20.0% 1 ITY C.COCEVA BOL 792103F
Q: ANGULAR DISTRIBUTION OF REACTION PRODUCTS NEEDED.
ALSO PARTIAL CROSS SECTIONS FOR RESIDUAL NUCLEUS IN GROUND STATE AND FIRST EXCITED STATE NEEDED.
O: BLANKET CALCULATIONS IN FUSION REACTORS.
M: SUBSTANTIAL MODIFICATIONS.

3 LITHIUM 7 NEUTRON N,D

61 8.00 MEV 15.0 MEV 20.0% 1 ITY C.COCEVA BOL 832048F
Q: (N,D) CROSS SECTION.
ALSO PARTIAL CROSS SECTIONS FOR RESIDUAL NUCLEUS IN GROUND STATE AND FIRST EXCITED STATE NEEDED.
O: BLANKET CALCULATIONS IN FUSION REACTORS.
M: NEW REQUEST.

3 LITHIUM 7 NEUTRON N,ND

62 4.00 MEV 15.0 MEV 20.0% 1 ITY C.COCEVA BOL 792104F
Q: ANGULAR DISTRIBUTION OF REACTION PRODUCTS NEEDED.
O: BLANKET CALCULATIONS IN FUSION REACTORS.
M: SUBSTANTIAL MODIFICATIONS.

3 LITHIUM 7 NEUTRON N,NT

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

64 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.

65 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.

66 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.

67 14.0 MEV 1 USA YOUNG LAS 821040F
Q: TRITIUM PRODUCTION X/S NEEDED.
A: ACCURACY RANGE 3. TO 5. PERCENT.
INCIDENT ENERGY RESOLUTION: 1. MEV.
SHOULD BE STATE-OF-THE-ART.
O: TO RESOLVE DISCREPANCIES IN EXISTING DATA AND TO CORROBORATE ACCURACY (OR TO CORRECT DATA) OF NEW EVALUATION.
M: NEW REQUEST.

68 UP TO 15.0 MEV 5.0% 1 JAP Y.SEKI JAE 832036F
A.TAKAHASHI OSA
Q: (N,NT) CROSS SECTION.
NEUTRON SPECTRA WITH 15 PERCENT ACCURACY ALSO REQUIRED.
O: TRITIUM BREEDING AND ENERGY DEPOSITION CALCULATIONS.
M: NEW REQUEST.

3 LITHIUM 7			PROTON				ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION			
69	UP TO	10.0	MEV	5.0%	1	FR	C.A.PHILIS	BRC		812062F
							G: NEUTRONS EMITTED PER NON-ELASTIC PROCESS SECONDARY ENERGY-ANGLE DISTRIBUTIONS REQUIRED			
3 LITHIUM 7			DEUTERON				ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION			
70	UP TO	10.0	MEV	5.0%	1	FR	C.A.PHILIS	BRC		812064F
							G: NEUTRONS EMITTED PER NON-ELASTIC PROCESS SECONDARY ENERGY-ANGLE DISTRIBUTIONS REQUIRED			
3 LITHIUM 7			TRITON				NEUTRON EMISSION CROSS SECTION			
71	UP TO	10.0	MEV	15.0%	1	FR	C.A.PHILIS	BRC		832002F
							M: NEW REQUEST.			
4 BERYLLIUM 9			NEUTRON				DIFFERENTIAL ELASTIC CROSS SECTION			
72	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			
73	UP TO	15.0	MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR		724012F
							O: NEUTRONICS CALCULATIONS FOR BLANKET AND SHIELD.			
74	1.80 MEV	15.0	MEV	10.0%	1	ITY	C.CUCEVA	BOL		832050F
							Q: ALSO REQUIRED DIFFERENTIAL CROSS SECTION AND EMITTED NEUTRON SPECTRA DOWN TO 0.2 MEV. A: RESOLUTION OF EMITTED NEUTRON ENERGY 20. PERCENT OR 0.50 MEV, WHICHEVER IS SMALLER. O: BLANKET CALCULATIONS IN FUSION REACTORS. M: NEW REQUEST.			
4 BERYLLIUM 9			NEUTRON				PHOTON PRODUCTION CROSS SECTION IN INELASTIC SCAT.			
75	8.00 MEV	15.0	MEV	10.0%	2	GER	J.DARVAS H.BROCKMANN	JUL JUL		722075F
							Q: ENERGY DISTRIBUTION OF GAMMA RAYS REQUIRED.			
4 BERYLLIUM 9			NEUTRON				TOTAL PHOTON PRODUCTION CROSS SECTION			
76	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			
77	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.			
78	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.			
79	UP TO	15.0	MEV	5. %	2	USA	ENGHOLM	GA		801020F
							O: DATA FOR NEUTRON MULTIPLIER.			
80	1.80 MEV	15.0	MEV	10.0%	1	ITY	C.CUCEVA	BOL		832049F
							Q: (N,2N) CROSS SECTION. ALSO REQUIRED DIFFERENTIAL CROSS SECTION AND SPECTRA OF EMITTED NEUTRONS DOWN TO 0.2 MEV. A: RESOLUTION OF EMITTED NEUTRON ENERGY 20. PERCENT OR 0.5 MEV, WHICHEVER IS SMALLER. O: BLANKET CALCULATIONS IN FUSION REACTORS. M: NEW REQUEST.			
81	2.00 MEV	14.0	MEV	5.0 %	1	IND	V.R.NARGUNDKAR	TRM		833046R
							A: ENERGY STEPS 0.5 MEV O: DATA NEEDED FOR FISSION REACTOR AND FUSION BLANKET NEUTRONICS M: NEW REQUEST.			

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

82	1.80	MEV	5.00	MEV	15. %	2	USA	HEMMIG	DCE	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.
O: FOR BE MODERATED FAST SPECTRUM REACTORS AND FOR THERMAL BREEDERS OR CONVERTERS AND NEUTRON ECONOMY CALCULATIONS.

83	1.70	MEV	15.0	MEV	15.0%	2	JAP	Y.SEKI A.TAKAHASHI	JAE OSA	832038F

Q: ENERGY-ANGLE DIFFERENTIAL CROSS SECTIONS FOR TOTAL NEUTRON EMISSION REQUIRED.
DOUBLE DIFFERENTIAL CROSS SECTIONS FOR THE (N,2N) REACTIONS ALSO REQUIRED BY A.TAKAHASHI.
O: BLANKET NEUTRONICS CALCULATIONS.
ALSO FOR NEUTRON MULTIPLICATION CALCULATIONS.
M: NEW REQUEST.

4 BERYLLIUM 9 — NEUTRON — N,P

84	13.0	MEV	15.0	MEV	15.0%	1	ITY	C.CCCEVA	BOL	832046F

Q: (N,P) CROSS SECTION.
O: BLANKET CALCULATIONS IN FUSION REACTORS.
M: NEW REQUEST.

4 BERYLLIUM 9 — NEUTRON — N,P DELAYED NEUTRON YIELD

85	14.0	MEV	16.0	MEV	10.0%	2	CCP	V.K.MARKOV	GAC	714037N

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

4 BERYLLIUM 9 — NEUTRON — N,T

86	1.05	MEV	15.0	MEV	15.0%	1	ITY	C.CCCEVA	BOL	832045F

O: BLANKET CALCULATIONS IN FUSION REACTORS.
BLANKET CALCULATIONS IN FUSION REACTORS.
M: NEW REQUEST.

4 BERYLLIUM 9 — NEUTRON — N,ALPHA

87	8.00	MEV	15.0	MEV	10.0%	1	GER	F.FROEHNER	KFK	722078F

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

88	8.00	MEV	15.0	MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR	724014F

O: FOR HELIUM ACCUMULATION CALCULATIONS.

89	8.00	MEV	15.0	MEV	15. %	3	JAP	Y.SEKI	JAE	762063F

C: HELIUM ACCUMULATION CALCULATIONS

90	700.	KEV	15.0	MEV	20.0%	1	ITY	C.CCCEVA	BOL	832047F

Q: (N,A) CROSS SECTION.
ALSO PARTIAL CROSS SECTIONS FOR RESIDUAL NUCLEUS IN GROUND STATE AND FIRST EXCITED STATE NEEDED.
O: BLANKET CALCULATIONS IN FUSION REACTORS.
M: NEW REQUEST.

4 BERYLLIUM 9 — NEUTRON — SPECIAL QUANTITY (DESCRIPTION BELOW)

91	9.00	MEV	15.0	MEV	20. %	2	USA	BERK	DCE	801089F

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

4 BERYLLIUM 9 — ALPHA — ALPHA,N

92	100.	KEV	0.50	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

93	14.0	MEV			25. %	3	USA	MUIR	LAS	801116F

Q: RADIOACTIVE TARGET 1.6X(10**6) YR
PRODUCTION OF HE-6 WANTED. RADIOACTIVE TARGET.
O: NEEDED FOR ACTIVATION OF GRAPHITE STRUCTURES.

5 BORON			NEUTRON		TOTAL CROSS SECTION					
94	4.50	MEV	15.0	MEV		2	USA	HEMMIG	DOE	741001R
								A: ACCURACY RANGE 3. TO 4. PERCENT. C: FOR SHIELDING EFFECT OF B(4)C.		
5 BORON			NEUTRON		DIFFERENTIAL ELASTIC CROSS SECTION					
95	4.50	MEV	15.0	MEV	15. %	2	USA	HEMMIG	DOE	741003R
5 BORON			NEUTRON		ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION					
96		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					
97	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 10			NEUTRON		CAPTURE CROSS SECTION					
98	25.3	MV	200.	KEV	20.0%	1	UK	E.LYNN	HAR	832052R
								C: REQUIRED FOR SCATTERED NEUTRON CORRECTION. M: NEW REQUEST.		
5 BORON 10			NEUTRON		ENERGY-ANGLE DIFF. PHOTON-PRODUCTION CROSS SECTION					
99	750.	KEV	15.0	MEV	20. %	2	USA	BERK	DOE	781156F
								C: DATA NEEDED FOR BLANKET, SHIELD AND MAGNET HEAT DEPOSITION CALCULATIONS.		
5 BORON 10			NEUTRON		N,2N					
100	8.00	MEV	14.0	MEV	15.0%	2	FR	B.DUCHEMIN	SAC	732006F
								A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS. C: FOR IMPROVED CALCULATION OF NEUTRON BALANCE.		
5 BORON 10			NEUTRON		N,3N					
101	10.0	MEV	14.0	MEV	15.0%	2	FR	B.DUCHEMIN	SAC	732007F
								A: QUOTED ACCURACY AT 2 STANDARD DEVAITIONS. C: FOR IMPROVED CALCULATION OF NEUTRON BALANCE.		
5 BORON 10			NEUTRON		N,ALPHA					
102	100.	KEV	1.00	MEV	2.0%	1	UK	E.LYNN	HAR	642001R
								Q: ALSO (N,ALPHA GAMMA). A: ENERGY DEPENDENCE NEEDED MORE ACCURATELY. C: USED AS A STANDARD IN CROSS SECTION MEASUREMENTS.		
103	10.0	KEV	2.00	MEV		1	BLG	A.FABRY	MOL	682004R
								A: ACCURACY 1 PERCENT TO 100 KEV. 3 PERCENT ABOVE. C: STANDARD CROSS SECTION. CALCULATION OF STANDARD NEUTRON SPECTRUM.		
104	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 C: FOR USE AS STANDARD.		
105	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. C: FOR USE AS STANDARD.		
106	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. C: FOR USE AS STANDARD.		

107	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.
C: FOR USE AS STANDARD.

108	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.
C: FOR USE AS STANDARD.

109	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.
C: FOR USE AS STANDARD.

110	5.00 KEV	10.0 MEV		2	CCP	L.N.USACHEV	FEI			754025R

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

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

STATUS---STATUS

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

5 BORON 10 NEUTRON TOTAL ALPHA PRODUCTION CROSS SECTION

112	UP TO	25.0 MEV	10. %	2	USA	MCELROY	HED			801238F

Q: TOTAL HE PRODUCTION FOR MASS SPECTROMETRY.
C: FOR FMIT DOSIMETRY.
FOR USE AS FLUENCE MONITOR.

113	25.0 MEV	40.0 MEV	20. %	2	USA	MCELROY	HED			801304F

Q: TOTAL HE PRODUCTION FOR MASS SPECTROMETRY.
C: FOR FMIT DOSIMETRY.
FOR USE AS FLUENCE MONITOR.

5 BORON 10 NEUTRON SPECIAL QUANTITY (DESCRIPTION BELOW)

114	9.00 MEV	15.0 MEV	20. %	2	USA	BERK	DOE			801048F

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

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

115	2.10 MEV	15.0 MEV	20. %	2	USA	BERK	DOE			781197F

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

5 BORON 11 NEUTRON N,ALPHA

116	UP TO	25.0 MEV	10. %	3	USA	MCELROY	HED			801221F

C: FOR FMIT DOSIMETRY AND TRACK RECORDER.

117	25.0 MEV	40.0 MEV	20. %	3	USA	MCELROY	HED			801305F

C: FOR FMIT DOSIMETRY AND TRACK RECORDER.

6 CARBON NEUTRON ANGULAR DIFFERENTIAL INELASTIC CROSS SECTION

118	5.00 MEV	20.0 MEV	5. %	2	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

119	9.00 MEV	15.0 MEV	10. %	2	USA	BERK	DOE			781043F

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

6 CARBON NEUTRON TOTAL ALPHA PRODUCTION CROSS SECTION

120	9.00 MEV	15.0 MEV	10. %	2	USA	BERK	DOE			781061F

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

6 CARBON			NEUTRON		SPECIAL QUANTITY (DESCRIPTION BELOW)					
121	9.00	MEV	15.0	MEV	10. %	2	USA	BERK	DOE	801051F
								Q: ALL SIGNIFICANT ACTIVATION REACTION CROSS SECTIONS. O: DATA NEEDED FOR SHIELDING, ACTIVATION AND NEUTRON TRANSPORT CALCULATIONS.		
6 CARBON			ALPHA		ALPHA,N					
122	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					
123	8.00	MEV	15.0	MEV	10.0%	2	CCP	I.N.GOLOVIN	KUR	724016F
								C: NEUTRON TRANSMISSION CALCULATIONS.		
STATUS										STATUS
UNDER CONTINUOUS REVIEW BY INDC AND NEANDC. SEE APPENDIX A.										
6 CARBON 12			NEUTRON		ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION					
124	7.00	MEV	15.0	MEV	10.0%	2	JAP	Y.SEKI A.TAKAHASHI	JAE OSA	832039F
								Q: ENERGY-ANGLE DIFFERENTIAL CROSS SECTIONS FOR TOTAL NEUTRON EMISSION REQUIRED. ANGULAR DISTRIBUTION OF INELASTICALLY SCATTERED FOR ALL AVAILABLE DISCRETE LEVELS ESPECIALLY WANTED BY A.TAKAHASHI. O: NEUTRON TRANSPORT CALCULATIONS. M: NEW REQUEST.		
6 CARBON 12			NEUTRON		N,P					
125	5.00	MEV	20.0	MEV	5.0%	2	JAP	S.ITOH	NAG	832041F
								Q: (N,P) CROSS SECTION. O: FOR CALCULATION OF DETECTOR RESPONSE FUNCTION. DISAGREEMENT BETWEEN KREGER AND RIMMER ABOVE 16.0 MEV. M: NEW REQUEST.		
6 CARBON 12			NEUTRON		N,ALPHA					
126		UP TO	15.0	MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR	724017F
								O: NEUTRON ABSORPTION CALCULATIONS.		
127	15.0	MEV	50.0	MEV	10. %	2	USA	CASWELL	NBS	7o1111G
								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.		
6 CARBON 12			NEUTRON		N,NALPHA					
128		UP TO	40.0	MEV	15.0%	2	JAP	K.SHIN S.ITOH	KTG NAG	83204CF
								Q: SECONDARY NEUTRON AND ALPHA PARTICLE ENERGY SPECTRA ARE REQUIRED. O: FOR DETECTOR EFFICIENCY DETERMINATION IN FUSION REACTOR NEUTRONICS EXPERIMENTS. M: NEW REQUEST.		
6 CARBON 12			NEUTRON		N,N3ALPHA					
129		UP TO	15.0	MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR	724018F
								Q: SECONDARY NEUTRON ENERGY DISTRIBUTION REQUIRED AT 14. MEV. O: FOR BLANKET NEUTRONICS CALCULATIONS.		
130		UP TO	20.0	MEV	15. %	2	USA	FU	ORL	741174R
131		UP TO	50.0	MEV	10. %	2	USA	CASWELL	NBS	7611126
								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.		
132		UP TO	15.0	MEV	15. %	2	JAP	Y.SEKI	JAE	762065F
								Q: TOTAL ALPHA PRODUCTION CROSS SECTION AND SECONDARY NEUTRON ENERGY SPECTRUM REQUIRED. O: NEUTRON TRANSPORT AND HELIUM ACCUMULATION CALC.		

6 CARBON 12 | NEUTRON | SPECIAL QUANTITY (DESCRIPTION BELOW)

133	100.	EV	14.0	MEV	30. %	2	USA	BOWMAN	NBS	821051R

Q: ELECTRON EXCITATION OR REMOVAL INDUCED BY SUDDEN ACCELERATION OF NUCLEUS IN NEUTRON-NUCLEUS SCATTER (N,N'E).
A: INCIDENT ENERGY RESOLUTION: 30. PERCENT.
O: NEUTRON SPECTRUM CALCULATIONS.
M: NEW REQUEST.

6 CARBON 13 | NEUTRON | N,ALPHA

134	5.00	MEV	15.0	MEV	25. %	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.

6 CARBON 13 | ALPHA | ALPHA,N

135	UP TO		10.0	MEV	20.0%	2	JAP	N.YAMAMOTO	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

136	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 | TOTAL ALPHA PRODUCTION CROSS SECTION

137	9.00	MEV	15.0	MEV	20. %	2	USA	BERK	DOE	781097F

O: FOR RADIATION DAMAGE CALCULATIONS.

7 NITROGEN | NEUTRON | SPECIAL QUANTITY (DESCRIPTION BELOW)

138	9.00	MEV	15.0	MEV	20. %	2	USA	BERK	DOE	801041F

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

7 NITROGEN | ALPHA | ALPHA,N

139	UP TO		7.00	MEV	10.0%	3	UK	A.WHITTAKER	HAR	832053R

O: FUEL REPROCESSING.
M: NEW REQUEST.

7 NITROGEN 14 | NEUTRON | DIFFERENTIAL ELASTIC CROSS SECTION

140	1.00	MEV	15.0	MEV	5.0%	2	FR	A.MICHAUDON	BRC	692015R

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

7 NITROGEN 14 | NEUTRON | TOTAL PHOTON PRODUCTION CROSS SECTION

141	1.00	KEV	15.0	MEV	10.0%	1	FR	C.PHILIS	BRC	792002R

C: EVALUATION SUFFICIENT

7 NITROGEN 14 | NEUTRON | NEUTRON EMISSION CROSS SECTION

142	4.00	MEV	15.0	MEV	10.0%	2	FR	A.MICHAUDON	BRC	692017R

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

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

143	9.00	MEV	15.0	MEV	10. %	2	USA	BERK	DOE	781065F

O: DATA NEEDED FOR SHIELDING AND NEUTRON TRANSPORT CALCULATIONS.

8 OXYGEN | NEUTRON | ELASTIC CROSS SECTION

144 5.00 KEV 10.0 MEV 5. % 2 USA DEI BET 7610SCR

Q: TO RESOLVE DISCREPANCIES BETWEEN CALCULATED AND MEASURED MULTIPLICATION FACTORS IN SMALL CRITICAL FACILITIES.

8 OXYGEN | NEUTRON | DIFFERENTIAL ELASTIC CROSS SECTION

145 10.0 KEV 20.0 MEV 5. % 2 USA HEMMIG DOE 661028R

C: NEEDED FOR FAST REACTOR REFLECTOR WORTHS.

146 5.00 KEV 10.0 MEV 5. % 2 USA DEI BET 761051R

Q: TO RESOLVE DISCREPANCIES BETWEEN CALCULATED AND MEASURED MULTIPLICATION FACTORS IN SMALL CRITICAL FACILITIES.

8 OXYGEN | NEUTRON | TOTAL PHOTON PRODUCTION CROSS SECTION

147 1.00 KEV 15.0 MEV 10.0% 2 FR A.MICHAUDON BRC 742028R

Q: FOR SHIELDING CALCULATION.

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

148 9.00 MEV 15.0 MEV 20. % 1 USA BERK DOE 781089F

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

8 OXYGEN | NEUTRON | TOTAL PROTON PRODUCTION CROSS SECTION

149 9.00 MEV 15.0 MEV 20. % 2 USA BERK DOE 781113F

Q: FOR RADIATION DAMAGE CALCULATIONS.

8 OXYGEN | NEUTRON | TOTAL ALPHA PRODUCTION CROSS SECTION

150 9.00 MEV 15.0 MEV 20. % 2 USA BERK DOE 781101F

Q: FOR RADIATION DAMAGE CALCULATIONS.

8 OXYGEN | NEUTRON | SPECIAL QUANTITY (DESCRIPTION BELOW)

151 9.00 MEV 15.0 MEV 20. % 2 USA BERK DOE 801042F

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

8 OXYGEN | ALPHA | ALPHA,N

152 UP TO 15.0 MEV 20.0% 2 FR F.JOSSO CAD 762138R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
C: FOR FAST REACTOR FUEL CYCLE CALCULATION.
M: SUBSTANTIAL MODIFICATIONS.

153 100. 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.

154 UP TO 7.00 MEV 10.0% 3 UK C.G.CAMPBELL WIN 792115R
V.BARNES UKW

Q: FOR FAST REACTORS AND FOR FUEL REPROCESSING
M: SUBSTANTIAL MODIFICATIONS.

155 4.40 MEV 6.10 MEV 30.0% 2 GER H.KUESTERS KFK 792254R

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

8 OXYGEN 16 | NEUTRON | TOTAL CROSS SECTION

156 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.
Q: NEED FOR FAST REACTOR CALCULATIONS.
FOR MORE DETAIL SEE INTRODUCTION.

8 OXYGEN 16			NEUTRON		N,ALPHA				
157	UP TO	50.0	MEV	10. %	2	USA	CASWELL	NBS	7611136
							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.		
158	7.50 MEV	15.0	MEV	15. %	2	JAP	Y.SEKI	JAE	762066F
							Q: TOTAL ALPHA PRODUCTION CROSS SECTION D: HELIUM ACCUMULATION CALC. IN LI-OXIDE BLANKETS		
159	UP TO	15.0	MEV		2	USA	BERK	DOE	801069F
							A: ACCURACY TO 10 PERCENT NEAR 15 MEV AND 50 PERCENT NEAR 2.5 MEV. C: DATA NEEDED FOR DIAGNOSTICS.		
8 OXYGEN 16			NEUTRON		N,NALPHA				
160	UP TO	50.0	MEV	10. %	2	USA	CASWELL	NBS	7611146
							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.		
161	UP TO	15.0	MEV	15. %	2	JAP	Y.SEKI	JAE	762067F
							Q: SECONDARY NEUTRON ENERGY SPECTRA REQUIRED. D: CALCULATION OF NEUTRON TRANSPORT AND HELIUM ACCUMULATION IN LI-OXIDE BLANKETS		
8 OXYGEN 16			NEUTRON		N,N4ALPHA				
162	UP TO	50.0	MEV	10. %	2	USA	CASWELL	NBS	7611156
							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. D: NEEDED FOR ENERGY DEPOSITION CALCULATIONS FOR RADIOTHERAPY.		
8 OXYGEN 16			TRITON		T,N				
163	UP TO	12.0	MEV	10.0%	2	JAP	K.TANAKA H.KUDO	JAE JAE	792071F
							Q: EXPERIMENTAL DATA WANTED. A: 5% ENERGY RESOLUTION DESIRABLE. D: FOR PRECISE ESTIMATION OF LI2O BURNUP IN CTR BLANKET. FOR EVALUATION OF NUMBER OF C 18 ATOMS FROM BETA PLUS DECAY OF F 18 PRODUCED THROUGH O 16 (T,N) F 18.		
8 OXYGEN 17			NEUTRON		N,P				
164	UP TO	20.0	MEV	20.0%	2	JAP	T.ISHIZUKA H.KADOTANI	JAP JAP	832022R
							Q: (N,P) CROSS SECTION. D: SHIELDING PRIMARY COOLING SYSTEMS FROM DELAYED NEUTRONS FROM N-17. M: NEW REQUEST.		
8 OXYGEN 17			NEUTRON		N,ALPHA				
165	25.3 MV	15.0	MEV	30.0%	2	JAP	T.KAWAKITA	PNC	792073R
							Q: EVALUATED DATA WANTED. D: 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				
166	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. D: FOR NEUTRON SHIELDING AND EVALUATION OF NEUTRON SOURCE. FOR EVALUATION OF NEUTRON ENERGY SPECTRUM IN FUEL CYCLE PROCESS.		
8 OXYGEN 18			NEUTRON		N,ALPHA				
167	1.50 MEV			30.0%	2	SWD	J.ELKERT ASEA-ATOM VAESTERAAS	AKA AKA AKA	792093R
							Q: INCIDENT ENERGY: FISSION SPECTRUM D: FOR THE CALCULATION OF THE C-15 PRODUCTION IN THE COOLING MEDIA OF BWR. M: SUBSTANTIAL MODIFICATIONS.		

8 OXYGEN 18			ALPHA		ALPHA,N					
168	UP TO	9.00	MEV	10. %	3	USA	DEI	BET		661010R
						A: INCIDENT ENERGY RESOLUTION: 200 KEV.				
						O: NEEDED FOR INTRINSIC SOURCE.				
169	4.00	MEV	7.50	MEV	30.0%	2	FR	B.DUCHEMIN	SAC	692029R
						Q: SECONDARY ENERGY DISTRIBUTION REQUIRED.				
						A: RESOLUTION FOR E AND E'. 1.0 MEV. QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.				
						O: FOR SHIELDING OF ALPHA EMITTING SAMPLES. NEW EVALUATION TO BE DONE IF NEW EXPERIMENTAL DATA.				
170	UP TO	10.0	MEV	20.0%	2	JAP	N.YAMANO	SAE		792074R
						C: 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.				
9 FLUORINE 19			NEUTRON		DIFFERENTIAL ELASTIC CROSS SECTION					
171	2.00	MEV	15.0	MEV	10.0%	2	CCP	I.N.GOLOVIN	KUR	724019F
						C: USE IN COOLANT.				
9 FLUORINE 19			NEUTRON		INELASTIC CROSS SECTION					
172	1.00	MEV	15.0	MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR	724020F
						O: NEUTRONICS CALCULATIONS FOR BLANKET AND SHIELD.				
9 FLUORINE 19			NEUTRON		ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION					
173	100.	KEV	20.0	MEV	15. %	2	USA	FU	ORL	741169R
						O: ONLY DATA AT 14 MEV AND BELOW 3.6 MEV.				
9 FLUORINE 19			NEUTRON		ABSORPTION CROSS SECTION					
174	25.3	MV	15.0	MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR	724021F
						C: ALL NEUTRON ABSORPTION PROCESSES SHOULD BE INCLUDED.				
						O: NEUTRONICS CALCULATIONS AND ENERGY DEPOSITION IN COOLANT.				
175	2.00	MEV	20.0	MEV	5. %	2	USA	FU	ORL	741170R
9 FLUORINE 19			NEUTRON		TOTAL PHOTON PRODUCTION CROSS SECTION					
176	500.	KEV	15.0	MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR	724022F
						O: GAMMA RAY SPECTRA ALSO REQUIRED.				
						C: GAMMA RAY HEATING AND SHIELDING CALCULATIONS.				
9 FLUORINE 19			NEUTRON		ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION					
177	9.00	MEV	15.0	MEV	20. %	2	USA	BERK	DOE	781087F
						O: DATA NEEDED FOR SHIELDING. ACTIVATION AND NEUTRON TRANSPORT CALCULATIONS.				
9 FLUORINE 19			ALPHA		ALPHA,N					
176	UP TO	15.0	MEV	30.0%	2	FR	B.DUCHEMIN	SAC		732039R
						Q: ENERGY DISTRIBUTION REQUIRED.				
						A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.				
						O: FOR SHIELDING OF ALPHA-EMITTING MATERIALS.				
179	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 22			NEUTRON		CAPTURE CROSS SECTION					
180	25.0	MV	15.0	MEV	15.0%	1	GER	H.KUESTERS	KFK	792154R
						Q: EVALUATION WANTED.				
						O: REDUCTION OF NA22.				
11 SODIUM 23			NEUTRON		TOTAL CROSS SECTION					
181	100.	KEV	500.	KEV	2.0%	2	UK	J.BUTLER	WIN	792120R
						Q: ACCURACY FOR AVERAGE VALUE OF THE ERROR BETWEEN E AND 2E.				

11 SODIUM 23			NEUTRON		DIFFERENTIAL ELASTIC CROSS SECTION					
182	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					
183	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					
184	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.					
185	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.					
186	15.0	MEV	35.0	MEV	15. %	2	USA	CARTER	HED	801113F
					Q: FOR FMIT CALCULATIONAL DOSIMETRY.					
11 SODIUM 23			NEUTRON		CAPTURE CROSS SECTION					
187	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.					
188	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. Q: FOR CALCULATION OF NA ACTIVATION IN LMFBR. SEE ALSO GENERAL COMMENTS IN THE INTRODUCTION.					
189	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. Q: NEED FOR FAST REACTOR CALCULATIONS. FOR MORE DETAIL SEE INTRODUCTION.					
190	500.	KEV	22.0	MEV	10. %	2	USA	CARTER	HED	801222F
					Q: ACTIVATION IS REQUIRED FOR FMIT.					
191	22.0	MEV	40.0	MEV	20. %	2	USA	CARTER	HED	801306F
					Q: ACTIVATION IS REQUIRED FOR FMIT.					
11 SODIUM 23			NEUTRON		N,2N					
192	UP TO		20.0	MEV	15. %	2	USA	HEMMIG	DOE	741020R
					Q: NEEDED FOR COOLANT ACTIVATION.					
193	20.0	MEV	30.0	MEV	20. %	2	USA	CARTER	HED	801027F
					Q: DOSIMETRY FOR FMIT FACILITY.					
11 SODIUM 23			NEUTRON		N,P					
194	UP TO		20.0	MEV	10. %	2	USA	LARSON	ORL	801262R
					Q: ACTIVATION MEASUREMENT TO GUIDE MODEL CALCULATIONS.					

11 SODIUM 23 | NEUTRON | N,ALPHA

195	UP TO	20.0	MEV	10. %	2	USA	LARSON	CRL	801263R

Q: ACTIVATION MEASUREMENT TO GUIDE MODEL CALCULATIONS.

11 SODIUM 23 | NEUTRON | SPECIAL QUANTITY (DESCRIPTION BELOW)

196	1.00 KEV	14.0	MEV	30. %	2	USA	BOWMAN	NBS	821052R

Q: ELECTRON EXCITATION OR REMOVAL INDUCED BY SUDDEN ACCELERATION OF NUCLEUS IN NEUTRON NUCLEUS SCATTER (N,N'E).
A: INCIDENT ENERGY RESOLUTION: 30. PERCENT.
O: NEUTRON SPECTRUM CALCULATION.
M: NEW REQUEST.

11 SODIUM 23 | NEUTRON | RESONANCE PARAMETERS

197	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

198	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

199	UP TO	20.0	MEV	10. %	3	USA	MCELROY	HED	801224F

Q: ACTIVATION IS REQUIRED.
O: FOR FMIT DOSIMETRY.

200	20.0 MEV	40.0	MEV	20. %	3	USA	MCELROY	HED	801307F

Q: ACTIVATION IS REQUIRED.
O: FOR FMIT DOSIMETRY.

13 ALUMINUM 27 | NEUTRON | ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

201	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

202	25.3 MV	15.0	MEV	15. %	3	JAP	M.KASAI	MAP	762075F

O: GAMMA-RAY HEATING CALCULATIONS

13 ALUMINUM 27 | NEUTRON | N,2N

203	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 USE IN FUSION DIAGNOSTICS.

204	16.0 MEV	30.0	MEV	20. %	2	USA	CARTER	HED	821071F

C: LONG TERM ACTIVATION OF FMIT FACILITY.
M: NEW REQUEST.

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

205	9.00 MEV	15.0	MEV	20. %	2	USA	BERK	DOE	781078F

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

206	15.0 MEV	35.0	MEV		2	USA	DORAN	HED	801054F

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

13 ALUMINUM 27 | NEUTRON | TOTAL PROTON PRODUCTION CROSS SECTION

207	9.00 MEV	15.0	MEV	10. %	3	USA	DORAN	HED	801057F

O: MATERIALS DAMAGE CALCULATIONS.

208	15.0	MEV	35.0	MEV	20. %	3	USA	DORAN	HED	801308F

Q: MATERIALS DAMAGE CALCULATIONS.

13 ALUMINUM 27 NEUTRON N,D

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

Q: HYDROGEN ACCUMULATION CALCULATIONS

13 ALUMINUM 27 NEUTRON N,T

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

Q: HYDROGEN ACCUMULATION CALCULATIONS

13 ALUMINUM 27 NEUTRON N,ALPHA

211	15.0	MEV	30.0	MEV	20. %	2	USA	CARTER	HED	821070F

Q: NEEDED FOR SHORT-TERM FMIT ACTIVATION.
M: NEW REQUEST.

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

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

13 ALUMINUM 27 NEUTRON TOTAL ALPHA PRODUCTION CROSS SECTION

212	9.00	MEV	15.0	MEV	10. %	2	USA	DORAN	HED	801056F

Q: MATERIALS DAMAGE CALCULATIONS AND DOSIMETRY.

213	15.0	MEV	30.0	MEV	20. %	2	USA	DORAN	HED	801309F

Q: MATERIALS DAMAGE CALCULATIONS AND DOSIMETRY.

13 ALUMINUM 27 ALPHA ALPHA,N

214	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

215	25.3	MV	200.	KEV	10.0%	3	UK	J.FELL	WIN	792164R

Q: FOR THERMAL REACTORS.
EVALUATION REQUIREMENT.

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

216	9.00	MEV	15.0	MEV	10. %	2	USA	BERK	DOE	781045F

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

14 SILICON NEUTRON TOTAL PROTON PRODUCTION CROSS SECTION

217	9.00	MEV	15.0	MEV	20. %	2	USA	BERK	DOE	781054F

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

14 SILICON NEUTRON TOTAL ALPHA PRODUCTION CROSS SECTION

218	9.00	MEV	15.0	MEV	20. %	2	USA	BERK	DOE	781063F

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

14 SILICON NEUTRON SPECIAL QUANTITY (DESCRIPTION BELOW)

219	9.00	MEV	15.0	MEV	20. %	2	USA	BERK	DOE	801044F

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

16 SULFUR NEUTRON TOTAL CROSS SECTION

220	10.0	KEV	500.	KEV	3. %	2	USA	HEMMIG	DOE	741021R

Q: FOR SHIELDING EFFECT OF CONCRETE.

16 SULFUR — NEUTRON — CAPTURE GAMMA RAY SPECTRUM

221	10.0	KEV	500.	KEV	15. %	2	USA	HEMMIG	DOE	741029R

C: FOR SHIELDING EFFECT OF CONCRETE.

18 ARGON 40 — NEUTRON — CAPTURE CROSS SECTION

222	UP TO		10.0	MEV		2	JAP	M.KAWAI	NIG	712006R

A: ACCURACY REQUIRED TO BETTER THAN 20.0 PERCENT.
C: FOR REACTOR HAZARD CALCULATION.

223	25.0	MV	15.0	MEV	15.0%	1	GER	H.KUESTERS	KFK	792195R

Q: EVALUATION WANTED.
C: PRODUCTION OF AR41.

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

224	15.0	MEV	40.0	MEV	15. %	1	USA	CARTER	HED	801114F

Q: FOR FMIT DOSIMETRY.

19 POTASSIUM 39 — NEUTRON — N,2N

225	15.0	MEV	30.0	MEV	20. %	2	USA	CARTER	HED	821069F

C: ACTIVATION OF NAK COOLANT, AFFECTING FMIT MAINTENANCE.
M: NEW REQUEST.

19 POTASSIUM 39 — NEUTRON — N,P

226	25.3	MV	15.0	MEV	30.0%	2	JAP	T.KAWAKITA	PNC	792076R

Q: EVALUATED DATA WANTED
C: FOR REACTOR HAZARD CALCULATION.
THERE ARE MANY EXPERIMENTAL DATA IN MEV REGION.

19 POTASSIUM 41 — NEUTRON — N,P

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

C: FOR FAST REACTOR CIRCUIT ACTIVITY.
EVALUATION REQUIREMENT.

228	15.0	MEV	30.0	MEV	20. %	2	USA	CARTER	HED	821072F

C: FMIT ACTIVATION.
M: NEW REQUEST.

20 CALCIUM — NEUTRON — CAPTURE CROSS SECTION

229	1.00	KEV	500.	KEV	10. %	2	USA	HEMMIG	DOE	741029R

C: FOR SHIELDING EFFECT OF CONCRETE.

20 CALCIUM — NEUTRON — ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

230	1.00	MEV	15.0	MEV	15.0%	3	JAP	Y.SEKI	JAE	832018F

C: INCLUDED IN CONCRETE.
FOR SHIELDING DESIGN.
M: NEW REQUEST.

20 CALCIUM — ALPHA — ALPHA,N

231	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

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

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

22 TITANIUM — GAMMA — GAMMA,P

233	10.0	MEV	20.0	MEV	50. %	2	USA	BERK	DOE	801072F

Q: REACTION USED TO IDENTIFY RUNAWAY ELECTRONS THAT HIT POX LIMITERS.

22 TITANIUM			NEUTRON		CAPTURE CROSS SECTION					
234	100.	EV	100.	KEV	20.0%	2	UK	C.G.CAMPBELL	WIN	6520C5R
						C: FOR FAST REACTORS.				
235	100.	EV	500.	EV	20.0%	2	FR	M.SALVATORES	CAD	832004R
						O: FAST REACTOR CALCULATIONS. M: NEW REQUEST.				
22 TITANIUM			NEUTRON		TOTAL PHOTON PRODUCTION CROSS SECTION					
236	25.3	MV	15.0	MEV	15. %	3	JAP	M.KASAI	MAP	762083F
						O: POTENTIAL CONSTITUENT OF STRUCTURAL MATERIAL GAMMA-RAY HEATING CALCULATIONS				
22 TITANIUM			NEUTRON		ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION					
237	15.0	MEV	35.0	MEV		2	USA	DORAN	HED	781039F
						A: ACCURACY RANGE 10. TO 40. PERCENT. ACCURACY TO BE DETERMINED FROM SENSITIVITY STUDIES. O: FOR MATERIAL DAMAGE CALCULATIONS.				
22 TITANIUM			NEUTRON		TOTAL PROTON PRODUCTION CROSS SECTION					
238	9.00	MEV	15.0	MEV	20. %	2	USA	DORAN	HED	781027F
						O: FOR MATERIAL DAMAGE CALCULATIONS.				
239	15.0	MEV	30.0	MEV	20. %	2	USA	DORAN	HED	781223F
						O: FOR MATERIAL DAMAGE CALCULATIONS.				
22 TITANIUM			NEUTRON		N,ALPHA					
240	0.00	EV	15.0	MEV	15. %	3	JAP	M.KASAI	MAP	762082F
						O: POTENTIAL CONSTITUENT OF STRUCTURAL MATERIAL HELIUM ACCUMULATION CALCULATIONS				
22 TITANIUM			NEUTRON		TOTAL ALPHA PRODUCTION CROSS SECTION					
241	9.00	MEV	15.0	MEV	20. %	2	USA	DORAN	HED	781212F
						O: FOR MATERIAL DAMAGE CALCULATIONS AND DOSIMETRY.				
242	15.0	MEV	30.0	MEV	20. %	2	USA	DORAN	HED	781224F
						C: FOR MATERIAL DAMAGE CALCULATIONS AND DOSIMETRY.				
22 TITANIUM			NEUTRON		SPECIAL QUANTITY (DESCRIPTION BELOW)					
243		UP TO	35.0	MEV	5.0%	2	EUR	NEUTRON DOSIMETRY GROUP	GEL	812002F
						C: 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 C: FOR HIGH ENERGY ACCELERATOR BASED NEUTRON SOURCES				
244		UP TO	35.0	MEV	5.0%	2	EUR	NEUTRON DOSIMETRY GROUP	GEL	812003F
						O: 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. O: FOR HIGH ENERGY ACCELERATOR BASED NEUTRON SOURCES				
245	15.0	MEV	25.0	MEV	10. %	2	USA	MCELROY	HED	821075F
						O: -46SC PRODUCTION DESIRED. O: FMIT DOSIMETRY. M: NEW REQUEST.				
246	25.0	MEV	40.0	MEV	20. %	2	USA	MCELROY	HED	821088F
						O: -46SC PRODUCTION DESIRED. O: FMIT DOSIMETRY. M: NEW REQUEST.				
22 TITANIUM 45			NEUTRON		N,P					
247	15.0	MEV	40.0	MEV	10. %	2	USA	MCELROY	HED	821079F
						O: FMIT ACTIVATION. M: NEW REQUEST.				

22 TITANIUM 47			NEUTRON		N,P					
248	2.10	MEV	7.00	MEV	5.0%	2	EUR	NEUTRON DOSIMETRY GROUP	GEL	742127R
								Q: 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.		
23 VANADIUM			NEUTRON		ELASTIC CROSS SECTION					
249	2.00	MEV	15.0	MEV	10.0%	1	CCP	I.N.GOLOVIN	KUR	724023F
								Q: POTENTIAL USE AS STRUCTURAL MATERIAL. FOR DETERMINATION OF NEUTRON TRANSMISSION.		
250	25.3	MV	20.0	MEV	3.0%	2	IND	S.B.GARG	TRM	753040R
								Q: REQUIRED FOR STRUCTURAL-MATERIAL CALCULATIONS.		
23 VANADIUM			NEUTRON		INELASTIC CROSS SECTION					
251	3.00	MEV	14.0	MEV	10.0%	2	FR	B.DUCHEMIN	SAC	732013F
								A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS. C: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.		
252		UP TO	20.0	MEV	3.0%	2	IND	S.B.GARG	TRM	753041R
								Q: REQUIRED FOR STRUCTURAL-MATERIAL CALCULATIONS.		
23 VANADIUM			NEUTRON		ENERGY DIFFERENTIAL INELASTIC CROSS SECTION					
253	2.00	MEV	15.0	MEV	15.0%	1	CCP	I.N.GOLOVIN	KUR	724024F
								C: NEUTRONICS CALCULATIONS FOR BLANKET AND SHIELD.		
23 VANADIUM			NEUTRON		CAPTURE CROSS SECTION					
254	100.	EV	100.	KEV	10.0%	2	UK	C.G.CAMPBELL	WIN	692073R
								Q: FOR FAST REACTORS.		
255	1.00	KEV	2.00	MEV	15.0%	1	CCP	I.N.GOLOVIN	KUR	724027F
								Q: NEUTRON ABSORPTION, GAMMA RAY HEATING, AND PRODUCTION OF HIGHER ISOTOPES.		
256	14.0	MEV			15.0%	1	CCP	I.N.GOLOVIN	KUR	724028F
								Q: NEUTRON ABSORPTION, GAMMA RAY HEATING, AND PRODUCTION OF HIGHER ISOTOPES.		
257	25.3	MV	20.0	MEV	3.0%	2	IND	S.B.GARG	TRM	753042R
								Q: REQUIRED FOR STRUCTURAL-MATERIAL CALCULATIONS.		
258	100.	EV	500.	EV	20.0%	2	FR	M.SALVATORES	CAD	832005R
								Q: FAST REACTOR CALCULATIONS. M: NEW REQUEST.		
23 VANADIUM			NEUTRON		TOTAL PHOTON PRODUCTION CROSS SECTION					
259	300.	KEV	15.0	MEV	15.0%	1	CCP	I.N.GOLOVIN	KUR	724029F
								Q: GAMMA RAY SPECTRUM ALSO WANTED. C: GAMMA RAY HEATING CALCULATIONS.		
260	25.3	MV	15.0	MEV	10. %	2	JAP	M.KASAI	MAP	762065F
								C: POTENTIAL CONSTITUENT OF STRUCTURAL MATERIAL GAMMA-RAY HEATING CALCULATIONS		
23 VANADIUM			NEUTRON		N,2N					
261	2.00	MEV	15.0	MEV	15.0%	1	CCP	I.N.GOLOVIN	KUR	724025F
								Q: NEUTRON BLANKET CALCULATIONS.		
262	14.0	MEV			15.0%	1	CCP	I.N.GOLOVIN	KUR	724026F
								Q: ENERGY AND ANGULAR DEPENDENCE OF SECONDARY NEUTRONS REQUIRED. Q: NEUTRON BLANKET CALCULATIONS.		
263		UP TO	14.0	MEV	10.0%	2	FR	B.DUCHEMIN	SAC	732014F
								A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS. C: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.		
264		UP TO	15.0	MEV	10. %	2	JAP	M.KASAI	MAP	762085F
								C: POTENTIAL CONSTITUENT OF STRUCTURAL MATERIAL NEUTRON MULTIPLICATION CALCULATIONS		

23 VANADIUM			NEUTRON			N,P				
265	UP TO	15.0	MEV	15.0%	1	CCP	I.N.GOLOVIN		KUR	724030F
							O: FOR HYDROGEN ACCUMULATION CALCULATIONS.			
266	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.			
23 VANADIUM			NEUTRON			N,ALPHA				
267	UP TO	15.0	MEV	15.0%	1	CCP	I.N.GOLOVIN		KUR	724031F
							O: HELIUM ACCUMULATION CALCULATIONS.			
268	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.			
23 VANADIUM 51			NEUTRON			ENERGY DIFFERENTIAL INELASTIC CROSS SECTION				
269	1.50 MEV	10.0	MEV	15. %	3	USA	SMITH HEMMIG		ANL DOE	621011R
							O: TOTAL INTEGRAL OVER 4PI REQUIRED. SPECTRA AT SEVERAL ANGLES IF SIGNIFICANTLY ANISOTROPIC.			
23 VANADIUM 51			NEUTRON			ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION				
270	15.0 MEV	35.0	MEV		2	USA	DORAN		HED	781038F
							A: ACCURACY RANGE 10. TO 40. PERCENT. ACCURACY TO BE DETERMINED FROM SENSITIVITY STUDIES. O: FOR MATERIAL DAMAGE CALCULATIONS. M: SUBSTANTIAL MODIFICATIONS.			
271	9.00 MEV	15.0	MEV	10. %	2	USA	BERK		DOE	781086F
							O: DATA NEEDED FOR SHIELDING AND NEUTRON TRANSPORT CALCULATIONS. M: SUBSTANTIAL MODIFICATIONS.			
23 VANADIUM 51			NEUTRON			TOTAL PROTON PRODUCTION CROSS SECTION				
272	9.00 MEV	15.0	MEV	20. %	3	USA	DORAN		HED	781026F
							O: FOR MATERIAL DAMAGE CALCULATIONS. M: SUBSTANTIAL MODIFICATIONS.			
273	15.0 MEV	30.0	MEV	20. %	3	USA	DORAN		HED	781225F
							O: FOR MATERIAL DAMAGE CALCULATIONS.			
23 VANADIUM 51			NEUTRON			TOTAL ALPHA PRODUCTION CROSS SECTION				
274	9.00 MEV	15.0	MEV	20. %	2	USA	DORAN		HED	781211F
							O: FOR MATERIAL DAMAGE CALCULATIONS. M: SUBSTANTIAL MODIFICATIONS.			
275	15.0 MEV	30.0	MEV	20. %	2	USA	DORAN		HED	781226F
							O: FOR MATERIAL DAMAGE CALCULATIONS.			
23 VANADIUM 51			NEUTRON			SPECIAL QUANTITY (DESCRIPTION BELOW)				
276	9.00 MEV	15.0	MEV		2	USA	BERK		DOE	801085F
							O: ALL SIGNIFICANT ACTIVATION REACTION CROSS SECTIONS. A: ACCURACY RANGE 10. TO 20. PERCENT. O: DATA NEEDED FOR SHIELDING, ACTIVATION AND NEUTRON TRANSPORT CALCULATIONS.			
24 CHROMIUM			NEUTRON			TOTAL CROSS SECTION				
277	1.00 KEV	20.0	MEV	3. %	2	USA	HEMMIG		DOE	721035R
							A: 5 PERCENT ACCURACY MINIMA. ENERGY RESOLUTION - SUFFICIENT TO RESOLVE MAJOR STRUCTURE.			
278	1.00 KEV	500.	KEV	2.0 %	2	USA	YOUNG		LAS	821040F
							O: FOR RADIATION DAMAGE AND HEATING CALCULATIONS IN THE TOROIDAL FIELD COILS OF A FUSION DEVICE. NEW EVALUATION NEEDED TO CONFIRM 15 PERCENT UNCERTAINTY IN ENDF/B-V. IF CONFIRMED NEED NEW MEASUREMENT. M: NEW REQUEST.			

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

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

24 CHROMIUM NEUTRON ELASTIC CROSS SECTION

279	25.3	MV	20.0	MEV	3.0%	2	IND	S.B.GARG	TRM	753031R
							Q: REQUIRED FOR STRUCTURAL-MATERIAL CALCULATIONS.			

24 CHROMIUM NEUTRON DIFFERENTIAL ELASTIC CROSS SECTION

280	100.	KEV	15.0	MEV	10. %	3	USA	HEMMIG	DOE	741032R

24 CHROMIUM NEUTRON INELASTIC CROSS SECTION

281	3.00	MEV	14.0	MEV	10.0%	3	FR	B.DUCHEMIN	SAC	732017F
							A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS. Q: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.			
282		UP TO	20.0	MEV	3.0%	2	IND	S.B.GARG	TRM	753032R
							Q: REQUIRED FOR STRUCTURAL-MATERIAL CALCULATIONS.			
283		UP TO	15.0	MEV	30.0%	2	UK	R.HANCUX	CUL	762238F
							Q: EVALUATION REQUIREMENT. FOR NEUTRON ECONOMY CALCULATIONS.			

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

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

24 CHROMIUM NEUTRON ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

284	500.	KEV	15.0	MEV	10. %	2	USA	HEMMIG	DOE	661014R
							Q: TOTAL INTEGRAL OVER 4PI REQUIRED. SPECTRA AT SEVERAL ANGLES IF SIGNIFICANTLY ANISOTROPIC. A: ENERGY RESOLUTION REQUIRED TO DETERMINE MAJOR STRUCTURE.			
285		UP TO	15.0	MEV	20.0%	3	FR	M.SALVATORES	CAD	732040R
							Q: FOR FAST REACTOR CALCULATIONS. M: SUBSTANTIAL MODIFICATIONS.			

24 CHROMIUM NEUTRON CAPTURE CROSS SECTION

286	100.	EV	100.	KEV	20.0%	1	UK	C.G.CAMPBELL	WIN	692082R
							Q: FOR FAST REACTORS.			
287	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. C: CAPTURE WIDTHS NEEDED BECAUSE OF LARGE DISCREPANCIES BETWEEN DIRECTLY MEASURED INFINITE CAPTURE RESONANCE INTEGRAL AND THAT CALCULATED FROM DIFFERENTIAL CAPTURE MEASUREMENTS.			
288	100.	EV	500.	KEV	10.0%	1	FR	M.SALVATORES	CAD	692084R
							Q: NEED FOR RESONANCE PARAMETERS. Q: FAST REACTOR CALCULATIONS. M: SUBSTANTIAL MODIFICATIONS.			
289	1.00	KEV	200.	KEV	15. %	2	USA	HEMMIG	DOE	721036R
							Q: RESONANCE PARAMETERS NEEDED, ESPECIALLY GAMMA WIDTHS. A: INCIDENT ENERGY RESOLUTION: 20. PERCENT.			
290	25.3	MV	20.0	MEV	3.0%	2	IND	S.B.GARG	TRM	753033R
							Q: REQUIRED FOR STRUCTURAL-MATERIAL CALCULATIONS.			
291	25.3	MV	15.0	MEV	30.0%	2	UK	R.HANCUX	CUL	762247F
							C: EVALUATION REQUIREMENT. FOR NEUTRON ECONOMY CALCULATIONS.			

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

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

24 CHROMIUM			NEUTRON				TOTAL PHOTON PRODUCTION CROSS SECTION			
292	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.				
293	0.0C	EV	15.0	MEV	15. %	2	JAP	Y.SEKI	JAE	762094F
							Q: GAMMA RAY SPECTRA ALSO REQUIRED. O: GAMMA-RAY HEATING CALCULATIONS			
294		UP TO	10.0	MEV	10.0%	1	FR	M.SALVATORES	CAD	832013R
							Q: GAMMA SPECTRUM REQUIRED. O: FAST REACTOR CALCULATIONS. M: NEW REQUEST.			
24 CHROMIUM			NEUTRON			N,2N				
295		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.			
296		UP TO	15.0	MEV	20.0%	2	UK	R.HANCOX	CUL	752162F
							O: EVALUATION REQUIREMENT FOR FUSION REACTORS. FOR NEUTRON ECONOMY.			
24 CHROMIUM			NEUTRON				ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION			
297	9.00	MEV	15.0	MEV	20. %	2	USA	BERK	DOE	781049F
							O: FOR SHIELDING AND TRANSPORT STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.			
298	15.C	MEV	35.0	MEV		1	USA	DORAN	HED	781218F
							A: ACCURACY RANGE 10. TO 40. PERCENT. ACCURACY TO BE DETERMINED FROM SENSITIVITY STUDIES O: FOR MATERIAL DAMAGE CALCULATIONS.			
299		UP TO	15.0	MEV	15.0%	2	JAP	Y.SEKI	JAE	832024F
							O: FOR NEUTRON TRANSPORT CALCULATIONS. M: NEW REQUEST.			
24 CHROMIUM			NEUTRON			N,P				
300					30.0%	3	UK	C.G.CAMPBELL	WIN	692066R
							Q: FISSION SPECTRUM AVERAGE WANTED. O: FOR FAST REACTORS.			
301		UP TO	15.0	MEV	10.0%	1	FR	M.SALVATORES	CAD	712016R
							O: FOR FAST REACTOR CALCULATIONS. M: SUBSTANTIAL MODIFICATIONS.			
302		UP TO	14.0	MEV	10.0%	2	FR	B.DUCHEMIN	SAC	732019F
							A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS. O: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.			
303		UP TO	15.C	MEV	25.0%	2	UK	R.HANCOX	CUL	762241F
							O: EVALUATION REQUIREMENT. FOR HYDROGEN GAS PRODUCTION RATES AND NEUTRON ECONOMY CALCULATIONS.			
304		UP TO	15.0	MEV	10.0%	1	GER	H.KUESTERS	KFK	752159R
24 CHROMIUM			NEUTRON				TOTAL PROTON PRODUCTION CROSS SECTION			
305	9.00	MEV	15.0	MEV	10. %	2	USA	BERK	DOE	781058F
							O: FOR RADIATION DAMAGE STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.			
306	15.C	MEV	35.0	MEV	10. %	2	USA	DORAN	HED	781215F
							O: FOR MATERIAL DAMAGE CALCULATIONS.			
24 CHROMIUM			NEUTRON			N,ALPHA				
307		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.			
308	3.00	MEV	15.0	MEV	10.0%	1	FR	M.SALVATORES	CAD	732041R
							O: FOR FAST REACTOR CALCULATIONS. M: SUBSTANTIAL MODIFICATIONS.			

309 UP TO 15.0 MEV 25.0% 2 UK R.HANCOX CUL 762243F
Q: EVALUATION REQUIREMENT.
FOR HELIUM GAS PRODUCTION RATES AND NEUTRON ECONOMY CALCULATIONS.

310 UP TO 15.0 MEV 20.0% 2 BLG H.TOURWE MOL 7921C8R
Q: TOTAL HELIUM PRODUCTION REQUIRED.
O: FOR USE AS A FLUENCE MONITOR.

311 UP TO 15.0 MEV 30.0% 1 GER H.KUESTERS KFK 7922CCR

312 UP TO 14.0 MEV 20. % 2 USA PRINCE BNL 801125R
O: HELIUM PRODUCTION EVALUATION.

24 CHROMIUM NEUTRON TOTAL ALPHA PRODUCTION CROSS SECTION

313 9.00 MEV 15.0 MEV 20. % 2 USA BERK DOE 781067F
Q: FOR RADIATION DAMAGE STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.

314 15.0 MEV 35.0 MEV 20. % 1 USA DLRAN HED 781216F
O: FOR MATERIAL DAMAGE CALCULATIONS.

24 CHROMIUM NEUTRON SPECIAL QUANTITY (DESCRIPTION BELOW)

315 9.00 MEV 15.0 MEV 20. % 1 USA BERK DOE 801046F
Q: ALL SIGNIFICANT ACTIVATION REACTION CROSS SECTIONS.
O: DATA NEEDED FOR SHIELDING, ACTIVATION AND NEUTRON TRANSPORT CALCULATIONS.

316 15.0 MEV 35.0 MEV 20. % 2 USA CARTER HED 821073F
Q: -52V PRODUCTION DESIRED.
O: FMIT ACTIVATION.
M: NEW REQUEST.

317 15.0 MEV 35.0 MEV 20. % 2 USA CARTER HED 821074F
Q: -51CR PRODUCTION DESIRED.
O: FMIT ACTIVATION.
M: NEW REQUEST.

24 CHROMIUM 50 NEUTRON CAPTURE CROSS SECTION

318 100. EV 1.00 MEV 25.0% 1 UK C.G.CAMPBELL WIN 792126R
O: FOR FAST REACTOR CIRCUIT ACTIVITY.
EVALUATION REQUIREMENT.

319 100. EV 15.0 MEV 25.0% 1 GER H.KUESTERS KFK 792153R
Q: EVALUATION WANTED.
O: ACTIVATION OF COOLANT AND STRUCTURE AND HEAT GENERATION IN STRUCTURAL MATERIALS.

320 25.3 MV 3.00 MEV 20.0% 1 FR F.JOSSO CAD 792252R
A: QUOTED UNCERTAINTY AT TWO STANDARD DEVIATIONS.
O: FOR FAST REACTOR FUEL CYCLE CALCULATION.

321 25.3 MV 300. KEV 10. % 2 USA PRINCE BNL 801124R
O: ACTIVATION FILE.

24 CHROMIUM 50 NEUTRON N,2N

322 14.0 MEV 20.0 MEV 20. % 2 USA PRINCE BNL 801123R
O: ACTIVATION FILE.

24 CHROMIUM 52 NEUTRON N,2N

323 14.0 MEV 20.0 MEV 20. % 2 USA PRINCE BNL 801122R
O: ACTIVATION FILE.

324 15.0 MEV 35.0 MEV 20. % 2 USA CARTER HED 821080F
C: FMIT ACTIVATION.
M: NEW REQUEST.

24 CHROMIUM 52 NEUTRON N,P

325 UP TO 15.0 MEV 1 GER B.GOEL KFK 692088R
A: ACCURACY 10-20 PERCENT DESIRED.
O: MAIN ABSORPTION PROCESS IN MEV RANGE.

326 7.00 MEV 18.0 MEV 25. % 2 USA PRINCE BNL 801126R
O: HYDROGEN PRODUCTION EVALUATION.

327	15.0	MEV	35.0	MEV	20. %	2	USA	CARTER	HED	821084F

Q: FMIT ACTIVATION.
M: NEW REQUEST.

24 CHROMIUM 53 NEUTRON N,3N

328	15.0	MEV	35.0	MEV	20. %	2	USA	CARTER	HED	821081F

Q: FMIT ACTIVATION.
M: NEW REQUEST.

24 CHROMIUM 54 NEUTRON N,4N

329	15.0	MEV	35.0	MEV	20. %	2	USA	CARTER	HED	821083F

Q: FMIT ACTIVATION.
M: NEW REQUEST.

25 MANGANESE NEUTRON SPECIAL QUANTITY (DESCRIPTION BELOW)

330	2.50	EV	15.0	MEV	20. %	2	USA	ENGHOLM	GA	801101F

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

25 MANGANESE 55 NEUTRON TOTAL CROSS SECTION

331					4. %	2	USA	FU	ORL	741195R

Q: NEED VALUES IN FE WINDOWS.

25 MANGANESE 55 NEUTRON CAPTURE CROSS SECTION

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

D: FOR FAST REACTORS.

333	100.	EV	500.	EV	10.0%	2	FR	M.SALVATORES	CAD	832007R

D: FAST REACTOR CALCULATIONS.
M: NEW REQUEST.

25 MANGANESE 55 NEUTRON N,2N

334	UP TO		16.0	MEV	5.0%	2	EUR	NEUTRON DOSIMETRY GROUP	GEL	742125R

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

335	20.0	MEV	30.0	MEV		2	USA	MCELROY	HED	801022F

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

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

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

26 IRON GAMMA GAMMA,N

336	UP TO		20.0	MEV	30. %	2	USA	DRIEMEYER	MDD	821043F

A: INCIDENT ENERGY RESOLUTION: 5. PERCENT.
D: DETERMINATION OF PHOTONEUTRON ACTIVATION IN EBT-P. IN THE UPGRADE PHASE OF EBT-P OPERATION.
M: NEW REQUEST.

26 IRON NEUTRON TOTAL CROSS SECTION

337	10.0	KEV	1.00	MEV	5.0%	2	CCP	M.N.NIKOLAEV	FEI	714003R

Q: CAREFUL MEASUREMENTS OF INTERFERENCE MINIMA NEEDED.
OBSERVATION OF P-WAVE RESONANCES IS WANTED.
A: TRANSMISSION MEASUREMENTS WITH POOR RESOLUTION BUT STRONG ATTENUATION OF THE PRIMARY BEAM ARE WANTED FOR MINIMA CS MEASUREMENTS.
HIGH RESOLUTION MEASUREMENTS ARE DESIRED FOR P-WAVE RESONANCE OBSERVATION AND RESONANCE PARAMETER DERIVATION.
D: 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

338	25.3	MV	20.0	MEV	3.0%	2	IND	S.B.GARG	TRM	753034R

D: REQUIRED FOR STRUCTURAL-MATERIAL CALCULATIONS.

26 IRON — NEUTRON — DIFFERENTIAL ELASTIC CROSS SECTION

339	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.			
340	1.00 KEV	15.0 MEV	10. %	1	USA	SMITH	ANL		691066R
						A: ENERGY RESOLUTION - TO AT LEAST RESOLVE INTERMEDIATE STRUCTURE.			
341	1.00 KEV	15.0 MEV	10. %	1	USA	HEMMIG	DOE		691067R
342	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.			
343	500. EV	5.00 MEV	5.0%	1	FR	M.SALVATORES	CAD		832009R
						O: FAST REACTOR CALCULATIONS. M: NEW REQUEST.			

26 IRON — NEUTRON — INELASTIC CROSS SECTION

344	UP TO	15.0 MEV	20.0%	2	UK	R.HANCOX	CUL		722102F
						O: EVALUATION REQUIREMENT. FOR BLANKET HEATING CALCULATIONS.			
345	3.00 MEV	14.0 MEV	10.0%	2	FR	B.DUCHEMIN	SAC		732021F
						A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS. O: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.			
346	UP TO	20.0 MEV	3.0%	2	IND	S.B.GARG	TRM		753035R
						O: REQUIRED FOR STRUCTURAL-MATERIAL CALCULATIONS.			
347	UP TO	15.0 MEV	15. %	2	JAP	Y.SEKI M.KAWAI	JAE NIG		762099F
						Q: INELASTIC GAMMA RAY SPECTRA ALSO REQUIRED. O: NEUTRON TRANSPORT AND GAMMA-RAY HEATING CALC.			

26 IRON — NEUTRON — ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

348	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			
349	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			
350	UP TO	14.0 MEV	5.0%	1	FR	M.SALVATORES	CAD		702067R
						Q: FINE STRUCTURE BELOW 2 MEV WANTED. O: FOR FAST REACTOR CALCULATIONS. M: SUBSTANTIAL MODIFICATIONS.			
351	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. C: SEE GENERAL COMMENTS IN THE INTRODUCTION.			
352	2.00 MEV	15.0 MEV	10. %	2	USA	BARTINE	ORL		761075R
						O: TO RESOLVE SPECTRA MEASUREMENTS FROM STAINLESS STEEL.			

26 IRON — NEUTRON — ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION

353	UP TO	10.0 MEV		1	UK	C.G.CAMPBELL J.BUTLER	WIN WIN		692095R
						A: ACCURACY REQUIRED IS 5 PERCENT TO 4 MEV AND 5 TO 10 PERCENT ABOVE O: EVALUATION REQUIREMENT. FOR FAST REACTORS AND SHIELDING.			
354	UP TO	4.00 MEV	5.0%	1	GER	H.KUESTERS	KFK		792205R

355	4.00	MEV	15.0	MEV		1	GER	H.KUESTERS	KFK	792206R
							A: ACCURACY OF 5-30 PERCENT REQUIRED.			

26 IRON NEUTRON CAPTURE CROSS SECTION

356	100.	EV	1.00	MEV		1	UK	C.G.CAMPBELL	WIN	692101R
							A: ACCURACY REQUIRED 10 PERCENT TO 100 KEV, 20. PERCENT ABOVE. O: FOR FAST REACTORS.			
357	100.	EV	500.	KEV	5.0%	1	FR	M.SALVATORES	CAD	692104R
							Q: RESONANCE PARAMETERS WANTED. O: FOR FAST REACTOR CALCULATIONS. M: SUBSTANTIAL MODIFICATIONS.			
358	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.			
359	25.3	MV	20.0	MEV	3.0%	2	IND	S.B.GARG	TRM	753036R
							O: REQUIRED FOR STRUCTURAL-MATERIAL CALCULATIONS.			
360	25.3	MV	15.0	MEV	15.0%	2	UK	R.HANCOX	CUL	762248F
							O: EVALUATION REQUIREMENT. FOR HEATING AND NEUTRON ECONOMY CALCULATIONS.			
361	100.	EV	100.	KEV		1	GER	H.KUESTERS	KFK	792201R
							A: ACCURACY OF 5-10 PERCENT REQUIRED.			
362	100.	KEV	1.00	MEV		1	GER	H.KUESTERS	KFK	792202R
							A: ACCURACY OF 10-20 PERCENT REQUIRED.			

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

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

26 IRON NEUTRON CAPTURE GAMMA RAY SPECTRUM

363	24.0	KEV			10. %	2	USA	FU	ORL	741179R
							O: NO MEASUREMENTS AVAILABLE IN 24 KEV IRON WINDOW.			
364	1.00	KEV	1.00	MEV	5. %	2	USA	FU	ORL	741184R
365	1.00	KEV	5.00	KEV	5. %	2	USA	DONCALS	WEW	761039R

26 IRON NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

366	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.			
367	25.3	MV	15.0	MEV	10. %	2	JAP	M.KASAI	MAP	762104F
							O: GAMMA-RAY HEATING CALCULATIONS			
368		UP TO	10.0	MEV	10.0%	1	FR	M.SALVATORES	CAD	832011R
							Q: GAMMA SPECTRUM REQUIRED. O: FAST REACTOR CALCULATIONS. M: NEW REQUEST.			

26 IRON NEUTRON ENERGY DIFF. PHOTON-PRODUCTION CROSS SECTION

369	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

370		UP TO	15.0	MEV	10.0%	2	UK	R.HANCOX	CUL	722106F
							O: EVALUATION REQUIREMENT. FOR NEUTRON ECONOMY CALCULATIONS.			
371		UP TO	14.0	MEV	10.0%	2	FR	B.DUCHEMIN	SAC	732022F
							A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS. O: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.			

26 IRON			NEUTRON				ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION			
372	9.00	MEV	15.0	MEV	10. %	1	USA	BERK	DOE	781048F
							Q: FOR SHIELDING AND TRANSPORT STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.			
373		UP TO	15.0	MEV	10.0%	2	JAP	Y.SEKI	JAE	832025F
							Q: FOR NEUTRON TRANSPORT CALCULATIONS. M: NEW REQUEST.			
374		UP TO	15.0	MEV	10.0%	2	JAP	A.TAKAHASHI	OSA	832042F
							Q: ENERGY-ANGLE DIFFERENTIAL CROSS SECTIONS FOR INELASTIC SCATTERING AND (N,2N) REACTIONS ARE ESPECIALLY WANTED. Q: NEUTRON TRANSPORT CALCULATIONS. M: NEW REQUEST.			
26 IRON			NEUTRON				N,P			
375		UP TO	15.0	MEV	10.0%	1	FR	M.SALVATORES	CAD	712026R
							Q: FOR FAST REACTOR CALCULATIONS. M: SUBSTANTIAL MODIFICATIONS.			
376		UP TO	15.0	MEV	20.0%	2	UK	R.HANCOX	CUL	722107F
							Q: EVALUATION REQUIREMENT. FOR HYDROGEN GAS PRODUCTION RATES AND NEUTRON ECONOMY CALCULATIONS.			
377		UP TO	14.0	MEV	10.0%	2	FR	B.DUCHEMIN	SAC	732023F
							A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS. Q: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.			
378	20.0	MEV	40.0	MEV		1	USA	MCELROY	HED	781018F
							Q: -54MN PRODUCTION DESIRED. A: ACCURACY RANGE 10. TO 20. PERCENT. Q: DOSIMETRY FOR FMIT FACILITY. M: SUBSTANTIAL MODIFICATIONS.			
379		UP TO	15.0	MEV	10.0%	1	GER	H.KUESTERS	KFK	792203R
26 IRON			NEUTRON				TOTAL PROTON PRODUCTION CROSS SECTION			
380	9.00	MEV	15.0	MEV	20. %	2	USA	DORAN	HED	781024F
							Q: FOR MATERIAL DAMAGE CALCULATIONS. FOR RADIATION DAMAGE STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.			
381	15.0	MEV	40.0	MEV	20. %	2	USA	DORAN	HED	781227F
							Q: FOR MATERIAL DAMAGE CALCULATIONS. FOR RADIATION DAMAGE STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.			
26 IRON			NEUTRON				N,ALPHA			
382		UP TO	15.0	MEV	20.0%	2	UK	R.HANCOX	CUL	722108F
							Q: EVALUATION REQUIREMENT. FOR HELIUM GAS PRODUCTION RATES AND NEUTRON ECONOMY CALCULATIONS.			
383		UP TO	15.0	MEV	10.0%	2	FR	B.DUCHEMIN	SAC	732024F
							A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS. Q: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.			
384		UP TO	15.0	MEV	10.0%	1	FR	M.SALVATORES	CAD	732042R
							Q: FOR FAST REACTOR CALCULATIONS. M: SUBSTANTIAL MODIFICATIONS.			
385	20.0	MEV	30.0	MEV		1	USA	MCELROY	HED	781019F
							Q: -51CR PRODUCTION DESIRED. A: ACCURACY RANGE 10. TO 20. PERCENT. Q: DOSIMETRY FOR FMIT FACILITY. M: SUBSTANTIAL MODIFICATIONS.			
386		UP TO	15.0	MEV	10.0%	2	BLG	H.TOURWE	MOL	792109R
							Q: TOTAL HELIUM PRODUCTION REQUIRED. C: FOR USE AS A FLUENCE MONITOR.			
387		UP TO	15.0	MEV	30.0%	1	GER	H.KUESTERS	KFK	792204R
26 IRON			NEUTRON				TOTAL ALPHA PRODUCTION CROSS SECTION			
388	9.00	MEV	15.0	MEV	10. %	1	USA	DORAN	HED	801066F
							Q: TOTAL HELIUM PRODUCTION CROSS SECTION FOR DOSIMETRY AND RADIATION DAMAGE STUDIES.			

389 15.0 MEV 40.0 MEV 20. % 1 USA DORAN HED 801310F

Q: TOTAL HELIUM PRODUCTION CROSS SECTION FOR DOSIMETRY AND RADIATION DAMAGE STUDIES.

26 IRON NEUTRON SPECIAL QUANTITY (DESCRIPTION BELOW)

390 15.0 MEV 30.0 MEV 20. % 2 USA CARTER HED 821076F

Q: -56MN PRODUCTION DESIRED.
Q: FMIT ACTIVATION.
M: NEW REQUEST.

26 IRON 54 NEUTRON CAPTURE CROSS SECTION

391 25.3 MV 3.00 MEV 20.0% 1 FR F.JOSSO CAD 792007R

A: QUOTED UNCERTAINTY AT TWO STANDARD DEVIATIONS.
C: FOR FAST REACTOR FUEL CYCLE CALCULATION.
M: SUBSTANTIAL MODIFICATIONS.

26 IRON 54 NEUTRON N,P

392 25.3 MV 3.00 MEV 10.0% 1 FR F.JOSSO CAD 792008R

A: QUOTED UNCERTAINTY AT 2 STANDARD DEVIATIONS.
C: FAST REACTOR FUEL CYCLE CALCULATION.
M: SUBSTANTIAL MODIFICATIONS.

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

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

26 IRON 54 NEUTRON N,ALPHA

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

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

26 IRON 56 NEUTRON CAPTURE CROSS SECTION

394 10.0 KEV 1.00 MEV 1 USA HEMMIG DOE 821033R

A: ENERGY AVERAGED ACCURACY TO 10-15 PERCENT.
Q: THIS REQUEST WAS REVIEWED BY CSEWG AND RECOMMENDED AS DESERVING SPECIAL EMPHASIS.
M: NEW REQUEST.

26 IRON 56 NEUTRON SPECIAL QUANTITY (DESCRIPTION BELOW)

395 1.00 KEV 14.0 MEV 30. % 2 USA BOWMAN NBS 821053R

Q: ELECTRON EXCITATION OR REMOVAL INDUCED BY SUDDEN ACCELERATION OF NUCLEUS IN NEUTRON-NUCLEUS SCATTER (N,N'E).
A: INCIDENT ENERGY RESOLUTION: 30. PERCENT.
C: NEUTRON SPECTRUM CALCULATIONS.
M: NEW REQUEST.

26 IRON 56 NEUTRON RESONANCE PARAMETERS

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

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

26 IRON 57 NEUTRON INELASTIC CROSS SECTION

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

C: FOR REACTOR SHIELDING CALCULATIONS

398 UP TO 10.0 MEV 20. % 1 USA HEMMIG DOE 821034R

Q: TOTAL INELASTIC SCATTERING CROSS SECTION NEEDED.
Q: THIS REQUEST WAS REVIEWED BY CSEWG AND RECOMMENDED AS DESERVING SPECIAL EMPHASIS.
M: NEW REQUEST.

26 IRON 58 NEUTRON CAPTURE CROSS SECTION

399 25.3 MV 3.00 MEV 10.0% 1 FR F.JOSSO CAD 832003R

Q: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
Q: FAST REACUR FUEL CYCLE CALCULATION.
M: NEW REQUEST.

27 COBALT 58 NEUTRON CAPTURE CROSS SECTION

400					10. %	2	USA	DEI	BET	721045R

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

401					10. %	2	USA	DEI	BET	721046R

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

402	25.0	MV	15.0	MEV	15.0%	1	GER	H.KUESTERS	KFK	792196R

Q: EVALUATION WANTED.
C: REDUCTION OF CO58.

403	25.3	MV	100.	EV	20.0%	2	BLG	H.TOURWE	MOL	812049N

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

27 COBALT 59 NEUTRON CAPTURE CROSS SECTION

404	1.00	KEV	18.0	MEV	10. %	2	USA	MCELROY	HED	691106R

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

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

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

27 COBALT 59 NEUTRON N,3N

405	UP TO		40.0	MEV		1	USA	MCELROY	HED	781015F

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

406	24.0	MEV	40.0	MEV	5.0%	2	EUR	NEUTRON DOSIMETRY GROUP	GEL	812010R

C: MEASURED UP TO 24MEV. EXTENSION TO 40MEV REQUIRED FOR HIGH ENERGY ACCELERATOR BASED NEUTRON SOURCES

27 COBALT 59 NEUTRON N,4N

407	UP TO		50.0	MEV		1	USA	MCELROY	HED	781016F

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

27 COBALT 59 NEUTRON N,P

408	20.0	MEV	28.0	MEV		1	USA	MCELROY	HED	781017F

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

409	UP TO		25.0	MEV	5.0%	2	EUR	NEUTRON DOSIMETRY GROUP	GEL	812009R

C: FOR HIGH ENERGY ACCELERATOR BASED NEUTRON SOURCES

410	4.00	MEV	15.0	MEV	20. %	2	USA	HALE	LAS	821062F

Q: DATA INCONSISTENCY BETWEEN 4 AND 10 MEV AND AT 14 MEV.
C: FUSION DOSIMETRY.
M: NEW REQUEST.

27 COBALT 59 NEUTRON N,ALPHA

411	20.0	MEV	30.0	MEV	20. %	2	USA	CARTER	HED	821077F

C: FMIT ACTIVATION.
M: NEW REQUEST.

27 COBALT 59 NEUTRON TOTAL ALPHA PRODUCTION CROSS SECTION

412	15.0	MEV	25.0	MEV	10. %	2	USA	MCELROY	HED	801004F

A: ONLY SELECTED ENERGIES NEEDED.
C: NEEDED FOR FMIT DOSIMETRY.

413	25.0	MEV	40.0	MEV	20. %	2	USA	MCELROY	HED	801311F

A: ONLY SELECTED ENERGIES NEEDED.
C: NEEDED FOR FMIT DOSIMETRY.

28 NICKEL — NEUTRON — ELASTIC CROSS SECTION

414 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

415 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 (CCS).

416 8.00 MEV 15.0 MEV 20.0% 2 GER B.GOEL KFK 692122F
O: FOR SHIELDING CALCULATIONS.

417 100. KEV 15.0 MEV 2 USA SMITH ANL 721046R
HEMMIG DOE
A: ACCURACY RANGE 5. TO 10. PERCENT. ENERGY RESOLUTION - RESOLUTION OF INTERMEDIATE STRUCTURE PROBABLY ADEQUATE.

418 500. EV 5.00 MEV 10.0% 1 FR M.SALVATORES CAD 832010R
O: FAST REACTOR CALCULATIONS.
M: NEW REQUEST.

28 NICKEL — NEUTRON — INELASTIC CROSS SECTION

419 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.

420 UP TO 20.0 MEV 3.0% 2 IND S.B.GARG TRM 753038R
O: REQUIRED FOR STRUCTURAL-MATERIAL CALCULATIONS.

421 UP TO 20.0 MEV 5. % 1 JAP Y.SEKI JAE 762105F
M.KASAI MAP
O: INELASTIC GAMMA RAY SPECTRA ALSO REQUIRED
O: NEUTRON TRANSPORT AND GAMMA-RAY HEATING CALC.

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

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

28 NICKEL — NEUTRON — ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

422 UP TO 15.0 MEV 10.0% 1 FR M.SALVATORES CAD 702008R
O: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

423 UP TO 15.0 MEV 10. % 2 USA HEMMIG DOE 821089R
O: TOTAL INTEGRAL OVER 4PI REQUIRED. SPECTRA AT SEVERAL ANGLES IF SIGNIFICANTLY ANISOTROPIC.
A: INCIDENT ENERGY RESOLUTION: 10. PERCENT. DELTA E(N') = 10 PERCENT. ENERGY RESOLUTION REQUIRED TO DETERMINE MAJOR STRUCTURE.
O: FOR INCONEL SHIELD DESIGN.
M: NEW REQUEST.

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

424 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.
C: EVALUATION REQUIREMENT. FOR FAST REACTORS.

425 UP TO 4.00 MEV 5.0% 1 GER H.KUESTERS KFK 792211R

426 4.00 MEV 15.0 MEV 1 GER H.KUESTERS KFK 792251R
A: ACCURACY OF 5-30 PERCENT REQUIRED.

28 NICKEL — NEUTRON — CAPTURE CROSS SECTION

427 100. EV 1.00 MEV 1 UK C.G.CAMPBELL WIN 692126R
A: ACCURACY REQUIRED 10 PERCENT TO 100 KEV. 20.0 PERCENT OR 2 MB ABOVE.
O: FOR FAST REACTORS.

428 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.

429	100.	EV	500.	KEV	5.0%	1	FR	M.SALVATORES	CAD	702009R
								Q: RESONANCE PARAMETERS WANTED. O: FOR FAST REACTOR CALCULATIONS. M: SUBSTANTIAL MODIFICATIONS.		
430	1.00	KEV	1.00	MEV	10. %	2	USA	DIVADEENAM HEMMIG SMITH DONCALS	BNL DOE ANL WEW	741053R
431	25.3	MV	20.0	MEV	3.0%	2	IND	S.B.GARG	TRM	753039R
								O: REQUIRED FOR STRUCTURAL-MATERIAL CALCULATIONS.		
432	25.3	MV	15.0	MEV	30.0%	2	UK	R.HANCOX	CUL	762249F
								O: EVALUATION REQUIREMENT. FOR NEUTRON ECONOMY CALCULATIONS.		
433	100.	EV	100.	KEV	10.0%	1	GER	H.KUESTERS	KFK	792207R
434	100.	KEV	1.00	MEV	20.0%	1	GER	H.KUESTERS	KFK	792208R

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

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

28 NICKEL NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

435	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.		
436	25.3	MV	15.0	MEV	10. %	2	JAP	M.KASAI	MAP	762111F
								O: GAMMA-RAY HEATING CALCULATIONS		
437		UP TO	10.0	MEV	10.0%	1	FR	M.SALVATORES	CAD	832012R
								Q: GAMMA SPECTRUM REQUIRED. O: FAST REACTOR CALCULATIONS. M: NEW REQUEST.		

28 NICKEL NEUTRON ENERGY DIFF. PHOTON-PRODUCTION CROSS SECTION

438	25.3	MV	600.	KEV	20. %	2	USA	HEMMIG	DOE	721052R
								Q: ALL GAMMA'S ARE OF INTEREST. O: FOR SHIELDING AND GAMMA HEATING CALCULATIONS.		

28 NICKEL NEUTRON N,2N

439		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.		
440		UP TO	15.0	MEV	30.0%	2	UK	R.HANCOX	CUL	762240F
								O: EVALUATION REQUIREMENT. FOR NEUTRON ECONOMY CALCULATIONS.		

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

441	15.0	MEV	35.0	MEV		1	USA	DORAN	HED	781037F
								A: ACCURACY RANGE 10. TO 40. PERCENT. ACCURACY TO BE DETERMINED FROM SENSITIVITY STUDIES. O: FOR MATERIAL DAMAGE CALCULATIONS.		
442	9.00	MEV	15.0	MEV	10. %	1	USA	BERK	DOE	781044F
								O: FOR SHIELDING AND TRANSPORT STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.		

28 NICKEL NEUTRON N,P

443		UP TO	15.0	MEV	10.0%	1	FR	M.SALVATORES	CAD	702010R
								O: FOR FAST REACTOR CALCULATIONS. M: SUBSTANTIAL MODIFICATIONS.		
444		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.		
445		UP TO	15.0	MEV	20.0%	2	UK	R.HANCOX	CUL	762242F
								O: EVALUATION REQUIREMENT. FOR HYDROGEN GAS PRODUCTION RATES AND NEUTRON ECONOMY CALCULATIONS.		

446	UP TO	15.0	MEV	10.0%	1	GER	H.KUESTERS	KFK	792209R

28 NICKEL NEUTRON TOTAL PROTON PRODUCTION CROSS SECTION

447	9.00 MEV	15.0	MEV	10. %	2	USA	DORAN	HED	781025F

O: FOR MATERIAL DAMAGE CALCULATIONS AND NEXT GENERATION D-T REACTOR DESIGNS.

448	15.0 MEV	40.0	MEV	20. %	2	USA	DORAN	HED	781228F

O: FOR MATERIAL DAMAGE CALCULATIONS AND NEXT GENERATION D-T REACTOR DESIGNS.

28 NICKEL NEUTRON N,ALPHA

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

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

450	UP TO	15.0	MEV	10.0%	1	FR	M.SALVATORES	CAD	732044R

O: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

451	UP TO	15.0	MEV	30.0%	3	UK	R.HANCOX	CUL	762244F

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

452	UP TO	15.0	MEV	10.0%	2	BLG	H.TOURWE	MOL	792110F

O: TOTAL HELIUM PRODUCTION REQUIRED.
O: FOR USE AS A FLUENCE MONITOR.
IN FISSION AND IN FUSION REACTORS. DOSIMETRY.

453	UP TO	15.0	MEV	30.0%	1	GER	H.KUESTERS	KFK	792210R
454	25.3 MV	20.0	MEV	10. %	2	USA	DIVADEENAM	BNL	801147R

O: FOR EVALUATION AND MODEL TESTING PURPOSES.

28 NICKEL NEUTRON TOTAL ALPHA PRODUCTION CROSS SECTION

455	9.00 MEV	15.0	MEV	20. %	1	USA	BERK	DOE	781062F

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

456	UP TO	40.0	MEV	10. %	1	USA	DURAN	HED	801064F

O: FMIT RADIATION DAMAGE STUDIES.

28 NICKEL NEUTRON SPECIAL QUANTITY (DESCRIPTION BELOW)

457	2.50 EV	15.0	MEV	20. %	1	USA	ENGHOLM	GA	801019F

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

28 NICKEL 58 NEUTRON TOTAL CROSS SECTION

458	1.00 MEV	15.0	MEV	10.0%	2	FR	E.FORT	CAD	792012R

O: EVALUATION PROBLEMS

28 NICKEL 58 NEUTRON ELASTIC CROSS SECTION

459	1.00 MEV	15.0	MEV	10.0%	2	FR	E.FORT	CAD	792013R

O: EVALUATION PROBLEMS

28 NICKEL 58 NEUTRON CAPTURE CROSS SECTION

460	25.3 MV	3.00	MEV	20.0%	1	FR	F.JOSSO	CAD	792010R

A: QUOTED UNCERTAINTY AT 2 STANDARD DEVIATIONS.
O: FOR FAST REACTOR FUEL CYCLE CALCULATION.
M: SUBSTANTIAL MODIFICATIONS.

461	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.

28 NICKEL 58 NEUTRON N,2N

462	20.0 MEV	30.0	MEV		1	USA	CARTER	HED	781020F

A: ACCURACY RANGE 10. TO 20. PERCENT.
O: FMIT ACTIVATION.

463	UP TO	15.0	MEV	10.0%	2	UK	J.BUTLER	WIN		792121R
							Q: ACTIVATION DETECTOR.			
464	20.0 MEV	30.0	MEV	5.0%	2	EUR	NEUTRON DOSIMETRY GROUP		GEL	812012R
							Q: FOR HIGH ENERGY ACCELERATOR BASED NEUTRON SOURCES M: SUBSTANTIAL MODIFICATIONS.			

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

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

28 NICKEL 58 NEUTRON N,3N

465	20.0 MEV	40.0	MEV		1	USA	CARTER	HED		781021F
							A: ACCURACY RANGE 10. TO 20. PERCENT. Q: FMIT ACTIVATION.			

28 NICKEL 58 NEUTRON N,P

466	UP TO	15.0	MEV	5. %	3	USA	DEI	BET		721055R
							Q: FOR USE AS FLUENCE MONITOR.			
467				2.0%	1	EUR	NEUTRON DOSIMETRY GROUP		GEL	742115R
							Q: AVERAGE CROSS SECTION IN A U-235 FISSION SPECTRUM DESIRED. C: FOR NORMALIZATION OF AVERAGE CROSS SECTIONS FOR DOSIMETRY PURPOSES.			
468	25.3 MV	3.00	MEV	10.0%	1	FR	F.JOSSO	CAD		792011R
							A: QUOTED UNCERTAINTY AT 2 STANDARD DEVIATIONS. Q: FOR FAST REACTOR FUEL CYCLE CALCULATION. M: SUBSTANTIAL MODIFICATIONS.			
469	UP TO	25.0	MEV	5.0%	2	EUR	NEUTRON DOSIMETRY GROUP		GEL	812011R
							C: FOR HIGH ENERGY ACCELERATOR BASED NEUTRON SOURCES			
470	2.00 MEV	10.0	MEV	5. %	2	USA	MCGARRY	NBS		821054R
							A: INCIDENT ENERGY RESOLUTION: 5.0 PERCENT. Q: REQUIRED FOR REACTOR PRESSURE VESSEL DOSIMETRY. M: NEW REQUEST.			

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

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

28 NICKEL 58 NEUTRON N,T

471	15.0 MEV	40.0	MEV	20. %	2	USA	MCELROY	HED		801003F
							Q: ALL REACTIONS LEADING TO CO-56 ARE NEEDED. Q: NEEDED FOR FMIT ACTIVATION AND DOSIMETRY.			

28 NICKEL 58 NEUTRON RESONANCE PARAMETERS

472	UP TO	100.	KEV	10. %	2	USA	HEMMIG SMITH	ORE ANL		741056R
							Q: ENERGY REQUESTED IS A MAXIMUM VALUE ONLY. NEUTRON WIDTH, GAMMA-WIDTH, SPIN AND PARITY WANTED.			
473	100. KEV	700.	KEV	10. %	2	USA	DIVADEENAM	BNL		801135R
							Q: FOR EVALUATION NEEDS. PRECISE CAPTURE CROSS SECTION NECESSARY FOR ESTIMATING HELIUM BUILD-UP VIA NI-59(N,ALPHA)			

28 NICKEL 59 NEUTRON N,ALPHA

474	25.3 MV	500.	EV	10.0%	2	BLG	H.TOURWE	MOL		742023R
							A: EVEN AN ACCURACY OF 50 PERCENT WOULD BE USEFUL. Q: EVALUATION OF HE PRODUCTION IN STEEL IN HIGH FLUX REACTORS THROUGH THE REACTION CHAIN NI-58(N,GAMMA)NI-59(N,ALPHA)FE-56. FOR CALCULATION OF THE HE-PRODUCTION IN FUSION SIMULATION IRRADIATIONS IN FISSION REACTORS. M: SUBSTANTIAL MODIFICATIONS.			
475	25.3 MV	10.0	MEV	25.0%	2	GER	B.GOEL	KFK		762251R
							C: FOR NEUTRON DAMAGE PREDICTION.			
476	5.00 KEV	14.0	MEV	10. %	2	USA	DIVADEENAM	BNL		801128F
							Q: RADIOACTIVE TARGET 7.5X(10**4) YR Q: ALPHA CHANNEL IS OPEN AT ZERO NEUTRON ENERGY. IMPORTANT FOR HELIUM PRODUCTION.			

28 NICKEL 59 — NEUTRON — RESONANCE PARAMETERS

477	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. REACTION.

28 NICKEL 60 — NEUTRON — N,P

478	UP TO	50.0 MEV		2	USA	CARTER	HED	781023F

A: ACCURACY RANGE 10. TO 20. PERCENT.
O: FMIT ACTIVATION.

28 NICKEL 60 — NEUTRON — N,T

479	15.0 MEV	40.0 MEV	20. %	2	USA	MCELROY	HED	801009F

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

28 NICKEL 60 — NEUTRON — RESONANCE PARAMETERS

480	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.

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

O: FOR EVALUATION NEEDS.

28 NICKEL 61 — NEUTRON — RESONANCE PARAMETERS

482	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.

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

O: FOR EVALUATION NEEDS.

28 NICKEL 62 — NEUTRON — TOTAL CROSS SECTION

484	1.00 MEV	15.0 MEV	10.0%	2	FR	E.FORT	CAD	792014R

O: EVALUATION PROBLEMS

28 NICKEL 62 — NEUTRON — ELASTIC CROSS SECTION

485	1.00 MEV	15.0 MEV	10.0%	2	FR	E.FORT	CAD	792015R

O: EVALUATION PROBLEMS

28 NICKEL 62 — NEUTRON — CAPTURE CROSS SECTION

486	25.3 MV	3.00 MEV	20.0%	1	FR	F.JOSSO	CAD	762139R

A: QUOTED UNCERTAINTY AT 2 STANDARD DEVIATIONS.
O: FOR FAST REACTOR FUEL CYCLE CALCULATION.
M: SUBSTANTIAL MODIFICATIONS.

487	100. EV	1.00 MEV	25.0%	2	UK	C.G.CAMPBELL	WIN	792130R

C: FOR FAST REACTOR CIRCUIT ACTIVITY. EVALUATION REQUIREMENT.

28 NICKEL 62 — NEUTRON — RESONANCE PARAMETERS

488	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.

489	100. KEV	700. KEV	10. %	2	USA	DIVADEENAM	BNL	801157R

O: FOR EVALUATION NEEDS.

28 NICKEL 63 — NEUTRON — CAPTURE CROSS SECTION

490	1.00 MV	10.0 MEV	10. %	2	USA	DEI	BET	761053R

Q: RADIOACTIVE TARGET 100 YR
O: FLUX MONITOR FROM CU(N,P) REACTION.

28 NICKEL 64 | NEUTRON | RESONANCE PARAMETERS

491	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.				
492	100. KEV	700. KEV	10. %	3	USA	DIVADEENAM	BNL		801143R
					Q: FOR EVALUATION NEEDS.				

29 COPPER | GAMMA | GAMMA,N

493	UP TO	20.0 MEV	30. %	2	USA	DRIEMEYER	MDD		821044F
					A: INCIDENT ENERGY RESOLUTION: 5. PERCENT. C: DETERMINATION OF PHOTONEUTRON ACTIVATION IN EBT-P. NEEDED IN ASSESSING POTENTIAL ACTIVATION PROBLEMS IN THE UPGRADE PHASE OF EBT-P OPERATION. M: NEW REQUEST.				

29 COPPER | NEUTRON | TOTAL CROSS SECTION

494	1.00 KEV	2.00 MEV	1.0 %	2	USA	YOUNG	LAS		821037F
					C: FOR RADIATION DAMAGE AND HEATING CALCULATIONS IN THE TOROIDAL FIELD COILS OF A FUSION DEVICE. M: NEW REQUEST.				
495	13.0 MEV	15.0 MEV	1.0 %	2	USA	YOUNG	LAS		821038F
					C: FOR RADIATION DAMAGE AND HEATING CALCULATIONS IN THE TOROIDAL FIELD COILS OF A FUSION DEVICE. M: NEW REQUEST.				

29 COPPER | NEUTRON | ELASTIC CROSS SECTION

496	8.00 MEV	15.0 MEV	10.0%	2	CCP	I.N.GOLOVIN	KUR		724032F
					C: NEUTRON TRANSMISSION CALCULATIONS.				
497	13.0 MEV	15.0 MEV	4.0 %	2	USA	YOUNG	LAS		821039F
					C: FOR RADIATION DAMAGE AND HEATING CALCULATIONS IN THE TOROIDAL FIELD COILS OF A FUSION DEVICE. M: NEW REQUEST.				

29 COPPER | NEUTRON | CAPTURE GAMMA RAY SPECTRUM

498	25.3 MV	600. KEV		2	USA	FU	ORL		821049F
					A: 10-20 PERCENT ACCURACY. C: TO RESOLVE DISCREPANCIES IN EXISTING DATA AT 0.0253 EV. NO DATA BETWEEN 0.0253 EV AND 600 KEV. M: NEW REQUEST.				

29 COPPER | NEUTRON | PHOTON PRODUCTION CROSS SECTION IN INELASTIC SCAT.

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

29 COPPER | NEUTRON | TOTAL PHOTON PRODUCTION CROSS SECTION

500	500. KEV	15.0 MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR		724034F
					Q: GAMMA RAY SPECTRA ALSO WANTED. C: GAMMA RAY HEATING AND SHIELDING CALCULATIONS.				
501	25.3 MV	15.0 MEV	15. %	2	JAP	Y.SEKI	JAE		762113F
					Q: GAMMA RAY SPECTRA ALSO REQUIRED. C: GAMMA-RAY HEATING IN MAGNETS				

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

502	15.0 MEV	35.0 MEV		2	USA	DCRAN	HED		781040F
					A: ACCURACY RANGE 10. TO 40. PERCENT. ACCURACY TO BE DETERMINED FROM SENSITIVITY STUDIES. C: FOR MATERIAL DAMAGE CALCULATIONS.				
503	9.00 MEV	15.0 MEV	10. %	2	USA	BERK	DOE		781046F
					C: FOR SHIELDING AND TRANSPORT STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.				

29 COPPER | NEUTRON | N,P

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

29 COPPER | NEUTRON | TOTAL PROTON PRODUCTION CROSS SECTION

505 9.00 MEV 15.0 MEV 20. % 3 USA DORAN HED 781028F
Q: FOR MATERIAL DAMAGE CALCULATIONS AND NEXT GENERATION D-T REACTOR DESIGNS.

506 15.0 MEV 30.0 MEV 20. % 3 USA DORAN HED 781229F
Q: FOR MATERIAL DAMAGE CALCULATIONS AND NEXT GENERATION D-T REACTOR DESIGNS.

29 COPPER | NEUTRON | N,ALPHA

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

29 COPPER | NEUTRON | TOTAL ALPHA PRODUCTION CROSS SECTION

508 9.00 MEV 15.0 MEV 20. % 2 USA DORAN HED 781064F
Q: FMIT DOSIMETRY, ACTIVATION AND RADIATION DAMAGE STUDIES.

509 15.0 MEV 30.0 MEV 20. % 2 USA DORAN HED 781230F
Q: FMIT DOSIMETRY, ACTIVATION AND RADIATION DAMAGE STUDIES.

29 COPPER | NEUTRON | SPECIAL QUANTITY (DESCRIPTION BELOW)

510 9.00 MEV 15.0 MEV 20. % 2 USA BERK DOE 801049F
Q: ALL SIGNIFICANT ACTIVATION REACTION CROSS SECTIONS.
Q: DATA NEEDED FOR SHIELDING, ACTIVATION AND NEUTRON TRANSPORT CALCULATIONS.

511 20.0 MEV 30.0 MEV 20. % 2 USA CARTER HED 821078F
Q: -60CO PRODUCTION WANTED.
Q: FMIT ACTIVATION.
M: NEW REQUEST.

29 COPPER 63 | NEUTRON | CAPTURE CROSS SECTION

512 25.3 MV 1.00 KEV 2 USA HEMMIG DOE 671001R
A: ACCURACY - 2 PERCENT NEAR THERMAL, 5 PERCENT ABOVE THERMAL.
Q: FOR DETECTOR APPLICATIONS.

513 1.00 KEV 18.0 MEV 10. % 2 USA MCELROY HED 691132R
Q: ACTIVATION OF CU-64 IS REQUIRED.
Q: FOR USE AS FLUENCE MONITOR.

514 1.00 MV 15.0 MEV 5. % 2 USA DEI BET 761056R
Q: NEEDED FOR LONG TERM FLUX MONITOR.

29 COPPER 63 | NEUTRON | N,P

515 UP TO 15.0 MEV 5. % 2 USA DEI BET 761055R
Q: NEEDED FOR LONG TERM FLUX MONITOR.

29 COPPER 63 | NEUTRON | N,ALPHA

516 6.00 MEV 18.0 MEV 5.0% 1 BLG H.TOURWE MOL 792111R
Q: REQUIRED IS ACTIVATION.
Q: FOR USE AS A FLUENCE MONITOR.

30 ZINC | NEUTRON | TOTAL CROSS SECTION

517 25.3 MV 15.0 MEV 15.0% 2 IND R.SHANKAR SINGH KAL 833049R
Q: FOR IMPURITIES ESTIMATIONS IN THE FUELS
M: NEW REQUEST.

30 ZINC | NEUTRON | CAPTURE CROSS SECTION

518 25.3 MV 15.0 MEV 15.0% 2 IND R.SHANKAR SINGH KAL 833050R
Q: FOR IMPURITIES ESTIMATIONS IN THE FUELS
M: NEW REQUEST.

30 ZINC 64 NEUTRON CAPTURE CROSS SECTION

519 25.3 MV 15.0 MEV 20.0% 2 JAP T.KAWAKITA PNC 792077R

Q: EXPERIMENTAL DATA WANTED.
O: FOR ESTIMATION OF RADIOACTIVITY OF SPENT STRUCTURAL MATERIALS IN FAST REACTORS. BOTH EXPERIMENTAL AND EVALUATED DATA ARE SCARCE.

520 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

521 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.

522 UP TO 15.0 MEV 1 USA BERK DOE 801070F

A: ACCURACY RANGE 10. TO 50. PERCENT.
ACCURACY TO 10 PERCENT NEAR 15 MEV AND 50 PERCENT NEAR 2.5 MEV.
Q: DATA NEEDED FOR DIAGNOSTICS.

35 BROMINE 81 NEUTRON CAPTURE CROSS SECTION

523 25.3 MV 10.0 KEV 10. % 2 USA RAWLINS HED 801111R

Q: 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.

36 KRYPTON NEUTRON RESONANCE PARAMETERS

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

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

36 KRYPTON 78 NEUTRON CAPTURE CROSS SECTION

525 25.3 MV 10.0 KEV 10. % 2 USA RAWLINS HED 801104R

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

36 KRYPTON 80 NEUTRON CAPTURE CROSS SECTION

526 25.3 MV 10.0 KEV 10. % 2 USA RAWLINS HED 801105R

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

36 KRYPTON 82 NEUTRON CAPTURE CROSS SECTION

527 40.0 EV 10. % 2 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.

528 25.3 MV 10.0 KEV 10. % 2 USA RAWLINS HED 801106R

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

36 KRYPTON 83 NEUTRON RESONANCE PARAMETERS

529 1.00 MV 1.00 KEV 10. % 2 USA DEI BET 671150R
FEINER KAP

O: FOR FISSION PRODUCT ABSORPTION CALCULATION.

39 YTTRIUM 89 NEUTRON N,2N

530 20.0 MEV 30.0 MEV 2 USA MCELROY HED 801033F

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

39 YTTRIUM 89 NEUTRON N,3N

531	20.0 MEV	35.0 MEV		2	USA	MCELROY	HED		801032F

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

39 YTTRIUM 89 NEUTRON N,P

532	20.0 MEV	30.0 MEV		2	USA	MCELROY	HED		801034F

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

40 ZIRCONIUM NEUTRON ELASTIC CROSS SECTION

533	5.00 MEV	15.0 MEV	10.0%	2	CCP	I.N.GOLOVIN	KUR		724037F

C: NEUTRON TRANSMISSION CALCULATIONS.

40 ZIRCONIUM NEUTRON ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

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

C: NEUTRONICS CALCULATIONS FOR BLANKET AND SHIELD.

40 ZIRCONIUM NEUTRON CAPTURE CROSS SECTION

535	25.3 MV	1.00 KEV	5. %	2	USA	ORTON	RL		671005R

C: FOR REACTOR MODERATION AND REACTIVITY EFFECTS.

536	1.00 MV	50.0 KEV	10. %	2	USA	DEI	BET		761057R

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

537	25.0 MV	2.50 KEV	5.00%	1	FR	H.TELLIER	SAC		762137R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
C: CLAD AND STRUCTURE MATERIAL

538	25.3 MV	3.00 MEV	10.0%	1	FR	B.DUCHEMIN	SAC		792017R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
C: FOR SHIELDING CALCULATIONS - EVALUATION MAY BE SUFFICIENT

40 ZIRCONIUM NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

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

C: GAMMA RAY HEATING AND SHIELDING CALCULATIONS.

540	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.
C: FOR SHIELDING CALCULATIONS - EVALUATION MAY BE SUFFICIENT

40 ZIRCONIUM NEUTRON N,2N

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

C: FOR NEUTRON MULTIPLICATION CALCULATIONS.

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

542	3.00 MEV	14.0 MEV	10. %	2	USA	FEINER	KAP		671003R

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

543	3.00 MEV	14.0 MEV	10. %	2	USA	SMITH	ANL		671004R

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

40 ZIRCONIUM NEUTRON N,P

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

C: HYDROGEN ACCUMULATION CALCULATIONS.

40 ZIRCONIUM NEUTRON N,ALPHA

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

C: HELIUM ACCUMULATION CALCULATIONS.

40 ZIRCONIUM NEUTRON SPECIAL QUANTITY (DESCRIPTION BELOW)

546	20.0	MEV	40.0	MEV	20. %	3	USA	MCELROY	HED	801207F

Q: ACTIVATION IS REQUIRED.
REACTION TO ZR-89.
C: FOR FMIT DOSIMETRY.

40 ZIRCONIUM NEUTRON CAPTURE RESONANCE INTEGRAL

547	0.50	EV			2. %	1	USA	FEINER DEI	KAP BET	691143R

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

548	0.50	EV			5.00%	1	FR	H.TELLIER	SAC	762136R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
C: CLAD AND STRUCTURE MATERIAL

40 ZIRCONIUM 90 NEUTRON N,3N

549	UP TO		50.0	MEV		3	USA	MCELROY	HED	801035F

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

40 ZIRCONIUM 91 NEUTRON RESONANCE PARAMETERS

550	290.	EV				1	USA	FEINER	KAP	801120R

C: G-FACTOR IS IMPORTANT IN DETERMINING THE SHIELDED ABSORPTION RATE.
THE LONG-STANDING DESCREPANCY BETWEEN GEEL AND ORNL SHOULD BE RESOLVED.
NEED TO KNOW IF J IS 2 OR 3.

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

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

40 ZIRCONIUM 93 NEUTRON CAPTURE CROSS SECTION

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

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

552	10.0	KEV	100.	KEV	30. %	2	USA	SCHENTER	HED	801266R

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

40 ZIRCONIUM 93 NEUTRON RESONANCE PARAMETERS

553	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

554	1.00	EV	10.0	KEV	20. %	3	USA	DEI	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.
C: DECAYS TO IMPORTANT FISSION PRODUCT.

555	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.
C: DECAYS TO IMPORTANT FISSION PRODUCT.

556	25.3	MV				3	CAN	W.H.WALKER	CRC	691802R

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

557	25.3	MV			5.0%	3	CCP	S.A.SKVORTSOV G.A.MILLER	KUR KUR	704003N

Q: ALSO WANTED FOR .06 EV INCIDENT NEUTRONS.
C: FOR ASSAY OF U AND PU IN FUEL ELEMENTS FROM FISSION PRODUCT GAMMA RADIATION.

558	10.0 KEV	100. KEV	30. %	2	USA	SCHENTER	HED		8012E7R

Q: RADIOACTIVE TARGET o4.0 DAY
A: ACCURACY DETERMINATION SHOULD REFLECT FAST REACTOR FLUX WEIGHTING SPECTRUM.
U: FOR CALCULATIONS OF REACTIVITY AND BURN-UP IN FAST REACTORS.

40 ZIRCONIUM 96 NEUTRON RESONANCE PARAMETERS

559	300. EV		10. %	1	USA	FEINER	KAP		741074R

Q: NEUTRON AND GAMMA- WIDTHS REQUIRED.
U: NEEDED TO VERIFY MEASUREMENT ON 300 EV RESONANCE AND REMOVE DISCREPANCIES.

STATUS

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

41 NIOBIUM 93 NEUTRON ELASTIC CROSS SECTION

560	25.3 MV	20.0 MEV	3.0%	2	IND	S.B.GARG	TRM		753043R

Q: REQUIRED FOR STRUCTURAL-MATERIAL CALCULATIONS.

41 NIOBIUM 93 NEUTRON DIFFERENTIAL ELASTIC CROSS SECTION

561	1.00 MEV	15.0 MEV	10.0%	2	GER	J.DARVAS H.BROCKMANN	JUL JUL		722125F

Q: ANGULAR DISTRIBUTIONS AT A FEW SELECTED ENERGIES WOULD BE SUFFICIENT.
U: RADIATION DAMAGE ESTIMATES.

562	3.00 MEV	15.0 MEV	10.0%	1	CCP	I.N.GOLOVIN	KUR		724043F

G: NEUTRON TRANSMISSION CALCULATIONS.

41 NIOBIUM 93 NEUTRON INELASTIC CROSS SECTION

563	UP TO	25.0 MEV	10.0%	1	SWT	F.HEGEDUES	WUR		692155R

Q: FORMATION OF THE 15.0 YEAR ISOMER (E* = 29 KEV).
U: FOR FAST FLUX MEASUREMENTS.
FOR FAST FLUX MEASUREMENTS.
M: SUBSTANTIAL MODIFICATIONS.

564	UP TO	15.0 MEV	10.0%	2	GER	J.DARVAS H.BROCKMANN	JUL JUL		722126F

Q: FORMATION OF 13.6 YEAR ISOMER WANTED.
U: CALCULATION OF HEAT GENERATION AND RADIOACTIVE AFTERHEAT.

565	UP TO	8.00 MEV	5.0%	1	EUR	NEUTRON DOSIMETRY GROUP		GEL	742121R

Q: PRODUCTION OF 3.7 YEAR ISOMER NEEDED.
U: PROMISING FAST NEUTRON FLUENCE MONITOR DUE TO LOW THRESHOLD ENERGY.

566	UP TO	20.0 MEV	3.0%	2	IND	S.B.GARG	TRM		753044R

U: REQUIRED FOR STRUCTURAL-MATERIAL CALCULATIONS.

567	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
U: TRANSMUTATION AND NEUTRON TRANSPORT CALCULATIONS.

568	UP TO	15.0 MEV	10.0%	1	UK	J.BUTLER C.G.CAMPBELL	WIN WIN		792122R

U: DETECTOR FOR DAMAGE MONITORING.

569	UP TO	15.0 MEV	10.0%	2	GER	H.KUESTERS	KFK		792190R

Q: PRODUCTION OF ISOMER.
EVALUATION WANTED.

570	10.0 MEV	30.0 MEV	20. %	1	USA	MCELROY	HED		801260F

Q: ACTIVATION IS REQUIRED.
REACTION TO ISOMERIC STATE.
A: ACCURACY 20 PERCENT ABOVE 15 MEV.
U: FOR FMIT DOSIMETRY.

571	UP TO	20.0 MEV	10.0%	2	JAP	M.SASAKI K.SAKURAI	MAP JAE		812029R

Q: PRODUCTION OF 13.6 YR ISOMER
U: FOR NEUTRON DOSIMETRY.
M: SUBSTANTIAL MODIFICATIONS.

572	500. KEV	10.0 MEV	10. %	2	USA	MCGARRY	NBS		821050R

A: INCIDENT ENERGY RESOLUTION: 10. PERCENT.
U: REACTOR PRESSURE VESSEL DOSIMETRY.
M: NEW REQUEST.

573	UP TO	8.00 MEV	5.0%	1	FR	M.SALVATORES	CAD		832016R

U: FAST REACTOR CALCULATIONS.
M: NEW REQUEST.

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

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

41 NIOBIUM 93 NEUTRON ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

574 UP TO 15.0 MEV 15.0% 1 CCP I.N.GOLOVIN KUR 724044F
Q: NEUTRON CALCULATIONS FOR BLANKET AND SHIELD.

41 NIOBIUM 93 NEUTRON CAPTURE CROSS SECTION

575 100. EV 100. KEV 20.0% 2 UK C.G.CAMPBELL WIN 682020R
Q: FOR FAST REACTORS.

576 10.0 MEV 15.0 MEV 15.0% 1 CCP I.N.GOLOVIN KUR 724045F
Q: HEAVIER ISOTOPE ACCUMULATION CALCULATIONS.

577 25.3 MV 20.0 MEV 3.0% 2 IND S.B.GARG TRM 753045R
Q: REQUIRED FOR STRUCTURAL-MATERIAL CALCULATIONS.

578 100. EV 500. EV 20.0% 2 FR M.SALVATORES CAD 832006R
Q: FAST REACTOR CALCULATIONS.
M: NEW REQUEST.

41 NIOBIUM 93 NEUTRON PHOTON PRODUCTION CROSS SECTION IN INELASTIC SCAT.

579 1.00 MEV 15.0 MEV 20.0% 2 GER J.DARVAS JUL 722130F
H.BROCKMANN JUL
Q: ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAYS REQUIRED.
C: RADIATION DAMAGE ESTIMATES.

41 NIOBIUM 93 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

580 UP TO 15.0 MEV 15.0% 1 CCP I.N.GOLOVIN KUR 724046F
Q: GAMMA RAY HEATING AND SHIELDING CALCULATIONS.

581 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.
C: CONFIRMATORY EXPERIMENTAL DATA REQUIRED

41 NIOBIUM 93 NEUTRON N,N

582 UP TO 15.0 MEV 10.0% 1 BLG H.TOURWE MOL 792112R
Q: FORMATION OF THE 14 YEAR ISOMER.
C: FOR USE AS A FLUENCE MONITOR.

41 NIOBIUM 93 NEUTRON N,2N

583 UP TO 15.0 MEV 10.0% 2 GER J.DARVAS JUL 722134F
H.BROCKMANN JUL
Q: A MEASUREMENT COUNTING THE OUTCOMING NEUTRONS WOULD BE PREFERRED TO CLARIFY THE SITUATION OF HITHERTO UNOBSERVED DECAY MODES.
C: FOR RADIATION DAMAGE ESTIMATES.

584 UP TO 15.0 MEV 10.0% 1 CCP I.N.GOLOVIN KUR 724047F
Q: ENERGY AND ANGULAR DEPENDENCE OF SECONDARY NEUTRONS REQUIRED.
C: FOR NEUTRON MULTIPLICATION AND RADIATION DAMAGE ESTIMATES.

585 UP TO 15.0 MEV 5.0% 2 EUR NEUTRON DOSIMETRY GROUP GEL 742133R
Q: FOR NEUTRON DOSIMETRY USING SPECTRUM UNFOLDING METHODS.
GREATER THAN 10 PERCENT DISCREPANCY BETWEEN INTEGRAL AND DIFFERENTIAL MEASUREMENTS.

586 20.0 MEV 28.0 MEV 20. % 1 USA MCELROY HED 801028F
Q: DOSIMETRY FOR FMIT FACILITY.

41 NIOBIUM 93 NEUTRON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

587 20.0 MEV 35.0 MEV 3 USA DORAN HED 781222F
A: ACCURACY RANGE 10. TO 50. PERCENT. ACCURACY TO BE DETERMINED FROM SENSITIVITY STUDIES
Q: FOR MATERIAL DAMAGE CALCULATIONS.

588 UP TO 15.0 MEV 10.0% 2 JAP A.TAKAHASHI OSA 832043F
Q: ENERGY-ANGLE DIFFERENTIAL CROSS SECTIONS FOR TOTAL NEUTRON EMISSION REQUIRED.
C: FOR CALCULATION OF THE NEUTRON MULTIPLICATION IN FUSION BLANKETS.
M: NEW REQUEST.

41 NIOBIUM 93			NEUTRON		N,P					
589	3.00	MEV	15.0	MEV	20.0%	2	GER	J.DARVAS H.BROCKMANN	JUL JUL	722136F
								Q: RADIATION DAMAGE ESTIMATES, CALCULATION OF TRANSMUTATION RATES AND RADIOACTIVE AFTERHEAT.		
590		UP TO	15.0	MEV	15.0%	1	CCP	I.N.GOLUVIN	KUR	724048F
								Q: HYDROGEN ACCUMULATION CALCULATIONS.		
591	0.00	EV	15.0	MEV	20. %	2	JAP	M.KASAI K.IOKI	MAP MAP	762119F
								Q: HYDROGEN ACCUMULATION CALCULATIONS		
41 NIOBIUM 93			NEUTRON		TOTAL PROTON PRODUCTION CROSS SECTION					
592	9.00	MEV	14.0	MEV	20. %	2	USA	BERK	DOE	781105F
								Q: FOR RADIATION DAMAGE CALCULATIONS.		
593	15.0	MEV	30.0	MEV		3	USA	DORAN	HED	781219F
								A: ACCURACY RANGE 10. TO 50. PERCENT. ACCURACY TO BE DETERMINED FROM SENSITIVITY STUDIES Q: FOR MATERIAL DAMAGE CALCULATIONS.		
41 NIOBIUM 93			NEUTRON		N,ALPHA					
594		UP TO	15.0	MEV	15.0%	1	CCP	I.N.GOLOVIN	KUR	724049F
								Q: HELIUM ACCUMULATION CALCULATIONS.		
41 NIOBIUM 93			NEUTRON		TOTAL ALPHA PRODUCTION CROSS SECTION					
595	0.00	EV	15.0	MEV	15. %	2	JAP	K.IOKI	MAP	762121F
								Q: HELIUM ACCUMULATION CALCULATIONS		
596	9.00	MEV	15.0	MEV	20. %	2	USA	BERK	DOE	781093F
								Q: FOR RADIATION DAMAGE CALCULATIONS.		
597	15.0	MEV	35.0	MEV		3	USA	DORAN	HED	781220F
								A: ACCURACY RANGE 10. TO 50. PERCENT. ACCURACY TO BE DETERMINED FROM SENSITIVITY STUDIES Q: FOR MATERIAL DAMAGE CALCULATIONS.		
41 NIOBIUM 93			NEUTRON		SPECIAL QUANTITY (DESCRIPTION BELOW)					
598	9.00	MEV	15.0	MEV	20. %	2	USA	BERK	DOE	801086F
								Q: ALL SIGNIFICANT ACTIVATION REACTION CROSS SECTIONS. Q: DATA NEEDED FOR SHIELDING, ACTIVATION AND NEUTRON TRANSPORT CALCULATIONS.		
41 NIOBIUM 93			NEUTRON		CAPTURE RESONANCE INTEGRAL					
599	1.00	EV	10.0	KEV	3.0%	2	EUR	NEUTRON DOSIMETRY GROUP	GEL	792106R
								Q: PRODUCTION OF NB-94 (20000 YEARS) WANTED. C: POSSIBLE LONG TERM FLUENCE MONITOR. M: SUBSTANTIAL MODIFICATIONS.		
41 NIOBIUM 94			NEUTRON		CAPTURE CROSS SECTION					
600	100.	EV	1.00	MEV	25.0%	2	UK	C.G.CAMPBELL	WIN	792131R
								Q: FOR FAST REACTOR CIRCUIT ACTIVITY. EVALUATION REQUIREMENT.		
41 NIOBIUM 95			NEUTRON		CAPTURE CROSS SECTION					
601	25.3	MV				2	USA	FEINER	KAP	671012F
								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. Q: DECAYS TO IMPORTANT FISSION PRODUCT POISON.		
42 MOLYBDENUM			NEUTRON		DIFFERENTIAL ELASTIC CROSS SECTION					
602	1.00	MEV	15.0	MEV	10.0%	2	GER	J.DARVAS H.BROCKMANN	JUL JUL	722140F
								Q: DISTRIBUTIONS FOR ENERGY STEPS OF 10 TO 20 PERCENT WOULD SUFFICE. C: CONFIRMATION OF ANL DATA USEFUL. RADIATION DAMAGE ESTIMATES.		
603	3.00	MEV	15.0	MEV	10.0%	1	CCP	I.N.GOLOVIN	KUR	724050F
								Q: NEUTRON TRANSMISSION CALCULATIONS.		

42 MOLYBDENUM — NEUTRON — INELASTIC CROSS SECTION

604	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.

42 MOLYBDENUM — NEUTRON — ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

605	UP TO	15.0 MEV	15.0%	1	CCP	I.N.GOLOVIN	KUR		724051F

O: NEUTRON CALCULATIONS FOR BLANKET AND SHIELDING.

42 MOLYBDENUM — NEUTRON — CAPTURE CROSS SECTION

606	100. EV	1.00 MEV		2	UK	C.G.CAMPBELL	WIN		692157R

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

607	10.0 MEV	15.0 MEV	15.0%	1	CCP	I.N.GOLOVIN	KUR		724052F

O: HEAVY ISOTOPE ACCUMULATION CALCULATIONS.

608	100. EV	500. EV	20.0%	1	FR	M.SALVATORES	CAD		832008R

O: FAST REACTOR CALCULATIONS.
M: NEW REQUEST.

42 MOLYBDENUM — NEUTRON — TOTAL PHOTON PRODUCTION CROSS SECTION

609	25.3 MV	15.0 MEV	15.0%	1	CCP	I.N.GOLOVIN	KUR		724053F

O: GAMMA RAY HEATING AND SHIELDING CALCULATIONS.

610	25.3 MV	15.0 MEV	15. %	2	JAP	Y.SEKI K.IOKI	JAE MAP		762131F

Q: GAMMA RAY SPECTRA ALSO REQUIRED.
O: NEUTRON BALANCE AND GAMMA-RAY HEATING CALCULATION

42 MOLYBDENUM — NEUTRON — N,2N

611	UP TO	15.0 MEV	10.0%	2	GER	J.DARVAS H.BROCKMANN	JUL JUL		722146F

Q: COUNTING OF OUTGOING NEUTRONS TO DETERMINE NEUTRON MULTIPLICATION BY TRANSMISSION IS REQUIRED, SINCE ACTIVITY IS PRODUCED BY MO-92 AND MO-100 ONLY.
O: CALCULATION OF NEUTRON MULTIPLICATION AND RADIATION DAMAGE.

612	UP TO	15.0 MEV	15.0%	1	CCP	I.N.GOLOVIN	KUR		724054F

Q: SECONDARY ENERGY SPECTRUM REQUIRED AT 14.0 MEV.
O: NEUTRON MULTIPLICATION CALCULATIONS.

613	UP TO	15.0 MEV	10.0%	3	FR	B.DUCHEMIN	SAC		732030F

A: QUOTED ACCUARCY AT 2 STANDARD DEVIATIONS.
O: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.

42 MOLYBDENUM — NEUTRON — ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

614	1.00 MEV	15.0 MEV	10. %	2	JAP	Y.SEKI	JAE		762126F

Q: CROSS SECTION FOR EACH ISOTOPE ARE ALSO REQUESTED.
O: NEUTRON TRANSPORT CALCULATIONS

615	9.00 MEV	15.0 MEV	20. %	2	USA	BERK	DOE		781064F

O: DATA NEEDED FOR SHIELDING AND NEUTRON TRANSPORT CALCULATIONS.

42 MOLYBDENUM — NEUTRON — N,P

616	UP TO	14.0 MEV	10.0%	2	GER	B.GOEL	KFK		692159R
617	1.50 MEV	15.0 MEV	20.0%	2	GER	J.DARVAS	JUL		722148F

O: RADIATION DAMAGE ESTIMATES, CALCULATION OF TRANSMUTATION RATES AND RADIOACTIVE AFTERHEAT.

618	UP TO	15.0 MEV	15.0%	1	CCP	I.N.GOLOVIN	KUR		724055F

O: HYDROGEN ACCUMULATION CALCULATIONS.

619	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.

620	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

621	9.00	MEV	15.0	MEV	20. %	2	USA	BERK	DOE	781106F

O: FOR RADIATION DAMAGE CALCULATIONS.

42 MOLYBDENUM NEUTRON N,ALPHA

622	5.00	MEV	15.0	MEV	20.0%	2	GER	J.DARVAS H.BROCKMANN	JUL JUL	722149F

O: RADIATION DAMAGE ESTIMATES, CALCULATION OF TRANSMUTATION RATES AND RADIOACTIVE AFTERHEAT.

623		UP TO	15.0	MEV	15.0%	1	CCP	I.N.GOLUVIN	KUR	724056F

O: HELIUM ACCUMULATION CALCULATIONS.

624		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.

625	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

626	9.00	MEV	15.0	MEV	20. %	2	USA	BERK	DOE	781096F

O: FOR RADIATION DAMAGE CALCULATIONS.

42 MOLYBDENUM NEUTRON SPECIAL QUANTITY (DESCRIPTION BELOW)

627	2.50	EV	15.0	MEV	20. %	2	USA	ENGHOLM	GA	801102F

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

42 MOLYBDENUM 92 NEUTRON N,NP

628		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

629		UP TO	15.0	MEV	10. %	2	JAP	K.IOKI	MAP	762133F

O: NEUTRON BALANCE AND TRANSMUTATION CALCULATIONS

42 MOLYBDENUM 95 NEUTRON RESONANCE PARAMETERS

630		UP TO	10.0	KEV	10.0%	2	JAP	M.KAWAI	NIG	832027R

Q: RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH, SPIN AND ORBITAL ANGULAR MOMENTUM WANTED.
C: FOR BURN-UP CALCULATIONS.
N: NEW REQUEST.

42 MOLYBDENUM 97 NEUTRON RESONANCE PARAMETERS

631		UP TO	10.0	KEV	10.0%	2	JAP	M.KAWAI	NIG	832028R

Q: RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH, SPIN AND ORBITAL ANGULAR MOMENTUM WANTED.
O: FOR BURN-UP CALCULATIONS.
N: NEW REQUEST.

42 MOLYBDENUM 99			NEUTRON		CAPTURE CROSS SECTION					
632	1.00	MV	1.00	KEV		3	USA	DEI 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.		
633	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		RESONANCE PARAMETERS					
634		UP TO	10.0	KEV	10.0%	2	JAP	M.KAWAI	NIG	832029R
								Q: RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH, SPIN AND ORBITAL ANGULAR MOMENTUM WANTED. O: FOR BURN-UP CALCULATIONS. TO RESOLVE DISCREPANCIES BETWEEN DIFFERENTIAL AND INTEGRAL DATA. M: NEW REQUEST.		
44 RUTHENIUM 101			NEUTRON		RESONANCE PARAMETERS					
635		UP TO	10.0	KEV	10.0%	2	JAP	M.KAWAI	NIG	832030R
								Q: RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH, SPIN AND ORBIATL ANGULAR MOMENTUM WANTED. O: FOR BURN-UP CALCULATION. M: NEW REQUEST.		
44 RUTHENIUM 102			NEUTRON		RESONANCE PARAMETERS					
636		UP TO	15.0	KEV	10.0%	2	JAP	S.IIJIMA H.MATSUNOBU	NIG SAE	812033N
								Q: RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH, SPIN AND ORBITAL MOMENTUM WANTED. O: FOR FAST REACTOR BURN-UP CALCULATIONS M: SUBSTANTIAL MODIFICATIONS.		
44 RUTHENIUM 103			NEUTRON		CAPTURE CROSS SECTION					
637	25.3	MV				3	CAN	W.H.WALKER	CRC	691804R
								A: ACCURACY REQUIRED 35 B. O: FISSION PRODUCT, UNKNOWN CROSS SECTION.		
638	100.	EV	500.	KEV	20.0%	2	JAP	S.IIJIMA H.MATSUNOBU	NIG SAE	792079N
								Q: EXPERIMENTAL DATA REQUIRED. O: FOR FAST REACTOR BURNUP CALCULATION,40 DAYS T(1/2) NO DIFFERENTIAL OR INTEGRAL DATA EXIST. VERY LARGE DISCREPANCIES BETWEEN EVALLATIONS.		
639	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. O: FOR CALCULATIONS OF REACTIVITY AND BURN-UP IN FAST REACTORS.		
44 RUTHENIUM 104			NEUTRON		RESONANCE PARAMETERS					
640		UP TO	15.0	KEV	10.0%	2	JAP	S.IIJIMA H.MATSUNOBU	NIG SAE	812034N
								Q: RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH, SPIN AND ORBITAL MOMENTUM WANTED. O: FOR FAST REACTOR BURN-UP CALCULATIONS M: SUBSTANTIAL MODIFICATIONS.		
44 RUTHENIUM 106			NEUTRON		CAPTURE CROSS SECTION					
641	25.3	MV			10.0%	3	CCP	S.A.SKVORTSOV O.A.MILLER	KUR KUR	704006N
								Q: ALSO WANTED FOR .06 EV INCIDENT NEUTRONS. O: FOR ASSAY OF U AND PU IN FUEL ELEMENTS FROM FISSION PRODUCT GAMMA RADIATION.		
642	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. O: FOR CALCULATIONS OF REACTIVITY AND BURN-UP IN FAST REACTORS.		

45 RHODIUM 103 NEUTRON INELASTIC CROSS SECTION

643 UP TO 15.0 MEV 5.0% 1 GER M.KUECHLE KFK 692477R

Q: CROSS SECTION LEADING TO ISOMERIC STATE AFTER GAMMA DE-EXCITATION IS WANTED.
O: THRESHOLD DETECTOR.

644 UP TO 15.0 MEV 5.0% 1 GER H.KUESTERS KFK 792151R

Q: PRODUCTION OF ISOMER.
EVALUATION WANTED.

645 10.0 MEV 30.0 MEV 20. % 3 USA MCELROY HED 801258F

Q: ACTIVATION IS REQUIRED.
REACTION TO ISOMERIC STATE.
O: FOR FMIT DOSIMETRY.

646 500. KEV 10.0 MEV 10. % 2 USA MCGARRY NBS 821057R

A: INCIDENT ENERGY RESOLUTION: 10. PERCENT.
O: REACTOR PRESSURE VESSEL DOSIMETRY.
ABSOLUTE MEASUREMENT NEEDED.
M: NEW REQUEST.

STATUS

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

45 RHODIUM 103 NEUTRON CAPTURE CROSS SECTION

647 1.00 MV 1.00 KEV 5.0% 3 DEN C.F.HOEJERUP RIS 712044R

O: WANTED FOR FISSION PRODUCT CALCULATIONS.

648 10.0 MV 5.00 KEV 10.0% 2 FR H.TELLIER SAC 732058R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: REACTOR CALCULATIONS.

45 RHODIUM 105 NEUTRON CAPTURE CROSS SECTION

649 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 104 NEUTRON RESONANCE PARAMETERS

650 UP TO 15.0 KEV 20.0% 2 JAP M.KAWAI NIG 832031R

Q: RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH, SPIN AND ORBITAL ANGULAR MOMENTUM WANTED.
O: FOR BURN-UP CALCULATIONS.
M: NEW REQUEST.

46 PALLADIUM 105 NEUTRON RESONANCE PARAMETERS

651 UP TO 10.0 KEV 10.0% 2 JAP S.IIJIMA NIG 812035N
H.MATSUNOBU SAE

Q: RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH, SPIN AND ORBITAL MOMENTUM WANTED.
O: FOR FAST REACTOR BURN-UP CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

46 PALLADIUM 106 NEUTRON RESONANCE PARAMETERS

652 UP TO 15.0 KEV 20.0% 2 JAP M.KAWAI NIG 832032R

Q: RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH, SPIN AND ORBITAL ANGULAR MOMENTUM WANTED.
O: FOR BURN-UP CALCULATIONS.
M: NEW REQUEST.

46 PALLADIUM 107 NEUTRON CAPTURE CROSS SECTION

653 25.3 MV 3 CAN W.H.WALKER CRC 691806R

A: ACCURACY REQUIRED 10 BARNS.
O: PU FISSION PRODUCT. UNKNOWN CROSS SECTION.

654 500. EV 500. KEV 10.0% 1 JAP S.IIJIMA NIG 752012R
H.MATSUNOBU SAE

O: FOR FAST REACTOR BURNUP CALCULATIONS.
EVALUATIONS ARE VERY DISCREPANT.

655 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.
C: FOR CALCULATIONS OF REACTIVITY AND BURN-UP IN FAST REACTORS.

47 SILVER 109 — NEUTRON — CAPTURE CROSS SECTION

656	3.00	KEV	1.00	MEV	10.0%	1	FR	E.FORT	CAD	792018R

O: REACTOR CALCULATIONS

STATUS

UNDER CONTINUOUS REVIEW BY NEANDC. SEE APPENDIX A.

48 CADMIUM 113 — NEUTRON — CAPTURE CROSS SECTION

657	UP TO		100.	EV	5.0%	3	FR	H.TELLIER	SAC	732063R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: CONTROL AND POISON.

48 CADMIUM 113 — NEUTRON — TOTAL PHOTON PRODUCTION CROSS SECTION

658	25.3	MV	1.00	KEV	20.0%	1	FR	B.DUCHEMIN	SAC	832017R

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 REPROCESSING PLANT SHIELDING CALCULATION. EVALUATION MAY BE SUFFICIENT.
M: NEW REQUEST.

49 INDIUM 115 — GAMMA — SPECIAL QUANTITY (DESCRIPTION BELOW)

659	500.	KEV	10.0	MEV	20.0%	3	JAP	Y.OKA	TOK	792060R

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

660	UP TO		15.0	MEV	3.0%	1	GER	M.KUECHLE	KFK	692160R

Q: CROSS SECTION LEADING TO ISOMERIC STATE AFTER GAMMA DE-EXCITATION IS NEEDED.
O: THRESHOLD DETECTOR.

661					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.

662	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 — TOTAL CROSS SECTION

663	25.3	MV	15.0	MEV	15.0%	2	IND	R.SHANKAR SINGH	KAL	833047R

O: FOR IMPURITIES ESTIMATIONS IN THE FUELS
M: NEW REQUEST.

50 TIN — NEUTRON — CAPTURE CROSS SECTION

664	25.3	MV	15.0	MEV	15.0%	2	IND	R.SHANKAR SINGH	KAL	833046R

O: FOR IMPURITIES ESTIMATIONS IN THE FUELS
M: NEW REQUEST.

50 TIN — NEUTRON — ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

665	15.0	MEV	35.0	MEV		3	USA	DORAN	HED	781041F

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

666	9.00	MEV	15.0	MEV	20. %	2	USA	BERK	DOE	781083F

O: DATA NEEDED FOR SHIELDING AND NEUTRON TRANSPORT CALCULATIONS.

50 TIN — NEUTRON — TOTAL PROTON PRODUCTION CROSS SECTION

667	9.00	MEV	15.0	MEV	10. %	3	USA	DORAN	HED	781029F

O: FOR MATERIAL DAMAGE CALCULATIONS.

668 15.0 MEV 30.0 MEV 20. % 3 USA DORAN HED 781231F
Q: FOR MATERIAL DAMAGE CALCULATIONS.

50 TIN NEUTRON TOTAL ALPHA PRODUCTION CROSS SECTION

669 9.00 MEV 15.0 MEV 10. % 3 USA DORAN HED 781214F
Q: FOR MATERIAL DAMAGE CALCULATIONS.

670 15.0 MEV 30.0 MEV 20. % 3 USA DORAN HED 781232F
Q: FOR MATERIAL DAMAGE CALCULATIONS.

50 TIN 126 NEUTRON CAPTURE CROSS SECTION

671 25.3 MV 3 CAN W.H.WALKER CRC 691807R
A: ACCURACY REQUIRED 120 BARNS.
Q: FISSION PRODUCT, UNKNOWN CROSS SECTION.

51 ANTIMONY 124 NEUTRON CAPTURE CROSS SECTION

672 25.3 MV 20.0% 3 JAP K.NISHIMURA JAE 792082R
Q: EXPERIMENTAL DATA REQUIRED.
C: 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

673 25.3 MV 3 CAN W.H.WALKER CRC 691808R
A: ACCURACY REQUIRED 300 BARNS.
Q: FISSION PRODUCT, UNKNOWN CROSS SECTION.

51 ANTIMONY 127 NEUTRON CAPTURE CROSS SECTION

674 25.3 MV 3 CAN W.H.WALKER CRC 691809R
A: ACCURACY REQUIRED 4000 BARNS.
Q: FISSION PRODUCT, UNKNOWN CROSS SECTION.

52 TELLURIUM 127 NEUTRON CAPTURE CROSS SECTION

675 1.00 MV 1.00 EV 20. % 2 USA FEINER KAP 671022R
Q: 109 DAY ISOMER
THERMAL AVERAGE OR 0.025 EV VALUE USEFUL.
C: FOR CALCULATION OF FISSION PRODUCT POISONS.

676 25.3 MV 3 CAN W.H.WALKER CRC 691810R
Q: FOR THE ISOMERIC STATE (105 D).
A: ACCURACY REQUIRED 900 BARNS.
C: FISSION PRODUCT.

52 TELLURIUM 129 NEUTRON CAPTURE CROSS SECTION

677 25.3 MV 3 CAN W.H.WALKER CRC 691811R
Q: FOR THE ISOMERIC STATE (33 D).
A: ACCURACY REQUIRED 1000 BARNS.
C: FISSION PRODUCT.

53 IODINE 127 NEUTRON N,2N

678 10.0 MEV 14.6 MEV 5.0% 2 EUR NEUTRON DOSIMETRY GROUP GEL 742134R
C: FOR NEUTRON DOSIMETRY USING SPECTRUM UNFOLDING METHODS.
MORE THAN 25 PERCENT DISCREPANCY BETWEEN INTEGRAL AND DIFFERENTIAL MEASUREMENTS.

53 IODINE 129 NEUTRON CAPTURE CROSS SECTION

679 10.0 MV 1.00 MEV 20.0% 1 GER H.KUESTERS KFK 792223R
Q: MEASUREMENT WANTED
C: FOR THERMAL REACTORS.

680 100. EV 500. KEV 20.0% 2 JAP S.IIJIMA NIG 812036N
H.MATSUNOBU SAE
Q: EXPERIMENTAL DATA ARE SCARCE.
C: FOR FAST REACTOR BURN-UP CALCULATIONS

53 IODINE 129 — NEUTRON — RESONANCE PARAMETERS

681	100.	EV	500.	KEV	20.0%	2	JAP	S.IIJIMA H.MATSUNOBU	NIG SAE	812037N

Q: RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH, SPIN AND ORBITAL MOMENTUM WANTED.
C: FOR FAST REACTOR BURN-UP CALCULATIONS
M: SUBSTANTIAL MODIFICATIONS.

53 IODINE 133 — NEUTRON — CAPTURE CROSS SECTION

682	1.00	MV	1.00	KEV	20. %	2	USA	DEI	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.
C: FOR CALCULATION OF FISSION PRODUCT POISONS.

53 IODINE 135 — GAMMA RAY YIELD

683					10. %	3	JAP	H.SHIMOJIMA	TGS	762004N

Q: YIELD PER DISINTEGRATION OF 527,1132,1260 AND 1452 KEV GAMMA RAYS REQUIRED. (FOLLOWING BETA DECAY EVENT)
U: DETECTION OF FAILED FUEL

54 XENON 124 — NEUTRON — CAPTURE CROSS SECTION

684	25.3	MV	10.0	KEV	10. %	2	USA	RAWLINS	HED	801107R

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

54 XENON 126 — NEUTRON — CAPTURE CROSS SECTION

685	25.3	MV	10.0	KEV	10. %	2	USA	RAWLINS	HED	801108R

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

54 XENON 128 — NEUTRON — CAPTURE CROSS SECTION

686	25.3	MV	10.0	KEV	10. %	2	USA	RAWLINS	HED	801109R

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

54 XENON 129 — NEUTRON — CAPTURE CROSS SECTION

687	25.3	MV	10.0	KEV	10. %	2	USA	RAWLINS	HED	801110R

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

54 XENON 131 — NEUTRON — CAPTURE CROSS SECTION

688	10.0	MV	5.00	KEV	10.0%	2	FR	H.TELLIER	SAC	732064R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
Q: REACTOR CALCULATIONS.

689	4.00	KEV	500.	KEV	20.0%	1	JAP	S.IIJIMA H.MATSUNOBU	NIG SAE	752014N

Q: FOR FAST REACTOR BURNUP CALCULATIONS. RESONANCE PARAMETERS ARE KNOWN UP TO 4 KEV.
M: SUBSTANTIAL MODIFICATIONS.

690	1.00	KEV	1.00	MEV	20. %	2	USA	SCHENTER	HED	801277R

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

54 XENON 132 — NEUTRON — CAPTURE CROSS SECTION

691	100.	EV	500.	KEV	20.0%	2	JAP	S.IIJIMA H.MATSUNOBU	NIG SAE	812038N

Q: FOR FAST REACTOR BURN-UP CALCULATIONS

54 XENON 132 — NEUTRON — RESONANCE PARAMETERS

692	UP TO		40.0	KEV	20.0%	2	JAP	S.IIJIMA H.MATSUNOBU	NIG SAE	812039N

C: ONLY 5 LEVELS BELOW 3.85 KEV ARE KNOWN RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH, SPIN AND ORBITAL MOMENTUM WANTED.
Q: FOR FAST REACTOR BURN-UP CALCULATIONS
M: SUBSTANTIAL MODIFICATIONS.

54 XENON 133 NEUTRON CAPTURE CROSS SECTION

693 1.00 MV 1.00 KEV 5.0% 3 DEN C.F.HOEJERUP RIS 712045R
Q: WANTED FOR FISSION PRODUCT CALCULATIONS.

694 1.00 MV 5.00 KEV 10. % 2 USA DEI BET 741088R
Q: RADIOACTIVE TARGET 5.29 DAY
THERMAL CROSS SECTION AND RI WANTED.
O: FOR FISSION PRODUCT POISON CALCULATIONS.

54 XENON 134 NEUTRON RESONANCE PARAMETERS

695 UP TO 40.0 KEV 20.0% 2 JAP M.KAWAI NIG 832033R
Q: RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH, SPIN AND ORBITAL ANGULAR MOMENTUM WANTED.
VERY FEW EXPERIMENTAL DATA.
O: FOR BURN-UP CALCULATIONS.
M: NEW REQUEST.

54 XENON 135 NEUTRON CAPTURE CROSS SECTION

696 10.0 MV 5.00 KEV 10.0% 2 FR H.TELLIER SAC 732065R
A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
C: REACTOR CALCULATIONS.

697 1.00 MV 5.00 EV 2. % 2 USA DEI BET 741069R
Q: RADIOACTIVE TARGET 9.17 HR
A: THERMAL CROSS SECTION WANTED TO 2 PERCENT.
O: FOR FISSION PRODUCT POISON CALCULATIONS.

698 5.00 EV 5.00 KEV 5. % 2 USA DEI BET 741224R
Q: RADIOACTIVE TARGET 9.17 HR
A: THERMAL CROSS SECTION WANTED TO 2 PERCENT.
O: FOR FISSION PRODUCT POISON CALCULATIONS.

699 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

700 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.
C: FOR INSTRUMENTATION AND SHIELDING CALCULATIONS EVALUATION MAY BE SUFFICIENT

54 XENON 135 NEUTRON ENERGY DIFF. PHOTON-PRODUCTION CROSS SECTION

701 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.

55 CESIUM 133 NEUTRON CAPTURE CROSS SECTION

702 25.3 MV 3.0% 2 CCP S.A.SKVORTSOV KUR 704007N
O.A.MILLER KUR
Q: ALSO WANTED FOR .06 EV INCIDENT NEUTRONS.
C: FOR ASSAY OF U AND PU IN FUEL ELEMENTS FROM FISSION PRODUCT GAMMA RADIATION.

55 CESIUM 134 NEUTRON CAPTURE CROSS SECTION

703 25.3 MV 3.0% 2 CCP S.A.SKVORTSOV KUR 704008N
O.A.MILLER KUR
C: ALSO WANTED FOR .06 EV INCIDENT NEUTRONS.
O: FOR ASSAY OF U AND PU IN FUEL ELEMENTS FROM FISSION PRODUCT GAMMA RADIATION.

704 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.

705 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.
C: BURN-UP DETERMINATION BASED ON ABSOLUTE MEASUREMENT OF ACTIVITY RATIO CS-134/CS-137
ESTIMATION OF THE DECAY POWER OF FISSION PRODUCTS

55 CESIUM 134 NEUTRON CAPTURE CROSS SECTION (CONTINUED)

706	10.0	MV	1.00	MEV	20.0%	1	GER	H.KUESTERS	KFK	792224R

Q: MEASUREMENT WANTED
Q: FOR THERMAL REACTORS.

55 CESIUM 135 NEUTRON CAPTURE CROSS SECTION

707	100.	EV	500.	KEV	10.0%	1	JAP	S.IIJIMA H.MATSUNOBU	NIG SAE	752016R

Q: FOR FAST REACTOR BURNUP CALCULATIONS.
EVALUATIONS ARE VERY DISCREPANT.

708	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.
Q: FOR CALCULATIONS OF REACTIVITY AND BURN-UP IN FAST REACTORS.

55 CESIUM 135 NEUTRON RESONANCE PARAMETERS

709	100.	EV	500.	KEV	10.0%	1	JAP	S.IIJIMA H.MATSUNOBU	NIG SAE	812040N

Q: RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH, SPIN AND ORBITAL MOMENTUM WANTED.
C: FOR FAST REACTOR BURN-UP CALCULATIONS

55 CESIUM 137 NEUTRON CAPTURE CROSS SECTION

710	25.3	MV			10.0%	2	CCP	S.A.SKVORTSOV O.A.MILLER	KUR KUR	704013N

Q: ALSO WANTED FOR .06 EV INCIDENT NEUTRONS.
Q: FOR ASSAY OF U AND PU IN FUEL ELEMENTS FROM FISSION PRODUCT GAMMA RADIATION.

56 BARIUM 137 NEUTRON RESONANCE PARAMETERS

711	UP TO		10.0	KEV	20.0%	2	JAP	M.KAWAI	NIG	832034R

Q: RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH, SPIN AND ORBITAL ANGULAR MOMENTUM WANTED.
Q: FOR BURN-UP CALCULATIONS.
FOR BURN-UP CALCULATIONS.
M: NEW REQUEST.

56 BARIUM 140 NEUTRON CAPTURE CROSS SECTION

712	25.3	MV			5.0%	3	CCP	S.A.SKVORTSOV O.A.MILLER	KUR KUR	704015N

Q: ALSO WANTED FOR .06 EV INCIDENT NEUTRONS.
Q: FOR ASSAY OF U AND PU IN FUEL ELEMENTS FROM FISSION PRODUCT GAMMA RADIATION.

57 LANTHANUM 140 GAMMA RAY YIELD

713					1.0%	2	CCP	S.A.SKVORTSOV O.A.MILLER	KUR KUR	704016N

C: YIELD OF GAMMA QUANTA PER BETA DECAY EVENT WANTED FOR 328.8 AND 815.8 KEV GAMMAS.
Q: FOR ASSAY OF U AND PU IN FUEL ELEMENTS FROM FISSION PRODUCT GAMMA RADIATION.

58 CERIUM 144 GAMMA RAY YIELD

714					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.
Q: FOR ASSAY OF U AND PU IN FUEL ELEMENTS FROM FISSION PRODUCT GAMMA RADIATION.

58 CERIUM 144 NEUTRON CAPTURE CROSS SECTION

715	10.0	KEV	100.	KEV	30. %	2	USA	SCHENTER	HED	801279R

Q: RADIOACTIVE TARGET 284 DAY
A: ACCURACY DETERMINATION SHOULD REFLECT FAST REACTOR FLUX WEIGHTING SPECTRUM.
Q: FOR CALCULATIONS OF REACTIVITY AND BURN-UP IN FAST REACTORS.

60 NEODYMIUM 146 NEUTRON CAPTURE CROSS SECTION

716	500.	EV	200.	KEV	20.0%	2	FR	M.SALVATORES	CAD	732075R

C: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

60 NEODYMIUM 147 NEUTRON CAPTURE CROSS SECTION

717	1.00	MV	1.00	KEV	2	USA	FEINER	KAP	671039R

Q: RADIOACTIVE TARGET 11 DAY
THERMAL CROSS SECTION AND RI WANTED.
A: ACCURACY RANGE 5. TO 10. PERCENT.

718	1.00	MV	1.00	KEV	2	USA	DEI	BET	671040R

Q: RADIOACTIVE TARGET 11 DAY
THERMAL CROSS SECTION AND RI WANTED.
A: ACCURACY RANGE 5. TO 10. PERCENT.

719	25.3	MV			3	CAN	W.H.WALKER	CRC	691812R

A: REQUIRED WITH 350 BARN ACCURACY.
C: FISSION PRODUCT WITH UNKNOWN CROSS SECTION.

720	1.00	MV	1.00	KEV	5.0%	3	DEN	C.F.HOEJERUP	RIS	712046R

C: WANTED FOR FISSION PRODUCT CALCULATIONS.

721	10.0	MV	5.00	KEV	10.0%	1	FR	H.TELLIER	SAC	732076R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: BURN UP PHYSICS.

60 NEODYMIUM 148 NEUTRON CAPTURE CROSS SECTION

722	500.	EV	200.	KEV	20.0%	2	FR	M.SALVATORES	CAD	732077R

O: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

61 PROMETHIUM 147 NEUTRON CAPTURE CROSS SECTION

723	1.00	MV	1.00	KEV	5.0%	3	DEN	C.F.HOEJERUP	RIS	712047R

O: WANTED FOR FISSION PRODUCT CALCULATIONS.

724	100.	EV	500.	KEV	10.0%	1	JAP	S.IIJIMA H.MATSUNOBU	NIG SAE	752019N

725	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.
C: FOR CALCULATIONS OF REACTIVITY AND BURN-UP IN FAST REACTORS.

61 PROMETHIUM 148 NEUTRON CAPTURE CROSS SECTION

726	1.00	MV	1.00	KEV	10. %	2	USA	DEI	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.

727	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.

728	10.0	MV	1.00	MEV	20.0%	1	GER	H.KUESTERS	KFK	792226R

Q: TARGET IN METASTABLE STATE.
MEASUREMENT WANTED
O: FOR THERMAL REACTORS.

61 PROMETHIUM 151 NEUTRON CAPTURE CROSS SECTION

729	1.00	MV	1.00	KEV	10. %	2	USA	DEI	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

730	500.	EV	200.	KEV	20.0%	1	FR	M.SALVATORES	CAD	732079R

Q: RELATIVE VALUE VERSUS ENERGY OR VALUE RELATIVE TO CAPTURE IN ANOTHER NUCLEUS SUCH AS U-238.
O: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

62 SAMARIUM 149 NEUTRON CAPTURE CROSS SECTION

731	1.00	MV	1.00	KEV	5.0%	3	DEN	C.F.HOEJERUP	RIS	712048R

O: WANTED FOR FISSION PRODUCT CALCULATIONS.

732	25.0	KEV			5.0%	1	JAP	S.IIJIMA H.MATSUNOBU	NIG SAE	752020

Q: FOR FAST REACTOR BURNUP CALCULATIONS.
DISCREPANCY BETWEEN STEK DATA AND RECENT DIFFERENTIAL DATA.
ONE ABSOLUTE DATA POINT AT 25 KEV REQUIRED.

62 SAMARIUM 149 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

733	25.3	MV	1.00	KEV	20.0%	1	FR	B.DUCHEMIN	SAC	612060R

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

62 SAMARIUM 151 NEUTRON CAPTURE CROSS SECTION

734	1.00	MV	1.00	KEV	5. %	2	USA	DEI	BET	671054R

Q: RADIOACTIVE TARGET 90 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.
O: FOR CALCULATION OF FISSION PRODUCT POISONS.

735	10.0	MV	5.00	KEV	10.0%	2	FR	H.TELLIER	SAC	732062R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: REACTOR CALCULATIONS.

736	100.	EV	500.	KEV	10.0%	1	JAP	S.IIJIMA H.MATSUNOBU	NIG SAE	752021R

Q: FOR FAST REACTOR BURNUP CALCULATIONS.
NO KEV DATA.

737	10.0	MV	1.00	MEV	20.0%	1	GER	H.KUESTERS	KFK	792225R

Q: MEASUREMENT WANTED

738	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.
C: FOR CALCULATIONS OF REACTIVITY AND BURN-UP IN FAST REACTORS.

62 SAMARIUM 151 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

739	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.
O: FOR INSTRUMENTATION AND SHIELDING CALCULATIONS-EVALUATION MAY BE SUFFICIENT

62 SAMARIUM 153 NEUTRON CAPTURE CROSS SECTION

740	1.00	MV	1.00	KEV		2	USA	DEI FEINER	BET KAP	671061R

C: 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.
C: FOR CALCULATION OF FISSION PRODUCT POISONS.

741	25.3	MV				3	CAN	W.H.WALKER	CRC	691814R

A: REQUIRED WITH A 10000 BARN ACCURACY.
O: FISSION PRODUCT WITH UNKNOWN CROSS SECTION.

63 EUROPIUM 151 NEUTRON CAPTURE CROSS SECTION

742	25.3	MV	5.00	KEV	5.0%	3	FR	H.TELLIER	SAC	732064R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: REACTOR CALCULATIONS.

743	1.00	KEV	1.00	MEV	5. %	2	USA	HEMMIG	DOE	741055R
744	0.50	EV	5.00	KEV	5. %	2	USA	MUGHABGHAB	BNL	761076R
745	1.00	EV	2.00	MEV	10.0%	2	FR	M.SALVATORES	CAD	792019R

O: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

63 EUROPIUM 152 NEUTRON CAPTURE CROSS SECTION

746	1.00	MV	1.00	KEV	10. %	2	USA	MUGHABGHAB	BNL	761077R

Q: RADIOACTIVE TARGET 13 YR
ALSO REQUIRE RESONANCE PARAMETERS AND RESONANCE INTEGRAL.

747	100.	EV	500.	KEV	10.0%	1	JAP	S.IIJIMA H.MATSUNOBU	NIG SAE	812041N

Q: NC KEV DATA
O: FOR CONTROL ROD AND THERMAL REACTOR BURN UP CALCULATIONS.

63 EUROPIUM 152 NEUTRON RESONANCE PARAMETERS

748	100.	EV	500.	KEV	10.0%	1	JAP	S.IIJIMA H.MATSUNOBU	NIG SAE	812042N

Q: NO DATA EXIST EXCEPT THOSE BY VERTENENJE ET AL (1977) IN 0.88 TO 17 EV
RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH, SPIN AND ORBITAL MOMENTUM WANTED.
O: FOR CONTROL ROD AND THERMAL REACTOR BURN-UP CALCULATIONS.

63 EUROPIUM 153 NEUTRON CAPTURE CROSS SECTION

749	1.00	MV	5.00	KEV		2	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.

750	1.00	EV	5.00	KEV	10.0%	3	FR	H.TELLIER	SAC	732065R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: REACTOR CALCULATIONS.

751	1.00	KEV	1.00	MEV	5. %	2	USA	HEMMIG	DOE	741105R
752	1.00	EV	2.00	MEV	10.0%	2	FR	M.SALVATORES	CAD	792020R

O: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

753	25.3	MV			10.0%	1	BLG	L.LEENDERS	MOL	812065N

O: FOR BURN UP MEASUREMENTS FROM NON-DESTRUCTIVE FUEL ANALYSIS.

63 EUROPIUM 153 NEUTRON CAPTURE RESONANCE INTEGRAL

754	0.50	EV	1.00	MEV	5.0%	1	BLG	L.LEENDERS	MOL	812066N

O: FOR BURN UP MEASUREMENTS FROM NON-DESTRUCTIVE FUEL ANALYSIS.

63 EUROPIUM 154 NEUTRON CAPTURE CROSS SECTION

755	25.3	MV			5.0%	1	JAP	H.OKASHITA	JAE	722035N

Q: RESONANCE INTEGRAL ALSO WANTED.
O: FOR BURN UP CALCULATION FROM NON-DESTRUCTIVE MEASUREMENT.

756	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

757	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.

63 EUROPIUM 154 NEUTRON RESONANCE PARAMETERS

758	100.	EV	500.	KEV	10.0%	1	JAP	S.IIJIMA H.MATSUNOBU	NIG SAE	812044N

Q: INSUFFICIENT RESONANCE DATA.
RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH, SPIN AND ORBITAL MOMENTUM WANTED.
O: FOR CONTROL ROD AND THERMAL REACTOR BURN-UP CALCULATIONS

63 EUROPIUM 154 NEUTRON CAPTURE RESONANCE INTEGRAL

759	0.50	EV	1.00	MEV	20.0%	1	BLG	L.LEENDERS	MOL	812068N

O: FOR BURN UP MEASUREMENTS FROM NON-DESTRUCTIVE FUEL ANALYSIS.

63 EUROPIUM 155 — GAMMA RAY YIELD

760				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)
Q: FOR BURN UP CALCULATION FROM NON-DESTRUCTIVE MEASUREMENT.

63 EUROPIUM 155 — NEUTRON — CAPTURE CROSS SECTION

761	1.00	MV	1.00	KEV	5.0%	3	DEN	C.F.HOEJEROP	RIS	712050R

Q: WANTED FOR FISSION PRODUCT CALCULATIONS.

762	100.	EV	500.	KEV	20.0%	2	JAP	S.IIJIMA H.MATSUNOBU	NIG SAE	812045N

Q: NO EXPERIMENTAL DATA
Q: FOR FAST REACTOR BURN-UP CALCULATIONS

63 EUROPIUM 155 — NEUTRON — RESONANCE PARAMETERS

763	100.	EV	500.	KEV	20.0%	2	JAP	S.IIJIMA H.MATSUNOBU	NIG SAE	812046N

Q: INSUFFICIENT RESONANCE DATA. RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH, SPIN AND ORBITAL MOMENTUM WANTED.
Q: FOR FAST REACTOR BURN-UP CALCULATIONS

63 EUROPIUM 156 — NEUTRON — CAPTURE CROSS SECTION

764	25.3	MV				3	CAN	W.H.WALKER	CRC	691815R

A: REQUIRED WITH A 700 BARN ACCURACY.
Q: FISSION PRODUCT WITH UNKNOWN CROSS SECTION.

64 GADOLINIUM 155 — NEUTRON — CAPTURE CROSS SECTION

765	10.0	MV	5.00	KEV	5.0%	2	FR	H.TELLIER	SAC	732086R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
Q: CONSUMABLE POISON.

64 GADOLINIUM 157 — NEUTRON — CAPTURE CROSS SECTION

766	1.00	MV	1.00	KEV	5.0%	3	DEN	C.F.HOEJEROP	RIS	712051R

Q: WANTED FOR FISSION PRODUCT CALCULATIONS.

767	10.0	MV	5.00	KEV	5.0%	2	FR	H.TELLIER	SAC	732087R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
Q: CONSUMABLE POISON.

66 DYSPROSIUM 162 — NEUTRON — TOTAL CROSS SECTION

768	1.00	EV	10.0	EV		3	USA	MUGHABGHAB	BNL	821047R

A: ACCURACY RANGE 4. TO 10. PERCENT. INCIDENT ENERGY RESOLUTION: 1.5 PERCENT.
Q: TOTAL CROSS SECTION MEASUREMENT ON A VERY THIN DY-162 SAMPLE TO DETERMINE WHETHER THE 5.4 EV RESONANCE IS A DOUBLET AND THE CORRESPONDING ACCURATE RESONANCE PARAMETERS. SEE NEUTRON CROSS SECTIONS VOL. 1, PART B, FOURTH EDITION.
M: NEW REQUEST.

69 THULIUM 169 — NEUTRON — N,2N

769	8.00	MEV	25.0	MEV		2	USA	MCELROY	HED	801031F

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

69 THULIUM 169 — NEUTRON — N,3N

770	15.0	MEV	30.0	MEV		2	USA	MCELROY	HED	801030F

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

69 THULIUM 169 — NEUTRON — N,4N

771		UP TO	40.0	MEV	20. %	3	USA	MCELROY	HED	801251F

Q: ACTIVATION IS REQUIRED.
Q: FOR FMIT DOSIMETRY.

69 THULIUM 169 NEUTRON N,5N

772	UP TO	50.0	MEV		3	USA	MCELROY	HED		801029F

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

72 HAFNIUM NEUTRON CAPTURE CROSS SECTION

773	1.00	MV	1.00	EV	2. %	2	USA	DEI FEINER	BET KAP	621024R

Q: TO RESOLVE DISCREPANCIES IN THERMAL DATA.
FOR MONTE CARLO CALCULATIONS OF BURN-UP IN THERMAL REACTORS.

774	1.00	KEV	1.00	MEV		2	JAP	S.IIJIMA	NIG	832026R

Q: GREATER THAN 10 PERCENT DISCREPANCY AMONG THE EXPERIMENTAL DATA. INCONSISTENCY BETWEEN THE CROSS SECTIONS OF HF AND THE SUM OF THE ISOTOPIC DATA.
A: 5 TO 10 PERCENT.
O: CONTROL ROD MATERIAL IN LWR.
M: NEW REQUEST.

72 HAFNIUM 176 NEUTRON CAPTURE CROSS SECTION

775	1.00	MV	5.00	KEV		2	USA	DEI 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.

776	10.0	MV	5.00	KEV	10.0%	1	FR	H.TELLIER	SAC	732068R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
C: REACTOR CALCULATIONS.

777	1.00	KEV	1.00	MEV	10.0%	2	JAP	S.IIJIMA	NIG	832020R

Q: NO EXPERIMENTAL DATA.
O: CONTROL ROD MATERIAL.
M: NEW REQUEST.

72 HAFNIUM 177 NEUTRON CAPTURE CROSS SECTION

778	1.00	MV	5.00	KEV		2	USA	DEI 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,
- 5.85, 6.57, 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.

779	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.

780	1.00	KEV	1.00	MEV	10.0%	2	JAP	S.IIJIMA	NIG	832019R

Q: NO EXPERIMENTAL DATA.
C: CONTROL ROD MATERIAL.
M: NEW REQUEST.

72 HAFNIUM 178 NEUTRON CAPTURE CROSS SECTION

781	1.00	MV	5.00	KEV		2	USA	DEI 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.
C: TO RESOLVE DISCREPANCIES IN RI.
FOR MONTE CARLO BURN-UP CALCULATIONS.

782	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.

72 HAFNIUM 179 — NEUTRON — CAPTURE CROSS SECTION

783	1.00	MV	5.00	KEV		2	USA	DEI 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.

C: TO RESOLVE DISCREPANCIES IN R1.
FOR MONTE CARLO BURN-UP CALCULATIONS.

784	10.0	MV	5.00	KEV	5.0%	1	FR	H.TELLIER	SAC	6923C5R

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.

72 HAFNIUM 180 — NEUTRON — CAPTURE CROSS SECTION

785	1.00	MV	5.00	KEV		2	USA	DEI FEINER	BET KAP	6710E0R

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 R1.
FOR MONTE CARLO BURN-UP CALCULATIONS.

786	10.0	MV	5.00	KEV	5.0%	1	FR	H.TELLIER	SAC	732086R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
C: REACTOR CALCULATIONS.

73 TANTALUM 181 — NEUTRON — CAPTURE CROSS SECTION

787	1.00	EV	1.00	KEV	10. %	2	USA	HEMMIG	DOE	691192R

A: DOUBLE ACCURACY USEFUL.
O: FAST BREEDER CONTROL AND BURN-UP CALCULATIONS.

788	1.00	KEV	150.	KEV	5. %	2	USA	HEMMIG	DOE	691193R

A: DOUBLE ACCURACY USEFUL.
O: FAST BREEDER CONTROL AND BURN-UP CALCULATIONS.

73 TANTALUM 181 — NEUTRON — TOTAL PHOTON PRODUCTION CROSS SECTION

789	1.00	EV	16.0	MEV	15. %	2	USA	HEMMIG	DOE	741111R

Q: GAMMA-RAYS BELOW 1 MEV IMPORTANT.

73 TANTALUM 181 — NEUTRON — ENERGY DIFF. PHOTON-PRODUCTION CROSS SECTION

790	2.50	EV	15.0	MEV	20. %	2	USA	ENGHOLM	GA	801018F

Q: CAPTURE GAMMA SPECTRUM ALSO NEEDED.
O: USE AS ADVANCED SHIELDING MATERIAL.

73 TANTALUM 181 — NEUTRON — ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

791	5.00	MEV	15.0	MEV	20. %	2	USA	ENGHOLM	GA	801017F

Q: NEUTRON SPECTRUM ALSO NEEDED.
O: USE AS ADVANCED SHIELDING MATERIAL.
M: SUBSTANTIAL MODIFICATIONS.

73 TANTALUM 181 — NEUTRON — SPECIAL QUANTITY (DESCRIPTION BELOW)

792	2.50	EV	15.0	MEV	20. %	2	USA	ENGHOLM	GA	801099F

Q: ACTIVATION CROSS SECTION.
O: FUSION REACTOR SHUTDOWN DOSE RATES.
M: SUBSTANTIAL MODIFICATIONS.

74 TUNGSTEN — NEUTRON — INELASTIC CROSS SECTION

793	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.

74 TUNGSTEN — NEUTRON — N,2N

794	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.

74 TUNGSTEN			NEUTRON		ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION					
795	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				
796	15.0	MEV	35.0	MEV		3	USA	DORAN	HED	801055F
								C: FOR MATERIALS DAMAGE CALCULATIONS.		
74 TUNGSTEN			NEUTRON		N,P					
797		UP TO	14.0	MEV	10.0%	3	FR	B.DUCHEMIN	SAC	732035F
								A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS. D: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.		
74 TUNGSTEN			NEUTRON		TOTAL PROTON PRODUCTION CROSS SECTION					
798	9.00	MEV	15.0	MEV	10. %	3	USA	DORAN	HED	801058F
								D: MATERIALS DAMAGE CALCULATIONS.		
799	15.0	MEV	30.0	MEV	20. %	3	USA	DORAN	HED	801312F
								D: MATERIALS DAMAGE CALCULATIONS.		
74 TUNGSTEN			NEUTRON		N,ALPHA					
800		UP TO	14.0	MEV	10.0%	3	FR	B.DUCHEMIN	SAC	732037F
								A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS. D: POTENTIAL CONSTITUENT OF CONTAINMENT VESSEL.		
74 TUNGSTEN			NEUTRON		TOTAL ALPHA PRODUCTION CROSS SECTION					
801	9.00	MEV	30.0	MEV	20. %	3	USA	DORAN	HED	801059F
								D: MATERIALS DAMAGE CALCULATIONS AND DOSIMETRY. M: SUBSTANTIAL MODIFICATIONS.		
77 IRIDIUM 191			NEUTRON		CAPTURE CROSS SECTION					
802	25.3	MV	10.0	MEV	10.0%	3	JAP	K.TSUCHIHASHI.	JAP	832021M
								Q: EVALUATED DATA REQUIRED. D: FOR NON DESTRUCTIVE ASSAY OF ENGINES. M: NEW REQUEST.		
78 PLATINUM			NEUTRON		DIFFERENTIAL ELASTIC CROSS SECTION					
803	10.0	MV	10.0	EV	10. %	2	USA	EISENHAUER	NBS	781177R
								C: FOR SCATTERING CORRECTIONS IN PT FISSION DEPOSIT BACKINGS.		
79 GOLD 197			NEUTRON		CAPTURE CROSS SECTION					
804	10.0	KEV	1.00	MEV	2. %	2	USA	MUGHABGHAB	BNL	721073R
805	500.	KEV	5.00	MEV	5.0%	2	FR	E.FORT	CAD	792021M
								C: STANDARD CROSS SECTION		
STATUS										STATUS
UNDER CONTINUOUS REVIEW BY INDC AND NEANDC. SEE APPENDIX A.										
79 GOLD 197			NEUTRON		N,2N					
806	20.0	MEV	25.0	MEV	20. %	2	USA	MCELROY	HED	781010F
								D: DOSIMETRY FOR FMIT FACILITY. M: SUBSTANTIAL MODIFICATIONS.		
79 GOLD 197			NEUTRON		N,3N					
807	20.0	MEV	40.0	MEV	20. %	1	USA	MCELROY	HED	781011F
								D: DOSIMETRY FOR FMIT FACILITY.		
808		UP TO	40.0	MEV	5.0%	2	EUR	NEUTRON DOSIMETRY GROUP	GEL	832054F
								C: (N,3N) CROSS SECTION. D: FOR HIGH ENERGY ACCELERATOR-BASED NEUTRON SOURCES. FUSION. M: NEW REQUEST.		

79 GOLD 197 | NEUTRON | N,4N

809	25.0	MEV	40.0	MEV	20. %	3	USA	MCELROY	HED	781012F

C: DOSIMETRY FOR FMIT FACILITY.

79 GOLD 197 | NEUTRON | N,5N

810	30.0	MEV	40.0	MEV	20. %	3	USA	MCELROY	HED	781013F

C: DOSIMETRY FOR FMIT FACILITY.

79 GOLD 197 | NEUTRON | TOTAL ALPHA PRODUCTION CROSS SECTION

811	15.0	MEV	30.0	MEV	10. %	2	USA	MCELROY	HED	801065F

O: TOTAL HELIUM PRODUCTION CROSS SECTION FOR DOSIMETRY.
M: SUBSTANTIAL MODIFICATIONS.

80 MERCURY 198 | NEUTRON | INELASTIC CROSS SECTION

812	500.	KEV	20.0	MEV	10.0%	3	JAP	K.SAKURAI	JAE	812030R

Q: PRODUCTION CROSS SECTION FOR 42.6 MIN ISOMER THROUGH INELASTIC SCATTERING.
C: FOR NEUTRON DOSIMETRY.
M: SUBSTANTIAL MODIFICATIONS.

82 LEAD | GAMMA | GAMMA,N

813	UP TO		20.0	MEV	30. %	2	USA	DRIEMEYER	MDD	821045F

A: INCIDENT ENERGY RESOLUTION: 5. PERCENT.
O: DETERMINATION OF PHOTONEUTRON ACTIVATION IN EBT-P. NEEDED FOR ASSESSING POTENTIAL ACTIVATION PROBLEMS IN THE UPGRADE PHASE OF EBT-P OPERATION.
M: NEW REQUEST.

82 LEAD | NEUTRON | INELASTIC CROSS SECTION

814	3.00	MEV	15.0	MEV	15.0%	2	FR	B.DUCHEMIN	SAC	792024F

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
Q: NEUTRON MULTIPLIER

82 LEAD | NEUTRON | CAPTURE GAMMA RAY SPECTRUM

815	2.00	KEV	600.	KEV	5. %	2	USA	FU	ORL	741166F

82 LEAD | NEUTRON | TOTAL PHOTON PRODUCTION CROSS SECTION

816	25.3	MV	16.0	MEV	10.0%	2	FR	B.DUCHEMIN	SAC	692315R

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.

817	25.3	MV	15.0	MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR	724057F

C: GAMMA RAY SPECTRA REQUIRED.
O: GAMMA RAY HEATING AND SHIELDING CALCULATIONS.

818	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

819	1.00	KEV	15.0	MEV	10.0%	2	FR	M.SALVATORES	CAD	792022R

O: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

82 LEAD | NEUTRON | N,2N

820	UP TO		15.0	MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR	724058F

O: POSSIBLE USE AS NEUTRON MULTIPLIER.

821	UP TO		15.0	MEV	15.0%	2	FR	B.DUCHEMIN	SAC	792023F

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
Q: NEUTRON MULTIPLIER

822	6.76	MEV	15.0	MEV	10. %	2	USA	ENGHOLM	GA	801021F

Q: SECONDARY NEUTRON SPECTRA REQUIRED.
M: SUBSTANTIAL MODIFICATIONS.

82 LEAD | NEUTRON | ENERGY-ANGLE DIFF.2 NEUTRON-PRODUCTION CROSS SECT.

823	6.77	MEV	15.0	MEV	20.0%	1	GER	H.BROCKMANN	JUL	812070F

Q: FOR NEUTRON MULTIPLICATION.AND TRITIUM BREEDING IN FUSION.

82 LEAD | NEUTRON | N,3N

824	14.2	MEV	15.0	MEV	20. %	3	USA	ENGHOLM	GA	801011F

Q: TOTAL CROSS SECTION AND SECONDARY NEUTRON SPECTRUM.
G: FOR FISSION-SUPPRESSED HYBRID REACTOR BLANKET DESIGNS.
M: SUBSTANTIAL MODIFICATIONS.

82 LEAD | NEUTRON | NEUTRON EMISSION CROSS SECTION

825	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.
G: FOR SHIELDING CALCULATION. NEW EVALUATION TO BE DONE IF NEW EXPERIMENTAL DATA.

82 LEAD | NEUTRON | ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

826	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.

827	9.00	MEV	15.0	MEV	10. %	2	USA	BERK	DOE	781050F

Q: FOR SHIELDING, ACTIVATION AND TRANSPORT STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.

828		UP TO	15.0	MEV	10.0%	2	JAP	A.TAKAHASHI	OSA	832044F

Q: ENERGY-ANGLE DIFFERENTIAL CROSS SECTIONS FOR TOTAL NEUTRON EMISSION REQUIRED.
G: FOR CALCULATION OF THE NEUTRON MULTIPLICATION IN FUSION BLANKETS. FUSION BLANKETS.
M: NEW REQUEST.

82 LEAD | NEUTRON | SPECIAL QUANTITY (DESCRIPTION BELOW)

829	9.00	MEV	15.0	MEV	20. %	2	USA	BERK	DOE	801045F

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

82 LEAD 206 | NEUTRON | N,ALPHA

830		UP TO	15.0	MEV	20.0%	2	JAP	H.IIDA	JAE	792091F

Q: EXPERIMENTAL DATA REQUIRED
C: 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 PHOTON PRODUCTION CROSS SECTION

831	25.3	MV	15.0	MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR	724059F

Q: GAMMA RAY SPECTRA REQUIRED.
G: GAMMA RAY HEATING AND SHIELDING CALCULATIONS.

83 BISMUTH 209 | NEUTRON | N,2N

832		UP TO	15.0	MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR	724060F

Q: POSSIBLE USE AS NEUTRON MULTIPLIER.

833		UP TO	15.0	MEV	10. %	2	USA	GREEN	NEW	821041F

Q: TOTAL (N,2N) CROSS SECTION AND SECONDARY NEUTRON ENERGY DISTRIBUTION NEEDED. FOR FISSION SUPPRESSED HYBRID BLANKET DESIGN.
M: NEW REQUEST.

90 THORIUM 230 | NEUTRON | CAPTURE CROSS SECTION

834	25.3	MV	1.00	MEV	10. %	2	USA	BARTINE	ORL	781196R

Q: RADIOACTIVE TARGET 8.0X(10**4) YR
G: KEY REACTION FOR PRODUCTION OF U-232.

90 THORIUM 232 SPONTANEOUS ENERGY SPECTRUM OF FISSION NEUTRONS

835 UP TO 14.0 MEV 10. % 2 USA GREEN MEW 821048F
Q: RADIOACTIVE TARGET 1.41X(10**10) YR
O: ENERGY AND ANGULAR DISTRIBUTION OF FISSION NEUTRONS NEEDED FOR FUSION HYBRID APPLICATIONS.
M: NEW REQUEST.

90 THORIUM 232 NEUTRON TOTAL CROSS SECTION

836 100. MV 6.00 EV .5 % 2 USA LEONARD BNW 761CE0R
O: NEEDED FOR THERMAL CROSS SECTION EVALUATION.

837 100. MV 20.0 EV .5 % 2 USA DEI BET 781161R

838 1.00 KEV 100. KEV 2. % 2 USA PEELLE ORL 781197R
A: RESOLVED NEUTRON WIDTHS NEEDED TO 3-5 PERCENT CORRELATED UNCERTAINTIES.
O: FOR RESONANCE PARAMETER EVALUATION. SEVERAL SAMPLES REQUIRED.
M: SUBSTANTIAL MODIFICATIONS.

90 THORIUM 232 NEUTRON ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

839 UP TO 10.0 MEV 10.0% 3 GER H.GERWIN JUL 692325R

90 THORIUM 232 NEUTRON CAPTURE CROSS SECTION

840 1.00 MV 20.0 EV 2. % 1 USA DEI BET 621034R
Q: THICK SAMPLE TRANSMISSION AND SELF-INDICATION EXPERIMENTS DESIRABLE.
RESONANCE PARAMETERS, TOTAL CROSS SECTION 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.

841 20.0 EV 5.00 KEV 5. % 1 USA DEI BET 621035R
Q: THICK SAMPLE TRANSMISSION AND SELF-INDICATION EXPERIMENTS DESIRABLE.
RESONANCE PARAMETERS, TOTAL CROSS SECTION AND RESONANCE INTEGRAL ALSO NEEDED.
A: NEED ACCURACY OF 5 PERCENT IN RESONANCE PARAMETERS.

842 1.00 KEV 1.00 MEV 3.0% 3 UK C.G.CAMPBELL WIN 692329R
C: FOR FAST REACTORS.

843 4.00 KEV 10.0 MEV 1 GER H.GERWIN JUL 692330R
H.KUESTERS KFK
A: ACCURACY 5 PERCENT TO 2 MEV AND 10 PERCENT ABOVE.

844 25.3 MV 2.0% 3 FR H.TELLIER SAC 732090R
A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.

845 25.3 MV 3.00 MEV 10.0% 3 FR F.JOSSO CAD 762140R
A: QUOTED UNCERTAINTY AT 2 STANDARD DEVIATIONS.
O: FOR FAST REACTOR FUEL CYCLE CALCULATION.
M: SUBSTANTIAL MODIFICATIONS.

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

90 THORIUM 232 NEUTRON N.2N

846 UP TO 10.0 MEV 20.0% 3 GER H.GERWIN JUL 692326R
Q: SECONDARY ENERGY DISTRIBUTION REQUIRED.

847 UP TO 15.0 MEV 15.0% 2 CCP I.N.GOLOVIN KUR 724061F
C: POSSIBLE USE AS NEUTRON MULTIPLIER.

848 UP TO 15.0 MEV 5. % 2 USA DEI BET 761065R
O: FOR CALCULATION OF FUEL ACTIVITY IN TH-232 CYCLE REACTORS.

849 11.0 MEV 15.0 MEV 20. % 2 USA BERK DOE 781161F
O: FOR HYBRID SYSTEM DESIGN.

850 14.2 MEV 15.0% 2 FR B.DUCHEMIN SAC 792026F
A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: NEUTRON MULTIPLIER

90 THORIUM 232 NEUTRON N,3N

851	UP TO	15.0 MEV	15.0%	2	CCP	I.N.GOLOVIN	KUR		724062F
					C: POSSIBLE USE AS NEUTRON MULTIPLIER.				
852	11.0 MEV	15.0 MEV	20. %	2	USA	BERK	DOE		7811e2F
					C: FOR HYBRID SYSTEM DESIGN.				
853	14.2 MEV		15.0%	2	FR	B.DUCHEMIN	SAC		792027F
					A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS. C: NEUTRON MULTIPLIER				

90 THORIUM 232 NEUTRON FISSION CROSS SECTION

854	25.3 MV	10.0 MEV	5.0%	2	GER	H.GERWIN	JUL		692328R
					D: SPECTRUM INDEX.				
855	100. KEV	10.0 MEV	10.0%	3	FR	H.TELLIER	SAC		732051R
					A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.				
856	1.50 MEV	7.20 MEV	5.0%	2	EUR	NEUTRON DOSIMETRY GROUP		GEL	742135R
					D: FOR NEUTRON DOSIMETRY USING SPECTRUM UNFOLDING METHODS. GREATER THAN 10 PERCENT DISCREPANCY BETWEEN INTEGRAL AND DIFFERENTIAL MEASUREMENTS.				
857	14.2 MEV		15.0%	2	FR	B.DUCHEMIN	SAC		792025F
					A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS. D: NEUTRON MULTIPLIER				
858	UP TO	5.00 MEV	5.0%	3	UK	C.G.CAMPBELL	WIN		792136R
					C: FOR FAST REACTORS. EVALUATION REQUIREMENT.				

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

UNDER CONTINUOUS REVIEW BY NEANDC. SEE APPENDIX A.

90 THORIUM 232 NEUTRON ENERGY SPECTRUM OF DELAYED FISSION NEUTRONS

859			2. %	1	USA	DEI	BET		7811e2R
					Q: NEED FAST GROUP YIELDS AND SPECTRA. C: TO VERIFY EXISTING EVALUATIONS.				

90 THORIUM 232 NEUTRON RESONANCE PARAMETERS

860	UP TO	10.0 KEV	10.0%	1	GER	H.GERWIN H.KUESTERS	JUL KFK		692323R
					Q: RADIATION WIDTH NEEDED.				
861	UP TO	10.0 KEV	10.0%	1	GER	H.KUESTERS	KFK		792214R

91 PROTACTINIUM 231 NEUTRON CAPTURE CROSS SECTION

862	25.3 MV	10.0 MEV	10. %	2	USA	LEONARD	BNW		691219R
					Q: RADIOACTIVE TARGET 3.28X(10**4) YR D: FOR CONTROL OF U-232 PRODUCTION.				
863	1.00 MV	1.00 KEV		2	USA	DEI	BET		761066R
					Q: RADIOACTIVE TARGET 3.28X(10**4) YR ALSO NEED RESONANCE PARAMETERS AND RESONANCE INTEGRAL. A: ACCURACY RANGE 5. TO 10. PERCENT. D: FOR CALCULATION OF FUEL ACTIVITY IN TH-232 CYCLE REACTORS.				

91 PROTACTINIUM 231 NEUTRON ENERGY SPECTRUM OF DELAYED FISSION NEUTRONS

864			5. %	2	USA	DEI	BET		7811e3R
					Q: RADIOACTIVE TARGET 3.28X(10**4) YR NEED FAST GROUP YIELDS AND SPECTRA. D: TO VERIFY EXISTING EVALUATIONS.				

91 PROTACTINIUM 233 NEUTRON ABSORPTION CROSS SECTION

865	25.3 MV	500. EV	5.0%	1	GER	H.KUESTERS MAERKL	KFK SRE		692333R

91 PROTACTINIUM 233 NEUTRON CAPTURE CROSS SECTION

866 1.00 MV 100. EV 5. % 2 USA DEI BET 761059R
Q: RADIOACTIVE TARGET 27.0 DAY
RESONANCE PARAMETERS ALSO DESIRED.
O: NEEDED FOR ANALYSIS OF TH-232 CYCLE THERMAL REACTORS.

867 500. EV 3.00 MEV 15.0% 2 FR M.SALVATORES CAD 762142R
Q: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

868 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.

91 PROTACTINIUM 233 NEUTRON FISSION CROSS SECTION

869 500. EV 3.00 MEV 15.0% 2 FR M.SALVATORES CAD 762141R
Q: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

91 PROTACTINIUM 233 NEUTRON ABSORPTION RESONANCE INTEGRAL

870 0.50 EV 10.0% 1 GER H.KUESTERS KFK 692334R
MAERKL SRE

92 URANIUM 232 NEUTRON CAPTURE CROSS SECTION

871 1.00 MV 1.00 KEV 2 USA DEI 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.

872 1.00 KEV 3.00 MEV 30.0% 3 FR M.SALVATORES CAD 792028R
O: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

92 URANIUM 232 NEUTRON FISSION CROSS SECTION

873 1.00 KEV 3.00 MEV 30.0% 3 FR M.SALVATORES CAD 792029R
O: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

92 URANIUM 233 NEUTRON TOTAL CROSS SECTION

874 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.

875 60.0 EV 100. KEV 3. % 2 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

876 40.0 KEV 7.00 MEV 2 USA SMITH ANL 671066R
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

877 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

878 25.3 MV 1.00 MEV 20.0% 1 GER H.GERWIN JUL 692350R
O: ACCURACY INSUFFICIENT.

879 1.00 MEV 10.0 MEV 20.0% 2 GER H.GERWIN JUL 692352R
Q: ALPHA ALSO USEFUL.
O: ACCURACY INSUFFICIENT.

880 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.

881 1.0C MV 0.50 EV 1. % 1 USA DEI BET 741112R

Q: RADIOACTIVE TARGET 1.592X(10**5) YR
Q: VERIFICATION OF RECENT ORNL RESULTS DESIRED.

882 0.50 EV 2.00 EV 2. % 1 USA DEI BET 741114R

Q: RADIOACTIVE TARGET 1.592X(10**5) YR
Q: VERIFICATION OF RECENT ORNL RESULTS DESIRED.

883 100. EV 200. KEV 2 USA PEELLE ORL 761081R

C: RADIOACTIVE TARGET 1.592X(10**5) YR
MOST IMPORTANT BELOW 30 KEV WHERE THERE ARE NO DATA.
A: ACCURACY RANGE 5. TO 10. PERCENT.

884 500. EV 3.00 MEV 10.0% 2 FR M.SALVATORES CAD 762143R

Q: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

885 60.0 EV 500. KEV 2 USA STEWART LAS 791062R

Q: RADIOACTIVE TARGET 1.592X(10**5) YR
A: ACCURACY RANGE 5. TO 8. PERCENT.
Q: NEEDED TO COVER THE UNRESOLVED RANGE AND TO EXTEND TO HIGHER ENERGIES.
NO DATA AVAILABLE ABOVE 2 KEV EXCEPT ALPHA MEASUREMENTS OF DIVEN.

886 1.00 MEV 20.0 MEV 10.0% 2 JAP N.ASANO SAE 792063R

Q: EXPERIMENTAL DATA REQUIRED.

887 25.3 MV 1.00 MEV 20.0% 1 GER H.KUESTERS KFK 792217R

888 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
C: FOR THORIUM FUEL CYCLE STUDIES.

92 URANIUM 233 NEUTRON N,2N

889 UP TO 15.0 MEV 10. % 2 USA HEMMIG DOE 671088R

Q: RADIOACTIVE TARGET 1.592X(10**5) YR
Q: FOR CONTAMINATION OF U-233 BY U-232.

890 UP TO 15.0 MEV 10.0% 1 FR C.PHILIS BRC 692341R

891 UP TO 15.0 MEV 10.0% 2 FR F.JOSSO CAD 792030R

A: QUOTED UNCERTAINTY AT 2 STANDARD DEVIATIONS.
Q: FOR FAST REACTOR FUEL CYCLE CALCULATION.
M: SUBSTANTIAL MODIFICATIONS.

892 UP TO 20.0 MEV 10.0% 2 JAP N.ASANO SAE 792052R

Q: EXPERIMENTAL DATA WANTED.

92 URANIUM 233 NEUTRON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

893 1.00 MEV 3 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

894 1.00 KEV 10.0 MEV 1. % 2 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.

895 25.3 MV 50.0 EV 2.0% 2 GER H.GERWIN JUL 692342R

896 50.0 EV 10.0 MEV 2 GER H.GERWIN JUL 692343R

A: ACCURACY REQUIRED TO BETTER THAN 10.0 PERCENT.
C: SPECTRUM INDEX.

897 500. EV 3.00 MEV 10.0% 2 FR M.SALVATORES CAD 692344R

A: THIS ACCURACY CONCERNS THE FISSION RATIO U-233 U-235.
ACCURACY OF 2 PERCENT NEEDED BETWEEN 10 KEV AND 1 MEV.
Q: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

898 UP TO 10.0 KEV 3.0% 3 FR H.TELLIER SAC 732052R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.

899 1.00 MV 20.0 MEV 1 USA DEI BET 781164R

Q: RADIOACTIVE TARGET 1.592X(10**5) YR
A: ACCURACY WANTED - 1 PERCENT BELOW 100 EV, 5 PERCENT ABOVE.
C: FOR THERMAL REACTOR ANALYSIS.

900 60.0 EV 100. KEV 2 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.
C: NEEDED TO COVER THE UNRESOLVED RANGE AND OVERLAP THE RATIO MEASUREMENTS OF CARLSON.

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

UNDER CONTINUOUS REVIEW BY NEANDC. SEE APPENDIX A.

92 URANIUM 233 NEUTRON CAPTURE TO FISSION RATIO (ALPHA)

901 0.50 EV 10.0 KEV 3. % 2 USA DEI 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.
C: WANT VERIFICATION OF RECENT ORNL AND BETTIS WORK.

902 10.0 KEV 20.0 MEV 2 USA DEI 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.
C: WANT VERIFICATION OF RECENT ORNL AND BETTIS WORK.

903 5.00 MV 0.50 EV 1 USA DEI 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.
C: WANT VERIFICATION OF RECENT ORNL AND BETTIS WORK.

904 1.00 KEV 100. KEV 5.0% 3 UK C.G.CAMPBELL WIN 692346R

Q: FOR FAST REACTORS.

905 1.00 KEV 3.00 MEV 2 USA SMITH ANL 821050R
HEMMIG DOE

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.
N: NEW REQUEST.

92 URANIUM 233 NEUTRON NEUTRONS EMITTED PER NEUTRON ABSORPTION (ETA)

906 10.0 MV 0.20 EV 0.5% 3 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.
C: FOR THERMAL REACTORS.

907 1.00 MV 1.00 EV .4 % 1 USA DEI BET 741113R

Q: RADIOACTIVE TARGET 1.592X(10**5) YR
THERMAL VALUE AND SHAPE NEEDED.
C: TO VERIFY MANGANESE BATH RESULTS.

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

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

92 URANIUM 233 NEUTRON NEUTRONS EMITTED PER FISSION (NU BAR)

908 1.00 MV 30.0 EV .25 % 1 USA DEI 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.
C: NEEDED TO RESOLVE DISCREPANCIES IN THERMAL PARAMETERS AND BREEDING PREDICTION.

909 30.0 EV 1.00 KEV 1. % 1 USA DEI 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.
C: NEEDED TO RESOLVE DISCREPANCIES IN THERMAL PARAMETERS AND BREEDING PREDICTION.

92 URANIUM 233 NEUTRON NEUTRONS EMITTED PER FISSION (NU BAR) (CONTINUED)

910	1.00	KEV	10.0	KEV	2. %	1	USA	DEI FEINER	BET KAP	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.

911	30.0	KEV	10.0	MEV	1.0%	2	GER	H.GERWIN	JUL	6924EER

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

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

92 URANIUM 233 NEUTRON DELAYED NEUTRONS EMITTED PER FISSION

912	25.3	MV			5. %	1	USA	DEI	BET	741116R

Q: RADIOACTIVE TARGET 1.592X(10**5) YR
O: TO RESOLVE DISCREPANCIES.

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

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

92 URANIUM 233 NEUTRON ENERGY SPECTRUM OF FISSION NEUTRONS

913	25.3	MV			1. %	1	USA	DEI	BET	781165R

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.

914	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

915	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.

916	25.3	MV			1. %	1	USA	DEI 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----------STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

92 URANIUM 233 NEUTRON RESONANCE PARAMETERS

917	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.

918	100.	EV	5.00	KEV		3	USA	SMITH HEMMIG	ANL DOE	67120GR

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 NEUTRON CAPTURE CROSS SECTION

919	1.00	MV	2.00	EV	3. %	2	USA	SMITH	ANL	691400R

O: TO EVALUATE ISOTOPE BUILDUP IN THERMAL REACTORS.

920	2.00	EV	10.0	KEV	6. %	2	USA	SMITH	ANL	691401R

O: TO EVALUATE ISOTOPE BUILDUP IN THERMAL REACTORS.

921	10.0	KEV	1.00	MEV	10. %	2	USA	SMITH	ANL	691402R

O: TO EVALUATE ISOTOPE BUILDUP IN THERMAL REACTORS.

922	1.00	MEV	10.0	MEV	20. %	2	USA	SMITH	ANL	691403R

O: TO EVALUATE ISOTOPE BUILDUP IN THERMAL REACTORS.

923	1.00	EV	10.0	MEV	15.0%	2	GER	H.GERWIN	JUL	692356R

92 URANIUM 234 NEUTRON CAPTURE CROSS SECTION (CONTINUED)

924	UP TO	10.0 KEV	5.0%	3	FR	H.TELLIER	SAC		732094R
						A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.			
925	1.00 KEV	3.00 MEV	30.0%	3	FR	M.SALVATORES	CAD		792031R
						C: EVALUATION SUFFICIENT FOR FAST REACTOR CALCULATIONS.			

92 URANIUM 234 NEUTRON N,2N

926	UP TO	15.0 MEV	10.0%	1	FR	J.SALVY	BRC		682050R

92 URANIUM 234 NEUTRON N,3N

927	UP TO	15.0 MEV	15.0%	1	FR	J.SALVY	BRC		682051R

92 URANIUM 234 NEUTRON FISSION CROSS SECTION

928	4.00 MEV	10.0 MEV	15.0%	2	GER	H.GERWIN	JUL		692353R
						C: SPECTRUM INDEX.			
929	1.00 KEV	3.00 MEV	30.0%	3	FR	M.SALVATORES	CAD		792032R
						C: FOR FAST REACTOR CALCULATIONS. M: SUBSTANTIAL MODIFICATIONS.			

92 URANIUM 234 NEUTRON ENERGY SPECTRUM OF DELAYED FISSION NEUTRONS

930			5. %	1	USA	DEI	BET		781167R
						Q: NEED FAST GROUP YIELDS AND SPECTRA. C: NO MEASUREMENTS AVAILABLE. FOR NON-DESTRUCTIVE ASSAY OF U-233-TH-232 FUEL			

92 URANIUM 235 NEUTRON TOTAL CROSS SECTION

931	1.00 MV	1.00 EV	0.5 %	1	USA	HEMMIG	DOE		821004R
						Q: RADIOACTIVE TARGET 7.038X(10**8) YR C: NEEDED TO DETERMINE THE THERMAL SHAPE ACCURATELY. THIS REQUEST WAS REVIEWED BY CSEWG AND RECOMMENDED AS DESERVING SPECIAL EMPHASIS. M: NEW REQUEST.			

92 URANIUM 235 NEUTRON ELASTIC CROSS SECTION

932			10.0%	3	UK	J.FELL	WIN		692360R
						Q: THERMAL AVERAGE INCIDENT ENERGY. C: FOR LONG TERM IMPROVEMENT OF THE ABSORPTION CROSS SECTION.			
933	1.00 KEV	20.0 MEV	10.0%	1	FR	A.MICHAUDON	BRC		742067R
						C: FOR CRITICAL ASSEMBLIES. M: SUBSTANTIAL MODIFICATIONS.			

92 URANIUM 235 NEUTRON DIFFERENTIAL ELASTIC CROSS SECTION

934	1.00 MEV	5.00 MEV	20. %	2	USA	SMITH HEMMIG	ANL DOE		691237R
						A: INCIDENT ENERGY RESOLUTION: .5 MEV. C: NEEDED FOR ANALYZING FAST CRITICAL EXPERIMENTS.			
935	1.00 KEV	20.0 MEV	10.0%	1	FR	A.MICHAUDON	BRC		742068R
						C: FOR CRITICAL ASSEMBLIES. M: SUBSTANTIAL MODIFICATIONS.			

92 URANIUM 235 NEUTRON INELASTIC CROSS SECTION

936	UP TO	20.0 MEV	10.0%	2	FR	A.MICHAUDON	BRC		742070R
						C: FOR CRITICAL ASSEMBLIES. M: SUBSTANTIAL MODIFICATIONS.			
937	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. C: NEED FOR FAST REACTOR CALCULATION. FOR MORE DETAIL SEE INTRODUCTION.			

92 URANIUM 235 NEUTRON ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

938 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.

939 50.0 KEV 6.00 MEV 10. % 2 USA SMITH ANL 721076R
HEMMIG DOE

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

940 UP TO 20.0 MEV 20.0% 2 FR A.MICHAUDON BRC 742071R

O: FOR CRITICAL ASSEMBLIES.
M: SUBSTANTIAL MODIFICATIONS.

92 URANIUM 235 NEUTRON CAPTURE CROSS SECTION

941 1.00 MEV 10.0 MEV 3 JAP H.MATSUNOBU SAE 682055R

Q: ALPHA ALSO WANTED.
A: REQUIRED ACCURACY - 5 TO 10 PERCENT.
O: FOR FAST REACTORS.
NUCLEAR DATA EVALUATION.
NO EXPERIMENTAL DATA ABOVE 2.6 MEV.

942 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.

943 1.00 KEV 10.0 MEV 1 FR A.MICHAUDON BRC 742078R

A: ACCURACY 5 PERCENT UP TO 3 MEV, 20 PERCENT ABOVE.
O: FOR CRITICAL ASSEMBLIES.
M: SUBSTANTIAL MODIFICATIONS.

944 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.

945 1.00 MV 1.00 EV 0.5 % 1 USA HEMMIG DOE 821006R

Q: RADIOACTIVE TARGET 7.038X(10**8) YR
C: NEEDED TO DETERMINE THE THERMAL SHAPE ACCURATELY.
THIS REQUEST WAS REVIEWED BY CSEWG AND RECOMMENDED AS DESERVING SPECIAL EMPHASIS.
M: NEW REQUEST.

92 URANIUM 235 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

946 1.00 KEV 20.0 MEV 10.0% 1 FR A.MICHAUDON BRC 742069R

O: FOR SHIELDING.
M: SUBSTANTIAL MODIFICATIONS.

92 URANIUM 235 NEUTRON N,3N

947 UP TO 20.0 MEV 10.0% 1 FR A.MICHAUDON BRC 742072R

O: FOR CRITICAL ASSEMBLIES.
M: SUBSTANTIAL MODIFICATIONS.

92 URANIUM 235 NEUTRON ENERGY DIFFERENTIAL NEUTRON-EMISSION CROSS SECTION

948 100. KEV 14.0 MEV 1 USA HEMMIG DOE 821028R

Q: RADIOACTIVE TARGET 7.038X(10**8) YR
SPECTRUM OF EMITTED NEUTRONS NEEDED AT SEVERAL ENERGIES.
A: ACCURACY RANGE 10. TO 15. PERCENT.
C: THIS REQUEST WAS REVIEWED BY CSEWG AND RECOMMENDED AS DESERVING SPECIAL EMPHASIS.
M: NEW REQUEST.

92 URANIUM 235 NEUTRON FISSION CROSS SECTION

949 10.0 KEV 20.0 MEV 1. % 1 USA POENITZ ANL 691245R

Q: RADIOACTIVE TARGET 7.038X(10**8) YR
EXCITATION FUNCTION WITH ABSOLUTE CALIBRATION AT SEVERAL ENERGIES.

950	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.
C: SPECTRUM INDEX.
STANDARD CROSS SECTION.

951	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.
D: STANDARD

952	5.00	KEV	7.00	MEV	2.0%	2	CCP	N.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 NEU-
TRON 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.
D: SEE GENERAL COMMENTS IN THE INTRODUCTION.
REQUEST CONSIDERED FULFILLED, WHEN AT LEAST THREE
MEASUREMENTS WITH DIFFERENT METHODS AGREE WITHIN
REQUESTED ACCURACY.

953	UP TO		20.0	MEV		1	FR	A.MICHAUDON	BRC	742073R

A: ACCURACY 3 PERCENT TO 1 KEV, 2 PERCENT ABOVE.
D: FOR CRITICAL ASSEMBLIES.
M: SUBSTANTIAL MODIFICATIONS.

954	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.
D: NEED FOR FAST REACTOR CALCULATIONS.
STANDARD CS ABOVE 100 KEV.
FOR MORE DETAIL SEE INTRODUCTION.

955	1.00	MEV	5.00	MEV	1.0%	1	GER	H.KUESTERS	KFK	792188R

D: AN EVALUATION IS REQUIRED FOR THE ENERGY RANGE
100 EV TO 5 MEV.

956	14.0	MEV	40.0	MEV		1	USA	MCELROY	HED	801185F

Q: RADIOACTIVE TARGET 7.038X(10**8) YR
A: ACCURACY RANGE 10. TO 20. PERCENT.
C: FOR TRACK RECORDERS FOR FMIT DOSIMETRY.

957	7.50	EV	30.0	KEV	1. %	1	USA	CARLSON	NBS	801294R

Q: RADIOACTIVE TARGET 7.038X(10**8) YR
D: TO RESOLVE DISCREPANCY IN RECENT CROSS SECTION
MEASUREMENTS.

958	1.00	EV	1.00	KEV	1.0 %	1	USA	HEMMIG	DOE	821002R

Q: RADIOACTIVE TARGET 7.038X(10**8) YR
C: RESOLVED AND UNRESOLVED RESONANCE PARAMETERS
NEEDED YIELDING FISSION AND CAPTURE RESONANCE
INTEGRALS CONSISTENT WITH INTEGRAL MEASUREMENTS,
AND TO RESOLVE DISCREPANCIES IN RECENT FISSION
MEASUREMENTS OVER THE RANGE 0.1-1.0 KEV.
THIS REQUEST WAS REVIEWED BY CSEWG AND RECOMMENDED
AS DESERVING SPECIAL EMPHASIS.
M: NEW REQUEST.

959	1.00	KEV	14.0	MEV	1.0 %	1	USA	HEMMIG	DOE	821003R

Q: RADIOACTIVE TARGET 7.038X(10**8) YR
RATIO TO H(N,P) AND 10-B (N,ALPHA) AND POSSIBLY
OTHER STANDARDS.
C: THIS REQUEST WAS REVIEWED BY CSEWG AND RECOMMENDED
AS DESERVING SPECIAL EMPHASIS.
M: NEW REQUEST.

960	1.00	MV	1.00	EV	0.5 %	1	USA	HEMMIG	DOE	821005R

Q: RADIOACTIVE TARGET 7.038X(10**8) YR
C: NEEDED TO DETERMINE THE THERMAL SHAPE ACCURATELY.
THIS REQUEST WAS REVIEWED BY CSEWG AND RECOMMENDED
AS DESERVING SPECIAL EMPHASIS.
M: NEW REQUEST.

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

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

92 URANIUM 235 NEUTRON CAPTURE TO FISSION RATIO (ALPHA)

961	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.
C: FOR FAST REACTORS.

962	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.

963	1.00	MV	1.00	EV	1. %	1	USA	DEI	BET	721077R

C: 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)

964	25.3	MV	50.0	KEV		2	USA	SMITH HEMMIG	ANL DOE	671100R

A: ACCURACY 0.5 PERCENT AT THERMAL, 2 PERCENT ELSEWHERE.

965	10.0	MV	0.40	EV	0.5%	1	UK	J.FELL	WIN	69237CR

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.

966	1.00	MV	1.00	EV	.4 %	1	USA	DEI	BET	741115R

Q: SHAPE ESPECIALLY IMPORTANT AT LOW ENERGY. USE TECHNIQUE OTHER THAN MANGANESE BATH.

967	10.0	MV	0.40	EV	0.5%	2	GER	H.KUESTERS	KFK	792218R

Q: VALUE RELATIVE TO 25.3 MV ETA WANTED.

STATUS---STATUS

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

92 URANIUM 235 NEUTRON NEUTRONS EMITTED PER FISSION (NU BAR)

968	25.3	MV	3.00	MEV	1. %	1	USA	SMITH HEMMIG	ANL DOE	691253R

A: BETTER THAN .5 PERCENT REQUIRED AT THERMAL.
C: TO CROSS CHECK WITH OTHER ISOTOPES.

969	25.3	MV	2.50	MEV	0.5%	2	CCP	M.N.NIKOLAEV	FEI	714005R

Q: RATIO TO CF-252 NU REQUIRED.
A: ABSOLUTE MEASUREMENTS OF U-235 NU-BAR FOR THERMAL NEUTRONS WITH ACCURACY NOT WORSE THAN 0.5 PERCENT AS WELL AS ETA MEASUREMENTS WOULD BE USEFUL FOR LOWERING THE DEPENDENCE ON THE CF-252 STANDARD. ENERGY DEPENDENCE OF NU IS WANTED WITH 0.7 LETHARGY RESOLUTION IN THE REGION BELOW 2.5 MEV.
O: SEE GENERAL COMMENTS IN THE INTRODUCTION.

970	UP TO		20.0	MEV		1	FR	A.MICHAUDON	BRC	742075R

A: ACCURACY 2 PERCENT TO 1 KEV, 1 PERCENT ABOVE.
C: FOR CRITICAL ASSEMBLIES.
M: SUBSTANTIAL MODIFICATIONS.

971	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.
C: NEED FOR FAST REACTOR CALCULATIONS.
FOR MORE DETAIL SEE INTRODUCTION.

972	1.00	MV	1.00	EV	.2 %	1	USA	DEI	BET	781169R

Q: MEASUREMENTS RELATIVE TO U-233, PU-239 AND CF-252 WANTED.

STATUS---STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

92 URANIUM 235 NEUTRON DELAYED NEUTRONS EMITTED PER FISSION

973 3. % 1 USA DEI BET 741120R

Q: FOR THE ENTIRE ENERGY RANGE.
C: TO RESOLVE UNCERTAINTIES IN AVAILABLE DATA.

974 25.0 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.
Q: 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 235 NEUTRON ENERGY SPECTRUM OF FISSION NEUTRONS

975 25.3 MV 3.00 MEV 5. % 2 USA SMITH ANL 691256R
HEMMIG DOE

Q: VERIFICATION OF FISSION SPECTRUM.

976 100. 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.
C: FOR FAST REACTORS.
FOR REACTION RATE ANALYSIS.

977 25.3 MV 1. % 1 USA DEI BET 721080R

Q: NEED SHAPE OF NEUTRON ENERGY DISTRIBUTION FROM 100 KEV TO 15 MEV.
A: RELATIVE PEAK TO 1 PERCENT.
C: NEEDED FOR CRITICALITY CALCULATIONS.

978 UP TO 20.0 MEV 5.0% 1 FR A.MICHAUDON BRC 742077R

C: FOR CRITICAL ASSEMBLIES.
M: SUBSTANTIAL MODIFICATIONS.

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

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

92 URANIUM 235 NEUTRON ENERGY SPECTRUM OF DELAYED FISSION NEUTRONS

979 25.3 MV 5.00 MEV 5. % 2 USA HEMMIG DOE 691260R

C: YIELD, HALF-LIFE AND ENERGY NEEDED.
C: FOR ANALYSIS OF FAST CRITICALS AND TO CHECK EXISTING DATA.

92 URANIUM 235 NEUTRON SPECTRUM OF PROMPT GAMMA RAYS EMITTED IN FISSION

980 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.
C: FOR ASSAY OF U IN FUEL ELEMENTS FROM PROMPT GAMMAS.

92 URANIUM 235 NEUTRON DELAYED GAMMA SPECTRUM FROM FISSION PRODUCTS

981 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.
C: FOR NON-DESTRUCTIVE ASSAYS OF U-235.

92 URANIUM 235 NEUTRON FISSION PRODUCT MASS YIELD SPECTRUM

982 25.3 MV 1.0% 2 CCP S.A.SKVORTSOV KUR 704022N
O.A.MILLER KUR

Q: YIELDS OF ZR-95 AND RU-106 ARE REQUIRED.
C: FOR ASSAY OF U IN SPENT FUEL ELEMENTS BY THE FISSION PRODUCT GAMMA RAYS.

983 25.3 MV 1.0% 3 CAN W.H.WALKER CRC 711802R

Q: YIELD OF XE-135 WANTED.
C: CALCULATION OF FISSION PRODUCT POISONS.

984 25.3 MV 1. % 1 USA DEI BET 781152R
FEINER KAP

Q: NUCLIDES OF INTEREST ARE RH-105,XE-135,CS-135 CS-137,ND-147,SM-149 AND EU-153.
C: DATA NEEDED TO IMPROVE ACCURACY OF PREDICTED FISSION PRODUCT POISONING.

STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

92 URANIUM 235 NEUTRON RESONANCE PARAMETERS

985	25.3	MV	200.	EV	10. %	1	USA	SMITH HEMMIG	ANL DOE	691262R

Q: MULTILEVEL FIT WHERE FEASIBLE.
C: FOR EXTRAPOLATION TO UNRESOLVED RESONANCE REGION.

986	25.3	MV	200.	EV	10. %	2	USA	DEI	BET	691263R

C: MULTILEVEL FIT WHERE FEASIBLE.
O: VERIFICATION OF EXISTING DATA USEFUL.

987	1.00	EV	200.	EV	3.0%	2	FR	H.TELLIER	SAC	702025R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
U: FOR RESONANCE SELF SHIELDING.

STATUS

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

92 URANIUM 236 NEUTRON ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

988	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.
C: SEE GENERAL COMMENTS IN THE INTRODUCTION.

92 URANIUM 236 NEUTRON CAPTURE CROSS SECTION

989	1.00	KEV	10.0	MEV		1	FR	J.SALVY	GRC	682060R

A: ACCURACY 10 PERCENT TO 3 MEV, 20 PERCENT ABOVE
C: FOR RESONANCE SELF SHIELDING.
M: SUBSTANTIAL MODIFICATIONS.

990	1.00	EV	10.0	MEV	20.0%	2	GER	H.GERWIN	JUL	692361R
991	1.00	KEV	3.00	MEV	30.0%	3	FR	M.SALVATORES	CAD	712064R

Q: RATIO TO U-235 FISSION OR U-238 CAPTURE NEEDED.
C: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

992	500.	EV	1.40	MEV	7.0%	2	CCP	M.N.NIKOLAEV	FEI	714015R

Q: RATIO WANTED RELATIVE TO U-235 FISSION.
C: SEE GENERAL COMMENTS IN THE INTRODUCTION.

STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

92 URANIUM 236 NEUTRON FISSION CROSS SECTION

993	4.00	MEV	10.0	MEV	5.0%	2	GER	H.GERWIN	JUL	692360R
994	1.00	KEV	3.00	MEV	30.0%	3	FR	M.SALVATORES	CAD	712062R

Q: WANTED RELATIVE TO U-235 FISSION CROSS SECTION.
C: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

995	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).
C: SEE GENERAL COMMENTS IN THE INTRODUCTION.

92 URANIUM 236 NEUTRON NEUTRONS EMITTED PER FISSION (NU BAR)

996	UP TO	5.00	MEV	1.0%	2	CCP	M.N.NIKOLAEV	FEI	714014R

C: SEE GENERAL COMMENTS IN THE INTRODUCTION.

92 URANIUM 236 NEUTRON ENERGY SPECTRUM OF DELAYED FISSION NEUTRONS

997					5. %	1	USA	DEI	BET	781166R

Q: RADIOACTIVE TARGET 2.342X(10**7) YR
NEED FAST GROUP YIELDS AND SPECTRA.
C: NO MEASUREMENTS AVAILABLE.
FOR NON-DESTRUCTIVE ASSAY OF U-233-TH-232 FUEL

92 URANIUM 236 NEUTRON RESONANCE PARAMETERS

998	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 NEUTRON CAPTURE CROSS SECTION

999	1.00	KEV	3.00	MEV	50.0%	3	FR	M.SALVATORES	CAD	792034R

O: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

92 URANIUM 237 NEUTRON FISSION CROSS SECTION

1000	1.00	KEV	3.00	MEV	50.0%	3	FR	M.SALVATORES	CAD	792035R

O: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

92 URANIUM 238 NEUTRON ELASTIC CROSS SECTION

1001	1.00	KEV	20.0	MEV	5.0%	2	FR	C.PHILIS	BRC	742081R

O: FOR CRITICAL ASSEMBLIES.
M: SUBSTANTIAL MODIFICATIONS.

92 URANIUM 238 NEUTRON DIFFERENTIAL ELASTIC CROSS SECTION

1002	1.00	KEV	300.	KEV	10. %	1	USA	HEMMIG	DOE	691407R
1003	300.	KEV	2.00	MEV	5. %	1	USA	SMITH HEMMIG	ANL DOE	691408R
1004	300.	KEV	10.0	MEV	10. %	1	USA	SMITH	ANL	691468R
1005	1.00	KEV	20.0	MEV	5.0%	2	FR	C.PHILIS	BRC	742082R

C: FOR CRITICAL ASSEMBLIES.
M: SUBSTANTIAL MODIFICATIONS.

92 URANIUM 238 NEUTRON INELASTIC CROSS SECTION

1006	UP TO		15.0	MEV	5.0%	1	FR	M.SALVATORES	CAD	692387R

Q: ALTERNATE QUANTITY - NONELASTIC CROSS SECTION.
O: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

1007	1.20	MEV	2.00	MEV	10.0%	2	GER	F.WELLER	KFK	692393R

C: LEVEL EXCITATION CROSS SECTIONS FOR THE 45 AND 148 KEV LEVELS WANTED.

1008	UP TO		20.0	MEV	5.0%	2	FR	C.PHILIS	BRC	742083R

C: FOR CRITICAL ASSEMBLIES.
M: SUBSTANTIAL MODIFICATIONS.

1009	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.
C: NEED FOR FAST REACTOR CALCULATION. FOR MORE DETAIL SEE INTRODUCTION.

1010	UP TO		10.0	MEV		1	USA	HEMMIG	DOE	821025R

Q: RADIOACTIVE TARGET 4.468X(10**9) YR TOTAL INELASTIC CROSS SECTION NEEDED.
A: ACCURACY RANGE 5. TO 7. PERCENT. ACCURACY SHOULD BE SUFFICIENT TO DETERMINE BROAD GROUP (E.G. 29 GROUP) TRANSFER MATRIX ELEMENTS TO 7-10 PERCENT.
C: THIS REQUEST WAS REVIEWED BY CSEWG AND RECOMMENDED AS DESERVING SPECIAL EMPHASIS.
M: NEW REQUEST.

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

92 URANIUM 238 | NEUTRON | ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

1011	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.

1012		UP TO	15.0	MEV	5.0%	1	FR	M.SALVATORES	CAD	692391R

Q: SEPARATION OF LEVELS UP TO 2 MEV REQUIRED.
A: ACCURACY ON NUCLEAR TEMPERATURE ABOVE 2 MEV.
C: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

1013	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

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

92 URANIUM 238 | NEUTRON | ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION

1014	500.	KEV	5.00	MEV	5.0%	1	UK	C.G.CAMPBELL	WIN	692392R

C: FOR FAST REACTORS.

1015		UP TO	20.0	MEV	5.0%	2	FR	C.PHILIS	BRC	742084R

M: SUBSTANTIAL MODIFICATIONS.

1016	500.	KEV	5.00	MEV	5.0%	1	GER	H.KUESTERS	KFK	792219R

92 URANIUM 238 | NEUTRON | NON-ELASTIC CROSS SECTION

1017	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

1018	500.	EV	1.00	KEV	6. %	1	USA	HEMMIG	DOE	691419R

C: FOR FAST REACTOR CALCULATIONS.

1019	1.00	KEV	300.	KEV	1. %	1	USA	SMITH	ANL	691420R

C: FOR FAST REACTOR CALCULATIONS.

1020	1.00	KEV	300.	KEV	2. %	1	USA	HEMMIG	DOE	691422R

C: FOR FAST REACTOR CALCULATIONS.

1021	300.	KEV	500.	KEV	1.5 %	1	USA	SMITH	ANL	691423R

C: FOR FAST REACTOR CALCULATIONS.

1022	300.	KEV	500.	KEV	3. %	1	USA	HEMMIG	DOE	691425R

C: FOR FAST REACTOR CALCULATIONS.

1023	500.	KEV	10.0	MEV	2.5 %	1	USA	SMITH	ANL	691426R

C: FOR FAST REACTOR CALCULATIONS.

1024	500.	KEV	10.0	MEV	5. %	1	USA	HEMMIG	DOE	691428R

C: FOR FAST REACTOR CALCULATIONS.

1025	10.0	KEV	300.	KEV	1.5 %	1	USA	SMITH HEMMIG	ANL DOE	691435R

C: PRIMARY RATIO SHOULD BE TO U-235 FISSION. OTHER RATIOS TO RECOGNIZED STANDARDS DESIRABLE.
O: RATIO DATA DISCREPANT WITH ABSOLUTE MEASUREMENTS.

1026	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.		
1027	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.		
1028	5.00	MV	6.00	EV		1	UK	J.FELL	WIN	692401R
								A: ACCURACY REQUIRED .03 BARNS.		
								O: FOR THERMAL REACTORS.		
1029	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.		
1030	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.		
								C: MEASUREMENTS REQUIRED 10.0KEV TO 80.0KEV EVALUATION REQUIRED OVER WHOLE RANGE FOR FAST REACTORS.		
1031	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.		
								C: 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.		
1032	1.00	KEV	10.0	MEV		1	FR	C.PHILIS	BRC	742087R
								A: ACCURACY 5 PERCENT TO 3 MEV, 20 PERCENT ABOVE.		
								O: FOR CRITICAL ASSEMBLIES.		
								M: SUBSTANTIAL MODIFICATIONS.		
1033	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.		
1034	100.	MV	6.00	EV	.5 %	1	USA	LEONARD	BNW	761008R
								O: FOR THERMAL CROSS SECTION EVALUATION.		
1035	10.0	MV	1.00	EV	2.0%	2	FR	H.TELLIER	SAC	792036R
								A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.		
								Q: TO CHECK CAREFULLY IF THE CAPTURE CROSS SECTION IS 1/V DEPENDENT OR NOT		
1036	10.0	KEV	80.0	KEV	3.0%	2	GER	H.KUESTERS	KFK	792220R
1037	30.0	KEV	1.00	MEV		1	USA	HEMMIG	DOE	821025R
								Q: RADIOACTIVE TARGET 4.468X(10**9) YR		
								A: ACCURACY RANGE 2. TO 3. PERCENT.		
								C: THIS REQUEST WAS REVIEWED BY CSEWG AND RECOMMENDED AS DESERVING SPECIAL EMPHASIS.		
								M: NEW REQUEST.		

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

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

92 URANIUM 238 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

1038	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.		
								C: EVALUATION REQUIREMENT. FOR STUDY OF ACTIVATION AND HEAT RELEASE IN CORE.		
1039		UP TO	10.0	MEV	10.0%	1	FR	M.SALVATORES	CAD	832014R
								Q: GAMMA SPECTRUM REQUIRED.		
								O: FAST REACTOR CALCULATIONS.		
								M: NEW REQUEST.		

92 URANIUM 238 NEUTRON ENERGY-ANGLE DIFF. PHOTON-PRODUCTION CROSS SECTION

1040 1.00 MV 15.0 MEV 10. % 2 USA HEMMIG DOE 721079M
Q: FOR ALL GAMMA ENERGIES.
A: GAMMA-ENERGY INTERVALS - 500 KEV.
C: FOR SHIELDING AND GAMMA HEATING CALCULATIONS.

92 URANIUM 238 NEUTRON N,2N

1041 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.
C: FOR FAST REACTORS.

1042 UP TO 15.0 MEV 15.0% 2 CCP I.N.GOLOVIN KUR 724063F
C: POSSIBLE USE AS NEUTRON MULTIPLIER.

1043 25.0% 2 CCP L.N.USACHEV FEI 794007R
Q: AVERAGE CROSS SECTION IN A FAST-REACTOR SPECTRUM REQUESTED.
C: FOR FAST-REACTOR BURN-UP CALCULATION.
SEE GENERAL COMMENTS.

1044 14.0 MEV 20.0 MEV 10. % 2 USA SMITH ANL 801001R
A: ENERGY RESOLUTION 10 PERCENT.

92 URANIUM 238 NEUTRON N,3N

1045 UP TO 15.0 MEV 15.0% 2 CCP I.N.GOLOVIN KUR 724064F
C: POSSIBLE USE AS NEUTRON MULTIPLIER.

1046 14.0 MEV 20.0 MEV 10. % 2 USA SMITH ANL 801002R
A: ENERGY RESOLUTION 10 PERCENT.

1047 11.0 MEV 14.0 MEV 20. % 2 USA BERK DOE 801090F
C: FOR HYBRID SYSTEM DESIGN.

92 URANIUM 238 NEUTRON FISSION CROSS SECTION

1048 2.0% 2 UK C.G.CAMPBELL WIN 712067R
J.FELL WIN
Q: FISSION SPECTRUM AVERAGE WANTED.
C: EVALUATION REQUIREMENT.
FOR FAST AND THERMAL REACTORS.

1049 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.
C: 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.

1050 UP TO 20.0 MEV 3.0% 1 FR C.PHILIS BRC 742086R
C: FOR CRITICAL ASSEMBLIES.
M: SUBSTANTIAL MODIFICATIONS.

1051 800. KEV 10.0 MEV 2 CCP L.N.USACHEV FEI 754019R
A: FROM 0.8 - 10. MEV ACCURACY 1.8 PERCENT.
C: NEED FOR FAST REACTOR CALCULATIONS.
FOR MORE DETAIL SEE INTRODUCTION.

1052 500. EV 1.30 MEV 4. % 2 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.

1053 1.30 MEV 5.00 MEV 2. % 2 USA SMITH ANL 801297R
Q: RATIO TO U-235(N,F) WANTED.
A: INTERMEDIATE ACCURACY USEFUL.
ENERGY CALIBRATION - 1 PERCENT.

1054 5.00 MEV 14.0 MEV 3. % 2 USA SMITH ANL 801296R
Q: RATIO TO U-235(N,F) WANTED.
A: INTERMEDIATE ACCURACY USEFUL.
ENERGY CALIBRATION - 1 PERCENT.

1055 14.0 MEV 20.0 MEV 3. % 2 USA SMITH ANL 801299R
Q: RATIO TO U-235(N,F) WANTED.
A: INTERMEDIATE ACCURACY USEFUL.
ENERGY CALIBRATION - 1 PERCENT.

1056 UP TO 20.0 MEV 2.00% 1 BAN M.M.KASIM BAN 833002R
Q: FOR NEUTRON DOSIMETRY
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)

1057 UP TO 10.0 MEV 1. % 1 USA HEMMIG OCE 691275R
Q: ENERGY REQUESTED IS A MAXIMUM VALUE ONLY.
RATIO TO CF-252 WANTED.
O: TO VERIFY MEASUREMENT OF SOLEILAC.

1058 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.

1059 UP TO 20.0 MEV 1.0% 1 FR C.PHILIS BRC 742088R
O: FOR CRITICAL ASSEMBLIES.
M: SUBSTANTIAL MODIFICATIONS.

1060 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. SEE APPENDIX A.

92 URANIUM 238 NEUTRON DELAYED NEUTRONS EMITTED PER FISSION

1061 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.

1062 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

1063 UP TO 5.00 MEV 1 USA HEMMIG OCE 821014R
Q: RADIOACTIVE TARGET 4.468X(10**9) YR
A: ACCURACY RANGE 3. TO 5. PERCENT.
THIS MUST BE AN ABSOLUTE MEASUREMENT.
O: THIS REQUEST WAS REVIEWED BY CSEWG AND RECOMMENDED WAS DESERVING SPECIAL EMPHASIS.
M: NEW REQUEST.

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

92 URANIUM 238 NEUTRON ENERGY SPECTRUM OF FISSION NEUTRONS

1064 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 5.0 MEV AND BELOW 0.25 MEV.
LOW RESOLUTION ADEQUATE FOR INCIDENT ENERGY.
O: EVALUATION REQUIREMENT.
FOR FAST REACTORS.

1065 UP TO 20.0 MEV 5.0% 1 FR C.PHILIS BRC 742089R
O: FOR CRITICAL ASSEMBLIES.
M: SUBSTANTIAL MODIFICATIONS.

1066 UP TO 10.0 MEV 1 USA HEMMIG OCE 821031R
Q: RADIOACTIVE TARGET 4.468X(10**9) YR
PROMPT FISSION NEUTRON SPECTRUM WITH REFERENCE TO THAT OF CF-252 WITH AN ACCURACY OF E(AVG) TO 1-1.5 PERCENT. AN ABSOLUTE MEASUREMENT OF THE SHAPE OF THE SPECTRUM MAY BE NECESSARY.
O: THIS REQUEST WAS REVIEWED BY CSEWG AND RECOMMENDED AS DESERVING SPECIAL EMPHASIS.
M: NEW REQUEST.

STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

92 URANIUM 238 NEUTRON RESONANCE PARAMETERS

1067 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.

1068 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 2000 DEGREES K.
M: SUBSTANTIAL MODIFICATIONS.

1069 1.00 KEV 30.0 KEV 1 USA HEMMIG DCE 821013R

Q: RADIOACTIVE TARGET 4.468X(10**9) YR
RESONANCE PARAMETERS AND CAPTURE CROSS SECTION.
O: THICK SAMPLE TRANSMISSION AND SELF-INDICATION DATA DESIRABLE; NEED RESOLVED AND UNRESOLVED PARAMETER TO COMPUTE GROUP CROSS SECTIONS TO 3.0 PERCENT ACCURACY FOR VARIOUS SELF-SHIELDING CONDITIONS.
THIS REQUEST WAS REVIEWED BY CSEWG AND RECOMMENDED AS DESERVING SPECIAL EMPHASIS.
M: NEW REQUEST.

STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

93 NEPTUNIUM 236 NEUTRON CAPTURE CROSS SECTION

1070 1.00 KEV 1.00 MEV 50.0% 3 FR M.SALVATORES CAD 792038R

Q: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

93 NEPTUNIUM 236 NEUTRON FISSION CROSS SECTION

1071 1.00 KEV 1.00 MEV 50.0% 3 FR M.SALVATORES CAD 792037R

Q: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

93 NEPTUNIUM 237 SPONTANEOUS ALPHA HALF LIFE

1072 .5 % 2 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

1073 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.

1074 UP TO 15.0 MEV 10.0% 2 EUR NEUTRON DOSIMETRY GROUP GEL 812015R

C: TO BE INCLUDED IN IRDF FILE
O: FOR NEUTRON DOSIMETRY USING SPECTRUM UNFOLDING METHODS.

93 NEPTUNIUM 237 NEUTRON N,2N

1075 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.

1076 UP TO 15.0 MEV 15.0% 1 FR F.JOSSO CAD 762147R

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

1077 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.

1078 UP TO 15.0 MEV 10.0% 1 BLG CH.DE RAEDT. MOL 812069N

Q: U-235 FISSION SPECTRUM AVERAGE REQUESTED CROSS SECTION FOR NP-237(N,2N)NP-236 (22 HR ISOMER) ALSO REQUESTED.
C: TO EVALUATE BUILD-UP OF TL-208, THE DECAY PRODUCT OF PU-236.

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

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

93 NEPTUNIUM 237 NEUTRON SPECIAL QUANTITY (DESCRIPTION BELOW)

1079 7.00 MEV 12.0 MEV 25.0% 2 UK V.BARNES UKW 812050R
C.G.CAMPBELL WIN

Q: PRODUCTION OF PU-236
O: FOR ESTIMATION OF PU-236 IN IRRADIATED FUEL AND SAMPLES.

93 NEPTUNIUM 237 NEUTRON FISSION CROSS SECTION

1080 50.0 KEV 7.00 MEV 2. % 1 USA GILLIAM NBS 781178R

Q: RADIOACTIVE TARGET 2.14X(10**6) YR
O: FOR MATERIALS DOSIMETRY.

1081 8.00 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: SUBSTANTIAL MODIFICATIONS.

1082 UP TO 20.0 MEV 1.00% 1 BAN M.M.KASIM BAN 853001R

O: FOR NEUTRON DOSIMETRY
M: NEW REQUEST.

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

UNDER CONTINUOUS REVIEW BY NEANDC. SEE APPENDIX A.

93 NEPTUNIUM 238 NEUTRON CAPTURE CROSS SECTION

1083 1.00 KEV 2.00 MEV 50.0% 2 FR F.JOSSO CAD 792040R

A: QUOTED UNCERTAINTY AT 2 STANDARD DEVIATIONS.
O: FOR FAST REACTOR FUEL CYCLE CALCULATION.
M: SUBSTANTIAL MODIFICATIONS.

93 NEPTUNIUM 238 NEUTRON FISSION CROSS SECTION

1084 1.00 KEV 2.00 MEV 50.0% 2 FR F.JOSSO CAD 792041R

A: QUOTED UNCERTAINTY AT 2 STANDARD DEVIATIONS.
O: FOR FAST REACTOR FUEL CYCLE CALCULATION.
M: SUBSTANTIAL MODIFICATIONS.

93 NEPTUNIUM 239 NEUTRON CAPTURE CROSS SECTION

1085 1.00 KEV 2.00 MEV 50.0% 2 FR M.SALVATORES CAD 762146R

O: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

1086 25.3 MV 1.00 MEV 30.0% 2 UK C.G.CAMPBELL WIN 792136R

O: FOR FAST REACTORS.
EVALUATION REQUIREMENT.

93 NEPTUNIUM 239 NEUTRON N,2N

1087 UP TO 15.0 MEV 50.0% 2 FR F.JOSSO CAD 792042R

A: QUOTED UNCERTAINTY AT 2 STANDARD DEVIATIONS.
O: FOR FAST REACTOR FUEL CYCLE CALCULATION.
M: SUBSTANTIAL MODIFICATIONS.

93 NEPTUNIUM 239 NEUTRON FISSION CROSS SECTION

1088 1.00 KEV 2.00 MEV 50.0% 2 FR M.SALVATORES CAD 762149R

O: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

1089 25.3 MV 10.0 MEV 30.0% 2 UK C.G.CAMPBELL WIN 792137R

O: FOR FAST REACTORS.
EVALUATION REQUIREMENT.

93 NEPTUNIUM 240 NEUTRON CAPTURE CROSS SECTION

1090	1.00	KEV	2.00	MEV	50.0%	3	FR	M.SALVATORES	CAD	792043R

O: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

93 NEPTUNIUM 240 NEUTRON FISSION CROSS SECTION

1091	1.00	KEV	2.00	MEV	50.0%	3	FR	M.SALVATORES	CAD	792044R

O: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

94 PLUTONIUM 236 NEUTRON CAPTURE CROSS SECTION

1092	1.00	KEV	2.00	MEV	20.0%	1	FR	F.JOSSO	CAD	792253R

A: QUOTED UNCERTAINTY AT 2 STANDARD DEVIATIONS.
O: FOR FAST REACTOR FUEL CYCLE CALCULATIONS.

94 PLUTONIUM 236 NEUTRON FISSION CROSS SECTION

1093	1.00	KEV	2.00	MEV	10.0%	1	FR	F.JOSSO	CAD	792045R

A: QUOTED UNCERTAINTY AT 2 STANDARD DEVIATIONS.
O: FOR FAST REACTOR FUEL CYCLE CALCULATION.
M: SUBSTANTIAL MODIFICATIONS.

94 PLUTONIUM 237 NEUTRON CAPTURE CROSS SECTION

1094	1.00	KEV	2.00	MEV	50.0%	3	FR	M.SALVATORES	CAD	792046R

O: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

94 PLUTONIUM 237 NEUTRON FISSION CROSS SECTION

1095	1.00	KEV	2.00	MEV	50.0%	3	FR	M.SALVATORES	CAD	792047R

O: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

94 PLUTONIUM 238 GAMMA RAY YIELD

1096					1. %	1	JAP	T.SUZUKI	JAE	762009N

O: YIELD PER DISINTEGRATION OF 43.45,99.7,152.7 KEV GAMMA RAYS REQUIRED.
(FOLLOWING ALPHA DECAY EVENT)
C: 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

1097	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

1098	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

1099	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

1100	1.00	KEV	10.0	MEV	20.0%	2	FR	J.SALVY	BRC	742093R

M: SUBSTANTIAL MODIFICATIONS.

94 PLUTONIUM 238 NEUTRON N,2N

1101	UP TO	20.0	MEV	10.0%	1	FR	J.SALVY	BRC	682062R

M: SUBSTANTIAL MODIFICATIONS.

1102	UP TO	15.0	MEV	15.0%	1	FR	F.JOSSO	CAD	792048R

A: QUOTED UNCERTAINTY AT 2 STANDARD DEVIATIONS.
O: FOR FAST REACTOR FUEL CYCLE CALCULATION.
M: SUBSTANTIAL MODIFICATIONS.

94 PLUTONIUM 238 — NEUTRON — FISSION CROSS SECTION

1103	1.00	KEV	3.00	MEV	15.0%	1	FR	F.JOSSO	CAD	732095R

Q: VALUE RELATIVE TO U-235 FISSION CROSS SECTION.
A: QUOTED UNCERTAINTY AT 2 STANDARD DEVIATIONS.
G: FOR FAST REACTOR FUEL CYCLE CALCULATION.
M: SUBSTANTIAL MODIFICATIONS.

94 PLUTONIUM 238 — NEUTRON — NEUTRONS EMITTED PER FISSION (NU BAR)

1104	500.	EV	15.0	MEV	4.00%	2	FR	F.JOSSO	CAD	732097R

Q: VALUE RELATIVE TO CF-252 NU.
A: QUOTED UNCERTAINTY AT 2 STANDARD DEVIATIONS.
G: FOR FAST REACTOR FUEL CYCLE CALCULATION.
M: SUBSTANTIAL MODIFICATIONS.

94 PLUTONIUM 239 — GAMMA RAY YIELD

1105					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)
G: 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

1106	0.50	MV	5.00	EV	1. %	1	USA	LEONARD	BNW	761088R

Q: RADIOACTIVE TARGET 2.41X(10**4) YR
G: NEEDED FOR THERMAL CROSS SECTION EVALUATION.
M: SUBSTANTIAL MODIFICATIONS.

1107	1.00	KEV	200.	KEV	2. %	1	JAP	M.KAWAI	NIG	762210R

G: FISSION REACTOR CALCULATIONS.

1108	1.00	MV	1.00	EV	0.5 %	1	USA	HEMMIG	DOE	821007R

Q: RADIOACTIVE TARGET 2.41X(10**4) YR
G: NEEDED TO DETERMINE THE THERMAL SHAPE ACCURATELY.
THIS REQUEST WAS REVIEWED BY CSEWG AND RECOMMENDED AS DESERVING SPECIAL EMPHASIS.
M: NEW REQUEST.

1109	1.00	EV	500.	KEV	3.0 %	1	USA	HEMMIG	DOE	821015R

Q: RADIOACTIVE TARGET 2.41X(10**4) YR
A: WITH ENERGY RESOLUTION SUFFICIENT TO SHOW SECONDARY STRUCTURE UP TO 10 KEV.
G: THIS REQUEST WAS REVIEWED BY CSEWG AND RECOMMENDED AS DESERVING SPECIAL EMPHASIS.
M: NEW REQUEST.

94 PLUTONIUM 239 — NEUTRON — ELASTIC CROSS SECTION

1110					10.0%	3	UK	J.FELL	WIN	692416R

Q: THERMAL AVERAGE INCIDENT ENERGY.
G: FOR LONG TERM IMPROVEMENT OF THE ABSORPTION CROSS SECTION.

1111	1.00	KEV	20.0	MEV	5.0%	1	FR	C.PHILIS	BRC	742094R

G: FOR CRITICAL ASSEMBLIES.
M: SUBSTANTIAL MODIFICATIONS.

94 PLUTONIUM 239 — NEUTRON — DIFFERENTIAL ELASTIC CROSS SECTION

1112	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.

1113	1.00	KEV	20.0	MEV	5.0%	1	FR	C.PHILIS	BRC	742095R

G: FOR CRITICAL ASSEMBLIES.
M: SUBSTANTIAL MODIFICATIONS.

94 PLUTONIUM 239 — NEUTRON — INELASTIC CROSS SECTION

1114	UP TO		20.0	MEV	10.0%	2	FR	C.PHILIS	BRC	742097R

G: FOR CRITICAL ASSEMBLIES.
M: SUBSTANTIAL MODIFICATIONS.

1115	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.
G: NEED FOR FAST REACTOR CALCULATION.
FOR MORE DETAIL SEE INTRODUCTION.

1116 50.0 KEV 10.0 MEV 1 USA HEMMIG DOE 821030R

Q: RADIOACTIVE TARGET 2.41X(10**4) YR
TOTAL INELASTIC CROSS SECTION NEEDED.
A: ACCURACY RANGE 10. TO 15. PERCENT.
ACCURACY SHOULD BE SUFFICIENT TO DETERMINE BROAD GROUP (E.G. 29 GROUP) TRANSFER MATRIX ELEMENTS TO 10-20 PERCENT.
O: THIS REQUEST WAS REVIEWED BY CSEWG AND RECOMMENDED AS DESERVING SPECIAL EMPHASIS.
M: NEW REQUEST.

94 PLUTONIUM 239 NEUTRON ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

1117 UP TO 15.0 MEV 2 CCP M.N.NIKOLAEV FEI 714023R

A: CROSS SECTION FOR INELASTIC REMOVAL BELOW FISSION THRESHOLDS OF U-238 AND OF PU-240 OR NP-237 DESIRED WITH 10 PERCENT ACCURACY.
EXCITATION CROSS SECTION FOR LOW LYING LEVELS REQUIRED WITH 15 PERCENT ACCURACY.
O: SEE GENERAL COMMENTS IN THE INTRODUCTION.

1118 7.00 KEV 10.0 MEV 20. % 1 USA HEMMIG DOE 721064R

Q: RADIOACTIVE TARGET 2.41X(10**4) YR
M: SUBSTANTIAL MODIFICATIONS.

94 PLUTONIUM 239 NEUTRON ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION

1119 UP TO 20.0 MEV 20.0% 2 FR J.SALVY BRC 742098R

O: FOR CRITICAL ASSEMBLIES.
M: SUBSTANTIAL MODIFICATIONS.

94 PLUTONIUM 239 NEUTRON CAPTURE CROSS SECTION

1120 1.00 KEV 1.00 MEV 10.0% 2 GER B.GOEL KFK 712062R

Q: ALPHA ALSO USEFUL.
A: PREFER 5 PERCENT ACCURACY UP TO 100 KEV.
O: FOR BURNUP CALCULATIONS.

1121 1.00 KEV 10.0 MEV 1 FR J.SALVY BRC 742104R

A: ACCURACY 5 PERCENT TO 3 MEV, 20 PERCENT ABOVE.
O: FOR CRITICAL ASSEMBLIES.
M: SUBSTANTIAL MODIFICATIONS.

1122 5.00 KEV 10.0 MEV 2 CCP L.N.USACHEV FEI 754012R

A: FROM 5.0 - 100 KEV ACCURACY 3.7 PERCENT.
FROM 0.1 - 0.8 MEV ACCURACY 10 PERCENT.
FROM 0.8 - 4.5 MEV ACCURACY 50 PERCENT.
ABOVE 4.5 MEV REQUIREMENTS 2 TIMES WEAKER.
O: NEED FOR FAST REACTOR CALCULATIONS.
FOR MORE DETAIL SEE INTRODUCTION.

1123 1.00 MV 1.00 EV 0.5 % 1 USA HEMMIG DOE 821069R

Q: RADIOACTIVE TARGET 2.41X(10**4) YR
O: NEEDED TO DETERMINE THE THERMAL SHAPE ACCURATELY.
THIS REQUEST WAS REVIEWED BY CSEWG AND RECOMMENDED AS DESERVING SPECIAL EMPHASIS.
M: NEW REQUEST.

STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

94 PLUTONIUM 239 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

1124 120. KEV 20.0% 2 UK C.G.CAMPBELL WIN 692416R

Q: GAMMA SPECTRUM WANTED.
A: INCIDENT ENERGY, ABOUT 120 KEV.
LOW RESOLUTION ADEQUATE FOR INCIDENT ENERGY AND PHOTON SPECTRUM.
C: FOR STUDY OF ACTIVATION AND HEAT RELEASE IN CORE.

1125 1.00 KEV 20.0 MEV 10.0% 1 FR J.SALVY BRC 742096R

C: FOR SHIELDING.
M: SUBSTANTIAL MODIFICATIONS.

1126 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.
O: FOR SHIELDING CALCULATIONS - EVALUATION MAY BE SUFFICIENT

1127 UP TO 10.0 MEV 10.0% 1 FR M.SALVATORES CAD 832015R

Q: GAMMA SPECTRUM REQUIRED.
O: FAST REACTOR CALCULATIONS.
M: NEW REQUEST.

94 PLUTONIUM 239 NEUTRON N,2N

1128	UP TO	20.0 MEV	10.0%	1	FR	C.PHILIS	BRC		682067R

M: SUBSTANTIAL MODIFICATIONS.

1129	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.

1130	UP TO	15.0 MEV	15.0%	2	FR	F.JOSSO	CAD		762152R

A: QUOTED UNCERTAINTY AT 2 STANDARD DEVIATIONS.
O: FOR FAST REACTOR FUEL CYCLE CALCULATION.
M: SUBSTANTIAL MODIFICATIONS.

94 PLUTONIUM 239 NEUTRON N,3N

1131	UP TO	20.0 MEV	20.0%	1	FR	J.SALVY	BRC		682068R

M: SUBSTANTIAL MODIFICATIONS.

94 PLUTONIUM 239 NEUTRON ENERGY DIFFERENTIAL NEUTRON-EMISSION CROSS SECTION

1132	100. KEV	14.0 MEV		1	USA	HEMMIG	DOE		821027R

Q: RADIOACTIVE TARGET 2.41X(10**4) YR
SPECTRUM OF EMITTED NEUTRONS NEEDED AT SEVERAL ENERGIES.
A: ACCURACY RANGE 10. TO 15. PERCENT.
O: THIS REQUEST WAS REVIEWED BY CSEWG AND RECOMMENDED AS DESERVING SPECIAL EMPHASIS.
M: NEW REQUEST.

94 PLUTONIUM 239 NEUTRON FISSION CROSS SECTION

1133	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.

1134	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.

1135	1.00 KEV	15.0 MEV	1.5%	3	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.
M: SUBSTANTIAL MODIFICATIONS.

1136	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.

1137	25.3 MV	1.00 KEV	1. %	2	USA	COWAN	GEB		721065R

Q: RADIOACTIVE TARGET 2.41X(10**4) YR
Q: IMPROVED PRECISION NEEDED FOR THERMAL REACTORS.
DIRECT MEASUREMENTS DISAGREE.
U AND PU HALF LIVES SHOULD BE CONFIRMED AS THEY AFFECT THESE MEASUREMENTS.

1138	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

1139	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.

1140	UP TO	20.0	MEV		1	FR	C.PHILIS	BRC	742059R
							A: ACCURACY 5 PERCENT TO 1 KEV, 2 PERCENT ABOVE. O: FOR CRITICAL ASSEMBLIES. M: SUBSTANTIAL MODIFICATIONS.		
1141	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.		
1142	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.		
1143	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.		
1144	100. KEV	20.0	MEV	2. %	2	USA	COWAN	GEB	761089R
							Q: RADIOACTIVE TARGET 2.41X(10**4) YR ABSOLUTE MEASUREMENT DESIRED.		
1145	1.00 KEV	1.00	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. M: SUBSTANTIAL MODIFICATIONS.		
1146	1.00 KEV	100.	KEV	2.0%	1	GER	H.KUESTERS	KFK	792221R
1147	1.00 MV	1.00	EV	0.5 %	1	USA	HEMMIG	DOE	821008R
							Q: RADIOACTIVE TARGET 2.41X(10**4) YR O: NEEDED TO DETERMINE THE THERMAL SHAPE ACCURATELY. THIS REQUEST WAS REVIEWED BY CSEWG AND RECOMMENDED AS DESERVING SPECIAL EMPHASIS. M: NEW REQUEST.		
1148	1.00 EV	1.50	MEV	1.0 %	1	USA	HEMMIG	DOE	821016R
							Q: RADIOACTIVE TARGET 2.41X(10**4) YR O: THIS REQUEST WAS REVIEWED BY CSEWG AND RECOMMENDED AS DESERVING SPECIAL EMPHASIS. M: NEW REQUEST.		

STATUS

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

94 PLUTONIUM 239 NEUTRON CAPTURE TO FISSION RATIO (ALPHA)

1149	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.		
1150	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.		
1151	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.		
1152	1.00 MEV	20.0	MEV	10.0%	2	JAP	M.SASAKI	MAP	812032R
							O: INSUFFICIENT EXPERIMENTAL DATA FOR CALCULATION OF FBR BREEDING RATIO, EVALUATION REQUESTED		
1153	UP TO	600.	KEV	6.0 %	1	USA	HEMMIG	DOE	821017R
							Q: RADIOACTIVE TARGET 2.41X(10**4) YR O: THIS REQUEST WAS REVIEWED BY CSEWG AND RECOMMENDED AS DESERVING SPECIAL EMPHASIS. M: NEW REQUEST.		

STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

94 PLUTONIUM 239 NEUTRON NEUTRONS EMITTED PER NEUTRON ABSORPTION (ETA)

1154 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. SEE APPENDIX A.

94 PLUTONIUM 239 NEUTRON NEUTRONS EMITTED PER FISSION (NU BAR)

1155 25.3 MV 3.00 MEV .3 % 1 USA SMITH ANL 661050R
HEMMIG DOE

Q: RADIOACTIVE TARGET 2.41X(10**4) YR
A: ACCURACY OF 0.5 PERCENT USEFUL.
O: FOR FAST REACTOR CALCULATIONS.

1156 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.

1157 25.3 MV 2.50 MEV 0.5% 2 CCP M.N.NIKOLAEV FEI 714026R

Q: RATIO TO CF-252 NU REQUIRED.
ABSOLUTE MEASUREMENTS OF NU-BAR AND ETA FOR THERMAL NEUTRONS WITH ACCURACY OF AT LEAST 0.5 PERCENT WOULD BE VERY USEFUL FOR LOWERING THE DEPENDENCE OF PU-239 NU-BAR RESULTS FROM THE CF-252 NU-BAR STANDARD.
A: ENERGY DEPENDENCE OF NU IS WANTED WITH 0.7 PERCENT ACCURACY.
ENERGY RESOLUTION OF 10. PERCENT REQUIRED BELOW 2.5 MEV.
O: SEE GENERAL COMMENTS IN THE INTRODUCTION.

1158 UP TO 20.0 MEV 1 FR C.PHILIS BRC 742101R

A: ACCURACY 2 PERCENT TO 1 KEV. 1 PERCENT ABOVE.
O: FOR CRITICAL ASSEMBLIES.
M: SUBSTANTIAL MODIFICATIONS.

1159 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.

1160 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.

1161 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.

1162 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.

1163 1.00 MV 1.00 EV .2 % 1 USA DEI BET 781150R

Q: 2.41X(10**4) YR
MEASUREMENTS RELATIVE TO U-233 AND U-235 WANTE

1164 25.3 MV 500. KEV 0.3 % 1 USA HEMMIG DOE 821018R

C: RADIOACTIVE TARGET 2.41X(10**4) YR
O: THIS REQUEST WAS REVIEWED BY CSEWG AND RECOMMENDED AS DESERVING SPECIAL EMPHASIS.
M: NEW REQUEST.

STATUS---STATUS

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

94 PLUTONIUM 239 NEUTRON DELAYED NEUTRONS EMITTED PER FISSION

1165 25.3 MV 5.00 MEV 5. % 2 USA SMITH ANL 761050R

Q: RADIOACTIVE TARGET 2.41X(10**4) YR

1166 25.3 MV 10.0 MEV 5. % 2 JAP T.MURATA NIG 762048R

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.

94 PLUTONIUM 239 NEUTRON ENERGY SPECTRUM OF FISSION NEUTRONS

1167 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.

1168 UP TO 20.0 MEV 5.0% 1 FR C.PHILIS BRC 742103R

O: FOR CRITICAL ASSEMBLIES.
M: SUBSTANTIAL MODIFICATIONS.

1169 25.3 MV 20.0 MEV 10. % 2 USA COWAN GEB 761051R

Q: RADIOACTIVE TARGET 2.41X(10**4) YR

1170 25.3 MV 1. % 2 USA DEI BET 781186R

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.

1171 100. KEV 2.0% 1 GER H.KUESTERS KFK 792222R

A: INCIDENT ENERGY, ABOUT 100 KEV.
2 PERCENT ACCURACY ON MEAN FISS. SPECTRUM ENERGY.
10 PERCENT ACCURACY WANTED ON THE NUMBER OF NEUTRONS ABOVE 5 MEV AND BELOW .25 MEV.

1172 10.0 KEV 10.0 MEV 1 USA HEMMIG DOE 821032R

Q: RADIOACTIVE TARGET 2.41X(10**4) YR
PROMPT FISSION NEUTRON SPECTRUM WITH REFERENCE TO THAT OF CF-252 WITH AN ACCURACY OF E(AVG) TO 1-1.5 PERCENT. AN ABSOLUTE MEASUREMENT OF THE SHAPE OF THE SPECTRUM MAY BE NECESSARY.
C: THIS REQUEST WAS REVIEWED BY CSEWG AND RECOMMENDED AS DESERVING SPECIAL EMPHASIS.
M: NEW REQUEST.

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

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

94 PLUTONIUM 239 NEUTRON ENERGY SPECTRUM OF DELAYED FISSION NEUTRONS

1173 25.3 MV 5.00 MEV 2 USA SMITH ANL 691312R
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

1174 25.3 MV 14.0 MEV 2.0 % 3 CCP S.S.KOVALENKO RI 734002N

Q: YIELD AND SPECTRA WANTED FOR 5 TO 15 MEV GAMMAS.
A: 10.0 KEV GAMMA RESOLUTION WANTED.
O: FOR ASSAY OF PU IN FUEL ELEMENTS FROM PROMPT GAMMAS.

94 PLUTONIUM 239 NEUTRON DELAYED GAMMA SPECTRUM FROM FISSION PRODUCTS

1175 25.3 MV 15. % 3 USA WALTON LAS 701043N

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.
C: FOR NON-DESTRUCTIVE ASSAYS OF PU-239.

94 PLUTONIUM 239 NEUTRON FISSION PRODUCT MASS YIELD SPECTRUM

1176 25.3 MV 3. % 2 USA DEI BET 671125R

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.

1177 25.3 MV 3. % 2 USA DEI BET 671126R

Q: RADIOACTIVE TARGET 2.41X(10**4) YR
YIELD OF CS-137 WANTED.
O: FOR BURN-UP INDICATOR STANDARD.

1178 25.3 MV 1.0% 1 CCP S.A.SKVORTSOV KUR 704020N
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.

1179	25.3	MV			1.0%	2	CCP	S.A.SKVORTSOV O.A.MILLER	KUR KUR	704023N

Q: YIELDS OF ZR-95, RU-106, BA-140 AND CE-144 ARE REQUIRED.
C: FOR ASSAY OF PU IN SPENT FUEL ELEMENTS BY THE FISSION PRODUCT GAMMA RAYS.

1180	25.3	MV			1.0%	3	CAN	W.H.WALKER	CRC	711803R

Q: YIELD OF XE-135 WANTED.
O: FOR CALCULATION OF FISSION PRODUCT ABSORPTION.

1181	25.3	MV	15.0	MEV	5. %	2	USA	COWAN	GEB	741126R

Q: RADIOACTIVE TARGET 2.41X(10**4) YR ALL FISSION PRODUCTS.

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

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

94 PLUTONIUM 240 GAMMA RAY YIELD

1182					1. %	1	JAP	T.SUZUKI	JAE	762011N

Q: YIELD PER DISINTEGRATION OF 45.2,104.2 AND 642.3 KEV GAMMA RAYS REQUIRED. (FOLLOWING ALPHA DECAY EVENT)
O: THOUGH PRESENT STATUS OF ACCURACY SEEMED TO MEET THE REQUIREMENT CONFIRMATION IS REQUIRED. ASSAY OF PU-ISOTOPES BY GAMMA-RAY SPECTROSCOPY

94 PLUTONIUM 240 NEUTRON TOTAL CROSS SECTION

1183	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.

1184	5.00	KEV	10.0	MEV		1	USA	HEMMIG	DOE	821035R

Q: RADIOACTIVE TARGET 6.57X(10**3) YR
A: ONLY ONE COMPREHENSIVE AND REASONABLY RELIABLE RESULT EXISTS FROM 0.04 - 1.0 MEV. DATA NEEDED TO ESTABLISH ENERGY AVERAGED VALUE TO 1-2 PERCENT.
O: THIS REQUEST WAS REVIEWED BY CSEWG AND RECOMMENDED AS DESERVING SPECIAL EMPHASIS.
M: NEW REQUEST.

94 PLUTONIUM 240 NEUTRON INELASTIC CROSS SECTION

1185		UP TO	10.0	MEV		1	USA	HEMMIG	DOE	821036R

Q: RADIOACTIVE TARGET 6.57X(10**3) YR
TOTAL INELASTIC CROSS SECTION NEEDED TO DETERMINE BROAD GROUP (E.G. 29 GROUP) TRANSFER MATRIX ELEMENTS TO 30 PERCENT.
A: ACCURACY RANGE 20. TO 25. PERCENT.
O: THIS REQUEST WAS REVIEWED BY CSEWG AND RECOMMENDED AS DESERVING SPECIAL EMPHASIS.
M: NEW REQUEST.

94 PLUTONIUM 240 NEUTRON ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

1186		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.
C: SEE GENERAL COMMENTS IN THE INTRODUCTION.

94 PLUTONIUM 240 NEUTRON ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION

1187		UP TO	4.00	MEV	40.0%	2	UK	C.G.CAMPBELL	WIN	692443R

O: FOR FAST REACTORS.

94 PLUTONIUM 240 NEUTRON CAPTURE CROSS SECTION

1188	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.

1189	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.
C: FOR FAST REACTOR CALCULATIONS.

1190	500.	EV	1.00	MEV	5.00%	2	FR	M.SALVATORES	CAD	692451R

Q: ABSOLUTE VALUES USEFUL BUT REQUEST CONCERNS MAINLY RELATIVE VALUES VERSUS ENERGY OR RELATIVE VALUES TO U-238 CAPTURE OR U-235 FISSION.
O: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

1191 5.00 KEV 1.00 MEV 10.0% 2 GER B.GOEL KFK 692453R

A: 1 NS/M RESOLUTION NEEDED.

1192 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

1193 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.

1194 500. EV 5.00 MEV 4.0% 2 CCP L.N.USACHEV FEI 794001R

Q: AVERAGE CROSS SECTION IN A FAST-REACTOR SPECTRUM REQUESTED.
O: FOR FAST-REACTOR BURN-UP CALCULATION.
SEE GENERAL COMMENTS.

1195 25.3 MV 100. EV 3.0 % 1 USA HEMMIG DOE 821020R

Q: RADIOACTIVE TARGET 6.57X(10**3) YR
A: IMPROVED PRECISION NEEDED FOR THERMAL REACTORS.
O: THIS REQUEST WAS REVIEWED BY CSEWG AND RECOMMENDED AS DESERVING SPECIAL EMPHASIS.
M: NEW REQUEST.

94 PLUTONIUM 240 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

1196 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.
C: FOR STUDY OF ACTIVATION AND HEAT RELEASE IN CORE.

1197 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

1198 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.
C: SEE GENERAL COMMENTS IN THE INTRODUCTION.

1199 500. KEV 10.0 MEV 2. % 2 USA WESTON ORL 721088R

Q: RADIOACTIVE TARGET 6.57X(10**3) YR
O: FOR FAST REACTOR CALCULATIONS.

1200 500. EV 100. KEV 9. % 2 USA HEMMIG DOE 721089R

Q: RADIOACTIVE TARGET 6.57X(10**3) YR
O: FOR FAST REACTOR CALCULATIONS.

1201 1.00 KEV 100. KEV 5. % 3 USA HEMMIG DOE 721090R

Q: 6.57X(10**3) YR
RATIO TO -10B(N,ALPHA) OR -6LI(N,ALPHA) WANTED.
A: ACCURACY OF 5 PERCENT USEFUL.

1202 1.00 KEV 15.0 MEV 5.0% 1 GER B.GOEL KFK 742022R

1203 UP TO 20.0 MEV 2 FR J.SALVY BRC 742105R

A: ACCURACY 5 PERCENT TO 1 KEV, 2 PERCENT ABOVE.
O: FOR CRITICAL ASSEMBLIES.
M: SUBSTANTIAL MODIFICATIONS.

1204 5.00 KEV 10.0 MEV 2 CCP L.N.USACHEV FEI 754003R

A: FROM 0.1 - 0.8 MEV ACCURACY 5.3 PERCENT.
FROM 0.8 - 4.5 MEV ACCURACY 3.5 PERCENT.
ABOVE 4.5 MEV REQUIREMENTS 2 TIMES WEAKER.
O: NEED FOR FAST REACTOR CALCULATIONS.
FOR MORE DETAIL SEE INTRODUCTION.

1205 1.00 KEV 1.00 MEV 5.0% 1 JAP M.SASAKI MAP 762213R

O: FOR FAST REACTOR CALCULATIONS
M: SUBSTANTIAL MODIFICATIONS.

94 PLUTONIUM 240 NEUTRON NEUTRONS EMITTED PER FISSION (NU BAR)

1206	UP TO	5.00	MEV	1.0%	2	CCP	M.N.NIKOLAEV	FEI	714031R

Q: RATIO TO CF-252 NU-BAR WANTED.
C: SEE GENERAL COMMENTS IN THE INTRODUCTION.

1207	UP TO	20.0	MEV		2	FR	J.SALVY	BRC	742106R

A: ACCURACY 2 PERCENT TO 1 KEV, 1 PERCENT ABOVE.
Q: FOR CRITICAL ASSEMBLIES.
M: SUBSTANTIAL MODIFICATIONS.

1208	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

1209	25.3 MV	5.00	MEV	10. %	2	USA	HEMMIG	DOE	761052R

Q: RADIOACTIVE TARGET 6.57X(10**3) YR

1210	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.
C: 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.

94 PLUTONIUM 240 NEUTRON ENERGY SPECTRUM OF FISSION NEUTRONS

1211	UP TO	15.0	MEV	3.0%	2	FR	M.SALVATORES	CAD	732098R

A: ACCURACY FOR AVERAGE E' RELATIVE TO AVERAGE E' U-235 OR PU-239.
Q: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

94 PLUTONIUM 240 NEUTRON RESONANCE PARAMETERS

1212	20.0 EV	10.0	KEV	10. %	2	USA	SMITH HEMMIG	ANL DOE	691391R

Q: RADIOACTIVE TARGET 6.57X(10**3) YR
C: TO RESOLVE DISCREPANCIES IN EXISTING DATA.
FOR FAST REACTOR CALCULATIONS. INCLUDING DOPPLER EFFECT.
M: SUBSTANTIAL MODIFICATIONS.

1213	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.
C: AVERAGE S AND P WAVE RESONANCE PARAMETERS SHOULD BE DERIVED.
STATISTICAL ANALYSIS OF MEASURED RESONANCE PARAMETERS WANTED.
SEE ALSO GENERAL COMMENTS IN THE INTRODUCTION.

1214	1.00 EV			1.0 %	1	USA	HEMMIG	DOE	821021R

Q: RADIOACTIVE TARGET 6.57X(10**3) YR
C: RESONANCE STRONGLY INFLUENCES THERMAL CROSS SECTION EVALUATION. THERE IS DISCREPANCY BETWEEN DIFFERENTIAL AND INTEGRAL DATA.
THIS REQUEST WAS REVIEWED BY CSEWG AND RECOMMENDED AS DESERVING SPECIAL EMPHASIS.
M: NEW REQUEST.

94 PLUTONIUM 240 MISC

1215				0.3%	2	GER	V.SCHNEIDER	ALK	702079N

Q: SPECIFIC DECAY HEAT IN WATTS/GRAM REQUIRED.
PERCENTAGE OF HEAT CARRIED OFF BY LONG RANGE PARTICLES (X-RAYS,GAMMA RAYS) USEFUL.
C: FOR CALORIMETRIC PU DETERMINATION.

94 PLUTONIUM 241 GAMMA RAY YIELD

1216				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.
C: 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

1217	UP TO	10.0	MEV	10.0%	2	CCP	V.K.MARKOV	GAC	714049N

Q: FOR PHOTONUCLEAR ASSAY OF PU.

94 PLUTONIUM 241 GAMMA FISSION CROSS SECTION

1218	UP TO	10.0	MEV	10.0%	2	CCP	V.K.MARKOV	GAC	714047N

Q: FOR PHOTONUCLEAR ASSAY OF PU.

94 PLUTONIUM 241 GAMMA FISSION PRODUCT MASS YIELD SPECTRUM

1219	UP TO	10.0	MEV	10.0%	2	CCP	V.K.MARKOV	GAC	714048N

Q: FOR PHOTONUCLEAR ASSAY OF PU.

94 PLUTONIUM 241 NEUTRON TOTAL CROSS SECTION

1220	1.00	KEV	15.0	MEV	10.0%	2	GER	B.GOEL	KFK	692455R
1221	1.00	KEV	20.0	MEV	1. %	2	USA	WESTON	ORL	801266R

Q: RADIOACTIVE TARGET 14.4 YR
NEEDED IN EVALUATION TO LIMIT MODEL CALCULATIONS.

1222	1.00	MV	1.00	EV	0.5 %	1	USA	HEMMIG	DOE	821010R

Q: RADIOACTIVE TARGET 14.4 YR
C: NEEDED TO DETERMINE THE THERMAL SHAPE ACCURATELY.
THIS REQUEST WAS REVIEWED BY CSEWG AND RECOMMENDED AS DESERVING SPECIAL EMPHASIS.
M: NEW REQUEST.

94 PLUTONIUM 241 NEUTRON ABSORPTION CROSS SECTION

1223	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.
Q: FOR THERMAL REACTORS.

1224	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.
Q: FOR THERMAL REACTORS.

94 PLUTONIUM 241 NEUTRON CAPTURE CROSS SECTION

1225	25.3	MV	300.	KEV	3. %	1	USA	WESTON	ORL	671132R

Q: RADIOACTIVE TARGET 14.4 YR
ALPHA ALSO WANTED.
A: ACCURACY OF 3 PERCENT IN ETA.
C: IMPROVED PRECISION NEEDED FOR THERMAL REACTORS.
ALSO WANTED FOR FAST REACTORS.

1226	200.	EV	1.00	MEV	10.0%	2	GER	B.GOEL	KFK	692471R

Q: ALPHA IS USEFUL.

1227	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.
Q: NEED FOR FAST REACTOR CALCULATIONS.
FOR MORE DETAIL SEE INTRODUCTION.

1228	500.	EV	5.00	MEV	7.0%	2	CCP	L.N.USACHEV	FEI	794002R

C: AVERAGE CROSS SECTION IN A FAST-REACTOR SPECTRUM REQUESTED.
Q: FOR FAST-REACTOR BURN-UP CALCULATION.
SEE GENERAL COMMENTS.

1229	1.00	MV	1.00	EV	0.5 %	1	USA	HEMMIG	DOE	821012R

Q: RADIOACTIVE TARGET 14.4 YR
C: NEEDED TO DETERMINE THE THERMAL SHAPE ACCURATELY.
THIS REQUEST WAS REVIEWED BY CSEWG AND RECOMMENDED AS DESERVING SPECIAL EMPHASIS.
M: NEW REQUEST.

94 PLUTONIUM 241 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

1230	120.	KEV			20.0%	3	UK	C.G.CAMPBELL	WIN	692460R

Q: GAMMA SPECTRUM WANTED.
A: INCIDENT ENERGY, ABOUT 120 KEV.
LOW RESOLUTION ADEQUATE FOR INCIDENT ENERGY AND PHOTON SPECTRUM.
Q: FOR STUDY OF ACTIVATION AND HEAT RELEASE IN CORE.

1231	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 FISSION CROSS SECTION

1232	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.

1233	UP TO		5.00	KEV	5.0%	2	FR	H.TELLIER	SAC	732099R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
O: REACTOR CALCULATIONS.

1234	1.00	KEV	15.0	MEV	3.0%	2	GER	B.GOEL	KFK	742013R
1235	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.

1236	10.0	EV	30.0	KEV	2. %	1	USA	DONCALS	WEW	761042R

Q: RADIOACTIVE TARGET 14.4 YR
RATIO TO U-235 OR PU-239 WOULD BE USEFUL.

1237	1.00	EV	1.00	MEV	1-5.%	1	RUM	S.RAPEANU	RUM	763007R
1238	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.

1239	1.00	MV	1.00	EV	0.5 %	1	USA	HEMMIG	DOE	821011R

Q: RADIOACTIVE TARGET 14.4 YR
O: NEEDED TO DETERMINE THE THERMAL SHAPE ACCURATELY. THIS REQUEST WAS REVIEWED BY CSEWG AND RECOMMENDED AS DESERVING SPECIAL EMPHASIS.
M: NEW REQUEST.

1240	25.3	MV	10.0	EV	3.0 %	1	USA	HEMMIG	DOE	821022R

Q: RADIOACTIVE TARGET 14.4 YR
RATIO TO U-235 AND PU-239 WOULD BE USEFUL.
O: THIS REQUEST WAS REVIEWED BY CSEWG AND RECOMMENDED AS DESERVING SPECIAL EMPHASIS.
M: NEW REQUEST.

1241	20.0	KEV	400.	KEV	3.0 %	1	USA	HEMMIG	DOE	821023R

Q: RADIOACTIVE TARGET 14.4 YR
RATIO TO U-235 FISSION WANTED.
O: THIS REQUEST WAS REVIEWED BY CSEWG AND RECOMMENDED AS DESERVING SPECIAL EMPHASIS.
M: NEW REQUEST.

94 PLUTONIUM 241 NEUTRON CAPTURE TO FISSION RATIO (ALPHA)

1242	1.00	KEV	2.00	MEV	10. %	1	USA	HEMMIG	DOE	691332R

Q: RADIOACTIVE TARGET 14.4 YR

1243	25.3	MV			1.0%	2	FR	H.TELLIER	SAC	702043R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
C: EVALUATION MAY SUFFICE IF IT EXPLAINS DISCREPANCIES.

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

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

94 PLUTONIUM 241 NEUTRON NEUTRONS EMITTED PER NEUTRON ABSORPTION (ETA)

1244	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.

1245	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.

94 PLUTONIUM 241 NEUTRON NEUTRONS EMITTED PER NEUTRON ABSORPTION (ETA) (CONTINUED)

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

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

94 PLUTONIUM 241 NEUTRON NEUTRONS EMITTED PER FISSION (NU BAR)

1246	1.00	KEV	15.0	MEV	5.0%	2	GER	B.GOEL	KFK	692466R
1247	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.
U: 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

1248	25.3	MV	10.0	MEV	5. %	2	JAP	T.MURATA	NIG	762050N

G: 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.
U: ACTIVE ASSAY OF MIXED FRESH AND IRRADIATED FUEL INCIDENT ENERGY STEP LESS THAN 2 MEV.

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

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

94 PLUTONIUM 241 NEUTRON ENERGY SPECTRUM OF FISSION NEUTRONS

1249	1.00	KEV	1.00	MEV	2.0 %	1	USA	HEMMIG	DOE	821024R

Q: RADIOACTIVE TARGET 14.4 YR
G: THIS REQUEST WAS REVIEWED BY CSEWG AND RECOMMENDED AS DESERVING SPECIAL EMPHASIS.
M: NEW REQUEST.

94 PLUTONIUM 241 NEUTRON FISSION PRODUCT MASS YIELD SPECTRUM

1250	25.3	MV			5.0%	3	CCP	S.A.SKVORTSOV O.A.MILLER	KUR KUR	704021N

G: YIELD OF RU-144 WANTED.
U: FOR ASSAY OF PU IN FUEL ELEMENTS BY MEANS OF FISSION PRODUCT GAMMA RADIATION.

1251	25.3	MV			1.0%	3	CAN	W.H.WALKER	CRC	711804R

G: YIELD OF XE-135 WANTED.
U: FOR CALCULATION OF FISSION PRODUCT ABSORPTION.

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

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

94 PLUTONIUM 241 NEUTRON RESONANCE PARAMETERS

1252	25.3	MV	100.	EV	5. %	2	USA	SMITH	ANL	721140R

Q: RADIOACTIVE TARGET 14.4 YR

1253	100.	EV	400.	EV	10. %	2	USA	SMITH	ANL	721141R

Q: RADIOACTIVE TARGET 14.4 YR

94 PLUTONIUM 241 MISC

1254					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.
U: FOR CALORIMETRIC PU DETERMINATION.

94 PLUTONIUM 242 NEUTRON TOTAL CROSS SECTION

1255	10.0	KEV	15.0	MEV	10.0%	1	GER	F.FROEHNER	KFK	792255R

A: 5-10 PERCENT ENERGY RESOLUTION SUFFICIENT
U: 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

1256	25.3	MV			5.0%	1	FR	H.TELLIER	SAC	702047R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
U: EVALUATION MAY SUFFICE IF IT EXPLAINS DISCREPANCIES.

94 PLUTONIUM 242 NEUTRON CAPTURE CROSS SECTION (CONTINUED)

1257	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.		
1258	1.00 KEV	3.00	MEV	20.0%	1	FR	F.JOSSO	CAD	712102R
							Q: RELATIVE VALUES VERSUS ENERGY OR TO U-238 CAPTURE.		
							A: QUOTED UNCERTAINTY AT 2 STANDARD DEVIATIONS.		
							O: FOR FAST REACTOR FUEL CYCLE CALCULATION.		
1259	1.00 KEV	7.00	MEV		2	USA	HEMMIG	DOE	721096R
							Q: RADIOACTIVE TARGET 3.76X(10**5) YR		
							A: ACCURACY RANGE 6. TO 20. PERCENT.		
							O: FOR FAST BREEDER CALCULATIONS. CM, CF PRODUCTION.		
1260	100. EV	1.00	KEV		2	USA	SCHENTER	HED	721143R
							Q: RADIOACTIVE TARGET 3.76X(10**5) YR		
							A: ACCURACY RANGE 6. TO 10. PERCENT. WANT RESONANCE PARAMETERS TO 10-20 PERCENT BELOW 10 KEV.		
							O: FOR FAST BREEDER CALCULATIONS. CM, CF PRODUCTION.		
1261	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.		
1262	10.0 MV	4.00	EV	10.0%	2	UK	J.FELL	WIN	792168R
							C: FOR STUDIES OF PLUTONIUM RECYCLE. EVALUATION REQUIREMENT.		
1263	500. EV	5.00	MEV	15.0%	2	CCP	L.N.USACHEV	FEI	794003R
							Q: AVERAGE CROSS SECTION IN A FAST-REACTOR SPECTRUM REQUESTED.		
							C: FOR FAST-REACTOR BURN-UP CALCULATION. SEE GENERAL COMMENTS.		

94 PLUTONIUM 242 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

1264	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

1265	1.00 EV	1.00	MEV	1-5.%	1	RUM	S.RAPEANU	RUM	763006R
1266	1.00 KEV	3.00	MEV	20.0%	1	FR	F.JOSSO	CAD	792053R
							A: QUOTED UNCERTAINTY AT 2 STANDARD DEVIATIONS.		
							O: FOR FAST REACTOR FUEL CYCLE CALCULATIONS.		

94 PLUTONIUM 242 NEUTRON NEUTRONS EMITTED PER FISSION (NU BAR)

1267	500. KEV	10.0	MEV	5. %	2	USA	HEMMIG	DOE	691334R
							Q: RADIOACTIVE TARGET 3.76X(10**5) YR		

94 PLUTONIUM 243 NEUTRON CAPTURE CROSS SECTION

1268	1.00 KEV	3.00	MEV	50.0%	3	FR	M.SALVATORES	CAD	792054R
							C: FOR FAST REACTOR CALCULATIONS.		
							M: SUBSTANTIAL MODIFICATIONS.		

94 PLUTONIUM 243 NEUTRON FISSION CROSS SECTION

1269	1.00 KEV	3.00	MEV	50.0%	3	FR	M.SALVATORES	CAD	792055R
							O: FOR FAST REACTOR CALCULATIONS.		
							M: SUBSTANTIAL MODIFICATIONS.		

95 AMERICIUM 241 GAMMA TOTAL NEUTRON YIELD

1270	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

1271	UP TO	10.0	MEV	10.0%	2	CCP	V.K.MARKOV	GAC	714051N

Q: FOR PHOTONUCLEAR ASSAY OF PU.

95 AMERICIUM 241 GAMMA FISSION PRODUCT MASS YIELD SPECTRUM

1272	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

1273	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

1274	UP TO	3.00	MEV	10.0%	2	FR	E.FORT	CAD	792057R

Q: EVALUATION PROBLEMS

95 AMERICIUM 241 NEUTRON ABSORPTION CROSS SECTION

1275	25.3 MV			5.0%	2	FR	H.TELLIER	SAC	712106R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.

95 AMERICIUM 241 NEUTRON CAPTURE CROSS SECTION

1276	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.

1277	100. EV	100.	KEV	8.0%	1	UK	C.G.CAMPBELL	WIN	712109R

Q: FOR FAST REACTORS.
M: SUBSTANTIAL MODIFICATIONS.

1278	1.00 KEV	2.00	MEV	20. %	1	USA	HEMMIG	DGE	741127R

Q: RADIOACTIVE TARGET 433 YR
PRODUCTION OF BOTH AM-242 AND AM-242M WANTED.
Q: FOR SPENT FUEL SHIELDING.

1279	1.00 KEV	10.0	MEV		2	FR	C.PHILIS	BRC	742108R

Q: ACCURACY 5 PERCENT TO 3 MEV, 20 PERCENT ABOVE.
Q: FOR CRITICAL ASSEMBLIES.
M: SUBSTANTIAL MODIFICATIONS.

1280	500. KEV	15.0	MEV		1	JAP	R.YUMOTO H.MATSUNOBU T.HOJUYAMA	PNC SAE JAP	752033R

Q: PRODUCTION OF AM-242 AND AM-242 M WANTED
A: ACCURACY 10.0 PERCENT BELOW 1 MEV, 20.0 PERCENT IN THE MEV REGION.
C: REACTOR BURN-UP CALCULATIONS AND ESTIMATION OF TRANS-URANIUM NUCLIDE BUILD-UP IN SPENT FUEL. NEUTRON SHIELDING OF SPENT-FUEL TRANSPORT CASK.
M: SUBSTANTIAL MODIFICATIONS.

1281	1.00 KEV	3.00	MEV	10.0%	1	FR	F.JOSSO	CAD	762153R

Q: BRANCHING RATIO, AM-242, AM-242M
A: QUOTED UNCERTAINTY AT 2 STANDARD DEVIATIONS.
Q: FOR FAST REACTOR FUEL CYCLE CALCULATION.
M: SUBSTANTIAL MODIFICATIONS.

1282	100. EV	100.	KEV	20.0%	1	GER	H.KUESTERS	KFK	792228R

Q: MEASUREMENT WANTED.

1283	25.3 MV	15.0	MEV	20.0%	1	GER	H.KUESTERS	KFK	792230R

Q: EVALUATION WANTED.

1284	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

1285	1.00 KEV	20.0	MEV	5.0%	1	FR	C.PHILIS	BRC	742107R

Q: FOR CRITICAL ASSEMBLIES.
M: SUBSTANTIAL MODIFICATIONS.

95 AMERICIUM 241 NEUTRON NEUTRONS EMITTED PER FISSION (NU BAR)

1286	25.3	MV	10.0	MEV	5.0%	1	GER	B.GOEL	KFK	712104R

A: 10 PERCENT ACCURACY BELOW 100EV AND ABOVE 1.0MEV
Q: FOR FAST REACTOR DESIGN.

1287	25.3	MV	15.0	MEV	20.0%	1	GER	H.KUESTERS	KFK	792232R

C: EVALUATION WANTED.

95 AMERICIUM 241 NEUTRON ABSORPTION RESONANCE INTEGRAL

1288					10.0%	2	FR	H.TELLIER	SAC	712107R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.

95 AMERICIUM 241 MISC

1289	25.3	MV	100.	KEV	8.0%	1	UK	C.G.CAMPBELL	WIN	792142R

Q: BRANCHING RATIO.
Q: FOR FAST REACTORS.
M: SUBSTANTIAL MODIFICATIONS.

95 AMERICIUM 242 NEUTRON TOTAL CROSS SECTION

1290	25.3	MV	15.0	MEV	10.0%	1	GER	F.FROEHNER	KFK	792257R

A: 5-10 PERCENT ENERGY RESOLUTION SUFFICIENT FOR AVERAGES.
C: THERMAL CROSS SECTIONS, RESONANCES AND ABOVE 1KEV AVERAGE PARAMETERS NEEDED FOR CONSISTENT EVALUATION OF PARTIAL CROSS SECTIONS.

95 AMERICIUM 242 NEUTRON CAPTURE CROSS SECTION

1291	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.
C: FOR PU-238 PRODUCTION.

1292	25.3	MV				3	CAN	W.H.WALKER	CRL	711805R

Q: FOR 16 HOUR ISOMER.
A: ACCURACY REQUIRED 500 B.
C: UNKNOWN CROSS SECTION.

1293	10.0	MV	5.00	KEV	10.0%	2	FR	H.TELLIER	SAC	732101R

C: FOR METASTABLE STATE OF AM-242 (152 YEARS).
A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
C: FOR BURN UP PHYSICS.
EVALUATION MAY BE SUFFICIENT.

1294	500.	EV	15.0	MEV	50.0%	2	FR	M.SALVATORES	CAD	732102R

Q: FOR METASTABLE STATE OF AM-242 (152 YEARS).
VALUE RELATIVE TO U-238 CAPTURE CROSS SECTION.
Q: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

1295	25.3	MV	100.	KEV		2	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.
Q: REACTOR BURN-UP CALCULATIONS AND ESTIMATION OF TRANS-URANIUM NUCLIDE BUILD-UP IN SPENT FUEL.
NEUTRON SHIELDING OF SPENT-FUEL TRANSPORT CASK.

1296	25.3	MV	15.0	MEV	30.0%	1	GER	H.KUESTERS	KFK	792234R

C: TARGET IN METASTABLE STATE.
EVALUATION WANTED.

1297	500.	EV	5.00	MEV	20.0%	2	CCP	L.N.USACHEV	FEI	754004R

Q: TARGET IN METASTABLE STATE.
AVERAGE CROSS SECTION IN A FAST-REACTOR SPECTRUM REQUESTED.
Q: FOR FAST-REACTOR BURN-UP CALCULATION.
SEE GENERAL COMMENTS.

95 AMERICIUM 242 NEUTRON FISSION CROSS SECTION

1298	500.	EV	15.0	MEV	15.0%	2	FR	M.SALVATORES	CAD	732100R

C: FOR METASTABLE STATE OF AM-242 (152 YEARS).
VALUE RELATIVE TO U-235 FISSION CROSS SECTION.
Q: FOR FAST REACTOR CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

1299	25.3	MV	15.0	MEV	15.0%	1	GER	H.KUESTERS	KFK	792233R

Q: TARGET IN METASTABLE STATE.
EVALUATION WANTED.

1300	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)

1301	25.3	MV	15.0	MEV	15.0%	1	GER	H.KUESTERS	KFK	792235R

Q: TARGET IN METASTABLE STATE.
EVALUATION WANTED.

95 AMERICIUM 243 NEUTRON TOTAL CROSS SECTION

1302	25.3	MV	15.0	MEV	10.0%	1	GER	F.FROEHNER	KFK	792258R

A: 5-10 PERCENT ENERGY RESOLUTION SUFFICIENT
O: THERMAL CROSS SECTIONS, RESONANCES AND ABOVE 5KEV AVERAGE PARAMETERS NEEDED FOR CONSISTENT EVALUATION OF PARTIAL CROSS SECTIONS.

95 AMERICIUM 243 NEUTRON ABSORPTION CROSS SECTION

1303	25.3	MV			5.0%	2	FR	H.TELLIER	SAC	712113R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.

95 AMERICIUM 243 NEUTRON CAPTURE CROSS SECTION

1304	25.3	MV	10.0	MEV	20. %	2	USA	SCHENTER	HED	721101R

Q: RADIOACTIVE TARGET 7.37X(10**3) YR
O: FOR LONG TERM REACTIVITY CALCULATIONS AND FOR SPENT FUEL SHIELDING.

1305	1.00	KEV	3.00	MEV	20.0%	1	FR	F.JOSSO	CAD	732104R

A: QUOTED UNCERTAINTY AT 2 STANDARD DEVIATIONS.
O: FOR FAST REACTOR FUEL CYCLE CALCULATIONS.

1306	1.00	KEV	200.	KEV	8. %	2	USA	HEMMIG	DOE	741128R

Q: RADIOACTIVE TARGET 7.37X(10**3) YR
O: FOR SPENT FUEL SHIELDING.

1307	25.3	MV	15.0	MEV	30.0%	1	GER	H.KUESTERS	KFK	792237R

Q: EVALUATION WANTED.

1308	500.	EV	5.00	MEV	20.0%	2	CCP	L.N.USACHEV	FEI	794005R

Q: AVERAGE CROSS SECTION IN A FAST-REACTOR SPECTRUM REQUESTED.
O: FOR FAST-REACTOR BURN-UP CALCULATION.
SEE GENERAL COMMENTS.

1309	1.00	MEV	15.0	MEV	20.0%	2	JAP	R.YUMOTO H.MATSUNOBU R.SHINDO T.HOJUYAMA	PNC SAE JAE JAP	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.
O: 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: SUBSTANTIAL MODIFICATIONS.

1310	100.	EV	100.	KEV	10.0%	3	UK	C.G.CAMPBELL	WIN	832061R

O: FOR FAST REACTORS.
M: NEW REQUEST.

95 AMERICIUM 243 NEUTRON FISSION CROSS SECTION

1311	1.00	KEV	3.00	MEV	20.0%	1	FR	F.JOSSO	CAD	712111R

Q: RELATIVE TO U-235 FISSION.
A: QUOTED UNCERTAINTY AT 2 STANDARD DEVIATIONS.
O: FOR FAST REACTOR FUEL CYCLE CALCULATION.

1312	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)

1313	500.	EV	15.0	MEV	25.0%	2	FR	F.JOSSO	CAD	712112R

Q: RELATIVE TO CF-252 NU.
A: QUOTED UNCERTAINTY AT 2 STANDARD DEVIATIONS.
O: FOR FAST REACTOR FULE CYCLE CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

95 AMERICIUM 243 NEUTRON NEUTRONS EMITTED PER FISSION (NU BAR) (CONTINUED)

1314 25.3 MV 15.0 MEV 15.0% 1 GER H.KUESTERS KFK 792238R
Q: EVALUATION WANTED.

95 AMERICIUM 243 NEUTRON ABSORPTION RESONANCE INTEGRAL

1315 10.0% 2 FR H.TELLIER SAC 712114R
A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.

96 CURIUM 242 NEUTRON CAPTURE CROSS SECTION

1316 25.3 MV 20. % 2 USA SHARP SRL 671135R
Q: RADIOACTIVE TARGET 163 DAY
Q: FOR PU-238 PRODUCTION.

1317 10.0 MV 5.00 KEV 10.0% 2 FR H.TELLIER SAC 732107R
A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
Q: BURN UP PHYSICS.

1318 25.3 MV 100. KEV 2 JAP R.YUMOTO PNC 752042R
H.MATSUNOBU SAE
T.HOJUYAMA JAP
A: ACCURACY REQUIRED 10 TO 20 PERCENT.
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.

1319 500. EV 200. KEV 50.0% 2 FR F.JOSSO CAD 762154R
A: QUOTED UNCERTAINTY AT 2 STANDARD DEVIATIONS.
Q: FOR FAST REACTOR FUEL CYCLE CALCULATION.
M: SUBSTANTIAL MODIFICATIONS.

1320 25.3 MV 15.0 MEV 30.0% 1 GER H.KUESTERS KFK 792240R
Q: EVALUATION WANTED.

96 CURIUM 242 NEUTRON N,2N

1321 UP TO 15.0 MEV 30.0% 1 GER H.KUESTERS KFK 792241R
Q: EVALUATION WANTED.

96 CURIUM 242 NEUTRON FISSION CROSS SECTION

1322 500. EV 15.0 MEV 25.0% 2 FR F.JOSSO CAD 732109R
Q: VALUE RELATIVE TO U-235 FISSION CROSS SECTION.
A: QUOTED UNCERTAINTY AT 2 STANDARD DEVIATIONS.
Q: FOR FAST REACTOR FUEL CYCLE CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

1323 100. KEV 15.0 MEV 1 JAP R.YUMOTO PNC 752041R
H.MATSUNOBU SAE
T.HOJUYAMA JAP
A: ACCURACY REQUIRED 10 TO 20 PERCENT.
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.

1324 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)

1325 500. EV 15.0 MEV 30.0% 2 FR F.JOSSO CAD 732106R
Q: VALUE RELATIVE TO CF-252 NU.
A: QUOTED UNCERTAINTY AT 2 STANDARD DEVIATIONS.
Q: FOR FAST REACTOR FUEL CYCLE CALCULATION.
M: SUBSTANTIAL MODIFICATIONS.

1326 25.3 MV 15.0 MEV 30.0% 1 GER H.KUESTERS KFK 792242R
Q: EVALUATION WANTED.

96 CURIUM 242 NEUTRON RESONANCE PARAMETERS

1327 25.3 MV 1.00 KEV 20. % 3 USA ORTON RL 671192R
Q: RADIOACTIVE TARGET 163 DAY
ELASTIC AND GAMMA-WIDTHS WANTED.
Q: FOR PU-238 PRODUCTION.

96 CURIUM 243 NEUTRON CAPTURE CROSS SECTION

1328	20.0	EV	100.	KEV		2	JAP	R.YUMOTO H.MATSUNOBU	PNC SAE	752047R

A: ACCURACY REQUIRED 10 TO 20 PERCENT.
C: REACTOR BURN-UP CALCULATIONS AND ESTIMATION OF TRANS-URANIUM NUCLIDE BUILD-UP IN SPENT FUEL. NEUTRON SHIELDING OF SPENT-FUEL TRANSPORT CASK.
M: SUBSTANTIAL MODIFICATIONS.

1329	500.	EV	200.	KEV	50.0%	2	FR	F.JOSSO	CAD	762156R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
C: FOR FAST REACTOR FUEL CYCLE CALCULATION.
M: SUBSTANTIAL MODIFICATIONS.

1330	25.3	MV	15.0	MEV	30.0%	2	GER	H.KUESTERS	KFK	792248R

C: EVALUATION WANTED.

96 CURIUM 243 NEUTRON FISSION CROSS SECTION

1331	3.00	MEV	10.0	MEV		2	JAP	R.YUMOTO H.MATSUNOBU	PNC SAE	752045R

A: ACCURACY REQUIRED 10 TO 20 PERCENT.
C: REACTOR BURN-UP CALCULATIONS AND ESTIMATION OF TRANS-URANIUM NUCLIDE BUILD-UP IN SPENT FUEL. NEUTRON SHIELDING OF SPENT-FUEL TRANSPORT CASK.

1332	500.	EV	15.0	MEV	50.0%	2	FR	F.JOSSO	CAD	762155R

A: QUOTED UNCERTAINTY AT 2 STANDARD DEVIATIONS.
C: FOR FAST REACTOR FUEL CYCLE CALCULATION.
M: SUBSTANTIAL MODIFICATIONS.

1333	25.3	MV	15.0	MEV	30.0%	2	GER	H.KUESTERS	KFK	792247R

C: EVALUATION WANTED.

96 CURIUM 244 NEUTRON TOTAL CROSS SECTION

1334	1.00	KEV	15.0	MEV	10.0%	2	GER	F.FROEHNER	KFK	792259R

A: 5-10 PERCENT ENERGY RESOLUTION SUFFICIENT
C: NEEDED FOR CONSISTENT EVALUATION OF PARTIAL CROSS SECTIONS.

96 CURIUM 244 NEUTRON CAPTURE CROSS SECTION

1335	10.0	MV	5.00	KEV	10.0%	2	FR	H.TELLIER	SAC	732109R

A: QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
C: BURN UP PHYSICS.

1336	500.	EV	15.0	MEV	20.0%	1	FR	F.JOSSO	CAD	762157R

A: QUOTED UNCERTAINTY AT 2 STANDARD DEVIATIONS.
C: FOR FAST REACTOR FUEL CYCLE CALCULATION.

1337	25.3	MV	15.0	MEV	30.0%	1	GER	H.KUESTERS	KFK	792244R

C: EVALUATION WANTED.

96 CURIUM 244 NEUTRON N,2N

1338	UP TO		15.0	MEV	30.0%	1	GER	H.KUESTERS	KFK	792245R

C: EVALUATION WANTED.

96 CURIUM 244 NEUTRON FISSION CROSS SECTION

1339	500.	EV	15.0	MEV	20.0%	1	FR	F.JOSSO	CAD	732108R

C: VALUE RELATIVE TO U-235 FISSION CROSS SECTION.
A: QUOTED UNCERTAINTY AT 2 STANDARD DEVIATIONS.
C: FOR FAST REACTOR FUEL CYCLE CALCULATION.

1340	25.3	MV	15.0	MEV	30.0%	1	GER	H.KUESTERS	KFK	792243R

C: EVALUATION WANTED.

96 CURIUM 244 NEUTRON NEUTRONS EMITTED PER FISSION (NU BAR)

1341	25.3	MV	15.0	MEV	30.0%	1	GER	H.KUESTERS	KFK	79224cR

C: EVALUATION WANTED.

96 CURIUM 245 NEUTRON CAPTURE CROSS SECTION

1342	500.	EV	200.	KEV	50.0%	2	FR	F.JOSSO	CAD	762159R

A: QUOTED UNCERTAINTY AT 2 STANDARD DEVIATIONS.
C: FOR FAST REACTOR FUEL CYCLE CALCULATION.
M: SUBSTANTIAL MODIFICATIONS.

96 CURIUM 245 NEUTRON CAPTURE CROSS SECTION (CONTINUED)

1343	25.3	MV	15.0	MEV	30.0%	2	GER	H.KUESTERS	KFK	79225GR

Q: EVALUATION WANTED.

96 CURIUM 245 NEUTRON FISSION CROSS SECTION

1344	500.	EV	15.0	MEV	50.0%	2	FR	F.JOSSO	CAD	76215BR

A: QUOTED UNCERTAINTY AT 2 STANDARD DEVIATIONS.
Q: FOR FAST REACTOR FUEL CYCLE CALCULATION.
M: SUBSTANTIAL MODIFICATIONS.

1345	25.3	MV	15.0	MEV	30.0%	2	GER	H.KUESTERS	KFK	79224GR

Q: EVALUATION WANTED.

96 CURIUM 246 NEUTRON TOTAL CROSS SECTION

1346	25.3	MV	10.0	KEV	10. %	2	USA	SHARP	SRL	67114GR

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.

96 CURIUM 246 NEUTRON CAPTURE CROSS SECTION

1347	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.

1348	1.00	KEV	3.00	MEV	50.0%	3	FR	F.JOSSO	CAD	79205BR

A: QUOTED UNCERTAINTY AT 2 STANDARD DEVIATIONS.
O: FOR FAST REACTOR FUEL CYCLE CALCULATION.
M: SUBSTANTIAL MODIFICATIONS.

96 CURIUM 246 NEUTRON FISSION CROSS SECTION

1349	1.00	KEV	3.00	MEV	50.0%	3	FR	F.JOSSO	CAD	79205GR

A: QUOTED UNCERTAINTY AT 2 STANDARD DEVIATIONS.
O: FOR FAST REACTOR FUEL CYCLE CALCULATION.
M: SUBSTANTIAL MODIFICATIONS.

96 CURIUM 247 NEUTRON CAPTURE CROSS SECTION

1350	25.3	MV	10.0	KEV		2	USA	SHARP	SRL	67114GR

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.

1351	1.00	KEV	3.00	MEV	50.0%	3	FR	F.JOSSO	CAD	79206GR

A: QUOTED UNCERTAINTY AT 2 STANDARD DEVIATIONS.
O: FOR FAST REACTOR FUEL CYCLE CALCULATION.
M: SUBSTANTIAL MODIFICATIONS.

96 CURIUM 247 NEUTRON FISSION CROSS SECTION

1352	25.3	MV	10.0	KEV		2	USA	SHARP	SRL	67114BR

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.

1353	1.00	KEV	3.00	MEV	50.0%	3	FR	F.JOSSO	CAD	79206IR

A: QUOTED UNCERTAINTY AT 2 STANDARD DEVIATIONS.
O: FOR FAST REACTOR FUEL CYCLE CALCULATION.
M: SUBSTANTIAL MODIFICATIONS.

96 CURIUM 247 NEUTRON RESONANCE PARAMETERS

1354	25.3	MV	10.0	KEV	20. %	2	USA	SHARP	SRL	67114JR

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

1355	1.00	KEV	3.00	MEV	50.0%	3	FR	F.JOSSO	CAD	79206BR

A: QUOTED UNCERTAINTY AT 2 STANDARD DEVIATIONS.
O: FOR FAST REACTOR FUEL CYCLE CALCULATION.
M: SUBSTANTIAL MODIFICATIONS.

96 CURIUM 248 NEUTRON FISSION CROSS SECTION

1356 1.00 KEV 3.00 MEV 50.0% 3 FR F.JOSSO CAD 7920E3R

A: QUOTED UNCERTAINTY AT 2 STANDARD DEVIATIONS.
O: FOR FAST REACTOR FUEL CYCLE CALCULATION.
M: SUBSTANTIAL MODIFICATIONS.

97 EERKELIUM 249 NEUTRON CAPTURE CROSS SECTION

1357 1.00 KEV 3.00 MEV 50.0% 3 FR F.JOSSO CAD 7920E4R

A: QUOTED UNCERTAINTY AT 2 STANDARD DEVIATIONS.
O: FOR FAST REACTOR FUEL CYCLE CALCULATION.
M: SUBSTANTIAL MODIFICATIONS.

97 EERKELIUM 249 NEUTRON FISSION CROSS SECTION

1358 1.00 KEV 3.00 MEV 50.0% 3 FR F.JOSSO CAD 7920E5R

A: QUOTED UNCERTAINTY AT 2 STANDARD DEVIATIONS.
O: FOR FAST REACTOR FUEL CYCLE CALCULATION.
M: SUBSTANTIAL MODIFICATIONS.

98 CALIFORNIUM 249 NEUTRON CAPTURE CROSS SECTION

1359 1.00 KEV 3.00 MEV 50.0% 3 FR F.JOSSO CAD 7920E6R

A: QUOTED UNCERTAINTY AT 2 STANDARD DEVIATIONS.
O: FOR FAST REACTOR FUEL CYCLE CALCULATION.
M: SUBSTANTIAL MODIFICATIONS.

98 CALIFORNIUM 249 NEUTRON FISSION CROSS SECTION

1360 1.00 KEV 3.00 MEV 50.0% 3 FR F.JOSSO CAD 7920E7R

A: QUOTED UNCERTAINTY AT 2 STANDARD DEVIATIONS.
O: FOR FAST REACTOR FUEL CYCLE CALCULATION.
M: SUBSTANTIAL MODIFICATIONS.

98 CALIFORNIUM 250 NEUTRON CAPTURE CROSS SECTION

1361 25.3 MV 10.0 KEV 10. % 2 USA SHARP SRL 691357R

Q: RADIOACTIVE TARGET 13.1 YR
A: ACCURACY OF 10 PERCENT IN RI.
O: TO EVALUATE CF PRODUCTION.

98 CALIFORNIUM 250 NEUTRON FISSION CROSS SECTION

1362 25.3 MV 10.0 KEV 10. % 2 USA SHARP SRL 671153R

Q: RADIOACTIVE TARGET 13.1 YR
A: ACCURACY OF 10 PERCENT IN RI.
O: TO EVALUATE CF PRODUCTION.

98 CALIFORNIUM 250 NEUTRON RESONANCE PARAMETERS

1363 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.
O: TO EVALUATE CF PRODUCTION.

98 CALIFORNIUM 251 NEUTRON CAPTURE CROSS SECTION

1364 25.3 MV 10.0 KEV 10. % 2 USA SHARP SRL 671154R

Q: RADIOACTIVE TARGET 9.0X(10**2) YR
A: ACCURACY OF 10 PERCENT IN RI.
O: TO EVALUATE CF PRODUCTION.

98 CALIFORNIUM 251 NEUTRON FISSION CROSS SECTION

1365 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.
O: TO EVALUATE CF PRODUCTION.

98 CALIFORNIUM 251 NEUTRON RESONANCE PARAMETERS

1366 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)

1367 0.3% 1 FR E.FORT CAD 7121196R

O: DISCREPANCY BETWEEN DIFFERENTIAL AND MAXWELL
SPECTRUM EXPERIMENTS HAVE TO BE RESOLVED
FOR 2200M/S DATA.

1368 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.

1369 .25 % 1 USA HEMMIG DOE 821019R

Q: RADIOACTIVE TARGET 2.64 YR
THIS REQUEST MAY BE SATISFIED BY A RECENT 0.2 PERCENT MEASUREMENT AT ORNL, NSE, 80, 603 (1982).
O: THIS REQUEST WAS REVIEWED BY CSEWG AND RECOMMENDED AS DESERVING SPECIAL EMPHASIS.
M: NEW REQUEST.

STATUS----STATUS

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

98 CALIFORNIUM 252 SPONTANEOUS ENERGY SPECTRUM OF FISSION NEUTRONS

1370 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.

1371 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.
NEUTRONS ABOVE 5 MEV AND BELOW .25 MEV.
NEUTRONS ABOVE 5 MEV AND BELOW .25 MEV.
NEUTRONS ABOVE 5 MEV AND BELOW .25 MEV.

1372 1.0 % 1 USA HEMMIG DOE 821026R

Q: RADIOACTIVE TARGET 2.64 YR
MEAN SPECTRUM ENERGY DESIRED TO 1.0 PERCENT FOR INTERPRETATION OF NUBAR RATIO MEASUREMENT. NEED THE SPECTRUM SHAPE. DELTA E(AVG) TO 5 PERCENT (130 KEV) WOULD NOT BE USEFUL. AN ABSOLUTE MEASUREMENT OF THE SHAPE OF THE SPECTRUM MAY BE NECESSARY.
O: THIS REQUEST WAS REVIEWED BY CSEWG AND RECOMMENDED AS DESERVING SPECIAL EMPHASIS.
M: NEW REQUEST.

STATUS----STATUS

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

98 CALIFORNIUM 252 NEUTRON FISSION CROSS SECTION

1373 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

1374 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

1375 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.

1376 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.
C: NEED FOR FAST REACTOR CALCULATIONS.
FOR MORE DETAIL SEE INTRODUCTION.

STATUS----STATUS

UNDER CONTINUOUS REVIEW BY INDC. SEE APPENDIX A.

STEEL	NEUTRON				CAPTURE CROSS SECTION				
1377	500.	EV	800.	KEV	1	CCP	M.N.NIKOLAEV	FEI	714035R

D: 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.

1378	5.00	KEV	10.0	MEV	2	CCP	L.N.USACHEV	FEI	754016R

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

1 HYDROGEN 2			ALPHA			ELASTIC CROSS SECTION			
(10)	50.0	KEV	2.00	MEV		1	USA	BERK DOE ACCURACY 10.0 PERCENT RELATIVE, 30.0 PERCENT ABSOLUTE REQUIRED. REQUIRED TO CALCULATE HEATING OF PLASMA FUEL BY FUSION PRODUCT ALPHAS.	781071F
1 HYDROGEN 3			DEUTERON			D,D			
(13)	10.0	KEV	5.00	MEV		1	USA	BERK DOE ACCURACY 10 PERCENT RELATIVE, 30 PERCENT ABSOLUTE. CROSS SECTIONS FOR ALTERNATE FUEL CYCLES.	801293F
1 HYDROGEN 3			DEUTERON			D,ALPHA			
(14)		UP TO	10.0	KEV		1	USA	BERK DOE RADIOACTIVE TARGET 12.33 YR ACCURACY 10.0 PERCENT RELATIVE, 30.0 PERCENT ABSOLUTE REQUIRED.	791069F
1 HYDROGEN 3			TRITON			T,ALPHA			
(15)		UP TO	10.0	KEV		1	USA	BERK DOE RADIOACTIVE TARGET 12.33 YR ACCURACY 10.0 PERCENT RELATIVE, 30.0 PERCENT ABSOLUTE REQUIRED. DATA REQUIRED TO ANALYZE BACKGROUND NEUTRONS AND ESTIMATE TRITIUM ION TEMPERATURES.	791070F
1 HYDROGEN 3			ALPHA			ELASTIC CROSS SECTION			
(16)	50.0	KEV	2.00	MEV		1	USA	BERK DOE RADIOACTIVE TARGET 12.33 YR ACCURACY 10.0 PERCENT RELATIVE, 30.0 PERCENT ABSOLUTE REQUIRED. REQUIRED TO CALCULATE HEATING OF PLASMA FUEL BY FUSION PRODUCT ALPHAS.	791072F
2 HELIUM 3			DEUTERON			D,P			
(25)	2.00	MEV	5.00	MEV		1	USA	BERK DOE ACCURACY 10 PERCENT RELATIVE, 30 PERCENT ABSOLUTE. CROSS SECTIONS FOR ALTERNATE FUEL CYCLES.	801285F
2 HELIUM 3			DEUTERON			D,D			
(26)	300.	KEV	1.00	MEV		1	USA	BERK DOE ACCURACY 10 PERCENT RELATIVE, 30 PERCENT ABSOLUTE. CROSS SECTIONS FOR ALTERNATE FUEL CYCLES.	801284F
2 HELIUM 4			HELIUM-3			HELIUM-3,HELIUM-3			
(27)	50.0	KEV	8.00	MEV		2	USA	BERK DOE ACCURACY 10 PERCENT RELATIVE, 30 PERCENT ABSOLUTE. CROSS SECTIONS FOR ALTERNATE FUEL CYCLES.	801075F
3 LITHIUM			NEUTRON			TOTAL PROTON PRODUCTION CROSS SECTION			
(28)	9.00	MEV	15.0	MEV	10. %	1	USA	BERK DOE TOTAL HYDROGEN PRODUCTION. RADIATION DAMAGE CALCULATIONS.	801040F
3 LITHIUM			NEUTRON			ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION			
(29)	15.0	MEV				2	USA	BERK DOE ACCURACY TO BE DETERMINED. DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.	801093F

LIST OF SATISFIED REQUESTS

3 LITHIUM			NEUTRON			ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION				
(30)	15.0	MEV				2	USA	BERK ACCURACY TO BE DETERMINED. DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.	DOE	301094F
3 LITHIUM 6			NEUTRON			N,T				
(54)	300.	KEV	15.0	MEV	5.0%	1	GER	J.DARVAS TOTAL TRITIUM PRODUCTION REQUIRED. ENERGY RESOLUTION SHOULD REPRODUCE TRUE SHAPE. FOR DETERMINATION OF MORE ACCURATE TRITIUM BREEDING RATIOS.	JUL	722062F
3 LITHIUM 6			NEUTRON			N,T				
(57)	5.00	KEV	15.0	MEV	5.0%	1	GER	M.KUECHLE STANDARD.	KFK	742110F
3 LITHIUM 6			NEUTRON			N,T				
(60)	500.	KEV	5.00	MEV	10. %	1	USA	BERK NEEDED TO DESCRIBE BREEDING IN D-T SYSTEMS.	DOE	781160F
3 LITHIUM 7			NEUTRON			DIFFERENTIAL ELASTIC CROSS SECTION				
(70)	1.00	MEV	15.0	MEV	10.0%	1	GER	J.DARVAS ADDITIONAL DISTRIBUTIONS BETWEEN 1 AND 7 MEV REQUIRED IN STEPS OF 0.5 TO 1 MEV. FOR CALCULATION OF NEUTRON TRANSPORT.	JUL	722066F
3 LITHIUM 7			NEUTRON			INELASTIC CROSS SECTION				
(74)	500.	KEV	15.0	MEV	10.0%	2	GER	J.DARVAS CROSS SECTION FOR 0.478 MEV LEVEL REQUIRED. FOR SHIELDING ESTIMATES AND CALCULATION OF HEAT GENERATION.	JUL	722068F
3 LITHIUM 7			NEUTRON			ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION				
(83)	9.00	MEV	15.0	MEV	10. %	1	USA	BERK FOR SHIELDING AND TRANSPORT STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.	DOE	781042F
3 LITHIUM 7			NEUTRON			ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION				
(86)	15.0	MEV				2	USA	BERK ACCURACY TO BE DETERMINED. DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.	DOE	781135F
3 LITHIUM 7			NEUTRON			N,NT				
(88)	UP TO		15.0	MEV	5.0%	1	GER	J.DARVAS RESOLUTION AND ENERGY STEPS OF .2 TO .5 MEV SUFFICIENT. DETERMINATION OF MORE ACCURATE TRITIUM BREEDING RATIOS.	JUL	722069F
3 LITHIUM 7			NEUTRON			N,NT				
(93)	5.00	MEV	15.0	MEV		1	USA	BERK ACCURACY RANGE 5. TO 10. PERCENT. NEEDED TO DESCRIBE BREEDING IN D-T SYSTEMS.	DOE	781159F
3 LITHIUM 7			NEUTRON			ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION				
(96)	15.0	MEV				2	USA	BERK ACCURACY TO BE DETERMINED. DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.	DOE	781114F

LIST OF SATISFIED REQUESTS

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
4 BERYLLIUM 9			NEUTRON				TOTAL ALPHA PRODUCTION CROSS SECTION			
(118)	9.00	MEV	15.0	MEV	10. %	2	USA	BERK FOR RADIATION DAMAGE CALCULATIONS.	DOE	781091F
4 BERYLLIUM 9			NEUTRON				ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION			
(119)	15.0	MEV				2	USA	BERK ACCURACY TO BE DETERMINED. DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.	DOE	781124F
5 BORON 10			NEUTRON				ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION			
(131)	9.00	MEV	15.0	MEV	10. %	1	USA	BERK DATA NEEDED FOR SHIELDING AND NEUTRON TRANSPORT CALCULATIONS.	DOE	781088F
5 BORON 10			NEUTRON				TOTAL PROTON PRODUCTION CROSS SECTION			
(132)	9.00	MEV	14.0	MEV		2	USA	BERK ACCURACY RANGE 10. TO 50. PERCENT. ACCURACY TO BE DETERMINED FROM SENSITIVITY STUDIES FOR RADIATION DAMAGE CALCULATIONS.	DOE	781112F
5 BORON 10			NEUTRON				ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION			
(133)	15.0	MEV				2	USA	BERK ACCURACY TO BE DETERMINED. DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.	DOE	781154F
5 BORON 10			NEUTRON				N, ALPHA			
(144)	10.0	MV	10.0	EV	1. %	2	USA	CARLSON TO CHECK FOR MOLECULAR BINDING EFFECTS.	NBS	781176R
5 BORON 10			NEUTRON				ANGULAR DISTRIBUTION OF ALPHA PARTICLES			
(146)	50.0	KEV	200.	KEV	5. %	2	USA	HALE NEEDED FOR R-MATRIX FIT.	LAS	801293R
5 BORON 10			NEUTRON				TOTAL ALPHA PRODUCTION CROSS SECTION			
(147)	9.00	MEV	14.0	MEV		2	USA	BERK ACCURACY RANGE 10. TO 50. PERCENT. ACCURACY TO BE DETERMINED FROM SENSITIVITY STUDIES FOR RADIATION DAMAGE CALCULATIONS.	DOE	781100F
5 BORON 10			NEUTRON				ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION			
(149)	15.0	MEV				2	USA	BERK ACCURACY TO BE DETERMINED. DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.	DOE	781133F
5 BORON 11			NEUTRON				ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION			
(152)	9.00	MEV	15.0	MEV	10. %	2	USA	BERK FOR SHIELDINGN AND TRANSPORT STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.	DOE	781047F
5 BORON 11			NEUTRON				TOTAL PROTON PRODUCTION CROSS SECTION			
(153)	9.00	MEV	15.0	MEV	10. %	2	USA	BERK TOTAL HYDROGEN PRODUCTION WANTED. FOR RADIATION DAMAGE STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.	DOE	781056F

LIST OF SATISFIED REQUESTS

5 BORON 11			NEUTRON			ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION				
(154)	15.0	MEV			2	USA	BERK	DOE		781140F
							ACCURACY TO BE DETERMINED.			
							DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.			
5 BORON 11			NEUTRON			TOTAL ALPHA PRODUCTION CROSS SECTION				
(156)	9.00	MEV	15.0	MEV	10. %	2	USA	BERK	DOE	781065F
							TOTAL HELIUM PRODUCTION WANTED.			
							FOR RADIATION DAMAGE STUDIES OF NEXT GENERATION D-T REACTOR DESIGNS.			
5 BORON 11			NEUTRON			ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION				
(157)	15.0	MEV			2	USA	BERK	DOE		781119F
							ACCURACY TO BE DETERMINED.			
							DATA REQUIRED FOR RADIATION DAMAGE CALCULATIONS.			
5 BORON 11			ALPHA			ALPHA,P				
(165)	500.	KEV	2.00	MEV		2	USA	BERK	DOE	781076F
							ACCURACY 10.0 PERCENT RELATIVE, 30.0 PERCENT ABSOLUTE REQUIRED.			
							FOR ADVANCED FUEL FUSION DEVICES.			
7 NITROGEN			NEUTRON			TOTAL PROTON PRODUCTION CROSS SECTION				
(190)	9.00	MEV	15.0	MEV	10. %	1	USA	BERK	DOE	781109F
							FOR RADIATION DAMAGE CALCULATIONS.			
11 SODIUM 23			NEUTRON			CAPTURE GAMMA RAY SPECTRUM				
(269)	3.00	KEV			10. %	2	USA	SMITH	ANL	721032R
							SUFFICIENT ACCURACY IN E(GAMMA)(3 KEV) TO COMPARE WITH E(GAMMA)(THERMAL).			
11 SODIUM 23			NEUTRON			RESONANCE PARAMETERS				
(274)	2.95	KEV			10. %	1	USA	SMITH	ANL	621008R
							ELASTIC AND GAMMA WIDTHS WANTED.			
13 ALUMINUM 27			NEUTRON			N,ALPHA				
(288)					2.0%	1	EUR	NEUTRON DOSIMETRY GROUP	GEL	742114R
							AVERAGE CROSS SECTION IN A U-235 FISSION SPECTRUM DESIRED.			
							FOR NORMALIZATION OF AVERAGE CROSS SECTIONS FOR DOSIMETRY PURPOSES.			
16 SULFUR			NEUTRON			CAPTURE CROSS SECTION				
(303)	10.0	KEV	500.	KEV	10. %	2	USA	HEMMIG	DOE	741023R
							FOR SHIELDING EFFECT OF CONCRETE.			
16 SULFUR			NEUTRON			CAPTURE CROSS SECTION				
(304)	25.3	MV			10. %	2	USA	DIVADEENAM	BNL	801145R
							FOR EVALUATION NEEDS.			
							THERMAL CAPTURE FOR MANGANESE BATH EXPERIMENTS.			
16 SULFUR			NEUTRON			CAPTURE CROSS SECTION				
(305)	1.00	KEV	1.00	MEV	10. %	2	USA	DIVADEENAM	BNL	801146R
							FOR EVALUATION NEEDS.			

LIST OF SATISFIED REQUESTS

16 SULFUR 32			NEUTRON		N,P					
(307)		UP TO	20.0	MEV	5.0%	2	EUR	NEUTRON DOSIMETRY GROUP COVARIANCE DATA ON CROSS SECTION FROM THRESHOLD EVALUATION REQUIREMENT.	GEL	812001R
22 TITANIUM 48			NEUTRON		N,P					
(340)		UP TO	30.0	MEV	5.0%	2	EUR	NEUTRON DOSIMETRY GROUP FOR HIGH ENERGY ACCELERATOR BASED NEUTRON SOURCES	GEL	812004R
23 VANADIUM 51			NEUTRON		DIFFERENTIAL ELASTIC CROSS SECTION					
(343)	1.40	MEV	10.0	MEV	10. %	3	USA	SMITH HEMMIG INCIDENT ENERGY RESOLUTION: 500 KEV. ANGULAR RESOLUTION 10 DEGR.	ANL DOE	621009R
23 VANADIUM 51			NEUTRON		ABSORPTION CROSS SECTION					
(349)	1.00	KEV	150.	KEV	10. %	3	USA	SMITH HEMMIG INCIDENT ENERGY RESOLUTION: 10. PERCENT. TO RESOLVE DISCREPANCIES IN EXISTING DATA.	ANL DOE	621015R
24 CHROMIUM			NEUTRON		CAPTURE CROSS SECTION					
(369)	100.	EV	100.	KEV	20.0%	1	GER	H.KUESTERS	KFK	792198R
24 CHROMIUM 50			NEUTRON		RESONANCE PARAMETERS					
(425)		UP TO	300.	KEV	10. %	2	USA	PRINCE ENERGY REQUESTED IS A MAXIMUM VALUE ONLY. NEUTRON WIDTH, GAMMA-WIDTH, SPIN AND PARITY WANTED.	BNL	741033R
24 CHROMIUM 52			NEUTRON		RESONANCE PARAMETERS					
(429)		UP TO	300.	KEV	10. %	2	USA	PRINCE ENERGY REQUESTED IS A MAXIMUM VALUE ONLY. NEUTRON WIDTH, GAMMA-WIDTH, SPIN AND PARITY WANTED.	BNL	741034R
24 CHROMIUM 53			NEUTRON		RESONANCE PARAMETERS					
(430)		UP TO	300.	KEV	10. %	2	USA	PRINCE ENERGY REQUESTED IS A MAXIMUM VALUE ONLY. NEUTRON WIDTH, GAMMA-WIDTH, SPIN AND PARITY WANTED.	BNL	741035R
25 MANGANESE 54			NEUTRON		CAPTURE CROSS SECTION					
(433)	25.3	MV			5.0%	2	BLG	N.MAENE FOR BURN-UP CALCULATION OF FE-54(N,P) MN-54 REACTION PRODUCT.	MOL	692092R
25 MANGANESE 55			NEUTRON		CAPTURE RESONANCE INTEGRAL					
(442)	0.50	EV			5. %	2	USA	DEI ENERGY REQUESTED IS A MINIMUM VALUE ONLY. NEEDED FOR ANALYSIS OF MANGANESE BATH EXPERIMENTS.	BET	741036R
26 IRON			NEUTRON		ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION					
(484)	15.0	MEV	35.0	MEV		1	USA	BERK ACCURACY RANGE 10. TO 40. PERCENT. ACCURACY TO BE DETERMINED FROM SENSITIVITY STUDIES. FOR MATERIAL DAMAGE CALCULATIONS.	DOE	781036F

LIST OF SATISFIED REQUESTS

26 IRON			NEUTRON		SPECIAL QUANTITY (DESCRIPTION BELOW)					
(501)	1.00	MEV	15.0	MEV	10. %	1	USA	ENGHOLM DAMAGE CROSS SECTION. DAMAGE TO STAINLESS STEEL FIRST WALL.	GA	801014F
26 IRON			NEUTRON		SPECIAL QUANTITY (DESCRIPTION BELOW)					
(504)	1.00	MEV	35.0	MEV	5.0%	2	EUR	NEUTRON DOSIMETRY GROUP 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 FOR HIGH ENERGY ACCELERATOR BASED NEUTRON SOURCES	GEL	812007R
26 IRON 57			NEUTRON		RESONANCE PARAMETERS					
(515)		UP TO	100.	KEV	10. %	2	USA	FU HEMMIG SMITH ENERGY REQUESTED IS A MAXIMUM VALUE ONLY. NEUTRON WIDTH, GAMMA-WIDTH, SPIN AND PARITY WANTED.	ORL DOE ANL	741049R
27 COBALT 59			NEUTRON		N,2N					
(522)		UP TO	50.0	MEV		1	USA	BERK ACCURACY RANGE 10. TO 20. PERCENT. DOSIMETRY FOR FMIT FACILITY.	DOE	781014F
28 NICKEL			NEUTRON		TOTAL CROSS SECTION					
(530)	1.00	KEV	20.0	MEV	3. %	2	USA	HEMMIG ACCURACY NEEDED TO 3-5 PERCENT IN DEEP MINIMA. ENERGY RESOLUTION SUFFICIENT TO RESOLVE MAJOR STRUCTURE. FOR USE IN INCONEL SHIELD CALCULATIONS.	DOE	721047R
28 NICKEL			NEUTRON		DIFFERENTIAL ELASTIC CROSS SECTION					
(535)	15.0	MEV	35.0	MEV		1	USA	BERK ACCURACY RANGE 10. TO 40. PERCENT. ACCURACY TO BE DETERMINED FROM SENSITIVITY STUDIES. FOR MATERIAL DAMAGE CALCULATIONS.	DOE	781031F
28 NICKEL 63					HALF LIFE					
(615)					10. %	2	USA	DEI RADIOACTIVE TARGET 100 YR FLUX MONITOR FROM CU(N,P) REACTION.	BET	761054R
29 COPPER 65			NEUTRON		CAPTURE CROSS SECTION					
(641)	25.3	MV	1.00	KEV		2	USA	HEMMIG ACCURACY - 2 PERCENT NEAR THERMAL, 5 PERCENT ABOVE THERMAL. FOR DETECTOR APPLICATIONS.	DOE	671002R
41 NIOBIUM 93			NEUTRON		CAPTURE CROSS SECTION					
(709)	1.00	KEV	100.	KEV	10. %	2	USA	HEMMIG SMITH ACCURACY - 5 PERCENT IN CALCULATED DILUTE AND SELF- SHIELDED RESONANCE INTEGRAL. FOR FAST REACTOR CALCULATIONS, TO RESOLVE DISCREPANCIES IN THERMIONIC REACTOR WORTHS.	DOE ANL	621049R

LIST OF SATISFIED REQUESTS

42 MOLYBDENUM			NEUTRON		ENERGY DIFFERENTIAL INELASTIC CROSS SECTION				
(743)	1.50	MEV	3.00	MEV	20. %	3	USA	SMITH HEMMIG	ANL DOE	721070R
								TOTAL INTEGRAL OVER 4PI IS REQUIRED. SPECTRA AT SEVERAL ANGLES IF SIGNIFICANTLY ANISOTROPIC. INCIDENT ENERGY RESOLUTION: 20. PERCENT. DELTA E(N') = 20 PERCENT.		
42 MOLYBDENUM			NEUTRON		CAPTURE CROSS SECTION				
(747)	1.00	KEV	1.00	MEV	10. %	3	USA	HEMMIG	DOE	721072R
								TO RESOLVE DISCREPANCY IN REACTIVITY WORTH MEASUREMENTS.		
42 MOLYBDENUM 97			NEUTRON		CAPTURE CROSS SECTION				
(774)	100.	KEV	1.00	MEV	20. %	2	USA	SCHENTER	HED	801268R
								ACCURACY DETERMINATION SHOULD REFLECT FAST REACTOR FLUX WEIGHTING SPECTRUM. FOR CALCULATIONS OF REACTIVITY AND BURN-UP IN FAST REACTORS.		
43 TECHNETIUM 99			NEUTRON		CAPTURE CROSS SECTION				
(779)	20.0	KEV	1.00	MEV	10. %	2	USA	SCHENTER	HED	801269R
								ACCURACY DETERMINATION SHOULD REFLECT FAST REACTOR FLUX WEIGHTING SPECTRUM. FOR CALCULATIONS OF REACTIVITY AND BURN-UP IN FAST REACTORS.		
44 RUTHENIUM 101			NEUTRON		CAPTURE CROSS SECTION				
(780)	1.00	MV	10.0	KEV	10. %	3	USA	DEI	BET	741077R
								THERMAL CROSS SECTION AND RI WANTED. CALCULATION OF FISSION PRODUCT POISON FOR THERMAL REACTORS.		
44 RUTHENIUM 101			NEUTRON		CAPTURE CROSS SECTION				
(781)	1.00	KEV	1.00	MEV	10. %	2	USA	SCHENTER	HED	801270R
								ACCURACY DETERMINATION SHOULD REFLECT FAST REACTOR FLUX WEIGHTING SPECTRUM. FOR CALCULATIONS OF REACTIVITY AND BURN-UP IN FAST REACTORS.		
44 RUTHENIUM 102			NEUTRON		CAPTURE CROSS SECTION				
(782)	1.00	KEV	1.00	MEV	10. %	2	USA	SCHENTER	HED	801271R
								ACCURACY DETERMINATION SHOULD REFLECT FAST REACTOR FLUX WEIGHTING SPECTRUM. FOR CALCULATIONS OF REACTIVITY AND BURN-UP IN FAST REACTORS.		
47 SILVER 109			NEUTRON		CAPTURE CROSS SECTION				
(907)	1.00	KEV	1.00	MEV	20. %	2	USA	SCHENTER	HED	801275R
								ACCURACY DETERMINATION SHOULD REFLECT FAST REACTOR FLUX WEIGHTING SPECTRUM. FOR CALCULATIONS OF REACTIVITY AND BURN-UP IN FAST REACTORS.		
53 IODINE 127			NEUTRON		CAPTURE CROSS SECTION				
(828)	25.3	MV	10.0	KEV	10. %	2	USA	RAWLINS	HED	801112R
								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.		

LIST OF SATISFIED REQUESTS

53 IODINE 129 — NEUTRON — CAPTURE CROSS SECTION

(831)	10.0	KEV	100.	KEV	30. %	2	USA	SCHENTER HED RADIOACTIVE TARGET 1.6X(10**7) YR ACCURACY DETERMINATION SHOULD REFLECT FAST REACTOR FLUX WEIGHTING SPECTRUM. FOR CALCULATIONS OF REACTIVITY AND BURN-UP IN FAST REACTORS.	801276R

55 CESIUM 135 — NEUTRON — CAPTURE CROSS SECTION

(864)	1.00	MV	10.0	KEV	10. %	2	USA	DEI BET RADIOACTIVE TARGET 3.0X(10**6) YR THERMAL CROSS SECTION AND RI WANTED. FOR FISSION PRODUCT POISON CALCULATIONS.	741090R

60 NEODYMIUM 143 — NEUTRON — CAPTURE RESONANCE INTEGRAL

(873)	0.50	EV	1.00	KEV	5. %	1	USA	DEI BET FOR CALCULATION OF FISSION PRODUCT POISONS.	671034R

60 NEODYMIUM 145 — NEUTRON — CAPTURE RESONANCE INTEGRAL

(874)	0.50	EV	1.00	KEV	10. %	1	USA	DEI BET FOR CALCULATION OF FISSION PRODUCT POISONS.	671036R

61 PROMETHIUM 148 — NEUTRON — CAPTURE CROSS SECTION

(865)	1.00	MV	1.00	KEV	10. %	2	USA	DEI BET 41.3 DAY ISOMER THERMAL CROSS SECTION AND RI WANTED. ENERGIES ABOVE 1 EV OF INTEREST TO GIVE RI TO 10 PERCENT. FOR CALCULATION OF FISSION PRODUCT POISONS.	671044R

61 PROMETHIUM 149 — NEUTRON — CAPTURE CROSS SECTION

(869)	1.00	MV	1.00	KEV		2	USA	DEI BET RADIOACTIVE TARGET 53.1 HR THERMAL CROSS SECTION AND RI WANTED. 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.	671049R

61 PROMETHIUM 149 — NEUTRON — CAPTURE CROSS SECTION

(890)	1.00	MV	1.00	EV		2	USA	FEINER KAP RADIOACTIVE TARGET 53.1 HR THERMAL CROSS SECTION AND RI WANTED. ACCURACY RANGE 10. TO 20. PERCENT. ACCURACY - 10 PERCENT IF SIGMA>1000 BARNS. 20 PERCENT IF FROM 10-1000 BARNS.	671051R

62 SAMARIUM 149 — NEUTRON — CAPTURE CROSS SECTION

(856)	1.00	KEV	1.00	MEV	10. %	2	USA	SCHENTER HED ACCURACY DETERMINATION SHOULD REFLECT FAST REACTOR FLUX WEIGHTING SPECTRUM. FOR CALCULATIONS OF REACTIVITY AND BURN-UP IN FAST REACTORS.	801281R

68 ERBIUM 167 — NEUTRON — CAPTURE CROSS SECTION

(936)	UP TO		2.00	EV	3. %	2	USA	DAHLBERG GA ENERGY REQUESTED IS A MAXIMUM VALUE ONLY. NEEDED FOR BURNABLE POISON IN TRIGA REACTORS.	741133R

LIST OF SATISFIED REQUESTS

74 TUNGSTEN			NEUTRON			ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION			
(967)	9.00	MEV	15.0	MEV	10. %	1	USA	BERK DOE DATA NEEDED FOR SHIELDING AND NEUTRON TRANSPORT CALCULATIONS.	781082F
74 TUNGSTEN			NEUTRON			SPECIAL QUANTITY (DESCRIPTION BELOW)			
(975)	9.00	MEV	15.0	MEV	20. %	1	USA	BERK DOE ALL SIGNIFICANT ACTIVATION REACTION CROSS SECTIONS. DATA NEEDED FOR SHIELDING, ACTIVATION AND NEUTRON TRANSPORT CALCULATIONS.	801043F
79 GOLD 197			NEUTRON			CAPTURE CROSS SECTION			
(979)	10.0	KEV	3.00	MEV	3.0%	1	BLG	A.FABRY MOL DETECTOR APPLICATIONS. SATISFIED ON THE BASIS OF INTEGRAL CROSS SECTION MEASUREMENTS IN U-235 AND CF-252 FISSION SPECTRA COMPARED WITH CALCULATIONS USING ENDF-B/V.	682041R
79 GOLD 197			NEUTRON			N,2N			
(983)		UP TO	40.0	MEV	5.0%	2	EUR	NEUTRON DOSIMETRY GROUP GEL FOR HIGH ENERGY ACCELERATOR BASED NEUTRON SOURCES	812013R
79 GOLD 197			NEUTRON			N,4N			
(986)	23.0	MEV	40.0	MEV	5.0%	2	EUR	NEUTRON DOSIMETRY GROUP GEL MEASURED UP TO 28MEV, EXTENSION REQUESTED TO 40MEV FOR HIGH ENERGY ACCELERATOR BASED NEUTRON SOURCES	812014R
83 BISMUTH 209			NEUTRON			TOTAL CROSS SECTION			
(1007)	25.3	MV	15.0	MEV	5.0%	1	FR	B.DUCHEMIN SAC FOR INSTRUMENTATION AND SHIELDING CALCULATION-EVALUATION MAY BE SUFFICIENT.	812053R
83 BISMUTH 209			NEUTRON			DIFFERENTIAL ELASTIC CROSS SECTION			
(1008)	25.3	MV	15.0	MEV	20.0%	1	FR	B.DUCHEMIN SAC FOR INSTRUMENTATION AND SHIELDING CALCULATIONS EVALUATION MAY BE SUFFICIENT	812056R
83 BISMUTH 209			NEUTRON			ENERGY DIFFERENTIAL INELASTIC CROSS SECTION			
(1009)	25.3	MV	15.0	MEV	20.0%	1	FR	B.DUCHEMIN SAC FOR INSTRUMENTATION AND SHIELDING CALCULATION-EVALUATION MAY BE SUFFICIENT	812057R
83 BISMUTH 209			NEUTRON			ABSORPTION CROSS SECTION			
(1010)	25.3	MV	15.0	MEV	5.0%	1	FR	B.DUCHEMIN SAC FOR INSTRUMENTATION AND SHIELDING CALCULATION-EVALUATION MAY BE SUFFICIENT.	812054R
83 BISMUTH 209			NEUTRON			TOTAL PHOTON PRODUCTION CROSS SECTION			
(1012)	25.3	MV	15.0	MEV	10.0%	1	FR	B.DUCHEMIN SAC ENERGY RESOLUTION OF 250KEV FOR GAMMA RAYS LESS THAN 1MEV AND 500KEV FOR ENERGIES GREATER THAN 1 MEV FOR INSTRUMENTATION AND SHIELDING CALCULATIONS-EVALUATION MAY BE SUFFICIENT.	812058R
83 BISMUTH 209			NEUTRON			N,2N			
(1014)	25.3	MV	15.0	MEV	20.0%	1	FR	B.DUCHEMIN SAC FOR INSTRUMENTATION AND SHIELDING CALCULATIONS-EVALUATION MAY BE SUFFICIENT.	812055R

LIST OF SATISFIED REQUESTS

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83 BISMUTH 209 — NEUTRON — N,3N

(1015) 14.0 MEV 16.0 MEV 25. % 3 USA MUIR LAS 801115F
MEASUREMENT SHOULD INCLUDE SEVERAL ENERGIES BELOW 15 MEV.
ACCURACY 25 PERCENT OR 1 MB.
NEEDED FOR ACTIVATION OF BI NEUTRON MULTIPLIERS.

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90 THORIUM 232 — NEUTRON — DIFFERENTIAL ELASTIC CROSS SECTION

(1020) 1.00 MEV 5.00 MEV 10. % 3 USA SMITH ANL 721074R

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90 THORIUM 232 — NEUTRON — ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

(1022) 1.00 MEV 4.00 MEV 5. % 3 USA SMITH ANL 721075R
INCIDENT ENERGY RESOLUTION: 20. PERCENT.
DELTA E(N') = 20 PERCENT.
ACCURACY OF 20 PERCENT IN (1-COS THETA), IF ANISOTROPIC.

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90 THORIUM 232 — NEUTRON — FISSION CROSS SECTION

(1043) 20.0 MEV 40.0 MEV 10. % 1 USA MCELROY HED 801243F
ACCURACY 20 PERCENT ABOVE 25 MEV.
FOR FMIT DOSIMETRY.

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92 URANIUM 233 — HALF LIFE

(1066) .5 % 1 USA DEI BET 741115R
RADIOACTIVE TARGET 1.592X(10**5) YR
VERIFICATION OF LATEST MEASUREMENTS DESIRED.

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92 URANIUM 233 — SPONTANEOUS — ALPHA HALF LIFE

(1067) 1. % 1 USA GILLIAM NBS 761119R
RADIOACTIVE TARGET 1.592X(10**5) YR
FOR MASS DETERMINATION OF FISSIONABLE DEPOSITS.

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92 URANIUM 235 — SPONTANEOUS — ALPHA HALF LIFE

(1127) .3 % 1 USA GILLIAM NBS 761121R
FOR MASS DETERMINATION OF FISSIONABLE DEPOSITS.

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92 URANIUM 235 — NEUTRON — CAPTURE TO FISSION RATIO (ALPHA)

(1165) 1.00 MV 7.00 MEV 2 USA SMITH ANL 691249R
HEMMIG DOE
CAPTURE CROSS SECTION EQUALLY USEFUL.
ACCURACY RANGE 5. TO 10. PERCENT.
EXPERIMENTAL UNCERTAINTIES NEED VERIFICATION.

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93 NEPTUNIUM 237 — NEUTRON — FISSION CROSS SECTION

(1300) UP TO 3.00 MEV 2.0% 1 EUR NEUTRON DOSIMETRY GROUP GEL 812016R
FOR SURVEILLANCE OF DAMAGE IN PRESSURE VESSELS
USING CS-137 WITH LONG HALF LIFE.

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94 PLUTONIUM 238 — NEUTRON — CAPTURE CROSS SECTION

(1325) 1.00 KEV 3.00 MEV 15.0% 1 FR P.HAMMER CAD 732096R
VALUE RELATIVE TO U-238 CAPTURE CROSS SECTION.
QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.
FOR FAST REACTOR CALCULATIONS.

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94 PLUTONIUM 238 — NEUTRON — FISSION CROSS SECTION

(1331) UP TO 15.0 MEV 20.0% 1 FR J.SALVY BRC 682064R
MEASUREMENTS DONE AT LOS ALAMOS MAY SATISFY THIS REQUEST UP TO 1 MEV.
EVALUATION MAY BE SUFFICIENT

LIST OF SATISFIED REQUESTS

94 PLUTONIUM 239 NEUTRON ABSORPTION CROSS SECTION

(1348)	10.0 MV	0.80 EV	1.0%	1	UK	J.FELL	WIN		792167R
						FOR THERMAL REACTORS.			
						EVALUATION REQUIREMENT.			

94 PLUTONIUM 240 SPONTANEOUS ALPHA HALF LIFE

(1414)			1. %	1	USA	GILLIAM	NBS		761125R
						FOR MASS DETERMINATION OF FISSIONABLE DEPOSITS.			

94 PLUTONIUM 240 NEUTRON NEUTRONS EMITTED PER FISSION (NU BAR)

(1441)	UP TO	10.0 MEV	3. %	2	USA	HEMMIG	DOE		691323R
						RADIOACTIVE TARGET 6.57X(10**3) YR			

94 PLUTONIUM 240 NEUTRON NEUTRONS EMITTED PER FISSION (NU BAR)

(1443)	UP TO	10.0 MEV	3. %	2	USA	SMITH	ANL		721092R
						RADIOACTIVE TARGET 6.37X(10**3) YR			
						ACCURACY OF 5 PERCENT USEFUL.			

94 PLUTONIUM 242 NEUTRON NEUTRONS EMITTED PER FISSION (NU BAR)

(1518)	500. EV	15.0 MEV	5.0%	2	FR	P.HAMMER	CAD		712100R
						RELATIVE TO CF-252 NU.			
						QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.			
						FOR FAST REACTOR CALCULATIONS.			

95 AMERICIUM 241 NEUTRON FISSION CROSS SECTION

(1541)	100. EV	100. KEV	20.0%	1	GER	H.KUESTERS	KFK		792227R
						MEASUREMENT WANTED.			

95 AMERICIUM 241 NEUTRON FISSION CROSS SECTION

(1542)	25.3 MV	15.0 MEV	20.0%	1	GER	H.KUESTERS	KFK		792229R
						EVALUATION WANTED.			

95 AMERICIUM 241 NEUTRON NEUTRONS EMITTED PER FISSION (NU BAR)

(1544)	500. EV	14.0 MEV	10.0%	2	FR	P.HAMMER	CAD		712105R
						RELATIVE TO CF-252 NU.			
						QUOTED ACCURACY AT 2 STANDARD DEVIATIONS.			
						FOR FUEL CYCLE CALCULATIONS.			

95 AMERICIUM 242 NEUTRON ABSORPTION CROSS SECTION

(1550)	25.3 MV		10.0%	1	UK	J.FELL	WIN		792171R
						V.BARNES	UKW		
						FOR METASTABLE STATE AM-242M.			
						FOR STUDIES OF PLUTONIUM RECYCLING AND FOR FUEL REPROCESSING AND STORAGE.			
						EVALUATION REQUIREMENT.			

95 AMERICIUM 242 NEUTRON CAPTURE CROSS SECTION

(1557)	25.3 MV	15.0 MEV	30.0%	1	UK	C.G.CAMPBELL	WIN		792144R
						FOR FAST REACTORS.			

95 AMERICIUM 242 NEUTRON FISSION CROSS SECTION

(1561)	25.3 MV	15.0 MEV	15.0%	1	UK	C.G.CAMPBELL	WIN		792143R
						FOR FAST REACTORS.			
						EVALUATION REQUIREMENT.			

LIST OF SATISFIED REQUESTS

95 AMERICIUM 242			NEUTRON				FISSION CROSS SECTION		
(1562)	25.3	MV			10.0%	1	UK	J.FELL WIN V.BARNES UKW FOR STUDIES OF PLUTONIUM RECYCLING AND FOR FUEL REPROCESSING AND STORAGE. EVALUATION REQUIREMENT.	792173R
95 AMERICIUM 242			NEUTRON				NEUTRONS EMITTED PER FISSION (NU BAR)		
(1566)	25.3	MV	15.0	MEV	15.0%	1	UK	C.G.CAMPBELL WIN FOR METASTABLE STATE AM-242M. FOR FAST REACTORS. EVALUATION REQUIREMENT.	792145R
95 AMERICIUM 242			NEUTRON				ABSORPTION RESONANCE INTEGRAL		
(1568)	0.55	EV	2.00	MEV	10.0%	1	UK	J.FELL WIN V.BARNES UKW FOR STUDIES OF PLUTONIUM RECYCLING AND FOR FUEL REPROCESSING AND STORAGE. EVALUATION REQUIREMENT.	792172R
95 AMERICIUM 242			NEUTRON				FISSION RESONANCE INTEGRAL		
(1569)	0.55	EV	2.00	MEV	10.0%	1	UK	J.FELL WIN V.BARNES UKW FOR STUDIES OF PLUTONIUM RECYCLING AND FOR FUEL REPROCESSING AND STORAGE. EVALUATION REQUIREMENT.	792174R
95 AMERICIUM 243			NEUTRON				CAPTURE CROSS SECTION		
(1577)	25.3	MV	15.0	MEV	10.0%	1	UK	C.G.CAMPBELL WIN V.BARNES UKW FOR FAST REACTORS AND FOR FUEL REPROCESSING AND STORAGE. EVALUATION REQUIREMENT.	792147R
95 AMERICIUM 243			NEUTRON				FISSION CROSS SECTION		
(1582)	25.3	MV	15.0	MEV	15.0%	1	UK	C.G.CAMPBELL WIN V.BARNES UKW FOR FAST REACTORS AND FOR FUEL REPROCESSING AND STORAGE. EVALUATION REQUIREMENT.	792146R
95 AMERICIUM 243			NEUTRON				NEUTRONS EMITTED PER FISSION (NU BAR)		
(1585)	25.3	MV	15.0	MEV	15.0%	1	UK	C.G.CAMPBELL WIN V.BARNES UKW FOR FAST REACTORS AND FOR FUEL REPROCESSING AND STORAGE. EVALUATION REQUIREMENT.	792148R
96 CURIUM 242			NEUTRON				CAPTURE CROSS SECTION		
(1593)	25.3	MV	15.0	MEV	30.0%	1	UK	C.G.CAMPBELL WIN V.BARNES UKW FOR FAST REACTORS AND FOR FUEL REPROCESSING AND STORAGE. EVALUATION REQUIREMENT.	792151R
96 CURIUM 242			NEUTRON				N,2N		
(1595)	UP TO		15.0	MEV	30.0%	1	UK	C.G.CAMPBELL WIN V.BARNES UKW FOR FAST REACTORS AND FOR FUEL REPROCESSING AND STORAGE. EVALUATION REQUIREMENT.	792149R

LIST OF SATISFIED REQUESTS

96 CURIUM 242			NEUTRON		FISSION CROSS SECTION				
(1599)	UP TO	15.0	MEV	30.0%	1	UK	C.G.CAMPBELL V.BARNES FOR FAST REACTORS AND FOR FUEL REPROCESSING AND STORAGE. EVALUATION REQUIREMENT.	WIN UKW	792150R
96 CURIUM 242			NEUTRON		NEUTRONS EMITTED PER FISSION (NU BAR)				
(1602)	UP TO	15.0	MEV	30.0%	1	UK	C.G.CAMPBELL V.BARNES FOR FAST REACTORS AND FOR FUEL REPROCESSING AND STORAGE. EVALUATION REQUIREMENT.	WIN UKW	792152R
96 CURIUM 243			NEUTRON		CAPTURE CROSS SECTION				
(1609)	25.3 MV	15.0	MEV	30.0%	1	UK	C.G.CAMPBELL FOR FAST REACTORS. EVALUATION REQUIREMENT.	WIN	792154R
96 CURIUM 243			NEUTRON		FISSION CROSS SECTION				
(1613)	25.3 MV	15.0	MEV	30.0%	1	UK	C.G.CAMPBELL FOR FAST REACTORS. EVALUATION REQUIREMENT.	WIN	792153R
96 CURIUM 244			NEUTRON		CAPTURE CROSS SECTION				
(1619)	25.3 MV	15.0	MEV	30.0%	1	UK	C.G.CAMPBELL V.BARNES FOR FAST REACTORS AND FOR FUEL REPROCESSING. EVALUATION REQUIREMENT.	WIN UKW	792157R
96 CURIUM 244			NEUTRON		N,2N				
(1621)	UP TO	15.0	MEV	30.0%	1	UK	C.G.CAMPBELL V.BARNES FOR FAST REACTORS AND FOR FUEL REPROCESSING EVALUATION REQUIREMENT.	WIN UKW	792155R
96 CURIUM 244			NEUTRON		FISSION CROSS SECTION				
(1624)	25.3 MV	15.0	MEV	30.0%	1	UK	C.G.CAMPBELL V.BARNES FOR FAST REACTORS AND FOR FUEL REPROCESSING. EVALUATION REQUIREMENT.	WIN UKW	792156R
96 CURIUM 244			NEUTRON		NEUTRONS EMITTED PER FISSION (NU BAR)				
(1627)	25.3 MV	15.0	MEV	30.0%	1	UK	C.G.CAMPBELL V.BARNES FOR FAST REACTORS AND FOR FUEL REPROCESSING. EVALUATION REQUIREMENT.	WIN UKW	792158R
96 CURIUM 245			NEUTRON		CAPTURE CROSS SECTION				
(1631)	25.3 MV	15.0	MEV	30.0%	1	UK	C.G.CAMPBELL FOR FAST REACTORS. EVALUATION REQUIREMENT.	WIN	792160R
96 CURIUM 245			NEUTRON		FISSION CROSS SECTION				
(1635)	25.3 MV	15.0	MEV	30.0%	1	UK	C.G.CAMPBELL FOR FAST REACTORS. EVALUATION REQUIREMENT.	WIN	792159R

LIST OF SATISFIED REQUESTS

FISSION PRODUCTS			NEUTRON			CAPTURE CROSS SECTION				
(1672)	100.	EV	1.00	MEV	20.0%	2	UK	C.G.CAMPBELL WIN FOR FAST REACTORS. EVALUATION REQUIREMENT. EVALUATION REQUIREMENT.		792161R

LIST OF WITHDRAWN REQUESTS

(3)	731179R	USA	1	HYDROGEN 1	NEUTRON	CAPTURE CROSS SECTION
(4)	301238R	USA	1	HYDROGEN 1	NEUTRON	CAPTURE CROSS SECTION
(5)	721002R	USA	1	HYDROGEN 2	NEUTRON	ELASTIC CROSS SECTION
(6)	721003R	USA	1	HYDROGEN 2	NEUTRON	ELASTIC CROSS SECTION
(7)	761072R	USA	1	HYDROGEN 2	NEUTRON	ELASTIC CROSS SECTION
(8)	781180R	USA	1	HYDROGEN 2	NEUTRON	N,2N
(21)	713061R	IND	2	HELIUM 3	NEUTRON	N,P
(36)	801230F	USA	3	LITHIUM 6	NEUTRON	INELASTIC CROSS SECTION
(39)	752054F	JAP	3	LITHIUM 6	NEUTRON	TOTAL PHOTON PRODUCTION CROSS SECTION
(41)	801231F	USA	3	LITHIUM 6	NEUTRON	N,2N
(44)	801295F	USA	3	LITHIUM 6	NEUTRON	TOTAL PROTON PRODUCTION CROSS SECTION
(47)	752052F	JAP	3	LITHIUM 6	NEUTRON	N,ND
(52)	713002R	IND	3	LITHIUM 6	NEUTRON	N,T
(64)	801229F	USA	3	LITHIUM 6	NEUTRON	N,ALPHA
(67)	801074F	USA	3	LITHIUM 6	HELIUM-3	HELIUM-3,HELIUM-3
(68)	801076F	USA	3	LITHIUM 6	HELIUM-3	SPECIAL QUANTITY (DESCRIPTION BELOW)
(69)	731074F	USA	3	LITHIUM 6	LITHIUM-6	SPECIAL QUANTITY (DESCRIPTION BELOW)
(79)	762059F	JAP	3	LITHIUM 7	NEUTRON	TOTAL PHOTON PRODUCTION CROSS SECTION
(85)	781051F	USA	3	LITHIUM 7	NEUTRON	TOTAL PROTON PRODUCTION CROSS SECTION
(94)	792105F	ITY	3	LITHIUM 7	NEUTRON	N,NT
(95)	781060F	USA	3	LITHIUM 7	NEUTRON	TOTAL ALPHA PRODUCTION CROSS SECTION
(99)	801077F	USA	4	BERYLLIUM 7	NEUTRON	N,2P
(100)	801080F	USA	4	BERYLLIUM 7	DEUTERON	D,P
(104)	792001F	FR	4	BERYLLIUM 9	NEUTRON	ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION
(110)	801012F	USA	4	BERYLLIUM 9	NEUTRON	N,3N
(113)	781103F	USA	4	BERYLLIUM 9	NEUTRON	TOTAL PROTON PRODUCTION CROSS SECTION
(114)	781145F	USA	4	BERYLLIUM 9	NEUTRON	ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION
(127)	762160N	SWD	5	BORON	ALPHA	ALPHA,N
(142)	721028R	USA	5	BORON 10	NEUTRON	N,ALPHA
(158)	801084F	USA	5	BORON 11	NEUTRON	SPECIAL QUANTITY (DESCRIPTION BELOW)
(159)	801079F	USA	5	BORON 11	PROTON	CAPTURE CROSS SECTION
(160)	801287F	USA	5	BORON 11	PROTON	P,N
(161)	801081F	USA	5	BORON 11	PROTON	P,P
(162)	801286F	USA	5	BORON 11	PROTON	THREE ALPHA PARTICLES PRODUCTION CROSS SECTION
(163)	801078F	USA	5	BORON 11	PROTON	ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION
(164)	781077F	USA	5	BORON 11	ALPHA	ALPHA,N
(166)	781006F	USA	6	CARBON	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(167)	781009F	USA	6	CARBON	NEUTRON	NON-ELASTIC CROSS SECTION
(170)	801179F	USA	6	CARBON	NEUTRON	N,P
(171)	781052F	USA	6	CARBON	NEUTRON	TOTAL PROTON PRODUCTION CROSS SECTION
(172)	781136F	USA	6	CARBON	NEUTRON	ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION
(173)	801180F	USA	6	CARBON	NEUTRON	N,ALPHA
(175)	781115F	USA	6	CARBON	NEUTRON	ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION
(176)	801016F	USA	6	CARBON	NEUTRON	SPECIAL QUANTITY (DESCRIPTION BELOW)
(189)	801183F	USA	7	NITROGEN	NEUTRON	N,P
(191)	781151F	USA	7	NITROGEN	NEUTRON	ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION
(192)	801184F	USA	7	NITROGEN	NEUTRON	N,ALPHA
(194)	781130F	USA	7	NITROGEN	NEUTRON	ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION
(202)	712004R	SWD	8	OXYGEN	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(204)	781206F	USA	8	OXYGEN	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(207)	801181F	USA	8	OXYGEN	NEUTRON	N,P
(209)	781155F	USA	8	OXYGEN	NEUTRON	ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION

LIST OF WITHDRAWN REQUESTS

210)	801182F	USA	8 OXYGEN	NEUTRON	N,ALPHA
212)	781134F	USA	8 OXYGEN	NEUTRON	ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION
215)	762162N	SWD	8 OXYGEN	ALPHA	ALPHA,N
233)	762041N	JAP	8 OXYGEN 18	ALPHA	TOTAL NEUTRON YIELD
234)	722080F	GER	9 FLUORINE 19	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
236)	722081F	GER	9 FLUORINE 19	NEUTRON	INELASTIC CROSS SECTION
238)	762068F	JAP	9 FLUORINE 19	NEUTRON	INELASTIC CROSS SECTION
239)	722083F	GER	9 FLUORINE 19	NEUTRON	ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION
243)	762069F	JAP	9 FLUORINE 19	NEUTRON	ABSORPTION CROSS SECTION
244)	722084F	GER	9 FLUORINE 19	NEUTRON	PHOTON PRODUCTION CROSS SECTION IN INELASTIC SCAT.
247)	781111F	USA	9 FLUORINE 19	NEUTRON	TOTAL PROTON PRODUCTION CROSS SECTION
248)	781153F	USA	9 FLUORINE 19	NEUTRON	ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION
249)	722086F	GER	9 FLUORINE 19	NEUTRON	N,ALPHA
250)	781099F	USA	9 FLUORINE 19	NEUTRON	TOTAL ALPHA PRODUCTION CROSS SECTION
251)	781132F	USA	9 FLUORINE 19	NEUTRON	ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION
252)	801083F	USA	9 FLUORINE 19	NEUTRON	SPECIAL QUANTITY (DESCRIPTION BELOW)
254)	762161N	SWD	9 FLUORINE 19	ALPHA	ALPHA,N
256)	801203F	USA	11 SODIUM	NEUTRON	SPECIAL QUANTITY (DESCRIPTION BELOW)
261)	712005R	SWD	11 SODIUM 23	NEUTRON	ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION
278)	801061F	USA	13 ALUMINUM 27	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
282)	762163R	SWD	13 ALUMINUM 27	NEUTRON	NEUTRON EMISSION CROSS SECTION
290)	801053F	USA	13 ALUMINUM 27	NEUTRON	SPECIAL QUANTITY (DESCRIPTION BELOW)
293)	762164R	SWD	14 SILICON	NEUTRON	NEUTRON EMISSION CROSS SECTION
296)	781138F	USA	14 SILICON	NEUTRON	ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION
298)	781117F	USA	14 SILICON	NEUTRON	ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION
300)	792075R	JAP	14 SILICON 30	NEUTRON	CAPTURE CROSS SECTION
302)	801144R	USA	16 SULFUR	NEUTRON	TOTAL CROSS SECTION
311)	801204F	USA	19 POTASSIUM	NEUTRON	SPECIAL QUANTITY (DESCRIPTION BELOW)
314)	762234F	JAP	20 CALCIUM	NEUTRON	ELASTIC CROSS SECTION
315)	762076F	JAP	20 CALCIUM	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
317)	762078F	JAP	20 CALCIUM	NEUTRON	TOTAL PHOTON PRODUCTION CROSS SECTION
318)	762165R	SWD	20 CALCIUM	NEUTRON	NEUTRON EMISSION CROSS SECTION
322)	801194F	USA	22 TITANIUM	NEUTRON	TOTAL CROSS SECTION
323)	781033F	USA	22 TITANIUM	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
324)	801187F	USA	22 TITANIUM	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
325)	712007R	FR	22 TITANIUM	NEUTRON	ABSORPTION CROSS SECTION
330)	781146F	USA	22 TITANIUM	NEUTRON	ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION
333)	781125F	USA	22 TITANIUM	NEUTRON	ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION
334)	801082F	USA	22 TITANIUM	NEUTRON	SPECIAL QUANTITY (DESCRIPTION BELOW)
335)	801100F	USA	22 TITANIUM	NEUTRON	SPECIAL QUANTITY (DESCRIPTION BELOW)
336)	801201F	USA	22 TITANIUM	NEUTRON	SPECIAL QUANTITY (DESCRIPTION BELOW)
350)	712010R	FR	23 VANADIUM	NEUTRON	ABSORPTION CROSS SECTION
344)	781032F	USA	23 VANADIUM 51	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
366)	781152F	USA	23 VANADIUM 51	NEUTRON	ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION
370)	781131F	USA	23 VANADIUM 51	NEUTRON	ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION
375)	781217F	USA	24 CHROMIUM	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
376)	801188F	USA	24 CHROMIUM	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
382)	712014R	FR	24 CHROMIUM	NEUTRON	ABSORPTION CROSS SECTION
393)	762095F	JAP	24 CHROMIUM	NEUTRON	N,2N
400)	762096F	JAP	24 CHROMIUM	NEUTRON	N,P
405)	781142F	USA	24 CHROMIUM	NEUTRON	ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION
408)	762097F	JAP	24 CHROMIUM	NEUTRON	N,ALPHA
415)	781121F	USA	24 CHROMIUM	NEUTRON	ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION

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(416)	801013F	USA	24	CHROMIUM	NEUTRON	SPECIAL QUANTITY (DESCRIPTION BELOW)
(418)	801098F	USA	24	CHROMIUM	NEUTRON	SPECIAL QUANTITY (DESCRIPTION BELOW)
(419)	801197F	USA	24	CHROMIUM	NEUTRON	SPECIAL QUANTITY (DESCRIPTION BELOW)
(432)	801198F	USA	25	MANGANESE	NEUTRON	SPECIAL QUANTITY (DESCRIPTION BELOW)
(434)	812005R	EUR	25	MANGANESE 54	NEUTRON	CAPTURE CROSS SECTION
(435)	812006R	EUR	25	MANGANESE 54	NEUTRON	CAPTURE RESONANCE INTEGRAL
(437)	712017R	FR	25	MANGANESE 55	NEUTRON	ABSORPTION CROSS SECTION
(439)	761052R	USA	25	MANGANESE 55	NEUTRON	CAPTURE CROSS SECTION
(443)	712021R	FR	26	IRON	NEUTRON	TOTAL CROSS SECTION
(450)	781030F	USA	26	IRON	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(451)	781205F	USA	26	IRON	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(452)	801190F	USA	26	IRON	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(465)	781207F	USA	26	IRON	NEUTRON	NON-ELASTIC CROSS SECTION
(466)	712023R	FR	26	IRON	NEUTRON	ABSORPTION CROSS SECTION
(479)	762166R	SWD	26	IRON	NEUTRON	TOTAL PHOTON PRODUCTION CROSS SECTION
(483)	762101F	JAP	26	IRON	NEUTRON	N,2N
(489)	762102F	JAP	26	IRON	NEUTRON	N,P
(492)	781141F	USA	26	IRON	NEUTRON	ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION
(496)	762103F	JAP	26	IRON	NEUTRON	N,ALPHA
(500)	781120F	USA	26	IRON	NEUTRON	ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION
(502)	801047F	USA	26	IRON	NEUTRON	SPECIAL QUANTITY (DESCRIPTION BELOW)
(503)	801097F	USA	26	IRON	NEUTRON	SPECIAL QUANTITY (DESCRIPTION BELOW)
(506)	801038F	USA	26	IRON 54	NEUTRON	N,T
(511)	741043R	USA	26	IRON 54	NEUTRON	RESONANCE PARAMETERS
(512)	801007F	USA	26	IRON 56	NEUTRON	N,T
(516)	792009R	FR	26	IRON 59	NEUTRON	CAPTURE CROSS SECTION
(529)	801202F	USA	27	COBALT 59	NEUTRON	SPECIAL QUANTITY (DESCRIPTION BELOW)
(536)	801189F	USA	28	NICKEL	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(544)	712031R	FR	28	NICKEL	NEUTRON	ABSORPTION CROSS SECTION
(557)	762106F	JAP	28	NICKEL	NEUTRON	N,2N
(559)	801131R	USA	28	NICKEL	NEUTRON	NEUTRON EMISSION CROSS SECTION
(564)	762107F	JAP	28	NICKEL	NEUTRON	N,P
(568)	781137F	USA	28	NICKEL	NEUTRON	ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION
(571)	762108F	JAP	28	NICKEL	NEUTRON	N,ALPHA
(578)	781116F	USA	28	NICKEL	NEUTRON	ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION
(579)	801015F	USA	28	NICKEL	NEUTRON	SPECIAL QUANTITY (DESCRIPTION BELOW)
(581)	801050F	USA	28	NICKEL	NEUTRON	SPECIAL QUANTITY (DESCRIPTION BELOW)
(582)	801200F	USA	28	NICKEL	NEUTRON	SPECIAL QUANTITY (DESCRIPTION BELOW)
(593)	781022F	USA	28	NICKEL 58	NEUTRON	N,P
(620)	781034F	USA	29	COPPER	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(628)	781139F	USA	29	COPPER	NEUTRON	ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION
(631)	801063F	USA	29	COPPER	NEUTRON	TOTAL ALPHA PRODUCTION CROSS SECTION
(632)	781118F	USA	29	COPPER	NEUTRON	ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION
(634)	801096F	USA	29	COPPER	NEUTRON	SPECIAL QUANTITY (DESCRIPTION BELOW)
(635)	801195F	USA	29	COPPER	NEUTRON	SPECIAL QUANTITY (DESCRIPTION BELOW)
(646)	801177F	USA	35	BROMINE	NEUTRON	N,P
(647)	801178F	USA	35	BROMINE	NEUTRON	N,ALPHA
(649)	762001N	JAP	35	BROMINE 87		GAMMA RAY YIELD
(650)	762002N	JAP	35	BROMINE 88		GAMMA RAY YIELD
(657)	762003N	JAP	36	KRYPTON 90		GAMMA RAY YIELD
(663)	712034R	FR	40	ZIRCONIUM	NEUTRON	ABSORPTION CROSS SECTION
(676)	801036F	USA	40	ZIRCONIUM 90	NEUTRON	N,2N
(680)	801037F	USA	40	ZIRCONIUM 90	NEUTRON	N,P

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(681)	752092R	TUK	40	ZIRCONIUM 91	NEUTRON	TOTAL CROSS SECTION
(682)	752091R	TUK	40	ZIRCONIUM 91	NEUTRON	CAPTURE CROSS SECTION
(693)	752090R	TUK	41	NIOBIUM 93	NEUTRON	TOTAL CROSS SECTION
(697)	731221F	USA	41	NIOBIUM 93	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(708)	712037R	FR	41	NIOBIUM 93	NEUTRON	ABSORPTION CROSS SECTION
(712)	752089R	TUK	41	NIOBIUM 93	NEUTRON	CAPTURE CROSS SECTION
(716)	762124F	JAP	41	NIOBIUM 93	NEUTRON	TOTAL PHOTON PRODUCTION CROSS SECTION
(729)	731147F	USA	41	NIOBIUM 93	NEUTRON	ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION
(734)	731126F	USA	41	NIOBIUM 93	NEUTRON	ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION
(742)	762236F	JAP	42	MOLYBDENUM	NEUTRON	INELASTIC CROSS SECTION
(743)	712040R	FR	42	MOLYBDENUM	NEUTRON	ABSORPTION CROSS SECTION
(752)	731150F	USA	42	MOLYBDENUM	NEUTRON	ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION
(762)	731129F	USA	42	MOLYBDENUM	NEUTRON	ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION
(769)	301086F	USA	42	MOLYBDENUM	NEUTRON	SPECIAL QUANTITY (DESCRIPTION BELOW)
(773)	741075R	USA	42	MOLYBDENUM 95	NEUTRON	CAPTURE RESONANCE INTEGRAL
(777)	741076R	USA	43	TECHNETIUM 99	NEUTRON	CAPTURE CROSS SECTION
(778)	752007R	JAP	43	TECHNETIUM 99	NEUTRON	CAPTURE CROSS SECTION
(784)	722002N	JAP	44	RUTHENIUM 103		GAMMA RAY YIELD
(785)	671015R	USA	44	RUTHENIUM 103	NEUTRON	CAPTURE CROSS SECTION
(802)	301176F	USA	47	SILVER	NEUTRON	N,P
(803)	301175F	USA	47	SILVER	NEUTRON	N,ALPHA
(804)	301026F	USA	47	SILVER 107	NEUTRON	N,2N
(805)	301025F	USA	47	SILVER 107	NEUTRON	N,3N
(813)	731035F	USA	50	TIN	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(817)	731149F	USA	50	TIN	NEUTRON	ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION
(819)	761123F	USA	50	TIN	NEUTRON	ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION
(820)	301037F	USA	50	TIN	NEUTRON	SPECIAL QUANTITY (DESCRIPTION BELOW)
(836)	762005N	JAP	53	IODINE 137		GAMMA RAY YIELD
(837)	762006N	JAP	53	IODINE 138		GAMMA RAY YIELD
(838)	762013N	JAP	53	IODINE 139		HALF LIFE
(839)	762007N	JAP	53	IODINE 139		GAMMA RAY YIELD
(844)	671025R	USA	54	XENON 131	NEUTRON	CAPTURE CROSS SECTION
(858)	762008N	JAP	54	XENON 139		GAMMA RAY YIELD
(895)	761058R	USA	62	SAMARIUM 149	NEUTRON	CAPTURE CROSS SECTION
(903)	741102R	USA	63	EUROPIUM 151	NEUTRON	CAPTURE CROSS SECTION
(911)	741100R	USA	63	EUROPIUM 151	NEUTRON	CAPTURE GAMMA RAY SPECTRUM
(920)	741106R	USA	63	EUROPIUM 153	NEUTRON	CAPTURE GAMMA RAY SPECTRUM
(935)	731199R	USA	68	ERBIUM 166	NEUTRON	CAPTURE CROSS SECTION
(937)	731202R	USA	68	ERBIUM 167	NEUTRON	CAPTURE CROSS SECTION
(938)	731200R	USA	68	ERBIUM 168	NEUTRON	CAPTURE CROSS SECTION
(943)	751201R	USA	70	YTTERBIUM 170	NEUTRON	CAPTURE CROSS SECTION
(960)	691194R	USA	73	TANTALUM 181	NEUTRON	CAPTURE CROSS SECTION
(962)	792094R	JAP	73	TANTALUM 182	NEUTRON	CAPTURE CROSS SECTION
(963)	301060F	USA	74	TUNGSTEN	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(971)	731148F	USA	74	TUNGSTEN	NEUTRON	ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION
(974)	731127F	USA	74	TUNGSTEN	NEUTRON	ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION
(976)	301103F	USA	74	TUNGSTEN	NEUTRON	SPECIAL QUANTITY (DESCRIPTION BELOW)
(978)	671082R	USA	79	GOLD 197	NEUTRON	CAPTURE CROSS SECTION
(989)	792085R	JAP	79	GOLD 198	NEUTRON	CAPTURE CROSS SECTION
(1028)	761079R	USA	90	THORIUM 232	NEUTRON	CAPTURE CROSS SECTION
(1030)	731198R	USA	91	PROTACTINIUM 233	NEUTRON	TOTAL CROSS SECTION
(1054)	762208R	JAP	91	PROTACTINIUM 233	NEUTRON	CAPTURE CROSS SECTION
(1058)	753016R	IND	91	PROTACTINIUM 234	NEUTRON	TOTAL CROSS SECTION

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(1055)	753017R	IND	91	PROTACTINIUM 234	NEUTRON	ELASTIC CROSS SECTION
(1060)	753018R	IND	91	PROTACTINIUM 234	NEUTRON	INELASTIC CROSS SECTION
(1061)	753019R	IND	91	PROTACTINIUM 234	NEUTRON	CAPTURE CROSS SECTION
(1062)	753020R	IND	91	PROTACTINIUM 234	NEUTRON	FISSION CROSS SECTION
(1098)	621043R	USA	92	URANIUM 233	NEUTRON	CAPTURE TO FISSION RATIO (ALPHA)
(1114)	761120R	USA	92	URANIUM 234	SPONTANEOUS	ALPHA HALF LIFE
(1128)	761083R	USA	92	URANIUM 235	NEUTRON	TOTAL CROSS SECTION
(1133)	692363R	SWD	92	URANIUM 235	NEUTRON	INELASTIC CROSS SECTION
(1141)	741117R	USA	92	URANIUM 235	NEUTRON	CAPTURE CROSS SECTION
(1142)	742005R	SWD	92	URANIUM 235	NEUTRON	CAPTURE CROSS SECTION
(1147)	691241R	USA	92	URANIUM 235	NEUTRON	FISSION CROSS SECTION
(1149)	691246R	USA	92	URANIUM 235	NEUTRON	FISSION CROSS SECTION
(1150)	691449R	USA	92	URANIUM 235	NEUTRON	FISSION CROSS SECTION
(1151)	691450R	USA	92	URANIUM 235	NEUTRON	FISSION CROSS SECTION
(1152)	691451R	USA	92	URANIUM 235	NEUTRON	FISSION CROSS SECTION
(1155)	692496R	SWD	92	URANIUM 235	NEUTRON	FISSION CROSS SECTION
(1157)	741118R	USA	92	URANIUM 235	NEUTRON	FISSION CROSS SECTION
(1160)	761107R	USA	92	URANIUM 235	NEUTRON	FISSION CROSS SECTION
(1161)	761108R	USA	92	URANIUM 235	NEUTRON	FISSION CROSS SECTION
(1198)	722040N	JAP	92	URANIUM 236	NEUTRON	CAPTURE CROSS SECTION
(1202)	712063R	FR	92	URANIUM 236	NEUTRON	NEUTRONS EMITTED PER FISSION (NU BAR)
(1206)	792090R	JAP	92	URANIUM 237		GAMMA RAY YIELD
(1236)	691469R	USA	92	URANIUM 238	NEUTRON	CAPTURE CROSS SECTION
(1237)	691470R	USA	92	URANIUM 238	NEUTRON	CAPTURE CROSS SECTION
(1241)	692406R	SWD	92	URANIUM 238	NEUTRON	CAPTURE CROSS SECTION
(1243)	741123R	USA	92	URANIUM 238	NEUTRON	CAPTURE CROSS SECTION
(1255)	801024F	USA	92	URANIUM 238	NEUTRON	N,2N
(1262)	742112R	EUR	92	URANIUM 238	NEUTRON	FISSION CROSS SECTION
(1264)	801023F	USA	92	URANIUM 238	NEUTRON	FISSION CROSS SECTION
(1274)	761037R	USA	92	URANIUM 238	NEUTRON	DELAYED NEUTRONS EMITTED PER FISSION
(1277)	721145R	USA	92	URANIUM 238	NEUTRON	ENERGY SPECTRUM OF FISSION NEUTRONS
(1279)	762044N	JAP	92	URANIUM 238	NEUTRON	FISSION PRODUCT MASS YIELD SPECTRUM
(1280)	691236R	USA	92	URANIUM 238	NEUTRON	RESONANCE PARAMETERS
(1281)	692385R	SWD	92	URANIUM 238	NEUTRON	RESONANCE PARAMETERS
(1284)	781193R	USA	92	URANIUM 238	NEUTRON	RESONANCE PARAMETERS
(1288)	792086R	JAP	93	NEPTUNIUM 237	NEUTRON	CAPTURE CROSS SECTION
(1289)	792089R	JAP	93	NEPTUNIUM 237	NEUTRON	CAPTURE CROSS SECTION
(1297)	762135F	JAP	93	NEPTUNIUM 237	NEUTRON	FISSION CROSS SECTION
(1299)	801239F	USA	93	NEPTUNIUM 237	NEUTRON	FISSION CROSS SECTION
(1302)	762169N	SWD	93	NEPTUNIUM 238	NEUTRON	CAPTURE CROSS SECTION
(1305)	712075R	JAP	93	NEPTUNIUM 239	NEUTRON	CAPTURE CROSS SECTION
(1307)	762209N	JAP	93	NEPTUNIUM 239	NEUTRON	CAPTURE CROSS SECTION
(1312)	762150R	FR	93	NEPTUNIUM 239	NEUTRON	NEUTRONS EMITTED PER FISSION (NU BAR)
(1315)	762151R	FR	94	PLUTONIUM 236	NEUTRON	ABSORPTION CROSS SECTION
(1320)	762014N	JAP	94	PLUTONIUM 238	SPONTANEOUS	FISSION HALF LIFE
(1327)	792087R	JAP	94	PLUTONIUM 238	NEUTRON	CAPTURE CROSS SECTION
(1328)	792088R	JAP	94	PLUTONIUM 238	NEUTRON	CAPTURE CROSS SECTION
(1334)	762018N	JAP	94	PLUTONIUM 238		MISC
(1336)	741124R	USA	94	PLUTONIUM 239	NEUTRON	TOTAL CROSS SECTION
(1349)	692437R	SWD	94	PLUTONIUM 239	NEUTRON	CAPTURE CROSS SECTION
(1367)	742006R	SWD	94	PLUTONIUM 239	NEUTRON	FISSION CROSS SECTION
(1375)	801240F	USA	94	PLUTONIUM 239	NEUTRON	FISSION CROSS SECTION
(1376)	691314R	USA	94	PLUTONIUM 239	NEUTRON	CAPTURE TO FISSION RATIO (ALPHA)

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(1378)	691316R USA	94 PLUTONIUM 239	NEUTRON	CAPTURE TO FISSION RATIO (ALPHA)
(1381)	722046N JAP	94 PLUTONIUM 239	NEUTRON	CAPTURE TO FISSION RATIO (ALPHA)
(1387)	722048N JAP	94 PLUTONIUM 239	NEUTRON	NEUTRONS EMITTED PER FISSION (NU BAR)
(1410)	691319R USA	94 PLUTONIUM 239	NEUTRON	RESONANCE PARAMETERS
(1411)	691320R USA	94 PLUTONIUM 239	NEUTRON	RESONANCE PARAMETERS
(1412)	692415R SWD	94 PLUTONIUM 239	NEUTRON	RESONANCE PARAMETERS
(1413)	762019N JAP	94 PLUTONIUM 239		MISC
(1415)	762016N JAP	94 PLUTONIUM 240	SPONTANEOUS	FISSION HALF LIFE
(1418)	721087R USA	94 PLUTONIUM 240	NEUTRON	INELASTIC CROSS SECTION
(1421)	671194R USA	94 PLUTONIUM 240	NEUTRON	CAPTURE CROSS SECTION
(1425)	692452R SWD	94 PLUTONIUM 240	NEUTRON	CAPTURE CROSS SECTION
(1428)	721137R USA	94 PLUTONIUM 240	NEUTRON	CAPTURE CROSS SECTION
(1451)	761093R USA	94 PLUTONIUM 240	NEUTRON	RESONANCE PARAMETERS
(1452)	762215R JAP	94 PLUTONIUM 240	NEUTRON	RESONANCE PARAMETERS
(1453)	781194R USA	94 PLUTONIUM 240	NEUTRON	RESONANCE PARAMETERS
(1455)	762020N JAP	94 PLUTONIUM 240		MISC
(1461)	781195R USA	94 PLUTONIUM 241	NEUTRON	TOTAL CROSS SECTION
(1466)	692470R SWD	94 PLUTONIUM 241	NEUTRON	CAPTURE CROSS SECTION
(1469)	761094R USA	94 PLUTONIUM 241	NEUTRON	CAPTURE CROSS SECTION
(1473)	762221R JAP	94 PLUTONIUM 241	NEUTRON	N,2N
(1475)	721094R USA	94 PLUTONIUM 241	NEUTRON	FISSION CROSS SECTION
(1480)	761095R USA	94 PLUTONIUM 241	NEUTRON	FISSION CROSS SECTION
(1483)	691331R USA	94 PLUTONIUM 241	NEUTRON	CAPTURE TO FISSION RATIO (ALPHA)
(1486)	722047N JAP	94 PLUTONIUM 241	NEUTRON	CAPTURE TO FISSION RATIO (ALPHA)
(1489)	691330R USA	94 PLUTONIUM 241	NEUTRON	NEUTRONS EMITTED PER FISSION (NU BAR)
(1497)	761096R USA	94 PLUTONIUM 241	NEUTRON	RESONANCE PARAMETERS
(1499)	762021N JAP	94 PLUTONIUM 241		MISC
(1500)	762017N JAP	94 PLUTONIUM 242	SPONTANEOUS	FISSION HALF LIFE
(1506)	721142R USA	94 PLUTONIUM 242	NEUTRON	CAPTURE CROSS SECTION
(1508)	722043N JAP	94 PLUTONIUM 242	NEUTRON	CAPTURE CROSS SECTION
(1509)	742010R SWD	94 PLUTONIUM 242	NEUTRON	CAPTURE CROSS SECTION
(1511)	761097R USA	94 PLUTONIUM 242	NEUTRON	CAPTURE CROSS SECTION
(1519)	762022N JAP	94 PLUTONIUM 242		MISC
(1533)	761098R USA	95 AMERICIUM 241	NEUTRON	CAPTURE CROSS SECTION
(1535)	762170R SWD	95 AMERICIUM 241	NEUTRON	CAPTURE CROSS SECTION
(1540)	761099R USA	95 AMERICIUM 241	NEUTRON	FISSION CROSS SECTION
(1547)	762023N JAP	95 AMERICIUM 241		MISC
(1556)	762171R SWD	95 AMERICIUM 242	NEUTRON	CAPTURE CROSS SECTION
(1565)	732103R FR	95 AMERICIUM 242	NEUTRON	NEUTRONS EMITTED PER FISSION (NU BAR)
(1575)	761100R USA	95 AMERICIUM 243	NEUTRON	CAPTURE CROSS SECTION
(1576)	762028N JAP	95 AMERICIUM 243	NEUTRON	CAPTURE CROSS SECTION
(1592)	762173R SWD	96 CURIUM 242	NEUTRON	CAPTURE CROSS SECTION
(1605)	761101R USA	96 CURIUM 242	NEUTRON	RESONANCE PARAMETERS
(1608)	762174R SWD	96 CURIUM 243	NEUTRON	CAPTURE CROSS SECTION
(1617)	761102R USA	96 CURIUM 244	NEUTRON	CAPTURE CROSS SECTION
(1626)	732110R FR	96 CURIUM 244	NEUTRON	NEUTRONS EMITTED PER FISSION (NU BAR)
(1629)	761103R USA	96 CURIUM 245	NEUTRON	CAPTURE CROSS SECTION
(1633)	761104R USA	96 CURIUM 245	NEUTRON	FISSION CROSS SECTION
(1638)	761105R USA	96 CURIUM 246	NEUTRON	TOTAL CROSS SECTION
(1659)	691359R USA	98 CALIFORNIUM 252	SPONTANEOUS	NEUTRONS EMITTED PER FISSION (NU BAR)
(1662)	721103R USA	98 CALIFORNIUM 252	SPONTANEOUS	NEUTRONS EMITTED PER FISSION (NU BAR)
(1663)	761063R USA	98 CALIFORNIUM 252	SPONTANEOUS	NEUTRONS EMITTED PER FISSION (NU BAR)
(1664)	721105R USA	98 CALIFORNIUM 252	SPONTANEOUS	ENERGY SPECTRUM OF FISSION NEUTRONS

LIST OF WITHDRAWN REQUESTS

(1666) 761064R USA 98 CALIFORNIUM 252 SPONTANEOUS ENERGY SPECTRUM OF FISSION NEUTRONS

APPENDICES

APPENDIX A

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 two similar Subcommittees on Standards 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 will continue to be sent to all WRENDA Requestors in order to provide them with a continuous up-to-date review of their requests.

The next issue of the WRENDA request list is planned to be published in 1987. 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) cross section	x	x
^{6}Li(n,t) cross section	x	x
^{10}B(n,α) cross section	x	x
C(n,n) cross section	x	x
^{197}Au(n,γ) cross section	x	x
^{235}U(n,f) cross section	x	x
^{235}U fission fragment anisotropies	x	-
^{238}U(n,f) cross section	x	x
^{27}Al(n,α) cross section	x	x
^{252}Cf nu-bar	x	x
^{252}Cf fission neutron spectrum	x	x
Thermal parameters for ^{233}U, ^{235}U, ^{239}Pu, ^{241}Pu (σ_T, σ_S, σ_A, σ_f, σ_γ, α, η, γ_t)	x	x
Actinide half-lives for ^{233}U, ^{234}U, ^{235}U, ^{238}U, ^{237}Np, ^{238}Pu, ^{239}Pu, ^{240}Pu, ^{241}Pu, ^{242}Pu, ^{244}Pu, ^{252}Cf	x	x
^{232}Th(n,f) cross section	-	x
^{232}Th(n,γ) cross section	-	x
^{233}U(n,f) cross section	-	x
^{236}U(n,γ) fast capture cross section	x	-
^{237}Np nu-bar	x	-
^{237}Np(n,2n) cross section	x	x
^{237}Np(n,f) cross section	-	x
^{235}U, ^{239}Pu resonance parameters	x	x
^{238}U(n,γ) cross section	x	x
^{238}U(n,n^{1}) cross section	x	x
^{238}U resonance parameters	x	-
^{239}Pu(n,f) cross section	x	x

QUANTITY	Reviewed by: INDC	NEANDC
^{239}Pu decay power	x	x
^{241}Am fission resonance integral	x	x
^{243}Am fission resonance integral	x	-
^{243}Am capture resonance integral	-	x
$^{93}Nb(n,n^1)\ ^{93m}Nb$ cross section	x	x
$^{103}Rh(n,n^1)^{103m}Rh$ cross section	x	x
$^{109}Ag(n,\gamma)$ cross section	-	x
Cr, Fe, Ni capture cross section	x	x
Cr, Ni total and inelastic scattering cross section	x	x
^{91}Zr, ^{96}Zr resonance parameters	x	x
$^{23}Na, {}^{r}\gamma$ 2.85 keV resonance	-	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: ^{232}Th, ^{233}U, ^{235}U, ^{238}U, ^{239}Pu, ^{240}Pu, ^{241}Pu	x	-

APPENDIX B

LIST OF COUNTRY CODES

ARG	ARGENTINA
AUL	AUSTRALIA
AUS	AUSTRIA
BAN	BANGLA DESH
BLG	BELGIUM
BUL	BULGARIA
BZL	BRAZIL
CAN	CANADA
CCP	SOVIET UNION
DDR	GERMAN DEMOCRATIC REPUBLIC
DEN	DENMARK
EUR	COMMISSION OF THE EUROPEAN COMMUNITIES
FR	FRANCE
GER	FEDERAL REPUBLIC OF GERMANY
HUN	HUNGARY
IND	INDIA
ISL	ISRAEL
ITY	ITALY
JAP	JAPAN
NED	NETHERLANDS
NOR	NORWAY
POL	POLAND
RUM	ROMANIA
SAF	REPUBLIC OF SOUTH AFRICA
SF	FINLAND
SWD	SWEDEN
SWT	SWITZERLAND
TUK	TURKEY
UK	UNITED KINGDOM
UNO	UNITED NATIONS ORGANIZATION
USA	UNITED STATES
YUG	YUGOSLAVIA
ZZZ	INTERNATIONAL ORGANIZATION

APPENDIX C

LIST OF LABORATORY CODES

ABD	US ARMY ABERDEEN RESEARCH AND DEVEL. CENT., ABERDEEN, MD.	USA
AE	AKTIEBOLAGET ATOMENERGI, STUDSVIK	SWD
AI	ATOMICS INTERNATIONAL, CANOGA PARK, CALIFORNIA	USA
AKA	ASEA-ATOM, VAESTERAS	SWD
ALD	UK AWRE, ALDERMASTON	UK
ALK	ALKEM GMBH, LEOPOLDSHAFEN	GER
ANC	AEROJET NUCLEAR CORP., IDAHO FALLS, IDAHO	USA
ANL	ARGONNE NATIONAL LABORATORY, LEMONT, ILLINOIS	USA
ARL	AEROSPACE RES.LABS, WRIGHT-PATTERSON AIR-FORCE BASE, OHIO	USA
AUA	AUSTRALIAN AEC RESEARCH ESTABLISHMENT, LUCAS HEIGHTS	AUL
AUB	AUBURN UNIVERSITY, ALABAMA	USA
BAN	BANGLADESH	BAN
BET	WESTINGHOUSE, BETTIS ATOMIC POWER LAB., PITTSBURGH, PA.	USA
BIR	UNIVERSITY OF BIRMINGHAM, ENGLAND	UK
BNL	BROOKHAVEN NATIONAL LABORATORY, UPTON, NEW YORK	USA
BNW	BATTELLE NORTHWEST LABORATORY, RICHLAND, WASHINGTON	USA
BOL	COMISION NACIONAL DE ENERGIA ATOMICA, BOLOGNA	ITY
BRC	CEN BRUYERE LE CHATEL	FR
BRK	UNIVERSITY OF CALIFORNIA, LAWRENCE BERKELEY LAB. BERKELEY	USA
BUC	INSTITUTE FOR ATOMIC PHYSICS, BUCHAREST	RUM
CAD	CADARACHE, BOUCHES-DU-RHONE	FR
CBE	COMBUSTION ENGINEERING, WINDSOR, CONNECTICUT	USA
CCP	SOVIET UNION	CCP
CNA	CEKMECE NUCLEAR RESEARCH CENTER, ISTANBUL	TUK
COL	COLUMBIA UNIVERSITY, NEW YORK CITY, NEW YORK	USA
CRC	CHALK RIVER NUCLEAR LABORATORIES, ONTARIO	CAN
CSE	CASE INSTITUTE OF TECHNOLOGY, CLEVELAND, OHIO	USA
CUL	CULHAM LABORATORY, UNITED KINGDOM	UK
DEB	ATOMMAG KUTATO INTEZET, DEBRECEN	HUN
DKE	DUKE UNIVERSITY, DURHAM, NORTH CAROLINA	USA
DOE	US DEPARTMENT OF ENERGY, WASHINGTON, D.C.	USA
DUB	JOINT INSTITUTE FOR NUCLEAR RESEARCH, DUBNA	ZZZ
FAR	CEA FONTENAY-AUX-ROSES, SEINE	FR
FE	FUJI ELECTRIC	JAP
FEI	FIZIKO-ENERGETICHESKIJ INSTITUT, OBNINSK	CCP
FOA	RESEARCH INSTITUTE OF NATIONAL DEFENSE, STOCKHOLM	SWD
FRK	J.W.GOETHE UNIVERSITY, FRANKFURT	GER
GA	GENERAL ATOMIC, SAN DIEGO, CALIFORNIA	USA
GAC	INSTITUTE FOR GEO- AND ANALYTIC CHEMISTRY, MOSCOW	CCP
GEB	GENERAL ELECTRIC, BRDC, SUNNYVALE, CALIF.	USA
GEL	B.C.M.N. EURATOM, GEEL	EUR
GEV	GENERAL ELECTRIC CO., VALLECITOS, CALIF.	USA
GIT	GEORGIA INSTITUTE OF TECHNOLOGY, ATLANTA, GEORGIA	USA
GRE	CEA AND UNIVERSITY, GRENOBLE	FR
GRT	GULF RADIATION TECHNOLOGY, SAN DIEGO, CALIFORNIA	USA
HAM	INSTITUT FUER EXPERIMENTALPHYSIK, HAMBURG	GER
HAR	UK ATOMIC ENERGY RESEARCH ESTABLISHMENT, HARWELL	UK
HED	HANFORD ENGINEERING DEVELOPMENT LAB., RICHLAND, WASH.	USA
HFA	TECHNION HAIFA	ISL
HLS	UNIVERSITY OF HELSINKI	SF
HOK	HOKKAIDO UNIVERSITY	JAP
HRV	HARVARD UNIVERSITY, CAMBRIDGE, MASS	USA
IAE	INTERNATIONAL ATOMIC ENERGY AGENCY, VIENNA	UNO
IFU	INSTITUT FIZIKI AN UKRAINSKOI SSR, KIEV	CCP
IIT	ILLINOIS INSTITUTE OF TECHNOLOGY, CHICAGO, ILLINOIS	USA
IJI	INSTITUT JADERNYKH ISSLEDOVANIJ, KIEV	CCP
IRT	INTELCOM RADIATION TECHNOLOGY, SAN DIEGO, CALIF.	USA
JAE	JAPAN ATOMIC ENERGY RESEARCH INSTITUTE, TOKAI	JAP
JAP	JAPAN	JAP
JUL	KERNFORSCHUNGSANLAGE, JUELICH	GER

LIST OF LABORATORY CODES

KAL	KALPAKKUM REACTOR RESEARCH CENTRE, KALPAKKAM, TAMILNADU	IND
KAP	KNOLLS ATOMIC POWER LABORATORY, SCHENECTADY, NEW YORK	USA
KFK	KERNFORSCHUNGSZENTRUM, KARLSRUHE	GER
KGU	GOSUDARSTVENNYJ UNIVERSITY, KIEV	CCP
KKU	KINKI UNIVERSITY ATOMIC ENERGY RESEARCH INSTITUTE	JAP
KOS	KOSSUTH UNIVERSITY, DEBRECEN	HUN
KTO	KYOTO UNIVERSITY	JAP
KTY	UNIVERSITY OF KENTUCKY, LEXINGTON, KENTUCKY	USA
KUR	I.V. KURCHATOV ATOMIC ENERGY INST., MOSCOW	CCP
KYU	KYUSHU UNIVERSITY, FUKUOKA	JAP
LAS	LOS ALAMOS SCIENTIFIC LABORATORY, NEW MEXICO	USA
LOU	UNIVERSITY OF LODZ, LODZ	POL
LRL	LAWRENCE LIVERMORE LABORATORY, LIVERMORE, CALIFORNIA	USA
LTI	LOWELL TECHNOLOGICAL INSTITUTE, LOWELL, MASS.	USA
MAP	MITSUBISHI A.P.I., INC.	JAP
MCM	MCMASTER UNIVERSITY, HAMILTON, ONTARIO	CAN
MDD	MCDONNELL DOUGLAS ASTRONAUTICS COMPANY	USA
MGT	MICHIGAN TECHNOLOGICAL UNIVERSITY	USA
MHG	UNIVERSITY OF MICHIGAN	USA
MIT	MASSACHUSETTS INSTITUTE OF TECHNOLOGY, CAMBRIDGE, MASS.	USA
MND	MOUND LABORATORY, MIAMISBURG, OHIO	USA
MOL	C.E.N., MOL	BLG
MTR	IDAHO NUCLEAR CORP., IDAHO FALLS, IDAHO	USA
MUA	MUSLIM UNIVERSITY, ALIGARH	IND
MUN	TECH. HOCHSCHULE, MUENCHEN	GER
NAG	UNIVERSITY OF NAGOYA	JAP
NBS	NATIONAL BUREAU OF STANDARDS, WASHINGTON, D.C.	USA
NDC	NEA NUCLEAR DATA COMPILATION CENTER, SACLAY, FRANCE	ZZZ
NEL	U.S. ARMY NUCLEAR EFFECTS LABORATORY, ABERDEEN, MARYLAND	USA
NEU	UNIVERSITY OF NEUCHATEL	SWT
NFI	NUCLEAR FUEL INDUSTRIES	JAP
NIG	NIPPON ATOMIC INDUSTRY GROUP	JAP
NIS	NATIONAL INSTITUTE OF RADIOLOGICAL SCIENCES, CHIBA	JAP
NPL	NATIONAL PHYSICAL LABORATORY, TEDDINGTON	UK
NRD	U.S. NAVAL RADIOLOGICAL DEFENSE LAB., SAN FRANCISCO	USA
NYU	NEW YORK UNIVERSITY, NEW YORK CITY	USA
OHO	OHIO UNIVERSITY, ATHENS, OHIO	USA
ORE	UNIVERSITY OF OREGON, EUGENE, OREGON	USA
ORL	OAK RIDGE NATIONAL LABORATORY, TENNESSEE	USA
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 CENTRUM NEDERLAND, PETTEN	NED
REH	REHOVOTH LAB., ISRAEL AEC.	ISL
RI	KHLOPIN RADIUM INSTITUTE, LENINGRAD	CCP
RIS	RISO, ROSKILDE	DEN
RL	RICHLAND OPERATIONS OFFICE, RICHLAND, WASHINGTON	USA
ROS	ROSSENDORF BEI DRESDEN	DDR
RPI	RENNSELAER POLYTECHNIC INSTITUTE, TROY, NEW YORK	USA
RUM	ROMANIA	RUM
SAC	C.E.N. SACLAY, GIF-SUR-YVETTE	FR
SAE	SUMITOMO ATOMIC ENERGY INDUSTRIES, LTD., TOKYO	JAP
SAI	SCIENTIFIC APPLICATIONS INC., LA JOLLA, CALIFORNIA	USA
SAS	UNIV. OF SASKATCHEWAN, SASKATOON	CAN
SGA	OEST.STUDIENGES.F.ATOMENERGIE, VIENNA	AUS

LIST OF LABORATORY CODES

SOR	SOREQ RESEARCH CENTER, YAVNE	ISL
SRE	SIEMENS REAKTORENTWICKLUNG, ERLANGEN	GER
SRL	SAVANNAH RIVER LABORATORIES, AIKEN, S.C.	USA
SUN	SOUTHERN UNIVERSITIES NUCLEAR INST., FAURE, CAPE PROV.	SAF
SWD	SWEDEN	SWD
THD	TECH. HOCHSCHULE, DARMSTADT	GER
TIT	TOKYO INSTITUTE OF TECHNOLOGY	JAP
TNC	TEXAS NUCLEAR CORPORATION, AUSTIN, TEXAS	USA
TOK	UNIVERSITY OF TOKYO	JAP
TOS	TOSHIBA RESEARCH AND DEVELOPMENT CENTER	JAP
TRM	BHABHA ATOMIC RESEARCH CENTRE, TROMBAY	IND
TUD	DRESDEN, TECHNICAL UNIVERSITY AT DRESDEN AND PIRNA	DDR
UK	UNITED KINGDOM	UK
UKW	WINDSCALE REACTOR DEVELOPMENT LABS., UKAEA	UK
UMK	UNION MINIERE DU HAUT KATANGA, BRUSSELS	BLG
UPP	UNIVERSITY OF UPPSALA	SWD
USA	UNITED STATES OF AMERICA	USA
USP	UNIVERSITY OF SAO PAULO, SAO PAULO	BZL
VDN	CENTRAL BUREAU DER V.D.E.N., ARNHEM	NED
WEW	WESTINGHOUSE ADVANCED REACTOR DIVISION, PITTSBURG, PA.	USA
WIN	UK ATOMIC ENERGY ESTABLISHMENT, WINFRITH	UK
WIS	UNIVERSITY OF WISCONSON, MADISON, WISCONSON	USA
WMU	WESTERN MICHIGAN UNIVERSITY	USA
WUR	EIDG. INSTITUT FUER REAKTORFORSCHUNG, WUERENLINGEN	SWT
WWA	WARSAW UNIVERSITY	POL
YAL	YALE UNIVERSITY, NEW HAVEN, CONNECTICUT	USA
YOK	RIKKYO UNIVERSITY, YOKOSUKA	JAP

APPENDIX D

NAMES AND ADDRESSES OF REQUESTORS

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DE RAEDT, CH.
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OMIYA-SHI, SAITAMA-KEN 330
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IIJIMA, S.
NIPPON ATOMIC INDUSTRY GROUP
SUEHIRO-CHO
KAWASAKI-SHI, KANAGAWA-KEN 210
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IOKI, K.
MITSUBISHI A.P.I., INC.
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OMIYA-SHI, SAITAMA-KEN 330
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JAPAN ATOMIC ENERGY RESEARCH INSTITUTE
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IBARAKI-KEN 319-11
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ITOH, S.
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HAKOZAKI FUKUOKA 812
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FRANCE

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LIST OF ELEMENTS

ACTINIUM	AC	89	HAFNIUM	HF	72	POTASSIUM	K	19
ALUMINUM	AL	13	HAHNIUM	HA	105	PRASEODYMIUM	PR	59
AMERICIUM	AM	95	HELIUM	HE	2	PROMETHIUM	PM	61
ANTIMONY	SB	51	HOLMIUM	HO	67	PROTACTINIUM	PA	91
ARGON	AR	18	HYDROGEN	H	1	RADIUM	RA	88
ARSENIC	AS	33	INDIUM	IN	49	RADON	RN	86
ASTATINE	AT	85	IODINE	I	53	RHENIUM	RE	75
BARIUM	BA	56	IRIDIUM	IR	77	RHODIUM	RH	45
BERKELIUM	BK	97	IRON	FE	26	RUBIDIUM	RB	37
BERYLLIUM	BE	4	KRYPTON	KR	36	RUTHENIUM	RU	44
BISMUTH	BI	83	KURCHATOVIUM	KU	104	SAMARIUM	SM	62
BORON	B	5	LANTHANUM	LA	57	SCANDIUM	SC	21
BROMINE	BR	35	LAWRENCIUM	LR	103	SELENIUM	SE	34
CADMIUM	CD	48	LEAD	PB	82	SILICON	SI	14
CALCIUM	CA	20	LITHIUM	LI	3	SILVER	AG	47
CALIFORNIUM	CF	98	LUTETIUM	LU	71	SODIUM	NA	11
CARBON	C	6	MAGNESIUM	MG	12	STRONTIUM	SR	38
CERIUM	CE	58	MANGANESE	MN	25	SULFUR	S	16
CESIUM	CS	55	MENDELEVIUM	MD	101	TANTALUM	TA	73
CHLORINE	CL	17	MERCURY	HG	80	TECHNETIUM	TC	43
CHROMIUM	CR	24	MOLYBDENUM	MO	42	TELLURIUM	TE	52
COBALT	CO	27	NEODYMIUM	ND	60	TERBIUM	TB	65
COPPER	CU	29	NEON	NE	10	THALLIUM	TL	81
CURIUM	CM	96	NEPTUNIUM	NP	93	THORIUM	TH	90
DYSPROSIUM	DY	66	NICKEL	NI	28	THULIUM	TM	69
EINSTEINIUM	ES	99	NIOBIUM	NB	41	TIN	SN	50
ERBIUM	ER	68	NITROGEN	N	7	TITANIUM	TI	22
EUROPIUM	EU	63	NOBELIUM	NO	102	TUNGSTEN	W	74
FERMIUM	FM	100	OSMIUM	OS	76	URANIUM	U	92
FLUORINE	F	9	OXYGEN	O	8	VANADIUM	V	23
FRANCIUM	FR	87	PALLADIUM	PD	46	XENON	XE	54
GADOLINIUM	GD	64	PHOSPHORUS	P	15	YTTERBIUM	YB	70
GALLIUM	GA	31	PLATINUM	PT	78	YTTRIUM	Y	39
GERMANIUM	GE	32	PLUTONIUM	PU	94	ZINC	ZN	30
GOLD	AU	79	POLONIUM	PO	84	ZIRCONIUM	ZR	40