

General Technical Base

Qualification Equivalencies Based On Previous Experience

The following information was distributed by Thomas W. Evans (HR 1.5) in a memorandum dated December 12, 1995. The memorandum is on file in DOE-ID Training and if needed can be referenced as "DOE Memorandum, Course Catalog and Competency to Course Matching", dated December 12, 1995.

DOE Technical Qualification Program Standards specify competencies that technical DOE employees must possess to accomplish their assigned tasks and activities. These competencies can be gained in a number of ways including through training, education, or prior military or job experience. This material contains lists of the military or job experience and the competencies that were gained as a result of that experience. This information was developed by three subject matter experts who held positions of increasing authority in the military or the job category. Each subject matter expert independently analyzed each qualification standard competency. Then, the three met as a group to develop a consensus on each competency. If there was disagreement, the most conservative choice was used.

The header lists the general field of experience, Commercial Nuclear Power or Navy Nuclear Power Program, with all other categories under these two areas. The subheader lists the position title of the military or job category within that industry. The next level lists the qualification standard subject with the competencies associated with it listed below.

To locate the equivalencies that you may claim, locate the position title of your prior military or job category, then find the qualification standards and listed competencies that apply to your current position. The competencies listed below the qualification standards are those you would have gained through your experience in the job listed in that subheader in commercial or navy nuclear programs. The index of the data including the industry and qualifying position, is as follows:

A. Commercial Nuclear Power

1. Auxiliary Operator
2. Operations/Maintenance Manager
3. Reactor Operator
4. Senior Reactor Operator/Shift Technical Advisor

B. Navy Nuclear Power Program

1. Commanding Officer
2. Division Officer/Chief - Engineering Division (E)
3. Division Officer/Chief - Machinery Division (M)
4. Division Officer/Chief - Reactor Controls (R)
5. Division Officer/Chief - Radiological Laboratory Technician (RL)
6. Served Engineer
7. Engineer Qualified
8. Leading Petty Officer/Engineer Watch Supervisor (LPO/EWS) - Engineering Division (E)
9. Leading Petty Officer/Engineer Watch Supervisor (LPO/EWS) - Machinery Division (M)
10. Leading Petty Officer/Engineer Watch Supervisor (LPO/EWS) - Reactor Controls (R)
11. Leading Petty Officer/Engineer Watch Supervisor (LPO/EWS) - Radiological Laboratory Technician (RL)
12. Nuclear Power School (NPS)/Nuclear Power Training Unit (NPTU)

A. Commercial Nuclear

1. Auxiliary Operator

- 1.1 Personnel shall demonstrate knowledge of basic atomic structure.
- 1.2 Personnel shall demonstrate knowledge of basic nuclear theory and principles.
- 1.3 Personnel shall demonstrate knowledge of the basic fission process and results obtained from fission.
- 2.1 Personnel shall demonstrate knowledge of radiological controls, practices, procedures, and theory.
- 2.2 Personnel shall demonstrate knowledge of contamination control, practices, procedures, and theory.
- 2.3 Personnel shall demonstrate knowledge of basic radiation detection methods and principles.
- 2.4 Personnel shall demonstrate knowledge of the requirements documents for radiological control practices, procedures, and limits.
- 2.5 Using references, personnel shall demonstrate knowledge of the purpose of the following DOE Orders:
 - 2.5c N5480.6, Radiological Control Manual
 - 2.5d 5480.11, Radiation Protection for Occupational Workers
- 3.2 Personnel shall demonstrate knowledge of the purpose and general content of the sections of a typical Environmental Impact Statement (EIS).
- 5.1 Personnel shall demonstrate knowledge of the Occupational Safety and Health Act (OSHA) necessary to identify safe/unsafe work practices.
- 5.2 Personnel shall demonstrate knowledge of Fire Safety for Department facilities necessary to identify safe/unsafe work practices.
- 5.3 Personnel shall demonstrate knowledge of the principles of electrical safety, referring to OSHA standards and the National Electrical Code, necessary to identify safe/unsafe work practices.
- 5.5 Personnel shall demonstrate a knowledge of industrial hygiene principles.
- 6.1 Personnel shall demonstrate knowledge of the principles of Conduct of Operations and relate these principles to an operational environment.
- 7.1 Personnel shall demonstrate knowledge of basic nuclear safety documents and nuclear safety evaluation principles, methods and tools.
- 8.1 Personnel shall demonstrate proficiency in technical communications .

2. Ops/Main Manager

- 1.1 Personnel shall demonstrate knowledge of basic atomic structure.
- 1.2 Personnel shall demonstrate knowledge of basic nuclear theory and principles.
- 1.3 Personnel shall demonstrate knowledge of the basic fission process and results obtained from fission.
- 2.1 Personnel shall demonstrate knowledge of radiological controls, practices, procedures, and theory.
- 2.2 Personnel shall demonstrate knowledge of contamination control, practices, procedures, and theory.
- 2.3 Personnel shall demonstrate knowledge of basic radiation detection methods and principles.
- 2.4 Personnel shall demonstrate knowledge of the requirements documents for radiological control practices, procedures, and limits.
- 2.5 Using references, personnel shall demonstrate knowledge of the purpose of the following DOE Orders:
 - 2.5a 1540.3A, Base Technology for Radioactive Material Transportation Packaging Systems
 - 2.5b 5400.5, Radiation Protection of the Public and the Environment
 - 2.5c N5480.6, Radiological Control Manual
 - 2.5d 5480.11, Radiation Protection for Occupational Workers
 - 2.5e 5480.15, Department of Energy Laboratory Accreditation Program for Personnel Dosimetry
- 3.2 Personnel shall demonstrate knowledge of the purpose and general content of the sections of a typical Environmental Impact Statement (EIS).
- 4.1 Personnel shall demonstrate the knowledge of Quality Assurance principles necessary to assure safe, effective and efficient operation of DOE sites and associated facilities.
- 5.1 Personnel shall demonstrate knowledge of the Occupational Safety and Health Act (OSHA) necessary to identify safe/unsafe work practices.
- 5.2 Personnel shall demonstrate knowledge of Fire Safety for Department facilities necessary to identify safe/unsafe work practices.

- 5.3 Personnel shall demonstrate knowledge of the principles of electrical safety, referring to OSHA standards and the National Electrical Code, necessary to identify safe/unsafe work practices.
- 5.4 Personnel shall demonstrate knowledge of hazardous chemicals and hazardous waste operations, treatment, storage, and disposal necessary to identify safe/unsafe practices.
- 5.5 Personnel shall demonstrate a knowledge of industrial hygiene principles.
- 5.6 Using the Department of Energy Hoisting and Rigging Manual, personnel shall demonstrate knowledge of the principles of material handling, hoisting, and rigging necessary to identify safe/unsafe work practices.
- 6.1 Personnel shall demonstrate knowledge of the principles of Conduct of Operations and relate these principles to an operational environment.
- 7.1 Personnel shall demonstrate knowledge of basic nuclear safety documents and nuclear safety evaluation principles, methods and tools.
- 8.1 Personnel shall demonstrate proficiency in technical communications .

3. Reactor Operator

- 1.1 Personnel shall demonstrate knowledge of basic atomic structure.
- 1.2 Personnel shall demonstrate knowledge of basic nuclear theory and principles.
- 1.3 Personnel shall demonstrate knowledge of the basic fission process and results obtained from fission.
- 2.1 Personnel shall demonstrate knowledge of radiological controls, practices, procedures, and theory.
- 2.2 Personnel shall demonstrate knowledge of contamination control, practices, procedures, and theory.
- 2.3 Personnel shall demonstrate knowledge of basic radiation detection methods and principles.
- 2.4 Personnel shall demonstrate knowledge of the requirements documents for radiological control practices, procedures, and limits.
- 2.5 Using references, personnel shall demonstrate knowledge of the purpose of the following DOE Orders:
- 2.5c N5480.6, Radiological Control Manual
- 2.5d 5480.11, Radiation Protection for Occupational Workers
- 3.2 Personnel shall demonstrate knowledge of the purpose and general content of the sections of a typical Environmental Impact Statement (EIS).
- 5.1 Personnel shall demonstrate knowledge of the Occupational Safety and Health Act (OSHA) necessary to identify safe/unsafe work practices.
- 5.2 Personnel shall demonstrate knowledge of Fire Safety for Department facilities necessary to identify safe/unsafe work practices.
- 5.3 Personnel shall demonstrate knowledge of the principles of electrical safety, referring to OSHA standards and the National Electrical Code, necessary to identify safe/unsafe work practices.
- 5.5 Personnel shall demonstrate a knowledge of industrial hygiene principles.
- 6.1 Personnel shall demonstrate knowledge of the principles of Conduct of Operations and relate these principles to an operational environment.
- 7.1 Personnel shall demonstrate knowledge of basic nuclear safety documents and nuclear safety evaluation principles, methods and tools.
- 8.1 Personnel shall demonstrate proficiency in technical communications .

4. SRO/STA

- 1.1 Personnel shall demonstrate knowledge of basic atomic structure.
- 1.2 Personnel shall demonstrate knowledge of basic nuclear theory and principles.
- 1.3 Personnel shall demonstrate knowledge of the basic fission process and results obtained from fission.
- 2.1 Personnel shall demonstrate knowledge of radiological controls, practices, procedures, and theory.
- 2.2 Personnel shall demonstrate knowledge of contamination control, practices, procedures, and theory.
- 2.3 Personnel shall demonstrate knowledge of basic radiation detection methods and principles.
- 2.4 Personnel shall demonstrate knowledge of the requirements documents for radiological control practices, procedures, and limits.
- 2.5 Using references, personnel shall demonstrate knowledge of the purpose of the following DOE Orders:
- 2.5b 5400.5, Radiation Protection of the Public and the Environment

- 2.5c N5480.6, Radiological Control Manual
- 2.5d 5480.11, Radiation Protection for Occupational Workers
- 3.2 Personnel shall demonstrate knowledge of the purpose and general content of the sections of a typical Environmental Impact Statement (EIS).
- 4.1 Personnel shall demonstrate the knowledge of Quality Assurance principles necessary to assure safe, effective and efficient operation of DOE sites and associated facilities.
- 5.1 Personnel shall demonstrate knowledge of the Occupational Safety and Health Act (OSHA) necessary to identify safe/unsafe work practices.
- 5.2 Personnel shall demonstrate knowledge of Fire Safety for Department facilities necessary to identify safe/unsafe work practices.
- 5.3 Personnel shall demonstrate knowledge of the principles of electrical safety, referring to OSHA standards and the National Electrical Code, necessary to identify safe/unsafe work practices.
- 5.4 Personnel shall demonstrate knowledge of hazardous chemicals and hazardous waste operations, treatment, storage, and disposal necessary to identify safe/unsafe practices.
- 5.5 Personnel shall demonstrate a knowledge of industrial hygiene principles.
- 6.1 Personnel shall demonstrate knowledge of the principles of Conduct of Operations and relate these principles to an operational environment.
- 7.1 Personnel shall demonstrate knowledge of basic nuclear safety documents and nuclear safety evaluation principles, methods and tools.
- 8.1 Personnel shall demonstrate proficiency in technical communications .

B. Navy Nuclear

1. CO

- 1.1 Personnel shall demonstrate knowledge of basic atomic structure.
- 1.2 Personnel shall demonstrate knowledge of basic nuclear theory and principles.
- 1.3 Personnel shall demonstrate knowledge of the basic fission process and results obtained from fission.
- 2.1 Personnel shall demonstrate knowledge of radiological controls, practices, procedures, and theory.
- 2.2 Personnel shall demonstrate knowledge of contamination control, practices, procedures, and theory.
- 2.3 Personnel shall demonstrate knowledge of basic radiation detection methods and principles.
- 5.2 Personnel shall demonstrate knowledge of Fire Safety for Department facilities necessary to identify safe/unsafe work practices.
- 5.3 Personnel shall demonstrate knowledge of the principles of electrical safety, referring to OSHA standards and the National Electrical Code, necessary to identify safe/unsafe work practices.
- 6.1 Personnel shall demonstrate knowledge of the principles of Conduct of Operations and relate these principles to an operational environment.
- 8.1 Personnel shall demonstrate proficiency in technical communications .

2. Div Off/Chief-E

- 1.1 Personnel shall demonstrate knowledge of basic atomic structure.
- 1.2 Personnel shall demonstrate knowledge of basic nuclear theory and principles.
- 1.3 Personnel shall demonstrate knowledge of the basic fission process and results obtained from fission.
- 2.1 Personnel shall demonstrate knowledge of radiological controls, practices, procedures, and theory.
- 2.2 Personnel shall demonstrate knowledge of contamination control, practices, procedures, and theory.
- 2.3 Personnel shall demonstrate knowledge of basic radiation detection methods and principles.
- 5.3 Personnel shall demonstrate knowledge of the principles of electrical safety, referring to OSHA standards and the National Electrical Code, necessary to identify safe/unsafe work practices.
- 6.1 Personnel shall demonstrate knowledge of the principles of Conduct of Operations and relate these principles to an operational environment.
- 8.1 Personnel shall demonstrate proficiency in technical communications .

3. Div Off/Chief-M

- 1.1 Personnel shall demonstrate knowledge of basic atomic structure.
- 1.2 Personnel shall demonstrate knowledge of basic nuclear theory and principles.
- 1.3 Personnel shall demonstrate knowledge of the basic fission process and results obtained from fission.
- 2.1 Personnel shall demonstrate knowledge of radiological controls, practices, procedures, and theory.
- 2.2 Personnel shall demonstrate knowledge of contamination control, practices, procedures, and theory.
- 2.3 Personnel shall demonstrate knowledge of basic radiation detection methods and principles.
- 5.3 Personnel shall demonstrate knowledge of the principles of electrical safety, referring to OSHA standards and the National Electrical Code, necessary to identify safe/unsafe work practices.
- 6.1 Personnel shall demonstrate knowledge of the principles of Conduct of Operations and relate these principles to an operational environment.
- 8.1 Personnel shall demonstrate proficiency in technical communications .

4. Div Off/Chief-RC

- 1.1 Personnel shall demonstrate knowledge of basic atomic structure.
- 1.2 Personnel shall demonstrate knowledge of basic nuclear theory and principles.
- 1.3 Personnel shall demonstrate knowledge of the basic fission process and results obtained from fission.
- 2.1 Personnel shall demonstrate knowledge of radiological controls, practices, procedures, and theory.
- 2.2 Personnel shall demonstrate knowledge of contamination control, practices, procedures, and theory.
- 2.3 Personnel shall demonstrate knowledge of basic radiation detection methods and principles.
- 5.3 Personnel shall demonstrate knowledge of the principles of electrical safety, referring to OSHA standards and the National Electrical Code, necessary to identify safe/unsafe work practices.
- 6.1 Personnel shall demonstrate knowledge of the principles of Conduct of Operations and relate these principles to an operational environment.
- 8.1 Personnel shall demonstrate proficiency in technical communications .

5. Div Off/Chief-RL

- 1.1 Personnel shall demonstrate knowledge of basic atomic structure.
- 1.2 Personnel shall demonstrate knowledge of basic nuclear theory and principles.
- 1.3 Personnel shall demonstrate knowledge of the basic fission process and results obtained from fission.
- 2.1 Personnel shall demonstrate knowledge of radiological controls, practices, procedures, and theory.
- 2.2 Personnel shall demonstrate knowledge of contamination control, practices, procedures, and theory.
- 2.3 Personnel shall demonstrate knowledge of basic radiation detection methods and principles.
- 5.3 Personnel shall demonstrate knowledge of the principles of electrical safety, referring to OSHA standards and the National Electrical Code, necessary to identify safe/unsafe work practices.
- 6.1 Personnel shall demonstrate knowledge of the principles of Conduct of Operations and relate these principles to an operational environment.
- 8.1 Personnel shall demonstrate proficiency in technical communications .

6. ENG Billet

- 1.1 Personnel shall demonstrate knowledge of basic atomic structure.
- 1.2 Personnel shall demonstrate knowledge of basic nuclear theory and principles.
- 1.3 Personnel shall demonstrate knowledge of the basic fission process and results obtained from fission.
- 2.1 Personnel shall demonstrate knowledge of radiological controls, practices, procedures, and theory.
- 2.2 Personnel shall demonstrate knowledge of contamination control, practices, procedures, and theory.
- 2.3 Personnel shall demonstrate knowledge of basic radiation detection methods and principles.
- 5.2 Personnel shall demonstrate knowledge of Fire Safety for Department facilities necessary to identify safe/unsafe work practices.

- 5.3 Personnel shall demonstrate knowledge of the principles of electrical safety, referring to OSHA standards and the National Electrical Code, necessary to identify safe/unsafe work practices.
- 6.1 Personnel shall demonstrate knowledge of the principles of Conduct of Operations and relate these principles to an operational environment.
- 8.1 Personnel shall demonstrate proficiency in technical communications .

7. ENG Qual

- 1.1 Personnel shall demonstrate knowledge of basic atomic structure.
- 1.2 Personnel shall demonstrate knowledge of basic nuclear theory and principles.
- 1.3 Personnel shall demonstrate knowledge of the basic fission process and results obtained from fission.
- 2.1 Personnel shall demonstrate knowledge of radiological controls, practices, procedures, and theory.
- 2.2 Personnel shall demonstrate knowledge of contamination control, practices, procedures, and theory.
- 2.3 Personnel shall demonstrate knowledge of basic radiation detection methods and principles.
- 5.3 Personnel shall demonstrate knowledge of the principles of electrical safety, referring to OSHA standards and the National Electrical Code, necessary to identify safe/unsafe work practices.
- 6.1 Personnel shall demonstrate knowledge of the principles of Conduct of Operations and relate these principles to an operational environment.
- 8.1 Personnel shall demonstrate proficiency in technical communications .

8. LPO/EWS-E

- 1.1 Personnel shall demonstrate knowledge of basic atomic structure.
- 1.2 Personnel shall demonstrate knowledge of basic nuclear theory and principles.
- 1.3 Personnel shall demonstrate knowledge of the basic fission process and results obtained from fission.
- 2.1 Personnel shall demonstrate knowledge of radiological controls, practices, procedures, and theory.
- 2.2 Personnel shall demonstrate knowledge of contamination control, practices, procedures, and theory.
- 2.3 Personnel shall demonstrate knowledge of basic radiation detection methods and principles.
- 5.3 Personnel shall demonstrate knowledge of the principles of electrical safety, referring to OSHA standards and the National Electrical Code, necessary to identify safe/unsafe work practices.
- 6.1 Personnel shall demonstrate knowledge of the principles of Conduct of Operations and relate these principles to an operational environment.

9. LPO/EWS-M

- 1.1 Personnel shall demonstrate knowledge of basic atomic structure.
- 1.2 Personnel shall demonstrate knowledge of basic nuclear theory and principles.
- 1.3 Personnel shall demonstrate knowledge of the basic fission process and results obtained from fission.
- 2.1 Personnel shall demonstrate knowledge of radiological controls, practices, procedures, and theory.
- 2.2 Personnel shall demonstrate knowledge of contamination control, practices, procedures, and theory.
- 2.3 Personnel shall demonstrate knowledge of basic radiation detection methods and principles.
- 5.3 Personnel shall demonstrate knowledge of the principles of electrical safety, referring to OSHA standards and the National Electrical Code, necessary to identify safe/unsafe work practices.
- 6.1 Personnel shall demonstrate knowledge of the principles of Conduct of Operations and relate these principles to an operational environment.

10. LPO/EWS-RC

- 1.1 Personnel shall demonstrate knowledge of basic atomic structure.
- 1.2 Personnel shall demonstrate knowledge of basic nuclear theory and principles.
- 1.3 Personnel shall demonstrate knowledge of the basic fission process and results obtained from fission.

- 2.1 Personnel shall demonstrate knowledge of radiological controls, practices, procedures, and theory.
- 2.2 Personnel shall demonstrate knowledge of contamination control, practices, procedures, and theory.
- 2.3 Personnel shall demonstrate knowledge of basic radiation detection methods and principles.
- 5.3 Personnel shall demonstrate knowledge of the principles of electrical safety, referring to OSHA standards and the National Electrical Code, necessary to identify safe/unsafe work practices.
- 6.1 Personnel shall demonstrate knowledge of the principles of Conduct of Operations and relate these principles to an operational environment.

11. LPO/EWS-RL

- 1.1 Personnel shall demonstrate knowledge of basic atomic structure.
- 1.2 Personnel shall demonstrate knowledge of basic nuclear theory and principles.
- 1.3 Personnel shall demonstrate knowledge of the basic fission process and results obtained from fission.
- 2.1 Personnel shall demonstrate knowledge of radiological controls, practices, procedures, and theory.
- 2.2 Personnel shall demonstrate knowledge of contamination control, practices, procedures, and theory.
- 2.3 Personnel shall demonstrate knowledge of basic radiation detection methods and principles.
- 5.3 Personnel shall demonstrate knowledge of the principles of electrical safety, referring to OSHA standards and the National Electrical Code, necessary to identify safe/unsafe work practices.
- 6.1 Personnel shall demonstrate knowledge of the principles of Conduct of Operations and relate these principles to an operational environment.

12. NPS/NPTU

- 1.1 Personnel shall demonstrate knowledge of basic atomic structure.
- 1.2 Personnel shall demonstrate knowledge of basic nuclear theory and principles.
- 1.3 Personnel shall demonstrate knowledge of the basic fission process and results obtained from fission.
- 2.1 Personnel shall demonstrate knowledge of radiological controls, practices, procedures, and theory.
- 2.2 Personnel shall demonstrate knowledge of contamination control, practices, procedures, and theory.
- 2.3 Personnel shall demonstrate knowledge of basic radiation detection methods and principles.