(b) Not all areas of nuclear-related information are covered by the presumptions.
(c) In general, existing information listed in paragraphs (d) and (e) of this section has the classification status indicated. Inclusion of specific existing information in one of the presumption categories does not mean that new information in a category is or is not classified, but only that arguments to differ from the presumed classification status of the information should use the appropriate presumption as a starting point.
(d) The Director of Classification and the Chief Health, Safety and Security Officer shall presume that information in the following areas is unclassified unless application of the criteria in §1045.16 indicates otherwise:
(1) Basic science: mathematics, chemistry, theoretical and experimental physics, engineering, materials science, biology and medicine;
(2) Magnetic confinement fusion technology;
(3) Civilian power reactors, including nuclear fuel cycle information but excluding technologies for uranium enrichment;
(4) Source materials (defined as uranium and thorium and ores containing them);
(5) Fact of use of safety features (e.g., insensitive high explosives, fire resistant pits) to lower the risks and reduce the consequences of nuclear weapon accidents;
(6) Generic weapons effects;
(7) Physical and chemical properties of uranium and plutonium, most of their alloys and compounds, under standard temperature and pressure conditions;
(8) Nuclear fuel reprocessing technology and reactor products not revealing classified production rates or inventories;
(9) The fact, time, location, and yield range (e.g., less than 20 kilotons or 20–150 kilotons) of U.S. nuclear tests;
(10) General descriptions of nuclear material production processes and theory of operation;
(11) DOE special nuclear material aggregate inventories and production rates not revealing size or details concerning the nuclear weapons stockpile;
(12) Types of waste products resulting from all DOE weapon and material production operations;
(13) Any information solely relating to the public and worker health and safety or to environmental quality; and
(14) The simple association or simple presence of any material (i.e., element, compound, isotope, alloy, etc.) at a specified DOE site.
(e) The Director of Classification and the Chief Health, Safety and Security Officer shall presume that information in the following areas is classified unless the application of the criteria in §1045.16 indicates otherwise:
(1) Detailed designs, specifications, and functional descriptions of nuclear explosives, whether in the active stockpile or retired;
(2) Material properties under conditions achieved in nuclear explosions that are principally useful only for design and analysis of nuclear weapons;
(3) Vulnerabilities of U.S. nuclear weapons to sabotage, countermeasures, or unauthorized use;
(4) Nuclear weapons logistics and operational performance information (e.g., specific weapon deployments, yields, capabilities), related to military utilization of those weapons required by the DoD;
(5) Details of the critical steps or components in nuclear material production processes; and
(6) Features of military nuclear reactors, especially naval nuclear propulsion reactors, that are not common to or required for civilian power reactors.

§ 1045.16 Criteria for evaluation of restricted data and formerly restricted data information.
(a) The Director of Classification shall classify information as RD and the Chief Health, Safety and Security Officer shall maintain the classification of RD (and FRD in coordination with the DoD) only if undue risk of damage to the common defense and security from its unauthorized disclosure can be identified and described.
(b) The Director of Classification shall not classify information and the Chief Health, Safety and Security Officer shall declassify information if
there is significant doubt about the need to classify the information.
(c) The Director of Classification and the Chief Health, Safety and Security Officer shall consider the presumptions in §1045.15 (d) and (e) before applying the criteria in paragraph (d) of this section.
(d) In determining whether information should be classified or declassified, the Director of Classification and the Chief Health, Safety and Security Officer shall consider the following:
(1) Whether the information is so widely known or readily apparent to knowledgeable observers that its classification would cast doubt on the credibility of the classification system;
(2) Whether publication of the information would assist in the development of countermeasures or otherwise jeopardize any U.S. weapon or weapon system;
(3) Whether the information would hinder U.S. nonproliferation efforts by significantly assisting potential adversaries to develop or improve a nuclear weapon capability, produce nuclear weapons materials, or make other military use of nuclear energy;
(4) Whether publication of the information would have a detrimental effect on U.S. foreign relations;
(5) Whether publication of the information would benefit the public welfare, taking into account the importance of the information to public discussion and education and potential contribution to economic growth; and,
(6) Whether publication of the information would benefit the operation of any Government program by reducing operating costs or improving public acceptance.
§ 1045.17 Classification levels.
(a) Restricted Data. The Director of Classification shall assign one of the following classification levels to RD information to reflect the sensitivity of the information to the national security. The greater the damage expected from unauthorized disclosure, the higher the classification level assigned to the information.
(1) Top Secret. The Director of Classification shall classify RD information Top Secret if it is vital to the national security and if its unauthorized disclosure could reasonably be expected to cause exceptionally grave damage to the national security. Examples of RD information that warrant Top Secret classification include detailed technical descriptions of critical features of a nuclear explosive design that would enable a proliferant or nuclear power to build or substantially improve a nuclear weapon, information that would make possible the unauthorized use of a U.S. nuclear weapon, or information revealing catastrophic failure or operational vulnerability in a U.S. nuclear weapon.
(2) Secret. The Director of Classification shall classify RD information as Secret if its unauthorized disclosure could reasonably be expected to cause serious damage to the national security, but the RD information is not sufficiently comprehensive to warrant designation as Top Secret. Examples of RD information that warrant Secret classification include designs for specific weapon components (not revealing critical features), key features of uranium enrichment technologies, or specifications of weapon materials.
(3) Confidential. The Director of Classification shall classify RD information as Confidential if it is deemed to be of significant use to a potential adversary or nuclear proliferant and its unauthorized disclosure could reasonably be expected to cause undue risk to the common defense and security. Examples of RD information that warrant Confidential classification are the amount of high explosives used in nuclear weapons, gaseous diffusion design information, and design information for Naval reactors.
(b) Formerly Restricted Data. The Director of Classification, jointly with the DoD, shall assign one of the classification levels in paragraph (a) of this section to FRD information to reflect its sensitivity to the national security.
§ 1045.18 Newly generated information in a previously declassified subject area.
(a) The Director of Classification may evaluate newly generated specific