How to obtain a Senior Reactor Operator License

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- Nuclear Regulatory Commission is the oversight body for the commercial nuclear industry
- Title 10, Chapter 1, Part 55 of the Code of Regulation (CFR) contains the requirements for licenses to operate nuclear facilities
  - Reactor Operator (RO)
  - Senior Reactor Operator (SRO)

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- Companies have the License to own and operate the nuclear power plant
- NRC grants individuals RO and SRO licenses to operate the facility
  - RO – operates the controls of the plant
  - SRO – supervises the operation of the plant but is qualified to operate the controls of the plant

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- My SRO license was at Turkey Point Nuclear Plant which read:
  - …..for having met the provisions of the U.S. Nuclear Regulatory Commission's Regulations and having demonstrated the knowledge, skills, and ability to carry out the responsibilities of the position of Senior Reactor Operator at the Turkey Point Nuclear Plant, Unit Nos. 3 and 4 Facility Docket Nos. 50-250 and 50-251.
  - The license is then signed by the NRC Chairman, the Director of the Office of Nuclear Reactor Regulation, and the Regional Administrator.

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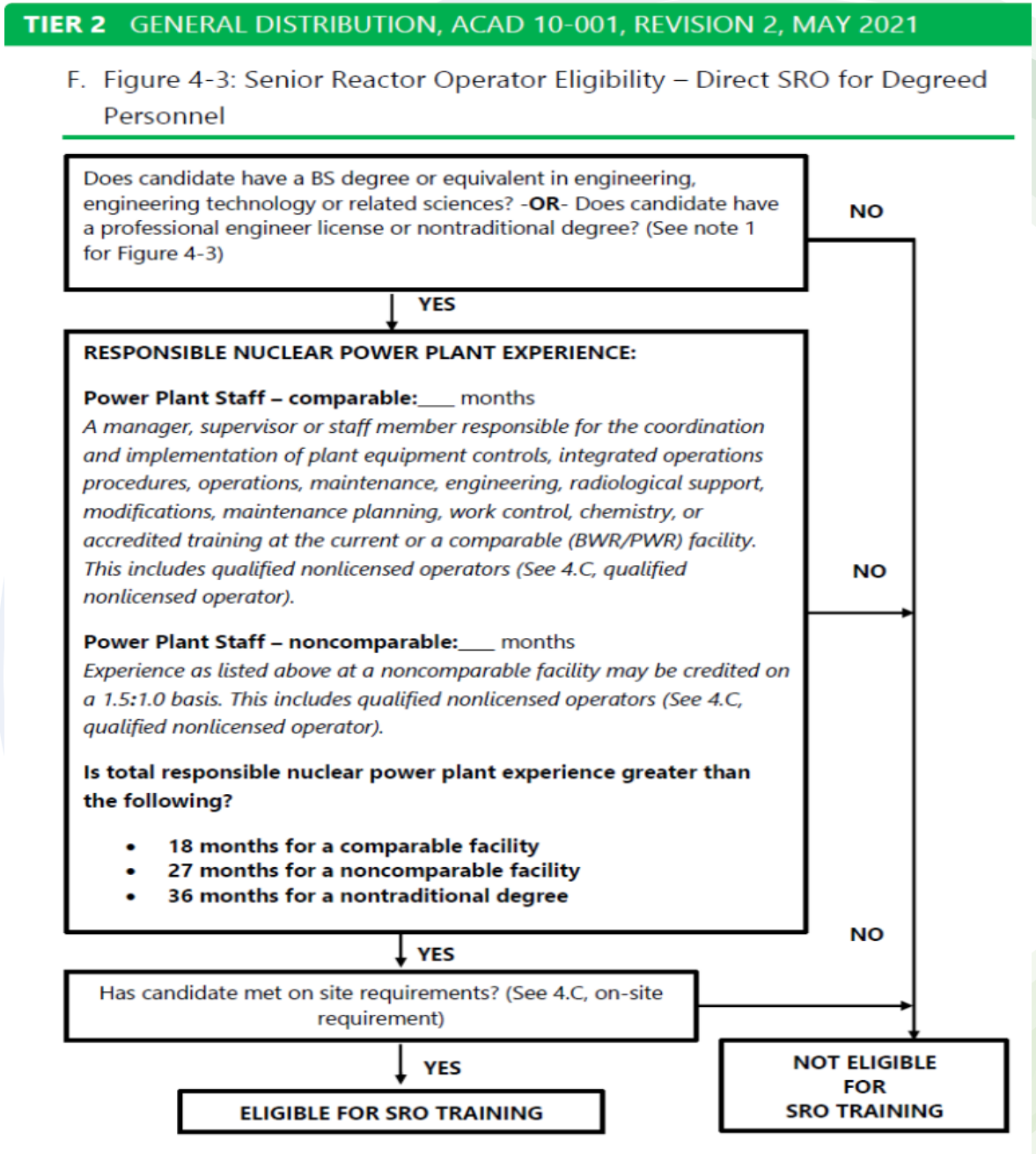
- Process requirements:



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- Process requirements:

NOTES FOR FIGURE 4-3:

The following notes and examples are intended to clarify Figure 4-3 implementation.

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 Figure 4-3 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 Figure 4-2 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 Figure 4-3 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.

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- Step one is to get a job at a nuclear station
  - The majority of nuclear plants hire into operations at entry level positions (non-licensed operator positions)
    - This is the easiest way to get a job at a nuclear plant
    - The majority of folks hired at these entry level positions are four year degreed or previous Navy Nukes
    - Fewer Direct SRO (DSRO) hires from outside the current workforce (very company dependent which is impacted by union/non-union plants as well)
    - SROs are supervisors and require experience as a supervisor

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- Generic Fundamentals
  - The NRC is changing the regulation, but the process has required a 100 question, multiple choice exam, verifying adequate knowledge of fundamentals.
    - The exam questions previously used exist on the NRC website.
    - Multiple choice exam does not mean easy
    - This exam is being removed as a standalone exam and being rolled into other examination processes.
    - Plants will still verify students have adequate knowledge of fundamentals

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- Complete a SAT based INPO accredited training program
  - SAT – systematic approach to training
  - INPO – Institute of Nuclear Power Operations
  - The NRC requires this accredited training which is implemented at the nuclear plants and accredited by INPO under the verification of the NRC

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- Training program requires classroom and simulator
  - Classroom training for power plant systems after fundamentals
  - Startup training on the simulator for reactor start up and verification of understanding reactor response
  - 520 hours of on shift training under the supervision of licensed operators
  - Classroom and simulator training for abnormal and emergency operating procedures
  - Audit exam for verification of mastery of knowledge and skills

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- NRC exam
  - 100 question exam based on system knowledge and operation, abnormal and emergency operating procedures. Multiple choice exam which is approximately six hours long
  - Simulator exam as a crew of two ROs and one SRO for two scenarios
  - Task performance verification in the field, administrative tasks, and simulator tasks
  - Depending on class size exam is at least one week long

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- Questions