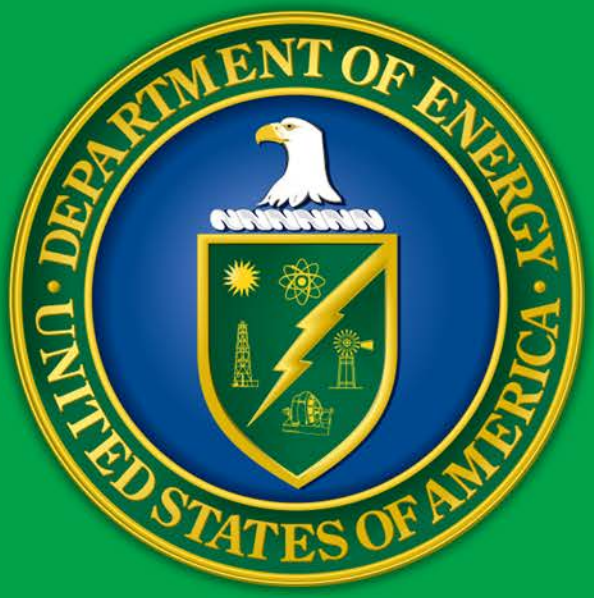
DOE OFFICE OF CLASSIFICATION

SUBJECT AREA INDICATORS AND KEY WORD LIST FOR RESTRICTED DATA AND FORMERLY RESTRICTED DATA



U.S. DEPARTMENT OF ENERGY
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PURPOSE

The purpose of this book 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.

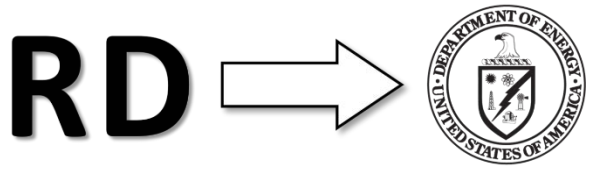

Figure 1: Restricted Data Authority

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.

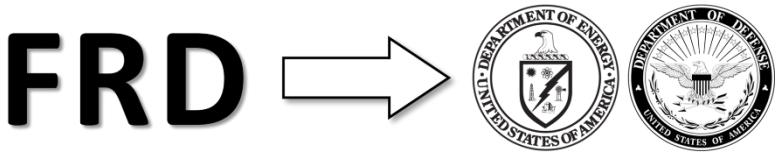

Figure 2: Formerly Restricted Data Authorities

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)

	Restricted Data / Formerly Restricted Data	**National Security Information**
Authority	Atomic Energy Act	Executive Order
Declassification	Documents containing RD or FRD are not subject to automatic declassification; they always require review prior to declassification. Documents containing RD can only be declassified by DOE reviewers. Documents containing FRD can only be declassified by DOE or DoD reviewers.	Documents containing only NSI are automatically declassified on occurrence of an event or date unless specifically exempted. Documents containing only NSI can be declassified by reviewers designated by the originating agency.
Marking	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. Documents containing RD or FRD do not have automatic declassification instructions on the front page, even if NSI is also present. Documents containing RD or FRD do not require portion markings (agency option).	Documents containing only NSI are marked according to Executive order standards Documents containing only NSI must contain automatic declassification instructions. Documents containing only NSI must be portion marked.

Table 1: Restricted Data, Formerly Restricted Data Comparison Chart

ACCESS TO RD AND FRD

Non-DoD Organizations:

	Top Secret	Secret	Confidential
Restricted Data	DOE "**Q**" clearance	DOE "**Q**" clearance	DOE "**L**" clearance
Formerly Restricted Data	Same as NSI (unless document contains Sigma FRD information)		

Table 2: Clearance Levels Required for Access to Restricted Data and Formerly Restricted Data

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 Organizations:

Final Top Secret or Secret clearance, as appropriate, and need to know. Confidential or interim Top Secret or Secret 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 book, 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 in the Sites and Organizations Section (pages 38-43.) RD and FRD markings are identified in the RD and FRD Markings Section (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 in the Key Words and Phrases Section (pages 22-37).

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 3.4 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 3.4 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:

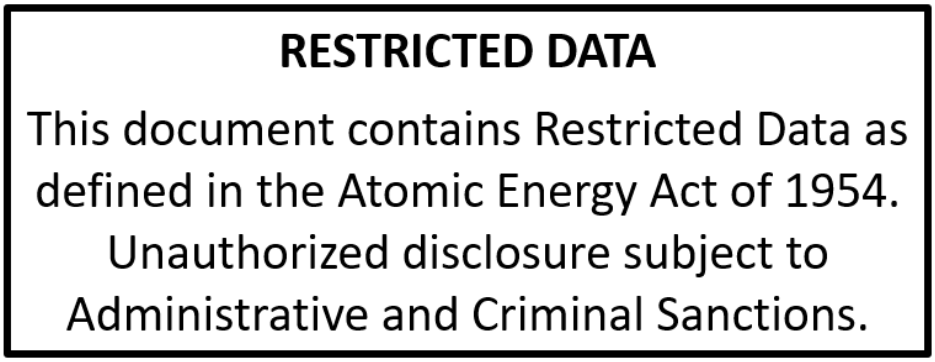

Figure 3: Admonishment Warning for documents containing Restricted Data.

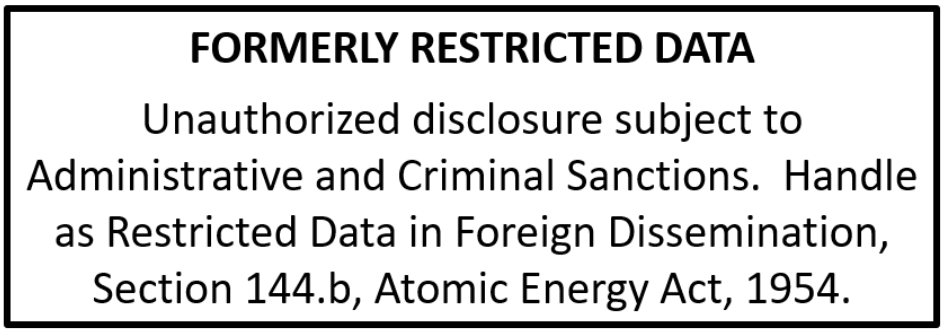

Figure 4: Admonishment Warning for documents containing Formerly Restricted Data.

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. Sigma categories have included 1-5, 9-15, 18, and 20. Currently Sigma Categories 14, 15, 18, and 20 exist.
- **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	Secret	Confidential
Restricted Data	TSRD	SRD	CRD
Formerly Restricted Data	TSFRD	SFRD	CFRD

Table 3: Classification Level and Category Abbreviations for Portion Markings. 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

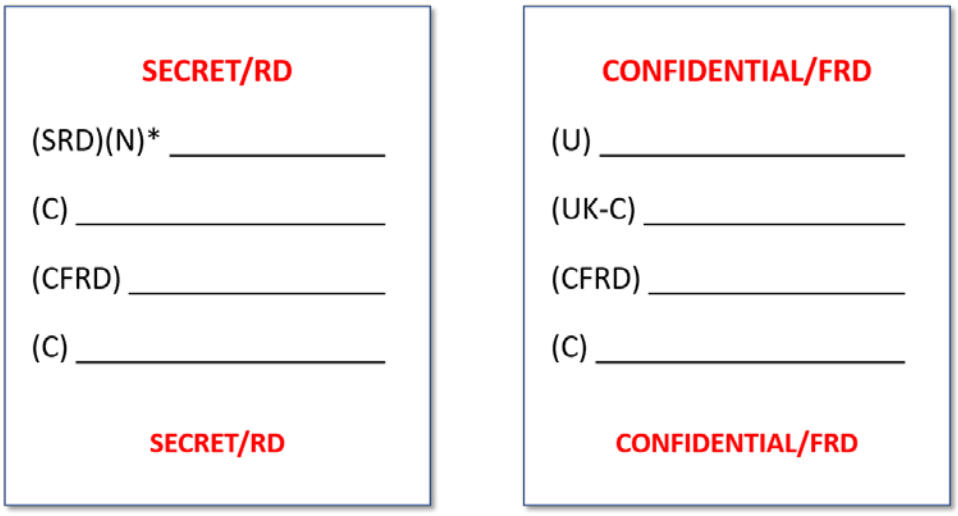

*Figure 5: Examples of Portion Markings that may indicate the presence of RD/FRD. *The "N" indicates that the section contains Critical Nuclear Weapon Design Information (CNWDI).*

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,
- boosted 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 probable (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 the Nuclear Weapons Locations, Presence of Weapons Indicators, and Stockpile Quantities and Subcategory Indicators Sections for additional information (pages 14-18).

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_2O) 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:

Material Produced	Target Material	Chemical Separation Processes
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

Table 4: Nuclear materials produced and chemical processes used by DOE

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 MATERIAL (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 NA-30 (Naval Reactors).

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 National 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 should be protected as transclassified foreign nuclear information (TFNI) if it contains raw intelligence information on a foreign nuclear program, which could be RD or design-related FRD if it was U.S. program information.
- 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 WEAPON (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 weapon, 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.

Figure 6: Example of Warhead vs. Delivery System

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 (NWAI)
- 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
- Maximum Security 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 8-18 of this book. 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 22-45 of this book.

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 another-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 see 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:

How to use these lists

Key Words or 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. If you are not sure of the context, don't guess. Refer the document to DOE.

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 classified 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 book 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 book are discussed.

KEY WORDS AND PHRASES

Numerical – Key Words and Phrases

Term	Context
15-minute alert (or any other time; e.g., 5-minute alert)	Nuclear Weapon Design/Utilization
155 mm howitzer	Nuclear Weapon Design/Utilization
240 mm howitzer	Nuclear Weapon Design/Utilization
280 mm cannon	Nuclear Weapon Design/Utilization
8 inch howitzer	Nuclear Weapon Design/Utilization
16 inch gun	Nuclear Weapon Design/Utilization

A – Key Words and Phrases

Term	Context
ADM (atomic demolition munition)	Nuclear Weapon Design/Utilization
AF&F (arming, fuzing, and firing)	Nuclear Weapon Design/Utilization
AFAP (artillery fired atomic projectile)	Nuclear Weapon Design/Utilization
AK (adaption kit) warhead	Nuclear Weapon Design/Utilization
ANF (Allied Nuclear Force)	Nuclear Weapon Design/Utilization
ASROC (anti-submarine rocket)	Nuclear Weapon Design/Utilization
AVLIS (atomic vapor laser isotope separation)	Uranium /Plutonium Production
Able, Site	Nuclear Weapon Design/Utilization
Active protection	Nuclear Weapon Design/Utilization
Adaption kit (AK) warhead	Nuclear Weapon Design/Utilization
Allied Nuclear Force (ANF)	Nuclear Weapon Design/Utilization
Alpha-n initiator	Nuclear Weapon Design/Utilization
Alteration (may be hyphenated with a numeral – e.g., ALT-11)	Nuclear Weapon Design/Utilization
Anti-submarine rocket (ASROC)	Nuclear Weapon Design/Utilization
Anti-tampering device	Nuclear Weapon Design/Utilization
Area denial	IND/RDD/RW
Arming	Nuclear Weapon Design/Utilization
Arming, fuzing, and firing (AF&F)	Nuclear Weapon Design/Utilization
Artillery fired atomic projectile (AFAP)	Nuclear Weapon Design/Utilization
Assay	Uranium Production/ Nuclear Weapon Design/Utilization
Assembly spares	Nuclear Weapon Design/Utilization
Astor (torpedo)	Nuclear Weapon Design/Utilization
Atlas (missile)	Nuclear Weapon Design/Utilization
ATOMAL	Nuclear Weapon Design/Utilization
ATOMIC	Nuclear Weapon Design/Utilization
Atomic demolition munition (ADM)	Nuclear Weapon Design/Utilization
Atomic vapor laser isotope separation (AVLIS)	Uranium/Plutonium Production
Automatic disablement	Nuclear Weapon Design/Utilization

B – Key Words and Phrases

Term	Context
Be (beryllium)	Nuclear Weapon Design/Utilization
B-x (x=a number; e.g., B-61	Nuclear Weapon Design/Utilization

Term	Context
Baffle	Uranium Production
Baker, Site	Nuclear Weapon Design/Utilization
Barrier/barrier technology	Uranium Production
Bent Spear	Nuclear Weapon Design/Utilization
Beryllium (Be)	Nuclear Weapon Design/Utilization
Bilateral agreement	Nuclear Weapon Design/Utilization
Blackout, radar	Nuclear Weapon Design/Utilization/ Testing
Blast	Nuclear Weapon Design/Utilization
BOAR (missile)	Nuclear Weapon Design/Utilization
BOMARC (missile)	Nuclear Weapon Design/Utilization
Boosted or boosting	Nuclear Weapon Design/Utilization
Broken Arrow	Nuclear Weapon Design/Utilization
Bundle	Uranium Production
BUTEX	Plutonium Production

C – Key Words and Phrases

Term	Context
CAF (complete assembly for ferry)	Nuclear Weapon Design/Utilization
CAL (complete assembly for launch)	Nuclear Weapon Design/Utilization
CAS (complete assembly for strike)	Nuclear Weapon Design/Utilization
CDS (command disablement system)	Nuclear Weapon Design/Utilization
CEP (circular error probable)	Nuclear Weapon Design/Utilization
COLEX (column exchange)	Lithium Production
CORRTEX (Continuous Reflectometry for Radius vs. Time Experiment)	Nuclear Weapon Testing
CSA (canned subassembly)	Nuclear Weapon Design/Utilization
CTBT (Comprehensive Test Ban Treaty)	Nuclear Weapon Design/Utilization
CTR (Controlled Thermonuclear Reactor)	Nuclear Reactors
Calutron	Uranium Production
Canned subassembly (CSA)	Nuclear Weapon Design/Utilization
Capsule	Nuclear Weapon Design/Utilization
Cascade	Uranium Production
Case/case material/ radiation case	Nuclear Weapon Design/Utilization
Centrifuge machine	Uranium Production
Chain reaction (fission)	Nuclear Weapon Design/Utilization
Channel/radiation channel	Nuclear Weapon Design/Utilization
Charlie, Site	Nuclear Weapon Design/Utilization
Chrome Dome	Nuclear Weapon Design/Utilization
Circular error probable (CEP)	Nuclear Weapon Design/Utilization
City buster	Nuclear Weapon Design/Utilization
Cladding (fuel)	Plutonium Production/ Nuclear Reactors
Class A weapons (or class B, C, D, E, F weapons)	Nuclear Weapon Design/Utilization
Clean weapon	Nuclear Weapon Design/Utilization
Column exchange (COLEX)	Lithium Production
Command disablement	Nuclear Weapon Design/Utilization
Command disablement system (CDS)	Nuclear Weapon Design/Utilization
Complete assembly for ferry (CAF)	Nuclear Weapon Design/Utilization
Complete assembly for launch (CAL)	Nuclear Weapon Design/Utilization

Term	Context
Complete assembly for strike (CAS)	Nuclear Weapon Design/Utilization
Comprehensive Test Ban Treaty (CTBT)	Nuclear Weapon Design/Utilization
Compressor nozzle	Uranium Production
Continuous Reflectometry for Radius vs. Time Experiment (CORRTEX)	Nuclear Weapon Testing
Control rod	Nuclear Reactors
Controlled area	Nuclear Weapon Design/Utilization
Controlled Thermo-nuclear Reactor (CTR)	Nuclear Reactors
Coolant inlet/outlet nozzle	Nuclear Reactors
Coolant pump	Nuclear Reactors
Convertible weapon core	Nuclear Weapon Design/Utilization
Corporal (missile)	Nuclear Weapon Design/Utilization
Coupling	Nuclear Weapon Design/Utilization
Crit	Nuclear Weapon Design/Utilization
Critical mass	Nuclear Weapon Design/Utilization
Criticality	Nuclear Weapon Design/Utilization/ Reactors
Curie; curies per square foot	Nuclear Weapon Design/Utilization/ Nuclear Weapon Testing/IND/RDD/RW
Custodial unit/detachment	Nuclear Weapon Design/Utilization
Custodian; custody	Nuclear Weapon Design/Utilization
Cyclotron	Uranium Production

D – Key Words and Phrases

Term	Context
D-2, or D, Deuterium	Nuclear Weapon Design/Utilization
D-38 (see depleted uranium)	Nuclear Weapon Design/Utilization
DAY (dial-a-yield)	Nuclear Weapon Design/Utilization
DGZ (designated ground zero)	Nuclear Weapon Design/Utilization
DNES (Directed Nuclear Energy System)	Nuclear Weapon Design/Utilization
DOB (depth of burst/burial)	Nuclear Weapon Testing
DU (depleted uranium)	Nuclear Weapon Design/Utilization
Davy Crockett (recoilless launched nuclear missile XM-388 or its warhead)	Nuclear Weapon Design/Utilization
Davy Jones (anti-submarine warfare missile)	Nuclear Weapon Design/Utilization
Decontamination tactics	IND/RDD/RW
Decoupling	Nuclear Weapon Testing
Delivery accuracy	Nuclear Weapon Design/Utilization
Delivery error	Nuclear Weapon Design/Utilization
Demi-John (missile)	Nuclear Weapon Design/Utilization
Depleted uranium (DU)	Nuclear Weapon Design/Utilization
Deployment	Nuclear Weapon Design/Utilization
Depth of burst/burial (DOB)	Nuclear Weapon Testing
Designated ground zero (DGZ)	Nuclear Weapon Design/Utilization
Detonation, points	Nuclear Weapon Design/Utilization
Detonator/detonator systems/detonator cables	Nuclear Weapon Design/Utilization
Deuterium (D or H-2)	Nuclear Weapon Design/Utilization/ Nuclear Material Production
Deuterium production	Nuclear Material Production

Term	Context
Device	Nuclear Weapon Design/Utilization
Dial-a-yield (DAY)	Nuclear Weapon Design/Utilization
Diffuser	Uranium Production
Diffusion/diffusion stage/diffusion barrier	Uranium Production
Ding Dong (missile)	Nuclear Weapon Design/Utilization
Direct drive	Inertial Confinement Fusion
Directed energy/output	Nuclear Weapon Design/Utilization
Directed Nuclear Energy Systems (DNES)	Nuclear Weapon Design/Utilization
Dirty weapon	Nuclear Weapon Design/Utilization
Disablement/command disablement	Nuclear Weapon Design/Utilization
Disarmament	Nuclear Weapon Design/Utilization
Dispersal	IND/RDD/RW
Dog, Site	Nuclear Weapon Design/Utilization
DT gas	Nuclear Weapon Design/Utilization
Dugway	IND/RDD/RW
Dull Sword	Nuclear Weapon Design/Utilization
Dummy component	Nuclear Weapon Design/Utilization

E – Key Words and Phrases

Term	Context
E&ST (Employment and Suitability Test)	Nuclear Weapon Design/Utilization
ELEX (electro-exchange)	Lithium Production
ELS (electric lighting system)	Nuclear Weapon Design/Utilization
EMIS (electromagnetic isotope separation)	Uranium Production
EMP (electromagnetic pulse)	Nuclear Weapon Design/ Utilization/Testing
EMPTV (Electromagnetic Pulse Test Vehicle)	Nuclear Weapon Design/ Utilization/ Testing
EOS (Equation of State)	Nuclear Weapon Design/ Utilization/ Testing
ER (enhanced radiation)	Nuclear Weapon Design/Utilization
ESD (environmental sensing device)	Nuclear Weapon Design/Utilization
Easy, Site	Nuclear Weapon Design/Utilization
Effects test	Nuclear Weapon Design/Utilization
Efficiency, nuclear	Nuclear Weapon Design/Utilization
Electric lighting system (ELS)	Nuclear Weapon Design/Utilization
Electro-exchange (ELEX)	Lithium Production
Electromagnetic isotope separation (EMIS)	Uranium Production
Electromagnetic pulse (EMP)	Nuclear Weapon Design/Utilization
Electromagnetic Pulse Test Vehicle (EMPTV)	Nuclear Weapon Design/ Utilization/ Testing
Emergency capability release	Nuclear Weapon Design/Utilization
Emergency destruction	Nuclear Weapon Design/Utilization
Employment and Suitability Test (E&ST)	Nuclear Weapon Design/Utilization
End caps	Uranium Production
Enhanced radiation (ER)	Nuclear Weapon Design/Utilization
Enhanced radiation/output	Nuclear Weapon Design/Utilization
Enriched	Nuclear Weapon Design/Utilization
Enrichment	Nuclear Weapon Design/Utilization
Environmental sensing device (ESD)	Nuclear Weapon Design/Utilization
Equation of state (EOS)	Nuclear Weapon Design/ Utilization/ Testing
Event	Nuclear Weapon Testing

Term	Context
Explosive train	Nuclear Weapon Design/Utilization
Extended life	Nuclear Weapon Design/Utilization

F – Key Words and Phrases

Term	Context
FAT (final assembly test)	Nuclear Weapon Design/Utilization
FBM (fleet ballistic missile)	Nuclear Weapon Design/Utilization
Falcon (missile)	Nuclear Weapon Design/Utilization
Fallout	Nuclear Weapon Testing
Fat Man	Nuclear Weapon Design/Utilization
Final assembly test (FAT)	Nuclear Weapon Design/Utilization
Fireball	Nuclear Weapon Design/ Utilization/ Nuclear Weapon Testing
Fire safe	Nuclear Weapon Design/Utilization
Firing set	Nuclear Weapon Design/Utilization
First stage	Nuclear Weapon Design/Utilization
Fissile	Nuclear Weapon Design/Utilization
Fission	Nuclear Weapon Design/Utilization
Fleet ballistic missile (FBM)	Nuclear Weapon Design/Utilization
Flux	Nuclear Reactors
Fox, Site	Nuclear Weapon Design/Utilization
Fratricide	Nuclear Weapon Design/Utilization
Fuel, reactor	Nuclear Reactors
Fuel reprocessing	Plutonium Production
Fusion	Nuclear Weapon Design/Utilization
Fuze	Nuclear Weapon Design/Utilization

G – Key Words and Phrases

Term	Context
Ga (gallium)	Nuclear Weapon Design/Utilization
GA (gun-assembled)	Nuclear Weapon Design/Utilization
GSP (general strike plan)	Nuclear Weapon Design/Utilization
Gallium (Ga)	Nuclear Weapon Design/Utilization
Gamma output, radiation, flux spectrum, fluence	Nuclear Weapon Design/Utilization
GAR-11 (missile)	Nuclear Weapon Design/Utilization
Gas centrifuge	Uranium Production
Gaseous diffusion	Uranium Production
General strike plan (GSP)	Nuclear Weapon Design/Utilization
Genie (missile)	Nuclear Weapon Design/Utilization
George, Site	Nuclear Weapon Design/Utilization
Ground zero	Nuclear Weapon Design/Utilization
Gun-assembled (GA)	Nuclear Weapon Design/Utilization
Gun-assembled, type	Nuclear Weapon Design/Utilization
Guppy	Nuclear Weapon Design/Utilization

H – Key Words and Phrases

Term	Context
HA (high altitude; as in HA detonation)	Nuclear Weapon Design/ Utilization/ Nuclear Weapon Testing
HE (high explosive)	Nuclear Weapon Design/Utilization
HEU (highly enriched uranium)	Nuclear Weapon Design/Utilization
HEX (hexafluoride, uranium)	Uranium Production
HOB (height-of-burst)	Nuclear Weapon Design/ Utilization/ Nuclear Weapon Testing
Halite	Inertial Confinement Fusion
Hanford Reactors (B, C, D, DR, F, H, E, KW, and N)	Plutonium Production
Hardening	Nuclear Weapon Design/Utilization
Hardness	Nuclear Weapon Design/Utilization
Harpoon (missile)	Nuclear Weapon Design/Utilization
Headwind	Nuclear Weapon Design/Utilization
Heavy water	Nuclear Reactors/ Nuclear Material Production
Height-of-burst (HOB)	Nuclear Weapon Design/ Utilization/Nuclear Weapon Testing
Hexafluoride (HEX), uranium	Uranium Production
High altitude; as in HA detonation (HA)	Nuclear Weapon Design/Utilization/ Nuclear Weapon Testing
High altitude effects (or phenomenology)	Nuclear Weapon Design/Utilization/Testing
High explosive (HE)	Nuclear Weapon Design/Utilization
Highly enriched uranium (HEU)	Nuclear Weapon Design/Utilization
Hohlraum	Nuclear Weapon Testing
Honest John (missile)	Nuclear Weapon Design/Utilization
Hotpoint (laydown or Anti-submarine Warfare bomb)	Nuclear Weapon Design/Utilization
Hound Dog (missile; GAM-77)	Nuclear Weapon Design/Utilization
How, Site	Nuclear Weapon Design/Utilization
Human reliability program	Nuclear Weapon Design/Utilization
Hydrogen bomb	Nuclear Weapon Design/Utilization

I – Key Words and Phrases

Term	Context
IA (implosion-assembled)	Nuclear Weapon Design/Utilization
IAW (implosion- assembled weapon)	Nuclear Weapon Design/Utilization
ICF (inertial confinement fusion)	Inertial Confinement Fusion
IEU (intermediate enriched uranium)	Nuclear Weapon Design/Utilization
IFI (in-flight insertion)	Nuclear Weapon Design/Utilization
IHE (insensitive high explosive)	Nuclear Weapon Design/Utilization
INRAD (intrinsic radiation)	Nuclear Weapon Design/Utilization
Igloo	Nuclear Weapon Design/Utilization
Ignition point	Nuclear Weapon Design/Utilization
Immediate operational readiness	Nuclear Weapon Design/Utilization
Implosion-assembled (IA)	Nuclear Weapon Design/Utilization
Implosion-assembled weapon (IAW)	Nuclear Weapon Design/Utilization
Indirect drive	Inertial Confinement Fusion
Inertial confinement fusion (ICF)	Inertial Confinement Fusion

Term	Context
In-flight assembly	Nuclear Weapon Design/Utilization
In-flight insertion (IFI)	Nuclear Weapon Design/Utilization
Initiator, nuclear weapon	Nuclear Weapon Design/Utilization
Inlet plenum	Nuclear Reactors
Insensitive high explosive (IHE)	Nuclear Weapon Design/Utilization
Intermediate enriched uranium (IEU)	Nuclear Weapon Design/Utilization
Internal initiator	Nuclear Weapon Design/Utilization
Interstage (coupling)	Nuclear Weapon Design/Utilization
Interstage (distance, internal time)	Nuclear Weapon Design/Utilization
Intrinsic radiation (INRAD)	Nuclear Weapon Design/Utilization
Isotope	IND/RDD/RW
Isotopic enrichment	Nuclear Weapon Design/ Utilization/ Uranium, Lithium, and Tritium Production
Item, Site	Nuclear Weapon Design/Utilization

J – Key Words and Phrases

Term	Context
JTA (joint test assembly)	Nuclear Weapon Design/Utilization/Testing
JTF-7 (joint task force seven)	Nuclear Weapon Testing
JTF-8 (joint task force eight)	Nuclear Weapon Testing
Jig, Site	Nuclear Weapon Design/Utilization
Joint task force seven (JTF-7)	Nuclear Weapon Testing
Joint task force eight (JTF-8)	Nuclear Weapon Testing
Joint test assembly (JTA)	Nuclear Weapon Design /Utilization/Testing
Jupiter (missile)	Nuclear Weapon Design/Utilization

K – Key Words and Phrases

Term	Context
Kt (kiloton)	Nuclear Weapon Design/Utilization
King, Site	Nuclear Weapon Design/Utilization
Krypton-85	Nuclear Reactors

L – Key Words and Phrases

Term	Context
Li, Li-6 (lithium)	Nuclear Weapon Design/Utilization/ Lithium Production
LiD (lithium deuteride)	Nuclear Weapon Design/Utilization
LLC (limited lifetime component)	Nuclear Weapon Design/Utilization
LSS (limited storage site)	Nuclear Weapon Design/Utilization
LSSF (limited service storage facility)	Nuclear Weapon Design/Utilization
LTBT (Limited Test Ban Treaty)	Nuclear Weapon Design/Utilization
Lacrosse (missile)	Nuclear Weapon Design/Utilization
Lance (missile; XMGM-5A)	Nuclear Weapon Design/Utilization
Laser isotope separation	Uranium Production
Laser, x-ray laser	Nuclear Weapon Design/Utilization
Limited life component (LLC)	Nuclear Weapon Design/Utilization

Term	Context
Limited service storage facility (LSSF)	Nuclear Weapon Design/Utilization
Limited storage site (LSS)	Nuclear Weapon Design/Utilization
Limited Test Ban Treaty (LTBT)	Nuclear Weapon Design/Utilization
Limited try	Nuclear Weapon Design/Utilization
Line-of-sight pipe	Nuclear Weapon Testing
Lithium (Li) (Li-6)	Nuclear Weapon Design/Utilization/ Lithium Production
Lithium deuteride (LiD)	Nuclear Weapon Design/Utilization
Lithium enrichment	Lithium Enrichment
Little Boy	Nuclear Weapon Design/Utilization
Little John (missile; XM-51)	Nuclear Weapon Design/Utilization
Little Lulu (anti-submarine missile)	Nuclear Weapon Design/Utilization
Long-range detection	Nuclear Weapon Testing
Love, Site	Nuclear Weapon Design/Utilization
Lulu (depth bomb)	Nuclear Weapon Design/Utilization

M – Key Words and Phrases

Term	Context
M&A Shop (Maintenance and Assembly Shop)	Nuclear Weapon Design/Utilization
MADM (medium atomic demolition munition)	Nuclear Weapon Design/Utilization
MC (major component)	Nuclear Weapon Design/Utilization
MC's (military characteristics)	Nuclear Weapon Design/Utilization
MED (Manhattan Engineer District)	Nuclear Weapon Design/Utilization
MFD (military first destination)	Nuclear Weapon Design/Utilization
MHW (multi-hundred watt) (radioisotope generator)	Nuclear Weapon Design/Utilization
MIRV (multiple independently targetable reentry vehicle)	Nuclear Weapon Design/Utilization
MLF (multi-lateral force)	Nuclear Weapon Design/Utilization
MLIS (molecular laser isotope separation)	Uranium Production
MMRBM (mobile medium range ballistic missile)	Nuclear Weapon Design/Utilization
MOD (modification) (may be hyphenated with a numeral; e.g., MOD-4)	Nuclear Weapon Design/Utilization
MRBM (medium range ballistic missile)	Nuclear Weapon Design/Utilization
Mt (megaton)	Nuclear Weapon Design /Utilization/Testing
MUNSS (Munition Support Squadron)	Nuclear Weapon Design/Utilization
Mace (missile)	Nuclear Weapon Design/Utilization
Maintenance and assembly shop (M&A Shop)	Nuclear Weapon Design/Utilization
Major component (MC)	Nuclear Weapon Design/Utilization
Manhattan Engineer District (MED)	Nuclear Weapon Design/Utilization
Mark-XX	Nuclear Weapon Design/Utilization
Matador (missile)	Nuclear Weapon Design/Utilization
MB-1 (missile)	Nuclear Weapon Design/Utilization
Medium atomic demolition munition (MADM)	Nuclear Weapon Design/Utilization
Medium range ballistic missile (MRBM)	Nuclear Weapon Design/Utilization
Megacurie	IND/RDD/RW
Megaton (Mt)	Nuclear Weapon Design /Utilization /Testing
Military characteristics (MC's)	Nuclear Weapon Design/Utilization
Military first destination (MFD)	Nuclear Weapon Design/Utilization
Minuteman (missile)	Nuclear Weapon Design/Utilization

Term	Context
Mk-x (x=a number; e.g., Mk-3)	Nuclear Weapon Design/Utilization
Mobile medium range ballistic missile (MMRBM)	Nuclear Weapon Design/Utilization
Modification (MOD) (may be hyphenated with a numeral; e.g., MOD-4)	Nuclear Weapon Design/Utilization
Molecular laser isotope separation (MLIS)	Uranium Production
Multi-hundred watt (MHW) radioisotope generator	Nuclear Weapon Design/Utilization
Multi-lateral force (MLF)	Nuclear Weapon Design/Utilization
Multiple independently-targetable reentry vehicle (MIRV)	Nuclear Weapon Design/Utilization
Munition Support Squadron (MUNSS)	Nuclear Weapon Design/Utilization
MX (missile)	Nuclear Weapon Design/Utilization

N – Key Words and Phrases

Term	Context
NAS (nuclear assembly system)	Nuclear Weapon Design/Utilization
NCI (nuclear capability inspection)	Nuclear Weapon Design/Utilization
NDEW (nuclear directed energy weapon)	Nuclear Weapon Design/Utilization
NEST (Nuclear Emergency Search [or Support] Team)	Nuclear Weapon Design/Utilization
non-WR (non-war reserve material)	Nuclear Weapon Design/Utilization
NR (naval reactors, propulsion)	Naval Reactors
NSI (Nuclear Surety Inspection)	Nuclear Weapon Design/Utilization
NSS (National Stockpile Site)	Nuclear Weapon Design/Utilization
NTPI (Navy Technical Proficiency Inspection)	Nuclear Weapon Design/Utilization
NTS (Nevada Test Site)	Nuclear Weapon Testing
NWAI (Nuclear Weapons Acceptance Inspection)	Nuclear Weapon Design/Utilization
NWTI (Nuclear Weapons Technical Inspection)	Nuclear Weapon Design/Utilization
N reactor	Plutonium Production
National Stockpile Site (NSS)	Nuclear Weapon Design/Utilization
Naval nuclear propulsion	Naval Reactors
Naval reactors, propulsion (NR)	Naval Reactors
Navy Technical Proficiency Inspection (NTPI)	Nuclear Weapon Design/Utilization
Neutron	Nuclear Weapon Design/Utilization
Neutron - bomb	Nuclear Weapon Design/Utilization
Neutron generator	Nuclear Weapon Design/Utilization
Neutron radiation	Nuclear Weapon Design/Utilization
Neutron spectrum	Nuclear Weapon Design /Utilization /Testing
Nevada Test Site (NTS)	Nuclear Weapon Testing
Nike Hercules (missile)	Nuclear Weapon Design /Utilization
Non-war reserve (non-WR) material	Nuclear Weapon Design/Utilization
Nuclear	Nuclear Weapon Design/Utilization
Nuclear assembly system (NAS)	Nuclear Weapon Design/Utilization
Nuclear Capability Inspection (NCI)	Nuclear Weapon Design/Utilization
Nuclear directed energy weapon (NDEW)	Nuclear Weapon Design/Utilization
Nuclear Emergency Search (or Support) Team (NEST)	Nuclear Weapon Design/Utilization
Nuclear material	Nuclear Weapon Design/ Utilization /Nuclear Material Production
Nuclear projectile	Nuclear Weapon Design/Utilization
Nuclear shell	Nuclear Weapon Design/Utilization
Nuclear Surety Inspection (NSI)	Nuclear Weapon Design/Utilization

Term	Context
Nuclear test event	Nuclear Weapon Testing
Nuclear test/test series	Nuclear Weapon Testing
Nuclear weapon	Nuclear Weapon Design/Utilization
Nuclear Weapons Acceptance Inspection (NWAI)	Nuclear Weapon Design/Utilization
Nuclear Weapons Technical Inspection (NWTI)	Nuclear Weapon Design/Utilization

0 – Key Words and Phrases

Term	Context
OLSS (Overseas Limited Storage Site)	Nuclear Weapon Design/Utilization
OOSS (Overseas Operational Storage Site)	Nuclear Weapon Design/Utilization
Oy (oralloy)	Nuclear Weapon Design/Uranium Production
OREX (organic exchange)	Lithium Production
OSS (Operational Storage Site)	Nuclear Weapon Design/Utilization
OST (operational suitability test)	Nuclear Weapon Design/Utilization
One-point (as an adjective; e.g., one-point safety)	Nuclear Weapon Design/Utilization
Operational Storage Site (OSS)	Nuclear Weapon Design/Utilization
Operational suitability test (OST)	Nuclear Weapon Design/Utilization
Oralloy (Oy)	Nuclear Weapon Design /Uranium Production
Organic exchange (OREX)	Lithium Production
Outlet plenum	Naval Reactors
Overseas Limited Storage Site (OLSS)	Nuclear Weapon Design/Utilization
Overseas Operational Storage Site (OOSS)	Nuclear Weapon Design/Utilization

P – Key Words and Phrases

Term	Context
PAL (permissive action link)	Nuclear Weapon Design/Utilization
PNE (peaceful nuclear explosion)	Nuclear Weapon Design /Utilization/Plowshare
PPG (Pacific Proving Grounds)	Nuclear Weapon Testing
Pu (Plutonium)	Nuclear Weapon Design/Utilization/ Plutonium Production
PUREX (plutonium-uranium extraction)	Plutonium Production
PWR (pressurized water reactor)	Nuclear Reactors
Pacific Proving Grounds (PPG)	Nuclear Weapon Testing
Palladium diffusion	Tritium Production
Palomares (accident)	Nuclear Weapon Design/Utilization
Particle beam weapon (light ion, heavy ion)	Nuclear Weapon Design/Utilization
Peaceful nuclear explosion (PNE)	Nuclear Weapon Design/Utilization/ Plowshare
Peacekeeper (MX missile)	Nuclear Weapon Design/Utilization
Permissive action link (PAL)	Nuclear Weapon Design/Utilization
Pershing (missile; also P-I, P-IA, or P-II)	Nuclear Weapon Design/Utilization
Phase 1, 2, 3, 4, 5, 6, and/or 7	Nuclear Weapon Design/Utilization
Phoebe	Nuclear Weapon Design/Utilization
Pin experiment, pin dome	Nuclear Weapon Testing
Plowshare Program	Nuclear Weapon Design/Utilization
Plutonium (Pu)/ plutonium-238, plutonium-239, plutonium-240	Nuclear Weapon Design/Utilization/ Plutonium Production

Term	Context
Plutonium production	Nuclear Weapon Design/Utilization/ Plutonium Production
Plutonium-uranium extraction (PUREX)	Plutonium Production
Polaris (missile; A-1, A-2 or A-3)	Nuclear Weapon Design/Utilization
Popcorn	Nuclear Weapon Design/Utilization
Preinitiation	Nuclear Weapon Design/Utilization
Pressure vessel	Nuclear Reactors
Pressurized water reactor (PWR)	Nuclear Reactors
Pressurizer	Nuclear Reactors
Primary	Nuclear Weapon Design/Utilization
Primary system	Nuclear Reactors
Production Information -production rates of nuclear materials, -production quantities of nuclear materials, -weapon program allocations of nuclear materials	Nuclear Weapon Design/Utilization
Production quantity of weapons/materials/parts	Nuclear Weapon Design/Utilization
Production reactor(s)	Plutonium/Tritium Production
Project Matterhorn	Nuclear Weapon Testing
Project Whitney	Nuclear Weapon Testing
Projectile, atomic or nuclear (see AFAP)	Nuclear Weapon Design /Utilization
Propellant	Nuclear Weapon Design /Utilization
Pu-239 or any other isotope; e.g., Pu-238, Pu-240	Nuclear Weapon Design/Utilization/ Plutonium Production
Pure fusion	Nuclear Weapon Design/Utilization

Q – Key Words and Phrases

Term	Context
QART (Quality Accuracy Reliability Test)	Nuclear Weapon Design/Utilization
QRA or “Q” (quick reaction alert)	Nuclear Weapon Design/Utilization
Quail (missile; also ADM-20 or GAM-72)	Nuclear Weapon Design/Utilization
Quality Accuracy Reliability Test (QART)	Nuclear Weapon Design/Utilization
Quick reaction alert (QRA or “Q”)	Nuclear Weapon Design/Utilization
Quieting	Nuclear Reactors

R – Key Words and Phrases

Term	Context
RADIAC (radiation detection indication and computation)	Nuclear Weapon Design/Utilization
RAL (recommended SWOP allowance lists)	Nuclear Weapon Design/Utilization
REDOX (reduction-oxidation extraction)	Plutonium Production
RTG (radioisotope thermoelectric generator)	Nuclear Weapon Design /Utilization/Testing
RW (radiological warfare)	IND/RDD/RW
Ra La method	Nuclear Weapon Design /Utilization/Testing
Radar blackout	Nuclear Weapon Design/Utilization
Radiating fuze	Nuclear Weapon Design/Utilization
Radiation	Nuclear Weapon Design/Utilization
Radiation case	Nuclear Weapon Design/Utilization
Radiation channel, case, flow	Nuclear Weapon Design/Utilization

Term	Context
Radiation detection indication and computation (RADIAC)	Nuclear Weapon Design/Utilization
Radiation flow	Nuclear Weapon Design/Utilization
Radiation implosion	Nuclear Weapon Design/Utilization
Radiation weapons test	IND/RDD/RW
Radioactivity	Nuclear Weapon Design/ Utilization/IND/RDD/RW
Radiochemical/radchem detector or tracer	Nuclear Weapon Design /Utilization/ Testing
Radioisotope thermoelectric generator (RTG)	Nuclear Weapon Design /Utilization/ Testing
Radiological defense	Nuclear Weapon Design/Utilization
Radiological testing	IND/RDD/RW
Radiological warfare (RW)	IND/RDD/RW
Radius of damage	Nuclear Weapon Design/Utilization
Recommended SWOP allowance lists (RAL)	Nuclear Weapon Design/Utilization
Redstone (missile)	Nuclear Weapon Design/Utilization
Reduction-oxidation extraction (REDOX)	Plutonium Production
Reflector (neutron)	Nuclear Reactors
Reflex	Nuclear Weapon Design/Utilization
Regulus (missile)	Nuclear Weapon Design/Utilization
Release code	Nuclear Weapon Design/Utilization
Releasing commander	Nuclear Weapon Design/Utilization
Reservoir, gas, tritium/deuterium	Nuclear Weapon Design/Utilization
Retirement	Nuclear Weapon Design/Utilization
Reuse	Nuclear Weapon Design/Utilization
Road material	Nuclear Weapon Design/Utilization
Rotor	Gas Centrifuge

S – Key Words and Phrases

Term	Context
SAAM (special assignment air mission)	Nuclear Weapon Design/Utilization
SADM (special (or small) atomic demolition munition)	Nuclear Weapon Design/Utilization
SAS (Special Ammunition Storage) site	Nuclear Weapon Design/Utilization
SASP (Special Ammunition Storage Program or Special Ammunition Supply Point)	Nuclear Weapon Design/Utilization
SASS (Special Aircraft Storage Shop)	Nuclear Weapon Design/Utilization
SCS (security container system)	Nuclear Weapon Design/Utilization
SDOB (scaled depth of burial)	Nuclear Weapon Testing
SEAGA (Selective Employment Air/Ground Alert)	Nuclear Weapon Design/Utilization
SEL (special equipment list)	Nuclear Weapon Design/Utilization
SEP (spherical error probability)	Nuclear Weapon Design/Utilization
SFT (Stockpile Flight Test)	Nuclear Weapon Design/Utilization
SIOP (single integrated operations plan)	Nuclear Weapon Design/Utilization
SNM (special nuclear material)	Nuclear Weapon Design/Utilization
SRPS (space reactor power system)	Nuclear Reactors
SRT (slow run through)	Nuclear Weapon Design/Utilization
SSF (Service Storage Facility)	Nuclear Weapon Design/Utilization
SSIA (single stage implosion-assembled)	Nuclear Weapon Design/Utilization
SSP (strategic strike plan)	Nuclear Weapon Design/Utilization
SST (safe secure trailer)	Nuclear Weapon Design/Utilization

Term	Context
STS (Supplemental Test Site)	Nuclear Weapon Design/Utilization
SW (special weapons)	Nuclear Weapon Design/Utilization
SWOP (special weapons ordnance publications)	Nuclear Weapon Design/Utilization
Safeguards	Nuclear Weapon Design/Utilization
Safe haven safing	Nuclear Weapon Design/Utilization
Safe secure trailer (SST)	Nuclear Weapon Design/Utilization
Safety, nuclear	Nuclear Weapon Design/Utilization
Safing	Nuclear Weapon Design/Utilization
Salvage fuze	Nuclear Weapon Design/Utilization
Savannah River reactors (C, K, L, P, and R)	Nuclear Weapon Design/Utilization
Scaled depth of burial (SDOB)	Nuclear Weapon Testing
Seal technology	Uranium Production
Sealed pit	Nuclear Weapon Design/Utilization
Secondary	Nuclear Weapon Design/Utilization
Security container system (SCS)	Nuclear Weapon Design/Utilization
Selectable yields	Nuclear Weapon Design/Utilization
Selective Employment Air Ground Alert (SEAGA)	Nuclear Weapon Design/Utilization
Sergeant (missile)	Nuclear Weapon Design/Utilization
Service Storage Facility (SSF)	Nuclear Weapon Design/Utilization
Shield, shielding	Nuclear Weapon Design/Utilization
Single integrated operations plan (SIOP)	Nuclear Weapon Design/Utilization
Single stage implosion-assembled (SSIA)	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
Slow run through (SRT)	Nuclear Weapon Design/Utilization
Source material	Production Reactors
Space nuclear power	Nuclear Reactors
Space reactor power system (SRPS)	Nuclear Reactors
Spartan (missile)	Nuclear Weapon Design/Utilization
Special Aircraft Storage Shop (SASS)	Nuclear Weapon Design/Utilization
Special ammunition	Nuclear Weapon Design/Utilization
Special Ammunition Storage (SAS) site	Nuclear Weapon Design/Utilization
Special Ammunition Storage Program or Special Ammunition Supply Point (SASP)	Nuclear Weapon Design/Utilization
Special assignment air mission (SAAM)	Nuclear Weapon Design/Utilization
Special (or small) atomic demolition munition (SADM)	Nuclear Weapon Design/Utilization
Special equipment list (SEL)	Nuclear Weapon Design/Utilization
Special nuclear material (SNM)	Nuclear Weapon Design/Utilization
Special reporting squadron	Nuclear Weapon Design/Utilization
Special weapons (SW)	Nuclear Weapon Design/Utilization
Special weapons ordnance publications (SWOP; e.g., Navy SWOP 4-1)	Nuclear Weapon Design/Utilization
Spherical error probability (SEP)	Nuclear Weapon Design/Utilization
Sprint (missile)	Nuclear Weapon Design/Utilization
Squab	Nuclear Weapon Design/Utilization
Squash	Nuclear Weapon Design/Utilization
Stage, staged, staging	Nuclear Weapon Design/Utilization
Staged weapon	Nuclear Weapon Design/Utilization

Term	Context
Steam generator	Nuclear Reactors
Stockpile Flight Test (SFT)	Nuclear Weapon Design/Utilization
Stockpile information: theatre allocation subcategorization numbers/type weapons/ location	Nuclear Weapon Design/Utilization
Storage: dead storage, operational storage, assembled storage, nonready storage, ready storage	Nuclear Weapon Design/Utilization
Storage monitoring	Nuclear Weapon Design/Utilization
Storage unit	Nuclear Weapon Design/Utilization
Strategic deterrent	Nuclear Weapon Design/Utilization
Strategic strike plan (SSP)	Nuclear Weapon Design/Utilization
Strategic weapon	Nuclear Weapon Design/Utilization
Strong link	Nuclear Weapon Design/Utilization
Subcritical mass	Nuclear Weapon Design/Utilization
Sugar, Site	Nuclear Weapon Design/Utilization
Super	Nuclear Weapon Design/Utilization
Super-X	Nuclear Weapon Design/Utilization
Supercritical mass	Nuclear Weapon Design/Utilization
Supplemental Test Site (STS)	Nuclear Weapon Design/Utilization

T – Key Words and Phrases

Term	Context
T (H-3; tritium)	Nuclear Weapon Design/Utilization/ Tritium Production
T or H number (testing or handling)	Nuclear Weapon Design/Utilization
TADM (tactical atomic demolition munition)	Nuclear Weapon Design/Utilization
TCAP (thermal cycling and absorption process)	Tritium Production
TDS (Tactical Depot Squadron)	Nuclear Weapon Design/Utilization
THERL (test and handling equipment requirements list)	Nuclear Weapon Design/Utilization
TPI (Technical Proficiency Inspection)	Nuclear Weapon Design/Utilization
TSI (Technical Standardization Inspection)	Nuclear Weapon Design/Utilization
TTBT (Threshold Test Ban Treaty)	Nuclear Weapon Design/Utilization
TX (test experimental)	Nuclear Weapon Design/Utilization
Tacos	Nuclear Weapon Design/Utilization
Tactical atomic demolition munition (TADM)	Nuclear Weapon Design/Utilization
Tactical Depot Squadron (TDS)	Nuclear Weapon Design/Utilization
Tactical weapon (nuclear)	Nuclear Weapon Design/Utilization
Tailored output /weapon	Nuclear Weapon Design/Utilization
Tailwind	Nuclear Weapon Design/Utilization
Talus	Nuclear Weapon Design/Utilization
Tamper	Nuclear Weapon Design/Utilization
Target technology/ materials	Production Reactors
Technical Proficiency Inspection (TPI)	Nuclear Weapon Design/Utilization
Technical Standardization Inspection (TSI)	Nuclear Weapon Design/Utilization
Temporary storage	Nuclear Weapon Design/Utilization
Terrazzo	Nuclear Weapon Design/Utilization
Terrier (missile)	Nuclear Weapon Design/Utilization
Test and handling equipment requirements list (THERL)	Nuclear Weapon Design/Utilization

Term	Context
Test experimental (TX)	Nuclear Weapon Design/Utilization
Test series (nuclear)	Nuclear Weapon Testing
Test, underground, atmospheric, under-water, nuclear, weapon, effects	Nuclear Weapon Testing
Testing or handling (T or H) numbers	Nuclear Weapon Design/Utilization
Thermal cycling and absorption process (TCAP)	Tritium Production
Thermal diffusion	Tritium Production
Thermal shields	Nuclear Reactors
Thermonuclear (TN)	Nuclear Weapon Design/Utilization
Thermonuclear reactors	Nuclear Reactors
Thermonuclear weapon	Nuclear Weapon Design/Utilization
Thin man	Nuclear Weapon Design/Utilization
Thor (missile)	Nuclear Weapon Design/Utilization
Thule (accident)	Nuclear Weapon Design/Utilization
Tile	Nuclear Weapon Design/Utilization
Titan (missile; SM-68)	Nuclear Weapon Design/Utilization
Threshold Test Ban Treaty (TTBT)	Nuclear Weapon Design/Utilization
Tony	Nuclear Weapon Design/Utilization
Tradewind	Nuclear Weapon Design/Utilization
Trapdoor	Nuclear Weapon Design/Utilization
Trident (missile; C-4 or D-5)	Nuclear Weapon Design/Utilization
Trinity	Nuclear Weapon Testing
Tritium, production	Tritium Production
Tritium, T, H-3	Nuclear Weapon Design/ Utilization /Tritium Production
Trunk	Nuclear Weapon Design/Utilization
Tuballoy	Nuclear Weapon Design/Utilization
Tube bundle	Uranium Production
Tubes alloy	Nuclear Weapon Design/Utilization
Two-key concept	Nuclear Weapon Design/Utilization
Two-man rule	Nuclear Weapon Design/Utilization
Two-person control	Nuclear Weapon Design/Utilization
TX (usually hyphenated with a numeral; e.g., TX-14)	Nuclear Weapon Design/Utilization
Type VI structure	Nuclear Weapon Design/Utilization

U – Key Words and Phrases

Term	Context
U (uranium)	Nuclear Weapon Design/Utilization
U-233, -235, -238	Nuclear Weapon Design/Utilization
Uranium (U)/uranium 233, uranium-235, uranium 238	Nuclear Weapon Design/Utilization
Urchin	Nuclear Weapon Design/Utilization
USAAD (U.S. Army Air Defense Detachment	Nuclear Weapon Design/Utilization
USAFAD (U.S. Army Field Artillery Detachment)	Nuclear Weapon Design/Utilization
Use control	Nuclear Weapon Design/Utilization

V – Key Words and Phrases

Term	Context
VHE (very high enrichment)	Nuclear Weapon Design /Utilization /Reactor
Vacuum furnace	Tritium Production
Vela, Vela Uniform	Nuclear Weapon Testing
Venting	Nuclear Weapon Testing
Verification inspection	Nuclear Weapon Testing
Very high enrichment (VHE)	Nuclear Weapon Design /Utilization/Reactor
Violent destruct	Nuclear Weapon Design/Utilization
Vulnerability	Nuclear Weapon Design/Utilization

W – Key Words and Phrases

Term	Context
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

X – Key Words and Phrases

Term	Context
Xnxxx (xxx=a number; e.g., XM-454)	Nuclear Weapon Design/Utilization
x-ray, x-ray spectrum	Nuclear Weapon Design /Utilization/ Testing
x-unit	Nuclear Weapon Design/Utilization
XW-x (x=a number; e.g., XW-17)	Nuclear Weapon Design/Utilization

Y – Key Words and Phrases

Term	Context
Yield	Nuclear Weapon Design/Utilization
Yield-to-weight	Nuclear Weapon Design/Utilization

Z – Key Words and Phrases

Term	Context
“Z” (sites; also atomic number; e.g., Z=92 is Uranium)	Nuclear Weapon Design/Utilization
Zipper	Nuclear Weapon Design/Utilization

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 increase the likelihood of the presence of nuclear information in a document:

Numerical – Sites and Organizations

Name	Remarks
100B Plutonium Production Reactor, Hanford	U.S. Department of Energy

A – Sites and Organizations

Name	Remarks
ACF Industries (American Car and Foundry Industries)	
AEC (Atomic Energy Commission)	U.S. Department of Energy
AFCRL (Air Force Cambridge Research Lab)	
AFOAT (Air Force Office-Atomic Testing)	
AFSC (Air Force Systems Command)	
AFSWC (Air Force Special Weapons Center)	
AFSWP (Armed Forces Special Weapons Project)	
AFTAC (Air Force Technical Applications Center)	
AL or ALO or ALOO (Albuquerque Operations Office)	U.S. Department of Energy
AOC (Air Operations Center)	
ARDC (Air Research and Development Command)	
ARPA (Advanced Research Projects Agency)	
ATSD(AE) (Assistant to the Secretary of Defense(Atomic Energy))	
AWE (Atomic Weapons Establishment), U.K.	
AWRE (Atomic Weapons Research Establishment), U.K.	
Advanced Research Projects Agency (ARPA)	
Air Force Cambridge Research Lab (AFCRL)	
Air Force Office - Atomic Testing (AFOAT)	
Air Force Special Weapons Center (AFSWC)	
Air Force Systems Command (AFSC)	
Air Force Technical Applications Center (AFTAC)	
Air Operations Center (AOC)	
Air Research and Development Command (ARDC)	
Albuquerque Operations Office (AL or ALO or ALOO)	U.S. Department of Energy
Allied Signal, Kansas City	U.S. Department of Energy
Amchitka	U.S. Department of Energy
American Car and Foundry (ACF) Industries	
Armed Forces Special Weapons Project (AFSWP)	
Ashtabula	U.S. Department of Energy
Assistant to the Secretary of Defense (Atomic Energy) (ATSD(AE))	
Atomic Energy Commission (AEC)	U.S. Department of Energy
Atomic Weapons Establishment (AWE), U.K.	
Atomic Weapons Research Establishment (AWRE), U.K.	

B – Sites and Organizations

Name	Remarks
BAPL (Bettis Atomic Power Laboratory)	U.S. Department of Energy
Bendix, Kansas City	U.S. Department of Energy
Bethe Panel	U.S. Department of Energy
Bettis Atomic Power Laboratory (BAPL)	U.S. Department of Energy
Bikini, Bikini Atoll	U.S. Department of Energy
Burlington Industries	U.S. Department of Energy
Burlington Site, IA	U.S. Department of Energy

C – Sites and Organizations

Name	Remarks
Christmas Island	U.S. Department of Energy
Clinton Engineer Works	U.S. Department of Energy

D – Sites and Organizations

Name	Remarks
DASA (Defense Atomic Support Agency)	
DMA (Division of Military Application)	U.S. Department of Energy
DNA (Defense Nuclear Agency)	
DPNE (Division of Peaceful Nuclear Explosives)	U.S. Department of Energy
DSWA (Defense Special Weapons Agency)	
DTRA (Defense Threat Reduction Agency)	
Defense Atomic Support Agency (DASA)	
Defense Nuclear Agency (DNA)	
Defense Special Weapons Agency (DSWA)	
Defense Threat Reduction Agency (DTRA)	
Division of Military Application (DMA)	U.S. Department of Energy
Division of Peaceful Nuclear Explosives (DPNE)	U.S. Department of Energy

E – Sites and Organizations

Name	Remarks
EG&G (Edgerton, Germeshausen, and Grier)	U.S. Department of Energy
ERDA (Energy Research and Development Administration)	U.S. Department of Energy
Eniwetok, Eniwetak, Enewetak	U.S. Department of Energy

F – Sites and Organizations

Name	Remarks
Fernald	U.S. Department of Energy

G – Sites and Organizations

Name	Remarks
GAC (General Advisory Committee)	
GE (General Electric)	

Name	Remarks
Gaseous Diffusion Plant	U.S. Department of Energy
General Advisory Committee (GAC)	
GE Pinellas	U.S. Department of Energy

H – Sites and Organizations

Name	Remarks
HAO (Hawaii Area Office)	
H&N (Holmes & Narver)	
Hanford	U.S. Department of Energy
Hawaii Area Office (HAO)	
Hiroshima	
Holmes & Narver (H&N)	

J – Sites and Organizations

Name	Remarks
JCAE (Joint Committee on Atomic Energy)	
JOWOG (Joint Working Group)	
JTF (Joint Task Force 7, 8, and 132.1)	
Johnston Atoll/Johnston Island	
Joint Committee on Atomic Energy (JCAE)	
Joint Task Force (JTF) 7, 8, and 132.1	
Joint Working Group (JOWOG)	

K – Sites and Organizations

Name	Remarks
KAPL (Knolls Atomic Power Laboratory)	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	

L – Sites and Organizations

Name	Remarks
LANL (Los Alamos National Laboratory)	U.S. Department of Energy
LASL (Los Alamos Scientific Laboratory)	U.S. Department of Energy
LLL (Lawrence Livermore Laboratory)	U.S. Department of Energy
LLNL (Lawrence Livermore National Laboratory)	U.S. Department of Energy
LRL (Lawrence Radiation Laboratory)	U.S. Department of Energy
Lawrence Livermore Laboratory (LLL)	U.S. Department of Energy
Lawrence Livermore National Laboratory (LLNL)	U.S. Department of Energy
Lawrence Radiation Laboratory (LRL)	U.S. Department of Energy
Los Alamos National Laboratory (LANL)	U.S. Department of Energy
Los Alamos Scientific Laboratory (LASL)	U.S. Department of Energy

M – Sites and Organizations

Name	Remarks
MATS (Military Air Transport Service)	
MED (Manhattan Engineer District)	U.S. Department of Energy
MLC (Military Liaison Committee)	U.S. Department of Energy
MSTS (Military Sea Transport Service)	
Manhattan Project, Manhattan Engineer District (MED)	U.S. Department of Energy
Marshall Islands	
Military Air Transport Service (MATS)	
Military Liaison Committee (MLC)	U.S. Department of Energy
Military Sea Transport Service (MSTS)	
Mound Laboratories	U.S. Department of Energy

N – Sites and Organizations

Name	Remarks
NBS (National Bureau of Standards)	
NIST (National Institute of Standards and Technology)	
NRDL (Navy Radiological Defense Laboratory)	
NRL (Naval Research Laboratory)	
NTS (Nevada Test Site)	U.S. Department of Energy
NV, NVO, NVOO (Nevada Operations Office)	U.S. Department of Energy
Nagasaki	
National Bureau of Standards (NBS)	
National Institute of Standards and Technology (NIST)	
Naval Research Laboratory (NRL)	
Navy Radiological Defense Laboratory (NRDL)	
Nevada Operations Office (NV) (NVO) (NVOO)	U.S. Department of Energy
Nevada Test Site (NTS)	U.S. Department of Energy
Nuclear weapons complex	U.S. Department of Energy

O – Sites and Organizations

Name	Remarks
OR, ORO (Oak Ridge Operations Office)	U.S. Department of Energy
Oak Ridge Gaseous Diffusion Plant (K-25)	U.S. Department of Energy
Oak Ridge Operations Office (OR, ORO)	U.S. Department of Energy
Oak Ridge Y-12 Plant	U.S. Department of Energy

P – Sites and Organizations

Name	Remarks
PNR (Pittsburgh Naval Reactors Office)	U.S. Department of Energy
PPG (Pacific Proving Ground)	U.S. Department of Energy
Pacific Proving Ground (PPG)	U.S. Department of Energy
Pacific Test Range	U.S. Department of Energy
Paducah Site or Gaseous Diffusion Plant	U.S. Department of Energy
Palmyra	
Pantex	U.S. Department of Energy

Name	Remarks
Pinellas	U.S. Department of Energy
Pittsburgh Naval Reactors Office (PNR)	U.S. Department of Energy
Portsmouth Site or Gaseous Diffusion Plant	U.S. Department of Energy

R – Sites and Organizations

Name	Remarks
REECO (Reynolds Electric and Engineering Co.)	
RL (Richland Operations Office)	U.S. Department of Energy
RFFO (Rocky Flats Field Office)	U.S. Department of Energy
Reynolds Electric and Engineering Co. (REECO)	
Richland Operations Office (RL)	U.S. Department of Energy
Rocky Flats Field Office (RFFO)	U.S. Department of Energy

S – Sites and Organizations

Name	Remarks
SAC (Strategic Air Command)	
SL (Sandia Laboratories)	U.S. Department of Energy
SNL (Sandia National Laboratories)	U.S. Department of Energy
SNR (Schenectady Naval Reactors)	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)	

U – Sites and Organizations

Name	Remarks
UCRL (University of California Radiation Laboratory)	U.S. Department of Energy
USGS (U.S. Geological Survey)	
U.S. Geological Survey (USGS)	
University of California Radiation Laboratory (UCRL)	U.S. Department of Energy

W – Sites and Organizations

Name	Remarks
Weather Reconnaissance Service (WRS)	
Weldon Springs Plant	U.S. Department of Energy

X – Sites and Organizations

Name	Remarks
X-10 Plutonium Production Reactor	U.S. Department of Energy

Z – Sites and Organizations

Name	Remarks
Z-Plant Plutonium Separation Facilities, Hanford	U.S. Department of Energy

FREQUENTLY ENCOUNTERED NAMES OF PEOPLE INVOLVED IN THE NUCLEAR PROGRAM

Abelson, Philip M.
Adamson, Keith A.
Adler, Edward
Akers, Wallace
Allier, Jacques
Allison, Samuel K.
Alvarez, Luis
Anderson, Herbert
Arneson, Lt. Gordon R.
Arnold, Henry H. (Hap)
Ashworth, Frederick L.
Bacher, Robert F.
Bainbridge, Kenneth
Bard, Ralph
Baruch, Bernard
Benedict, Manson
Bethe, Hans
Block, Ed
Bohr, Niels
Booth, Eugene
Bothe, Walther
Bradbury, Norris
Brasch, Arno
Briggs, Lyman
Brode, Robert
Burcher, George
Bush, Vannevar
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Conant, James
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Coolidge, William
Creutz, Edward
Dean, Gordon
Diebner, Kurt
DuBridge, Lee A.
Duncan, Bishop
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Fermi, Enrico
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Frisch, Otto
Fuchs, Klaus
Gamow, George
Geiger, Hans
Glennan, T. Keith
Greenwalt, Crawford
Groves, Leslie
Guillian, Robert
Hahn, Otto
Harrison, George
Heisenberg, Werner
Holifield, Chet
Hoplins, Harry
Jewett, Frank
Kapitza, Peter
Keith, Percival
Kistiakowsky, George
Lawrence, Ernest
LeMay, Curtis
Lewis, Robert
Libby, Leona Woods Marshall
Libby, Willard
Liebow, Averill
Lifton, Robert
Lilienthal, David
McCone, John
McCool, Woodford B.
McMahon, Brien
McMillian, Edwin
Manley, John

Mark, Carson (J. Carson)

Marshall, George

Morrison, Philip

Murray, Thomas

Neddermeyer, Seth

Nichols, Kenneth

Nier, Alfred

Norris, Edward

Norstad, Lauris

Ogle, William

Oliphant, Marcus (Mark)

Oppenheimer, Robert

Parsons, William S. (Deke)

Peierls, Rudolf

Penney, William

Pike, Sumner

Rabi, Isidor

Ramsey, Norman

Rickover, Hyman

Sachs, Alexander

Seaborg, Glenn

Segre, Emilio

Serber, Robert

Sewhitt, John

Smyth, Henry

Spaatz, Carl

Starbird, A. Dodd

Stimson, Henry

Strauss, Lewis

Swearingen, Judson

Szilard, Leo

Taylor, Hugh

Teller, Edward

Thomason, R. Ewing

Thomson, G.P.

Tibbets, Paul

Tizard, Henry

Tolman, Richard

Ulam, Stanislaw

Urey, Harold

Von Neumann, John

Wallace, Henry

Wamack, William

Weisskopf, Victor

Wheeler, John

Wigner, Eugene

Wilson, Robert

York, Herbert

Zuckert, Eugene

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