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What's  
Available  
*in the*  
Atomic  
Energy  
Literature

April 1966  
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USAEC Division of Technical Information Extension, Oak Ridge, Tennessee

# What's Available *in the* Atomic Energy Literature

*Description and availability of atomic energy  
literature, indexing and abstracting publications,  
and technical information services*

April 1966

**UNITED STATES ATOMIC ENERGY COMMISSION**  
Division of Technical Information



# Foreword

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During the past two decades, a body of literature describing the science, technology, and application of atomic energy has been developed. This literature appears in many forms. It is available from numerous sources and is announced and indexed in a variety of publications.

The United States Atomic Energy Commission has taken steps to help individuals determine what materials are available on a given subject and how these materials can be obtained.

This booklet is one example of the guideposts that will help the user to locate nuclear science and technology literature. The first section describes the basic types of information materials and indicates the sources from which each type may be obtained. The second section describes bibliographic materials that identify literature published on a given subject.



Edward J. Brunenkant, *Director*  
*Division of Technical Information*

# Summary Listing of Availability of Nuclear Science Literature

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The following list briefly summarizes the information presented in this booklet concerning the availability of nuclear science literature. Comprehensive descriptions of all these items are given in the main sections of this booklet.

1. *Nuclear Science Abstracts (NSA)* is the most comprehensive key, or index, to the world's nuclear science literature. This journal is comprised of abstracts arranged by subject categories and four indexes. It is available in most technical, university, and special libraries.

2. United States Atomic Energy Commission (USAEC) research and development reports and translations abstracted in *NSA* are deposited in USAEC depository libraries (Appendix A). They are also available from the Clearinghouse for Federal Scientific and Technical Information (Appendix E) at the prices listed in the *NSA* Report Number Indexes.

3. Many other U. S. Government reports abstracted in *NSA* are available from the Clearinghouse. The USAEC Division of Technical Information Extension does not send these reports to the USAEC depository libraries. However, many technical libraries have comprehensive collections of them along with USAEC reports. *NSA* Report Number Indexes include Clearinghouse prices on non-USAEC reports when this information is known to the DTI Extension.

4. DTI Extension distributes foreign reports that are abstracted in *NSA* to the USAEC depository libraries in the United States. *NSA* Report Number Indexes indicate the foreign reports available in these libraries.

5. Libraries that subscribe to *NSA* but do not have a USAEC report collection may be able to borrow reports from the nearest USAEC depository library.

6. USAEC depository libraries also receive from the DTI Extension bibliographies, translations, educational booklets for high-school students, catalogs of engineering drawings, guides, and other materials used in locating information.

7. Much material abstracted in *NSA* but not generally available to most libraries in the United States (e.g., some foreign scientific journals and papers given at conferences for which proceedings have not been, or will not be, published) is deposited in the Oak Ridge Associated Universities library (Appendix E) from where it may be borrowed on interlibrary loan.

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# What Is Available and Where It Can Be Obtained

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This section describes the principal classes of literature containing nuclear science information and the sources from which each class can be obtained. The USAEC Division of Technical Information is concerned with the acquisition of this literature for abstracting in *Nuclear Science Abstracts* (see page 11).

## USAEC Research and Development Reports

U. S. Atomic Energy Commission (USAEC) research and development reports contain information on specific nuclear subjects as well as information on the basic physical and biological sciences, metallurgy, instrumentation, and engineering. These reports often give research and development results that are not published in any other form.

All USAEC reports abstracted in *Nuclear Science Abstracts (NSA)* are available to the public through one or more of the following sources:

1. Depository libraries in the United States, in other countries, and in international agencies. These libraries have comprehensive collections of older reports, and they also receive current reports. Interlibrary-loan services are maintained. A list of these depositories, many of which have facilities for preparing photocopy for sale, appears in Appendix A of this booklet and on the inside covers of each issue of *NSA*.

2. Scientific and technical journals or other publications. The *NSA Report Number Indexes* indicate the scientific journal in which USAEC reports appear when such information is known.

3. Clearinghouse for Federal Scientific and Technical Information. Most reports are available for sale from this source as full-size printed copy, photostat or facsimile (Xerox), and microfilm. In ordering from the Clearinghouse, individuals or organizations having a deposit account with the Superintendent of Documents, U. S. Government Printing Office (Appendix E), can charge items to this account; otherwise, remittance by check, money order, or UNESCO coupons should accompany the order. *U. S. Government Research and Development Reports* (see page 14) contains the latest procedures for ordering reports from the Clearinghouse.

4. Superintendent of Documents, U. S. Government Printing Office (Appendix E). Some USAEC reports are printed by GPO and are for sale as full-size printed copy.

5. Microcard Editions, Inc. (Appendix E). Reports are also for sale in micro-negative form. There are three basic methods of ordering micronegatives: (1) standing orders, which ensures the monthly receipt of all newly issued reports, (2) orders for individual reports, and (3) orders for sets of the earlier reports. Sets are available for the years 1947 through 1955 (complete set only). Sets beginning in 1956 are available either for individual years or as a complete set through Sept. 30, 1964. Reports issued after Oct. 1, 1964, are 105- by 148-mm (4- by 6-inch) micronegatives. Inquiries concerning prices for standing orders or back sets should be addressed to Microcard Editions, Inc.

## Reports from Other U. S. Sources

Many government agencies, universities, and research institutions in the United States issue unclassified reports on nuclear energy. In general, the Clearinghouse for Federal Scientific and Technical Information (Appendix E) is the sales agency for reports produced under federal auspices. Ordering and payment procedures are the same as those for USAEC reports.

The Clearinghouse has a system of regional technical-report centers in the United States, each of which contains a collection of reports published by the USAEC, the Defense Documentation Center, the National Aeronautics and Space Administration, and other U. S. government agencies. These centers (Appendix B) provide reference, interlibrary-loan, and reproduction services. All the Clearinghouse regional report centers established thus far are USAEC depositories also.

## Reports from Sources Outside the United States

Atomic energy organizations, government agencies, universities, and institutions in foreign countries issue reports in the field of atomic energy. The availability of the reports issued by some of these organizations appears as Appendix C. Requests for reports issued by organizations not listed in Appendix C should be addressed to the issuing agency.

The USAEC receives many of these reports on an exchange basis and deposits copies of them in the USAEC depository libraries in the United States.

## Books

The USAEC has sponsored the preparation of many scientific books in the field of nuclear energy. Most of these books are published and marketed by commercial publishers. Availability and descriptive information is contained in *Technical Books and Monographs*, which is available without charge from the USAEC Division of Technical Information Extension (Appendix E). This publication also lists books and monographs being prepared. Local bookstores and libraries may be

good sources for these books as well as for other books in the field of nuclear science and engineering.

A particularly important document is the annual report submitted to Congress by the USAEC. This report, entitled *Major Activities in the Atomic Energy Program*, can be purchased from GPO (Appendix E). Prices in recent years have ranged from \$1.50 to \$2.00 per copy.

## Journals

A large amount of information dealing with nuclear energy is reported in scientific and technical journals. The USAEC and many other organizations publish part of their research results in journals, whereas some organizations report all their research results in them. Local libraries can help in identifying the important journals in the nuclear energy field. They may have many of them in their collections, or they may be able to borrow them on interlibrary loan. A list of journals scanned regularly for the selection of nuclear science articles for NSA is published semiannually in NSA.

The USAEC publishes five Technical Progress Reviews, each of which provides a review of recent developments in a specific technical area. These journals are *Isotopes and Radiation Technology*, *Nuclear Safety*, *Power Reactor Technology*, *Reactor Fuel Processing*, and *Reactor Materials*. These are available from the Superintendent of Documents, U. S. Government Printing Office (Appendix E), for \$2.50 (domestic) and \$3.25 (foreign). Domestic rates apply to the United States, Canada, Mexico, and all Central and South American countries except Argentina, Brazil, British Guiana, French Guiana, British Honduras, and Surinam. Foreign rates apply to these last six countries and to all other countries. A more detailed description of these review journals is contained in a brochure available without charge from the USAEC Division of Technical Information Extension (Appendix E).

## Conference Literature

### PROCEEDINGS OF MEETINGS AND CONFERENCES

The USAEC and its contractors sponsor, support, or participate in virtually all important meetings and conferences concerning nuclear energy. The USAEC publishes proceedings of some meetings and conferences carried out solely under its auspices, as well as proceedings of some non-USAEC meetings and conferences if the sponsoring organizations do not plan to publish them. Some proceedings are issued as reports and are available from the Clearinghouse for Federal Scientific and Technical Information. A few of these reports are sold by the Superintendent of Documents, U. S. Government Printing Office. They

are included in the collections sent to the depository libraries and are also available in microfiche form from Microcard Editions, Inc. (See Appendix E for addresses.)

Other U. S. government agencies, atomic energy organizations abroad [including international agencies such as the International Atomic Energy Agency and the European Atomic Energy Community (EURATOM)], professional societies, universities, and institutions throughout the world also publish proceedings. Some are issued as reports, whereas others are published commercially. In general, proceedings published by U. S. government agencies are sold by GPO or the Clearinghouse. If local libraries do not have the proceedings of a particular meeting, they may borrow them from a USAEC depository or other library.

#### INDIVIDUAL PAPERS

Many individual papers presented at conferences are published either in the formal proceedings or in technical journals. A large number, however, receive no formal publication. The USAEC has an active program to acquire conference papers in the field of nuclear science so that they may be more widely announced and may be made available. Approximately 2500 conference papers are abstracted in *Nuclear Science Abstracts* every year. Papers written by USAEC scientists are distributed as USAEC reports. Such reports are sent to the depository libraries and are sold by the Clearinghouse. Papers written by individuals not affiliated with the USAEC are deposited at the library of the Oak Ridge Associated Universities (Appendix E). They are available from that library on interlibrary loan. Most nuclear science conference papers are also available for a nominal sum from the West German Atomic Energy Documentation Center, Gmelin Institut (Appendix E).

### Translations

The USAEC and its contractors and other U. S. government agencies and their contractors conduct translation programs. A major portion of these programs involves the translating of Russian-, Slavic-, and Sino- language publications. In addition, commercial publishers, universities, professional societies, and industries in the United States and in other countries translate books, reports, journal articles, and some complete journals. The Division of Technical Information Extension serves as a clearinghouse for translations (completed and in process) in the nuclear energy field.

The Clearinghouse for Federal Scientific and Technical Information (Appendix E) has been established as the sales agency for translations sponsored by U. S. government agencies. It works in close cooperation with the Special Libraries Association Translation Center at the John

Crerar Library, 86 East Randolph St., Chicago, Ill. 60601, which serves as the center for translations prepared by industrial and other nongovernmental organizations in both the United States and other countries. In addition, the Clearinghouse receives information concerning translations available from governmental organizations in other countries and from commercial translating firms throughout the world. The purposes of this cooperative effort are (1) to announce promptly as much of the total body of translations as possible and (2) to prevent duplication of effort by exchanging information on translations being prepared. Organizations contemplating the preparation of a translation should determine, through the Clearinghouse, whether the material has been translated or is in preparation.

A similar center in the United Kingdom is located at the National Lending Library for Science and Technology, Boston Spa, Yorkshire, England. Three other major translations centers in Europe are operated at (1) The Technische Hochschule, Hanover, Germany, (2) Technical Institute of Delft, Netherlands, for the European Productivity Agency, and (3) Centre d'Information et de Documentation, EURATOM. These centers are cooperating by notifying each other (and centers in other countries) of translations already available and of those in preparation. As a result, each of these centers has information on an extensive body of translations. These centers cooperate with the DTI Extension in exchanging information on translations.

## Patents

Another source of information dealing with atomic energy is contained in the patents issued by governments throughout the world. Usually the sale source for a patent is the patent office of the country in which it is issued. Many of the larger libraries throughout the world maintain collections that include patents issued by numerous countries. The U. S. Patent Office (Appendix E) sells U. S. patents for \$0.25 each and facsimile copies of many foreign patents for \$0.30 per page. Organizations or individuals having a continuing need for patents may wish to establish a deposit account with the U. S. Patent Office. Collections of U. S. patents have been deposited in a number of libraries in the United States; a list of these depositories appears as Appendix D.

## Legislation

U. S. government legislation is an important source of data since it, in part, defines and regulates the operations of the governmental entities and provides information on the activities of these organizations. Legislative materials, which are published in many forms (bills, hearings, reports, committee prints, public laws, documents, etc.), are usu-

ally printed in limited quantities. They are available from numerous sources within the U. S. Congress as well as from the U. S. Government Printing Office.

Federal legislation is announced in the *Monthly Catalog of United States Publications*, which is available from the Superintendent of Documents, U. S. Government Printing Office (Appendix E), at an annual subscription price of \$4.50 (\$1.50 should be added to cover postage for foreign mailing). Many of the legislative materials listed in the catalog are not available from GPO, but frequently they can be obtained from the House or Senate document room, from the appropriate committee, or, in the United States, through a local senator or congressman.

Some of the best sources for obtaining access to legislative materials are the university, college, and public libraries that maintain a depository collection of U. S. government documents. The legislative publications of the Joint Committee on Atomic Energy, U. S. Congress, have been deposited in the U. S. and foreign libraries that contain depository collections of USAEC reports.

Various organizations are making publications of the U. S. Congress available in micro-format. A particularly useful service is provided by Readex Microprint Corporation (Appendix E), which is making the total output of Public Bills, Hearings, and Committee Prints for each session of Congress available on micro-opaques.

The Joint Committee on Atomic Energy issues annually a useful document that gives the cumulated atomic energy legislation extending through the most recent session of the U. S. Congress. The latest edition of this publication, entitled *Atomic Energy Legislation Through 89th Congress, 1st Session*, is available from GPO.

Legislation of the states of the United States is announced in the *Monthly Checklist of State Publications*, published by the Library of Congress and sold by GPO at an annual subscription rate of \$2.50 (\$0.75 should be added to cover postage for foreign mailing). Generally, such legislative materials are difficult to acquire since they are issued in limited quantities. Frequently they are deposited in the state library of the state that issued them. The Commerce Clearing House (Appendix E) provides a service through which such material may be obtained.

## Engineering Materials

USAEC engineering materials (drawings, specifications, bills of material, design criteria, photographs, and parts lists) are made available to the public through the USAEC Division of Technical Information Extension engineering-materials program. The scope of the program includes nuclear and related fields of engineering with special emphasis on equipment that has industrial applications. The materials described range from complete reactor facilities and chemical-processing plants to radiation instruments and laboratory equipment.

USAEC engineering materials made available through the DTI Extension are announced in the *Engineering Materials List* [TID-4100(Rev.1) and supplements] (see page 21). A booklet describing the scope of this program is available on request from the DTI Extension.

Copies of USAEC engineering materials may be purchased in full-size blue-line print or microcopy forms from the Clearinghouse for Federal Scientific and Technical Information (Appendix E). Prices are \$0.035 per square foot of area for blue-line prints of drawings and specifications and \$0.20 for copies of photographic prints, f.o.b., Springfield, Va. There is a handling charge of \$0.75 for each order. Inquiries for prices of materials and for order forms should be addressed to the Clearinghouse.

## Educational Materials

The USAEC provides copies of educational literature on atomic energy to the laymen, elementary through college students, and libraries. Packets of literature for specific educational levels, e.g., for elementary teachers and high-school science students are also available. In addition, numerous reference lists on subjects related to atomic energy are used to supplement the information in the publications. Requests should be addressed to the USAEC Division of Technical Information Extension (Appendix E).

### UNDERSTANDING THE ATOM SERIES

The USAEC publishes the *Understanding the Atom* series of semitechnical booklets on various atomic energy subjects. Inquiries for copies of these booklets should be sent to DTI Extension (Appendix E). The following booklets have been published:

*Accelerators	William J. Kernan
*Atomic Fuel	John F. Hogerton
Atomic Power Safety	John F. Hogerton
†Atoms at the Science Fair	Robert G. LeCompte and Burrell L. Wood
*Atoms in Agriculture	Thomas S. Osborne
Careers in Atomic Energy	Loyce J. McIlhenny
Controlled Nuclear Fusion	Samuel J. Glasstone
*Direct Conversion of Energy	William R. Corliss
Fallout from Nuclear Tests	C. L. Comar
†Food Preservation by Irradiation	Grace M. Urrows
Microstructure of Matter	Clifford Swartz
*Neutron Activation Analysis	William R. Corliss
Nondestructive Testing	Harold Berger
Nuclear Power and Merchant Shipping	Warren H. Donnelly
*Nuclear Reactors	John F. Hogerton
Nuclear Terms, A Brief Glossary	James D. Lyman and Benjamin S. Loeb
*Our Atomic World	C. Jackson Craven

\*Available also in Spanish and French languages.

†Spanish version being prepared.

(List continues on next page.)

Plutonium  
Popular Books on Nuclear Science  
Power from Radioisotopes

Power Reactors in Small Packages  
Radioactive Wastes  
Radioisotopes in Industry

Rare Earths  
Research Reactors

Synthetic Transuranium Elements  
The Creative Scientist  
Whole Body Counters

William N. Miner  
John Sherrod  
Robert L. Mead and William R.  
Corliss  
William R. Corliss  
Charles H. Fox  
Philip S. Baker, Domenic A.  
Fuccillo, Jr., Martha W. Gerrard,  
and Robert H. Lafferty, Jr.  
Karl A. Gschneidner  
Norman H. Jacobson and Frederick H.  
Martens  
Earl K. Hyde  
Glenn T. Seaborg  
Frederick W. Lengemann and John H.  
Woodburn

The following booklets are in preparation:

Atoms, Nature, and Man  
Computers  
Genetic Effects of Radiation

Nuclear Clocks  
Plowshare

Radioisotopes and Life Processes

Neal Hines  
William R. Corliss  
Isaac Asimov and Theodosius  
Dobzhansky  
Henry Faul  
Richard Hamburger, Carl Gerber, and  
Seabrook Hull  
Walter Kisieleski and Renato Baserga

#### OTHER EDUCATIONAL MATERIALS

In addition to the *Understanding the Atom* series, many other items of educational value are available from the DTI Extension. One of the most popular of these is a booklet entitled *The USAEC—What It Is, What It Does*, which was prepared by the various USAEC Headquarters Divisions and which describes major efforts of each division.

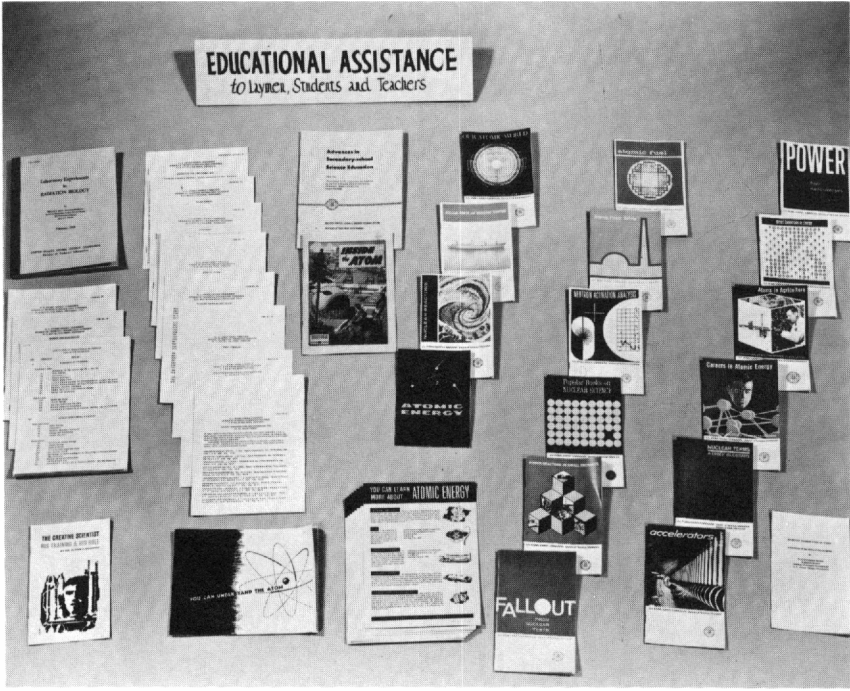
## USAEC News Releases

News releases provide an excellent medium for keeping abreast of outstanding new developments in USAEC programs. These releases are issued in four separate series: Public Information Releases, Speeches, News Conferences, and Industrial Information Releases. Organizations wishing an individual release or desiring to be placed on the mailing list for any series of releases should write to the USAEC Division of Public Information (Appendix E). The USAEC Division of Technical Information Extension compiles an index to AEC News Releases (see page 23).

## Motion-picture Films

Information on various subjects related to nuclear energy is available on motion-picture film. The USAEC has established a number of film libraries from which 16-mm film may be borrowed, without charge, by

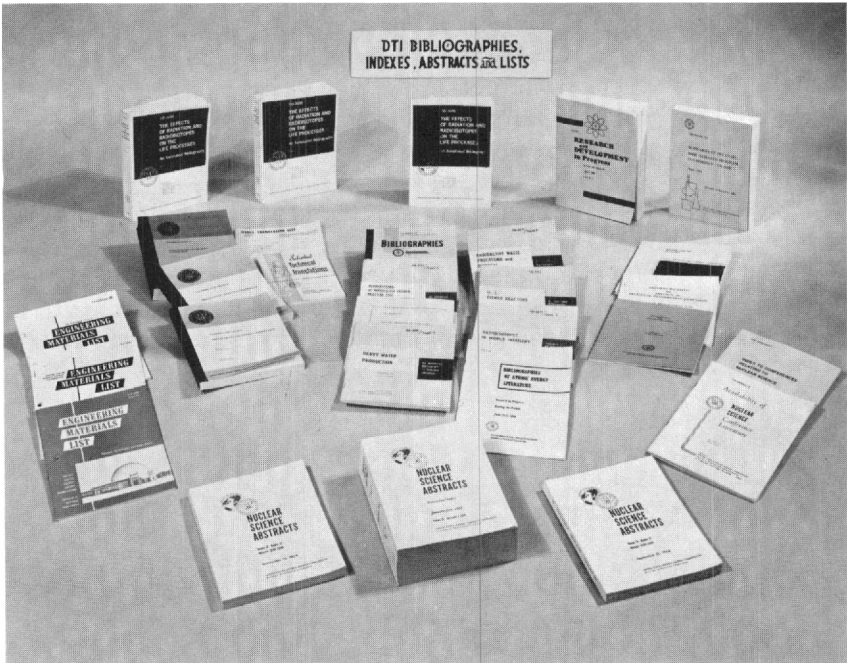




educational and nonprofit organizations in the United States and in Canada. Some films are approved for use in unsponsored public-service telecasts. Many of the films are available abroad through the film libraries of the U. S. Information Service. Prospective borrowers should seek assistance directly from the U. S. Information Service agency in their country.

The USAEC issues two film catalogs, entitled *Motion Picture Film Library—Popular Level* and *Motion Picture Film Library—Professional Level*. These catalogs are available, without charge, from the Audio-Visual Branch, USAEC Division of Public Information, or from the USAEC Division of Technical Information Extension. (See Appendix E for addresses.)

**DTI BIBLIOGRAPHIES,  
INDEXES, ABSTRACTS and LISTS**



# How To Find Out What Is Available

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There are various publications that announce, abstract, and index literature containing nuclear energy information. Some of the more important of these bibliographic publications are described in this section.

## Nuclear Science Abstracts

The most comprehensive abstracting and indexing service devoted to nuclear science and engineering literature is *Nuclear Science Abstracts (NSA)*, which is published by the USAEC. In addition to covering the literature specifically applicable to the nuclear energy field, NSA includes a considerable amount of information on basic physical and biological sciences, engineering, medicine, instrumentation, and metallurgy. (See center spread on pages 15 to 18.)

Abstracts of USAEC reports, other government-agency reports, reports from other countries, books, journals, articles, patents, engineering materials, conference papers and proceedings, bibliographies, and translations are included in NSA. The abstracts are arranged in NSA by subject categories, such as Biology and Medicine, Chemistry, Physics, and Reactor Technology. The larger categories are divided into subcategories; for example, Biology and Medicine is subdivided into General, Ecology, Metabolism, Radiation Effects, Radiation Effects Therapy, Radiation Hazards, and Radiotherapy and Radiodiagnosis. Such an arrangement enables the user to scan more easily subject areas of interest.

Each issue of NSA includes complete indexes for corporate author (issuing organization), personal author, subject, and report number. The entries in the report-number index cite, when known, the sources through which the report is made available and, if appropriate, the price. These four indexes are cumulated at the end of the first quarter of each year, semiannually, at the end of the third quarter, annually, and every five years. At the end of Volume 19, report number indexes were cumulated in two separate publications. Indexes for Volumes 1

through 15 were reissued with the latest public availability known, but they will not be reissued again. Indexes for Volumes 16 through 19 were cumulated as a separate issuance and will be reissued annually to include all volumes beginning with Volume 16.

NSA is available by subscription from the Superintendent of Documents, U. S. Government Printing Office (Appendix E). The annual domestic subscription price of \$30.00 for the semimonthly issues applies to the United States, Canada, Mexico, and all Central and South American countries except Argentina, Brazil, British Guiana, French Guiana, British Honduras, and Surinam. The foreign subscription price of \$37.00 is applicable in these last six countries and in all other countries.

The annual domestic subscription rate for the index issues is \$22.00, and the foreign rate is \$25.00. The five-year cumulative-index volumes are issued and sold separately. The annual corporate-author, personal-author, and subject indexes may be purchased separately from GPO as follows:

<i>Volume No.</i>	<i>Price</i>	<i>Volume No.</i>	<i>Price</i>
16	\$ 9.75	18	\$12.50
17	12.25	19	12.50

#### AVAILABILITY OF ADD AND NSA VOLUMES

The availability and prices of *ADD* (*Abstracts of Declassified Documents*, the predecessor of *NSA*) and of *NSA* are given in the following table. If GPO is listed as the sales agency, the volume is available from the U. S. Government Printing Office. If Johnson is listed, the volume is available from Johnson Reprint Corporation. (See Appendix E for addresses.)

<i>Volume No.</i>		<i>Dates</i>	<i>Reprint date</i>	<i>Sales agency</i>	<i>Price</i>
<i>ADD</i>	<i>NSA</i>				
1		July–Dec. 1947	Nov. 1963	Johnson	\$40.00
2		Jan.–June 1948	Nov. 1963	Johnson	20.00
	1	July–Dec. 1948	1960	Johnson	20.00
	2	Jan.–June 1949	1960	Johnson	20.00
	3	July–Dec. 1949	1960	Johnson	20.00
	4	Jan.–Dec. 1950	1960	Johnson	30.00
	5	Jan.–Dec. 1951	1960	Johnson	30.00
	6	Jan.–Dec. 1952	1960	Johnson	30.00
	7	Jan.–Dec. 1953	1960	Johnson	30.00
	8	Jan.–Dec. 1954	1960	Johnson	30.00
	9	Jan.–Dec. 1955	1957	GPO	7.25
	10	Jan.–Dec. 1956	1958	GPO	11.00
	11	Jan.–Dec. 1957	Nov. 1963	Johnson	60.00
	12	Jan.–Dec. 1958		GPO	18.00
	13	Jan.–Dec. 1959		GPO	29.90
	14	Jan.–Dec. 1960		GPO	30.00
	15	Jan.–Dec. 1961		GPO	30.00
	16	Jan.–Dec. 1962		GPO	30.00
	17	Jan.–Dec. 1963		GPO	30.00
	18	Jan.–Dec. 1964		GPO	42.00
	19	Jan.–Dec. 1965		GPO	42.00

Complete sets of *NSA* are available in the depository libraries in the United States and abroad (see Appendix A) and in many other libraries throughout the world. Universities, research institutions, industrial firms, and publishers of scientific information may obtain *NSA* on a publication-exchange basis. Inquiries should be addressed to the USAEC Division of Technical Information Extension (Appendix E).

#### AVAILABILITY OF MULTIVOLUME SUBJECT AND AUTHOR INDEXES

Volumes 1 through 4 (1948–1950)

A cumulative subject and author index for Volumes 1 through 4, bound with Volume 4, is available from Johnson Reprint Corporation for \$30.00.

Volumes 5 through 10 (1951–1956)

A cumulative subject and personal-author index for Volumes 5 through 10 is available from GPO for \$5.25.

Volumes 11 through 15 (1957–1961)

Cumulative subject, corporate-author, and personal-author indexes for Volumes 11 through 15 are available from GPO as follows:

<i>Index</i>	<i>No. of volumes</i>	<i>Price</i>
Corporate author	1	\$ 2.50 per copy
Personal author	3	14.25 per set
Subject	4	19.00 per set

#### AVAILABILITY OF CUMULATIVE REPORT NUMBER INDEXES

Two cumulative report-number indexes that cover all volumes of *NSA* have been published. These are available from GPO at the following prices: Volumes 1 through 15, \$4.00; Volumes 16 through 19, \$2.50.

### Research and Development in Progress

The USAEC issues a series of publications that summarize the scope and progress of investigations being performed by its “on-site” (major installations and laboratories) and “off-site” (universities, research organizations, and individuals) contractors operating under the supervision of Program Divisions. Most of these publications are provided with contractor, principal-investigator, and subject indexes. The following are presently available:

Biology and Medicine	TID-4204
Isotopes	TID-4202
Chemistry “On-site”	TID-4005 (Pt. 2b)
Chemistry “Off-site”	TID-4005 (Pt. 2a)
Metallurgy, Solid-State, Physics and Ceramics	TID-4005 (Pt. 1, 9th ed.)
Controlled Thermonuclear Reactions	TID-4005 (Pt. 5)

## Specialized Information and Data Centers

The USAEC sponsors or partially sponsors activities in nuclear science and technology by specialized information and data centers. The principal function of these centers is to collect, critically evaluate, and compile scientific and technical information in specific fields and to make it available in the form of data tables, handbooks, critical state-of-the-art reviews, and summaries of research and development programs in progress. Other services include answering technical inquiries, serving visitors, publishing specialized bibliographies and newsletters, and selectively disseminating information.

For additional information regarding a specific center, the reader should contact that center (Appendix F). General inquiries should be referred to the USAEC Division of Technical Information (Appendix E).

## U. S. Government Research and Development Reports

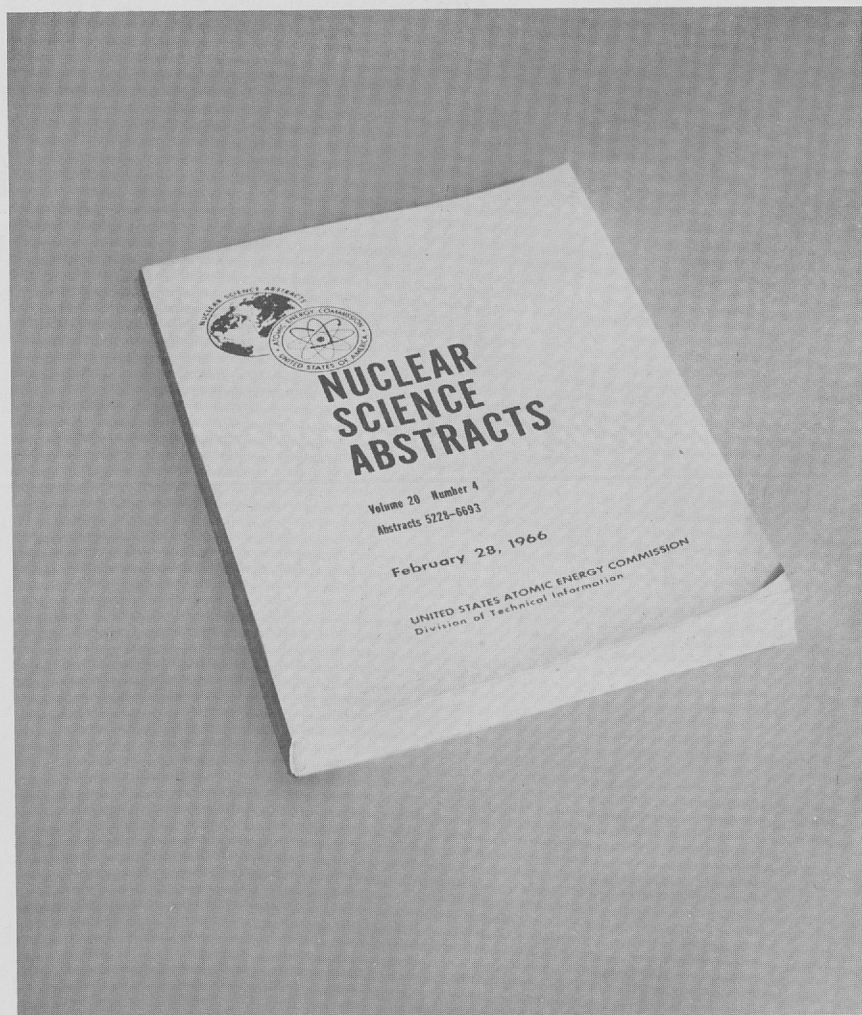
Although the availability for all USAEC reports is given in *NSA*, it is not always possible to obtain such information for non-USAEC reports at the time they are included in *NSA*. *U. S. Government Research and Development Reports (USGRDR)* is issued twice a month to announce new reports of research and development released by the U. S. Department of Defense and certain other agencies of the federal government which sponsor research and development programs. The first section of *USGRDR* is prepared for the Defense Documentation Center of the Department of Defense and is called *Technical Abstract Bulletin*. The next section is called *Other Research Reports and Related Material* and covers all USAEC unclassified reports as well as new reports of other civilian agencies of the U. S. government. Also included in this section are older reports acquired by the Clearinghouse for Federal Scientific and Technical Information in response to specific requests from industry.

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This center spread shows samples of NSA abstracts, the subject categories in which abstracts are grouped, the classes of literature abstracted, and the four indexes provided in each issue.



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ABSTRACTS

**39330** ACCELERATOR BEAM ENERGY MONITOR. Gibney, Gerard G.; Indeck, Bernard (to Ethicon, Inc.). U. S. Patent 3,179,804. Apr. 20, 1965. Filed Jan. 15, 1962.

A continuous energy indicator is provided that enables the determination of the electron beam energy of a linear accelerator at all times. The apparatus includes an accelerated and shielded metal plate one corner of which is positioned in the edge of the scanned electron beam. The scanned beam narrows with increasing electron beam energy so that the area that the beam impinges on decreases faster than the density of the electrons per cm<sup>2</sup> increases. Means are included for amplifying, rectifying, and measuring the primary current produced in the plate by the absorbed electrons. (B.L.M.)

PATENT

**39415** ADVANCES IN ATOMIC AND MOLECULAR PHYSICS. VOLUME 1. Bates, D. R.; Estermann, Immanuel. New York, Academic Press, 1965. 413p. \$13.50.

Survey articles are included on the molecular orbital theory of the spin properties of conjugated molecules, electron affinities of atoms and molecules, atomic recombination collisions, production of rotational and vibrational transitions in encounters between molecules, the study of intermolecular potentials with molecular beams at thermal energies, and high-energy and high-intensity molecular beams. (D.C.W.)

BOOK

**40117** (ZFK-RN-17) INTERNATIONALES SYMPOSIUM. WASSERPROBLEME AN KERNREAKTOREN 25-27. 4 1962 IN ROSSENDORF. (International Symposium on Water Problems in Nuclear Reactors, Rossendorf, Germany, April 25-27, 1962). (Zentralinstitut für Kernphysik, Rossendorf bei Dresden (East Germany)). Mar. 1963. 20sp. (CONF-620402) Dep. (mn).

From International Symposium on Water Problems in Nuclear Reactors, Rossendorf, Ger. Fourteen papers are included; separate abstracts by Immanuel and 7 other authors listed previously.

CONFERENCE PROCEEDING

For abstracts of individual papers see: 38697, 38698, 38759, 38760, 40127, 40128, 40129, 40130, 40260, 40261, 40262, 40263, 40264.

**38574** (ANL-7008) INVESTIGATION OF FUSED-SALT PROCESSES FOR THE PREPARATION OF URANIUM SULFIDES. Messier, D. R. (Argonne National Lab., Ill.). Mar. 1965. Contract W-31-109-eng-38. 12p. Dep. mn; CFSTL \$1.00 cy, \$0.50 mn.

Attempts were made to prepare uranium monosulfide by two fused-salt processes. The first consisted of bubbling a H<sub>2</sub>-H<sub>2</sub>S stream through molten alkali halides containing dissolved uranium. The second, UF<sub>4</sub> or UCl<sub>4</sub> with various alkali halides obtained by the bubbling method under various conditions. No product was obtained under either conditions, UOS was obtained. It was concluded that monosulfide cannot be produced by the gas reaction method and that improved experimental conditions would be necessary for the electrochemical method. (auth)

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- BUNDESGESUNDHEITSAMT, BERLIN (WEST GERMANY). INSTITUT FUER WASSER-, BODEN- UND LUFTHYGIENE. Alloying with Na diuranate for coloring artificial teeth, 19: 38473 (NP-14923)

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6586	19-36964	Dep. mn; JCL, \$1.10 fs, \$0.80 mf
6597	19-36347	Dep. mn; \$1.10(fs), \$0.80(mf) JCL
<b>ANL-</b>		
6995	19-39124	Dep. mn; CFSTI, \$2.00 cy, \$0.50 mn
7008	19-38574	Dep. mn; CFSTI, \$1.00 cy, \$0.50 mn
7046	19-40111	Dep.(mn); \$3.00(cy), 2(mn) CFSTI
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9200	19-38694	Dep. mn; CFSTI, \$1.00 cy, \$0.50 mn
9232	19-39450	Dep.(mn); \$1.00(cy), 1(mn) CFSTI
9236	19-38970	Dep.(mn); \$2.00(cy), 1(mn) CFSTI
<b>CAPE-</b>		
1200	19-34422	EM
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<b>PATENTS (U. S.) (\$0.25 each, U. S. Patent Office)</b>		
3,179,243	19-38908	
3,179,804	19-39330	

**34422 KSO PLUTONIUM SHIPPING CONTAINERS** (Engineering Materials). (Rocky Flats Plant, Dow Chemical Co., Denver). 5 drawings. (CAPE-1200)  
Two containers are described. The first type consists of a 30 gal, 27 1/2 in. high drum, fabricated of 18 gauge steel with a removable head. An inner container, which holds the materials being shipped, is 15 in. long and 14 in. diameter. The outer container is fabricated from 1/2 in. thick aluminum. The inner container is also a 30 gal drum with a removable head and a sleeve 5/8 in. ID. The drum is lined for insulation.

**ENGINEERING MATERIALS**

locking lid. Laminated white oak. For details, see TID-4100. (P.C.H.)

**40088 RADIATION FROM AN EXCITON WAVE PACKET.** Bierman, Arthur (City Coll., New York). *J. Chem. Phys.*, 43: 1675-9 (Sept. 1, 1965). (TID-21730).  
Properties of radiative transitions from exciton states in a linear chain and in a ring (periodic boundary conditions) were examined. The two models exhibited a persistent difference in the radiation rate even for stationary state transitions. Exciton wave packets are shown to radiate weakly if they originate at the end of the linear chain, strongly if they originate near the middle of the chain. The latter radiation showed also a persistent difference in the radiation rate of a wave packet out to be the same as the rate of a stationary state and had no periodic components. The radiation rate of a wave packet in a linear chain was much more stable against decay than a stationary state. Radiation from a wave packet showed little difference from the Brillouin-Wigner shape. (auth)

**JOURNAL ARTICLE**

**36347 (AEC-tr-6597) A NEW METHOD OF MEASURING THE RELATIVE ABUNDANCE OF ISOTOPES. HAFNIUM DISTRIBUTION AND THE ATOMIC WEIGHT OF HAFNIUM.** Mattauch, J.; Ewald, H. Translated from *Naturwissenschaften*, 31: 487-90(1943). 5p. Dep. mn, \$1.10(fs), \$0.80(mf) JCL.  
An improved photometric method using a reference element to combine the advantages of the classical photometric methods, was used on hafnium which were compared with these of Asten. The abundances: <sup>174</sup>Hf, 0.18%; <sup>176</sup>Hf, 5.30%; <sup>177</sup>Hf, 18.47%; <sup>178</sup>Hf, 27.13%; <sup>179</sup>Hf, 13.85%; and <sup>180</sup>Hf, 35.14%. The atomic weight is 178.50 ± 0.02. (D.L.C.)

**TRANSLATION**

**39450 (BNL-9232) A SCATTERING EXPERIMENT USING DIGITIZED DISCHARGE PLANES.** Bleser, E.; Anderson, E.; Collins, G. B. (and others) (Brookhaven National Lab., Upton, N. Y.). May 28, 1965. Contract AT(30-2)-Gen-16. 11p. (CONF-650510-12). Dep. mn, \$1.00(cy), 1(mn) CFSTI.  
From Purdue Conference on Instrumentation for High Energy Physics, Lafayette, Ind.  
Preliminary experience at the Brookhaven AGS of a scattering experiment using wire ch readout connected on-line reported. The experiment was designed to measure wide spectra for inelastic scattering of protons. The layout and properties are described, including the rate of data taken and the overall efficiency. Some data are shown. (M.J.T.)

**CONFERENCE PAPER**

Category

MATHEMATICS AND COMPUTERS

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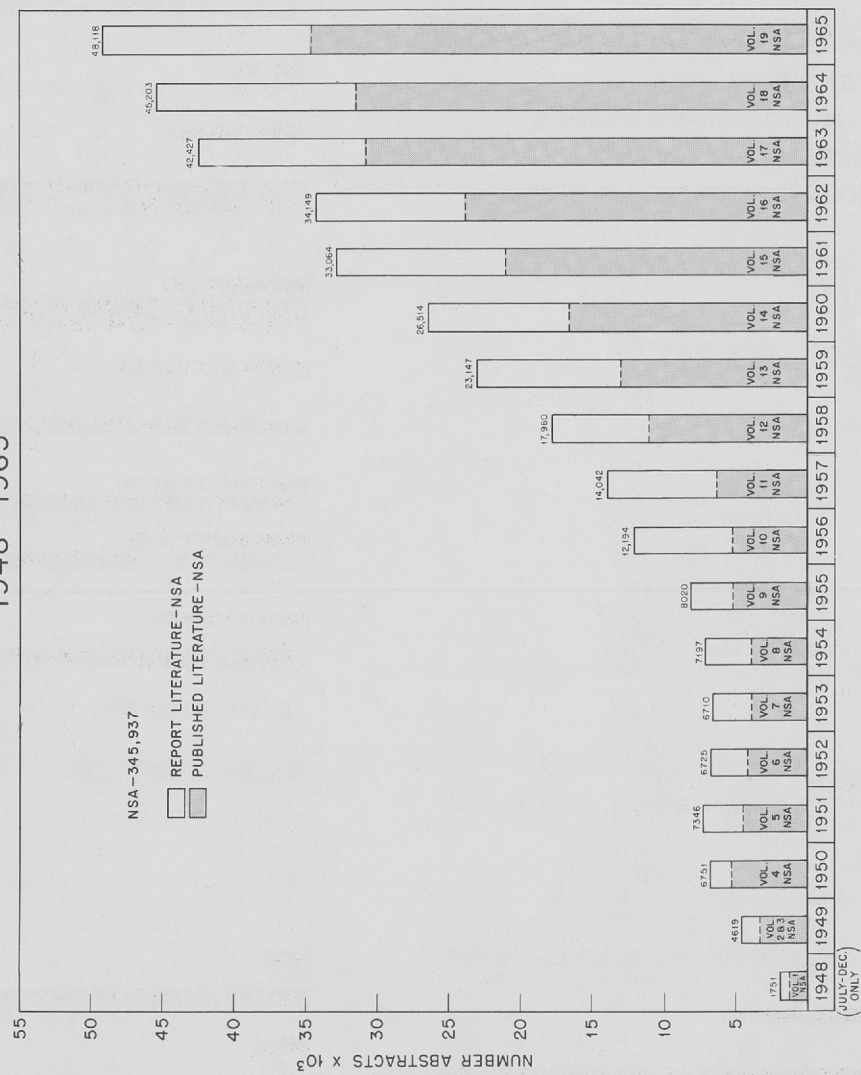
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The catalog (including the cumulative indexes) is available from GPO (Appendix E) at an annual subscription price of \$3.00 (\$1.50 should be added to cover postage for foreign mailing). This journal is included in the collections of libraries which serve as GPO depositories and in many other libraries in the United States and in other countries.

## European Atomic Energy Community (EURATOM)

A source of information on certain European nuclear science reports is *EURATOM Information*, which began publication in June 1964. This journal announces publications emanating from EURATOM's research activities, including information on the principal features of the inventions patented by the EURATOM Commission or its contractors. *EURATOM Information* includes outlines of planned EURATOM projects as well as brief summaries of existing contracts. In addition, *EURATOM Information* contains summaries of joint U. S.—EURATOM research and development programs.

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To help identify the literature written on specific subjects, the USAEC publishes numerous bibliographies. In addition, it receives bibliog-

raphies from sources in the United States and abroad. Most of these bibliographies are announced, abstracted, and indexed in *NSA*, and availability information (including price) is given when it is known.

As an additional aid, the USAEC publishes *Bibliographies of Interest to the Atomic Energy Program* [TID-3043(Rev. 2)]. This publication, with its Supplements 1, 2, and 3, lists bibliographies published through November 1963 and is available from the Clearinghouse for Federal Scientific and Technical Information (Appendix E). Most of the information on bibliographies issued since the publication of the latest supplement of TID-3043 can be found under the heading "Bibliographies" in the subject indexes of *NSA*.

The USAEC also issues *Bibliographies of Atomic Energy Literature* at frequent intervals. Each issue contains a list of bibliographies as they are received by the USAEC Division of Technical Information Extension and a list of those in preparation. Interested organizations may request this publication from the DTI Extension (Appendix E).

## National Aeronautics and Space Administration Abstract Journal

*Scientific and Technical Aerospace Reports (STAR)* is an abstracting and indexing journal covering report literature on space and aeronautics. It includes the aspects of nuclear science that relate to the space program. *STAR* is published semimonthly. It is available from the Superintendent of Documents, U. S. Government Printing Office (Appendix E), at the following rates: annual subscription for the semimonthly issue, \$33.00 (domestic) and \$42.00 (foreign); cumulated-index issues, \$33.00 (domestic) and \$35.00 (foreign).

## Translations

The USAEC has issued a listing of translations received as of June 30, 1960, under the title *Translation Title List and Cross Reference Guide* [TID-4025(Rev. 1)]. This publication, in two parts, includes translations of (1) the USAEC and its contractors, (2) other U. S. government agencies and their contractors, (3) governmental agencies of other countries, and (4) commercial and private organizations. Part I contains the list of translations, a personal-author index, and a source index; it is available from the Clearinghouse for Federal Scientific and Technical Information (Appendix E) for \$5.25. Part II, a subject index, is available from the Clearinghouse for \$2.75.

As a means of keeping individuals apprised of newly received translations as well as translations in process, the USAEC issues at irregular intervals a publication entitled *USAEC Translation List*. Each issue contains an author index. Organizations can be placed on the distribu-

tion list for this publication by requesting such of the USAEC Division of Technical Information Extension (Appendix E).

In the *USAEC Translation List*, the source and the price are indicated for translations prepared under the USAEC program and for as many of the other translations as possible. Both TID-4025(Rev. 1) and the *USAEC Translation List* are available in the libraries throughout the world which have a depository collection of USAEC publications (Appendix A). They are available also in many other libraries.

As mentioned before, the Clearinghouse collects, classifies, and distributes translations. Its semimonthly publication, *Technical Translations*, lists publications that are available from numerous sources in the United States and in other countries, translations in preparation, and periodicals translated on a cover-to-cover basis. Each issue contains author, subject, journal, and number indexes, which are cumulated annually. This journal is sold by the Superintendent of Documents, U. S. Government Printing Office (Appendix E), at the annual subscription rates of \$12.00 (domestic) and \$16.00 (foreign). It is available in the libraries serving as Clearinghouse and GPO depositories and in many other libraries.

The *Transatom Bulletin*, published for the European Atomic Energy Community (EURATOM), lists the translations collected by EURATOM, the USAEC, and the United Kingdom Atomic Energy Authority. Each issue contains a list of existing translations, planned translations, journals translated from cover to cover, and author and original-source indexes. Bibliographic details, the source, and, if known, the price are given for each existing translation. This bulletin is available on an annual subscription basis from Elsevier Publishing Company (Appendix E). The price is \$2.00 for a single issue and \$15.00 for an annual subscription (one volume). There is an additional cost for copies sent on request by airmail.

Universities, research institutions, specialized documentation centers, industrial firms, and publishers of scientific information can obtain the bulletin on an exchange basis by applying to EURATOM, Centre d'Information et de Documentation (Appendix E).

## Engineering Materials List

The USAEC publishes the *Engineering Materials List* [TID-4100(Rev. 1)] and supplements to identify, describe, and announce the availability of engineering materials (drawings, specifications, etc.). The materials describe a specific piece of equipment, component, or process and are organized into sets, or packages. Each set is assigned a "CAPE" number (a code used by the USAEC to identify these materials).

The basic volume and the supplements comprising the *Engineering Materials List* provide a detailed listing by title of all available engi-

neering materials; the supplements contain references to new materials and revised drawings for previously announced materials. Comprehensive indexes for the materials that have been announced in the basic volume and in Supplements 1 through 26 have been published. These are identified as follows:

TID-4100(1st Rev.) Index 2. Contains cumulative subject and corporate-author indexes for TID-4100(1st Rev.) and Supplements 1 through 12.

TID-4101(Rev. 1). Contains drawing-number index (by CAPE numbers and originator identification numbers) for TID-4100(1st Rev.) and Supplements 1 through 27.

TID-4102(1st Rev.). Contains cumulative subject and corporate-author indexes for TID-4100(1st Rev.) and Supplements 13 through 26; an engineering-category index for all materials announced in TID-4100(1st Rev.) and Supplements 1 through 26; and a complete listing by title in CAPE-number sequence (CAPE-1 through CAPE-1325).

## Conference Literature

Conference literature, like all other media of scientific communications, is abstracted and indexed in *Nuclear Science Abstracts (NSA)*. This includes proceedings as well as individual papers received by the USAEC Division of Technical Information Extension. Papers included in published proceedings as well as those issued separately are cataloged individually and assigned "CONF" numbers for ease in identification and bibliographic control.

DTI Extension issues a separate publication, *Index to Conferences Relating to Nuclear Science* [TID-4043(Rev. 2)], which indexes proceedings abstracted in *NSA*, Volumes 11 through 18 (1957 through 1964). This "Key Word in Context" (KWIC) index makes possible the location of information on conferences by date, place, conference number, report number, and significant word in the title.

Beginning with Volume 19, the *NSA Report Number Index* is used to announce conference proceedings and papers. Each conference is identified with a unique CONF serial number consisting of year, month, and sequence. An individual conference paper abstracted in *NSA* will also carry an additional sequence number identifying it as one of a series of papers presented at the particular conference.

Other aids available for identification of conference literature include the following:

Series AB of *Atomenergie*—*Documentation beim Gmelin-Institut (AED)*, which records and indexes both conferences and individual papers.

The International Atomic Energy Agency's list *Conferences, Meetings, Training Courses in Atomic Energy*, which announces future meetings.

DTI Extension receives and collects information on conferences held or to be held. Users of DTI Extension services are invited to

communicate with that office when they are unable to locate information on nuclear conferences in announcement and indexing publications.

## AEC News Release Index

The USAEC Division of Technical Information Extension prepares and prints the *AEC News Release Index*, which is subdivided into series as follows: (1) Public Information Releases, (2) Speeches, (3) News Conferences, and (4) Industrial Information Releases. It is cumulated and issued semiannually.

This index is distributed by the DTI Extension to U. S. and foreign depository libraries. Other organizations and individuals interested in obtaining copies of this index should request it from the USAEC Division of Public Information or the DTI Extension. (See Appendix E for addresses.) Information regarding the availability of the releases indexed in the *AEC News Release Index* should be addressed to the Director, Division of Public Information.

News-release indexes for periods of years beginning with releases in 1947 have been published as follows:

*Index to Press Releases of the Atomic Energy Commission, 1947–1951* (prepared for the Joint Committee on Atomic Energy), U. S. Government Printing Office, Washington, D. C., 1953. 76 pp.\*

*Index to Press Releases of the Atomic Energy Commission, 1952–1953* (prepared for the Joint Committee on Atomic Energy by Merwin C. Phelps, Library of Congress), U. S. Government Printing Office, Washington, D. C., 1954. 36 pp.\*

*Index to Press Releases of the Atomic Energy Commission, 1954–1955* (prepared for the Joint Committee on Atomic Energy by Merwin C. Phelps, Library of Congress), U. S. Government Printing Office, Washington, D. C., 1956. 68 pp.\*

*AEC News Release Index, Supplement, January 1955–December 1957* (prepared by DTI Extension), May 1961. 45 pp.

*AEC News Release Index, January 1958–December 1960* (prepared by DTI Extension), May 1961, 85 pp.

*AEC News Release Index, January 1961–December 1962* (prepared by DTI Extension), August 1963. 110 pp.

*AEC News Release Index, January 1963–June 1965* (prepared by DTI Extension), September 1965. 40 pp.

## Rules and Regulations†

The publication *AEC Rules and Regulations* consists of a compilation of the effective U. S. atomic energy rules and regulations promulgated pursuant to the Atomic Energy Act of 1954, as amended, and the Administrative Procedure Act of 1946. In addition to the regulations with

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\*These items are now out of print, but they may be available for reference use in technical libraries.

†Title 10, *Code of Federal Regulations*, Chapter 1.

annotations, the volume contains current outstanding proposed rules for each part, statements of consideration regarding each rule, the chronology of regulations applicable, miscellaneous notices, and a general index. The rules and regulations will be updated through the issuance of revised pages which will be sent to subscribers immediately after a rule has been changed.

The basic volume is available from the Superintendent of Documents, U. S. Government Printing Office (Appendix E), at prices of \$3.50 (domestic) and \$5.00 (foreign). Annual subscriptions to the transmittal sheets are \$3.50 (domestic) and \$5.00 (foreign).

This publication is available in the USAEC and GPO depository library collections and in many other libraries.



annotations, the volume contains current outstanding proposed rules for each part, statements of consideration regarding each rule, the chronology of regulations applicable, miscellaneous notices, and a general index. *Rules and Regulations* will be updated through the issuance of revised pages, which will be sent to subscribers immediately after a rule has been changed.

The basic volume with revised pages is available for sale from the Superintendent of Documents, U. S. Government Printing Office (see Appendix E), for \$7.00 (domestic) or \$9.00 (foreign), which includes revised pages for an indefinite period. The publication is sold on a subscription basis only.

The publication is available in USAEC and Superintendent of Documents depositories and in many other libraries.



# Depositories of USAEC Reports

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In 1950 the United States Atomic Energy Commission (USAEC) established a program to make its scientific research and development report literature available to the public through a system of depository libraries. In that year, 31 university and research libraries throughout the United States were selected for this purpose. At present there are 97 depositories in 46 states. In 1954, as part of the U. S. Atoms for Peace Program, collections of USAEC reports were made available to friendly foreign countries. There are currently 82 libraries in 56 countries and 5 libraries in international organizations having these scientific-report collections. Libraries in the United States and abroad receive all current USAEC reports abstracted in *Nuclear Science Abstracts (NSA)*.

Upon establishment as a depository, each library is given a comprehensive collection of USAEC reports along with other publications, including bibliographies, conference papers and proceedings, translations, catalogs and indexes of engineering materials, a complete file of *NSA*, and the *Technical Progress Reviews*.

In addition, the USAEC sends to the depository libraries in the United States the reports that it receives from atomic energy establishments of foreign countries.

The collections of reports in the USAEC depository libraries are available for use by scientists and others in their geographic localities. Many of these libraries will loan reports to other libraries through interlibrary loan arrangements and many also provide photocopying services.

## In the United States

<b>ALABAMA</b> Auburn, Auburn University	<b>CONNECTICUT</b> New Haven, Yale University
<b>ALASKA</b> College, University of Alaska	<b>DELAWARE</b> Newark, University of Delaware
<b>ARIZONA</b> Tucson, University of Arizona	<b>DISTRICT OF COLUMBIA</b> Washington, Library of Congress
<b>ARKANSAS</b> Fayetteville, University of Arkansas	<b>FLORIDA</b> Coral Gables, University of Miami Gainesville, University of Florida Tallahassee, The Florida State University
<b>CALIFORNIA</b> Berkeley, University of California Davis, University of California Los Angeles, University of California San Diego, Public Library Stanford, Stanford University	<b>GEORGIA</b> Atlanta, Georgia Institute of Technology
<b>COLORADO</b> Boulder, University of Colorado Denver, Public Library	<b>HAWAII</b> Honolulu, University of Hawaii
	<b>ILLINOIS</b> Chicago, John Crerar Library Chicago, University of Chicago

Evanston, Northwestern University  
 Urbana, University of Illinois

**INDIANA**  
 Bloomington, Indiana University  
 Lafayette, Purdue University

**IOWA**  
 Ames, Iowa State University

**KANSAS**  
 Manhattan, Kansas State University

**KENTUCKY**  
 Lexington, University of Kentucky  
 Louisville, University of Louisville

**LOUISIANA**  
 Baton Rouge, Louisiana State University  
 New Orleans, Tulane University

**MARYLAND**  
 Baltimore, The Johns Hopkins University  
 College Park, University of Maryland

**MASSACHUSETTS**  
 Cambridge, Harvard University  
 Cambridge, Massachusetts Institute of  
 Technology

**MICHIGAN**  
 Ann Arbor, University of Michigan  
 Detroit, Public Library  
 East Lansing, Michigan State University

**MINNESOTA**  
 Minneapolis, University of Minnesota

**MISSISSIPPI**  
 State College, Mississippi State University

**MISSOURI**  
 Kansas City, Linda Hall Library  
 Rolla, University of Missouri School of  
 Mines and Metallurgy  
 St. Louis, Washington University

**MONTANA**  
 Bozeman, Montana State College

**NEVADA**  
 Las Vegas, Nevada Southern University  
 Reno, University of Nevada

**NEW JERSEY**  
 Princeton, Princeton University  
 Teaneck, Fairleigh Dickinson University

**NEW MEXICO**  
 Albuquerque, University of New Mexico

**NEW YORK**  
 Albany, The University of the State of  
 New York  
 Buffalo, State University of New York at  
 Buffalo  
 Ithaca, Cornell University  
 New York, Atomic Industrial Forum, Inc.  
 New York, Columbia University  
 New York, New York University  
 Rochester, University of Rochester  
 Schenectady, Union College  
 Syracuse, Syracuse University  
 Troy, Rensselaer Polytechnic Institute

**NORTH CAROLINA**  
 Charlotte, Public Library of Charlotte and  
 Mecklenburg County  
 Durham, Duke University  
 Raleigh, North Carolina State College

**NORTH DAKOTA**  
 Grand Forks, University of North Dakota

**OHIO**  
 Cincinnati, University of Cincinnati  
 Cleveland, Public Library  
 Columbus, Ohio State University  
 Toledo, University of Toledo  
 Youngstown, Youngstown University

**OKLAHOMA**  
 Norman, University of Oklahoma  
 Stillwater, Oklahoma State University

**OREGON**  
 Corvallis, Oregon State University  
 Portland, Reed College

**PENNSYLVANIA**  
 Philadelphia, University of Pennsylvania  
 Pittsburgh, Carnegie Library  
 University Park, Pennsylvania State  
 University

**PUERTO RICO**  
 Rio Piedras, University of Puerto Rico

**RHODE ISLAND**  
 Providence, Brown University

**SOUTH CAROLINA**  
 Columbia, University of South Carolina

**TENNESSEE**  
 Knoxville, University of Tennessee  
 Memphis, Public Library  
 Nashville, Joint University Libraries  
 Oak Ridge, Oak Ridge Associated  
 Universities

**TEXAS**  
 Austin, University of Texas  
 College Station, Texas A & M University  
 Dallas, Southern Methodist University  
 Houston, Rice University  
 Lubbock, Texas Technological College  
 San Antonio, Public Library

**UTAH**  
 Salt Lake City, University of Utah

**VIRGINIA**  
 Blacksburg, Virginia Polytechnic Institute  
 Charlottesville, University of Virginia  
 Norfolk, Old Dominion College

**WASHINGTON**  
 Pullman, Washington State University  
 Seattle, University of Washington

**WEST VIRGINIA**  
 Morgantown, West Virginia University

**WISCONSIN**  
 Madison, University of Wisconsin  
 Milwaukee, Public Library

**WYOMING**  
 Laramie, University of Wyoming

## In Countries Other Than the United States

- ARGENTINA**  
Buenos Aires, Comisión Nacional de Energía Atómica
- AUSTRALIA**  
Canberra, Australian National Library  
Sutherland, New South Wales, Australian Atomic Energy Commission
- AUSTRIA**  
Vienna, Zentral Bibliothek der Physikalischen Institute der Universität
- BELGIUM**  
Mol-Donk, Centre d'Étude de l'Énergie Nucléaire
- BOLIVIA**  
La Paz, Comisión Nacional de Energía Nuclear
- BRAZIL**  
Rio de Janeiro, Instituto Brasileiro de Bibliografia e Documentação  
São Paulo, Instituto de Energia Atômica, Cidade Universitaria São Paulo
- BURMA**  
Rangoon, Union of Burma Applied Research Institute, Atomic Energy Center Library
- CANADA**  
Hamilton, McMaster University  
Ottawa, National Research Council Library  
Vancouver, University of British Columbia
- CHILE**  
Santiago, Instituto de Física y Matemáticas, Universidad de Chile
- CHINA**  
Hsinchu, Taiwan, Free China, National Tsing Hua University
- COLOMBIA**  
Bogotá, Instituto de Asuntos Nucleares
- COSTA RICA**  
San Pedro, Biblioteca de la Universidad de Costa Rica
- DENMARK**  
Risø, Danish Atomic Energy Commission
- ECUADOR**  
Quito, Escuela Politécnica Nacional
- EL SALVADOR**  
San Salvador, Universidad de El Salvador, Biblioteca de Energía Nuclear
- FINLAND**  
Helsinki, Teknillisen Korkeakoulun Kirjasto
- FRANCE**  
Gif-sur-Yvette, Centre d'Études Nucléaires de Saclay  
Paris, Académie des Sciences
- GERMANY**  
Berlin, Hahn-Meitner-Institut für Kernforschung Berlin  
Frankfurt/Main, Gmelin-Institut  
Munich, Technische Hochschule, Bibliothek
- GHANA**  
Accra, University College of Ghana
- GREECE**  
Athens, Nuclear Research Center "Democritus"
- GUATEMALA**  
Guatemala, Comisión Nacional de Energía Nuclear
- INDIA**  
Bombay, Department of Atomic Energy
- IRAN**  
Tehran, Tehran University Nuclear Centre
- IRAQ**  
Baghdad, Iraqi Atomic Energy Commission
- IRELAND**  
Dublin, University College
- ISRAEL**  
Rehovoth, Israel Atomic Energy Commission
- ITALY**  
Rome, Centro di Studi Nucleari della Casaccia  
Rome, Comitato Nazionale per l'Energia Nucleare
- JAPAN**  
Tokyo, National Diet Library
- KOREA**  
Seoul, Office of Atomic Energy
- LEBANON**  
Beirut, Lebanese National Council for Scientific Research
- LUXEMBOURG**  
Luxembourg, Ministry of Transport and Electricity
- MALAYSIA**  
Kuala Lumpur, University of Malaysia
- MEXICO**  
México, D.F., Comisión Nacional de Energía Nuclear
- NETHERLANDS**  
The Hague, Reactor Centrum Nederland
- NEW ZEALAND**  
Lower Hutt, Institute of Nuclear Sciences

- NIGERIA**  
Ibadan, University of Ibadan
- NORWAY**  
Lilleström, Institut för Atomenergi
- PAKISTAN**  
Lahore, West Pakistan, Atomic Energy Centre
- PERU**  
Lima, Junta de Control de Energía Atómica
- PHILIPPINE REPUBLIC**  
Manila, Philippine Atomic Energy Commission
- POLAND**  
Warsaw, Biura Pelnomocnika Rządu do Spraw Wykorzystania Energii Jadrowej
- PORTUGAL**  
Sacavém, Junta de Energia Nuclear
- REPUBLIC OF SOUTH AFRICA**  
Pretoria, Atomic Energy Board Library
- REPUBLIC OF THE CONGO**  
Leopoldville, Université Lovanium
- SPAIN**  
Madrid, Junta de Energía Nuclear, Documentación Biblioteca y Publicaciones, Ciudad Universitaria
- SWEDEN**  
Nyköping, Aktiebolaget Atomenergi
- SWITZERLAND**  
Zürich, Eidgenössische Technische Hochschule, Bibliothek
- THAILAND**  
Bangkok, Office of the Thai Atomic Energy Commission, Department of Science
- TURKEY**  
Ankara, Turkish Atomic Energy Commission, Atomic Energy Library
- UNITED ARAB REPUBLIC**  
Cairo, Atomic Energy Commission
- UNITED KINGDOM**  
Birmingham, Central Library  
Boston Spa, National Lending Library for Science and Technology  
Kingston upon Hull, Central Library  
Liverpool, Central Library  
London, Central Library, Acton  
London, National Reference Library  
London, Science Museum Library, South Kensington  
Manchester, Central Library  
Newcastle upon Tyne, Central Library  
Nottingham, Central Library  
Sheffield, Central Library
- URUGUAY**  
Montevideo, Comisión Nacional de Energía Atómica
- VENEZUELA**  
Caracas, Instituto Venezolano de Investigaciones Científicas
- VIET-NAM**  
Saigon, Atomic Energy Office
- YUGOSLAVIA**  
Belgrade, Federal Commission for Nuclear Energy

## In International Agencies

- AUSTRIA**  
Vienna, International Atomic Energy Agency
- BELGIUM**  
Brussels, La Bibliothèque EURATOM
- FRANCE**  
Paris, European Nuclear Energy Agency, O.E.C.D.
- ITALY**  
Ispra, EURATOM Research Center
- SWITZERLAND**  
Geneva, United Nations Library

# Clearinghouse Regional Technical Report Centers

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Each of the Clearinghouse for Federal Scientific and Technical Information report centers listed in this appendix contains a collection of U. S. Atomic Energy Commission, Defense Documentation Center, and National Aeronautics and Space Administration unclassified reports, as well as reports of other U. S. government agencies. Each center provides reference, interlibrary-loan, and reproduction services.

## CALIFORNIA

University of California General Library,  
Berkeley

## COLORADO

University of Colorado Library, Boulder

## DISTRICT OF COLUMBIA

Library of Congress, Washington

## GEORGIA

Georgia Institute of Technology, Price  
Gilbert Library, Atlanta

## ILLINOIS

John Crerar Library, Chicago

## MASSACHUSETTS

Massachusetts Institute of Technology  
Library, Cambridge

## MISSOURI

Linda Hall Library, Kansas City

## NEW YORK

Columbia University Engineering Library,  
New York

## PENNSYLVANIA

Carnegie Library of Pittsburgh,  
Pittsburgh

## TEXAS

Southern Methodist University Science  
Library, Dallas

## WASHINGTON

University of Washington Library,  
Seattle

# Availability of Non-U. S. Reports Abstracted in NSA

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Many reports of atomic energy establishments of other countries are deposited in the USAEC depository libraries. In addition, the following countries and agency have made their reports available as indicated.

## Countries

### AUSTRALIA

Australian Atomic Energy Commission Research Establishment. Available upon request from the Library, Australian Atomic Research Establishment, Private Mail Bag, Sutherland, New South Wales, Australia.

### BELGIUM

Centre d'Étude de l'Énergie Nucléaire. Available, upon request, to individuals and organizations, from the Centre d'Étude de l'Énergie Nucléaire (CEN), 31, rue Belliard, Bruxelles, Belgium.

### CANADA

Atomic Energy of Canada Limited. For sale by the Technical Information Officer, Atomic Energy of Canada Limited, Chalk River, Ontario, Canada. Copies are also deposited in libraries in the United Kingdom.

National Research Council of Canada. Available from the National Research Council of Canada, Ottawa 2, Ontario, Canada.

### DENMARK

Atomic Energy Commission Research Establishment, Risø. Available on exchange from the Library, Danish Atomic Energy Commission, Risø, Roskilde, Denmark. Also for sale by Jül. Gjellerup, Booksellers, 87, Sölvgade, København K., Denmark.

Danatom. Available on loan from Research Establishment, Risø, Roskilde, Denmark. Copies are available from Danatom, Aurehøjvej 2, Hellerup, Denmark.

### FRANCE

Commissariat à l'Énergie Atomique. Inquiries for reports numbered 1 to 2199 should be addressed to Commissariat à l'Énergie Atomique, Service Central de Documentation, Centre d'Études Nucléaires de Saclay, Boite Postale No. 2, Gif-sur-Yvette (S. et O.), France. Reports numbered 2200 and above are available from La Documentation Française, 16, rue Lord-Byron, Paris VIII, France.

Service Central de Protection contre les Rayonnements Ionisants. Copies are available from Ministère de la Santé Publique, Service Central de Protection contre les Rayonnements Ionisants, B. P. n° 35—LE VESINET (S. et O.), France.

### GERMANY

Deutsches Elektronen-Synchrotron DESY. Copies are available from Deutsches Elektronen-Synchrotron DESY, Dokumentation, 2000 Hamburg-Gr. Flottbek 1, Notkestieg 1, Germany.

Gesellschaft für Kernforschung mbH (KFK). Copies are available from Gesellschaft für Kernforschung mbH, 75 Karlsruhe, Postfach 947, Germany. Copies are also deposited in many national nuclear centers in the world.

Kernforschungsanlage. Copies may be ordered from Zentralbibliothek der Kernforschungsanlage Jülich, Jülich, Bundesrepublik Deutschland.

Hahn-Meitner-Institute für Kernforschung. Available without charge from Hahn-Meitner-Institute für Kernforschung Berlin, Bibliothek, Glienicke Strasse 100, 1 Berlin 39, Germany. Copies are deposited



in many national nuclear centers in the world.

Johann-Wolfgang-Goethe Universität, Frankfurt Am Main, Institut für Kernphysik (IKF). Copies are available from Gmelin Institut, 40-42 Varrentrappstrasse, Frankfurt (Main), West Germany.

#### ISRAEL

Israel Atomic Energy Commission. Available without charge from Ministry of Defence/Atomic Energy Commission, Soreq Research Establishment, Yavne, Israel. Copies are deposited in libraries in Israel and in other countries.

#### ITALY

Centro Informazioni Studi Esperienze (CISE). For sale at CISE Press Office, Casella Postale 3986, Milano, Italy. Copies are deposited in libraries in Italy.

Comitato Nazionale per l'Energia Nucleare. Copies are available from Comitato Nazionale per l'Energia Nucleare, Divisione Affari Internazionali e Studi Economici, Ufficio Pubblicazioni, Via Belisario, 15, Roma, Italy.

#### JAPAN

Japan Atomic Energy Research Institute (JAERI). Available from the Staff Supply Cooperative of Japan Atomic Energy Research Institute (JAERI), 1-1 Tamura-cho, Shiba, Minato-Ku, Tokyo, Japan. Copies are deposited in depositories in Tokyo, Nagoya, and Osaka.

Nagoya University. Copies are available from Research Information Center, Institute of Plasma Physics, Nagoya University, Nagoya, Japan.

University of Tokyo. Available free of charge from Institute for Nuclear Study, University of Tokyo, Tanashi-Machi, Kitatama-gun, Tokyo, Japan.

#### NETHERLANDS

Reactor Centrum Nederland. For sale by Reactor Centrum Nederland, 112 Scheveningseweg, 's-Gravenhage, The Netherlands. Copies are deposited in university libraries in Holland and in many national nuclear centers in the world.

#### NEW ZEALAND

Institute of Nuclear Sciences. Copies are available from Librarian, Institute of Nuclear Sciences, D.S.I.R., Private Bag, Lower Hutt, New Zealand. Copies are deposited in other countries.

#### NORWAY

Forsvarets Forskningsinstitut. Copies available from Norwegian Defence Research Establishment, Library, P. O. Box 25, Kjeller, Norway.

Institut for Atomenergi. "KR" reports are available on an exchange basis from

the Library, Institut for Atomenergi, Box 40, Kjeller, Norway. Other series are not generally available to the public.

Norwegian Reactor School. Copies are available from The Library, Institut for Atomenergi, P. O. Box 40, Kjeller, Norway.

#### PAKISTAN

Atomic Energy Center. Copies are available from Atomic Energy Center, P. O. Box 658, Lahore (West Pakistan).

#### POLAND

Reports of the Polish nuclear institutes are published by the Nuclear Energy Information Center of the Government, Commissioner for Use of Nuclear Energy. Copies are available from Ośrodek Informacji o Energii Jądrowej, Warszawa, PKiN, Poland.

#### SPAIN

Junta de Energia Nuclear. "JEN" reports are available without charge from Servicio de Documentación, Junta de Energia Nuclear, Ciudad Universitaria, Madrid (3), Spain.

#### SWEDEN

Aktiebolaget Atomenergi. "AE" reports are for sale from Aktiebolaget Atomenergi, Library Section, Box 43041, Stockholm 43, Sweden. Bibliographies and literature surveys of the VDDIT-series may be obtained from Aktiebolaget Atomenergi, Information Office, Scientific and Technical Information, Box 43041, Stockholm 43, Sweden. Other series are not generally available to the public. Organizations in the atomic energy field may obtain copies from Aktiebolaget Atomenergi. Microcopy of AE reports is available from the International Documentation Centre, Tumba, Sweden.

#### SWITZERLAND

CERN European Organization for Nuclear Research. Available without charge from CERN European Organization for Nuclear Research, Geneva 23, Switzerland. Copies are deposited in libraries in 13 countries.

Eidgenössisches Institut für Reaktorforschung. "EIR" reports are available from Eidgenössisches Institut für Reaktorforschung, c/o Bibliothek, Würenlingen/AG, Switzerland.

#### TURKEY

Turkish Atomic Energy Commission. Copies are available free of charge from T.A.E.C., Çekmece Nuclear Research Center, P. O. Box 1, Airport, Istanbul, Turkey.

#### UNITED KINGDOM

United Kingdom Atomic Energy Authority. Some reports are for sale in the United States by the British Information Service (BIS), 845 Third Avenue, New York, N. Y. 10022. United Kingdom reports generally may be purchased from Her Majesty's

Stationery Office, London. Copies not for sale by Her Majesty's Stationery Office may be purchased in microcopy form from Micro Methods Limited, East Ardsley,

Wakefield, Yorks, England. Report copies are deposited in a large number of libraries in England.

## International Agency

EUROPEAN ATOMIC ENERGY  
COMMUNITY (EURATOM)

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\*Collection is incomplete, but copies of patents issued subsequent to July 1, 1946, beginning with patent number 2,402,939, should be available.

†Collection is incomplete; the latest patent number available is 2,712,130 (June 28, 1955).

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