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Description of document: Department of Energy (DOE) Subject Area Indicators and Key Word List for Restricted Data and Formerly Restricted Data, July 2005

Requested: 2025

Accessed: 11-August-2025

Downloaded from:  
<https://www.energy.gov/sites/prod/files/hss/Classification/docs/DOE-Subject-Area-Indicators.pdf>

Posted date: 18-August-2025

Note: No cover/release letter provided

Source of document: FOIA Request  
FOIA Officer  
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# **U.S. Department of Energy**



## **Subject Area Indicators and Key Word List for Restricted Data and Formerly Restricted Data**

**July 2005**

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## **PURPOSE**

The purpose of this booklet is to assist individuals of Government agencies who generate or review classified documents to recognize the presence of nuclear information that is potentially classified as Restricted Data (RD) or Formerly Restricted Data (FRD). This book is particularly helpful to document reviewers conducting declassification reviews pursuant to Executive orders.

**This book will not help you determine what is and what isn't classified. It will enable you to identify subject areas and key words which may indicate the presence of classified DOE information.**

## BACKGROUND

### Where It All Began

With the advent of nuclear weapons and their enormous destructive capability, the United States recognized the need to establish a special classification system to ensure that its nuclear secrets were well protected. On August 1, 1946, President Harry S. Truman signed the Atomic Energy Act (AEA) of 1946 which established the category of classified information known as “Restricted Data” or “RD.” This Act gave the Atomic Energy Commission (now the Department of Energy or DOE) unilateral authority over this information.

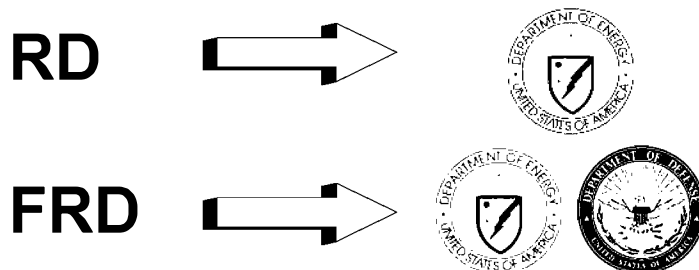
**Restricted Data** is defined by the Atomic Energy Act as all data concerning:

- Design, Manufacture, or Utilization of Atomic Weapons
- Production of Special Nuclear Material (SNM)
- Use of SNM in the production of energy

As the number of nuclear weapons in the inventory grew, the military assumed a greater role in storing, maintaining, and planning for the use of nuclear weapons. Most of the personnel involved needed access to the less sensitive military “utilization of nuclear weapons” information, not “design” information. Unfortunately, the AEA of 1946 did not distinguish between design and utilization of nuclear weapons; therefore, everyone needed a “Q” clearance. Due to frequent rotations, the process of obtaining a “Q” clearance was too time consuming for the military. When Congress revised the AEA in 1954, they addressed this problem by establishing another category of classified information called “Formerly Restricted Data” or “FRD.” The DOE and Department of Defense (DoD) have joint responsibility over FRD.

**Formerly Restricted Data** is ***classified*** information falling under the above definition that deals primarily with the military utilization of atomic weapons.

*Note:* You do not have to know the difference between RD and FRD. Referring a document in question to a qualified reviewer as potentially containing RD/FRD or DOE equity is adequate.



## DIFFERENCE BETWEEN RD / FRD AND NATIONAL SECURITY INFORMATION (NSI)

	RD/FRD	NSI
<b>Authority</b>	Atomic Energy Act	Executive order (E.O.)
<b>Declassification</b>	<p>Documents containing RD or FRD are not subject to automatic declassification; they always require review prior to declassification.</p> <p>Documents containing RD can only be declassified by DOE reviewers.</p> <p>Documents containing FRD can only be declassified by DOE or DoD reviewers.</p>	<p>Documents containing only NSI are automatically declassified on occurrence of an event or date unless specifically exempted.</p> <p>Documents containing only NSI can be declassified by reviewers designated by the originating agency.</p>
<b>Marking</b>	<p>Documents containing RD or FRD must have a special warning notice on the front page indicating the presence of RD or FRD. Additional markings on the interior pages are also required.</p> <p>Documents containing RD or FRD do not have automatic declassification instructions on the front page, even if NSI is also present.</p> <p>Documents containing RD or FRD do not require portion markings (agency option).</p>	<p>Documents containing only NSI are marked according to Executive order standards.</p> <p>Documents containing only NSI must contain automatic declassification instructions.</p> <p>Documents containing only NSI must be portion marked.</p>

## ACCESS TO RD AND FRD

### Non-DoD Organizations:

	Top Secret	Secret	Confidential
<b>Restricted Data</b>	Q*	Q*	L**
<b>Formerly Restricted Data</b>	Q*	L**	L**

\* DOE "Q" clearance is based on single scope background investigation (SSBI)

\*\* DOE "L" clearance is based on a National Agency Check, Local Agency Check, and Credit Check (NACLC)

**DoD Organization:** Final TS or S clearance, as appropriate, and need to know.  
Confidential or interim TS or S clearance does not qualify for access.

## RECOGNIZING RD AND FRD

### Current Documents

If you are generating documents in one of the subject areas discussed in this booklet, your documents may contain RD or FRD. Contact your local classification or security officer to find out who can classify RD or FRD for your agency. Have the document reviewed by one of these individuals who has the proper classification guidance and has been trained to use it. If you need further assistance, please contact the DOE Outreach Office at (301) 903-7567.

### Historical Documents

There are three ways to determine if a document potentially contains RD/FRD and should be referred to DOE. You should refer any classified document:

- originated by DOE, its predecessor organizations, or its subordinate organizations;
- marked as RD or FRD, regardless of its origin; or
- not marked as RD/FRD but containing RD/FRD terms in context.

The first two ways are fairly simple. DOE organizations, past and present, are identified on pages 34-37. RD and FRD markings are identified on pages 6-7. The third way is the most difficult because it requires the reviewer to be familiar with the types of information falling within the definitions of RD and FRD. You can find an overview of RD and FRD subject areas on pages 8-11 and a list of key words that may reveal the presence of RD and FRD on pages 20-33.

### Public Laws 105-261 and 106-65

Identifying documents that potentially contain RD and FRD is not just a good idea, it's the law. Congress passed Public Law 105-261 to protect against the inadvertent release of RD and FRD during the declassification of documents under section 3.3 of Executive Order 12958, as amended by Executive Order 13292. As a result, agencies conducting historical record declassification reviews are required to conduct a page-by-page review of all documents unless they are in a file series deemed to be "highly unlikely to contain RD/FRD." Since this law does not apply to documents reviewed prior to its passage, Congress passed Public Law 106-65 to expand the scope to include all records declassified under section 3.3 of Executive Order 12958, as amended by Executive Order 13292, that are (1) publicly available or (2) being processed by the National Archives and Records Administration. Such documents must receive a page-by-page review to determine if they potentially contain RD/FRD.

## RD AND FRD MARKINGS

Each RD/FRD document must be marked with one of the three classification levels – TOP SECRET, SECRET, or CONFIDENTIAL. It must also contain one of the following warning admonishments:

### RD DOCUMENTS

#### RESTRICTED DATA

This document contains Restricted Data as defined in the Atomic Energy Act of 1954. Unauthorized disclosure subject to Administrative and Criminal Sanctions.

### FRD DOCUMENTS

#### FORMERLY RESTRICTED DATA

Unauthorized disclosure subject to Administrative and Criminal Sanctions. Handle as Restricted Data in Foreign Dissemination, Section 144.b, Atomic Energy Act, 1954.

## Additional Markings

In some cases, the use of special markings may assist you to identify incorrectly marked documents:

- **ATOMAL:** A North Atlantic Treaty Organization (NATO) marking indicating that the document contains RD or FRD information that was provided to NATO components under the NATO Agreement for Cooperation.
- **ATOMIC:** A U.K. marking indicating that the document contains RD or FRD information.
- **Atomic Energy Information:** A marking indicating that RD may be present.
- **CNWDI (Critical Nuclear Weapon Design Information):** A DoD special marking indicating that nuclear weapon design information is present in the document. DOE uses this marking on documents distributed to DoD.
- **COSMIC:** A NATO marking indicating that the document contains Top Secret information. In many cases, these Top Secret documents contain nuclear weapon information.
- **Naval Nuclear Propulsion Information (NNPI) or Naval Reactor:** Markings indicating that the document contains either classified or unclassified NNPI and should be reviewed by DOE. Although there is no separate stamp that indicates NNPI, documents often have the words “Nuclear Navy,” “Naval Reactors,” or other similar descriptions.
- **Protect as Restricted Data (PARD):** A marking indicating that RD may be present.
- **Sigma Category:** A DOE marking indicating the presence of RD or FRD in one or more specifically defined categories. There are 12 separate categories numbered from 1-5 and 9-15.
- **Weapon Data:** A DOE marking indicating that RD/FRD nuclear weapon information may be present.



## Portion Markings

If a document is portion marked, the portion markings may indicate that a particular paragraph or section of the document is RD or FRD. Authorized abbreviations and conventions for portion markings are shown below. Portion markings include a classification level (i.e., TS, S, or C) and a classification category (i.e., RD or FRD).

Top Secret	Restricted Data Formerly Restricted Data	TSRD TSFRD
Secret	Restricted Data Formerly Restricted Data	SRD SFRD
Confidential	Restricted Data Formerly Restricted Data	CRD CFRD

The level and category may be separated by a “/” or a “-” (e.g., S/RD or S-RD).

### Portion Markings May Indicate The Presence of RD/FRD

<b>SECRET/RD</b>	<b>CONFIDENTIAL/FRD</b>
(SRD)(N) * _____	(U) _____
(C) _____	(UK-C) _____
(CFRD) _____	(CFRD) _____
(C) _____	(C) _____
<b>SECRET/RD</b>	<b>CONFIDENTIAL/FRD</b>

\*The “(N)” indicates that the section contains Critical Nuclear Weapon Design Information (CNWDI).

If you find a document that has one or more portions marked as RD or FRD, refer the document to DOE.

## **DESIGN, MANUFACTURE, OR UTILIZATION OF ATOMIC WEAPONS**

Nuclear weapons apply the physical phenomenon of nuclear fission – the splitting of a heavy atomic nucleus by absorption of a neutron – to cause an explosion millions of times greater than explosions achievable by chemical reactions. Some nuclear weapons also use the thermonuclear process of fusion – the joining together of light nuclei at very high temperatures.

Since World War II, the United States has designed and manufactured four different types of nuclear weapons. They are the:

- gun-assembled (GA) weapon,
- implosion-assembled (IA) weapon,
- booster weapons, and
- staged (or thermonuclear (TN)) weapons.

Sensitive information associated with the design, manufacture, and utilization of these weapons includes (but is not limited to):

### **Nuclear Weapon Design and Manufacturing Information**

- Dimensions, sketches, drawings, or blueprints of nuclear weapons or components
- Specifications or amounts of nuclear fuel materials (e.g., uranium, plutonium, deuterium, tritium, or lithium)
- Materials used in and design of weapon parts (e.g., tampers, pits, detonators, initiators)
- Detonation system (e.g., amount of high explosives (HE) or number of detonators))
- Vulnerability and hardening information (e.g., materials used, levels of vulnerability)
- Limited-lifetime components (LLC) replacement intervals (e.g., tritium reservoirs)

### **Nuclear Weapon Utilization**

- Stockpile quantities of active and retired weapons (e.g., total quantities; subdivisions of the stockpile by type, year, theater)\*
- Storage and deployment (foreign and domestic, past and present)\*
- Safety (e.g., one-point safety)
- Yields (kiloton or megaton) or effects (e.g., neutrons, gamma-rays, x-rays, electromagnetic pulse (EMP))
- Targeting information (e.g., delivery systems accuracy, circular error probability (CEP), dial-a-yield (DAY) capability))
- Nuclear test information (e.g., purpose, yields, weapon or device tested)
- Use control (e.g., permissive action link (PAL), active protection, automatic command disablement))

\* Location and stockpile quantity information are the DOE equities most likely to appear in other-agency documents. See pages 13-16 for additional information.

## **PRODUCTION OF NUCLEAR MATERIALS**

None of the materials used as fuel in nuclear weapons are produced easily. Costly and elaborate methods have to be developed to extract or produce these materials. Since a weapon cannot be built without them, denying as much information as possible on how they are most efficiently produced may discourage would-be proliferants.

### **Isotope Enrichment (Separation)**

Uranium, lithium, and deuterium are obtained through processes known as isotopic enrichment or isotope separation. Much of the information concerning these technologies is still sensitive and should be referred to DOE. These include:

#### **Uranium Enrichment (Separation)**

Uranium has three naturally occurring isotopes: uranium-238 (99.3%), uranium-235 (0.7%), and uranium-234 (less than 0.0001%). While it is possible to make a nuclear explosive device with uranium enriched to less than 90% U-235, as a practical matter, any country that wants to use uranium as a nuclear fuel must develop an enrichment process to separate the uranium-235 atoms from the uranium-238 atoms. Since both isotopes of uranium have identical chemical properties, this is not easily done.

Listed below are the four processes the United States developed for enriching uranium and some classification concerns associated with these processes:

- gaseous diffusion (e.g., barrier technology, compressor seal technology, operating conditions),
- gas centrifuge (e.g., rotor construction, speeds, dimensions, type or model numbers),
- electromagnetic isotope separation (e.g., engineering design information), and
- laser isotope separation.

#### **Lithium Enrichment**

Lithium is one of the most abundant elements found in nature. Lithium-6 is a stable isotope that makes up about 7.5% of natural lithium ores. Lithium-7 makes up the remaining 92.5%. Lithium-6 is extremely important since it is used in nuclear production reactors to create tritium used in nuclear weapons.

During the 1950s, thousands of tons of lithium hydride were purchased for the weapons program. Enrichment of lithium-6 was the mission of several large plants at the Y-12 Site in Oak Ridge, Tennessee, using one of the following processes:

- ELEX (Electroexchange Process),
- COLEX (Column Exchange Process), or
- OREX (Organic Exchange Process).

## Deuterium and Heavy Water Production

All information concerning the technologies for producing deuterium or heavy water has been declassified and won't be discussed here. However, you should refer any document that discusses deuterium or heavy water (D<sub>2</sub>O) in the context of nuclear weapons, shipments, or inventory quantities.

## Production Reactors

The United States used production reactors at Hanford, Washington, and Savannah River, South Carolina, to produce nuclear materials that do not exist in nature. Like a commercial power reactor, a continuous fission chain reaction of uranium-235 nuclei occurs within the reactor core of a production reactor. However, while a commercial power reactor uses the energy released during fission to produce electricity, a production reactor uses neutrons produced during the fission to make nuclear materials. This is done by bombarding a target material with the neutrons and transmuting it to a slightly heavier element. The newly formed man-made element must then be chemically separated from the target material. Some materials produced and chemical processes used by DOE are shown below:

<u>Material Produced</u>	<u>Target Material</u>	<u>Chemical Separation Processes</u>
Plutonium-239	Uranium-238	PUREX (Plutonium-Uranium Extraction) BUTEX (Dibutoxy Diethyl Ether Extraction) (Late 1940s)
Tritium	Lithium-6	Palladium Diffusion
Polonium-210	Bismuth-209	Solvent Extraction
Uranium-233	Thorium-232	THOREX (Thorium Extraction)
Plutonium-238	Neptunium-237	Solvent Extraction

Denying a proliferator information on how to efficiently produce such materials would hinder his or her efforts. Information that remains sensitive includes:

- Target and fuel technology,
- Details of the chemical separation processes,
- Allocations to the weapon and other classified programs, and
- Sequence of operations (e.g., times, temperatures, and pressures).

## USE OF SPECIAL NUCLEAR MATERIALS (SNM) IN THE PRODUCTION OF ENERGY

Technologies used for the controlled production of energy include:

- Naval reactors
- Commercial, test, and research reactors
- Space reactor power systems
- Multihundred watt radioisotope generator
- Thermoelectric converter information



### Naval Reactors

Naval Reactors equities include all information, classified or unclassified, concerning the design, arrangement, development, manufacture, testing, operations, administration, training, maintenance, and repair of the propulsion plant of naval nuclear powered ships, including the associated nuclear support facilities. Additionally, information common to conventional propulsion plants is sensitive when tied to or compared with naval propulsion.

As you can see from this definition, virtually all information dealing with a naval nuclear propulsion system is potentially classified. Even some of the information that is not classified requires protection as Unclassified Naval Nuclear Propulsion Information (U-NNPI). Anytime you encounter a document you suspect contains classified or unclassified NNPI, refer it to DOE.

### Commercial, Test, and Research Reactors

All information concerning the design and operation of commercial, test, and research reactors has been declassified; however, safeguards and security issues, comparisons of these reactors to naval reactors, or discussions of classified experiments conducted in these reactors may still divulge classified information. Consequently, DOE needs to review any classified document containing information on these types of reactors.

### Space Reactor Power System, Multihundred Watt Radioisotope Generator, and Thermoelectric Converter Information

If the terms "Space Reactor Power System," "Multihundred Watt Radioisotope Generator," or "Thermoelectric Converter Information" appear in documents you are reviewing, refer the documents to DOE. The design, development, and operation of these sources of energy for military or other sensitive programs may be classified.



## **INFORMATION ON FOREIGN GOVERNMENT NUCLEAR PROGRAMS**

Classified information concerning the atomic energy programs of other nations can be removed from the RD category after DOE and the Director of Central Intelligence have jointly determined that it can be adequately safeguarded as NSI.

This applies primarily to raw intelligence information on nuclear programs of other nations. If you see such information in an NSI document, be careful.

- The document could be exempt under the E.O. exemption for “weapons of mass destruction” since foreign designs could be just as useful to proliferants as a U.S. design.
- Any analysis by U.S. experts of the foreign nuclear program could reveal U.S. technology and, therefore, make the information RD. The analysis doesn’t have to be very detailed. A simple statement on the viability of the design would be enough.
- If you have any doubt about the sensitivity of a document containing intelligence information on a foreign government program, refer it to an RD classifier in your agency or to DOE.

## **IMPROVISED NUCLEAR DEVICES (IND), RADIOLOGICAL WARFARE (RW), AND RADIOLOGICAL DISPERSAL DEVICES (RDD)**

The Atomic Energy Act defines “atomic energy” as all forms of energy released in the course of nuclear fission or nuclear transformations. Therefore, in addition to the weapons that use the fission reaction in uranium or plutonium to release energy, weapons that release energy through radioactive decay processes are also governed by the Act. Consequently, information pertaining to improvised nuclear devices, radiological warfare, and radiological dispersal devices could be RD.

Although the United States has never built any of these devices, we have conducted extensive studies on how they could be used against us. Much of the information contained in IND, RW, and RDD studies could help adversaries harm the United States or our allies. Sensitive information includes:

- Design information (e.g., dispersal techniques, radioactive isotope used),
- Relative effectiveness of different designs,
- Effective countermeasures (e.g., U.S. detection capabilities, decontamination), and
- Techniques for determining the credibility of a threat message.

## NUCLEAR WEAPONS LOCATIONS

This section will assist non-DOE reviewers to identify documents that **may** contain sensitive nuclear weapons storage location information and require referral to DOE.

### Classification Issues

Under joint DOE-DoD classification guidance, any information revealing U.S. nuclear weapons locations or stockpile quantities, past or present, is potentially sensitive.

**Locations** may include:

- Foreign countries,
- U.S. locations (states, territories, or possessions),
- On board ship at sea or making port calls, or
- Aircraft overflying a foreign country or landing for any reason.



Documents containing information on overseas locations should also be referred to DoD and the Department of State.

## WARHEAD VS. DELIVERY SYSTEM

One of the most common problems reviewers have is determining the context in which the presence of a nuclear weapon **delivery system** (e.g., Jupiter missile, 8-inch howitzer), which is **not** classified, implies the presence of its **warhead** (e.g., W33, B61), which usually is classified. The implications are often subtle and require DOE personnel with extensive training and experience to tell the difference.



## PRESENCE OF WEAPONS INDICATORS

The following terms are useful for identifying documents that may indicate or confirm the presence of nuclear weapons at a specific location.

**Nuclear Weapon Designators** are ways in which nuclear weapons may be identified in your documents. They include:

- Atomic Demolition Munition (ADM)
- AK (Adaption Kit) Warhead
- Artillery Fired Atomic Projectile (AFAP)
- W, B, or Mark Numbers (e.g., W7)
- Special Weapons (SW)
- Testing or Handling (T or H) numbers
- War Reserve (WR)
- Warhead Section (WHS) numbers

**Nuclear Operational Status** may indicate that a nuclear capable unit is on an alert or operational status that would normally require the presence of nuclear weapons. For example:

- Chrome Dome
- Complete Assembly for Strike (CAS)
- Complete Assembly for Launch (CAL)
- Quick Reaction Alert (QRA)
- 15-minute alert (or other times; e.g., 5-minute alert)
- Reflex
- Selective Employment Air/Ground Alert (SEAGA)

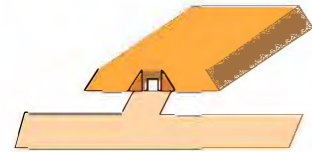
**Nuclear Inspections** are conducted for all organizations that possess or have the capability to possess nuclear weapons. They include:

- Nuclear Weapons Acceptance Inspection (NWAII)
- Nuclear Weapons Technical Inspection (NWTI)
- Nuclear Capability Inspection (NCI)
- Nuclear Surety Inspection (NSI)
- Navy Technical Proficiency Inspection (NTPI)
- Slow Run Through (SRT)
- Storage Monitoring
- Technical Proficiency Inspection (TPI)
- Technical Standardization Inspection (TSI)



**Nuclear Storage Facilities** have a primary mission of storing or maintaining nuclear weapons. They include:

- Custodial Unit/Detachment
- Exclusion Area
- Munitions Storage Area (MSA)
- Munitions Support Squadron (MUNSS)
- National Stockpile Site (NSS)
- Operational Storage Site (OSS)
- Overseas Operational Storage Site (OOSS)
- Overseas Limited Storage Site (OLSS)
- Special Ammunition Storage (SAS)
- Special Aircraft Storage Shop (SASS)
- Special Ammunition Storage Program (SASP)
- Special Ammunition Supply Point
- Service Storage Facility (SSF)
- Storage Unit



**Nuclear Organizations.** The mention of an organization that has a nuclear mission should be cause for concern. Some examples are:

- Armed Forces Special Weapons Project (AFSWP)
- Defense Atomic Support Agency (DASA)
- Defense Nuclear Agency (DNA)
- Defense Special Weapons Agency (DSWA)
- Defense Threat Reduction Agency (DTRA)
- DoD Site
- Nuclear Weapons Safety Study Group (NWSSG)
- Nuclear Explosives Safety Study Group (NESSG)

## STOCKPILE QUANTITIES AND SUBCATEGORY INDICATORS

**Stockpile Quantities** include total and subcategories of the active, inactive, and retired stockpile, both current and historical.

Stockpile information has been expressed in many ways.

**Quantities** have been expressed as:

- **Yields** (e.g., In 19xx, the total yield of tactical bombs was "xx" Megatons.)
- **Number** (e.g., There are "xx" W-110s in the inventory.)
- **Percentages** (e.g., "xx" percent of the stockpile is strategic.)
- **Trends** (e.g., The United States doubled its AFAPs in 19xx.)

**Subcategories** of the stockpile have been expressed by:

- **Mission** (e.g., "xx" percent of the weapons are for offensive operations.)
- **Location** (e.g., "xx" weapons are stored at Site "Dewey.")
- **Theater** (e.g., The European theater has been allocated "xx" W-110s.)
- **Type** (e.g., The United States had "xx" W-110s in the inventory in 195x.)
- **Commands** (e.g., The 50th U.S. Corps has been allocated "xx" W-110s.)
- **Delivery Systems** (e.g., The Pershing missile has "xx" percent of the total yield in active inventory.)
- **Category** (e.g., "xx" percent of the stockpile is for strategic systems.)
- **Stockpile Status (active or retired portions in any time period)** (e.g., Strategic Air Command (SAC) is projecting "x" weapons to be retired from its inventory in 195x.)

In addition, authorizations, allocations, storage capacities, and quantity production or estimates (either full or partial) are also classified during all time periods (historical or current).

## **FREQUENTLY ASKED QUESTIONS**

### **What do you mean by RD and FRD subject area indicators or key words?**

An RD or FRD subject area indicator is subject matter that is likely to be considered RD or FRD under the AEA. If you generate a new document or review an existing classified document that discusses an RD or FRD subject area, those documents have the potential of containing RD or FRD information. RD and FRD subject areas are discussed on pages 8-16 of this pamphlet. RD and FRD key words are words, names, organizations, or sites that may indicate that RD or FRD information is being discussed. RD and FRD key word lists are found on pages 19-38 of this pamphlet.

### **Should I refer every document that contains any RD/FRD key words?**

If the keywords are in the proper context, you should refer the document to DOE. We want you to take a conservative approach. There is no penalty for referring a document that DOE eventually determines does not contain RD or FRD. We would rather have a hundred referrals of documents that are ultimately determined not to contain RD or FRD than let one RD or FRD document be inadvertently released. Many of the errors are made when an other-agency reviewer sees one of the words on the list in the proper context, but incorrectly determines that it isn't sensitive.

### **What if the word is not in the proper context?**

If the word is not in the proper context, you do not have to refer the document. For example, if you see the word "barrier" in the context of uranium production or gaseous diffusion, refer the document. If you seen the word "barrier" in the context of physical security, do not. If you are not sure of the context, do not guess. Refer the document to DOE.

### **If I refer a document that does not contain RD or FRD, am I denying the public information that it has a right to know?**

No. If DOE determines that a referred document does not contain RD or FRD, we will let the originating agency know that it is free to release the document. Any delay incurred by allowing DOE to review the document is necessary to prevent the inadvertent release of RD and FRD information. Referring documents that potentially contain RD and FRD to DOE is required by law.

### **Do I need to determine if the information is potentially RD or potentially FRD before I refer a document to DOE?**

No, you are not expected to make a distinction between RD and FRD when referring documents. Since both are classified under the AEA and exempt from automatic declassification, that distinction is not important during the referral process. All you have to do is identify the document as potentially containing RD/FRD. We will determine if the document actually contains RD, FRD, or other DOE equities, or is not classified at all.

**If I am not expected to make any determinations as to the sensitivity of the document, why does DOE RD and FRD recognition training go into so much detail?**

There are three reasons. First, the training helps you remember the key words. You will remember the key words longer if you understand what they mean and are familiar with the technologies they represent. Second, the training helps you understand the context in which the key words are sensitive. And finally, the training impresses upon you how difficult it is to determine whether the information is classified or not. Because so much is written about nuclear weapons and related technologies in the public domain, there is a natural tendency to become careless about its potential sensitivity. The training emphasizes the subtle differences between classified and unclassified nuclear information and why other-agency reviewers shouldn't try to make judgment calls.

## KEY WORD LIST

On the next several pages, we have provided three key word lists that may help you identify documents that potentially contain RD and FRD. They are:

Key Words and Phrases	Pages 20-33
Sites and Organizations	Pages 34-37
Frequently Encountered Names of People Involved in the Nuclear Program	Page 38

How to use these lists:

Key Words and Phrases:	This list contains words and phrases that are used in RD- and FRD-related technologies and programs and the context in which they are sensitive. Some words and phrases are unique to these technologies and programs and should result in an automatic referral (e.g., implosion-assembled weapon and boosted weapon). Other words should only be referred if they are in the proper context. For example, if you see the word “barrier” in the context of uranium production or gaseous diffusion, refer the document. If you see the word “barrier” in the context of physical security, do not. <u>If you are not sure of the context, don’t guess. Refer the document to DOE.</u>
Sites and Organizations:	This list contains the names of sites and organizations that are commonly associated with RD- and FRD-related technologies and programs. The list identifies DOE and non-DOE organizations, past and present. If you have a <u>classified</u> document that was originated by a DOE organization, you must refer it. If a DOE or any other organization on the list is mentioned in the document, be on the lookout for potential RD or FRD. Refer the document if any of the technologies or programs identified in this pamphlet are discussed.
Frequently Encountered Names of People Involved in the Nuclear Program:	If any of the people on this list are mentioned in a classified document, be on the lookout for potential RD and FRD. Refer the document if any of the technologies or programs identified in this pamphlet are discussed.

## KEY WORDS AND PHRASES

Term	Context	Term	Context
15-minute alert (or any other time; e.g., 5-minute alert)	Nuclear Weapon Design/Utilization	Arming	Nuclear Weapon Design/Utilization
155 mm howitzer	Nuclear Weapon Design/Utilization	Arming, fuzing, and firing (AF&F)	Nuclear Weapon Design/Utilization
240 mm howitzer	Nuclear Weapon Design/Utilization	Artillery fired atomic projectile (AFAP)	Nuclear Weapon Design/Utilization
280 mm cannon	Nuclear Weapon Design/Utilization	Assay	Uranium Production/ Nuclear Weapon Design/Utilization
8 inch howitzer	Nuclear Weapon Design/Utilization	Assembly spares	Nuclear Weapon Design/Utilization
16 inch gun	Nuclear Weapon Design/Utilization	Astor (torpedo)	Nuclear Weapon Design/Utilization
		Atlas (missile)	Nuclear Weapon Design/Utilization
<b>A</b>		ATOMAL	Nuclear Weapon Design/Utilization
ADM (atomic demolition munition)	Nuclear Weapon Design/Utilization	ATOMIC	Nuclear Weapon Design/Utilization
AF&F (arming, fuzing, and firing)	Nuclear Weapon Design/Utilization	Atomic demolition munition (ADM)	Nuclear Weapon Design/Utilization
AFAP (artillery fired atomic projectile)	Nuclear Weapon Design/Utilization	Atomic vapor laser isotope separation (AVLIS)	Uranium/Plutonium Production
AK (adaption kit) warhead	Nuclear Weapon Design/Utilization	Automatic disablement	Nuclear Weapon Design/Utilization
ANF (Allied Nuclear Force)	Nuclear Weapon Design/Utilization		
ASROC (anti-submarine rocket)	Nuclear Weapon Design/Utilization	<b>B</b>	
AVLIS (atomic vapor laser isotope separation)	Uranium/Plutonium Production	Be (beryllium)	Nuclear Weapon Design/Utilization
Able, Site	Nuclear Weapon Design/Utilization	B-x (x=a number; e.g., B-61)	Nuclear Weapon Design/Utilization
Active protection	Nuclear Weapon Design/Utilization	Baffle	Uranium Production
Adaption kit (AK) warhead	Nuclear Weapon Design/Utilization	Baker, Site	Nuclear Weapon Design/Utilization
Allied Nuclear Force (ANF)	Nuclear Weapon Design/Utilization	Barrier/barrier technology	Uranium Production
Alpha-n initiator	Nuclear Weapon Design/Utilization	Bent Spear	Nuclear Weapon Design/Utilization
Alteration (may be hyphenated with a numeral – e.g., ALT-11)	Nuclear Weapon Design/Utilization	Beryllium (Be)	Nuclear Weapon Design/Utilization
Anti-submarine rocket (ASROC)	Nuclear Weapon Design/Utilization	Bilateral agreement	Nuclear Weapon Design/Utilization
Anti-tampering device	Nuclear Weapon Design/Utilization	Blackout, radar	Nuclear Weapon Design/Utilization/Testing
Area denial	IND/RDD/RW	Blast	Nuclear Weapon Design/Utilization

Term	Context	Term	Context
BOAR (missile)	Nuclear Weapon Design/Utilization	Chrome Dome	Nuclear Weapon Design/Utilization
BOMARC (missile)	Nuclear Weapon Design/Utilization	Circular error probability (CEP)	Nuclear Weapon Design/Utilization
Boosted or boosting	Nuclear Weapon Design/Utilization	City buster	Nuclear Weapon Design/Utilization
Broken Arrow	Nuclear Weapon Design/Utilization	Cladding (fuel)	Plutonium Production/Nuclear Reactors
Bundle	Uranium Production	Class A weapons (or class B, C, D, E, F weapons)	Nuclear Weapon Design/Utilization
BUTEX	Plutonium Production	Clean weapon	Nuclear Weapon Design/Utilization
<b>C</b>		Column exchange (COLEX)	Lithium Production
CAF (complete assembly for ferry)	Nuclear Weapon Design/Utilization	Command disablement	Nuclear Weapon Design/Utilization
CAL (complete assembly for launch)	Nuclear Weapon Design/Utilization	Command disablement system (CDS)	Nuclear Weapon Design/Utilization
CAS (complete assembly for strike)	Nuclear Weapon Design/Utilization	Complete assembly for ferry (CAF)	Nuclear Weapon Design/Utilization
CDS (command disablement system)	Nuclear Weapon Design/Utilization	Complete assembly for launch (CAL)	Nuclear Weapon Design/Utilization
CEP (circular error probability)	Nuclear Weapon Design/Utilization	Complete assembly for strike (CAS)	Nuclear Weapon Design/Utilization
COLEX (column exchange)	Lithium Production	Comprehensive Test Ban Treaty (CTBT)	Nuclear Weapon Design/Utilization
CORRTEX (Continuous Reflectometry for Radius vs. Time Experiment)	Nuclear Weapon Testing	Compressor nozzle	Uranium Production
CSA (canned subassembly)	Nuclear Weapon Design/Utilization	Continuous Reflectometry for Radius vs. Time Experiment (CORRTEX)	Nuclear Weapon Testing
CTBT (Comprehensive Test Ban Treaty)	Nuclear Weapon Design/Utilization	Controlled area	Nuclear Weapon Design/Utilization
CTR (Controlled Thermonuclear Reactor)	Nuclear Reactors	Controlled Thermonuclear Reactor (CTR)	Nuclear Reactors
Calutron	Uranium Production	Convertible Weapon Core	Nuclear Weapon Design/Utilization
Canned subassembly (CSA)	Nuclear Weapon Design/Utilization	Coolant inlet/outlet nozzle	Nuclear Reactors
Capsule	Nuclear Weapon Design/Utilization	Coolant pump	Nuclear Reactors
Cascade	Uranium Production	Corporal (missile)	Nuclear Weapon Design/Utilization
Case/case material/radiation case	Nuclear Weapon Design/Utilization	Coupling	Nuclear Weapon Design/Utilization/Testing
Centrifuge machine	Uranium Production	Crit	Nuclear Weapon Design/Utilization
Chain reaction (fission)	Nuclear Weapon Design/Utilization	Critical mass	Nuclear Weapon Design/Utilization
Channel/radiation channel	Nuclear Weapon Design/Utilization		
Charlie, Site	Nuclear Weapon Design/Utilization		

Term	Context	Term	Context
Criticality	Nuclear Weapon Design/Utilization/Reactors	Detonation, points	Nuclear Weapon Design/Utilization
Curie; curies per square foot	Nuclear Weapon Design/Utilization/Nuclear Weapon Testing/IND/RDD/RW	Detonator/detonator systems/detonator cables	Nuclear Weapon Design/Utilization
Custodial unit/detachment	Nuclear Weapon Design/Utilization	Deuterium (D or H <sub>2</sub> )	Nuclear Weapon Design/Utilization/Nuclear Material Production
Custodian; custody	Nuclear Weapon Design/Utilization	Deuterium production	Nuclear Material Production
Cyclotron	Uranium Production	Device	Nuclear Weapon Design/Utilization
		Dial-a-yield (DAY)	Nuclear Weapon Design/Utilization
<b>D</b>		Diffuser	Uranium Production
D-2, or D, Deuterium	Nuclear Weapon Design/Utilization	Diffusion/diffusion stage/diffusion barrier	Uranium Production
D-38 (see depleted uranium)	Nuclear Weapon Design/Utilization	Ding Dong (missile)	Nuclear Weapon Design/Utilization
DAY (dial-a-yield)	Nuclear Weapon Design/Utilization	Direct drive	Inertial Confinement Fusion
DGZ (designated ground zero)	Nuclear Weapon Design/Utilization	Directed energy/output	Nuclear Weapon Design/Utilization
DNES (Directed Nuclear Energy Systems)	Nuclear Weapon Design/Utilization	Directed Nuclear Energy Systems (DNES)	Nuclear Weapon Design/Utilization
DOB (depth of burst/burial)	Nuclear Weapon Testing	Dirty weapon	Nuclear Weapon Design/Utilization
DU (depleted uranium)	Nuclear Weapon Design/Utilization	Disablement/command disablement	Nuclear Weapon Design/Utilization
Davy Crockett (recoilless launched nuclear missile XM-388 or its warhead)	Nuclear Weapon Design/Utilization	Disarmament	Nuclear Weapon Design/Utilization
Davy Jones (antisubmarine warfare missile)	Nuclear Weapon Design/Utilization	Dispersal	IND/RDD/RW
Decontamination tactics	IND/RDD/RW	Dog, Site	Nuclear Weapon Design/Utilization
Decoupling	Nuclear Weapon Testing	DT gas	Nuclear Weapon Design/Utilization
Delivery accuracy	Nuclear Weapon Design/Utilization	Dugway	IND/RDD/RW
Delivery error	Nuclear Weapon Design/Utilization	Dull Sword	Nuclear Weapon Design/Utilization
Demi-John (missile)	Nuclear Weapon Design/Utilization	Dummy component	Nuclear Weapon Design/Utilization
Depleted uranium (DU)	Nuclear Weapon Design/Utilization		
Deployment	Nuclear Weapon Design/Utilization	<b>E</b>	
Depth of burst/burial (DOB)	Nuclear Weapon Testing	E&ST (Employment and Suitability Test)	Nuclear Weapon Design/Utilization
Designated ground zero (DGZ)	Nuclear Weapon Design/Utilization	ELEX (electro-exchange)	Lithium Production
		ELS (electric lighting system)	Nuclear Weapon Design/Utilization



Term	Context	Term	Context
EMIS (electromagnetic isotope separation)	Uranium Production	Explosive train	Nuclear Weapon Design/Utilization
EMP (electromagnetic pulse)	Nuclear Weapon Design/Utilization/Testing	Extended life	Nuclear Weapon Design/Utilization
EMPTV (Electromagnetic Pulse Test Vehicle)	Nuclear Weapon Design/Utilization/Testing		
EOS (Equation of State)	Nuclear Weapon Design/Utilization/Testing	F	
ER (enhanced radiation)	Nuclear Weapon Design/Utilization	FAT (final assembly test)	Nuclear Weapon Design/Utilization
ESD (environmental sensing device)	Nuclear Weapon Design/Utilization	FBM (fleet ballistic missile)	Nuclear Weapon Design/Utilization
Easy, Site	Nuclear Weapon Design/Utilization	Falcon (missile)	Nuclear Weapon Design/Utilization
Effects test	Nuclear Weapon Design/Utilization	Fallout	Nuclear Weapon Testing
Efficiency, nuclear	Nuclear Weapon Design/Utilization	Fat Man	Nuclear Weapon Design/Utilization
Electric lighting system (ELS)	Nuclear Weapon Design/Utilization	Final assembly test (FAT)	Nuclear Weapon Design/Utilization
Electro-exchange (ELEX)	Lithium Production	Fireball	Nuclear Weapon Design/Utilization/Nuclear Weapon Testing
Electromagnetic isotope separation (EMIS)	Uranium Production	Fire safe	Nuclear Weapon Design/Utilization
Electromagnetic pulse (EMP)	Nuclear Weapon Design/Utilization	Firing set	Nuclear Weapon Design/Utilization
Electromagnetic Pulse Test Vehicle (EMPTV)	Nuclear Weapon Design/Utilization/Testing	First stage	Nuclear Weapon Design/Utilization
Emergency capability release	Nuclear Weapon Design/Utilization	Fissile	Nuclear Weapon Design/Utilization
Emergency destruction	Nuclear Weapon Design/Utilization	Fission	Nuclear Weapon Design/Utilization
Employment and Suitability Test (E&ST)	Nuclear Weapon Design/Utilization	Fleet ballistic missile (FBM)	Nuclear Weapon Design/Utilization
End caps	Uranium Production	Flux	Nuclear Reactors
Enhanced radiation (ER)	Nuclear Weapon Design/Utilization	Fox, Site	Nuclear Weapon Design/Utilization
Enhanced radiation/output	Nuclear Weapon Design/Utilization	Fratricide	Nuclear Weapon Design/Utilization
Enriched	Nuclear Weapon Design/Utilization	Fuel, reactor	Nuclear Reactors
Enrichment	Nuclear Weapon Design/Utilization	Fuel reprocessing	Plutonium Production
Environmental sensing device (ESD)	Nuclear Weapon Design/Utilization	Fusion	Nuclear Weapon Design/Utilization
Equation of State (EOS)	Nuclear Weapon Design/Utilization/Testing	Fuze	Nuclear Weapon Design/Utilization
Event	Nuclear Weapon Testing		
		G	
		Ga (gallium)	Nuclear Weapon Design/Utilization
		GA (gun-assembled)	Nuclear Weapon Design/Utilization

Term	Context	Term	Context
GSP (general strike plan)	Nuclear Weapon Design/Utilization	Headwind	Nuclear Weapon Design/Utilization
Gallium (Ga)	Nuclear Weapon Design/Utilization	Heavy water	Nuclear Reactors/Nuclear Material Production
Gamma output, radiation, flux spectrum, fluence	Nuclear Weapon Design/Utilization	Height-of-burst (HOB)	Nuclear Weapon Design/Utilization/Nuclear Weapon Testing
GAR-11 (missile)	Nuclear Weapon Design/Utilization	Hexafluoride (HEX), uranium	Uranium Production
Gas centrifuge	Uranium Production	High altitude; as in HA detonation (HA)	Nuclear Weapon Design/Utilization/Nuclear Weapon Testing
Gaseous diffusion	Uranium Production	High altitude effects (or phenomenology)	Nuclear Weapon Design/Utilization/Testing
General strike plan (GSP)	Nuclear Weapon Design/Utilization	High explosive (HE)	Nuclear Weapon Design/Utilization
Genie (missile)	Nuclear Weapon Design/Utilization	Highly enriched uranium (HEU)	Nuclear Weapon Design/Utilization
George, Site	Nuclear Weapon Design/Utilization	Hohlraum	Nuclear Weapon Testing
Ground zero	Nuclear Weapon Design/Utilization	Honest John (missile)	Nuclear Weapon Design/Utilization
Gun-assembled (GA)	Nuclear Weapon Design/Utilization	Hotpoint (laydown or Anti-submarine Warfare bomb)	Nuclear Weapon Design/Utilization
Gun-assembled, type	Nuclear Weapon Design/Utilization	Hound Dog (missile; GAM-77)	Nuclear Weapon Design/Utilization
Guppy	Nuclear Weapon Design/Utilization	How, Site	Nuclear Weapon Design/Utilization
		Human reliability program	Nuclear Weapon Design/Utilization
<b>H</b>		Hydrogen bomb	Nuclear Weapon Design/Utilization
HA (high altitude; as in HA detonation)	Nuclear Weapon Design/Utilization/Nuclear Weapon Testing		
HE (high explosive)	Nuclear Weapon Design/Utilization	<b>I</b>	
HEU (highly enriched uranium)	Nuclear Weapon Design/Utilization	IA (implosion-assembled)	Nuclear Weapon Design/Utilization
HEX ( hexafluoride, uranium)	Uranium Production	IAW (implosion-assembled weapon)	Nuclear Weapon Design/Utilization
HOB (height-of-burst)	Nuclear Weapon Design/Utilization/Nuclear Weapon Testing	ICF (inertial confinement fusion)	Inertial Confinement Fusion
Halite	Inertial Confinement Fusion	IEU (intermediate enriched uranium)	Nuclear Weapon Design/Utilization
Hanford Reactors (B, C, D, DR, F, H, E, KW, and N)	Plutonium Production	IFI (in-flight insertion)	Nuclear Weapon Design/Utilization
Hardening	Nuclear Weapon Design/Utilization	IHE (insensitive high explosive)	Nuclear Weapon Design/Utilization
Hardness	Nuclear Weapon Design/Utilization	INRAD (intrinsic radiation)	Nuclear Weapon Design/Utilization
Harpoon (missile)	Nuclear Weapon Design/Utilization	Igloo	Nuclear Weapon Design/Utilization

Term	Context	Term	Context
Ignition point	Nuclear Weapon Design/Utilization	Joint test assembly (JTA)	Nuclear Weapon Design/Utilization/Testing
Immediate operational readiness	Nuclear Weapon Design/Utilization	Jupiter (missile)	Nuclear Weapon Design/Utilization
Implosion-assembled (IA)	Nuclear Weapon Design/Utilization		
Implosion-assembled weapon (IAW)	Nuclear Weapon Design/Utilization	<b>K</b>	
Indirect drive	Inertial Confinement Fusion	Kt (kiloton)	Nuclear Weapon Design/Utilization
Inertial confinement fusion (ICF)	Inertial Confinement Fusion	King, Site	Nuclear Weapon Design/Utilization
In-flight assembly	Nuclear Weapon Design/Utilization	Krypton-85	Nuclear Reactors
In-flight insertion (IFI)	Nuclear Weapon Design/Utilization		
Initiator, nuclear weapon	Nuclear Weapon Design/Utilization	<b>L</b>	
Inlet plenum	Nuclear Reactors	Li, Li-6 (lithium)	Nuclear Weapon Design/Utilization/Lithium Production
Insensitive high explosive (IHE)	Nuclear Weapon Design/Utilization	LiD (lithium deuteride)	Nuclear Weapon Design/Utilization
Intermediate enriched uranium (IEU)	Nuclear Weapon Design/Utilization	LLC (limited lifetime component)	Nuclear Weapon Design/Utilization
Internal initiator	Nuclear Weapon Design/Utilization	LSS (limited storage site)	Nuclear Weapon Design/Utilization
Interstage (coupling)	Nuclear Weapon Design/Utilization	LSSF (limited service storage facility)	Nuclear Weapon Design/Utilization
Interstage (distance, internal time)	Nuclear Weapon Design/Utilization	LTBT (Limited Test Ban Treaty)	Nuclear Weapon Design/Utilization
Intrinsic radiation (INRAD)	Nuclear Weapon Design/Utilization	Lacrosse (missile)	Nuclear Weapon Design/Utilization
Isotope	IND/RDD/RW	Lance (missile; XMGM-5A)	Nuclear Weapon Design/Utilization
Isotopic enrichment	Nuclear Weapon Design/Utilization/Uranium, Lithium, and Tritium Production	Laser isotope separation	Uranium Production
Item, Site	Nuclear Weapon Design/Utilization	Laser, x-ray laser	Nuclear Weapon Design/Utilization
		Limited life component (LLC)	Nuclear Weapon Design/Utilization
<b>J</b>		Limited service storage facility (LSSF)	Nuclear Weapon Design/Utilization
JTA (joint test assembly)	Nuclear Weapon Design/Utilization/Testing	Limited storage site (LSS)	Nuclear Weapon Design/Utilization
JTF-7 (joint task force seven)	Nuclear Weapon Testing	Limited Test Ban Treaty (LTBT)	Nuclear Weapon Design/Utilization
JTF-8 (joint task force eight)	Nuclear Weapon Testing	Limited try	Nuclear Weapon Design/Utilization
Jig, Site	Nuclear Weapon Design/Utilization	Line-of-sight pipe	Nuclear Weapon Testing
Joint task force seven (JTF-7)	Nuclear Weapon Testing	Lithium (Li) (Li-6)	Nuclear Weapon Design/Utilization/Lithium Production
Joint task force eight (JTF-8)	Nuclear Weapon Testing	Lithium deuteride (LiD)	Nuclear Weapon Design/Utilization
		Lithium enrichment	Lithium Enrichment

Term	Context	Term	Context
Little Boy	Nuclear Weapon Design/Utilization	Major component (MC)	Nuclear Weapon Design/Utilization
Little John (missile; XM-51)	Nuclear Weapon Design/Utilization	Manhattan Engineer District (MED)	Nuclear Weapon Design/Utilization
Little Lulu (antisubmarine missile)	Nuclear Weapon Design/Utilization	Mark-XX	Nuclear Weapon Design/Utilization
Long-range detection	Nuclear Weapon Testing	Matador (missile)	Nuclear Weapon Design/Utilization
Love, Site	Nuclear Weapon Design/Utilization	MB-1 (missile)	Nuclear Weapon Design/Utilization
Lulu (depth bomb)	Nuclear Weapon Design/Utilization	Medium atomic demolition munition (MADM)	Nuclear Weapon Design/Utilization
		Medium range ballistic missile (MRBM)	Nuclear Weapon Design/Utilization
<b>M</b>		Megacurie	IND/RDD/RW
M&A Shop (Maintenance and Assembly Shop)	Nuclear Weapon Design/Utilization	Megaton (Mt)	Nuclear Weapon Design/Utilization/Testing
MADM (medium atomic demolition munition)	Nuclear Weapon Design/Utilization	Military characteristics (MC's)	Nuclear Weapon Design/Utilization
MC (major component)	Nuclear Weapon Design/Utilization	Military first destination (MFD)	Nuclear Weapon Design/Utilization
MC's (military characteristics)	Nuclear Weapon Design/Utilization	Minuteman (missile)	Nuclear Weapon Design/Utilization
MED (Manhattan Engineer District)	Nuclear Weapon Design/Utilization	Mk-x (x=a number; e.g., Mk-3)	Nuclear Weapon Design/Utilization
MFD (military first destination)	Nuclear Weapon Design/Utilization	Mobile medium range ballistic missile (MMRBM)	Nuclear Weapon Design/Utilization
MHW (multi-hundred watt) (radioisotope generator)	Nuclear Weapon Design/Utilization	Modification (MOD) (may be hyphenated with a numeral; e.g., MOD-4)	Nuclear Weapon Design/Utilization
MIRV (multiple Independently-targetable reentry vehicle)	Nuclear Weapon Design/Utilization	Molecular laser isotope separation (MLIS)	Uranium Production
MLF (multi-lateral force)	Nuclear Weapon Design/Utilization	Multi-hundred watt (MHW) radioisotope generator	Nuclear Weapon Design/Utilization
MLIS (molecular laser isotope separation)	Uranium Production	Multi-lateral force (MLF)	Nuclear Weapon Design/Utilization
MMRBM (mobile medium range ballistic missile)	Nuclear Weapon Design/Utilization	Multiple independently-targetable reentry vehicle (MIRV)	Nuclear Weapon Design/Utilization
MOD (modification) (may be hyphenated with a numeral; e.g., MOD-4)	Nuclear Weapon Design/Utilization	Munition Support Squadron (MUNSS)	Nuclear Weapon Design/Utilization
MRBM (medium range ballistic missile)	Nuclear Weapon Design/Utilization	MX (missile)	Nuclear Weapon Design/Utilization
Mt (megaton)	Nuclear Weapon Design/Utilization/Testing		
MUNSS (Munition Support Squadron)	Nuclear Weapon Design/Utilization	<b>N</b>	
Mace (missile)	Nuclear Weapon Design/Utilization	NAS (nuclear assembly system)	Nuclear Weapon Design/Utilization
Maintenance and assembly shop (M&A Shop)	Nuclear Weapon Design/Utilization		

Term	Context	Term	Context
NCI (nuclear capability inspection)	Nuclear Weapon Design/Utilization	Nuclear Capability Inspection (NCI)	Nuclear Weapon Design/Utilization
NDEW (nuclear directed energy weapon)	Nuclear Weapon Design/Utilization	Nuclear directed energy weapon (NDEW)	Nuclear Weapon Design/Utilization
NEST (Nuclear Emergency Search [or Support] Team)	Nuclear Weapon Design/Utilization	Nuclear Emergency Search (or Support) Team (NEST)	Nuclear Weapon Design/Utilization
non-WR (non-war reserve material)	Nuclear Weapon Design/Utilization	Nuclear material	Nuclear Weapon Design/Utilization/Nuclear Material Production
NR (naval reactors, propulsion)	Naval Reactors	Nuclear projectile	Nuclear Weapon Design/Utilization
NSI (Nuclear Surety Inspection)	Nuclear Weapon Design/Utilization	Nuclear shell	Nuclear Weapon Design/Utilization
NSS (National Stockpile Site)	Nuclear Weapon Design/Utilization	Nuclear Surety Inspection (NSI)	Nuclear Weapon Design/Utilization
NTPI (Navy Technical Proficiency Inspection)	Nuclear Weapon Design/Utilization	Nuclear test event	Nuclear Weapon Testing
NTS (Nevada Test Site)	Nuclear Weapon Testing	Nuclear test/test series	Nuclear Weapon Testing
NWAI (Nuclear Weapons Acceptance Inspection)	Nuclear Weapon Design/Utilization	Nuclear weapon	Nuclear Weapon Design/Utilization
NWTI (Nuclear Weapons Technical Inspection)	Nuclear Weapon Design/Utilization	Nuclear Weapons Acceptance Inspection (NWAI)	Nuclear Weapon Design/Utilization
N reactor Plutonium Production National Stockpile Site (NSS)	Nuclear Weapon Design/Utilization	Nuclear Weapons Technical Inspection (NWTI)	Nuclear Weapon Design/Utilization
Naval nuclear propulsion	Naval Reactors		
Naval reactors, propulsion (NR)	Naval Reactors	<b>O</b>	
Navy Technical Proficiency Inspection (NTPI)	Nuclear Weapon Design/Utilization	OLSS (Overseas Limited Storage Site)	Nuclear Weapon Design/Utilization
Neutron	Nuclear Weapon Design/Utilization	OOSS (Overseas Operational Storage Site)	Nuclear Weapon Design/Utilization
Neutron – bomb	Nuclear Weapon Design/Utilization	OR (oralloy)	Nuclear Weapon Design/Uranium Production
Neutron generator	Nuclear Weapon Design/Utilization	OREX (organic exchange)	Lithium Production
Neutron radiation	Nuclear Weapon Design/Utilization	OSS (Operational Storage Site)	Nuclear Weapon Design/Utilization
Neutron spectrum	Nuclear Weapon Design/Utilization/Testing	OST (operational suitability test)	Nuclear Weapon Design/Utilization
Nevada Test Site (NTS)	Nuclear Weapon Testing	One-point (as an adjective; e.g., one-point safety)	Nuclear Weapon Design/Utilization
Nike Hercules (missile)	Nuclear Weapon Design/Utilization	Operational Storage Site (OSS)	Nuclear Weapon Design/Utilization
Non-war reserve (non-WR) material	Nuclear Weapon Design/Utilization	Operational suitability test (OST)	Nuclear Weapon Design/Utilization
Nuclear	Nuclear Weapon Design/Utilization	Oralloy (OR)	Nuclear Weapon Design/Uranium Production
Nuclear assembly system (NAS)	Nuclear Weapon Design/Utilization		

Term	Context	Term	Context
Organic exchange (OREX)	Lithium Production	Plutonium (Pu)/plutonium-238, plutonium-239, plutonium-240	Nuclear Weapon Design/Utilization/Plutonium Production
Outlet plenum	Naval Reactors	Plutonium production	Nuclear Weapon Design/Utilization/Plutonium Production
Overseas Limited Storage Site (OLSS)	Nuclear Weapon Design/Utilization	Plutonium-uranium extraction (PUREX)	Plutonium Production
Overseas Operational Storage Site (OOSS)	Nuclear Weapon Design/Utilization	Polaris (missile; A-1, A-2 or A-3)	Nuclear Weapon Design/Utilization
		Popcorn	Nuclear Weapon Design/Utilization
<b>P</b>		Preinitiation	Nuclear Weapon Design/Utilization
PAL (permissive action link)	Nuclear Weapon Design/Utilization	Pressure vessel	Nuclear Reactors
PNE (peaceful nuclear explosion)	Nuclear Weapon Design/Utilization/Plowshare	Pressurized water reactor (PWR)	Nuclear Reactors
PPG (Pacific Proving Grounds)	Nuclear Weapon Testing	Pressurizer	Nuclear Reactors
Pu (Plutonium)	Nuclear Weapon Design/Utilization/Plutonium Production	Primary	Nuclear Weapon Design/Utilization
PUREX (plutonium-uranium extraction)	Plutonium Production	Primary system	Nuclear Reactors
PWR (pressurized water reactor)	Nuclear Reactors	Production Information <ul style="list-style-type: none"> <li>- production rates of nuclear materials,</li> <li>- production quantities of nuclear materials,</li> <li>- weapon program allocations of nuclear materials</li> </ul>	Nuclear Weapon Design/Utilization
Pacific Proving Grounds (PPG)	Nuclear Weapon Testing	Production quantity of weapons/materials/parts	Nuclear Weapon Design/Utilization
Palladium diffusion	Tritium Production	Production reactor(s)	Plutonium/Tritium Production
Palomares (accident)	Nuclear Weapon Design/Utilization	Project Matterhorn	Nuclear Weapon Testing
Particle beam weapon (light ion, heavy ion)	Nuclear Weapon Design/Utilization	Project Whitney	Nuclear Weapon Testing
Peaceful nuclear explosion (PNE)	Nuclear Weapon Design/Utilization/Plowshare	Projectile, atomic or nuclear (see AFAP)	Nuclear Weapon Design/Utilization
Peacekeeper (MX missile)	Nuclear Weapon Design/Utilization	Propellant	Nuclear Weapon Design/Utilization
Permissive action link (PAL)	Nuclear Weapon Design/Utilization	Pu-239 or any other isotope; e.g., Pu-238, Pu-240, etc.	Nuclear Weapon Design/Utilization/Plutonium Production
Pershing (missile; also P-I, P-IA, or P-II)	Nuclear Weapon Design/Utilization	Pure fusion	Nuclear Weapon Design/Utilization
Phase 1, 2, 3, 4, 5, 6, and/or 7	Nuclear Weapon Design/Utilization		
Phoebe	Nuclear Weapon Design/Utilization	<b>Q</b>	
Pin experiment, pin dome	Nuclear Weapon Testing	QART (Quality Accuracy Reliability Test)	Nuclear Weapon Design/Utilization
Plowshare Program	Nuclear Weapon Design/Utilization		

Term	Context	Term	Context
QRA or "Q" (quick reaction alert)	Nuclear Weapon Design/Utilization	Radioisotope thermoelectric generator (RTG)	Nuclear Weapon Design/Utilization/Testing
Quail (missile; also ADM-20 or GAM-72)	Nuclear Weapon Design/Utilization	Radiological defense	Nuclear Weapon Design/Utilization
Quality Accuracy Reliability Test (QART)	Nuclear Weapon Design/Utilization	Radiological testing	IND/RDD/RW
Quick reaction alert (QRA or "Q")	Nuclear Weapon Design/Utilization	Radiological warfare (RW)	IND/RDD/RW
Quieting	Nuclear Reactors	Radius of damage	Nuclear Weapon Design/Utilization
		Recommended SWOP allowance lists (RAL)	Nuclear Weapon Design/Utilization
<b>R</b>		Redstone (missile)	Nuclear Weapon Design/Utilization
RADIAC (radiation detection indication and computation)	Nuclear Weapon Design/Utilization	Reduction-oxidation extraction (REDOX)	Plutonium Production
RAL (recommended SWOP allowance lists)	Nuclear Weapon Design/Utilization	Reflector (neutron)	Nuclear Reactors
REDOX (reduction-oxidation extraction)	Plutonium Production	Reflex	Nuclear Weapon Design/Utilization
RTG (radioisotope thermoelectric generator)	Nuclear Weapon Design/Utilization/Testing	Regulus (missile)	Nuclear Weapon Design/Utilization
RW (radiological warfare)	IND/RDD/RW	Release code	Nuclear Weapon Design/Utilization
Ra La method	Nuclear Weapon Design/Utilization/Testing	Releasing commander	Nuclear Weapon Design/Utilization
Radar blackout	Nuclear Weapon Design/Utilization	Reservoir, gas, tritium/deuterium	Nuclear Weapon Design/Utilization
Radiating fuze	Nuclear Weapon Design/Utilization	Retirement	Nuclear Weapon Design/Utilization
Radiation	Nuclear Weapon Design/Utilization	Reuse	Nuclear Weapon Design/Utilization
Radiation case	Nuclear Weapon Design/Utilization	Road material	Nuclear Weapon Design/Utilization
Radiation channel, case, flow	Nuclear Weapon Design/Utilization	Rotor	Gas Centrifuge
Radiation detection indication and computation (RADIAC)	Nuclear Weapon Design/Utilization		
Radiation flow	Nuclear Weapon Design/Utilization	<b>S</b>	
Radiation implosion	Nuclear Weapon Design/Utilization	SAAM (special assignment air mission)	Nuclear Weapon Design/Utilization
Radiation weapons test	IND/RDD/RW	SADM (special (or small) atomic demolition munition))	Nuclear Weapon Design/Utilization
Radioactivity	Nuclear Weapon Design/Utilization/IND/RDD/RW	SAS (Special Ammunition Storage) site	Nuclear Weapon Design/Utilization
Radiochemical/radchem detector or tracer	Nuclear Weapon Design/Utilization/Testing	SASP (Special Ammunition Storage Program or Special Ammunition Supply Point)	Nuclear Weapon Design/Utilization



Term	Context	Term	Context
SASS (Special Aircraft Storage Shop)	Nuclear Weapon Design/Utilization	Scaled depth of burial (SDOB)	Nuclear Weapon Testing
SCS (security container system)	Nuclear Weapon Design/Utilization	Seal technology	Uranium Production
SDOB (scaled depth of burial)	Nuclear Weapon Testing	Sealed pit	Nuclear Weapon Design/Utilization
SEAGA (Selective Employment Air/Ground Alert)	Nuclear Weapon Design/Utilization	Secondary	Nuclear Weapon Design/Utilization
SEL (special equipment list)	Nuclear Weapon Design/Utilization	Security container system (SCS)	Nuclear Weapon Design/Utilization
SEP (spherical error probability)	Nuclear Weapon Design/Utilization	Selectable yields	Nuclear Weapon Design/Utilization
SFT (Stockpile Flight Test)	Nuclear Weapon Design/Utilization	Selective Employment Air/Ground Alert (SEAGA)	Nuclear Weapon Design/Utilization
SIOP (single integrated operational plan)	Nuclear Weapon Design/Utilization	Sergeant (missile)	Nuclear Weapon Design/Utilization
SNM (special nuclear material)	Nuclear Weapon Design/Utilization	Service Storage Facility (SSF)	Nuclear Weapon Design/Utilization
SRPS (space reactor power system)	Nuclear Reactors	Shield, shielding	Nuclear Weapon Design/Utilization
SRT (slow run through)	Nuclear Weapon Design/Utilization	Single integrated operational plan (SIOP)	Nuclear Weapon Design/Utilization
SSF (Service Storage Facility)	Nuclear Weapon Design/Utilization	Single stage implosion-assembled (SSIA)	Nuclear Weapon Design/Utilization
SSIA (single stage implosion-assembled)	Nuclear Weapon Design/Utilization	Sites: (Able, Baker, Charlie, Dog, Easy, Fox, George, How, Item, Jig, King, Love, Sugar) (A, B, C, D, F, Q, S, Z ) (e.g., S-sites, Z-sites)	Nuclear Weapon Design/Utilization
SSP (strategic strike plan)	Nuclear Weapon Design/Utilization	Slow run through (SRT)	Nuclear Weapon Design/Utilization
SST (safe secure transport)	Nuclear Weapon Design/Utilization	Source material	Production Reactors
STS (Supplemental Test Site)	Nuclear Weapon Design/Utilization	Space nuclear power	Nuclear Reactors
SW (special weapons)	Nuclear Weapon Design/Utilization	Space reactor power system (SRPS)	Nuclear Reactors
SWOP (special weapons ordnance publications)	Nuclear Weapon Design/Utilization	Spartan (missile)	Nuclear Weapon Design/Utilization
Safeguards	Nuclear Weapon Design/Utilization	Special Aircraft Storage Shop (SASS)	Nuclear Weapon Design/Utilization
Safe haven safing	Nuclear Weapon Design/Utilization	Special ammunition	Nuclear Weapon Design/Utilization
Safe secure transport (SST)	Nuclear Weapon Design/Utilization	Special Ammunition Storage Program or Special Ammunition Supply Point (SASP)	Nuclear Weapon Design/Utilization
Safety, nuclear	Nuclear Weapon Design/Utilization	Special Ammunition Storage (SAS) site	Nuclear Weapon Design/Utilization
Safing	Nuclear Weapon Design/Utilization	Special assignment air mission (SAAM)	Nuclear Weapon Design/Utilization
Salvage fuze	Nuclear Weapon Design/Utilization		
Savannah River reactors (C, K, L, P, and R)	Nuclear Weapon Design/Utilization		



Term	Context	Term	Context
Special (or small) atomic demolition munition (SADM)	Nuclear Weapon Design/Utilization	Subcritical mass	Nuclear Weapon Design/Utilization
Special equipment list (SEL)	Nuclear Weapon Design/Utilization	Sugar, Site	Nuclear Weapon Design/Utilization
Special nuclear material (SNM)	Nuclear Weapon Design/Utilization	Super	Nuclear Weapon Design/Utilization
Special reporting squadron	Nuclear Weapon Design/Utilization	Super-X	Nuclear Weapon Design/Utilization
Special weapons (SW)	Nuclear Weapon Design/Utilization	Supercritical mass	Nuclear Weapon Design/Utilization
Special weapons ordnance publications (SWOP; e.g., Navy SWOP 4-1)	Nuclear Weapon Design/Utilization	Supplemental Test Site (STS)	Nuclear Weapon Design/Utilization
Spherical error probability (SEP)	Nuclear Weapon Design/Utilization		
Sprint (missile)	Nuclear Weapon Design/Utilization	T	
Squab	Nuclear Weapon Design/Utilization	T (H <sub>3</sub> ; tritium)	Nuclear Weapon Design/Utilization/Tritium Production
Squash	Nuclear Weapon Design/Utilization	T or H number (testing or handling)	Nuclear Weapon Design/Utilization
Stage, staged, staging	Nuclear Weapon Design/Utilization	TADM (tactical atomic demolition munition)	Nuclear Weapon Design/Utilization
Staged weapon	Nuclear Weapon Design/Utilization	TCAP (thermal cycling and absorption process)	Tritium Production
Steam generator	Nuclear Reactors	TDS (Tactical Depot Squadron)	Nuclear Weapon Design/Utilization
Stockpile Flight Test (SFT)	Nuclear Weapon Design/Utilization	THERL (test and handling equipment requirements list)	Nuclear Weapon Design/Utilization
Stockpile information: theater allocation subcategorization numbers/type weapons/location	Nuclear Weapon Design/Utilization	TPI (Technical Proficiency Inspection)	Nuclear Weapon Design/Utilization
Storage: dead storage, operational storage, assembled storage, nonready storage, ready storage	Nuclear Weapon Design/Utilization	TSI (Technical Standardization Inspection)	Nuclear Weapon Design/Utilization
Storage monitoring	Nuclear Weapon Design/Utilization	TTBT (Threshold Test Ban Treaty)	Nuclear Weapon Design/Utilization
Storage unit	Nuclear Weapon Design/Utilization	TX (test experimental)	Nuclear Weapon Design/Utilization
Strategic deterrent	Nuclear Weapon Design/Utilization	Tacos	Nuclear Weapon Design/Utilization
Strategic strike plan (SSP)	Nuclear Weapon Design/Utilization	Tactical atomic demolition munition (TADM)	Nuclear Weapon Design/Utilization
Strategic weapon	Nuclear Weapon Design/Utilization	Tactical Depot Squadron (TDS)	Nuclear Weapon Design/Utilization
Strong link	Nuclear Weapon Design/Utilization	Tactical weapon (nuclear)	Nuclear Weapon Design/Utilization
		Tailored output/weapon	Nuclear Weapon Design/Utilization
		Tailwind	Nuclear Weapon Design/Utilization

Term	Context	Term	Context
Talus	Nuclear Weapon Design/Utilization	Tony	Nuclear Weapon Design/Utilization
Tamper	Nuclear Weapon Design/Utilization	Tradewind	Nuclear Weapon Design/Utilization
Target technology/materials	Production Reactors	Trapdoor	Nuclear Weapon Design/Utilization
Technical Proficiency Inspection (TPI)	Nuclear Weapon Design/Utilization	Trident (missile; C-4 or D-5)	Nuclear Weapon Design/Utilization
Technical Standardization Inspection (TSI)	Nuclear Weapon Design/Utilization	Trinity	Nuclear Weapon Testing
Temporary storage	Nuclear Weapon Design/Utilization	Tritium, production	Tritium Production
Terrazzo	Nuclear Weapon Design/Utilization	Tritium, T-3, H-3	Nuclear Weapon Design/Utilization/Tritium Production
Terrier (missile)	Nuclear Weapon Design/Utilization	Trunk	Nuclear Weapon Design/Utilization
Test and handling equipment requirements list (THERL)	Nuclear Weapon Design/Utilization	Tuballoy	Nuclear Weapon Design/Utilization
Test experimental (TX)	Nuclear Weapon Design/Utilization	Tube bundle	Uranium Production
Test series (nuclear)	Nuclear Weapon Testing	Tubes alloy	Nuclear Weapon Design/Utilization
Test, underground, atmospheric, underwater, nuclear, weapon, effects	Nuclear Weapon Testing	Two-key concept	Nuclear Weapon Design/Utilization
Testing or handling (T or H) numbers	Nuclear Weapon Design/Utilization	Two-man rule	Nuclear Weapon Design/Utilization
Thermal cycling and absorption process (TCAP)	Tritium Production	Two-person control	Nuclear Weapon Design/Utilization
Thermal diffusion	Tritium Production	TX (usually hyphenated with a numeral; e.g., TX-14)	Nuclear Weapon Design/Utilization
Thermal shields	Nuclear Reactors	Type VI structure	Nuclear Weapon Design/Utilization
Thermonuclear (TN)	Nuclear Weapon Design/Utilization		
Thermonuclear reactors	Nuclear Reactors	<b>U</b>	
Thermonuclear weapon	Nuclear Weapon Design/Utilization	U (uranium)	Nuclear Weapon Design/Utilization
Thin man	Nuclear Weapon Design/Utilization	U-233, -235, -238	Nuclear Weapon Design/Utilization
Thor (missile)	Nuclear Weapon Design/Utilization	Uranium (U)/uranium-233, uranium-235, uranium-238	Nuclear Weapon Design/Utilization
Thule (accident)	Nuclear Weapon Design/Utilization	Urchin	Nuclear Weapon Design/Utilization
Tile	Nuclear Weapon Design/Utilization	USAAD (U.S. Army Air Defense Detachment)	Nuclear Weapon Design/Utilization
Titan (missile; SM-68)	Nuclear Weapon Design/Utilization	USAFAD (U.S. Army Field Artillery Detachment)	Nuclear Weapon Design/Utilization
Threshold Test Ban Treaty (TTBT)	Nuclear Weapon Design/Utilization	Use control	Nuclear Weapon Design/Utilization

Term	Context	Term	Context
<b>V</b>		x-unit	Nuclear Weapon Design/Utilization
VHE (very high enrichment)	Nuclear Weapon Design/Utilization/Reactor	XW-x (x=a number; e.g., XW-17)	Nuclear Weapon Design/Utilization
Vacuum furnace	Tritium Production		
Vela, Vela Uniform	Nuclear Weapon Testing	<b>Y</b>	
Venting	Nuclear Weapon Testing	Yield	Nuclear Weapon Design/Utilization
Verification inspection	Nuclear Weapon Testing	Yield-to-weight	Nuclear Weapon Design/Utilization
Very high enrichment (VHE)	Nuclear Weapon Design/Utilization/Reactor		
Violent destruct	Nuclear Weapon Design/Utilization	<b>Z</b>	
Vulnerability	Nuclear Weapon Design/Utilization	"Z" (sites; also atomic number; e.g., Z=92 is Uranium)	Nuclear Weapon Design/Utilization
		Zipper	Nuclear Weapon Design/Utilization
<b>W</b>			
W-x (x=a number; e.g., W-79)	Nuclear Weapon Design/Utilization		
WDR (weapon development report)	Nuclear Weapon Design/Utilization		
WHS numbers (warhead section numbers)	Nuclear Weapon Design/Utilization		
WHS-x (x= a number; e.g., WHS-75)	Nuclear Weapon Design/Utilization		
WR (war reserve)	Nuclear Weapon Design/Utilization		
WS (warshot)	Nuclear Weapon Design/Utilization		
Warhead section (WHS) numbers	Nuclear Weapon Design/Utilization		
War reserve (WR)	Nuclear Weapon Design/Utilization		
Warshot (WS)	Nuclear Weapon Design/Utilization		
Weak link	Nuclear Weapon Design/Utilization		
Weapon development report (WDR)	Nuclear Weapon Design/Utilization		
Weapon grade material (plutonium, uranium)	Nuclear Weapon Design/Utilization		
Wendover Air Force Base	IND/RDD/RW		
Wig Mountain	IND/RDD/RW		
<b>X</b>			
Xxxxx (xxx=a number; e.g., XM-454)	Nuclear Weapon Design/Utilization		
x-ray, x-ray spectrum	Nuclear Weapon Design/Utilization/Testing		

## SITES AND ORGANIZATIONS

U.S. nuclear weapons have been designed at the Los Alamos, Livermore, and Sandia National Laboratories and manufactured in a production complex that has changed with time but has always been located throughout the United States. The mention of the following key sites and organizations increases the likelihood of the presence of nuclear information in a document:

Name	Remarks	Name	Remarks
100B Plutonium Production Reactor, Hanford	U.S. Department of Energy	Air Force Systems Command (AFSC)	
		Air Force Technical Applications Center (AFTAC)	
<b>A</b>		Air Operations Center (AOC)	
ACF Industries (American Car and Foundry Industries)		Air Research and Development Command (ARDC)	
AEC (Atomic Energy Commission)	U.S. Department of Energy	Albuquerque Operations Office (AL, ALO, or ALOO)	U.S. Department of Energy
AFCRL (Air Force Cambridge Research Lab)		Allied Signal, Kansas City	U.S. Department of Energy
AFOAT (Air Force Office-Atomic Testing)		Amchitka	U.S. Department of Energy
AFSC (Air Force Systems Command)		American Car and Foundry (ACF) Industries	
AFSWC (Air Force Special Weapons Center)		Armed Forces Special Weapons Project (AFSWP)	
AFSWP (Armed Forces Special Weapons Project)		Ashtabula	U.S. Department of Energy
AFTAC (Air Force Technical Applications Center)		Assistant to the Secretary of Defense (Atomic Energy) (ATSD(AE))	
AL, ALO, or ALOO (Albuquerque Operations Office)	U.S. Department of Energy	Atomic Energy Commission (AEC)	U.S. Department of Energy
AOC (Air Operations Center)		Atomic Weapons Establishment (AWE), U.K.	
ARDC (Air Research and Development Command)		Atomic Weapons Research Establishment (AWRE), U.K.	
ARPA (Advanced Research Projects Agency)			
ATSD(AE) (Assistant to the Secretary of Defense (Atomic Energy))		<b>B</b>	
AWE (Atomic Weapons Establishment), U.K.		BAPL (Bettis Atomic Power Laboratory)	U.S. Department of Energy
AWRE (Atomic Weapons Research Establishment), U.K.		Bendix, Kansas City	U.S. Department of Energy
Advanced Research Projects Agency (ARPA)		Bethe Panel	U.S. Department of Energy
Air Force Cambridge Research Lab (AFCRL)		Bettis Atomic Power Laboratory (BAPL)	U.S. Department of Energy
Air Force Office - Atomic Testing (AFOAT)		Bikini, Bikini Atoll	U.S. Department of Energy
Air Force Special Weapons Center (AFSWC)		Burlington Industries	U.S. Department of Energy

Name	Remarks	Name	Remarks
Burlington Site, IA	U.S. Department of Energy	<b>G</b>	
		GAC (General Advisory Committee)	
<b>C</b>		GE (General Electric)	
Christmas Island	U.S. Department of Energy	Gaseous Diffusion Plant	U.S. Department of Energy
Clinton Engineer Works	U.S. Department of Energy	General Advisory Committee (GAC)	
		GE Pinellas	U.S. Department of Energy
<b>D</b>			
DASA (Defense Atomic Support Agency)		<b>H</b>	
DMA (Division of Military Application)	U.S. Department of Energy	HAO (Hawaii Area Office)	
DNA (Defense Nuclear Agency)		H&N (Holmes & Narver)	
DPNE (Division of Peaceful Nuclear Explosives)	U.S. Department of Energy	Hanford	U.S. Department of Energy
DSWA (Defense Special Weapons Agency)		Hawaii Area Office (HAO)	
DTRA (Defense Threat Reduction Agency)		Hiroshima	
Defense Atomic Support Agency (DASA)		Holmes & Narver (H&N)	
Defense Nuclear Agency (DNA)			
Defense Special Weapons Agency (DSWA)		<b>J</b>	
Defense Threat Reduction Agency (DTRA)		JCAE (Joint Committee on Atomic Energy)	
Division of Military Application (DMA)	U.S. Department of Energy	JOWOG (Joint Working Group)	
Division of Peaceful Nuclear Explosives (DPNE)	U.S. Department of Energy	JTF (Joint Task Force 7, 8, and 132.1)	
		Johnston Atoll/Johnston Island	
<b>E</b>		Joint Committee on Atomic Energy (JCAE)	
EG&G (Edgerton, Germeshausen, and Grier)	U.S. Department of Energy	Joint Task Force (JTF) 7, 8, and 132.1	
ERDA (Energy Research and Development Administration)	U.S. Department of Energy	Joint Working Group (JOWOG)	
Eniwetok, Eniwetak, Enewetak	U.S. Department of Energy		
		<b>K</b>	
<b>F</b>		KAPL (Knolls Atomic Power Laboratory)	U.S. Department of Energy
Fernald	U.S. Department of Energy	K-25 Site, Oak Ridge	U.S. Department of Energy
		Kansas City Plant	U.S. Department of Energy
		Kingman Reef	
		Knolls Atomic Power Laboratory (KAPL)	U.S. Department of Energy
		Kwajalein	

Name	Remarks	Name	Remarks
<b>L</b>		NRL (Naval Research Laboratory)	
LANL (Los Alamos National Laboratory)	U.S. Department of Energy	NTS (Nevada Test Site)	U.S. Department of Energy
LASL (Los Alamos Scientific Laboratory)	U.S. Department of Energy	NV, NVO, NVOO (Nevada Operations Office)	U.S. Department of Energy
LLL (Lawrence Livermore Laboratory)	U.S. Department of Energy	Nagasaki	
LLNL (Lawrence Livermore National Laboratory)	U.S. Department of Energy	National Bureau of Standards (NBS)	
LRL (Lawrence Radiation Laboratory)	U.S. Department of Energy	National Institute of Standards and Technology (NIST)	
Lawrence Livermore Laboratory (LLL)	U.S. Department of Energy	Naval Research Laboratory (NRL)	
Lawrence Livermore National Laboratory (LLNL)	U.S. Department of Energy	Navy Radiological Defense Laboratory (NRDL)	
Lawrence Radiation Laboratory (LRL)	U.S. Department of Energy	Nevada Operations Office (NV) (NVO) (NVOO)	U.S. Department of Energy
Los Alamos National Laboratory (LANL)	U.S. Department of Energy	Nevada Test Site (NTS)	U.S. Department of Energy
Los Alamos Scientific Laboratory (LASL)	U.S. Department of Energy	Nuclear weapons complex	U.S. Department of Energy
<b>M</b>		<b>O</b>	
MATS (Military Air Transport Service)		OR, ORO (Oak Ridge Operations Office)	U.S. Department of Energy
MED (Manhattan Engineer District)	U.S. Department of Energy	Oak Ridge Gaseous Diffusion Plant (K-25)	U.S. Department of Energy
MLC (Military Liaison Committee)	U.S. Department of Energy	Oak Ridge Operations Office (OR, ORO)	U.S. Department of Energy
MSTS (Military Sea Transport Service)		Oak Ridge Y-12 Plant	U.S. Department of Energy
Manhattan Project, Manhattan Engineer District (MED)	U.S. Department of Energy		
Marshall Islands Military Air Transport Service (MATS)		<b>P</b>	
Military Liaison Committee (MLC)	U.S. Department of Energy	PNR (Pittsburgh Naval Reactors Office)	U.S. Department of Energy
Military Sea Transport Service (MSTS)		PPG (Pacific Proving Grounds)	U.S. Department of Energy
Mound Laboratories	U.S. Department of Energy	Pacific Proving Grounds (PPG)	U.S. Department of Energy
		Pacific Test Range	U.S. Department of Energy
<b>N</b>		Paducah Site or Gaseous Diffusion Plant	U.S. Department of Energy
NBS (National Bureau of Standards)		Palmyra	
NIST (National Institute of Standards and Technology)		Pantex	U.S. Department of Energy
NRDL (Navy Radiological Defense Laboratory)		Pinellas	U.S. Department of Energy

Name	Remarks	Name	Remarks
Pittsburgh Naval Reactors Office (PNR)	U.S. Department of Energy		
Portsmouth Site or Gaseous Diffusion Plant	U.S. Department of Energy	<b>U</b>	
		UCRL (University of California Radiation Laboratory)	U.S. Department of Energy
<b>R</b>		USGS (U.S. Geological Survey)	
REECO (Reynolds Electric and Engineering Co.)		U.S. Geological Survey (USGS)	
RL (Richland Operations Office)	U.S. Department of Energy	University of California Radiation Laboratory (UCRL)	U.S. Department of Energy
RFFO (Rocky Flats Field Office)	U.S. Department of Energy		
Reynolds Electric and Engineering Co. (REECO)		<b>W</b>	
Richland Operations Office (RL)	U.S. Department of Energy	Weather Reconnaissance Service (WRS)	
Rocky Flats Field Office (RFFO)	U.S. Department of Energy	Weldon Springs Plant	U.S. Department of Energy
<b>S</b>		<b>X</b>	
SAC (Strategic Air Command)		X-10 Plutonium Production Reactor	U.S. Department of Energy
SL (Sandia Laboratories)	U.S. Department of Energy		
SNL (Sandia National Laboratories)	U.S. Department of Energy	<b>Z</b>	
SNR (Schenectady Naval Reactors)	U.S. Department of Energy	Z-Plant Plutonium Separation Facilities, Hanford	U.S. Department of Energy
SRI (Stanford Research Institute)			
SRS (Savannah River Site)	U.S. Department of Energy		
STL (Space Technology Laboratory)			
SWC (Special Weapons Center)			
S-50 Thermal Diffusion Plant	U.S. Department of Energy		
Sandia Corporation, Laboratories (SL), or National Laboratories (SNL)	U.S. Department of Energy		
Savannah River Site (SRS)	U.S. Department of Energy		
Schenectady Naval Reactors (SNR)	U.S. Department of Energy		
Space Technology Laboratory (STL)			
Special Weapons Center (SWC)			
Stanford Research Institute (SRI)			
Strategic Air Command (SAC)			

## FREQUENTLY ENCOUNTERED NAMES OF PEOPLE INVOLVED IN THE NUCLEAR PROGRAM

Abelson, Philip M.	Elliot, Gil	Norris, Edward
Adamson, Keith A.	English, Spofford	Norstad, Lauris
Adler, Edward	Farrell, Thomas	Ogle, William
Akers, Wallace	Fermi, Enrico	Oliphant, Marcus (Mark)
Allier, Jacques	Fields, Kenneth	Oppenheimer, J. Robert
Allison, Samuel K.	Frisch, Otto	Parsons, William S. (Deke)
Alvarez, Luis	Fuchs, Klaus	Peierls, Rudolf
Anderson, Herbert	Gamow, George	Penney, William
Arneson, Lt. Gordon R.	Geiger, Hans	Pike, Sumner
Arnold, Henry H. (Hap)	Glennan, T. Keith	Rabi, Isidor
Ashworth, Frederick L.	Greenwalt, Crawford	Ramsey, Norman
Bacher, Robert F.	Groves, Leslie	Rickover, Hyman
Bainbridge, Kenneth	Guillian, Robert	Sachs, Alexander
Bard, Ralph	Hahn, Otto	Seaborg, Glenn
Baruch, Bernard	Harrison, George	Segre, Emilio
Benedict, Manson	Heisenberg, Werner	Serber, Robert
Bethe, Hans	Holifield, Chet	Sewhitt, John
Block, Ed	Hopkins, Harry	Smyth, Henry
Bohr, Niels	Jewett, Frank	Spaatz, Carl
Booth, Eugene	Kapitza, Peter	Starbird, A. Dodd
Bothe, Walther	Keith, Percival	Stimson, Henry
Bradbury, Norris	Kistiakowsky, George	Strauss, Lewis
Brasch, Arno	Lawrence, Ernest	Swearingen, Judson
Briggs, Lyman	LeMay, Curtis	Szilard, Leo
Brode, Robert	Lewis, Robert	Taylor, Hugh
Burcher, George	Libby, Leona Woods	Teller, Edward
Bush, Vannevar	Marshall	Thomason, R. Ewing
Byrnes, James	Libby, Willard	Thomson, G.P.
Chadwick, James	Liebow, Averill	Tibbets, Paul
Clusius, Klaus	Lifton, Robert	Tizard, Henry
Cockcroft, John	Lilienthal, David	Tolman, Richard
Cohen, Karl	McCone, John	Ulam, Stanislaw
Compton, Arthur	McCool, Woodford B.	Urey, Harold
Compton, Karl	McMahon, Brien	von Neumann, John
Conant, James	McMillian, Edwin	Wallace, Henry
Coolidge, William	Manley, John	Wamack, William
Cordon, Edward	Mark, Carson (J. Carson)	Weisskopf, Victor
Creutz, Edward	Marshall, George	Wheeler, John
Dean, Gordon	Morrison, Philip	Wigner, Eugene
Diebner, Kurt	Murray, Thomas	Wilson, Robert
DuBridge, Lee A.	Neddermeyer, Seth	York, Herbert
Duncan, Bishop	Nichols, Kenneth	Zuckert, Eugene
Dunning, John	Nier, Alfred	



## NOTES

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