

**THIS PRELIMINARY PROPOSED RULE LANGUAGE AND ACCOMPANYING DISCUSSION IS BEING RELEASED TO SUPPORT INTERACTIONS WITH STAKEHOLDERS AND THE ADVISORY COMMITTEE ON REACTOR SAFEGUARDS (ACRS). THIS LANGUAGE HAS NOT BEEN SUBJECT TO COMPLETE NRC MANAGEMENT OR LEGAL REVIEW, AND ITS CONTENTS SHOULD NOT BE INTERPRETED AS OFFICIAL AGENCY POSITIONS. THE NRC STAFF PLANS TO CONTINUE WORKING ON THE CONCEPTS AND DETAILS PROVIDED IN THIS DOCUMENT AND WILL CONTINUE TO PROVIDE OPPORTUNITIES FOR PUBLIC PARTICIPATION AS PART OF THE RULEMAKING ACTIVITIES.**

**THE STAFF IS PRIMARILY SEEKING INSIGHTS REGARDING THE CONCEPTS IN THIS PRELIMINARY LANGUAGE AND SECONDARILY SEEKING INSIGHTS RELATED TO DETAILS SUCH AS ALTERNATIVES AND AREAS OF GUIDANCE COVERED IN THE “DISCUSSION” COLUMN. NOTE THAT THE SECTIONS OF SUBPART F, “REQUIREMENTS FOR OPERATION,” RELATED TO STRUCTURES, SYSTEMS, AND COMPONENTS AND PROGRAMS WERE PREVIOUSLY RELEASED TO SUPPORT INTERACTIONS WITH STAKEHOLDERS (See ADAMS Accession Nos. ML21106A001 and ML21106A002)**

**SUBPART F - Requirements for Operations – PRELIMINARY RULE LANGUAGE**

**(October 2021)**

**SUBPART F: Sections Related to Staffing, Training, Personnel Qualifications, and Human Factors**

<b>Preliminary Language</b>	<b>Discussion</b>
<p><b>§ 53.750 General staffing, training, personnel qualifications, and human factors requirements</b>            (a) <i>Purpose and applicability.</i> The regulations in §§ 53.750 through 53.799 address areas related to staffing, training, personnel qualifications, and human factors for applicants for or holders of operating licenses or combined licenses under this part. These regulations are organized as follows:            (1) Sections 53.750 through 53.759 address general requirements for operator staffing, training, personnel qualifications, and human factors. The regulations within these sections are applicable to all applicants for and holders of operating licenses or combined licenses for commercial nuclear plants under this part, except where specifically stated otherwise.</p>	<p>It should be noted that these sections will propose a framework that includes an operator licensing pathway independent of, but borrowing in part from, that contained within Part 55. However, the extent to which this operator licensing pathway will remain independent from Part 55 remains an area of ongoing work by the staff and is subject to change under future iterations of this preliminary rule language.</p>

<p>(2) Sections 53.760 through 53.769 address operator licensing requirements. The regulations within this section are applicable to those applicants for and holders of operating licenses or combined licenses for commercial nuclear plants under this part who <i>do not</i> meet the criteria provided under § 53.755(b).</p> <p>(3) Sections 53.770 through 53.779 address certified operator requirements. The regulations within this section are provided as an alternative to §§ 53.760 through 53.769 for those applicants for or holders of operating licenses or combined licenses for commercial nuclear plants under this part who meet the criteria provided under § 53.755(b).</p> <p>(4) Sections 53.780 through 53.789 address general personnel training requirements. The regulations within this section are applicable to all applicants for and holders of operating licenses or combined licenses for commercial nuclear plants under this part.</p> <p>(5) Sections 53.790 through 53.799 are reserved for future use.</p>	
<p>(b) <i>Definitions.</i> As used in §§ 53.750 through 53.799:</p> <p><i>Automation</i> means a device or system that accomplishes (partially or fully) a function or task.</p> <p><i>Auxiliary operator</i>, as used within this part, means those staff of a commercial nuclear plant who operate plant components but are not required to be licensed or certified under the provisions of this part.</p> <p><i>Certified operator</i> means an individual certified under the provisions of §§ 53.770 through 53.779 to manipulate a control of a facility. Certified operators are not licensed by the Commission.</p> <p><i>Controls</i> when used with respect to a nuclear reactor means apparatus and mechanisms the manipulation of which directly affects the reactivity or power level of the reactor.</p> <p><i>Licensed operator</i> means any individual licensed under the provisions of §§ 53.760 through 53.769 to manipulate a control of a facility.</p> <p><i>Load following</i>, as used within this subpart, means a nuclear power plant automatically changing its generation of electricity to</p>	<p>Adapted from § 55.4.</p> <p>It should be noted that some (or all) of the definitions provided at § 53.750(b) may be relocated to the definitions section at § 53.020 in future iterations of this rule language.</p> <p>For clarity, §§ 53.750 – 53.799 avoids the use of the term “operator” by itself. This is to prevent creating confusion because of the introduction of the additional non-licensed “certified operator” category within Part 53. In light of that, this section (as reflected in these definitions) refers to operators as either “senior licensed operators”, “licensed operators”, “certified operators”, or “auxiliary operators.”</p> <p>It should be noted that § 53.751 for communications (adapted from § 55.5) and § 53.752 for information</p>

<p>match expected electrical demand in response to externally originated instructions or signals.</p> <p><i>Performance testing</i> means testing conducted to verify a simulation facility's performance as compared to actual or predicted reference plant performance.</p> <p><i>Reference plant</i> means the specific nuclear power plant on which a simulation facility's configuration, system control arrangement, and design data are based. The reference plant may or may not be actually constructed.</p> <p><i>Senior licensed operator</i> means any individual licensed under the provisions of §§ 53.760 through 53.769 to manipulate the controls of a facility and to direct the licensed activities of licensed operators.</p> <p><i>Simulation facility</i> means an interface designed to provide a realistic imitation of the operation of a facility, used for either the conduct of examinations for operator licensing or operator certification, training, or to establish on-the-job training and experience prerequisites for operator licensing or operator certification eligibility.</p> <p><i>Systems approach to training</i> means a training program that includes the following five elements:</p> <ol style="list-style-type: none"> <li>(1) Systematic analysis of the jobs to be performed.</li> <li>(2) Learning objectives derived from the analysis which describe desired performance after training.</li> <li>(3) Training design and implementation based on the learning objectives.</li> <li>(4) Evaluation of trainee mastery of the objectives during training.</li> <li>(5) Evaluation and revision of the training based on the performance of trained personnel in the job setting.</li> </ol>	<p>collection requirements (adapted from § 55.8) are not included within this iteration of the preliminary rule language.</p>
<p><b>§ 53.753 Defining, fulfilling, and maintaining the role of personnel in ensuring safe operations</b></p> <p>Each licensee or applicant for an operating license or combined license under this part shall develop, implement, and maintain the following measures to ensure that human actions needed to fulfil safety functions, prevent or mitigate licensing basis events, or otherwise meet the safety criteria in §§ 53.210 and 53.220 and, if</p>	<p>This section provides performance-based requirements to assess the role of personnel and to determine appropriate staffing levels. These requirements replace the prescriptive requirements in 10 CFR 50.54(m) and the post-TMI requirements in 10 CFR 50.34(f) to reflect the introduction of new technologies, possible attributes of advanced nuclear</p>

<p>applicable, any alternative criteria used in accordance with § 53.470, are satisfied:</p>	<p>reactors, and possible changes in the roles of personnel in preventing and mitigating events.</p>
<p><i>(a) Human factors engineering design requirements.</i> The facility design must reflect state-of-the-art human factors principles for safe and reliable performance in all settings that human activities are expected for performing or supporting the continued availability of plant safety or emergency response functions.</p>	<p>Adapted from § 50.34(f)(2)(iii).  It should be noted that the emergency response facilities are intended to be included within the scope of human factor engineering (HFE) reviews. It is intended for scope to be addressed as part of the scalable HFE review guidance that is intended to accompany Part 53.</p>
<p><i>(b) Human system interface design requirements.</i> The facility design must provide for the following to support operators in monitoring plant conditions and responding to plant events:</p>	
<p>(1) features for displaying to operators a minimum set of parameters that define the safety status of the plant and are capable of displaying both the full range of important plant parameters and data trends on demand, as well as indicating when process limits are being approached or exceeded,</p>	<p>Paragraph (b)(1) adapted from § 50.34(f)(2)(iv).</p>
<p>(2) automatic indication of the bypassed and operable status of safety systems,</p>	<p>Paragraph (b)(2) adapted from § 50.34(f)(2)(v)).</p>
<p>(3) direct indication of SSC status that relates to the ability of the SSC to perform its safety function. Examples include relief and safety valve position (i.e., open or closed) for barriers with such devices and ultimate heat sink and cooling system status and availability,</p>	<p>Paragraph (b)(3) adapted from §§ 50.34(f)(2)(xi) and 50.34(f)(2)(xii).</p>
<p>(4) instrumentation to measure, record, and readout key plant parameters related to the performance of SSCs and the integrity of barriers important to fulfilling the safety functions of § 53.230. Examples include temperatures and pressures within important</p>	<p>Paragraph (b)(4) adapted from §§ 50.34(f)(2)(xvii), 50.34(f)(2)(xviii), 50.34(f)(2)(xix).  A potential requirement that may warrant inclusion</p>

<p>systems or structures, core or fuel system conditions (including possible damage states), temperatures and levels associated with cooling functions, combustible gas concentrations, radiation levels in systems and within structures, and radioactive effluent releases,</p>	<p>within Part 53 that is related to the above requirement but does not directly fall within the scope of the HFE review area would be the following (refer to § 50.34(f)(2)(xvii)):</p> <p><i>Provide for continuous sampling of radioactive iodines and particulates in gaseous effluents from all potential accident release points, and for onsite capability to analyze and measure these samples.</i></p>
<p>(5) leakage control and detection in the design of systems that pass-through barriers to the release of radionuclides. An example is an SSC that penetrates a containment structure that might contain radioactive materials that could contribute to the source term during an accident, and</p>	<p>Paragraph (b)(5) adapted from § 50.34(f)(2)(xxvi).</p> <p>A potential requirement that may warrant inclusion within Part 53 that is related to the above requirement but does not directly fall within the scope of the HFE review area would be the following (reference to § 50.34(f)(2)(xxvi)):</p> <p><i>Applicants shall submit a leakage control program, including an initial test program, a schedule for re-testing these systems, and the actions to be taken for minimizing leakage from such systems. The goal is to minimize potential exposures to workers and public, and to provide reasonable assurance that excessive leakage will not prevent the use of systems needed in an emergency.</i></p>
<p>(6) monitoring of in-plant radiation and airborne radioactivity as appropriate for a broad range of routine and accident conditions.</p>	<p>Paragraph (b)(6) adapted from § 50.34(f)(2)(xxvii).</p>
<p>(c) <i>Concept of operations.</i> A concept of operations that is of sufficient scope and detail to address how the facility and personnel will achieve the safety requirements of Subpart B must be provided. The concept of operations will, at a minimum, address the following:</p> <p>(1) facility goals,</p>	<p>The development of a “concept of operations” has been used in recent proposals for exemptions from the requirements in 10 CFR 50.54(m) and is a useful vehicle to replace the current prescriptive requirements.</p>

<p>(2) the roles and responsibilities of personnel and automation (or any combination thereof) that are responsible for completing plant functions,</p> <p>(3) staffing, qualifications, and training,</p> <p>(4) the management of normal operations,</p> <p>(5) the management of off-normal conditions and emergencies,</p> <p>(6) the management of maintenance and modifications, and</p> <p>(7) the management of tests, inspections, and surveillance tasks.</p>	<p>These analyses are also seen as being important for facilitating a clear understanding on the part of the staff for potentially novel operating concepts and are expected to likely reduce the overall resources and interactions needed for the staff to obtain the level understanding of these areas necessary to support the types of flexible approaches to staffing, operator licensing, and human factors engineering described in these requirements.</p>
<p>(d) A functional requirements analysis and function allocation must be provided that are sufficient to satisfy the following:</p> <p>(1) the functional requirements analysis must address how safety functions and functional safety criteria are satisfied, and</p> <p>(2) the function allocation must describe how the safety functions will be assigned to human action, automation, active safety features, passive safety features, or inherent safety characteristics.</p>	<p>The consideration of HFE within the settings of the emergency response facilities may warrant also having the Functional Requirements Analysis and Function Allocation address functions beyond those of the safety functions to also include emergency response functions as well. Staff is still working on this topic.</p>
<p>(e) <i>Programmatic requirements.</i> A description of the program for evaluating and applying operating experience must be provided.</p>	<p>Adapted from § 50.34(f)(3)(i).</p>
<p>(f) <i>Staffing plan.</i> A staffing plan must be provided to include the numbers, positions, and qualifications of licensed operators and senior licensed operators or, if applicable, certified operators across all modes of plant operations, and the numbers, positions, and responsibilities of personnel providing support in areas such as plant operations, equipment surveillance and maintenance, radiological protection, chemistry control, fire brigades, engineering, security, and emergency response.</p>	
<p>(1) Applicants and licensees subject to the provisions of §§ 53.760 through 53.769 must also include within their staffing plans a description of how the proposed numbers, positions, and qualifications</p>	<p>§§ 53.760 through 53.769 applies to those plants required to have licensed operators or electing to utilize those provisions.</p>

<p>of licensed operators and senior licensed operators across all modes of plant operations will be sufficient to provide assurance that plant safety functions can be maintained. This description must be supported by human factors engineering analysis and assessments.</p> <p>(2) Applicants and licensees must include within their staffing plans the numbers, positions, and responsibilities of personnel providing support in areas such as plant operations, equipment surveillance and maintenance, radiological protection, chemistry control, fire brigades, engineering, security, and emergency response. The numbers, positions, and responsibilities of the personnel not directly addressed by the requirements for licensed or certified operators must reflect the evaluations of human factors engineering design requirements and concept of operations in paragraphs (a) and (c) of this section as well as other requirements within this part and Part 73 for security-related matters.</p>	<p>This iteration does not include a specific requirement for the Shift Technical Advisor (STA) position to be accounted for within the staffing models of advanced nuclear plants covered under Part 53. This is an area where further discussion is anticipated. Those discussions could include the use of STAs until operating experience is gained for new and novel reactor technologies and designs.</p> <p>The staff is also interested in soliciting stakeholder feedback concerning whether or not the Shift Technical Advisor position should be explicitly addressed within the proposed rule language and if so, how.</p> <p>The staff are currently in the process of developing guidance that will support the review of these staffing plans as a means of enabling the use of flexible staffing approaches. Such guidance will address RO and SRO staffing at advanced nuclear plant facilities.</p> <p>Separately, the staff may also develop guidance that is specific to the review of certified operator staffing at those facilities that do not require licensed operators under Part 53.</p> <p>Additionally, the extent and manner in which support personnel staffing, as covered in item (2), should be addressed here remains an area of ongoing staff work.</p>
<p>(g) <i>Training and examination programs.</i> Provide a description of proposed programs capable of satisfying the following requirements:</p> <p>(1) For those applicants subject to the provisions of §§ 53.760 through 53.769:</p>	<p>Although not discussed explicitly within the language presented here, is not intended to preclude the potential for INPO accreditation of advanced reactor training programs; guidance will be provided to address this if necessary.</p>

<p>(i) The operator licensing initial training program required under § 53.765(a),</p> <p>(ii) The operator licensing examination program required under § 53.765(b), and</p> <p>(iii) The operator licensing requalification program required under § 53.765(c).</p> <p>(2) For those applicants subject to the alternative provisions of §§ 53.770 through 53.779:</p> <p>(i) The certified operator initial training program required under § 53.773(a),</p> <p>(ii) The certified operator examination program required under § 53.773(b), and</p> <p>(iii) The certified operator continuing training program required under § 53.773(c).</p>	<p>The training programs for licensed operators, senior licensed operators, and certified operators would require Commission review and approval and would also be subject to periodic inspection thereafter. In contrast, the training programs for other categories of facility personnel (see the § 53.780 section) would not be subject to initial approval by the Commission; however, they would remain subject to periodic inspection.</p>
<p><b>§ 53.754 General exemptions</b></p> <p>The regulations in §§ 53.750 through 53.789 do not require a license for an individual who –</p> <p>(a) Under the direction and in the presence of a certified operator, licensed operator, or senior licensed operator, manipulates the controls of a facility as a part of the individual's training in a facility licensee's training program as approved by the Commission to qualify for an operator license or certification under this part.</p> <p>(b) Under the direction and in the presence of a certified operator or senior licensed operator, manipulates the controls of a facility to load or unload the fuel into, out of, or within the reactor vessel.</p>	<p>Adapted from § 55.13.</p>
<p><b>§ 53.755 Conditions for operations staffing for operating or combined licenses under this part</b></p> <p>(a) Facility licensees must meet the requirements of either §§ 53.760 through 53.769 or §§ 53.770 through 53.779. In order to exercise the option to comply with the requirements of §§ 53.770 through 53.779 in lieu of §§ 53.760 through 53.769, facility licensees must meet all the criteria contained in paragraph (b) of this section.</p>	<p>§ 53.755 sets up two operator staffing options. Note, §§ 53.760 through 53.769 applies to those plants required to have licensed operators or electing to utilize those provisions, whereas §§ 53.770 through 53.779 applies to plants that have certified operators.</p> <p>It should be noted that these sections will propose a framework that includes an operator licensing pathway</p>



	<p>independent of, but borrowing in part from, that contained within Part 55. However, the extent to which this operator licensing pathway will remain independent from Part 55 remains an area of ongoing work by the staff and is subject to change under future iterations of this preliminary rule language.</p> <p>The staff is also looking into the need to define by regulation a class of facilities consistent with sections 106 and 107 of the AEA, in order to provide uniform conditions for licensing operators within the defined class of facilities. For example, this could be done in a manner similar to the existing regulations in §§ 50.20 through 50.22</p>
<p>(b) Facility licensees may comply with the requirements of §§ 53.770 through 53.779 in lieu of §§ 53.760 through 53.769 upon demonstrating the following:</p> <p><i>[Option A]</i></p> <p>(1) The safety criteria of §§ 53.210 and 53.220 and, if applicable, any alternative criteria used in accordance with § 53.470, will be met without reliance on human actions for event mitigation;</p> <p>(2) The safety functions of § 53.230 can be achieved without reliance on human actions for event mitigation;</p> <p>(3) The requirements associated with defense in depth, as described under § 53.250, can be met without reliance on human actions for event mitigation;</p> <p>(4) The analysis of licensing basis events in accordance with § 53.450 demonstrates that the evaluation criteria for each event sequence can be met without reliance on human actions for event mitigation; and</p>	<p>It should be noted that the staff continues to work on the development and refinement of the criteria listed under this paragraph. <u>Two options</u> for possible criteria are provided in the preliminary proposed rule language to support discussions with stakeholders.</p> <p>As presently envisioned, based upon the application of such criteria (under either of the two options), advanced nuclear plants will either have licensed operators or certified operators (but not both). Plants meeting the criteria in this paragraph would have the alternative of not including licensed operators within their staffing models. Instead, “Certified operators” would take on those administrative duties that would have otherwise been performed by Senior Licensed Operators and, furthermore, would be allowed to perform reactivity manipulations (§§ 53.770 through 53.779 addresses the requirements associated with operator certification). The requirements for “certified operators” would be relaxed compared to those for</p>

<p>(5) The plant response to licensing basis events is not reliant on human actions to guarantee the performance of structures, systems and components. Compliance with this paragraph may be achieved through the use of structures, systems, and components that function through inherent characteristics or have engineered protections against human failures (e.g., system misalignments).</p> <p><i>[Option B]</i></p> <p>The safety criteria of § 53.210 and, if applicable, any alternative criteria used in accordance with § 53.470, can be met without mitigation by human actions, active engineered features, or passive design features with the exception of those passive features that are expected to survive licensing basis events and which are not subject to being made unavailable (or otherwise defeated) by credible human errors of commission and omission.</p>	<p>licensed operators but would be more rigorous than those currently required for non-licensed auxiliary/equipment operators.</p> <p>It should also be noted that the requirements for “certified operators” are justified because such operators would continue to fulfil an important preventative role from a safety standpoint. “Certified operator” administrative responsibilities would generally mirror those of Senior Licensed Operators, including functions such as technical specification compliance and configuration control. Additionally, such additional requirements are further justified by virtue of “certified operators” being permitted to operate the controls of the facility for the purposes of conducting reactivity manipulations.</p> <p>It should be noted that “Option B” presented here builds upon the general philosophical approach used for considering unmitigated hazards in DOE STD 1224, “Hazard and Accident Analysis Handbook” Section 2.7, “Unmitigated and Mitigated Hazards.”</p>
<p>(c) Except as provided under § 53.754, the facility licensee may not permit the manipulation of the controls of any facility by anyone who is not a licensed operator, senior licensed operator, or certified operator as provided within this part.</p>	
<p>(d) Upon commencing the administration of licensed operator and senior licensed operator licensing examinations as provided under § 53.765(b), or of operator certification examinations as provided under § 53.773(b), the licensee must have an operator requalification program. The operator requalification program must, at a minimum, meet the requirements of § 53.765(c) for licensed operators and senior licensed operators or of § 53.773(c) for certified operators. The</p>	<p>Requalification training programs only need to be put into effect when the associated examination programs begin producing individuals who require those continuing training programs. This is a change from how this is currently approached within the Part 50/52 framework.</p>

<p>approved operator requalification program shall be subject to the requirements of Subpart I, “Maintaining and Revising Licensing Basis Information During Operations,” of this part.</p> <p>(e) Apparatus and mechanisms other than controls, the operation of which may affect the reactivity or power level of a reactor must be manipulated only while plant conditions are being monitored by an individual who is a licensed operator, senior licensed operator, or certified operator pursuant to this part.</p> <p>(1) Load-following, as defined by § 53.750(b), must only be permitted if one of the following actions is immediately capable of refusing demands from the grid operator when they could challenge the safe operation of the plant or when precluded by the plant equipment conditions:</p> <ul style="list-style-type: none"> <li>(i) the actuation of an automatic protection system, or</li> <li>(ii) an automated control system; or</li> <li>(iii) an individual who is a licensed operator, senior licensed operator, or certified operator pursuant to this part.</li> </ul>	<p>At present, changes to certain approved programs and plans discussed within §§ 53.750 – 53.799 are linked to the requirements of Part 53 Subpart I. However, the staff continues to work on determining whether this will be appropriate and future changes to this approach are possible.</p> <p>The intent of Paragraph (e)(1) is to provide an allowance for load following where plant power level changes in response to grid demand. Note that this is not intended to imply that a grid operator would directly implement plant reactivity manipulations (hence why this allowance applies to the “indirectly” initiated power changes of paragraph (e) but not to the “direct” reactivity manipulations of paragraph (c) which precedes it). This is a significant difference from the existing provisions of § 50.54 which preclude such operations. It should also be noted that one of three listed provisions must be met for this to be considered permissible.</p>
<p>(f) Facility licensees subject to the requirements of §§ 53.760 through 53.769 must designate senior licensed operators to be responsible for supervising the licensed activities of licensed operators.</p>	
<p>(g) The facility licensee must maintain the staffing complement described under their approved facility staffing plan. The approved staffing plan shall be subject to the requirements of Subpart I, “Maintaining and Revising Licensing Basis Information During Operations,” of this part.</p>	<p>The intent here is that the staff would review and approve a staffing model proposed by an applicant during the application review stage (see § 53.753(f)). This approved staffing complement would then become part of the licensing basis for the facility. This paragraph will require a corresponding change to</p>

	<p>Subpart I.</p> <p>At present, changes to certain approved programs and plans discussed within §§ 53.750 – 53.799 are linked to the requirements of Part 53 Subpart I. However, the staff continue to work on determining whether this will be appropriate and future changes to this approach are possible.</p> <p>The staff is currently developing guidance that will support the review of these staffing models as a means of enabling the use of flexible staffing approaches; this is a departure from the prescriptive approach to control room staffing utilized under § 50.54(m). Such guidance will address RO and SRO staffing at advanced nuclear plant facilities.</p> <p>Separately, the staff may also develop guidance that is specific to the review of certified operator staffing at those facilities that do not require licensed operators under Part 53.</p>
<p>(h)(1) Notwithstanding any other provisions of this section, facility licensees subject to the requirements of §§ 53.760 through 53.769 must have present, during alteration of the core of a commercial nuclear plant unit (including fuel loading or transfer), a person holding a senior licensed operator license or a senior licensed operator license limited to fuel handling to directly supervise the activity and, during this time, the facility licensee shall not assign other duties to this person.</p> <p>(2) For a holder of an operating license or combined license under this part subject to the requirements of §§ 53.770 through 53.779, a certified operator must be present during alteration of the core of a commercial nuclear plant unit (including fuel loading or transfer) to directly supervise the activity and, during this time, the licensee shall not assign other duties to this person.</p>	<p>This requirement continues existing requirements for SRO supervision of refueling activities, while also providing for those facilities that do not require licensed operators to utilize a certified operator in this capacity instead (it should be noted that the staff expect that certified operators will possess administrative knowledge and abilities of a level that is generally comparable to that of an SRO, which is consistent with fulfilling this role during refueling operations). However, recognizing that online refueling operations present unique operational considerations, the staff, at present, are considering not imposing a comparable requirement at such facilities.</p>

<p>(3) These requirements do not apply to those facilities capable of continuous refueling operations while operating at power.</p>	
<p>(i) Notwithstanding any other provisions of this section, a holder of an operating license or combined license under this part subject to the requirements of §§ 53.770 through 53.779 must meet the following requirements:</p> <p>(1) Licensees must maintain certified operators with responsibility for administrative tasks including compliance with technical specifications, operability determinations, implementation of maintenance and configuration controls, compliance with radioactive release limitations, responsibilities under the facility emergency plan (as applicable), and making notifications to local, state, and federal authorities as required by this part [e.g., § 53.1521 <i>Immediate Notification Requirements for Operating Commercial Nuclear Plants</i>], in addition to those items identified by facility-specific job task analyses conducted under § 53.773(a).</p> <p>(2) The licensee must maintain a sufficient complement of certified operators to provide for the continuity of responsibility for facility operations at all times during the operating phase.</p> <p>(3) The licensee must provide for a certified operator to continually monitor the operations of fueled units. At a minimum, this certified operator must have following capabilities:</p> <p>(i) The ability to receive plant operating data, including reactor parameters and information needed for the evaluation of emergency conditions.</p> <p>(ii) The ability to immediately initiate a reactor shutdown from his or her location.</p> <p>(iii) The ability to promptly dispatch operations and maintenance personnel.</p> <p>(iv) The ability to immediately implement responsibilities under the facility emergency plan, as applicable.</p> <p>(4) Where reactivity manipulations require operator action, except as provided by § 53.754, an individual who is a certified operator</p>	<p>This section introduces the requirements associated with implementation of the new, non-licensed certified operator position that facilities meeting the requirement of § 53.755(a) may use in lieu of licensed operators. In the absence of licensed operators, certain administrative responsibilities with implications for safety must still be accomplished in a manner that reasonably assures reliable and correct implementation. These responsibilities (generally associated with senior licensed operators outside of this specific context) are assigned to “certified operators.” Although a direct comparison is not appropriate, the “certified operator” may be thought of as being roughly similar to the non-licensed Certified Fuel Handlers utilized at existing plants that have permanently ceased operations.</p> <p>The implication of the staffing requirements specified here for “certified operators” are that there must be a minimum of one individual fulfilling these requirements at all times, with as many additional “certified operators” as needed above that minimum in order to implement these requirements. An applicant will need to demonstrate how their proposed approach to certified operator staffing accomplishes this. <u>It must also be recognized that even a fully autonomous reactor would still need to be under the cognizance of a certified operator.</u> That being said, there presently is no upper limit established here on how <i>many reactors</i> a single certified operator could maintain cognizance over. As before, the burden would be on the applicant to demonstrate how the degree of oversight provided</p>

<p>under the provisions of this part must conduct those reactivity manipulations.</p> <p>(5) The facility technical specifications must provide the necessary administrative controls to ensure the implementation of the certified operator program. These administrative controls must, at a minimum, specify the responsibilities, organization, staffing, qualifications, and training associated with the certified operator program.</p>	<p>by the proposed number of “certified operators” would be sufficient.</p> <p>Remote operations are not explicitly addressed within these requirements.</p>
<p>(j) A holder of an operating license or combined license under this part may take reasonable action that departs from a license condition or a technical specification (contained in a license issued under this part) in an emergency situation when this action is immediately needed to protect the public health and safety and no action consistent with license conditions and technical specifications that can provide adequate or equivalent protection is immediately apparent.</p>	<p>Adapted from § 50.54(x). Note that the staff is evaluating possible alternative placement of paragraphs (j) and (k) within Part 53 (including renumbering within Subpart F).</p>
<p>(k) Any action by the holder of an operating license or combined license under this part permitted by paragraph (j) of this section must be approved, as a minimum, by one of the following, as applicable, prior to taking the action:</p> <ol style="list-style-type: none"> <li>(1) a senior licensed operator; or</li> <li>(2) a certified operator; or</li> <li>(3) at a commercial nuclear plant for which the certifications required under Subpart G have been submitted, by either a senior licensed operator, a certified operator, or a certified fuel handler.</li> </ol>	<p>Adapted from § 50.54(y).</p>
<p><b>§ 53.756 Medical requirements</b></p> <p>(a) An applicant for a licensed operator or senior licensed operator license must have a medical examination by a physician. A licensed operator or senior licensed operator must have a medical examination by a physician every two years. Operators certified under the provisions of §§ 53.770 through 53.779 must have a medical examination by a physician prior to certification and every two years thereafter.</p>	<p>Adapted from §§ 55.21, 23, 27, &amp; 33</p> <p>With regard to certified operators, this requirement is consistent with what is presented within NEI 15-04, section 4.1.5 (“Qualifications”) as being appropriate for Certified Fuel Handlers:</p>

<p>(1) The physician must determine that the applicant for a license, licensed operator, senior licensed operator, certified operator trainee, or certified operator’s medical condition and general health will not adversely affect the performance of assigned operator job duties or cause operational errors endangering public health and safety.</p> <p>(b) To certify the medical fitness of the applicant for a license, an authorized representative of the holder of an operating license or combined license under this part must complete and sign NRC Form 396, "Certification of Medical Examination by Facility Licensee," which can be obtained by writing the Office of the Chief Information Officer, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, by calling (301) 415-5877, or by visiting the NRC's Web site at <a href="http://www.nrc.gov">http://www.nrc.gov</a> and selecting forms from the index found on the home page.</p> <p>(1) Form NRC-396 must certify that a physician has conducted the medical examination of the applicant as required in paragraph (a).</p> <p>(2) When the medical certification requests a conditional license based on medical evidence, the medical evidence must be submitted on NRC Form 396 to the Commission and the Commission then makes a determination in accordance with § 53.764(b).</p> <p>(c) The holder of an operating license or combined license under this part must document and maintain the results of medical qualifications data, test results, and each licensed operator, senior licensed operator, or certified operator’s medical history for either the current license period or while certified, respectively, and provide the documentation to the Commission upon request. The licensee must retain this documentation while an individual performs the functions of a licensed operator, senior licensed operator, or certified operator.</p>	<p><i>“Pass a medical examination by a physician to determine that the candidate’s medical condition is not such that it might cause operational errors that could endanger other plant personnel or the public health and safety.”</i></p> <p>The requirement for certified operators to pass medical exams on a biennial basis is also consistent with what is presented within NEI 15-04, section 4.2.5.1 (“Requirements to Maintain Qualification”) as being appropriate for Certified Fuel Handlers:  <i>“Pass a biennial medical examination by a physician to determine that the Certified Fuel Handler’s medical condition is not such that it might cause operational errors that could endanger other plant personnel or the public health and safety.”</i></p>
<p><b>§ 53.757 Violations</b></p>	<p>The staff presently intends for this section to be adapted from § 55.71 for addressing violations.</p>
<p><b>§ 53.758 Criminal penalties</b></p>	<p>To be addressed in Subpart A for holders or applicants for licenses, certifications, or approvals related to the nuclear power plant. The staff is considering where to</p>

	address this provision for licensed operators.
<b>§ 53.759 Reserved</b>	[Reserved for future use.]
<p><b>§ 53.760 Operator licensing</b></p> <p>(a) <i>Applicability.</i> Sections 53.760 through 53.769 address operator licensing requirements. The regulations within this section are applicable to all applicants for, or holders of, operating licenses or combined licenses for commercial nuclear plants licensed under this part except for those who meet the criteria provided under § 53.755(b) and choose to follow §§ 53.770 through 53.779.</p> <p>(b) Reserved.</p>	
<p><b>§ 53.761 License requirements</b></p> <p>A person must be authorized by the holder or applicant for an operating license or the holder of a combined license under this part to perform the function of a licensed operator or a senior licensed operator as defined in this part.</p>	Adapted from § 55.3.
<p><b>§ 53.762 Completeness and accuracy of information</b></p> <p>Information provided to the Commission by an applicant for an operator license or by a licensed operator or information required by statute or by the Commission's regulations, orders, or license conditions to be maintained by the applicant or the licensed operator must be complete and accurate in all material respects.</p>	Adapted from § 55.9; consider if needed since have similar requirement in Subpart A (may need to ensure Subpart A refers also to individuals]
<p><b>§ 53.763 Incapacitation because of disability or illness</b></p> <p>If, during the term of the license, the licensed operator develops a permanent physical or mental condition that causes the licensed operator to fail to meet the requirements of § 53.756(a) of this part, the commercial nuclear plant licensee must notify the Commission, within 30 days of learning of the diagnosis. For conditions for which a conditional license (as described in § 53.764(b) of this part) is</p>	Adapted from §§ 55.25 & 50.74(c).



<p>requested, the commercial nuclear plant licensee must provide medical certification on Form NRC 396 to the Commission (as described in § 53.756(b) of this part).</p>	
<p><b>§ 53.764 Applications for licensed operators</b>  (a) <i>How to apply.</i> (1) The applicant must:  (i) Complete NRC Form 398, "Personal Qualification Statement--Licensee," which can be obtained by writing the Office of the Chief Information Officer, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, by calling (301) 415-5877, or by visiting the NRC's Web site at <a href="http://www.nrc.gov">http://www.nrc.gov</a> and selecting forms from the index found on the home page;</p>	<p>Adapted from §§ 55.31 through 55.35.</p> <p>The development of a new "Personal Qualification Statement—Licensee" for advanced nuclear plant operator licensing may be appropriate and will be considered</p>
<p>(ii) File an original of NRC Form 398, or an equivalent electronic submittal, together with the information required in paragraphs (a)(1)(iii), (iv), (v), and (vi) of this section, with the appropriate Regional Administrator.</p>	<p>The filing recipient discussed above may need to be revised to reflect decisions regarding which Office or Offices (e.g., Headquarters, Regional Offices, or both) within the Agency will implement routine operator licensing functions for commercial nuclear reactors licensed under Part 53.</p> <p>The staff currently intends to develop regulatory guidance associated with operator licensing under Part 53. Such guidance would, in part, address the following areas:</p> <ul style="list-style-type: none"> <li>• The submittal of a written request from an authorized representative of the facility licensee by which the applicant will be employed that the examination be administered to the applicant.</li> <li>• The provision of evidence that the applicant has successfully completed the facility licensee's requirements to be a licensed operator or senior licensed operator and of the facility licensee's need for a licensed operator or a senior licensed operator to perform assigned duties. An authorized representative of the facility licensee would certify</li> </ul>

	<p>this evidence on Form NRC-398. This certification would include details of the applicant's qualifications, details on courses of instruction administered by the facility licensee, the nature of the training received at the facility, and the startup and shutdown experience received. In lieu of these details, the Commission may also accept certification that the applicant has successfully completed a Commission-approved training program that is based on a systems approach to training and that uses a simulation facility acceptable to the Commission under § 53.765(e).</p>
<p>(iii) Provide evidence that the applicant, as a trainee, has successfully demonstrated competence in manipulating the controls of either the facility for which a license is sought or a simulation facility that meets the requirements of § 53.765(e). For licensed operators applying for a senior licensed operator license, certification that the licensed operator has successfully operated the controls of the facility as a licensed operator shall be accepted; and</p>	<p>The staff currently intend to develop regulatory guidance associated with operator licensing under Part 53. It is intended that such guidance would, in part, address the performance of a minimum of five significant control manipulations that affect reactivity or power level. Additionally, control manipulations performed on the simulation facility would be based upon a representative sampling of those design-specific control manipulations and plant evolutions that significantly affect reactivity or power level.</p>
<p>(iv) Provide certification by the facility licensee of medical condition and general health on Form NRC - 396, to comply with § 53.756.  (2) The Commission may at any time after the application has been filed, and before the license has expired, require further information under oath or affirmation in order to enable it to determine whether to grant or deny the application or whether to revoke, modify, or suspend the license.  (3) An applicant whose application has been denied because of a medical condition or general health may submit a further medical report at any time as a supplement to the application.</p>	

<p>(4) Each application and statement must contain complete and accurate disclosure as to all matters required to be disclosed. The applicant must sign statements required by paragraphs (1)(i) and (ii) of this section.</p>	
<p>(b) <i>Disposition of an initial application.</i> (1) Requirements for the approval of an initial application. The Commission will approve an initial application for a license pursuant to the regulations in this part, if it finds that the following criteria are met:</p> <p>(i) <i>Health.</i> The applicant's medical condition and general health will not adversely affect the performance of assigned licensed operator or senior licensed operator job duties or cause operational errors endangering public health and safety. The Commission will base its finding upon the certification by the facility licensee as detailed in § 53.756(b).</p> <p>(ii) <i>Examination.</i> The applicant has passed the requisite examination in accordance with § 53.765(b). These examinations determine whether the applicant for a licensed operator or senior licensed operator's license has learned to operate a facility competently and safely, and additionally, in the case of a senior licensed operator, whether the applicant has learned to supervise the licensed activities of licensed operators competently and safely.</p> <p>(2) <i>Conditional license.</i> If an applicant's general medical condition does not meet the minimum standards under § 53.756(a) of this part, the Commission may approve the application and include conditions in the license to accommodate the medical condition. The Commission will consider the recommendations and supporting evidence of the facility licensee and of the examining physician (provided on Form NRC-396) in arriving at its decision.</p>	<p>Adapted from § 55.33.</p>
<p>(c) <i>Re-applications.</i></p> <p>(1) An applicant whose application for a license has been denied because of failure to pass the examination may file a new application. The application must be submitted on Form NRC-398 and include a statement signed by an authorized representative of the facility</p>	<p>Adapted from § 55.35.</p> <p>It should be noted that, in contrast with the existing requirements of Part 55, no waiting period is required for reapplications here.</p>

<p>licensee by whom the applicant will be employed that states in detail the extent of the applicant's additional training and remediation since the denial and certifies that the applicant is ready for re-examination.</p> <p>(2) An applicant who has passed a portion of the examination and failed another may request in a new application on Form NRC-398 to be excused from re-examination on the portions of the examination which the applicant has passed. The Commission may in its discretion grant the request, if it determines that sufficient justification is presented.</p>	
<p><b>§ 53.765 Training program</b></p> <p>(a) <i>Initial training program.</i> (1) A program that is based upon a systems approach to training, as defined by § 53.750(b), must be utilized for the training of applicants for licensed operator and senior licensed operator licenses. This training program must ensure that license applicants at the facility will possess the knowledge, skills, and abilities necessary to protect the public health and maintain those plant safety functions specific to the facility design. This program must be approved by the Commission prior to its use for training license applicants, as described under § 53.753(g). The approved initial operator licensing training program shall be subject to the requirements of Subpart I, "Maintaining and Revising Licensing Basis Information During Operations," of this part.</p> <p>(1) <i>Records.</i> The initial training program documentation must include the following:</p> <p>(i) The facility licensee must maintain records documenting the participation of each licensed operator and senior licensed operator trainee in the initial training program. The records must contain documentation of the training administered. The facility licensee must retain these records during the period in which any trainees subsequently remain licensed as licensed operators or senior licensed operators at the facility.</p> <p>(ii) Each record required by this part must be legible throughout the retention period specified by each Commission regulation. The</p>	<p>At present, changes to certain approved programs and plans discussed within §§ 53.750 – 53.799 are linked to the requirements of Part 53 Subpart I. However, the staff continue to work on determining whether this will be appropriate and future changes to this approach are possible.</p> <p>Further changes may be necessary to accommodate vendor training programs.</p>

<p>record may be the original, a reproduced copy, or an electronic copy provided that the copy is authenticated by authorized personnel.</p>	
<p>(b) <i>Licensing examination.</i> (1) The facility licensee must establish and implement an examination program for testing a representative sample of the knowledge, skills, and abilities needed to safely perform licensed operator and senior licensed operator duties, to include both the examination methods and criteria to be used to assess passing performance. This program must be approved by the Commission prior to its use for examining license applicants, as described under § 53.753(g). The approved initial operator licensing examination program shall be subject to the requirements of Subpart I, “Maintaining and Revising Licensing Basis Information During Operations,” of this part.</p>	<p>Adapted from §§ 55.40, 41, 43, &amp; 45.</p> <p>At present, changes to certain approved programs and plans discussed within §§ 53.750 – 53.799 are linked to the requirements of Part 53 Subpart I. However, the staff continue to work on determining whether this will be appropriate and future changes to this approach are possible.</p> <p>Staff is currently developing regulatory guidance that will describe an acceptable method for implementing the examination program contained within this requirement. It is intended that this guidance will provide for a flexible and scalable approach to operator licensing examinations. In general, this approach is expected to entail the following major steps:</p> <ul style="list-style-type: none"> <li>• Job task analyses would be used to identify the knowledge, skills, and abilities related to the facility’s licensed operator role.</li> <li>• Training and evaluation methods would be selected using a Systems Approach to Training process; this would include determining exam composition and testing methods to be used.</li> <li>• A vendor or licensee would then pilot the proposed exam.</li> <li>• Exams would be reviewed and administered by the NRC, with an option for vendors and licensees to also administer their own license examinations.</li> </ul> <p>It is also intended to include within the associated regulatory guidance specific knowledge and abilities topics for sampling within examinations. In general,</p>

	<p>the staff envision these topics covering the following broad categories:</p> <ul style="list-style-type: none"> <li>• Reactor Theory and Thermodynamic Principles</li> <li>• Plant Systems and Components</li> <li>• Reactivity Management and Manipulations</li> <li>• Radiation Control and Safety</li> <li>• Emergency, Abnormal, and Normal Operations</li> <li>• Administrative Requirements and Conditions of the Facility License</li> </ul>
<p>(2) The facility licensee must make prepared examinations available to the Commission for review and approval in advance of their administration.</p> <p>(3) The Commission will reserve the ability to either administer the examination or to allow the facility licensee to administer the examination. In any event, the facility licensee must ensure that sufficient advance notification is provided to the Commission to allow for a representative of the Commission to be afforded the opportunity to be present during examination administration.</p> <p>(4) Completed examination documentation for each applicant must be promptly forwarded to the Commission for review in making operator licensing decisions.</p> <p>(5) <i>Records</i>. The initial licensing program documentation must include the following:</p> <p>(i) The facility licensee must maintain records documenting the participation of each licensed operator and senior licensed operator applicant in the initial licensing examination. The records must contain copies of examinations administered, the answers given by the applicant, and the results of evaluations and documentation of examinations and of any additional training administered in areas in which a licensed operator or senior licensed operator has exhibited deficiencies. The facility licensee must retain these records during the period in which the associated licensed operators or senior licensed operators remain licensed at the facility.</p>	<p>In contrast with the existing processes of Part 55, this section allows for the possibility of facilities administering their own licensing examinations (the NRC would retain the licensing authority in any case). The details regarding exam administration and any related communications between the facility and NRC will be included in regulatory guidance.</p>

<p>(ii) Each record required by this part must be legible throughout the retention period specified by each Commission regulation. The record may be the original, a reproduced copy, or an electronic copy provided that the copy is authenticated by authorized personnel.</p>	
<p>(c) <i>Requalification program.</i> (1) A program based upon a systems approach to training, as defined by § 53.750(b), must be utilized for the continuing training of licensed operators and senior licensed operators.</p> <p>(i) This continuing training program must ensure that licensed operators and senior licensed operators at the facility will maintain the knowledge, skills, and abilities necessary to protect the public health and maintain those plant safety functions specific to the facility design. The program must be conducted for a continuous period not to exceed 24 months in duration.</p> <p>(ii) This program must be approved by the Commission prior to its use for continuing training, as described under § 53.753(g). The approved requalification program for licensed operators and senior licensed operators shall be subject to the requirements of Subpart I, “Maintaining and Revising Licensing Basis Information During Operations,” of this part.</p>	<p>Adapted from § 55.59.</p> <p>At present, changes to certain approved programs and plans discussed within §§ 53.750 – 53.799 are linked to the requirements of Part 53 Subpart I. However, the staff continue to work on determining whether this will be appropriate and future changes to this approach are possible.</p> <p>The staff currently intend to develop regulatory guidance associated with operator licensing under Part 53. It is intended that such guidance would, in part, address the following items that are relevant to this area:</p> <ul style="list-style-type: none"> <li>• Additional training - If the requalification training and examination requirements of this section are not met, the licensed operator or senior licensed operator should complete additional training and submit evidence to the Commission of successful completion of this training before returning to licensed duties.</li> <li>• Schedule - The requalification program should be conducted for a continuous period not to exceed two years and upon conclusion should be promptly followed, pursuant to a continuous schedule, by successive requalification programs.</li> <li>• Observation - Systematic observation and evaluation should be conducted by supervisors and/or training staff members on the performance and competency of licensed operators and senior</li> </ul>

	<p>licensed operators including evaluation of actions taken or to be taken during actual or simulated abnormal and emergency procedures.</p>
<p>(2) The following requirements apply to licensed operators and senior licensed operator requalification training programs:</p> <p>(i) The facility licensee must propose a biennial requalification examination program for testing a sample of the topics included under the systems approach to training, to include both the examination methods and criteria to be used to assess passing performance. This program must be approved by the Commission prior to its use for examining licensed operators and senior licensed operators, as described under § 53.753(g). The approved requalification examination program for licensed operators and senior licensed operators shall be subject to the requirements of Subpart I, “Maintaining and Revising Licensing Basis Information During Operations,” of this part.</p> <p>(ii) The following requirements apply to biennial requalification examination programs:</p> <p>(A) The facility licensee must make prepared biennial requalification examinations available to the Commission for review.</p> <p>(B) The facility licensee must ensure that a representative of the Commission is afforded the opportunity to be present during biennial requalification examination administration.</p> <p>(C) The facility licensee must ensure that each licensed operator and senior licensed operator is administered a complete biennial requalification examination on a periodicity not to exceed 24 months.</p> <p>(D) The facility licensee must promptly forward a summary of examination results for each licensed operator and senior licensed operator following completion of the biennial requalification examination</p>	<p>It should be noted the requalification examination requirements are an area of ongoing staff work and that further changes to requirements within this area may occur.</p> <p>At present, changes to certain approved programs and plans discussed within §§ 53.750 – 53.799 are linked to the requirements of Part 53 Subpart I. However, the staff continue to work on determining whether this will be appropriate and future changes to this approach are possible.</p> <p>In contrast with the existing processes of Part 55, this section does not explicitly require that distinct annual operating tests and biennial written examinations be given. This is in recognition that a facility may propose the examination methods to be used when submitting their requalification training program under § 53.753(g). However, it must be recognized the applicant will need to demonstrate how the proposed examination program (including its selected testing methods) adequately tests the necessary operator <i>knowledge</i> and <i>abilities</i>. Additionally, an overall requirement to fully implement the examination program on a biennial basis would also exist.</p>
<p>(3) <i>Records</i>. The requalification program documentation must include the following:</p>	



<p>(i) The facility licensee must maintain records documenting the participation of each licensed operator and senior licensed operator in the requalification program. The records must contain copies of examinations administered, the answers given by the licensed operator or senior licensed operator, and the results of evaluations and documentation of examinations and of any additional training administered in areas in which a licensed operator or senior licensed operator has exhibited deficiencies. The facility licensee must retain these records until the licensed operator's or senior licensed operator's license is renewed.</p> <p>(ii) Each record required by this part must be legible throughout the retention period specified by each Commission regulation. The record may be the original, a reproduced copy, or an electronic copy provided that the copy is authenticated by authorized personnel.</p>	
<p>(d) <i>Examination integrity.</i> Applicants, licensed operators, senior licensed operators, and facility licensees must not engage in any activity that compromises the integrity of any application, test, or examination required by §§ 53.760 through 53.769. The integrity of a test or examination is considered compromised if any activity, regardless of intent, affected, or, but for detection, could have affected the equitable and consistent administration of the test or examination. This includes activities related to the preparation and certification of license applications and all activities related to the preparation, administration, and grading of the tests and examinations required by §§ 53.760 through 53.769.</p>	<p>Adapted from § 55.49.</p>
<p>(e) <i>Simulation facilities.</i> (1) This section addresses the use of a simulation facility for the administration of examinations, for training, to meet experience requirements for applicants for licensed operator and senior licensed operator licenses, and for conducting human factors engineering analysis or assessments.</p> <p>(2) Simulation facilities used for training purposes, meeting experience requirements, or for the conduct of examinations under</p>	<p>Adapted from § 55.46.</p> <p>Simulator requirements for Part 53 remain an area of ongoing staff work that are expected to undergo additional changes in order to align with the flexible approaches to staffing, operator licensing, and human factors engineering that are being developed concurrently with these requirements. Additionally, the</p>

§ 53.765(b) must meet the following criteria as they relate to the facility licensee's reference plant:

(i) The simulator must be of sufficient scope and fidelity for individuals to acquire and demonstrate the necessary knowledge skills and abilities to safely perform licensed operator and senior licensed operator duties.

(ii) The simulator must utilize models relating to nuclear and thermal-hydraulic characteristics that either replicate the most recent core load in the commercial nuclear reactor licensed under Part 53 reference plant or, prior to initial fuel load, replicate the intended initial core load for the commercial nuclear reactor licensed under Part 53 reference plant.

(iii) Simulator fidelity has been demonstrated so that significant control manipulations are completed without procedural exceptions, simulator performance exceptions, or deviation from the approved training scenario sequence.

(3) Facility licensees that propose to use a simulation facility for training purposes, meeting experience requirements, or for the conduct of examinations under § 53.765(b) and (c) must request approval from the Commission. This request must include:

(i) A description of the components of the simulation facility intended to be used as they relate to paragraph (2), unless previously approved; and

(ii) A description of the performance tests for the simulation facility as part of the request as they relate to paragraph (2), and the results of these tests; and

(iii) A description of the procedures for maintaining examination and test integrity consistent with the requirements of § 53.765(d).

(4) Facility licensees that propose to use a simulation facility for conducting human factors engineering analysis or assessments must provide a simulator that is capable of supporting all testing needed to demonstrate that aspects of the safety case such as operator licensing, human factors engineering, and other operational areas will be conducted as described in the safety analysis report.

potential for facilities to justify using the plant itself in lieu of having a simulation facility is an area of ongoing consideration by the staff as well.

A noteworthy feature of the requirements presented here is that full-scope simulators are not required. This is intended to allow for the potential use of partial scope simulation facilities.

(5) The Commission will approve a simulation facility if it finds that the simulation facility is suitable for training purposes, meeting experience requirements, or the conduct of examinations under § 53.765(b) and (c) for the facility licensee's reference plant.

(6) *Continued assurance of simulator fidelity.* Facility licensees that maintain a simulation facility for training purposes, meeting experience requirements, or for the conduct of examinations under § 53.765(b) and (c) must:

(i) Conduct performance testing throughout the life of the simulation facility in a manner sufficient to ensure that paragraph (2) of this section is met;

(ii) The results of performance tests must be retained for four years after the completion of each performance test or until superseded by updated test results;

(iii) Promptly correct modeling and hardware discrepancies and discrepancies identified from scenario validation and from performance testing or provide justification as to why the presence of such discrepancies will not adversely affect the criteria of paragraph (2) of this section;

(iv) Make results of any uncorrected performance test failures that may exist at the time of the operating test or requalification program inspection available for NRC review, prior to or concurrent with preparations for each examination or requalification program inspection; and

(v) Maintain the provisions for license application, examination, and test integrity consistent with § 53.765(d).

(7) A simulation facility must meet the requirements of paragraphs (2) and (6) of this section for the Commission to accept the simulation facility for conducting examinations as described in § 53.765(b) of this part, requalification training as described in § 53.765(c) of this part, or for performing control manipulations that affect reactivity to establish eligibility for a licensed operator's or senior licensed operator license as described in § 53.764(a).

(f) *Waiver of examination and test requirements.* On application, the Commission may waive any or all of the requirements an examination if it finds that the applicant has demonstrated the required knowledge, skills, and abilities to safely operate the plant, and is capable of continuing to do so. This requirement includes demonstration of the following:

- (1) operating experience at a comparable facility,
- (2) proof of the applicant's past performance, and
- (3) proof of the applicant's current qualifications.

Adapted from § 55.47.

The staff currently intend to develop regulatory guidance associated with operator licensing under Part 53. It is intended that such guidance would, in part, address the following items that are relevant to this area:

- 1) The need for the applicant seeking the waiver to demonstrate extensive actual operating experience at a comparable facility, as determined by the Commission, within two years before the date of application.
- 2) That the Commission may accept as proof of the applicant's past performance a certification of an authorized representative of the facility licensee or of a holder of an authorization by which the applicant was previously employed. The certification must contain a description of the applicant's operating experience, including an approximate number of hours the applicant operated the controls of the facility, the duties performed, and the extent of the applicant's responsibility.
- 3) That the Commission may accept as proof of the applicant's current qualifications a certification of an authorized representative of the facility licensee or of a holder of an authorization where the applicant's services will be utilized.
- 4) That, on application, the Commission may waive any or all of the requirements for a written examination and operating test for a licensed operator or senior licensed operator who applies for a license to operate one or more subsequent units at a multiunit site either before the Commission has made the finding under § 53.TBD [Part 53's

	<p><i>equivalent of § 52.103(g)]</i> on the subsequent unit(s) or issued an operating license if it finds that the –</p> <p>(i) subsequent unit(s) is/are approved to be constructed to the same standard design or modular design, as defined in § 53.TBD [<i>Part 53's equivalent of § 52.1]</i>, as the unit(s) on which the licensed operator or senior licensed operator is already licensed, or are otherwise essentially identical, and</p> <p>(ii) the licensed operator or senior licensed operator participates in a facility licensee training program, designed in accordance with the systems approach to training, to ensure licensed operators and senior licensed operators are knowledgeable of any differences between the units and are able to operate each unit safely and competently.</p>
<p>(g) <i>Proficiency</i>. The facility must establish and implement a Commission-approved program to ensure that licensed operators and senior licensed operators will actively perform the functions of a licensed operator or senior licensed operator, respectively, as needed to maintain proficiency regarding shift functions and familiarity with plant status. This program must include those steps that will be taken in order to re-establish proficiency when it cannot be maintained.</p>	<p>In contrast with the processes of Part 55, this section allows facilities to develop their own proficiency requirements for licensed operators and senior licensed operators (subject to Commission approval).</p>
<p><b>§ 53.766 Conditions of licensed operator and senior licensed operator licenses</b></p> <p>(a) Each license contains and is subject to the following conditions whether stated in the license or not:</p> <p>(1) Neither the license nor any right under the license may be assigned or otherwise transferred.</p> <p>(2) The license is limited to the facility for which it is issued.</p> <p>(3) The license is limited to those controls of the facility specified in the license.</p>	<p>Adapted from § 55.53.</p> <p>The operator inactivity/proficiency requirements of § 55.53(e) and (f) are addressed within this framework by the facility proficiency program described in (5). This program is required and detailed under § 53.765(g).</p>

(4) The license is subject to, and the licensed operator or senior licensed operator must observe, all applicable rules, regulations, and orders of the Commission.

(5) The licensed operator or senior licensed operator must maintain proficiency in accordance with the facility proficiency program.

(6) The licensed operator or senior licensed operator must complete a requalification program as described by § 53.765(c).

(i) The licensed operator or senior licensed operator must pass a complete biennial requalification examination as described by § 53.765(c).

(7) The licensed operator or senior licensed operator must have a biennial medical examination.

(8) The licensed operator or senior licensed operator must notify the Commission within 30 days about a conviction for a felony.

(9) The licensed operator or senior licensed operator must not consume or ingest alcoholic beverages within the protected area of power reactors. The licensed operator or senior licensed operator must not use, possess, or sell any illegal drugs. The licensed operator or senior licensed operator must not perform activities authorized by a license issued under this part while under the influence of alcohol or any prescription, over-the-counter, or illegal substance that could adversely affect his or her ability to safely and competently perform his or her licensed duties. For the purpose of this paragraph, with respect to alcoholic beverages and drugs, the term "under the influence" means the licensee exceeded, as evidenced by a confirmed test result, the lower of the cutoff levels for drugs or alcohol contained in subparts E, F, and G of Part 26 of this chapter *[need to confirm this remains the appropriate reference under Part 53]*, or as established by the facility licensee. The term "under the influence" also means the licensee could be mentally or physically impaired as a result of substance use including prescription and over-the-counter drugs, as determined under the provisions, policies, and procedures established by the facility licensee for its fitness-for-duty program, in such a

<p>manner as to adversely affect his or her ability to safely and competently perform licensed duties.</p> <p>(10) Each licensed operator or senior licensed operator at power reactors must participate in the drug and alcohol testing programs established pursuant to 10 CFR Part 26. <i>[need to confirm this remains the appropriate reference under Part 53]</i></p> <p>(11) The licensed operator or senior licensed operator must comply with any other conditions that the Commission may impose to protect health or to minimize danger to life or property.</p>	
<p>(b) <i>Expiration.</i> (1) Each licensed operator license and senior licensed operator license expires six years after the date of issuance, upon termination of employment with the facility licensee, or upon determination by the facility licensee that the licensed individual no longer needs to maintain a license.</p> <p>(2) If a licensed operator or senior licensed operator files an application for renewal or an upgrade of an existing license on Form NRC-398 at least 30 days before the expiration of the existing license, it does not expire until disposition of the application for renewal or for an upgraded license has been finally determined by the Commission. Filing by mail will be deemed to be complete at the time the application is deposited in the mail.</p> <p>(c) <i>Renewal.</i> (1) The applicant for renewal of a license must:</p> <p>(i) Complete and sign Form NRC-398 and include the number of the license for which renewal is sought.</p> <p>(ii) File an original of NRC Form 398 with the appropriate Regional Administrator specified in § 53.751(b).</p> <p>(iii) Provide written evidence of the applicant's experience under the existing license and the approximate number of hours that the licensed operator or senior licensed operator has operated the facility.</p> <p>(iv) Provide a statement by an authorized representative of the facility licensee that during the effective term of the current license the applicant has satisfactorily completed the requalification program for the facility for which licensed operator or senior licensed operator license renewal is sought.</p>	<p>Adapted from § 55.55</p> <p>It should be noted that § 53.767, “Expiration and Renewal of Licenses” has been merged into § 53.766 in this iteration of the rule language. This may be altered back to the former arrangement (e.g., divided into § 53.766 for conditions of licenses and § 53.767 for expiration and renewal) in subsequent iterations of this rule language.</p> <p>Adapted from § 55.57</p> <p>The filing recipient discussed here may need to be revised to reflect decisions regarding which Office or Offices (e.g., Headquarters, Regional Offices, or both) within the Agency will implement routine operator licensing functions for commercial nuclear reactors licensed under Part 53.</p>

<p>(v) Provide evidence that the applicant has discharged the license responsibilities competently and safely. The Commission may accept as evidence of the applicant's having met this requirement a certificate of an authorized representative of the facility licensee or holder of an authorization by which the licensed operator or senior licensed operator has been employed.</p> <p>(vi) Provide certification by the facility licensee of medical condition and general health on Form NRC-396, to comply with § 53.756.</p> <p>(2) The license will be renewed if the Commission finds that:</p> <p>(i) The medical condition and the general health of the licensed operator or senior licensed operator continue to be such as not to cause operational errors that endanger public health and safety. The Commission will base this finding upon the certification by the facility licensee as described in § 53.756(b).</p> <p>(ii) The licensed operator or senior licensed operator --</p> <p>(A) Is capable of continuing to competently and safely assume licensed duties;</p> <p>(B) Has successfully completed a requalification program that has been approved by the Commission as required by § 53.765(c); and</p> <p>(C) Has passed the requalification examinations as required by § 53.765(c).</p> <p>(iii) There is a continued need for a licensed operator to operate or for a senior licensed operator to supervise licensed operators at the facility designated in the application.</p> <p>(iv) The past performance of the licensed operator or senior licensed operator has been satisfactory to the Commission. In making its finding, the Commission will include in its evaluation information such as notices of violations or letters of reprimand in the licensed operator's or senior licensed operator's docket.</p>	
<p><b>§ 53.768 Issuance, modification, and revocation of licenses</b></p> <p>(a) <i>Issuance of licensed operator and senior licensed operator licenses.</i> If the Commission determines that an applicant for licensed operator license or a senior licensed operator license meets the requirements of the Act and its regulations, it will issue a license in the</p>	<p>Adapted from §§ 55.51 and 55.61.</p>



<p>form and containing any conditions and limitations it considers appropriate and necessary.</p> <p>(b) <i>Modification and revocation of licenses.</i> (1) The terms and conditions of all licenses are subject to amendment, revision, or modification by reason of rules, regulations, or orders issued in accordance with the Act or any amendments thereto.</p> <p>(2) Any license may be revoked, suspended, or modified, in whole or in part:</p> <p>(i) For any material false statement in the application or in any statement of fact required under section 182 of the Act,</p> <p>(ii) Because of conditions revealed by the application or statement of fact or any report, record, inspection or other means that would warrant the Commission to refuse to grant a license on an original application,</p> <p>(iii) For willful violation of, or failure to observe any of the terms and conditions of the Act, or the license, or of any rule, regulation, or order of the Commission, or</p> <p>(iv) For any conduct determined by the Commission to be a hazard to safe operation of the facility.</p> <p>(v) For the sale, use or possession of illegal drugs, or refusal to participate in the facility drug and alcohol testing program, or a confirmed positive test for drugs, drug metabolites, or alcohol in violation of the conditions and cutoff levels established by § 53.766(a)(10) or the consumption of alcoholic beverages within the protected area of power reactors, or a determination of unfitness for scheduled work as a result of the consumption of alcoholic beverages.</p>	
<p><b>§ 53.769 Reserved</b></p>	<p>[Reserved for future use.]</p>
<p><b>§ 53.770 Operator certification</b></p> <p>Sections 53.770 through 53.779 address certified operator requirements. The regulations within this section are provided as an alternative to those of §§ 53.760 through 53.769 for applicants for, or holders of, operating licenses or combined licenses for commercial</p>	<p>This section covers the requirements associated with the new, non-licensed, “certified operator.”</p>

<p>nuclear plants licensed under this part who meet the criteria provided under § 53.755(b).</p>	
<p><b>§ 53.771 Certification requirements</b>  A person must be the holder of a certification issued by the facility licensee to perform the function of a certified operator as described in this part. The processes used by the facility licenses to establish, administer, and maintain their certified operator programs must comply with the provisions of this part.</p>	<p>“Certified operators” would be certified by the facility licensee/operating license holder, not by the NRC.</p>
<p><b>§ 53.772 Incapacitation because of disability or illness</b>  If a certified operator develops a permanent physical or mental condition that causes the certified operator to fail to meet the requirements of § 53.756, the facility licensee must immediately remove that individual from the performance of certified operator duties. For those medical circumstances where a medical restriction can accommodate the medical issue, the facility licensee may permit the individual to continue to perform certified operator duties provided that compliance with the relevant restrictions is established and maintained.</p>	<p>Adapted from § 55.25.</p> <p>In general, certified operators medical requirements are consistent with what is presented within NEI 15-04, section 4.1.5 (“Qualifications”) as being appropriate for Certified Fuel Handlers: <i>“Pass a medical examination by a physician to determine that the candidate's medical condition is not such that it might cause operational errors that could endanger other plant personnel or the public health and safety.”</i></p>
<p><b>§ 53.773 Training program</b>  (a) <i>Initial training program.</i> (1) A program that is based upon a systems approach to training, as defined by § 53.750(b), must be utilized for the training of certified operator trainees. This training program must ensure that certified operator trainees at the facility will possess the knowledge, skills, and abilities necessary to protect the public health. This program must be approved by the Commission prior to its use for certified operator trainees, as described under § 53.753(g). The approved initial certified operator training program shall be subject to the requirements of Subpart I, “Maintaining and Revising Licensing Basis Information During Operations,” of this part.  (2) <i>Records.</i> The initial training program documentation must include the following:</p>	<p>At present, changes to certain approved programs and plans discussed within §§ 53.750 – 53.799 are linked to the requirements of Part 53 Subpart I. However, the staff continue to work on determining whether this will be appropriate and future changes to this approach are possible.</p>

<p>(i) The facility licensee must maintain records documenting the participation of each certified operator trainee in the initial training program. The records must contain documentation of the training administered. The facility licensee must retain these records during the period in which the any trainees subsequently remain certified as certified operators at the facility.</p> <p>(ii) Each record required by this part must be legible throughout the retention period specified by each Commission regulation. The record may be the original, a reproduced copy, or an electronic copy provided that the copy is authenticated by authorized personnel.</p>	
<p>(b) <i>Certification examination.</i> The facility licensee must establish and implement an examination program for testing a representative sample of the knowledge, skills, and abilities needed to safely perform certified operator duties, to include both the examination methods and criteria to be used to assess passing performance. This program must be approved by the Commission prior to its use for examining certified operator trainees, as described under § 53.753(g). The approved initial certified operator examination program shall be subject to the requirements of Subpart I, “Maintaining and Revising Licensing Basis Information During Operations,” of this part.</p>	<p>At present, changes to certain approved programs and plans discussed within §§ 53.750 – 53.799 are linked to the requirements of Part 53 Subpart I. However, the staff continue to work on determining whether this will be appropriate and future changes to this approach are possible.</p> <p>It is also intended to include within associated regulatory guidance specific knowledge and abilities topics for sampling within examinations. In general, the staff envision these topics covering the following broad categories:</p> <ul style="list-style-type: none"> <li>• Reactor Theory and Thermodynamic Principles</li> <li>• Plant Systems and Components</li> <li>• Reactivity Management and Manipulations</li> <li>• Radiation Control and Safety</li> <li>• Emergency, Abnormal, and Normal Operations</li> <li>• Administrative Requirements and Conditions of the Facility License</li> </ul>
<p>(1) The facility licensee must afford the Commission the opportunity to review prepared examinations.</p>	<p>While the NRC would review and approve these “certified operator” training and examination programs prior to their use, the NRC would not subsequently develop, administer, or grade operator certification</p>

<p>(2) The facility licensee must ensure that a representative of the Commission is afforded the opportunity to be present during examination administration.</p> <p>(3) Completed examination documentation for each certified operator must be retained by the facility licensee and made available to the Commission upon request.</p> <p>(4) <i>Records</i>. The certification program documentation must include the following:</p> <p>(i) The facility licensee must maintain records documenting the participation of each certified operator trainee in the certification examination. The records must contain copies of examinations administered, the answers given by the trainee, and the results of evaluations and documentation of examinations and of any additional training administered in areas in which a certified operator has exhibited deficiencies. The facility licensee must retain these records during the period in which the associated certified operators remain certified at the facility.</p> <p>(ii) Each record required by this part must be legible throughout the retention period specified by regulation. The record may be the original, a reproduced copy, or an electronic copy provided that the copy is authenticated by authorized personnel.</p>	<p>examinations under the process described here. However, the NRC would retain the right to inspect these processes.</p>
<p>(c) <i>Continuing training program</i>. (1) A program based upon a systems approach to training, as defined by § 53.750(b), must be utilized for the continuing training of certified operators. This continuing training program must ensure that certified operators at the facility will maintain the knowledge, skills, and abilities necessary to protect the public health. This program must be approved by the Commission prior to its use for continuing training, as described under § 53.753(g). The approved requalification program for certified operators shall be subject to the requirements of Subpart I, “Maintaining and Revising Licensing Basis Information During Operations,” of this part.</p> <p>(2) The facility licensee must propose a requalification examination program for testing a sample of the topics included under the systems</p>	<p>Adapted from § 55.59.</p> <p>At present, changes to certain approved programs and plans discussed within §§ 53.750 – 53.799 are linked to the requirements of Part 53 Subpart I. However, the staff continue to work on determining whether this will be appropriate and future changes to this approach are possible.</p> <p>In contrast with the requalification program for licensed operators and senior licensed operators covered in</p>

<p>approach to training, to include the examination methods, the criteria to be used to assess passing performance, and the periodicity for requalification examination administration. This program must be approved by the Commission prior to its use for examining certified operators, as described under § 53.753(g). The approved requalification examination program for certified operators shall be subject to the requirements of Subpart I, “Maintaining and Revising Licensing Basis Information During Operations,” of this part. The following requirements apply to certified operator requalification examination programs:</p> <ul style="list-style-type: none"> <li>(i) The facility licensee must ensure that a representative of the Commission is afforded the opportunity to be present during requalification examination administration.</li> <li>(ii) The facility licensee must ensure that each certified operator is administered a complete requalification examination within the periodicity specified within the facility licensee’s certified operator requalification examination program.</li> </ul> <p>(3) <i>Records</i>. The continuing training program documentation must include the following:</p> <ul style="list-style-type: none"> <li>(i) The facility licensee must maintain records documenting the participation of each certified operator in the continuing training program. The records must contain copies of examinations administered, the answers given by the certified operator, and the results of evaluations and documentation of examinations and of any additional training administered in areas in which a certified operator has exhibited deficiencies. The facility licensee must retain these records while the associated certified operators remain certified at the facility.</li> <li>(ii) Each record required by this part must be legible throughout the retention period specified by each Commission regulation. The record may be the original, a reproduced copy, or an electronic copy provided that the copy is authenticated by authorized personnel.</li> </ul>	<p>§ 53.765(c), a noteworthy difference here is that facility licensees may also propose the periodicity for “certified operator” continuing training examinations as well (i.e., it is not prescribed as being a biennial requirement here). However, the applicant will need to provide an adequate justification for the proposed periodicity as part of the “certified operator” continuing training examination program that is submitted for review under § 53.753(g).</p>
<p>(d) <i>Examination integrity</i>. Certified operator trainees, certified operators, and facility licensees must not engage in any activity that</p>	<p>Adapted from § 55.49.</p>

<p>compromises the integrity of any test or examination required by §§ 53.770 through 53.779. The integrity of a test or examination is considered compromised if any activity, regardless of intent, affected, or, but for detection, could have affected the equitable and consistent administration of the test or examination. This includes all activities related to the preparation, administration, and grading of the tests and examinations required by §§ 53.770 through 53.779.</p>	
<p>(e) <i>Simulation facilities.</i> (1) This section addresses the use of a simulation facility for the administration of examinations, for training, to meet experience requirements for certified operators, and for conducting human factors engineering analysis or assessments.</p> <p>(2) Simulation facilities used for training purposes, meeting experience requirements, or for the conduct of examinations under § 53.773(b) and (c) must meet the following criteria as they relate to the facility licensee's reference plant:</p> <p>(i) The simulator must be of sufficient scope and fidelity for individuals to acquire and demonstrate the necessary knowledge skills and abilities to safely perform certified operator duties.</p> <p>(ii) The simulator utilizes models relating to nuclear and thermal-hydraulic characteristics that either replicate the most recent fuel load in the advanced nuclear plant reference plant or, prior to initial fuel load, replicate the intended initial fuel load for the advanced nuclear plant reference plant.</p> <p>(iii) Simulator fidelity has been demonstrated so that significant control manipulations are completed without procedural exceptions, simulator performance exceptions, or deviation from the approved training scenario sequence.</p> <p>(3) Facility licensees that propose to use a simulation facility for conducting human factors engineering analysis or assessments must provide a simulator that is capable of supporting all testing needed to demonstrate that aspects of the safety case such as operator certification, human factors engineering, and other operational areas will be conducted as described in the safety analysis report.</p>	<p>Adapted from § 55.46.</p> <p>Simulator requirements for Part 53 remain an area of ongoing staff work that are expected to undergo additional changes in order to align with the flexible approaches to staffing and human factors engineering that are being developed concurrently with these requirements. Additionally, the potential for facilities to justify using the plant itself in lieu of having a simulation facility is an area of ongoing consideration by the staff as well.</p> <p>A significant difference between the simulator requirements for facilities using “certified operators” and the corresponding requirements for plants using licensed operators (see § 53.765(e)) is that simulators used at facilities with “certified operators” (as discussed here) would <i>not require Commission approval</i>. However, these simulation facilities would remain subject to periodic inspection.</p> <p>A noteworthy feature of the requirements presented here is that full-scope simulators are not required (similar to the licensed operator and senior licensed operator simulator requirements covered earlier in § 53.765(e)). This is intended to allow for the potential use of partial scope simulation facilities.</p>

<p>(4) Continued assurance of simulator fidelity. Facility licensees that maintain a simulation facility for training purposes, meeting experience requirements, or for the conduct of examinations under § 53.773(b) and (c) must:</p> <ul style="list-style-type: none"> <li>(i) Conduct performance testing throughout the life of the simulation facility in a manner sufficient to ensure that paragraph (2) of this section is met. The results of performance tests must be retained for four years after the completion of each performance test or until superseded by updated test results;</li> <li>(ii) Promptly correct modeling and hardware discrepancies and discrepancies identified from scenario validation and from performance testing or provide justification for why the presence of such discrepancies will not adversely affect the criteria of paragraph (2) of this section;</li> <li>(iii) Make results of any uncorrected performance test failures that may exist at the time of the examination or requalification program inspection available for NRC review, prior to or concurrent with preparations for each examination or requalification program inspection; and</li> <li>(iv) Maintain the provisions for examination and test integrity consistent with § 53.773(d).</li> </ul> <p>(5) A simulation facility must meet the requirements of paragraphs (2) and (3) of this section for the Commission to accept the simulation facility for conducting examinations as described in § 53.773(b) of this part, requalification training as described in § 53.773(c) of this part, or for performing control manipulations that affect reactivity to establish eligibility for operator certification as described in § 53.774(d).</p>	
<p>(f) <i>Waiver of examination and test requirements.</i> The facility licensee may waive any or all of the requirements for an examination in accordance with their approved training and qualification program.</p> <p>(g) <i>Proficiency.</i> The facility must establish and implement a program to ensure that certified operators will maintain proficiency regarding position functions and familiarity with plant status. This</p>	

<p>program must include those steps that will be taken in order to re-establish proficiency when it cannot be maintained.</p>	
<p><b>§ 53.774 Issuance of certificates</b></p> <p>The facility licensee must ensure that the following requirements have been met prior to the issuance of a certified operator certification to any individual:</p> <ul style="list-style-type: none"> <li>(a) The individual has completed a minimum educational level of either a high school diploma or general equivalency diploma.</li> <li>(b) The individual must have satisfactorily completed a training program meeting the requirements of § 53.773(a).</li> <li>(c) The individual must have passed an examination meeting the requirements of § 53.773(b).</li> <li>(d) Provide evidence that the applicant, as a trainee, has successfully demonstrated competence in manipulating the controls of either the facility for which a license is sought or a simulation facility that meets the requirements of § 53.773(e).</li> <li>(e) The individual must meet the medical condition and general health provisions of § 53.756(a). <ul style="list-style-type: none"> <li>(1) <i>Conditional certification.</i> If an individual's general medical condition does not meet the minimum standards under § 53.756(a) of this part, for those medical circumstances where a medical restriction can accommodate the medical issue, the facility licensee may permit the individual to perform certified operator duties provided that compliance with the relevant restrictions is established and maintained.</li> </ul> </li> </ul>	<p>In contrast with licensed operators and senior licensed operators, “certified operators” would have their certification made, and certificate issued, by the facility licensee/operating license holder.</p>
<p><b>§ 53.775 Conditions of certificates</b></p> <p>The facility licensee must ensure that each certificate is subject to the following conditions:</p> <ul style="list-style-type: none"> <li>(a) Neither the certificate nor any right under the certificate may be assigned or otherwise transferred.</li> <li>(b) The certificate is limited to those controls of the facility specified in the certificate.</li> </ul>	<p>No limit is established here for how many facilities a single individual could be “certified” on simultaneously.</p>



(c) The certified operator must complete a continuing training program as described by § 53.773(c).

(1) The certified operator must pass a complete continuing training examination as described by § 53.773(c).

(d) The certified operator must have a biennial medical examination.

(e) The certified operator must maintain proficiency in accordance with the facility proficiency program.

(f) The certified operator must not consume or ingest alcoholic beverages within the protected area of power reactors. The certified operator must not use, possess, or sell any illegal drugs. The certified operator must not perform activities requiring certification under this part while under the influence of alcohol or any prescription, over-the-counter, or illegal substance that could adversely affect his or her ability to safely and competently perform his or her certified operator duties. For the purpose of this paragraph, with respect to alcoholic beverages and drugs, the term "under the influence" means the certified operator exceeded, as evidenced by a confirmed test result, the lower of the cutoff levels for drugs or alcohol contained in subparts E, F, and G of Part 26 of this chapter [*note that staff is also preparing preliminary proposed changes to Part 26*], or as established by the facility licensee. The term "under the influence" also means the certified operator could be mentally or physically impaired as a result of substance use including prescription and over-the-counter drugs, as determined under the provisions, policies, and procedures established by the facility licensee for its fitness-for-duty program, in such a manner as to adversely affect his or her ability to safely and competently perform certified operator duties.

(g) Each certified operator at power reactors must participate in the drug and alcohol testing programs established pursuant to 10 CFR Part 26.

(h) The facility licensee must notify the Commission within 30 days about a conviction of a certified operator for a felony.

Facility licensees/operating license holders would establish their own programs/requirements for "certified operator" proficiency.

<p><b>§ 53.776 Expiration</b>  Commercial nuclear plant licensees must, at a minimum, terminate operator certifications upon termination of a certified individual's employment with the commercial nuclear plant licensee, or upon determination by the commercial nuclear plant licensee that the certified individual no longer needs to maintain a certification.</p>	
<p><b>§ 53.777 through 53.779 Reserved</b></p>	<p>[Reserved for future use.]</p>
<p><b>§ 53.780 Training and qualification of commercial nuclear plant personnel</b>  (a) <i>Applicability.</i> Sections 53.780 through 53.789 address personnel training requirements. The regulations within this section are applicable to all applicants for operating licenses or combined licenses and facilities licensed under this part.  (b) Reserved.</p>	<p>Adapted from § 50.120.</p>
<p><b>§ 53.781 Training and qualification requirements</b>  (a)(1) Prior to fuel load, each commercial nuclear plant operating license applicant and each holder of an operating license must, with sufficient time to provide trained and qualified personnel to operate the facility, ensure a training program is established, implemented, and maintained that meets the requirements of paragraphs (b) and (c) of this section.  (2) Each holder of a combined license must establish, implement, and maintain the training program that meets the requirements of paragraphs (b) and (c) of this section, as described in the final safety analysis report with sufficient time to provide trained and qualified personnel to operate the facility.  (b) The training program must be derived from a systems approach to training as defined in this part and must provide, at a minimum, for the training and qualification of the following categories of advanced nuclear plant personnel:  (1) supervisors (e.g., shift supervisors),</p>	<p>A flexible approach to when these training programs must be established is provided here.</p> <p>It is not intended that the training programs covered within this section would be approved by the Commission. However, these training programs would be subject to periodic inspection. Although not discussed explicitly within the language presented here, is not intended to preclude the potential for INPO accreditation of advanced reactor training programs; guidance will be provided to address this if necessary.</p> <p>In contrast with the existing "Training Rule" of § 50.120, this variation (for use within the context of Part 53) uses higher level categories of personnel within the</p>

<p>(2) technicians (e.g., maintenance, chemistry, and radiological), and</p> <p>(3) other appropriate operating personnel (e.g., auxiliary operators and certified fuel handlers).</p> <p>(c) The training program must incorporate the instructional requirements necessary to provide qualified personnel to operate and maintain the facility in a safe manner in all modes of operation. The training program must be developed to be in compliance with the facility license, including all technical specifications and applicable regulations.</p> <p>(1) The training program must be periodically evaluated and revised as appropriate to reflect industry experience as well as changes to the facility, procedures, regulations, and quality assurance requirements. The training program must be periodically reviewed by facility licensee management for effectiveness.</p> <p>(2) Sufficient records must be maintained by the facility licensee to maintain program integrity and kept available for NRC inspection to verify the adequacy of the program.</p>	<p>text of the rule. This is intended to accommodate potential novel staffing models and non-traditional roles that might be employed at future plants.</p>
<p><b>§§ 53.782 through 53.789 Reserved</b></p>	<p>[Reserved for future use.]</p>
<p><b>§§ 53.790 through 53.799 Reserved</b></p>	<p>[Reserved for future use.]</p>