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BY THE U.S. GENERAL ACCOUNTING OFFICE

**Report To The Chairman, Committee On
Energy and Commerce
House of Representatives**

**Department Of Energy's Activities To
Limit Distribution Of Certain Unclassified
Scientific And Technical Information**

The Department of Energy is a major publisher of unclassified scientific and technical information. The Technical Information Center, the Department's repository, sends most of its unclassified information to the National Technical Information Service, which sells it to the public. However, some of the information is limited to distribution within the federal government because it involves nuclear safety matters, securing foreign research results, or protecting patentable, proprietary, and other information. This report describes the Department's procedures and controls for determining, distributing, and accessing unclassified information that is not made available to the public.

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GAO/RCED-84-129
MARCH 30, 1984



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UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

RESOURCES COMMUNITY,
AND ECONOMIC DEVELOPMENT
DIVISION

B-212184

The Honorable John D. Dingell
Chairman, Committee on Energy
and Commerce
House of Representatives

Dear Mr. Chairman:

This report responds to your September 21, 1983, request that we examine various policies and practices the Department of Energy (DOE) follows to limit distribution of its unclassified scientific and technical information. As requested, we focused our work on (1) determining DOE's rationale and legal authority for limiting the distribution of unclassified information, (2) examining the extent and consistency of DOE's application of program guidance for limiting the dissemination of information, and (3) determining the controls DOE uses to protect information once it has been designated for limited distribution. At your request, we also compared DOE's guidance and controls for limiting unclassified information with that provided by other federal agencies.

DOE is a major publisher of scientific and technical information. Together with its contractors, DOE issues about 25,000 unclassified reports, engineering drawings, and journal articles annually. Copies of these documents are sent to the DOE Technical Information Center in Oak Ridge, Tennessee, for processing and distribution. The center makes distribution within DOE and to DOE contractors. The center sends those documents that are available for public dissemination to the National Technical Information Service (NTIS). In April 1983, you initially requested that we examine the activities of NTIS--the central federal clearinghouse for disseminating federally funded scientific and technical information to the public--to ensure that U.S. technology was not revealed to foreign and domestic competitors.¹ In response to that request we reported that NTIS relies on agencies originating the information to protect it from foreign and domestic competitors. Your office then asked us to make a separate review of DOE's policies and practices limiting distribution of unclassified scientific and technical information.

In summary, we found that in fiscal years 1981 through 1983, DOE collected approximately 96,000 unclassified documents issued by its own employees, its contractors, or other sources. DOE sent

¹Proposed National Technical Information Service Revolving Fund
(GAO/RCED-83-218, Aug. 25, 1983).

about 89,400 of these documents to NTIS for sale to the public and limited the distribution of the remaining 6,600 to the federal government and its contractors. These documents were limited because they involved nuclear safety; securing foreign research results; and protecting patentable, proprietary, and other information. DOE's authority for limiting these documents includes the Atomic Energy Act of 1954, as amended; applicable patent law; and the Trade Secrets Act. DOE is also seeking to strengthen its authority to limit unclassified information having value for foreign trade.

In the absence of any federal policy for limiting the distribution of unclassified information, DOE has issued its own guidance. The Department of Defense, National Aeronautics and Space Administration, and the Nuclear Regulatory Commission had similar guidance on limiting distribution of their unclassified information.

Once DOE determined that an unclassified document should not be disseminated, its primary control was to prevent the existence of the document from being known by not announcing the availability of the document outside the federal government. The center then limits the document's distribution to DOE, its contractors, or federal agencies and their contractors. DOE also applied other controls to protect the distribution of and access to this information. Other sections of this report and appendix I contain more detailed discussions of DOE's reasons for limiting the distribution of unclassified scientific and technical information and DOE's guidance and controls for limiting information distribution.

OBJECTIVES, SCOPE, AND METHODOLOGY

As requested by your office, we examined DOE's rationale, authority, guidance, and controls for limiting unclassified scientific and technical information. Our work was primarily done at DOE headquarters, Washington, D.C., and the Technical Information Center in Oak Ridge, Tennessee. At these locations, we interviewed agency officials, reviewed agency documentation, reviewed legislation, and analyzed DOE data bases.

Our work was conducted from August 1983 through January 1984. At your request, we did not obtain agency comments on this report. With this exception, our review was performed in accordance with generally accepted government auditing standards. A more detailed description of our objectives, scope, and methodology is contained in appendix II.

DOE RATIONALE AND AUTHORITY FOR LIMITING DISTRIBUTION OF UNCLASSIFIED INFORMATION

Generally, DOE does not disseminate certain unclassified scientific and technical information to the public. Dissemination is limited (mainly by not announcing the documents' existence)

because the information involves nuclear safety matters; securing foreign research results; and protecting patentable, proprietary, or other information.

DOE has the authority to limit the dissemination of unclassified information to the public under the authorities discussed below. Further, the Freedom of Information Act, which requires the existence of certain types of documents to be announced, does not require announcement of the existence of the types of DOE documents under discussion here. However, when people learn of the existence of the information, DOE does not have the authority to deny requests for the information made under the Freedom of Information Act, unless such information is specifically included in one of the act's exemptions.

DOE limits the distribution of certain unclassified documents because:

- under section 148 of the Atomic Energy Act of 1954, as amended (42 U.S.C. 2168), the Secretary of Energy is to limit distribution of documents that, if distributed, may have a "significant adverse effect" on either the public health and safety or the national defense and security of the nation;
- the information is controlled as applied technology because it has foreign trade value; or
- DOE determines that the information may disclose a patentable idea, is proprietary, or should only be released at the discretion of originating DOE program offices and contractors.

About one-fourth of the titles and abstracts of the 2,245 limited documents we reviewed were internal progress reports, preliminary reports, or documents of limited technical value. The balance represented research completed by DOE and other federal agencies or contractors.

Unclassified controlled
nuclear information

Under section 148 of the Atomic Energy Act of 1954, as amended, the Secretary of Energy is to prescribe regulations or issue orders necessary to prohibit the unauthorized dissemination of unclassified information pertaining to:

- the design of defense-related nuclear production or utilization facilities;
- security measures (including security plans, procedures, and equipment) for the physical protection of (1) defense-related nuclear production or utilization facilities,

(2) nuclear material contained in such facilities, or (3) nuclear material in transit; or

--the design, manufacture, or utilization of any atomic weapon or component if contained in information that has been declassified or removed from the restricted data category by the Secretary of Energy or the predecessors to the Secretary of Energy.

The Secretary can limit the distribution of unclassified information under section 148 only if releasing such information could reasonably be expected to have a significant adverse effect on the public health and safety or the common defense and security. Information protected under section 148 is exempt from disclosure to the public even when requested under the Freedom of Information Act.

Applied technology

Applied technology pertains to technological advances in particular projects or facilities on which major DOE-funding emphasis has been placed. DOE's Office of Nuclear Energy has designated three categories of nuclear research that could generate applied technology. These are:

- liquid fast metal breeder reactor research,
- nuclear converter reactor fuel cycle technology, and
- consolidated fuel reprocessing.

Since about 1965, DOE and its predecessor agencies have limited the distribution of these unclassified scientific research results. The purpose of limiting this research is to give DOE leverage when entering into information exchange agreements with foreign nations through which DOE obtains research information of comparable scientific value. In 1983, DOE was involved in 20 such international agreements with France, Japan, the United Kingdom, and West Germany.

Applied technology is not a category of information exempt from disclosure under the Freedom of Information Act. DOE completed a study in 1982 that recommended ways in which DOE could strengthen its authority to limit dissemination of applied technology information, such as seeking changes to the Freedom of Information Act to exempt applied technology. These recommendations have been submitted to the Secretary of Energy for his approval.

Other limitations

Both DOE and its contractors review documents for possible limitation because they may contain information that may divulge patentable ideas or proprietary information. Under the applicable

patent law (35 U.S.C. 205), federal agencies may withhold from disclosure to the public information that may disclose patentable ideas. Also, under the Trade Secrets Act (18 U.S.C. 1905), federal employees are prohibited, subject to criminal penalties, from disclosing to the public confidential trade and financial information (i.e., proprietary information) supplied to their agencies. Distribution of information designated as patentable or proprietary is limited to DOE and its contractors.

At the request of DOE program offices and contractors, the center limits other unclassified documents as well, referring requests for such information to the originator. For example, the center refers requests for contractor's inventories of training programs and project feasibility studies to the contractor.

DOE PROVIDES CONSISTENT GUIDANCE
ON LIMITING UNCLASSIFIED INFORMATION

In the absence of a governmentwide policy,² DOE has issued its own guidance on how and when to limit dissemination. DOE has delegated the responsibilities for guiding and controlling the dissemination of technical information to its program offices and contractors. According to officials at other federal agencies we contacted,³ program offices were delegated responsibility for their controls over limited, unclassified information as well. DOE guidance includes DOE orders, additional program office guidance, and to some extent, its contractors' procedures.

Two DOE orders (1430.1 and 1430.2) govern the policy and procedures for limiting unclassified information. DOE Order 1430.1, dated February 23, 1983, defines DOE's responsibilities for managing its scientific and technical information, including the center's responsibilities to manage the announcement, transfer, and distribution of limited, unclassified scientific and technical information. DOE Order 1430.2, dated December 13, 1983, contains DOE's implementing procedures for controlling section 148 information, applied technology, and other limited and unlimited information exchanged with foreign countries.

²In 1982 the President established an interagency panel to formulate guidelines on how to handle unclassified scientific and technical information. As of March 1984, no study report had been released from the panel and no policy had been developed. The panel chairman from the Office of Science and Technology Policy could not say when the report would be issued.

³The other agencies that also handled limited unclassified scientific and technical information were the Department of Defense, the National Aeronautics and Space Administration, and the Nuclear Regulatory Commission.

DOE's Office of Defense Programs is responsible for preparing federal regulations to implement section 148. Because of numerous public comments, the draft regulations published in April 1983 are being revised, and according to the Defense Programs program analyst responsible for making the revisions, his office hopes to issue revised proposed regulations in April 1984. Until the regulations are finalized, the center has encouraged DOE contractors to inform it of any documents they believe may contain information that should be protected under section 148.

Also, certain DOE operations offices and contractors promulgate DOE guidance through their own series of memoranda. However, the center and DOE operation offices have been reviewing such contractor memoranda to identify inconsistencies in procedures and to encourage compliance with DOE policy.

DOE APPLIES CONTROLS OVER ITS
LIMITED, UNCLASSIFIED INFORMATION

DOE and its contractors maintain controls to detect limited information and to protect it once it has been so designated. DOE's primary control preventing the release of limited, unclassified information outside the federal government is not announcing that the information exists. The center is the principal point for limiting distribution of DOE unclassified information, but it relies on program offices and originating contractors to recommend the limitations needed. The center reviews all the documents submitted to it and may disagree with any contractor as to a document's proposed distribution. Whenever such disagreements occur, the center works with the contractor and the funding program office to arrive at a mutually agreeable distribution designation. The center also checks to see if the documents have received patent clearances.

The center places abstracts from unlimited publications in the energy data base (an automated system) and sends the documents to NTIS for sale to the public. Limited documents are treated differently. They are not publicly announced for availability nor are they sent to NTIS. Abstracts of limited documents are entered into data bases to which only authorized personnel at DOE-funded activities have access. Thus, the procedures have been designed so that only authorized persons can find out what limited documents have been distributed by DOE or its contractors.

In addition to controlling the availability announcement of its documents, the center has other controls to assure that DOE's limited distribution unclassified documents are properly protected. For example, within the center, limited, unclassified information is physically stored in a secure area that only center employees with the proper authorization can enter. According to the contractors contacted, this is also the case at their facilities. The center also oversees the technical information appraisal program, which evaluates whether DOE contractors are following DOE guidance.

DOE EXCHANGES UNCLASSIFIED ATOMIC ENERGY
INFORMATION THROUGH INTERNATIONAL
EXCHANGE AGREEMENTS

In our report on the NTIS revolving fund, we included information on NTIS' distribution of technical unclassified, unlimited information with foreign countries. During our review of the center, to ascertain the types of information exchanged, we made inquiries about international exchange agreements and found that the center represents the United States in two international agencies--the International Atomic Energy Agency and the International Energy Agency. Through these agencies, member countries contribute abstracts and, in some cases, entire texts to international data bases involving nuclear sciences and their peaceful applications or energy-related research.

The membership of these two agencies differs in that the International Atomic Energy Agency members include communist and third world countries, while only members of the Organization for Economic Co-Operation and Development (allied and neutral countries) participate in the International Energy Agency. The center's international program coordinator indicated that only unlimited, unclassified information is exchanged through either of these agencies. NTIS makes the documents DOE receives through these agreements available for U.S. sales.

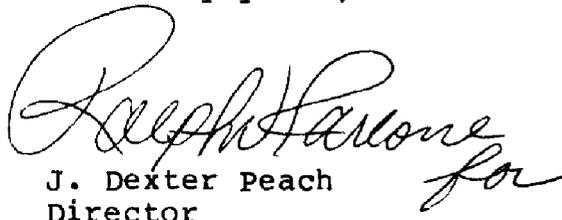
In addition, the center exchanges unlimited, unclassified computer programs with the Organization for Economic Co-Operation and Development's Nuclear Energy Agency.

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Although we did not obtain agency comments on our report, we discussed the information in the report with officials from the center and DOE's Offices of Defense Programs and General Counsel and they generally agreed that the information presented accurately describes DOE limits on unclassified scientific and technical information.

As arranged with your office, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days from the date of the report. At that time we will send copies to interested parties and make copies available to others upon request.

Sincerely yours,


J. Dexter Peach
Director

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ABBREVIATIONS

DOE	Department of Energy
GAO	General Accounting Office
NTIS	National Technical Information Service

DEPARTMENT OF ENERGY'S PROCEDURES AND CONTROLS
FOR LIMITING DISSEMINATION OF UNCLASSIFIED
SCIENTIFIC AND TECHNICAL INFORMATION

This appendix describes the Department of Energy's (DOE's) rationale for limiting the dissemination of certain types of completed scientific and technical research, the nature and extent of DOE guidance on limiting reports, and the controls used to preclude the unauthorized distribution of limited documents.

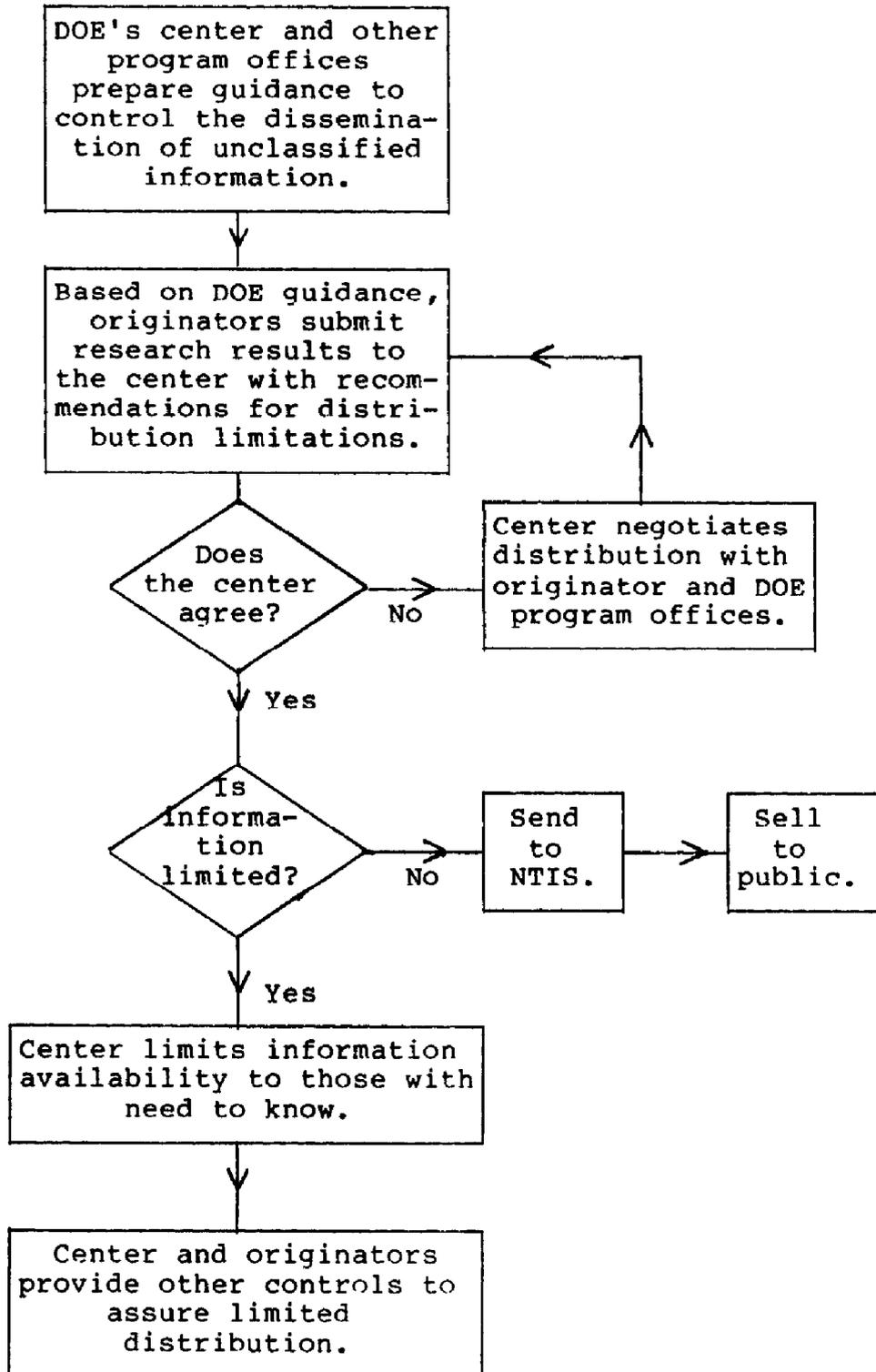
DOE IS A MAJOR PUBLISHER
OF UNCLASSIFIED SCIENTIFIC
AND TECHNICAL INFORMATION

DOE determines through its program offices and contractors how its scientific and technical information will be distributed. DOE's program offices, including the Offices of Defense Programs and Nuclear Energy, have specific responsibility for deciding the distribution of their information. Together with its contractors, DOE issues about 25,000 unclassified reports, engineering drawings, and journal articles annually. DOE's Technical Information Center in Oak Ridge, Tennessee, is the central repository for DOE's scientific and technical information. It is responsible for ensuring that information resulting from DOE-sponsored research is reported promptly, archived, distributed within DOE and to its contractors, and when appropriate, sent to the National Technical Information Service (NTIS) for sale to the public.

In fiscal years 1981 through 1983, DOE collected approximately 96,000 unclassified documents that were issued by its own employees, its contractors, or foreign sources. DOE sent about 89,400 of these documents to NTIS¹ for sale to the public and limited the distribution of the remaining 6,600. Limited documents are only sent to DOE, its contractors, or federal agencies and their contractors. According to our analysis of the titles and abstracts of 2,245 of the 6,600 limited documents, about one-fourth of the documents were internal progress reports or preliminary reports. The remaining documents were completed research. Detailed descriptions of the roles and procedures of the various parties responsible for limiting the distribution of DOE-sponsored unclassified research are presented in the following sections.

¹DOE requires NTIS to limit the distribution of certain documents to the United States. This limitation is intended to slow the diffusion of certain technologies or to protect the foreign trade value of information. For example, documents limited in this way include certain reports dealing with light water power reactor technology and fossil fuel technology. In fiscal year 1983, DOE had NTIS limit 144 documents in this way.

The following flowchart summarizes the steps taken by DOE's program offices and contractors (the document's originators) and the center to distribute unclassified scientific and technical information.



DOE LIMITS THE DISSEMINATION OF
CERTAIN CATEGORIES OF UNCLASSIFIED
INFORMATION FOR A VARIETY OF REASONS

DOE is responsible for disseminating information on the commercial feasibility and use of energy. DOE does, however, limit the dissemination of the following unclassified scientific and technical information.

- Unclassified controlled nuclear information that is restricted pursuant to section 148 of the Atomic Energy Act of 1954, as amended (42 U.S.C. 2168) to protect the public's health or national defense.
- Information that can be traded for foreign government's research results, such as commercially valuable applied technology, or was obtained through international exchange agreements.
- Information disclosing ideas that are patentable, proprietary, or limited at the discretion of DOE program offices or contractors.

DOE has the authority to limit the dissemination of unclassified information to the public under the authorities discussed below. Further, the Freedom of Information Act, which requires the existence of certain types of documents to be announced, does not require announcement of the existence of the types of DOE documents under discussion here. However, when people learn of the existence of the information, DOE does not have the authority to deny requests for the information made under the Freedom of Information Act, unless such information is specifically included in one of the act's exemptions.

Unclassified controlled nuclear information

Congressional concern over the possibility of theft, diversion, or sabotage of DOE defense facilities led to passage of section 148 of the Atomic Energy Act of 1954, as amended. According to DOE, congressional concern over the incidence of terrorist violence was an important factor. The concern was not only the frequency of worldwide terrorist acts, but also the fact that these acts were becoming increasingly sophisticated. Thus, a primary intent of section 148 was to preclude terrorist actions directed toward DOE nuclear facilities, equipment, or materials.

Section 148 authorizes the Secretary of Energy to prescribe regulations or issue orders necessary to prohibit the unauthorized dissemination of unclassified information pertaining to:

- the design of defense-related production or utilization facilities;

- security measures (including security plans, procedures, and equipment) for the physical protection of (1) defense-related nuclear production or utilization facilities, (2) nuclear material contained in such facilities, or (3) nuclear material in transit; or
- the design, manufacture, or utilization of any atomic weapon or component if the design, manufacture, or utilization of any atomic weapon or component was contained in any information declassified or removed from the restricted data category--a special category of classified information--by the Secretary of Energy or the predecessors to the Secretary of Energy.

The Secretary may prescribe such regulations or issue such orders under section 148 only if and to the extent he determines that unauthorized dissemination of the above described information could reasonably be expected to have a "significant adverse effect" on the public health and safety or the common defense and security. Information limited under section 148 is exempt from disclosure under the Freedom of Information Act.

According to DOE officials, section 148-related information, while sensitive, cannot or should not be classified because the information:

- may already have been declassified or removed from the restricted data category;
- cannot be legally classified because its dissemination would not harm the national security to the extent required by Executive Order 12356, which governs national security information; or
- will be distributed to state and local fire and law enforcement officials' and its classification would result in unnecessary administrative and procedural burdens.

Applied technology

Since about 1965, DOE and its predecessor agencies have used the applied technology designation to limit the dissemination of technical information that they considered to have foreign trade value. Applied technology is a designation DOE assigns to technological advances in particular projects or facilities on which major DOE-funding emphasis has been placed. The DOE Office of Nuclear Energy has designated three research areas that could generate such information:

- liquid metal fast breeder reactors,
- nuclear convertor reactor fuel cycle technologies, and
- consolidated fuel reprocessing.

In fiscal years 1981 through 1983, DOE designated over 1,400 documents as applied technology.

Through formal international information exchange agreements, DOE exchanges documents labeled as applied technology for documents that DOE determines are of comparable scientific value. As of January 1984, DOE had made 20 such agreements with France, Japan, West Germany, and the United Kingdom. DOE's Office of Nuclear Energy manages these agreements.

In the past, the Office of Nuclear Energy has received an average of 300 requests for applied technology documents each year. An official in that office told us that he expects the number of requests to decrease because new applied technology reports have not been listed in DOE-developed abstracts available to the public since 1980. According to that official, requests received under the Freedom of Information Act are generally approved because applied technology is not exempt from the act's provisions. The Office of Nuclear Energy's Director of International Programs said that his office believes it is making the applied technology documents available to all interested U.S. parties.

In March 1981 DOE initiated a study to review its policies and procedures for exchanging scientific and technical information with other countries. The study, completed in 1982, resulted in 12 recommendations to better promote reciprocity in information exchanges. Three of these recommendations were intended to strengthen distribution limitations over applied technology and other "commercially valuable" research results. These recommendations follow:

1. The federal government as a whole, and DOE in particular, should adopt a policy that distinguishes between information that belongs in the "free and open marketplace of ideas" and information that has commercial potential and constitutes a U.S. investment.
2. In the absence of such a policy, DOE should seek legislation that would authorize controlling and distribution of DOE-funded research results with commercial potential by exempting applied technology information from disclosure under the Freedom of Information Act. This, the study maintained, would better enable DOE to ensure reciprocity in the international exchange of energy information.
3. Even with no change in DOE information policy, DOE could, within the limits established by the Freedom of Information Act, "build in administrative delays" of 4 to 6 months in granting foreign access to technical information with commercial potential. Such delays would give domestic industry lead time to make use of DOE-funded technical information.

The manager of the center told us that the study's findings and recommendations are embodied in a proposed statement of DOE policy that has been drafted for the Secretary of Energy's signature.

Other limitations

Under applicable patent law (35 U.S.C. 205), federal agencies may withhold from disclosure to the public, for a reasonable time, information in which the government owns an interest that may become part of a patent application. Under the same statute, they cannot be required to release copies of a document that is part of a patent application. Also, under the Trade Secrets Act (18 U.S.C. 1905), unless authorized by law, federal employees are prohibited, subject to criminal penalties, from disclosing to the public confidential trade and financial information (i.e., proprietary information) supplied to their agencies.

DOE contractors must obtain patent clearance from DOE patent officials before releasing any information to the public. The chief of the center's control branch outlined the following process for obtaining patent clearances. Documents submitted to the center that are undergoing a patent clearance are withheld from distribution unless the document is specifically requested by a DOE program office or major DOE contractor who operates facilities that are owned by the government, such as national laboratories. If after 60 days, the center has not received a notice of patent clearance, it will distribute the document to DOE offices and major DOE contractors. Once a document has been patent-cleared, it will receive a distribution consistent with any other limitations that may have been placed on the document's distribution.

DOE requires that, whenever possible, documents submitted to the center should not contain proprietary information. In some cases, proprietary information is included because it is essential to understanding the project; for example, data in joint industry-government research projects. In such cases, distribution of the document is limited to DOE and its major contractors.

In addition, DOE has authorized its program offices and contractors to limit the distribution of information that they originate. In accordance with departmental guidance discussed below, the center, at the direction of DOE program offices, will limit the distribution of certain documents to DOE offices only. Such documents receive a limited distribution in order to closely control certain programmatic information. Examples of documents limited to DOE offices include: certain project feasibility studies, inventories of training programs, and contractor reports relating to DOE policies and procedures.

DOE contractors have established specific controls over the dissemination of certain types of information under their jurisdiction. The center forwards requests for documents containing

such information to the controlling contractor. Examples of the types of information limited in such a way may include: contractor budget and operation plans, contractor personnel trip reports, and nuclear reactor accident and safety analyses.

DOE PROVIDES DETAILED AGENCY GUIDANCE TO LIMIT
THE DISSEMINATION OF UNCLASSIFIED INFORMATION

In the absence of overall federal guidance, DOE and other federal agencies have issued their own guidance for controlling unclassified but limited information. Although the Secretary of Energy may revise the policy to embody the previously mentioned study's recommendations, DOE's existing basic policy guiding unclassified research is to promote the free interchange of those ideas that are essential to scientific and industrial growth while maintaining common defense and security interests. DOE's existing policy is promulgated through departmental orders; program office guidelines; and to some extent, operations office and contractor procedures.

Departmental guidance

In the absence of a governmentwide policy, DOE has issued its own guidance. The DOE policy and procedures governing the management of unclassified technical information are contained primarily in DOE Orders 1430.1 and 1430.2. DOE Order 1430.1, dated February 23, 1983, delineates DOE's policy for managing the information generated in its research and development program. Also, this order defines the center's responsibilities for collecting all DOE research information and then announcing, transferring, and distributing that information to NTIS for public use, provided there are no security, patent, or other policy limitations.

No governmentwide federal policy exists concerning the dissemination of unclassified scientific and technical information. In December 1982, the President established an interagency panel with the overall objective of formulating such a policy. The specific objectives of the study are classified. As of March 1984, no study report had been released from the panel and no policy had been developed. The panel chairman, from the Office of Science and Technology Policy, could not say when the report would be issued.

DOE Order 1430.2, dated December 13, 1983, contains the implementation procedures for DOE's scientific and technical information program. For example, it defines the methods for controlling limited reports that are believed to contain section 148 information. This implementation order specifies the general types of information that should be limited as section 148 information, as well as the required section 148 distribution limitation notices.

DOE Order 1430.2, on the basis of existing policy, also provides guidance for temporarily delaying the announcement and the availability of applied technology information. Specifically, the order gives the Office of Nuclear Energy, as a cognizant DOE headquarters office, the authority to label reports as applied technology and to advise the center on the appropriate time to remove applied technology limitations.

To date, the Office of Nuclear Energy has not established procedures to remove any limitations. However, according to an official of this office, the office plans to review applied technology documents in 1984 for possible release to the public. DOE Order 1430.2 also gives the Office of Nuclear Energy, assisted by the center, the responsibility to develop the standard distribution lists to use as guides for the distribution of all applied technology documents.

Besides providing guidance on section 148 and applied technology information, the order defines procedures for controlling draft reports, patent material, and proprietary information. Finally, the order requires DOE to maximize U.S. benefits in the international exchange of information.

Along with defining the guidance for controlling limited information, DOE Order 1430.2 establishes the procedures for conducting reviews of the contractors' controls under the Technical Information Appraisal Program. The purpose of this program is to assure contractor compliance with DOE procedures. Specifically, the program requires DOE operations office officials, who may request the center's assistance, to evaluate contractors for their compliance with the provisions of DOE Order 1430.1. The center is responsible for evaluating the operations offices' review procedures.

These 1983 orders superseded those sections of DOE Order 1340.1, dated June 1979, dealing with DOE's limitations of scientific and technical information. DOE Order 1340.1 only gave brief guidance for managing such information, which, according to a center official, had to be expanded to cover all types of scientific and technical information, including applied technology and sensitive nuclear information now covered by section 148.

In April 1983, DOE issued draft regulations to implement section 148. However, DOE is revising these regulations due to strong public comments against the draft's wording, according to the Defense Programs analyst responsible for making the revisions. DOE received approximately 100 responses from various sources, including the Congress, labor groups, state and local governments, private citizens, special interest groups, universities, and other federal agencies. These groups expressed a predominant concern that the proposed regulations were too broad and too vague. According to this analyst, DOE plans to issue a revised set of draft regulations for public comment in April 1984.

Until the regulations are finalized, DOE has issued interim guidance to manage section 148 information. DOE Notice 5635.2A, issued November 4, 1983, is similar to the DOE orders, in terms of establishing guidance for protecting section 148 information. The notice clarifies the responsibilities of DOE's Offices of Defense Programs and Nuclear Energy. Also, it outlines the procedures for releasing section 148 information material.

Program office guidance

According to a center official, the general policy at the center is to handle all potentially limited information very conservatively by not distributing limited documents to the public. In the absence of final regulations, the center has also established guidance on section 148 information by identifying specific section 148 information categories and by encouraging DOE contractors to properly mark their documents believed to contain section 148 information. For example, the center designated chemical explosives information as section 148 information. The Office of Defense Programs is reviewing this chemical explosives designation with the center to determine its appropriateness as guidance to other parts of DOE.

The Office of Nuclear Energy has issued additional guidelines for handling documents considered to be applied technology. These guidelines establish the basis for review from which contractors can make a recommendation that a document should be limited as applied technology. Although the Office of Nuclear Energy has final authority to categorize information, it places major reliance on the originator of the applied technology information to make the proper designation, in terms of labeling and marking the documents.

Operations office and contractor guidance

Since the program offices require contractors to indicate the appropriate designation of reports, DOE operations offices and contractors have issued DOE guidance through their own series of memoranda. For example, the Albuquerque Operations Office responded to a request from the Office of Defense Programs for assistance in developing section 148 information guidance. Its staff provided the Office of Defense Programs with a list of 39 areas to which section 148 information might apply. The Albuquerque office's staff then recommended that its contractors use its response as a guide on what to limit consistent with section 148. According to an Office of Defense Programs analyst, this list will be used by the Office of Defense Programs to develop specific program office guidelines, once the final section 148 information regulations are issued.

The Chicago Operations Office also issued guidance to its contractors. The center provided us with a Chicago Operations Office memorandum that established guidelines for processing

applied technology documents funded under the breeder reactor program. Before submission to the center, the Chicago office guidelines required such documents to be reviewed and approved by its internal offices to ascertain whether the document should be designated as applied technology.

Although some contractors had established internal procedures that were inconsistent with DOE guidance, DOE officials were able to identify these inconsistencies by conducting appraisals of their procedures through the Technical Information Appraisal Program. The contractors subsequently corrected their procedures. For example, DOE policy states that contractors must report all DOE-supported work to the center. Two contractors were not submitting all the required information due to confusion over DOE policy. After conducting appraisals at these locations, DOE officials identified the inconsistencies and the contractors altered their procedures to more accurately comply with DOE policy.

Other federal agencies

To determine the consistency of DOE procedures for limiting the distribution of its unclassified information, we contacted three other agencies. We found that the Department of Defense, the National Aeronautics and Space Administration, and the Nuclear Regulatory Commission all have procedures similar to DOE's for managing their technical information programs. For example, they all have assigned the responsibility for guiding and controlling the dissemination of technical information to program offices. Also, each agency has established a central repository for collecting agency research documents and then disseminating the information on the basis of limitations recommended by the originating program offices.

In addition, these agencies have legislation, similar to DOE's legislation, governing the dissemination of scientific and technical information. For example, section 147 of the Atomic Energy Act (42 U.S.C. 2167), like section 148 for DOE, authorizes the Nuclear Regulatory Commission to withhold certain types of nuclear information. Also, section 1217 of the Defense Authorization Act, 1984 (10 U.S.C. 140) gives the Secretary of Defense the authority to withhold from public disclosure unclassified technical data considered to have military or space application.

DOE AND ITS CONTRACTORS CONTROL BOTH THE DISTRIBUTION OF AND ACCESS TO LIMITED, UNCLASSIFIED INFORMATION

Controls to limit distribution of unclassified technical information produced by DOE contractors are for the most part centralized with the center and DOE program offices. The primary DOE control to prevent the release of limited, unclassified information outside the federal government is not announcing the availability of limited documents. However, the center plans to begin

announcements within the federal government in 1984. An additional control includes reviews to detect information requiring limited distribution as well as to assure its proper distribution and subsequent controlled access. DOE, through the aforementioned Technical Information Appraisal Program, assures that contractors are complying with DOE guidance to properly control limited information.

Primary control

A problem facing the center is how to announce the existence of a limited document only to those officials who need to know. The center has not announced the availability of limited documents since 1981 because center officials recognized that the persons receiving availability announcements--those who were on the mailing list for classified abstracts--included those who did not need to know that the limited documents existed. Thus, only those government officials and contractors who are on the center's distribution list for a specific document learn of its existence. Beginning in 1984, the center will resume announcing the availability of limited documents to those federal officials and contractors who are authorized to request the documents. Access to the documents themselves would still be controlled.

Distribution controls

Contractor and center personnel subject a technical document to control checks before the center distributes it. In summary, the distribution controls include:

- contractors determining which of their documents should be brought to DOE's attention for possible limited distribution,
- contractors putting distribution limitation notices on report covers to alert anyone handling the documents that dissemination is limited and why,
- contractors preparing report processing control forms that provide space for noting limitations and that supplement the cover notices when the center processes the documents,
- DOE patent groups performing legal reviews for patentable ideas; and
- the center verifying that processing instructions are consistent with the document cover and abstract and that the required patent review clearances have been received.

The center relies on the contractors to recommend whether a document should receive limited distribution and to call it to DOE's attention. According to contractor guidelines and technical

information appraisal reports, contractor personnel review technical documents to detect limited distribution and classified information as defined in DOE guidance. When a contractor determines that a document's distribution should be limited, contractor personnel apply appropriate notices on the document's cover. Contractor personnel also prepare an abstract summarizing the report and a DOE form that lists the type of document, the number of copies submitted to the center, and a statement as to whether patent clearance has been obtained from DOE's patent review group. The contractor then recommends the document's distribution and gives the reasons for any proposed limitations.

Upon receipt of a document and accompanying DOE form from the contractor, the center's verification process begins. Initially, center personnel determine if the document has been marked as being classified or unclassified, and if unclassified, whether there are distribution limitations. Subsequently, center personnel make a more detailed review to verify that the document's title, abstract, and contents are consistent with any distribution limitations marked on the document's cover and accompanying DOE form. Whenever the center disagrees with the contractor's proposed distribution or notes discrepancies between the document and processing form, it contacts the contractor or the DOE funding program office to reach agreement on an acceptable distribution. Such disagreements are infrequent, according to center officials. The center also verifies that clearance from DOE's patent review group has been received before a document is processed for distribution.

After the center completes the above verifications, documents are coded according to their proposed distribution and entered onto one of the center's computerized data bases. Abstracts and other selected information from documents with no distribution limitations are placed on the energy data base--DOE's data base for unlimited, unclassified scientific and technical information--and document copies are sent to NTIS for sale to the public. Documents with limited distribution are entered onto one of the data bases designated for limited distribution. Abstracts of section 148 documents were not included on these data bases in 1983 but will be added in 1984, according to the center's Director of Customer Services Division.

Access controls

The center and the DOE contractors control access to documents whose distribution is limited and their related data bases.

The archival copies of the limited distribution documents are accessible only to designated center and contractor employees. For example, the center's control copy of each document is stored in the center's secured vault, accessible by only certain center employees who check the documents out to other center employees. The contractors we contacted follow similar practices

for the limited distribution documents in their possession, generally those produced by their own facility. Limited distribution documents for which specific requests are received are reviewed by contractor or DOE officials for release both with respect to the specific request and for possible unlimited distribution.

Before the center authorizes contractor personnel to have access to the limited data bases, the contractor must assure the center that it has satisfactory procedures for controlling data base access and output. Also, the person designated to access the data must receive a DOE security screening. As of October 31, 1983, only 25 persons--center and other DOE employees and contractors' librarians who search the data bases for citations--were authorized to have the identification codes and passwords permitting access to the data bases.

Contractor appraisals

Under the Technical Information Appraisal Program, the DOE operations offices evaluate the distribution and access controls of their contractors. Also, as part of this program, the center began in January 1984 to assess how well the operations offices were carrying out their contractor appraisals.

According to the center's Deputy Manager, the operations offices' predecessors in the former Atomic Energy Commission began appraisals of the contractors' document management activities about 20 years ago. If requested by the operations offices, the center participates in the contractors' appraisals. One of the purposes of these appraisals is to determine whether contractors are following DOE guidance in distributing documents outside their own facilities.

We reviewed 11 contractor appraisal reports, provided to us by the center and the Albuquerque Operations Office, that were dated from 1980 to 1983--approximately 15 percent of the appraisal reports issued in those 4 years. Of the 11 reports, 8 identified incidences of noncompliance with DOE guidance, such as contractors not sending all their documents to the center, not properly marking limitation notices on their document covers, and not obtaining patent clearances. According to the center program analyst who is responsible for the technical appraisal program, the contractors have agreed to correct these problems, and the DOE operations offices have already verified or plan to verify that corrective actions were taken during their next appraisals.

A February 21, 1978, report, Review of the Reporting and Dissemination of Technical Information, issued by DOE's Office of Inspector General noted similar problems in that some contractor's technical documents were not being sent to the center, were not sent promptly, or were not ready for processing when they arrived.

DOE's Office of ADP Management conducted two reviews of the center's data processing management in August 1981 and November 1982. The office identified two problems related to information controls: (1) a failure to review weekly password discrepancy reports for detection of possible illegal system access and (2) improper deactivation of locks on computer room doors that could have permitted unauthorized room access. The center had corrected both these problems by January 1983, according to a center reply sent to that office.

DOE EXCHANGES UNCLASSIFIED ATOMIC ENERGY INFORMATION
THROUGH INTERNATIONAL EXCHANGE AGREEMENTS

In our report on NTIS, we included information on NTIS' distribution of technical unclassified, unlimited information with foreign countries. During our review of the center, we made similar inquiries and found that the center represents the United States in two international agencies--the International Atomic Energy Agency and the International Energy Agency. Through these agencies, member countries contribute abstracts and, in some cases, entire texts of documents to international data bases relating to nuclear sciences and their peaceful applications and to other energy-related research.

The membership of these two agencies differs in that the International Atomic Energy Agency members include communist and third world countries, while the International Energy Agency members belong to the Organization for Economic Co-Operation and Development (allied and neutral countries). Center officials assured us that only unlimited, unclassified information is exchanged through either of these agencies. The documents received by DOE through these agreements are made available for U.S. sales through NTIS.

In addition, the center exchanges unlimited, unclassified computer programs with the Organization for Economic Co-Operation and Development's Nuclear Energy Agency.

OBJECTIVES, SCOPE, AND METHODOLOGY

At the request of the House Committee on Energy and Commerce, we focused our work at DOE on

- determining DOE's rationale and legal authority for having unclassified but limited information,
- examining the extent and consistency of DOE's application of program guidance for limiting the dissemination of unclassified information as compared with other federal agencies, and
- determining the controls DOE uses to protect information once the restrictions are applied.

We conducted our work from August 1983 through January 1984 at DOE headquarters in Washington, D.C., and Germantown, Maryland; the DOE Technical Information Center, Oak Ridge, Tennessee; and at DOE operations offices in Oak Ridge, Tennessee and Albuquerque, New Mexico. We interviewed DOE contractors in the Oak Ridge and Albuquerque vicinities, but only visited one facility because strict security requirements limited our access to the facilities. Primarily, we relied on information provided by contractor officials. We also visited other federal agencies to better understand government and agencywide policies and procedures for limiting the distribution of their unclassified scientific and technical information. A complete listing of federal agencies and DOE contractors contacted is presented at the end of this appendix.

To identify and determine DOE's rationale for limiting the dissemination of unclassified information, we interviewed officials at DOE and the other agencies contacted who either decide what unclassified information should be limited or are studying further controls needed for handling unclassified information. From these officials, we obtained ongoing or completed studies, agency memoranda, and other documentation that further clarified what unclassified information is limited and why. Also, we reviewed titles and abstracts for 2,245 of the 6,600 documents limited by DOE in fiscal years 1981 through 1983--the portion which was easily accessible because it had been transferred from the center's internal files to DOE data bases--to determine the type of documents limited and their availability.

To determine the legal authority to limit dissemination, we reviewed various statutes and cases and interviewed attorneys at DOE's Office of General Counsel.

We examined the extent and consistency of DOE departmental and program office guidance for applying limitations by interviewing officials at the DOE program offices who limit the information and by reviewing DOE orders and memoranda. In addition,

we met with DOE contractors to determine how they applied DOE guidance. Whenever contractors issued their own guidance, we reviewed and discussed their guidance to determine whether it was consistent with DOE's. Also, we visited the Department of Defense, the National Aeronautics and Space Administration, and the Nuclear Regulatory Commission to determine how they limited their unclassified information.

From DOE officials, primarily at the center, and DOE contractors we learned what controls are being applied to assure that limited, unclassified information is protected from unauthorized dissemination. In addition, we examined DOE internal audits and contractor appraisals to assure that actions were either taken or planned to correct identified control weaknesses.

At your request, we did not obtain agency comments. However, the information contained in this report was discussed with the associate manager of DOE's center and the officials responsible for limiting certain categories of unclassified information in the DOE Offices of Defense Programs and General Counsel. These officials generally agreed with the facts presented. With the exception of not obtaining agency comments, our review was performed in accordance with generally accepted government auditing standards.

FEDERAL AGENCIES CONTACTED

International Trade Administration and National Technical Information Service, U.S. Department of Commerce

Office of Research and Engineering, U.S. Department of Defense

Information Security Oversight Office, U.S. General Service Administration

Office of the Secretary, U.S. International Trade Commission

Scientific and Technical Information Branch, U.S. National Aeronautics and Space Administration

Office of Chief Executive Counsel, U.S. Nuclear Regulatory Commission

U.S. Office of Science and Technology Policy

DOE CONTRACTORS CONTACTED

Bendix Corporation, Kansas City, Missouri

Los Alamos National Laboratory, Los Alamos, New Mexico

Oak Ridge National Laboratory, Oak Ridge, Tennessee

K-25, Gaseous Diffusion Plant, Oak Ridge, Tennessee

APPENDIX II

APPENDIX II

Rockwell International, Rocky Flats, Colorado

Sandia National Laboratories, Albuquerque, New Mexico

Y-12, Weapons Plant, Oak Ridge, Tennessee

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