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Author(s): Scarlett, Harry Alan

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Nuclear Fundamentals Orientation Module 1

Introduction to Classification

LANL Office of Classification, DFS-CL
classification@lanl.gov

Managed by Triad National Security, LLC for the U.S. Department of Energy's NNSA

Introduction to Classification

Presentation Overview:

- Why We are Here
- Classification Office and Officials
- Mission Areas with Classified Aspects
- Classification Categories
- Classification Policies
- Unclassified and Declassified Information
- Official Use Only Information
- Unclassified Controlled Nuclear Information

Introduction to Classification

Why we are here

- We work at Los Alamos National Laboratory which is a National Security Laboratory
- We underwrite the U.S. nuclear deterrent by designing, manufacturing and testing nuclear weapons and components
- We identify and analyze and develop technologies to deter any and all threats to national security
- Our mission programs are by their very nature “classified” even though we do plenty of unclassified work
- Your work supports classified programs, if only indirectly
- The Office of Classification is here to help you be successful

• Introduction to Classification

- Classification is the legal process by which U.S. government officials identify information that can and must be withheld from public disclosure in the interest of national security
- At LANL, classification is the process of identifying classified information in documents and materials used or generated here to prevent unauthorized disclosures
  - i.e., disclosures of classified information to person(s) without appropriate security clearance(s) and need-to-know

Like nuclear weapons, classification exists to support national security

Introduction to Classification

Why we are here

- Unauthorized disclosures of classified information threatens national security
- Unauthorized disclosures by Laboratory employees threatens the Laboratory's reputation
- The increase in unauthorized disclosures at LANL is concerning

Calendar Year	No. of Disclosures
2014	8
2015	8
2016	7
2017	12
2018	**28**
2019	**30+**

Employee classification awareness is essential

Introduction to Classification

Types of classification officials

- Original Classification Authorities (OCAs) are federal employees (many are cabinet-level appointees) granted authority by Congress or the President to classify specific U.S. government information within classified subject areas

- The LANL Classification Officer (CO) and Classification Analysts (CAs) are trained and granted unique authority by the Dept. of Energy (DOE) Office of Classification to approve public release of unclassified documents in any and all classified subject areas

- LANL Derivative Classifiers (DCs) are trained and granted authority by the CO to classify documents in specific classified subject areas, but are not authorized to approve documents for public release

Introduction to Classification

The LANL Office of Classification is responsible for ensuring that

- all **cleared** employees know exactly what information is classified
- all **uncleared** employees know generally what kind of information is classified

Introduction to Classification

Mission areas with classified aspects

- Nuclear weapons
  - design
  - production
  - testing
  - stockpile management
  - military use
- Nuclear material production
- Nuclear nonproliferation
- Nuclear counterterrorism
- Nuclear/rad emergency response
- Military operations
- Arms control and treaty verification
- Full-spectrum threats to national security
- Vulnerabilities in “critical infrastructure”
- International nuclear safeguards and security
- Counter-Weapons of mass destruction
- Intelligence and counterintelligence
- Foreign nuclear intelligence

Introduction to Classification

Classification categories

- Relatively broad subject areas defined in U.S. laws and executive orders, relating to national security and defense
- Applicable laws and orders
  - Atomic Energy Act (ca. 1946)
  - National Security Act (ca. 1947)
  - Executive Order on National Security Information (changes with Presidential Administrations)
- LANL is one of only a few institutions with a mission that involves information in all classification categories

Classification Categories

RD FRD NSI TFNI

Introduction to Classification

Classification categories

Restricted data (RD)

- Design and manufacturing of nuclear weapons
  - Shapes, dimensions, materials, masses of components inside the “nuclear assembly system (NAS),” “physics package,” “canned sub-assembly (CSA)”
- Computer codes used in weapon design
- Experiment design and data from hydrodynamic experiments (Dual-Axis Radiographic Hydrodynamic Test [DARHT] shots,“hydros” and sub-critical experiments [SCEs])
- Production of special nuclear material (e.g., uranium, plutonium)
- Production of nuclear components (e.g., pits)
  - Actual production rates (vs. planned or design capacity)
  - Quantity of plutonium allocated to pit production

Introduction to Classification

Classification categories

Formally restricted data (FRD)

- 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)
- Total explosive yield (i.e., Trinitrotoluene [TNT] equivalent, usually expressed as kilotons [kT])
- Targeting information
- Nuclear test information (e.g., purpose, yields, weapon or device tested)

Introduction to Classification

Classification categories

National Security Information (NSI)

- Military plans, operations
- Scientific, technological or economic matters relating to national security
- Safeguarding nuclear materials or facilities
- Vulnerabilities affecting “critical infrastructure”
- Development, production or use of weapons of mass destruction (WMD) including chemical, biological, radiological, nuclear and cyber
- Intelligence activities, sources or methods, or cryptology
- Foreign government information, foreign relations or foreign activities of the United States

Introduction to Classification

Policy on classified information in the public domain

U.S. Department of Energy
Washington, D.C.

September 23, 2014

CLASSIFICATION BULLETIN

GEN-16 Revision 2: "NO COMMENT" POLICY ON CLASSIFIED INFORMATION IN THE OPEN LITERATURE

I. PURPOSE. To provide guidance to DOE Federal and contractor employees authorized access to classified information (e.g., authorized person) on appropriate actions when unmarked documents, publications, or verbal comments containing classified information (i.e., Restricted Data (RD), Formerly Restricted Data (FRD), Transclassified Foreign Nuclear Information (TFNI), National Security Information (NSI)) or documents that are marked as containing classified information appear in the open literature and to clarify the circumstances that constitute comment.

II. CANCELLATION. This bulletin supersedes GEN-16, Rev "'NO COMMENT' POLICY ON CLASSIFIED INFORMATION IN THE PUBLIC DOMAIN," dated August 31, 2011.

Introduction to Classification

Policy on Marked classified information in the public domain

a. Guidance for Documents in the Open Literature that are Marked as Classified. Marked documents may appear in the open literature for several reasons. For example, they may have been leaked or they may have been appropriately declassified and released. In many cases, classification markings do not accurately convey the classification status of the document.

(1) Viewing. Inadvertent viewing of such documents is not a comment unless instructions to the contrary are issued by the U.S. Government regarding a specific compromise.

(2) Links. Links to such documents must not be forwarded via e-mail to any other person.

(3) Printing. Such documents may only be printed on a printer that has volatile memory. When printed, the documents must be protected, as required.

(4) Saving or Sending. The source itself must not be saved on an unclassified system or sent via e-mail to another person.

Don't access, don't print, don't quote, don't forward

Introduction to Classification

Policy on Unmarked classified information in the public domain

b. Guidance for Documents Containing Classified Information in the Open Literature that are Not Marked. The following guidance provides clarification as to the activities that are or are not considered comment:

(1) Viewing. Merely reading unmarked and unannotated documents or publications available in the open literature that contain classified information is not a comment unless instructions to the contrary are issued by the U.S. Government regarding a specific compromise.

(2) Collecting Publications or Internet Web Pages in a General Subject Area of Interest. Collecting unmarked and unannotated open literature publications or web pages in a given subject area or lists of open literature publications, assuming the title of that publication is not classified, is not a comment. Collections of topical news stories, favorite or bookmarked web sites, or listing of references do not by themselves constitute a comment. Basic summaries of collections of news articles may or may not constitute a comment depending on the content of the summary. Authorized persons must ensure that DOE classified information is not included within any summary of an open literature document. Authorized persons may collect open literature documents on such subjects as nuclear weapons, uranium centrifuges, etc., given that a variety of sources are widely available to the general public or to any informed researcher not authorized access to classified information, but they must not limit such

View, save, share; don't annotate, don't extract, don't summarize

Introduction to Classification

Policy on publication of nuclear weapon information

U.S. Department of Energy
Office of Classification
Washington, DC 20585

CLASSIFICATION BULLETIN
GEN-19

Publication of Nuclear Weapon Information

The purpose of this bulletin is to define the policy, procedures, and guidance concerning the publication for public release of information regarding the theory, operation, or design of nuclear weapons. This bulletin should be used in conjunction with GEN-16, *No Comment Policy for Classified Areas*.

Introduction to Classification

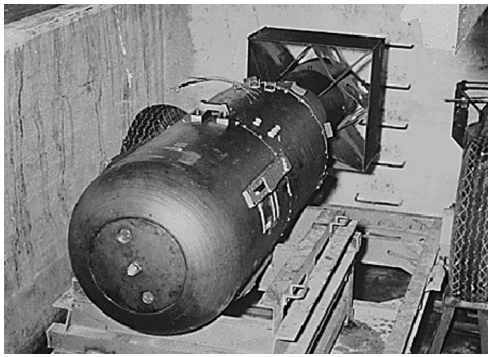
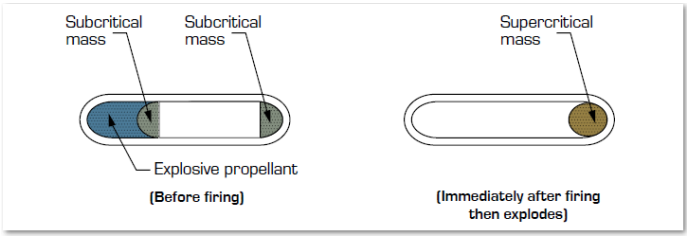
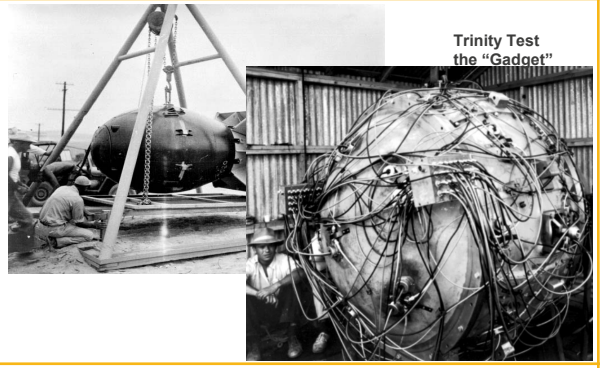
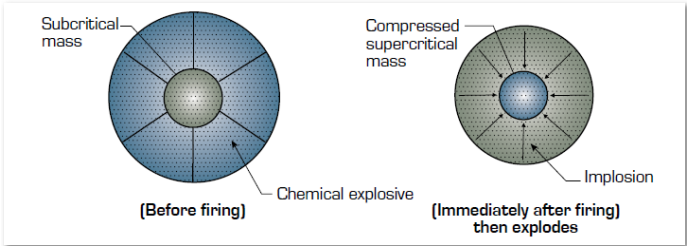
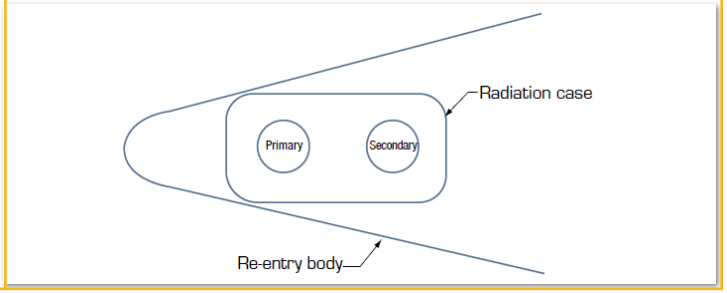
Policy on publication of nuclear weapon information

Of particular concern is the publication of material that takes nuclear physics from open sources and applies this physics to publish nominally "unclassified," "hypothetical" descriptions of any kind: words, drawings, pictures, etc., of the design and performance of nuclear weapons. In the event that there is a compelling need to use a weapon illustration on an unclassified basis, the unclassified illustrations in TCG-NAS-2, *Joint DOE/DoD Topical Classification Guide for Nuclear Assembly Systems*, may be used. The publication of nominally "unclassified," "hypothetical" descriptions of the design and performance of nuclear weapons by individuals with current or past authorized access to RD and FRD information is not in the national security interests of the United States and is against DOE policy. Publication of material by individuals with current or past authorized access to RD and FRD information dealing with fission and fusion physics and thermodynamics, unless specifically approved by the Office of Classification, must be done outside the context of the inner workings of nuclear weapons.

Individuals with current or past access to RD and FRD information must obtain approval from the Office of Classification to publish within Nuclear Weapon Subject Areas

Introduction to Classification

Declassified depictions of generic nuclear weapon types

Little Boy Like Gun Weapons		
Fat Man Like Implosion Weapons		
Modern Staged or Thermonuclear (TN) Weapons		

Introduction to Classification

Classification considerations

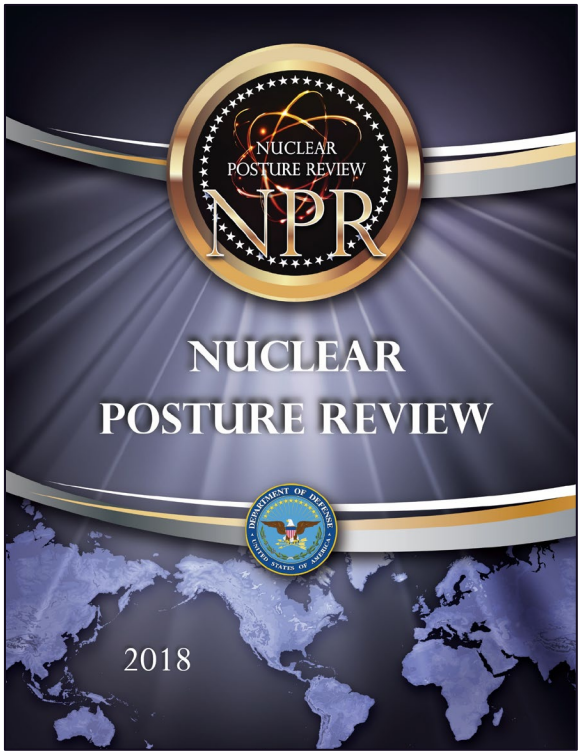
– The fundamental criterion used by the U.S. government to classify information is the belief that, if potential adversaries get hold of it, they can use it to undermine U.S. national security.

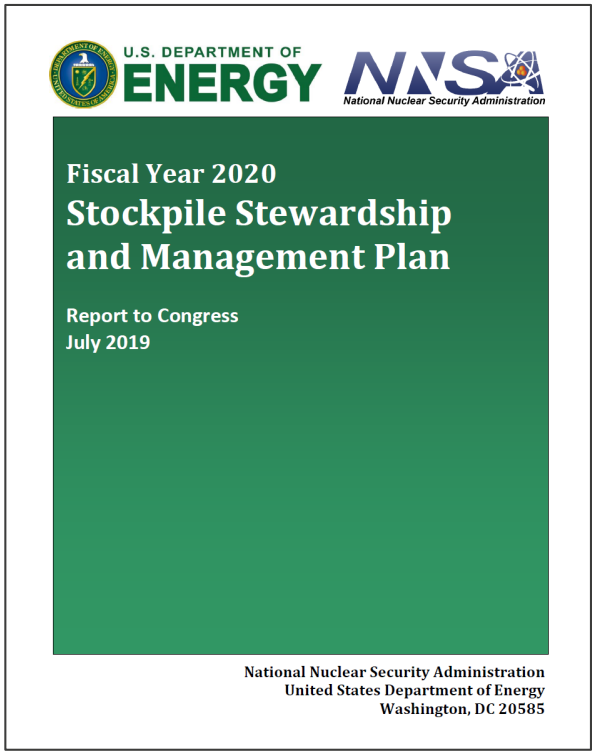
- **If you're uncleared, you can't know what information is classified but if you come across information that seems to fit the general criterion for classification, you can avoid proliferating it.**

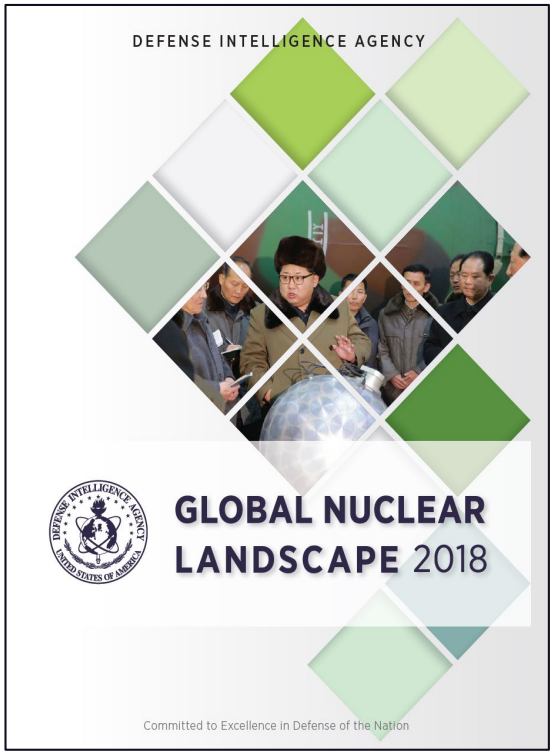
- **If there is a pressing need to discuss information in a potentially classified subject area, use well-vetted reference materials and cite them.**

Introduction to Classification

Vetted unclassified references

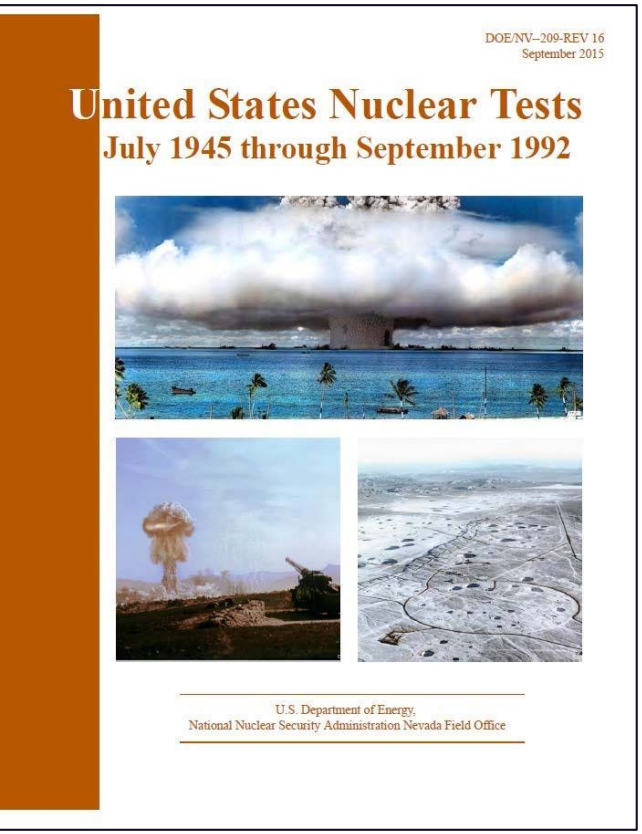


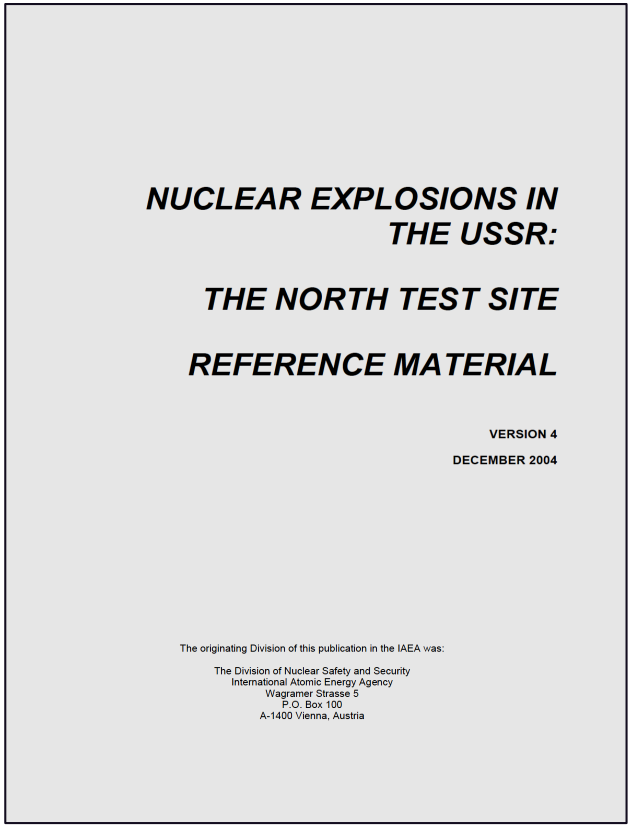




Introduction to Classification

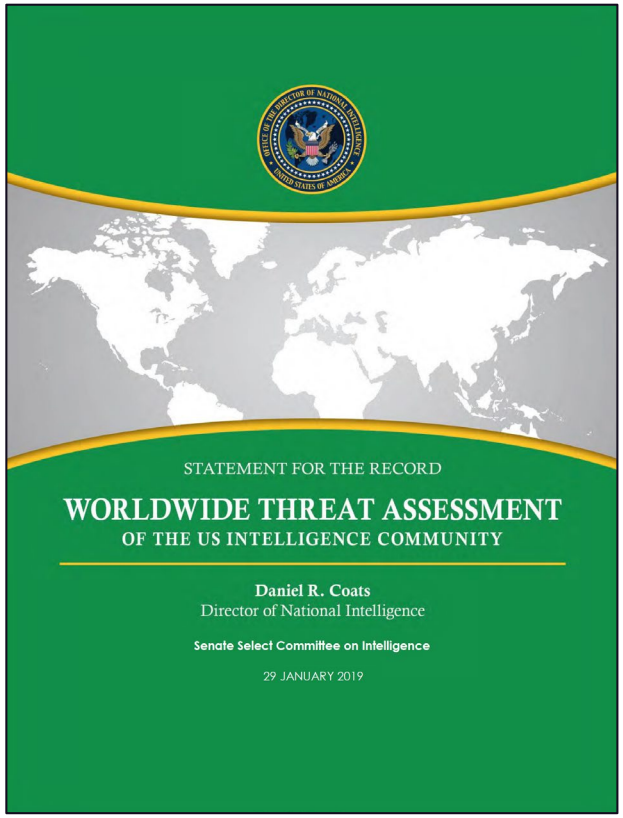
Vetted unclassified references

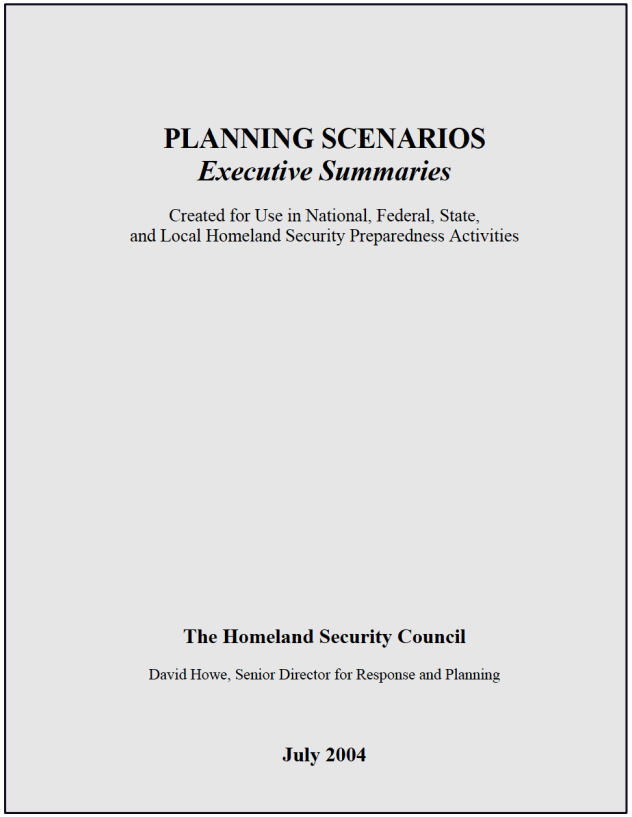


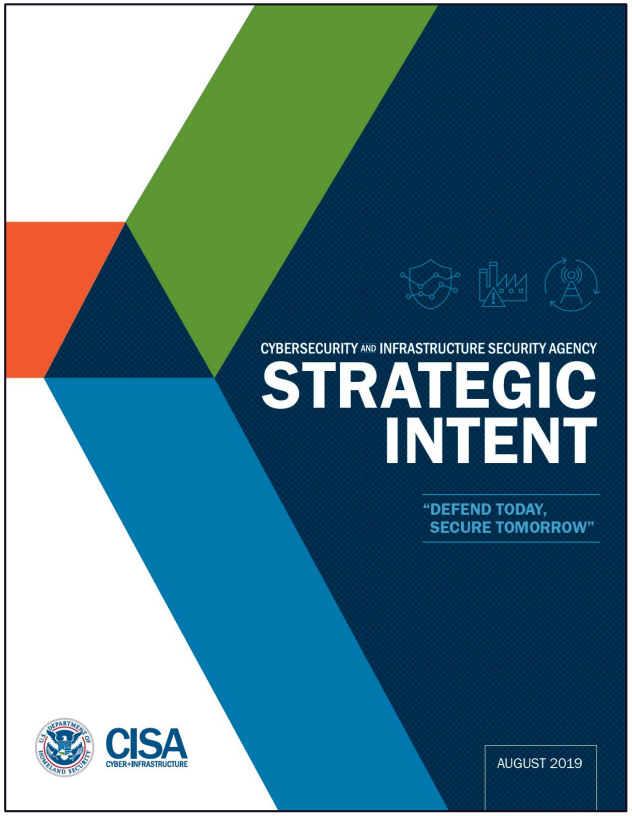


Introduction to Classification

Vetted unclassified references



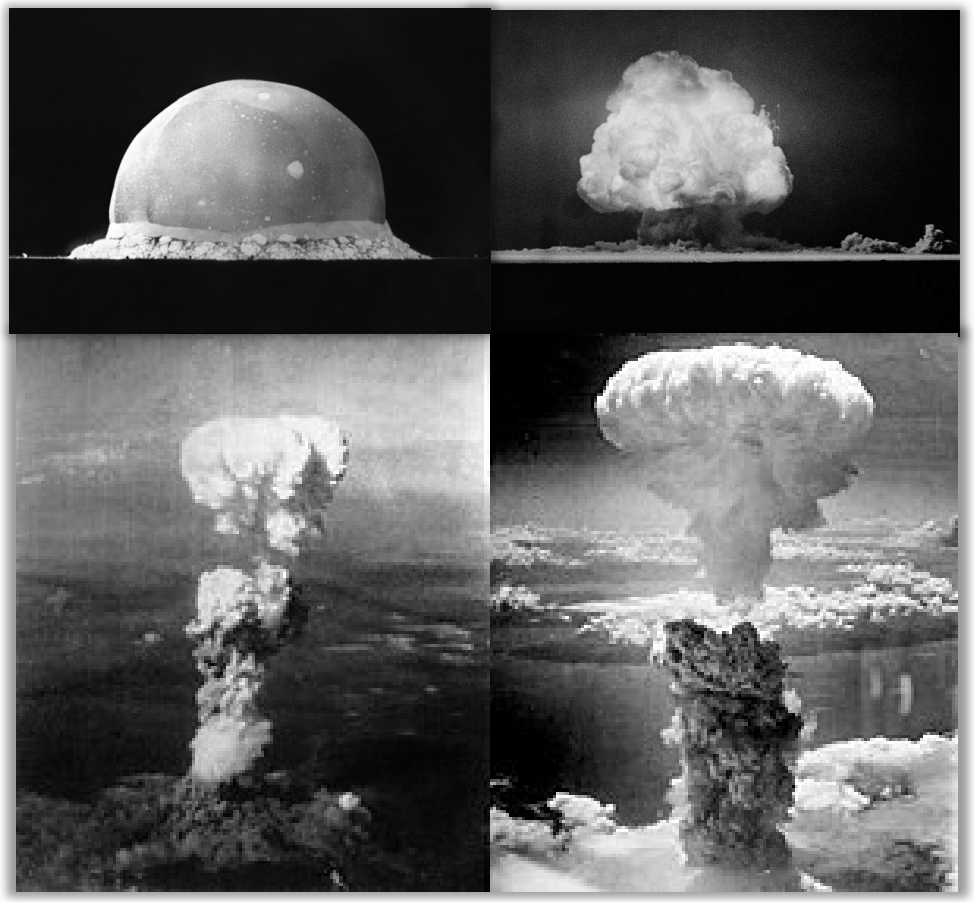




Introduction to Classification

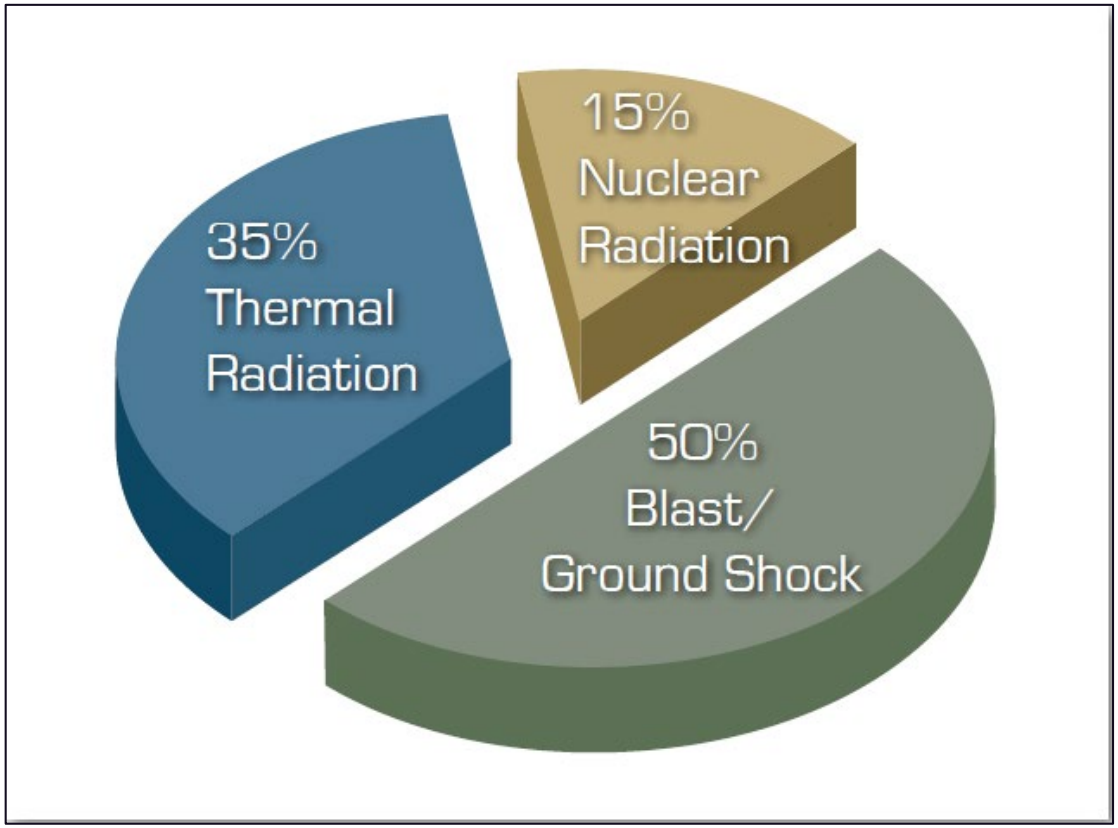
Declassified nuclear weapon yields

- Trinity test device (Gadget) 21 kT
- Hiroshima bomb (Little Boy) 15 kT
- Nagasaki bomb (Fat Man) 21 kT



Introduction to Classification

Declassified notional nuclear weapons outputs/effects



Introduction to Classification

Unclassified active stockpile weapons/delivery systems

Introduction to Classification

Declassified stockpile/dismantlement numbers

Stockpile Numbers

End of Fiscal Years 1962-2017*

Data prior to 1962 released by Department of Energy in December 1993

Year	Weapons	Year	Weapons
1962	25,540	1990	21,392
1963	28,133	1991	19,008
1964	29,463	1992	13,708
1965	31,139	1993	11,511
1966	31,175	1994	10,979
1967	31,255	1995	10,904
1968	29,561	1996	11,011
1969	27,552	1997	10,903
1970	26,008	1998	10,732
1971	25,830	1999	10,685
1972	26,516	2000	10,577
1973	27,835	2001	10,526
1974	28,537	2002	10,457
1975	27,519	2003	10,027
1976	25,914	2004	8,570
1977	25,542	2005	8,360
1978	24,418	2006	7,853
1979	24,138	2007	5,709
1980	24,104	2008	5,273
1981	23,208	2009	5,113
1982	22,886	2010	5,066
1983	23,305	2011	4,897
1984	23,459	2012	4,881
1985	23,368	2013	4,804
1986	23,317	2014	4,717
1987	23,575	2015	4,571
1988	23,205	2016	4,018
1989	22,217	2017	3,822

*Does not include weapons retired and awaiting dismantlement

Department of Energy Weapon Dismantlement Activity (FY 1994-2016)

Fiscal Year	Weapons Dismantled
1994	1369
1995	1393
1996	1064
1997	498
1998	1062
1999	206
2000	158
2001	144
2002	344
2003	222
2004	206
2005	280
2006	253
2007	545
2008	648
2009	356
2010	352
2011	305
2012	308
2013	239
2014	299
2015	109
2016	258
2017	354
Total Dismantlement's	10,972

Introduction to Classification

Acknowledged foreign nuclear weapons states

- Russia
- United Kingdom
- China
- France
- India
- Pakistan
- North Korea

Image Source: DIBMAC Report CSS-10 Road-Mobile ICBM

Image Source: DIBMAC Report Field Deployed SS-27 Road-Mobile ICBM

Image Source: AFP PHOTO/KCNA VIA KNS Hwasong-13 Road-Mobile ICBM displayed in a military parade

Introduction to Classification

Unclassified foreign nuclear force structure

Class of Weapon	Inventory
RUSSIAN NUCLEAR MILITARY CAPABILITY	
Intercontinental Ballistic Missiles	●
Short-Range Ballistic Missiles	●
Close-Range Ballistic Missiles	●
Ground-Launched Cruise Missiles	●
Submarine-Launched Ballistic Missiles	●
Antiship Missiles	●
Torpedoes	●
Antisubmarine Missiles	●
Depth Charges	●
Nuclear-Armed, Nuclear-Powered Underwater Vehicle	○
Air-to-Surface Missiles	●
Antiaircraft Missiles	●
Antiballistic Missiles	●
Gravity Bombs	●
CHINESE NUCLEAR MILITARY CAPABILITY	
Intercontinental Ballistic Missiles	●
Intermediate-Range Ballistic Missiles	○
Medium-Range Ballistic Missiles	●
Submarine-Launched Ballistic Missiles	●
NORTH KOREAN BALLISTIC MISSILES DESIGNED FOR NUCLEAR DELIVERY	
Intercontinental Ballistic Missiles	○
Intermediate-Range Ballistic Missiles	○
Medium-Range Ballistic Missiles	●
Short-Range Ballistic Missiles	●
Submarine-Launched Ballistic Missiles	○

● Current Stockpile ○ Developmental

Introduction to Classification

Unclassified security threats

National Planning Scenarios

FEMA

Key Scenario Sets	National Planning Scenarios
1. Explosives Attack – Bombing Using Improvised Explosive Device	Scenario 12: Explosives Attack – Bombing Using Improvised Explosive Device
2. Nuclear Attack	Scenario 1: Nuclear Detonation – Improvised Nuclear Device
3. Radiological Attack – Radiological Dispersal Device	Scenario 11: Radiological Attack – Radiological Dispersal Device
4. Biological Attack – With annexes for different pathogens	Scenario 2: Biological Attack – Aerosol Anthrax Scenario 4: Biological Attack – Plague Scenario 13: Biological Attack – Food Contamination Scenario 14: Biological Attack – Foreign Animal Disease
5. Chemical Attack – With annexes for different agents	Scenario 5: Chemical Attack – Blister Agent Scenario 6: Chemical Attack – Toxic Industrial Chemicals Scenario 7: Chemical Attack – Nerve Agent Scenario 8: Chemical Attack – Chlorine Tank Explosion
6. Natural Disaster – With annexes for different disasters	Scenario 9: Natural Disaster – Major Earthquake Scenario 10: Natural Disaster – Major Hurricane
7. Cyber Attack	Scenario 15: Cyber Attack
8. Pandemic Influenza	Scenario 3: Biological Disease Outbreak – Pandemic Influenza

NFO

Introduction to Classification

Recognizing and protecting controlled unclassified information (CUI)

- Certain U.S. government information that does not meet the legal threshold(s) to be classified but still requires protection
- Unclassified information that meets criteria established for CUI may be exempt from disclosure under the Freedom of Information Act (FOIA)
- Common LANL CUI categories
  - Official Use Only (OUO)
  - Unclassified Controlled Nuclear Information (UCNI)
- Access to most CUI is controlled strictly on the basis of need-to-know
- Only OUO and UCNI markings are allowed for DOE government information

Introduction to Classification

Official use only (OUO) information

– As utilized and defined by Dept. of Energy (DOE), OUO information has potential to damage governmental, commercial or private interests if disseminated to persons who do not need to know the information to perform their jobs/DOE-authorized activities

– To be identified as OUO information must:

- be unclassified
- have the potential to damage governmental, commercial or private interests if disseminated to persons who do not have a need to know
- fall under at least one FOIA exemptions

OFFICIAL USE ONLY

May be exempt from public release under the Freedom of Information Act (5 U.S.C. 552), exemption number and category: _____

_____

Department of Energy review required before public release

Name/Org: _____ Date: _____

Guidance (if applicable) _____

OUO markings

A document containing OUO information must be marked with:

- the FOIA exemption (number and category) used in the determination
- the person who made the determination
- the date and any classification guidance used in the determination

Introduction to Classification

Unclassified controlled nuclear information (UCNI)

- According to the Atomic Energy Act, unclassified information must be protected as UCNI if public dissemination could significantly increase the likelihood of:
  - Illegal production of a nuclear weapon; or theft, diversion, or sabotage of nuclear material, equipment, or facilities
- Such information includes:
  - Design of production/utilization facilities
  - Security measures for physical protection of:
    - Production/utilization facilities, Nuclear material in such facilities and Nuclear material in transit
- Previously classified nuclear weapon information

Unclassified Controlled Nuclear Information
Not for Public Dissemination

Unauthorized dissemination subject to civil and criminal sanctions under section 148 of the Atomic Energy Act of 1954, as amended (42 U.S.C. 2168).

Reviewing Official: _____
(Name/Organization)
Date: _____
Guidance Used: _____

UCNI Markings

- Only trained individuals - UCNI Reviewing Officials (RO)- are authorized to determine that a document contains UCNI
- Documents containing UCNI must be marked to identify
  - The RO who made the determination
  - The date of the determination
  - The guidance (required to be) used by the RO in making the determination

Introduction to Classification

Practices that protect national security <u>and</u> reduce the risk of an unauthorized disclosure of classified information

- Don't include information in classified subject areas in LANL documents intended for, or not protected from, public release
- Don't comment on information in the public domain in classified subject areas
- Do use the **Review & Approval System for Scientific and Technical Information (RASSTI)** publication tool for your articles
  - RASSTI process authorizes publications for public release by the Office of Classification, meaning WE are accountable
- Review requirements waived if documents are within scope of a **Designated Unclassified Subject Area (DUSA**)

Thank you!

Questions?

Email us: **NFO@lanl.gov**