

General Technical Baseline Qualification Standard Suggested Study References 2007 revision

This list provides suggested study references for the technical competencies of the General Technical Base Qualification Standard (DOE STD 1146-2007). More comprehensive resources are available through the DOE Online Learning Center's training courses and the study guides available through the Federal Technical Capability Panel web site. The Uniform Resource Locaters for these sites are listed in the Standard. This list is arranged by Technical Competency, followed by the suggested reference source. Some competencies deal directly with DOE or Federal directives, and they are also the reference. In a few cases, the Study Guide is the only concise source, and appropriate sections are listed.

1. Basic nuclear theory and principles.
DOE HDBK-1019 Vol 1 & 2, *Nuclear Physics and Reactor Theory*
2. Basic fission process and results obtained from fission.
DOE HDBK-1019 Vol 1 & 2, *Nuclear Physics and Reactor Theory*
3. Radiological controls and theory.
DOE HDBK-1122-99, *Radiological Control Technician Training*
4. Contamination control and theory.
DOE HDBK-1122-99, *Radiological Control Technician Training*
5. Basic radiation detection methods and principles.
DOE HDBK-1122-99, *Radiological Control Technician Training*
6. Requirements documents for radiological control practices, procedures, and limits.
10 CFR 835, *Occupational Radiation Protection*
DOE-STD-1098-99, *Radiological Control*.
7. Sources and types of radioactive and hazardous waste associated with DOE facilities.
DOE O 435.1 and DOE M 435.1, *Radioactive Waste Management*
8. DOE Orders and standards, regulations, and laws related to environmental protection, pollution prevention, environmental restoration, and waste management issues.
See the references listed in the supporting knowledge and skills section.
9. Purpose and content of 29 CFR 1910.120, *Hazardous Waste Operations and Emergency Response*
10. Potential personal and organizational liability associated with environmental laws
See the references listed in the supporting knowledge and skills
11. DOE philosophy and approach to implementing Integrated Safety Management.
DOE P 450.4, *Safety Management System Policy*
DOE G 450, *Integrated Safety Management System Guide*

12. 10 CFR 851, *Worker Safety and Health Program* and DOE O 440.1B, *Worker Protection Program for DOE (including National Nuclear Security Administration) Federal Employee*
13. Occupational Safety and Health Act (OSHA).
See the references listed in the supporting knowledge and skills
14. Fire Safety for Department facilities necessary to identify safe/unsafe work practices.
General Technical Base Study Guide, 2005 pages 85-93
15. Electrical Safety for Department facilities necessary to identify safe/unsafe work practices.
DOE HDBK 1092-2004, *Electrical Safety*
16. Personnel shall demonstrate a familiarity level knowledge of industrial hygiene principles.
General Technical Base Study Guide, 2005 pages 94-107
17. DOE Order 5480.19, *Conduct of Operations Requirements for DOE Facilities*, and the principles of Conduct of Operations and relate these principles to an operational environment.
18. DOE Order 231.1A, *Environment, Safety, and Health Reporting*, and DOE Manual 231.1-2, *Occurrence Reporting and Processing of Operations Information*.
19. 10 CFR 830 Subpart A, *Quality Assurance* and DOE O 414.1C, *Quality Assurance*
20. DOE Order 151.1C, *Comprehensive Emergency Management System*, and its implementing guides.
21. Unreviewed Safety Question process in 10 CFR 830, Subpart B, *Nuclear Safety Management*.
See the cited Rule and DOE G 424.1-1A, *Implementation Guide for Addressing Unreviewed Safety Question Requirements*
22. Documented Safety Analysis and Technical Safety Requirements
10 CFR 830 Subpart B, *Safety Basis Requirements*
DOE STD 3009, *Preparation Guide for U.S. Department of Energy Nonreactor Nuclear Facility Documented Safety Analyses*
DOE G 423.1-1 *Implementation Guide for Use in Developing Technical Safety Requirements*
23. DOE Order 420.1B, *Facility Safety*.
24. DOE Policy 226.1, *Department of Energy Oversight Policy* and its implementing order DOE Order 226.1, *Implementation of Department of Energy Oversight Policy*
25. DOE O 210.2 *Corporate Operating Experience Program*
26. DOE O 225.1A *Accident Investigations*
27. DOE Order 410.1, *CTA Management of Nuclear Safety Requirements*.
28. DOE Security Programs
DOE O 470.4, *Safeguards and Security Program* and its implementing manuals.