

NRC Operator License Eligibility Requirements (National Academy of Nuclear Training Guideline Summary)

This document provides information for personnel to make informed educational and work experience decisions when pursuing a career as a licensed nuclear plant operator. In addition to educational and experience requirements described below, candidates must also meet medical requirements outlined in industry standards and regulatory requirements (10CFR 55.21).

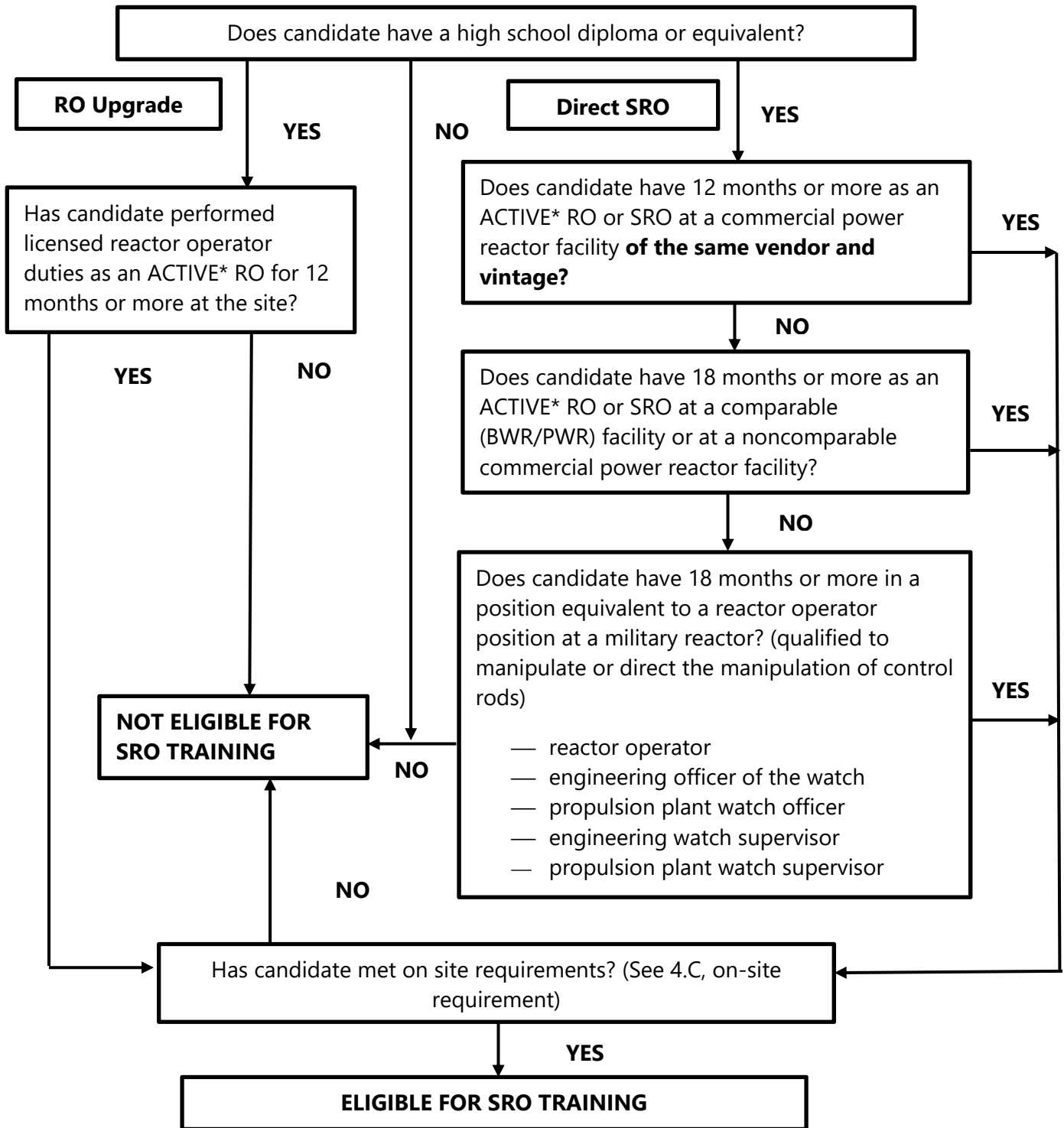
The eligibility requirements must be met for a potential candidate to enter a training program to obtain an NRC license. To obtain an NRC operating license, candidates must successfully complete a comprehensive training program at a nuclear site and pass a comprehensive examination administered by the Nuclear Regulatory Commission. The site training programs are usually 18 to 24 months in duration. The NRC exam consists of a written exam and a performance exam typically conducted over a two-week period.

Educational and experience requirements are based on industry and regulatory guidance. As noted in the eligibility flow charts, the power plant experience requirements may be met by experience gained at the site reactor, other commercial reactors, or military reactors. In some cases, experience requirements may also be met by a combination of experience and education, as outlined in the eligibility flow charts. In all cases, candidates must possess a high school diploma or equivalent. Prior to entering the training program, the candidate must also have a minimum amount of time at the specific nuclear plant. This time requirement is defined in the definitions section under *On-Site Requirement* and is generally factored into the hiring process for licensed candidates hired from outside the specific nuclear station.

An individual interested in entering the nuclear industry directly from college with a goal of obtaining an operating license should pursue a bachelor's degree in related sciences, as defined in the definitions section.

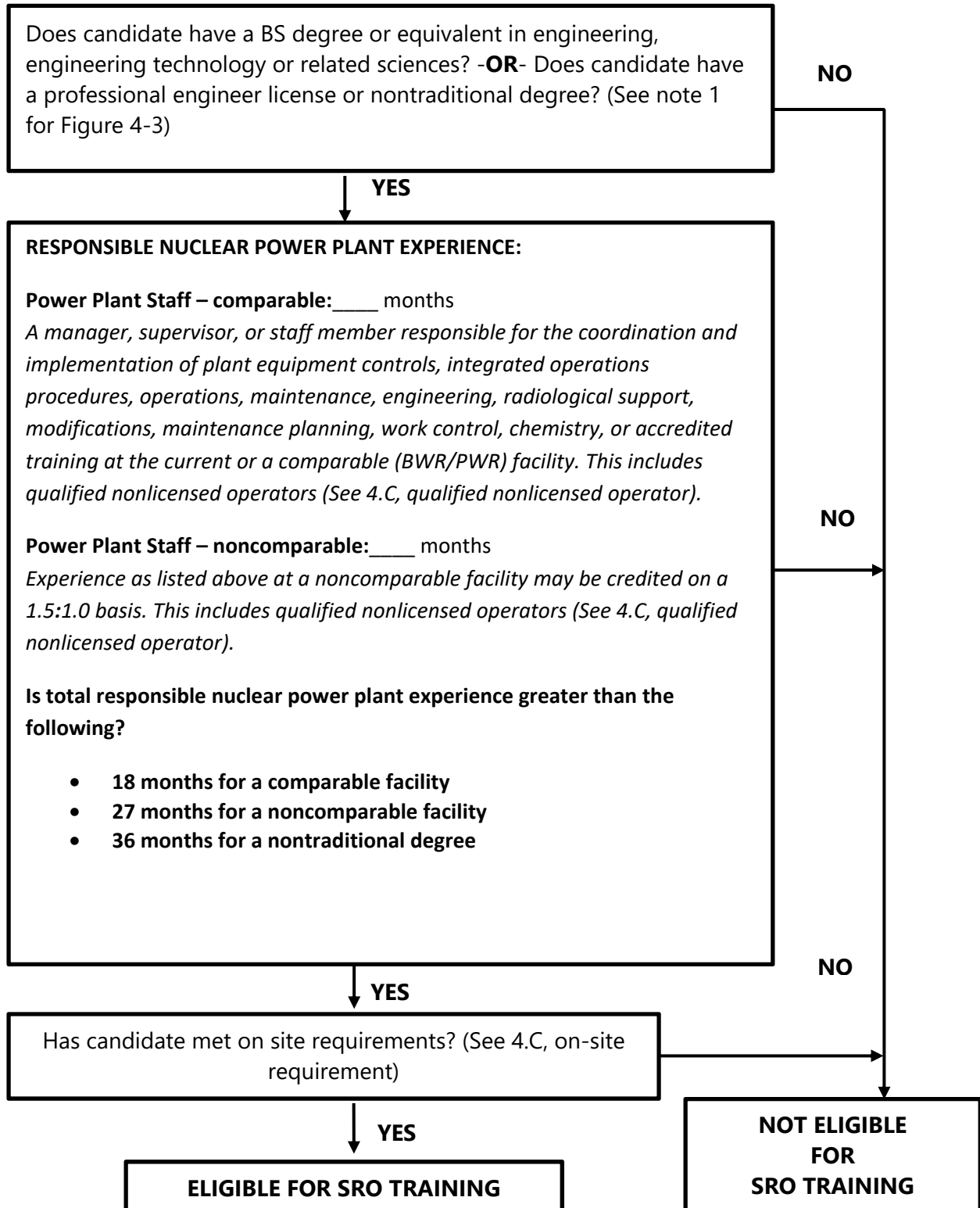
This document contains eligibility flow charts, related notes, and a list of applicable definitions. Additional license requirements and regulatory guidance related to obtaining a license can be found in the Code of Federal Regulations Title 10 section 55 (10CFR55) available on the NRC webpage.

Senior Reactor Operator Eligibility (Path 1)

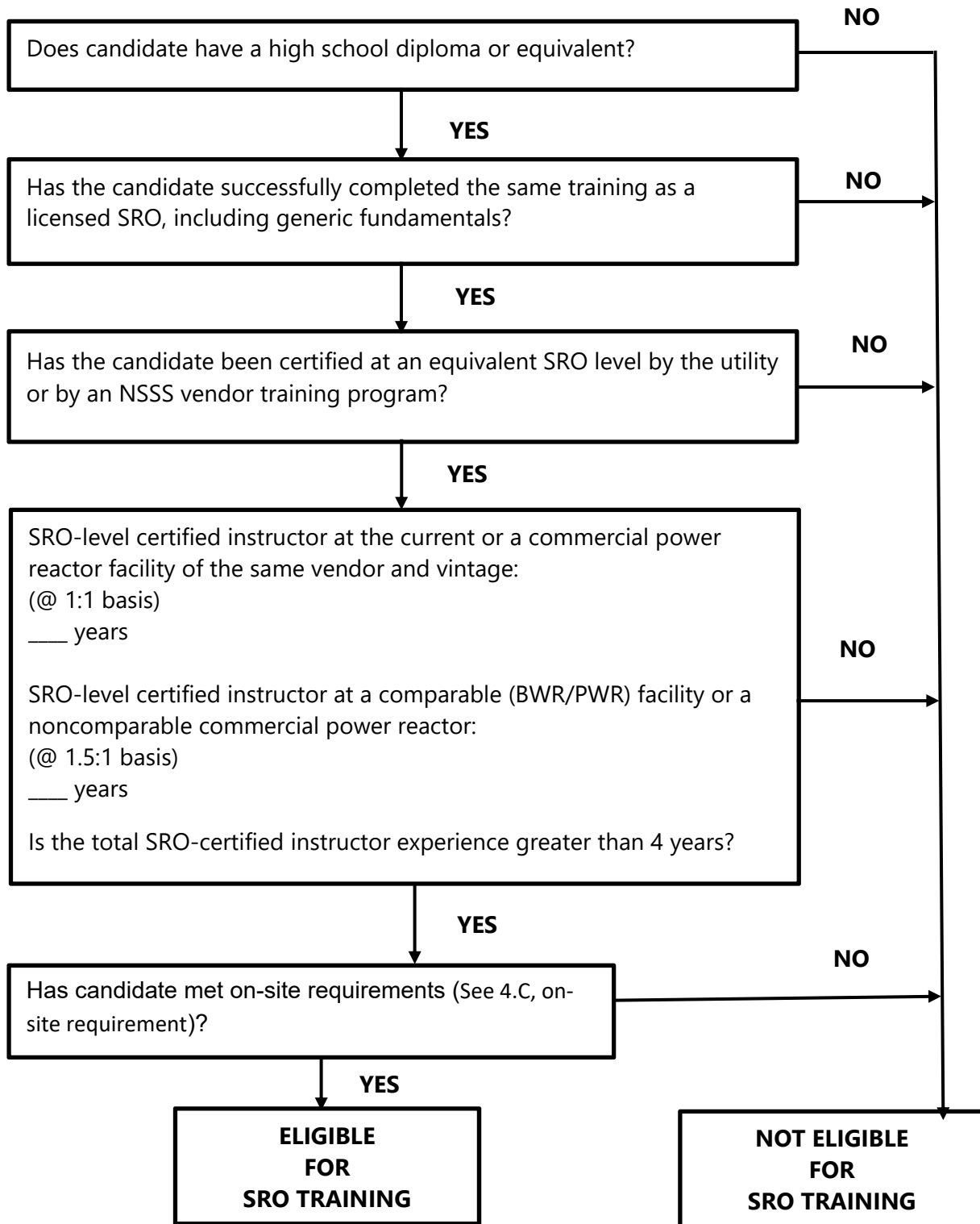


*must meet "active status" requirements referenced in 10 CFR 55.53(e) for the credited period to satisfy this experience requirement

Senior Reactor Operator Eligibility (Path 2)



Senior Reactor Operator Eligibility (Path 3)



Notes for Senior Reactor Operator Eligibility for Path 1 and 2

The following notes and examples are intended to clarify Path 1 and 2 implementations.

1. Individuals with degrees other than a BS or equivalent in engineering, engineering technology or related sciences will not be eliminated from consideration automatically when other factors provide sufficient demonstration of their abilities. The selection of these individuals should consider that the candidate's level of engineering and technical knowledge will contribute to the safety of the nuclear power plant. These other factors are to be evaluated on a case-by-case basis and approved and documented. Other factors that could be considered include experience in leadership skills, command, and control, and use of technology. The employer may use the flow chart in path 2 for the educational requirements. Examples include individuals having medical, business, or security/law enforcement degrees. The applicable responsible nuclear power plant experience must still be satisfied for entry into the program.
2. For military personnel with the specified BS degree and requisite military nuclear experience (qualified in the military to manipulate control rods or supervise the manipulation of control rods), the flow chart in Path 1 would be used to determine direct SRO eligibility. If the candidate is not qualified in those positions in the military, the employer may use the flow chart in Path 2 with no credits for military time. The candidate would need 18 months in a power plant staff position or 18 months as a qualified nonlicensed operator to meet the responsible nuclear power plant experience eligibility requirements for SRO training.
3. A college graduate who has the specified Bachelor of Science (BS) degree, has no prior responsible nuclear power plant experience, and is hired upon graduation into a position covered under the definition of power plant staff would be eligible to enter SRO training after a minimum of 18-months responsible nuclear power plant experience and having met on-site requirements per Definition section.
4. An experienced power plant staff employee who has the specified BS degree, is hired from another utility with a similar reactor type (BWR/PWR), and has 18 or more months in a power plant staff position at the other utility would be eligible for SRO training after meeting on-site requirements per Definition section. This includes qualified nonlicensed operators.
5. An experienced power plant staff employee who has the specified BS degree, is hired from another utility, and has experience on a noncomparable (BWR/PWR) reactor type can receive responsible nuclear power plant experience credit on a 1.5-to-1.0 basis. This employee would need a minimum of 27 months in a power plant staff position at the other utility to meet 18 months of performing such duties before being eligible for SRO training and having met the on-site requirements per Definition section. This includes qualified nonlicensed operators.
6. If an employee completes the specified BS degree during his or her employment in a power plant staff or qualified nonlicensed operator position, experience in that position before

obtaining the degree will count toward the 18 months of responsible nuclear power plant experience needed for SRO eligibility.

7. Corporate personnel whose job functions require routine coordination or implementation of station activities may meet the eligibility definition of power plant staff if the nature of their interface directly relates to the activities described in Section 4.C. Daily interaction is not required but should be sufficiently frequent to acquire an understanding of operational activities. Examples of such personnel may include — but are not limited to — reactor engineers, risk assessment engineers, design engineers, licensing and regulatory affairs staff, and corporate functional area managers and their staff.

Definitions

Power Plant Experience

This term, used in Figure 4-1, describes applicable work performed in fossil-fueled or nuclear-fueled electric power production plants during preoperational, startup testing or operational activities. Experience in petrochemical; similar process plants; or steam propulsion plant design, construction, technical support, operation, maintenance, or training instruction can be substituted for applicable power plant experience. Simply observing others performing work is not considered power plant experience. Time spent in classroom training cannot be counted toward power plant experience requirements. However, time spent in a structured, job-related development program, such as that described in Appendix A, may be considered power plant experience. Also, time spent performing job-based training and qualification activities in the plant — such as under instruction watchstanding, on-the-job training, and task or watchstation qualification activities — can be applied toward power plant experience requirements. Time spent performing in-plant job-based training and qualification activities should be specifically documented if such time is used to meet power plant experience requirements.

Responsible Nuclear Power Plant Experience

This term is used in Figure 4-3. Responsible nuclear power plant experience for an SRO is having actively performed as a licensed nuclear control room operator (RO), as a qualified nonlicensed operator (as defined below), or as power plant staff (defined below) involved in the activities (described below) at a commercial nuclear power plant facility. Time spent in classroom training cannot be counted toward responsible nuclear power plant experience requirements. However, time spent performing job-based training and qualification activities in the workplace, such as under instruction execution of power plant staff duties, preclass familiarization activities, on-the-job training, and task or power plant staff position qualification activities, can be applied toward responsible nuclear power plant experience requirements. Time spent performing workplace job-based training and qualification activities should be specifically documented if such time is used to meet responsible nuclear power plant experience requirements.

Power Plant Staff

This term refers to a manager, supervisor, or staff member — including corporate personnel — responsible for the coordination and/or implementation of any of the following:

- plant equipment controls
- integrated operations procedures
- operations
- maintenance
- engineering
- radiological support
- modifications
- maintenance planning
- work control
- chemistry

- accredited training
- licensing/regulatory affairs

Related Sciences

This term is used in Figure 4-3 to identify those degrees that are beyond engineering or engineering sciences and that have an appropriate amount of engineering, mathematics, chemistry and/or physics study. A curriculum review should determine an acceptable amount of mathematics and science course work required for license class level of understanding as determined by the utility personnel's use of a systematic analysis. Credit may also be given for prelicense class work in mathematics and science topics necessary to be successful in obtaining a license. The selection of these individuals should consider that the candidate's level of engineering and technical knowledge will contribute to the safety of the nuclear power plant. A selection board comprised of leaders from the Training and Operations departments and chaired by the site vice president (or equivalent) should make these determinations. Documentation of such reviews, precourse work and other actions to declare academic eligibility should be maintained as part of candidate records.

Total Military Nuclear Experience

The start date for calculating total military nuclear experience is the date on which military nuclear-power-plant-related initial training is completed. For United States Navy personnel, this is the date on which the candidate graduates from nuclear power school prototype training. For other military personnel, similar dates for candidate training completion are used for calculation. End dates are calculated using military discharge dates or dates on which the candidate no longer holds the applicable military nuclear qualifications.

Qualified Nonlicensed Operator

This term describes an operator qualified for all power block and safety systems operation. Time as a qualified nonlicensed operator counts from the day the last such power block or safety system operation watchstation qualification is attained. Examples of qualified nonlicensed operators are as follows:

- pressurized water reactor (PWR): qualified in auxiliary and turbine building watchstations and any outside or other watchstation, such as emergency diesel generators and safety-related cooling water pumps, in which safety systems are monitored
- boiling water reactor (BWR): qualified in reactor and turbine building watchstations and any outside or other watchstation, such as emergency diesel generators and safety-related cooling water pumps, in which safety systems are monitored
- qualifications solely in watchstations in which limited, or no safety-related systems are located does not meet this definition for the purposes of licensed candidate eligibility

Comparable (BWR/PWR) Facility

This term describes a commercial power reactor of either BWR or PWR design, regardless of vendor or vintage within that reactor design type.

On-Site Requirement

The prerequisite on-site time requirement is the amount of time necessary to satisfactorily complete defined preclass familiarization activities, as noted in Section 9. Appendix A for the license level being sought. The amount of time depends on candidate aptitude, experience, maturity, and drive and is determined by a systematic analysis of candidate needs.

SRO Certified Instructor

For the purposes of determining eligibility per Figure 4-4, an SRO certified instructor is one who has completed initial written and operating examinations to certify SRO-level knowledge — including generic fundamentals; systems; plant normal, abnormal, emergency, and administrative procedures; and plant technical specifications. An SRO certified instructor is also one who participates in the licensed operator continuing training program and who satisfactorily completes annual performance examination and biennial comprehensive written examination requirements to certify maintenance of SRO-level knowledge.

Related Experience

Related experience is experience performing job duties similar to those for which the individual seeks qualification and that may or may not be at a nuclear power plant.

Deferrals

Up to six months of power plant experience (PPE) for RO candidates or responsible nuclear power plant experience (RNPPE) for SRO candidates may be deferred until after a license candidate completes the NRC licensing examination process. Deferrals should be clearly documented and communicated to the NRC chief examiner and annotated in the comments section of NRC Form 398 to ensure NRC personnel are aware. Once the deferral is complete, the licensee should contact their NRC chief examiner for issuance of the license.