

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

ORDER

DOE 5610.2

8-1-80

SUBJECT: CONTROL OF WEAPON DATA

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1. PURPOSE. This Order establishes the procedures for the control of weapon data.
2. SCOPE. The provisions of this Order apply to all elements of the Department of Energy (DOE) and all contractors and subcontractors performing work for the Department, who have or may have weapon data under their custody or control.
3. SPECIAL INSTRUCTIONS. This Order replaces Manual Chapter and Appendix 2108, WEAPON DATA, which was canceled 10-1-77.
4. GENERAL. It is necessary to differentiate between the handling of weapon data and other specialized or technical data because of its direct relationship to our nation's defense. The provisions of the Atomic Energy Act stipulate the control and dissemination of Restricted Data to assure the common defense and security. Weapon data is always Restricted Data, or Formerly Restricted Data, specifically that portion concerning the design, manufacture, or utilization of atomic weapons.
5. DEFINITIONS.
  - a. Critical Nuclear Weapon Design Information (CNWDI). A Department of Defense (DOD) category of weapon data designating Top Secret/Restricted Data or Secret/Restricted Data revealing the theory of operation or design of the components of a thermonuclear or fission bomb, warhead, demolition munition, or test device. Specifically excluded from designations as CNWDI is information concerning:
    - (1) Arming, fuzing, and firing systems.
    - (2) Limited life components.
    - (3) Total contained quantities of fissionable, fusionable, and high explosive materials by type.
    - (4) components which military personnel set, maintain, operate, test, or replace.

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**DISTRIBUTION.**

All Departmental Elements  
Federal Energy Regulatory Commission (Info)

**INITIATED BY:**

Office of Military Application

- b. Defense Technical Information Center (DTIC). The central facility of the DOD for secondary distribution of technical reports generated by research, development, test, and evaluation efforts sponsored by the Department of Defense.
- c. Document. Any recorded data, regardless of the form, not limited to, but including:
  - (1) Handwritten, printed, or typed.
  - (2) Painted, drawn, or engraved.
  - (3) Magnetically or electromagnetically recorded.
  - (4) On paper, plastic, or metal tapes, punched cards, or aperture cards.
  - (5) Contained on exposed film, or in photographs.
  - (6) Any reproduction of the foregoing.
- d. Field of Interest Register. A method used by the Department of Defense to authorize automatic distribution of documents from the Defense Technical Information Center. Access is controlled by subject category and by classification level.
- e. Formerly Restricted Data. Classified information jointly determined by DOE and DOD to be related primarily to the utilization of atomic weapons, and removed by DOE from the Restricted Data category pursuant to section 142(d) of the Atomic Energy Act.
- f. Production Rate or Stockpile Quantity Information. Classified data related to production rates of weapons or weapon components or to stockpile quantities of weapons or weapon components.
- g. Restricted Data. That data which is defined in section 11y of the Atomic Energy Act of 1954, as amended, as "all data concerning (1) design, manufacture, or utilization of atomic weapons; (2) the production of special nuclear material; or (3) the use of special nuclear material in the production of energy, but shall not include data declassified or removed from the Restricted Data category pursuant to section 142."
- h. Sigma Categories. Restricted Data and/or Formerly Restricted Data in the following categories which concern the design, manufacture, or utilization of atomic weapons, or utilization of atomic weapons or nuclear explosive devices. (See Weapon Data defined on page 4, subparagraph j.)

- (1) Sigma 1. Theory of operation (hydrodynamic and nuclear) or complete design of thermonuclear weapons or their unique components.
- (2) Sigma 2. Theory of operation or complete design of fission weapons or their unique components. This includes the high explosive system with its detonators and firing unit, pit system, and nuclear initiation system as they pertain to weapon design and theory.
- (3) Sigma 3. Manufacturing and utilization information not comprehensively revealing the theory of operation or design of the physics package. Complete design and operation of nonnuclear components but only information as prescribed below for nuclear components. utilization information necessary to support the stockpile to target sequence. Information includes:
  - (a) General external weapon configuration, including size, weight, and shape.
  - (b) Environmental behavior, fuzing, ballistics, yields, and effects.
  - (c) Nuclear components or subassemblies which do not reveal theory of operation or significant design features.
  - (d) Production and manufacturing techniques relating to nuclear components or subassemblies.
  - (e) Anticipated and actual strike operations.
- (4) Sigma 4. Information inherent in preshot and postshot activities necessary in the testing of atomic weapons or devices. Specifically excluded are the theory of operation and the design of such items. Information includes:
  - (a) Logistics, administration, other agency participation.
  - (b) Special construction and equipment.

Note: Sigma 1 and Sigma 2 generally, but not completely, equate to the CNWD1 defined on page 1, subparagraph a.
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- (c) Effects, safety.
- (d) Purpose of tests, general nature of nuclear explosive tested including expected or actual yields and conclusions derived from tests not to include design features.

- (5) Sigma 5. Production rate and/or stockpile quantities of nuclear weapons and their components.
  - (6) Sigma 9. General studies not directly related to the design or performance of specific weapons or weapon systems, e.g., reliability studies, fuzing studies, damage studies, aerodynamic studies, etc.
  - (7) Sigma 10. Chemistry, metallurgy, and processing of Materials peculiar to the field of atomic weapons or nuclear explosive devices.
  - (8) Sigma 11. Information concerning inertial confinement fusion which reveals or is indicative of weapon data.
- i. Transfer and Accountability Station. An organizational unit which controls the receipt, transmission, accountability, and disposition of classified reports.
  - j. Weapon Data. Restricted Data/Formerly Restricted Data concerning the design, manufacture, or Utilization (including theory, development, storage, characteristics, performance, and effects) of atomic weapons or atomic weapon components. This includes information incorporated in or relating to nuclear explosive devices. (See sigma categories defined in pages 2-4, subparagraph h.)
  - k. Weapon Data Control Point. The same as the Transfer/Accountability (T/A) station or Secret/Restricted Data reports except for special designation as Weapon Data T/A station.
  - 1. Weapon Data Report. A classified document containing weapon data:
    - (1) Resulting from a scientific/technical activity or concerning existing or proposed concepts relating to nuclear weapons.
    - (2) Normally bound, assigned a unique alphanumeric designator (report number), and formal in approach.

Documents such as technical memorandums, letters, drawings, photographs, charts, drafts, or worksheets containing weapon data are not considered, when standing alone, to be weapon data reports. In questionable cases, the Office of Military Application (DP-20) will decide.

- d. Weapons Complex. The DOE organizations that design, manufacture, or test nuclear weapons or nuclear weapons components. Included are Office of Military Application (DP-20), Albuquerque Operations (ALO), San Francisco Operations (SAM), Savannah River Operations (SRO), Nevada Operations (NVO), Oak Ridge Operations (ORO), their organizations, and their contractors, including subcontractors and suppliers that are concerned with nuclear weapons.

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6. RESPONSIBILITIES AND AUTHORITIES. It is the responsibility of each DOE organization to assure that any weapon data in its custody is disseminated only to individuals with appropriate security clearances and the absolute need for this information in the performance of their official duties, and to establish procedures to achieve this end.

a. Director of Military Application.

- (1) Controls access to and establishes policy regarding weapon data.
- (2) Authorizes access to weapon data by Headquarters employees and contractors.
- (3) Authorizes DOE and contractors to grant access to weapon data and transmit weapon data documents to:
  - (a) Employees of other Government agencies and their contractors.
  - (b) Members of the Armed Forces.
  - (c) Foreign nationals.
  - (d) Members of Congress and congressional committees.
- (4) Approves DOE and contractor requests to the DOE Headquarters Library (Office of Administrative Services) to obtain individual weapon data reports from DTIC.
- (5) Delegates responsibility to the Managers of Albuquerque, Nevada, Oak Ridge, San Francisco, and Savannah River Operations Offices to grant access to weapon data and to transmit weapon data documents.
- (6) Notify the Director of Safeguards and Security when Secret Sigma 1 or Sigma 2 documents are unaccounted for.

b. Assistant Secretaries, General Counsel, Assistants to the Secretary Administrators, Directors, Inspector General, Controller.

- (1) Authorize access to weapon data held by their office to DOE employees under their jurisdiction.
- (2) Authorize employees under their jurisdiction to grant access to weapon data and to transmit weapon data documents in their custody, upon approval of the Director of Military Application, after assuring need-to-know, appropriate security clearance of recipient, and appropriate storage facilities to:

- (a) Employees of Headquarters offices and their contractors.
  - (b) Employees of DOE field offices and contractors under their jurisdiction.
  - (c) Employees of other Government agencies and their contractors, members of the Armed Forces, and members of Congress and congressional committees, when delegated that responsibility by the Director of Military Application. (For operations and field offices, unless such responsibility has been delegated, weapon data documents intended for Congress or congressional committees shall be forwarded through the Office of Military Application.)
- (3) Channel requests through the Headquarters library for weapon data reports from DTIC. Final approval for circulation lies with the Director of Military Application.
  - (4) Establish, change the designation of, and eliminate weapon data control points for offices under their jurisdiction.
  - (5) Assure the review of Top Secret and Secret weapon data documents to be transmitted to the DOD/Armed Forces for CNWDI content and prescribed marking, and determine that recipients are authorized to have access.
  - (6) Notify the Office of "Military Application and the Office of Safeguards and Security when Secret Sigma 1 or Sigma 2 documents are unaccounted for.
  - (7) Assure the disposition of weapon data documents on the completion of work requiring access to weapon data or termination of a contract.
- c. Managers of Albuquerque, Nevada, Oak Ridge, San Francisco, and Savannah River Operations Offices. In addition to the responsibilities outlined on pages 5 and 6, subparagraphs b(1), (2), and (4)-(7), approve and transmit to the Manager, TIC, Oak Ridge, any request for weapon data reports from DTIC, and requests for the establishment of field-of-interest registers.
- d. Manager, Technical Information Center (TIC), Oak Ridge. In addition to the responsibilities outlined on pages 5 and 6, subparagraphs b(1), (2), (4), (6), and (7), carries out the following:
- (1) Maintains weapon data reports originated by DOE and contractors.
  - (2) Provides abstracting and indexing services covering weapon data reports.
  - (3) Maintains a computerized data base of weapon data information for publication in the Abstracts of Weapon Data reports and produces other incarnation products or services as may be approved by the Director of Military Application.

- (4) Coordinates with the Director of Military Application requests from DOE and contractors to establish field-of-interest registers involving access to weapon data reports from DTIC.
  - (5) With approval from the Director of Military Application, grants access to weapon data and transmits weapon data reports in TIC custody to DOE and contractors.
  - (6) Transmits weapon data reports in the custody of TIC to the Headquarters library and DOE Contractors libraries, with appropriate approval .
- e. Director of Administrative Services. In addition to the responsibilities outlined on pages 5 and 6, subparagraphs b(1), (2), (4), (6), and (7), and following coordination with the Director of Military Application:
- (1) Arranges with DTIC to obtain weapon data reports for Headquarters personnel authorized to receive such information.
  - (2) Establishes a field-of-interest register for weapon data reports required by Headquarters personnel to be obtained from the DTIC.

7. WEAPON DATA MARKINGS.

- a. General Requirements. As with all classified documents, weapon data documents shall be marked to show classification and type of information (Restricted Data or Formerly Restricted Data).
- b. Weapon Data Reports shall, in addition to the general requirements, be marked with the following:
  - (1) Nuclear Weapon Data. Sigma . (Sigma to be identified if reports contain information categorized under Sigmas 1, 2, 3, and 11 .)
  - (2) CNWDI for Secret and Top Secret reports containing Sigma 1, 2, or 11 to be distributed to the DOD).
- c. Weapon Data Documents Leaving the Weapons Complex. Weapon data documents being sent outside the weapons complex shall bear the marking, NUCLEAR WEAPON DATA, and CNWDI, as appropriate.
- d. Weapon Data Documents issued before the date of this Order need not be marked as set forth above, subparagraph b.
- e. Size and Place of Markings.
  - (1) The markings required above, subparagraph b(1), shall be in letters no less than 1/8" in height.
  - (2) Marking shall be placed on:
    - (a) The title page and front cover.
    - (b) The first page of documents possessing no title page or cover.

- (c) The leader and beginning of each reel of film containing weapon data.
  - (d) Punched cards, with the classification usually preprinted.
  - (e) The reel of each magnetic tape.
- (3) The "Critical Nuclear Weapon Design Information" marking shall be placed immediately beneath the "Nuclear Weapon Data" stamp on the face of reports containing CNWDI or in any conspicuous position on the face of other weapon data documents, as required.
  - (4) The markings required by this Order to identify weapon data shall be placed in proximity to the Restricted Data or Formerly Restricted Data markings,
  - (5) When space is limited, the words "Weapon Data" or abbreviation "WD" shall be used.

#### 8. ACCOUNTABILITY AND TRANSMISSION OF WEAPON DATA DOCUMENTS.

- a. Accountability. Each weapon data control point shall keep a record of transactions involving Secret weapon data documents under its jurisdiction including origination, receipt, transmission, current custodian, reproduction, change of classification, declassification, and destruction.
- b. Unaccounted for Weapon Data Documents.
  - (1) Requirements applicable to unaccounted for classified documents generally are set forth in existing DOE regulations. In subparagraphs (2) and (3) below, additional requirements are delineated as applicable to certain weapon data reports.
  - (2) A written report of unaccounted for Secret weapon Data reports containing Sigma 1 or Sigma 2 information shall be transmitted to the Office of Military Application and the office of Safeguards and security or the responsible field security office immediately after the report is discovered to be unaccounted for. Notification may be submitted on DOE Form DP-H179, or contain those items of information enumerated on that form.
  - (3) Office of Military Application and the Office of Safeguards and security or the responsible field security office shall be notified on a quarterly basis of any additional developments regarding these unaccounted for reports. If a report is subsequently accounted for, the notification shall state the circumstances.
- c. Transmission of Weapon Data Reports.
  - (1) Weapon data reports shall be transmitted as prescribed for classified documents in existing DOE regulations.



- (2) All weapon data reports, whether or not bearing a report number, shall be transmitted through weapon data control points or subordinate weapon data control points. When-transfers are made to the DOD/Armed Forces or other Government agencies, they shall be forwarded to authorized addressees only. Reports sent to DOD contractors shall be forwarded to certified named individuals only.
- (3) Authority to transmit weapon data reports to other Government agencies must be obtained from the Director of Military Application, or the Manager of Albuquerque, Nevada, Oak Ridge, San Francisco, or Savannah River Operations Office, when delegated that authority by the Director of Military Application. Records of approval and transmission shall be maintained by the office sending the reports.
- (4) Receipts for Secret weapon data reports shall indicate the name of the individual for whom the report is intended. DOE Form DP-126, or its equivalent, shall be used for all transfers of custody of Secret weapon data reports. For Top Secret weapon data reports, DOE Form DP-277 shall be used for transmission for all transfers of custody.
- (5) All organizations originating and distributing weapon data reports shall obtain reaffirmation annually of the continued need for the distribution outside the DOE weapons complex.

d. Certification.

- (1) A certification for access to weapon data must contain the required information set forth in existing DOE regulations and be signed by, or in the name of, one of the DOD officials designated as approving officials. The certification is valid for up to 1 year. Any certification submitted by DOD or members of the Armed Forces must meet the requirements that the recipient is appropriately cleared, has a need-to-know, and possesses approved storage facilities for safeguarding the information.
- (2) When Critical Nuclear Weapon Design Information is requested, the certification shall state that personnel to be furnished this data have been authorized access.

e. Approval of Certification. The Director of Military Application shall approve certifications and the Managers of Albuquerque, Nevada, Oak Ridge, San Francisco, and Savannah River Operations Offices may also approve such certifications when:

- (1) The responsibility has been delegated by the Director of Military Application, or
- (2) Required in conjunction with work performed under contract with the respective operations office, and the request is within the scope of the work.

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9. ACTION ON TERMINATION OF CONTRACT OR SUBCONTRACT ACTIVITIES. The manager of a field office or head of a Headquarters office shall require that any organization terminating its contract or subcontract; any contractor or subcontractor completing its performance under a contract or subcontract; or any contractor or subcontractor no longer originating, receiving, or using weapon data documents shall conform to DOE regulations with regard to disposal of their classified holdings and, in addition:
- a. Prior to the termination of the contract or subcontract, notify the Technical Information Center (TIC), at Oak Ridge, and other weapon data control points from which weapon data documents have been received, of the termination, and that the requirement for weapon data documents no longer exists.
  - b. Assure that all weapon data documents have been accounted for.



William S. Heffelfinger  
Director of Administration

# US. Department of Energy

Washington, D.C.

## PAGE CHANGE

DOE 5610.2 Chg 1

9-2-86

SUBJECT: CONTROL OF WEAPON DATA

1. PURPOSE. To transmit revised pages to DOE 5610.2, CONTROL OF WEAPON DATA, of 8-1-80.
2. EXPLANATION OF CHANGE. Two additional Sigma categories have been added to the "Definitions" paragraph.
3. FILING INSTRUCTIONS.

<u>a.</u>	<u>Remove Page</u>	<u>Dated</u>	<u>Insert Page</u>	<u>Dated</u>
	3	8-1-80	3	8-1-80
	4	8-1-80	4	9-2-86
			4a	8-1-80

b. After filing the attached pages, this transmittal may be discarded.

BY ORDER OF THE SECRETARY OF ENERGY:



HARRY L. PEEBLES  
Director of Administration

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All Departmental Elements

INITIATED BY:

Office of Military Applications



- (1) Sigma 1. Theory of operation (hydrodynamic and nuclear) or complete design of thermonuclear weapons or their unique components.
- (2) Sigma 2. Theory of operation or complete design of fission weapons or their unique components. This includes the high explosive system with its detonators and firing unit, pit system, and nuclear initiation system as they pertain to weapon design and theory.
- (3) Manufacturing and utilization information not comprehensively revealing the theory of operation or design of the physics package. Complete design and operation of nonnuclear components but only information as prescribed below for nuclear components. Utilization information necessary to support the stockpile to target sequence. Information includes:
  - (a) General external weapon configuration, including size, weight, and shape.
  - (b) Environmental behavior, fuzing, ballistics, yields, and effects.
  - (c) Nuclear components or subassemblies which do not reveal theory of operation or significant design features.
  - (d) Production and manufacturing techniques relating to nuclear components or subassemblies.
  - (e) Anticipated and actual strike operations.
- (4) Sigma 4. Information inherent in preshot and postshot activities necessary in the testing of atomic weapons or devices. Specifically excluded are the theory of operation and the design of such items. Information includes:
  - (a) Logistics, administration, other agency participation.
  - (b) Special construction and equipment.

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Note: Sigma 1 and Sigma 2 generally, but not completely, equate to the CNWDI defined on page 1, subparagraph a.

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- (c) Effects, safety.
- (d) Purpose of tests, general nature of nuclear explosive tested including expected or actual yields and conclusions derived from tests not to include design features.

- (5) Sigma 5. Production rate and/or stockpile quantities of nuclear weapons and their components.
- (6) Sigma 9. General studies not directly related to the design or performance of specific weapons or weapon systems, e.g., reliability studies, fuzing studies, damage studies, aerodynamic studies, etc.
- (7) Sigma 10. Chemistry, metallurgy, and processing of materials peculiar to the field of atomic weapons or nuclear explosive devices.
- (8) Sigma 11. Information concerning inertial confinement fusion which reveals or is indicative of weapon data.
- (9) Sigma 12. Complete theory of operation, complete design, or partial design information revealing either sensitive design features or how the energy conversion takes place for the nuclear energy converter, energy director or other nuclear directed energy weapon systems or components outside the envelope of the nuclear source but within the envelope of the nuclear directed energy weapon.

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Note: Theory of operation or complete design information for a nuclear directed energy weapon requires access to Sigmas 1, 2, and 12 information. Cleared persons not requiring access to Sigmas 1, 2, or 12 information will normally be granted Sigmas 3 and 13, as appropriate.

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- (10) Manufacturing and utilization information and output characteristics for nuclear energy converters, directors or other nuclear directed energy weapon systems or components outside the envelope of the nuclear source, not comprehensively revealing the theory of operation, sensitive design features of the nuclear directed energy weapon or how the energy conversion takes place. Information includes:
  - (a) General, external weapon configuration and weapon environmental behavior characteristics, yields, and effects.
  - (b) Component or subassembly design that does not reveal theory of operation or sensitive design features of nuclear directed energy weapons categorized as Sigmas 1, 2, or 12.
  - (c) production and manufacturing techniques for components or subassemblies of nuclear directed energy weapons that do not reveal information categorized as Sigmas 1, 2, or 12.

Vertical line denotes change.

- i. Transfer and Accountability Station. An organizational unit which controls the receipt, transmission, accountability, and disposition of classified reports.
- j. Weapon Data. Restricted Data/Formerly Restricted Data concerning the design, manufacture, or utilization (including theory, development, storage, characteristics, performance, and effects) of atomic weapons or atomic weapon components. This includes information incorporated in or relating to nuclear explosive devices. (See sigma categories defined on pages 2-4, subparagraph h.)
- k. Weapon Data Control Point. The same as the Transfer/Accountability (T/A) station for Secret Restricted Data reports except for special designation as Weapon Data T/A station.
- l. Weapon Data Report. A classified document containing weapon data:
  - (1) Resulting from a scientific/technical activity or concerning existing or proposed concepts relating to nuclear weapons.
  - (2) Normally bound, assigned a unique alphanumeric designator (report number), and formal in approach.

Documents such as technical memorandums, letters, drawings; photographs, charts, drafts, or worksheets containing weapon data are not considered, when standing alone, to be weapon data reports. In questionable cases, the Office of Military Application (DP-20) will decide.

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