

Financial Qualifications for Reactor Licensing Rulemaking

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Regulatory Basis Document



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Abbreviations

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| ADAMS | Agencywide Documents Access and Management System |
| AEA | Atomic Energy Act of 1954, as amended |
| AFCP | applicant financial capacity plan |
| CFR | <i>Code of Federal Regulations</i> |
| COL | combined license |
| CP | construction permit |
| cROP | Construction Reactor Oversight Process |
| DRB | draft regulatory basis |
| FQ | financial qualifications |
| GW | The George Washington University Regulatory Studies Center |
| ISG | Interim Staff Guidance |
| NPUF | non-power production or utilization facility |
| NEI | Nuclear Energy Institute |
| NINA | Nuclear Innovation North America, LLC |
| NRC | U.S. Nuclear Regulatory Commission |
| NUREG | NRC technical report designation |
| OL | operating license |
| OMB | Office of Management and Budget |
| QA | quality assurance |
| ROP | Reactor Oversight Process |
| RTR | research and test reactor |
| SRM | staff requirements memorandum |
| VIP | vendor inspection program |

1. Executive Summary

The U.S. Nuclear Regulatory Commission (NRC) is considering changes to financial qualifications (FQ) requirements in Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, “Domestic Licensing of Production and Utilization Facilities” (Ref. 2). On April 24, 2014, the U.S. Nuclear Regulatory Commission (NRC) issued the staff requirements memorandum (SRM) for SECY-13-0124, “Staff Requirements—SECY-13-0124—Policy Options for Merchant (Non-Electric Utility) Plant Financial Qualifications” (Ref. 1). The SRM approved the NRC staff’s recommendation to conduct a rulemaking. The SRM further directed the staff to amend the FQ requirements in 10 CFR Part 50, “Domestic Licensing of Production and Utilization Facilities” (Ref. 2), to conform to standards contained in 10 CFR Part 70, “Domestic Licensing of Special Nuclear Material” (Ref. 3).¹ The Commission, through the SRM, directed that “staff should provide ample opportunity for [public] input and discussion so that any final product is well informed and considers all points of view.” The NRC staff modified this regulatory basis in response to comments received from the public on the draft regulatory basis in the *Federal Register* on June 17, 2015 (Ref. 4). Appendix A, “Financial Qualifications for Reactor Licensing Rulemaking—Disposition of Public Comments,” to this document summarizes the comments received and the staff’s response to and disposition of those comments.

The changes to the current regulations envisioned by the NRC would require an applicant for a construction permit (CP) or operating license (OL) under 10 CFR Part 50 or for a combined license (COL) under 10 CFR Part 52, “Licenses, Certifications, and Approvals for Nuclear Power Plants” (Ref. 5), to submit a plan for financing the construction and operation of the facility. The plan would have to demonstrate that the applicant has both a well-articulated understanding of the size and scope of the project it is undertaking and the capacity to obtain the necessary financing when the applicant is ready to start construction. The rulemaking would permit the NRC, when issuing a reactor license to CP or COL applicants with funding of 50 percent or less, to include a license condition that would ensure that funding is available before the start of reactor construction, rather than at the time of licensing. Accordingly, this approach would allow the issuance of a license, with license conditions, for applicants with no identified sources of funding at the time of licensing.

¹ The regulation at 10 CFR 70.23(a)(5) states “An application for a license will be approved if the Commission determines that: Where the nature of the proposed activities is such as to require consideration by the Commission, that the applicant appears to be financially qualified to engage in the proposed activities in accordance with the regulations in this part.”

2. Background

The NRC derives its authority to review license applicants' FQ from Section 182a. of the Atomic Energy Act of 1954, as amended (AEA; Ref. 6). Section 182a. of the AEA provides, in part, the following:

Each application for a license hereunder shall be in writing and shall specifically state such information as the Commission, by rule or regulation, may determine to be necessary to decide such of the technical and financial qualifications of the applicant, the character of the applicant, the citizenship of the applicant, or any other qualifications of the applicant as the Commission may deem appropriate for the license.

The AEA provides the Commission with broad authority as to what information to solicit with respect to FQ.

Under 10 CFR 50.33(f) and Appendix C, "A Guide for the Financial Data and Related Information Required To Establish Financial Qualifications for Construction Permits and Combined Licenses," to 10 CFR Part 50, an applicant for an initial license² must demonstrate that it possesses or has "reasonable assurance" that it can obtain the funds necessary to construct and operate a nuclear power plant. These requirements also apply to applicants for COLs for new reactors under 10 CFR Part 52, which refers to the FQ requirements in 10 CFR Part 50.³ Under 10 CFR 50.33(f) and Appendix C to 10 CFR Part 50, an applicant must identify the sources of its funding in the license application.

To establish their FQ, electric utility⁴ applicants have historically relied on State regulation of utility rates to recover the cost of reactor construction and operation. However, widespread deregulation of electricity markets in the past two decades has resulted in a new class of nuclear "nonelectric utility" license applicants for facilities known as "merchant plants" that sell the power they generate on the open market at unregulated prices. Unlike utilities, developers of merchant plants must rely on alternative forms of financing, such as their own internal resources or third-party project finance investors. A "merchant applicant" is a nonregulated entity (i.e., nonregulated power producer) that engages in the business of production, manufacturing, generating, buying, aggregating, marketing, or brokering electricity for sale at wholesale or for retail sale to the public. A nonregulated power producer is not subject to regulation as a public utility (e.g., regulated electric utility), except as specifically provided in the general laws.

Nuclear Innovation North America, LLC (NINA), and the Nuclear Energy Institute (NEI) raised an issue with the FQ requirements for merchant plants in 2012 through letters to the NRC dated May 31 and November 13, respectively (Ref. 7 and Ref. 8). NINA and NEI stated that it is

² "Initial license" refers to the first submittal of an application for a nuclear reactor license and does not include the request for a renewal or extension of the term of an existing OL.

³ Under 10 CFR 52.77, "Contents of Applications; General Information," the NRC requires COL applicants to provide all the information required under 10 CFR 50.33, "Contents of Applications; General Information."

⁴ "Electric utility" is defined in 10 CFR 50.2, "Definitions," as "any entity that generates or distributes electricity and which recovers the cost of this electricity, either directly or indirectly, through rates established by the entity itself or by a separate regulatory authority."

difficult, if not impossible, for merchant plant COL applicants to secure project funding to meet FQ requirements in advance of initial license issuance. The failure of an applicant to meet FQ requirements would generally preclude the applicant from obtaining the COL.

In SECY-13-0124, “Policy Options for Merchant (Non-Electric Utility) Plant Financial Qualifications,” dated November 22, 2013 (Ref. 9), the NRC staff provided the Commission with options to address whether an applicant should be issued an initial license if it has insufficient (or no) funding identified at the time of licensing.

In SRM-SECY-13-0124 (Ref. 1), the Commission directed the staff to conduct a rulemaking to amend the FQ requirements in 10 CFR Part 50 to conform to 10 CFR Part 70 standards for fuel cycle facilities. As directed by the Commission, the proposed rulemaking would require the applicant to submit a plan for financing the construction and operation of the facility. The plan would demonstrate that the applicant has both a well-articulated understanding of the size and scope of the project it is undertaking and the capacity to obtain the necessary financing when the applicant is ready to start construction. The rule would permit the NRC, when issuing a reactor license for applicants with funding of 50 percent or less at the time of application, to include a license condition that would ensure funding is available before the start of construction, rather than at the time of license issuance.

3. Current Regulatory Framework

3.1 Currently Required Financial Qualifications Information

The NRC’s regulations governing FQ reviews of applications for licenses to construct or operate nuclear power plants appear in 10 CFR 50.33(f). Appendix C to 10 CFR Part 50 provides guidance for CP FQ reviews. FQ reviews for change of status are governed by 10 CFR 50.76, “Licensee’s Change of Status; Financial Qualifications.” FQ reviews for transfers of licenses are governed by 10 CFR 50.80, “Transfer of Licenses.”

The remainder of this section summarizes pertinent 10 CFR Part 50 requirements for FQ information.

10 CFR 50.33(f)—Initial License Applications. In 10 CFR 50.33(f), the NRC specifies that an applicant is to submit to the NRC information sufficient to demonstrate the FQ of the applicant to carry out the activities for which the permit or license is sought.

Construction permit applicants are required to submit information that demonstrates the applicant possesses or has reasonable assurance of obtaining the funds necessary to cover estimated construction costs and related fuel cycle costs. Appendix C to 10 CFR Part 50 provides more specific instructions for evaluating the FQ of CP applicants.

Operating license applicants are required under 10 CFR 50.33(f)(2) to submit information that demonstrates they possess or have reasonable assurance of obtaining the funds necessary to cover estimated operating costs for the period of the license. In addition, the applicant shall submit estimates for total annual operating costs for each of the first 5 years of operation of the facility and indicate the sources of funds to cover these costs.

Under 10 CFR Part 52, applicants may apply for a COL authorizing both construction and operation of a reactor. In accordance with 10 CFR 52.77, “Contents of Applications; General Information,” all such applications must contain all of the information required under 10 CFR 50.33, “Contents of Applications; General Information,” including FQ information required for CP and OL applicants.

10 CFR 50.76—Licensee’s Change of Status; Financial Qualifications. The regulation at 10 CFR 50.76 applies to any utility licensee⁵ holding a reactor OL (including a renewed license), if the licensee intends to cease being a utility in any manner not involving a license transfer under 10 CFR 50.80. This section requires the utility to provide to the NRC, no later than 75 days before its change of status, the same FQ information required for obtaining an initial OL, as specified in 10 CFR 50.33(f)(2). This information must address the first full 5 years of operation after the date the licensee ceases to be a utility.

10 CFR 50.80—Transfer of Licenses. 10 CFR 50.80 requires NRC review and written consent to direct as well as indirect transfers of OLs, including licenses for nuclear power plants owned or operated by utilities. When the transfer involves a change in the entity listed on the NRC license, the applicant must also apply for a license amendment under 10 CFR 50.90, “Application for Amendment of License, Construction Permit, or Early Site Permit.” In 10 CFR 50.80(b), the NRC requires license transfer applicants to include as much of the information about the FQ of the proposed holder of the license as would be required if the application were for an initial license as required in 10 CFR 50.33(f).

3.2 Financial Qualifications Review Process

The NRC performs a financial review of applications for CPs for both utilities and merchant plants and for OLs for merchant plant applicants. These reviews are described in NUREG-1577, Revision 1, “Standard Review Plan on Power Reactor Licensee Financial Qualifications and Decommissioning Funding Assurance,” issued December 2001 (Ref. 10).

3.2.1 Construction Permit Applicants

As provided in 10 CFR 50.33(f)(1) and Appendix C to 10 CFR Part 50, the NRC confirms that the CP applicant has provided at least three types of information:

- (1) an estimate of construction costs, including not only those for the plant itself, but also general and overhead costs, including any transmission and distribution costs ascribable to the plant and the cost of the first core load of nuclear fuel;
- (2) the sources of construction funds, including a financial plan describing internal and external sources of funds; and

⁵ Throughout this document, the NRC uses the term “licensee” to refer to an applicant that has obtained its license. As used in this document, the term “licensee” should also be understood to include holders of CPs.

- (3) the applicant's latest published annual financial reports, together with any current interim financial statements that are pertinent, including income, balance sheet, and cash flow statements.

The NRC considers utilities with annual recovery of cost of capital on construction work in process to be financially qualified.⁶

In addition, the NRC determines whether an applicant is subject to the requirements of 10 CFR 50.33(f)(4) and Section II, "Applicants Which Are Newly Formed Entities," of Appendix C to 10 CFR Part 50. These regulations require a newly formed entity to specifically identify the sources of funds to pay the cost of constructing the facility. With respect to each source, the applicant is required to provide information showing all of the following:

- the legal and financial relationships it has or proposes to have with its stockholders, corporate affiliates, and others (such as financial institutions) upon which it is relying for financial assistance;
- if the sources of funds relied upon include parent companies or other corporate affiliates, information to support the financial capability of each such company or affiliate to meet its commitments to the applicant;
- any other information considered necessary by the Commission to enable it to determine an applicant's FQ; and
- the applicant's statements of assets, liabilities, and capital structure as of the date of the application.

As provided in 10 CFR 50.33(f)(4), additional information is required of newly formed entities when they are organized for the primary purpose of constructing or operating a nuclear power plant. Therefore, the NRC reviews information that is typically contained in operating or participation agreements and reviews the ability of the plant owners to meet their obligations to the operating company. As explained in Appendix C to 10 CFR Part 50, an entity that has been newly formed to build and operate a nuclear power plant will not have a history of operating experience and may be unable to submit financial statements reflecting the financial results of past operations.

Ultimately, the NRC determines the FQ of a CP applicant based on the adequacy of the relevant information provided and the applicant's ability to meet the standards stipulated in the NRC's regulations.

3.2.2 Operating License Applicants

Utilities applying for an OL are exempt under 10 CFR 50.33(f) from FQ reviews. Utilities are generically presumed to be financially qualified for operations. In the 1984 final rule, "Elimination of Review of Financial Qualifications of Electric Utilities in Operating License

⁶ See, for example, NUREG-2153, Volume 1, "Final Safety Evaluation Report for Combined Licenses for Virgil C. Summer Nuclear Station, Units 2 and 3," issued September 2013 (Ref. 11).

Review and Hearings for Nuclear Power Plants” (Ref. 12), the Commission concluded that the “review of financial qualifications for all electric utilities at the operating license stage is unnecessary due to the ability of such utilities to recover...sufficient costs of safe operation through the rate-making process.”

In contrast, nonutility merchant plant OL applicants are required under 10 CFR 50.33(f)(2) to submit information that demonstrates they possess or have reasonable assurance of obtaining the funds necessary to cover estimated operating costs for the period of the license. The NRC confirms that non-utility merchant OL applicants have submitted estimates for total annual operating costs for their facilities’ first 5 years of operation and have identified the sources of funds to cover these costs. Information on the sources of funds typically includes the following:

- projections of the market price of power in the plant’s service area;
- any long-term power purchase contracts the applicant has for the plant;
- contracts or other arrangements with transmission system operators or grid reliability authorities that designate the plant as a “must-run” facility;
- government-required charges designated for nuclear plant operations (e.g., non-bypassable wires charges and other such charges as allowed by government authority, as defined in 10 CFR 50.2);
- corporate revenue from other sources that may be used at the nuclear plant; and
- any other information relevant to its revenue sources.

The NRC evaluates this information for reasonableness and will compare it to plants of similar size, design, and location.

If applicable to inform its review, the NRC may also consider information from Moody’s, Standard & Poor’s, and Value Line or other widely accepted organizations that evaluate credit and financial risk. If a license applicant has an “investment-grade” rating or equivalent from at least two of these sources, or has demonstrated that its proposed production and operations are reasonable in view of the electricity supply and demand environment information as presented in the application, the NRC will find such applicants financially qualified. If an applicant cannot meet these criteria, the NRC will also consider other relevant financial information. This could include information on cash or cash equivalents that would be sufficient to pay fixed operating costs during an outage of at least 6 months, the amount of decommissioning funds collected or guaranteed for the plant in relation to the current estimated decommissioning cost, and any other relevant factors.

An OL applicant that is a newly formed entity organized for the primary purpose of operating the facility is required to submit the information described in 10 CFR 50.33(f)(4). The NRC will issue FQ findings on such OL applicants based on the information submitted.

4. Statement of the Problem

The NRC developed its current reactor FQ requirements and review process before the electricity markets in the United States were deregulated. Although the current rules contemplate applications from nonutility merchant plants, as of the writing of the final regulatory basis, no nuclear power merchant plant applicant had met the requirements for the current FQ regulations. However, on February 12, 2016, the Commission issued a COL for South Texas Project, Units 3 and 4, a merchant plant. The South Texas Project application relied on an exemption from current FQ requirements, therefore allowing the NRC to find the applicants to be financially qualified. The exemption was based on the direction of the earlier draft regulatory basis and SRM-SECY-13-0124, which states, “the staff should consider utilizing an exemption process to address existing and emergent cases...during the pendency of the rulemaking process and that anticipates the outcome of the proposed changes to the current financial qualification regulations” (Ref. 1).

All current operating nuclear power reactor licensees were found to be financially qualified at initial licensing on the basis of their status as rate-regulated utilities. However, merchant plant applicants, unlike utility applicants that can recover costs through the ratemaking process, might not have a predictable source of funds for construction or operation at the time of licensing. Without identified sources of funds, merchant plant applicants cannot meet the initial FQ requirements.

5. Alternatives Considered and Approach Selected

5.1 Alternatives Considered

The NRC considered the following four alternatives for the FQ review of merchant plant applicants. The staff identified the first two alternatives in SECY-13-0124 (Ref. 9).

Alternative 1—Status Quo: No Changes to 10 CFR Part 50 or Appendix C to 10 CFR Part 50 and Current Initial Licensing Process

The status quo option would result in no changes to the FQ demonstration requirements in 10 CFR Part 50 and 10 CFR Part 52. As stated in 10 CFR 50.33, applicants, including merchant plants with no identified funding sources, shall submit information that demonstrates that they possess or have reasonable assurance of obtaining the funds necessary to cover estimated construction costs, operation costs for the period of the license, and related fuel cycle costs.

The primary advantage to this option is that it would allow the NRC to review FQ based on information submitted by the applicant with identified available funding sources, not speculative future financing. However, this option may result in the denial of licenses to applicants that do not currently have the funds necessary to construct and operate a nuclear power plant.

Alternative 2—Conduct Rulemaking

The NRC considered engaging in rulemaking to amend or rescind the 10 CFR Part 50 FQ demonstration requirements. The following paragraphs discuss the different rulemaking approaches.

Alternative 2.1: Rulemaking to Rescind Financial Qualification Requirements for Power Reactor Initial Licensing

The current regulatory framework distinguishes between utilities and merchant plants. Current regulations impose a greater burden on merchant plants than on utilities to demonstrate FQ. Utilities recover their costs through rate setting and do not face the same type of financial pressures as merchant plants. Accordingly, the current regulatory framework assumes that utilities do not need a detailed FQ review. However, the NRC is not aware of any evidence to support the notion that utilities, with guaranteed rate recovery, are more likely to spend money on safety measures than are merchant plants.

This rulemaking approach would rescind the FQ requirements for the initial licensing of merchant plant applicants in light of (1) the lack of evidence to support their efficacy, (2) the robustness of other NRC methods for ensuring safety, (3) the potential for unwarranted barriers to licensing, and (4) the questionable usefulness of initial FQ information given that an applicant's financial arrangements may change after license issuance. This approach is consistent with Executive Order 13563, "Improving Regulation and Regulatory Review," dated January 18, 2011 (Ref. 13), and Executive Order 13579, "Regulation and Independent Regulatory Agencies," dated July 11, 2011 (Ref. 14), suggesting that regulations be made more effective and less burdensome while still achieving regulatory objectives.

Alternative 2.2: Rulemaking To Amend Financial Qualification Requirements for Power Reactor Licensing To Apply an Indicator for Ongoing Oversight

Under this approach, the NRC would no longer carry out FQ reviews as a component of an initial licensing decision. Instead, the NRC would monitor the overall financial health of the licensee over the construction and operating life of the plant, taking action as needed. Although the NRC does not systematically review licensees' FQ or financial conditions after license issuance, it does monitor licensees throughout the terms of their licenses for indications of financial distress that may affect operational safety. However, removing existing FQ requirements for license issuance and relying on one or more indicators of financial distress for post-licensing monitoring would be an untried oversight process. Additionally, the implications of this approach for the current operating fleet would have to be resolved.

Alternative 2.3: Rulemaking To Conform Power Reactor Financial Qualification Requirements to the 10 CFR Part 70 Review Standard

The NRC considered amending 10 CFR 50.33(f) FQ requirements by deleting Appendix C and revising the remaining 10 CFR Part 50 requirements to conform to the 10 CFR Part 70 review standard of “appears to be financially qualified.” This amendment would change the licensing standard of FQ review to allow licensing based on the applicant’s financial capacity, as further discussed in Section 7, “Proposed Financial Qualifications Requirements.” In addition, this approach would allow a license to be issued, with license conditions, for applicants with no identified sources of funding at the time of licensing. The license conditions would be such that the NRC’s review of a licensee’s compliance with them could be ministerial⁷ in nature to verify that funding had been obtained before the start of reactor construction.

Alternative 2.4: Rulemaking to Defer Financial Qualification Demonstrations Until After COL Issuance

This approach would defer the FQ review until after COL issuance but before the start of reactor construction. The COL holder would need to obtain adequate financing of construction and operating costs in accordance with current regulations. This approach does not appear to be legally viable, because a substantive post-licensing review would not be a “ministerial act” and, therefore, would not preserve hearing rights in accordance with the AEA. In addition, a post-licensing review and corresponding hearing opportunity would be inconsistent with the issue finality required for issuance of a license under 10 CFR Part 52.

Alternative 3—Issue Exemptions

One alternative to conducting a rulemaking would be to issue exemptions under 10 CFR 50.12, “Specific Exemptions,” for CP/OL applicants and 10 CFR 52.7, “Specific Exemptions,” for COL applicants to entities that cannot satisfy the existing 10 CFR Part 50 FQ requirements. The NRC issues exemptions on a case-by-case basis to individual entities when special circumstances are present. However, the inability to meet FQ requirements for 10 CFR Part 50 or 10 CFR Part 52 applicants could affect multiple entities that are similarly situated, because none of them would be able to demonstrate, at the time of licensing, that they possessed or had reasonable assurance of obtaining the funds necessary to cover the estimated costs of constructing and operating a reactor. Because the FQ issue could affect a class of entities, it is a generic issue. Generic issues should not be resolved through exemptions but through rulemaking.⁸ Therefore, in the absence of rulemaking, exemptions to the FQ requirements are not a viable alternative to rulemaking.⁹

⁷ The Commission has defined “ministerial” through case law to mean that “verification efforts should be able to verify compliance without having to make overly complex judgments”; *Private Fuel Storage, LLC*, CLI-00-13, 52 NRC 23, 34 (2000) (Ref. 15).

⁸ See *Capitol Airways, Inc. v. Civil Aeronautics Bd.*, 292 F.2d 755, 758 (D.C. Cir. 1961), concluding that, where an agency issues numerous, permanent, or unusually broad exemptions, it crosses the line into rulemaking (Ref. 16); *Metropolitan Edison Co. (Three Mile Island Nuclear Station), Unit 1*, CLI-80-16, 11 NRC 674 (1980), concluding that when a case presents no “special circumstances” peculiar to the case but rather generic questions common to all light-water power reactors, the questions are best resolved by rulemaking (Ref. 17); and *Delta Airlines v. United States*, 490 F. Supp. 907, 912-13 (N.D. Ga. 1980), indicating that excessive use of exemptions amounts to rulemaking (Ref. 18).

⁹ In accordance with SRM-SECY-13-0124, the NRC anticipates issuing exemptions to applicants that wish to use the approach set forth in this document before the completion of the rulemaking.

Alternative 4—Use of a License Condition Proposed by Industry

In a letter dated November 13, 2012, NEI requested Commission guidance to clarify the application of FQ requirements for new nuclear power plant development by merchant plants. Because the NRC's current regulations require a finding of reasonable assurance of the availability of adequate funds before the agency issues a COL, NEI recommended that the Commission develop guidance that allows the use of a license condition to satisfy the NRC FQ requirements and allows issuance of the license.

In summary, the proposed license condition would state that, before beginning reactor construction, the licensee shall make available for NRC inspection draft copies of documents demonstrating adequate and available funding to complete construction and begin operations based on an updated estimate of the total project costs. In addition, the financial closing documents would need to identify (1) the legal and financial relationships between the licensee and the entities providing funding, (2) a debt service reserve, and (3) a revolving credit facility.

Under the current regulations, it may be difficult for applicants that have no identified sources of funding to prepare an acceptable license condition with the financial detail required by Appendix C to 10 CFR Part 50. Therefore, the NRC does not believe the industry-proposed license condition is a feasible alternative to meet the current regulations.

5.2 Approach Selected—Rulemaking to Conform Power Reactor Financial Qualifications Requirements to the 10 CFR Part 70 Review Standard

Based on the considerations discussed above, the Commission directed the staff in SRM-SECY-13-0124 (Ref. 1) to conduct rulemaking to amend the current 10 CFR Part 50 FQ requirements to conform to the 10 CFR Part 70 review standard of “appears to be financially qualified.” In addition, this approach would allow a license to be issued, with license conditions, for applicants with no identified sources of funding at the time of licensing. The license conditions would be such that the NRC's review of a licensee's compliance with them could be ministerial in nature to verify that funding had been obtained before the start of reactor construction. The rulemaking would require the applicant to submit a plan for how it will proceed to finance the construction and operation of the facility to ensure that it has both a well-articulated understanding of the size and scope of the project it is undertaking and the financial capacity to obtain the necessary financing before beginning reactor construction.

5.2.1 Scope of the Rulemaking

The scope of the rulemaking includes all entities that are subject to 10 CFR 50.33(f) requirements. This includes applicants for COLs, CPs, OLs, and license transfers. Similarly, as further explained in Section 7.2.3, any new applicants for non-power production or utilization facilities (NPUFs) would also be affected. However, the proposed changes would not affect entities that already possess a CP, OL, or COL, unless they apply for a license transfer.

Specifically, amendments to 10 CFR 50.33(f) would remove the requirement for an applicant to demonstrate that it possesses or can provide reasonable assurance of obtaining the funds necessary for construction and operation. In addition, the changes would delete the requirements in Appendix C to 10 CFR Part 50. Furthermore, the provision in 10 CFR 50.33(f)(5), which the staff has utilized to request additional information from existing licensees regarding their financial condition would also be deleted.

Under the proposed approach, the NRC would conduct a review to determine if the applicant appears to be financially qualified. Section 7 provides further details about this approach.

5.2.2 Regulatory Objective

The regulatory objective of the rulemaking is to remove an unnecessary impediment to licensing while ensuring the protection of public health and safety. The NRC proposes accomplishing this by amending the standard of 10 CFR 50.33(f) from “reasonable assurance of obtaining the funds” for construction and operations to a standard of “appears to be financially qualified.”

6. Basis for Proceeding with Rulemaking Alternative To Conform Power Reactor Financial Qualifications Requirements to the 10 CFR Part 70 Review Standard

6.1 No Identified Direct Correlation between Initial Financial Qualifications Review and Later Safe Operating Performance

In SECY-79-299, “Generic Issue of Financial Qualifications: Licensing of Production and Utilization Facilities,” dated April 27, 1979 (Ref. 19), the staff explains that the NRC has not found a direct correlation between licensees’ pre-licensing financial reviews and later safe construction or operating performance and that, historically, the NRC has declared the correlation to be indirect. During construction of the current operating fleet, multiple entities experienced substantial cost overruns, with the cost of construction exceeding the construction cost estimates that were used to determine their FQ. Because of rising costs, as well as other factors, several entities chose to suspend or cancel construction. However, there is no evidence that cost overruns led to safety problems during construction. Similarly, if there were a direct correlation between FQ and safe operations, one would expect to see regulated utilities, which are not subject to the same type of financial pressures as nonregulated utilities, operating more safely than nonregulated utilities. The NRC’s experience to date has demonstrated this is not the case. A recent academic paper on “Corporate Incentives and Nuclear Safety” (Ref. 20) confirmed this finding, showing that there is no indication that nonregulated utilities are operating less safely than regulated utilities with guaranteed rate recovery. Accordingly, the type and extent of financial information to be provided by applicants to meet the proposed “appears to be financially qualified” standard, and the subsequent level of review by NRC staff, will reflect the indirect correlation between the applicant’s or licensee’s financial condition and safety.

6.2 Existing NRC Safety Review Processes and Programs

The proposed review standard would not compromise public health and safety because the NRC maintains a number of oversight programs and processes that directly ensure safe plant construction and operation. These include a detailed technical licensing review, the Construction Reactor Oversight Process (cROP), the Reactor Oversight Process (ROP), the Resident Inspectors Program, the Reactor Operating Experience Program, the Vendor Inspection Program (VIP), and the quality assurance (QA) inspection program. As further explained in the subsections below, these direct programs and processes have evolved over the last 40 years, reducing the need for the current level of reliance on the FQ indirect measure of safety.

As reflected in this regulatory basis, the NRC has well-established and reliable direct mechanisms for identifying potential safety issues during power reactor construction and operation. The oversight programs (cROP and ROP) provide the basis for the NRC to identify any degradation in licensee performance during construction and operation, independent of root causes and independent of status as a merchant plant or rate-based utility. These tools support the staff's conclusion that the detailed review required in current FQ requirements is not necessary to protect public health and safety.

6.2.1 NRC Licensing Review Process

In 1989, the NRC adopted a streamlined licensing process that incorporates lessons learned from its two-step licensing process of issuing a CP and later granting an OL, as described in NUREG/BR-0164, Revision 9, "NRC—Independent Regulator of Nuclear Safety," issued June 2012 (Ref. 21). The new process, codified in 10 CFR Part 52, allows for a single COL, authorizing both construction and operation, to be issued with full public participation. Most importantly, the COL process requires resolution of technical and safety issues before the beginning of reactor construction. Before initial operation, a newly constructed nuclear power plant must complete a series of tests and undergo NRC inspections to ensure consistency with the COL, which contains requirements for inspections, testing, analyses, and acceptance criteria. In part because it authorizes both construction and operation in a single license, the approval of a COL involves a much more detailed approval process than the approval of a CP. Accordingly, it is much easier for an inspector to determine whether the construction is deviating from the approved plan as described, compared to the CP process, in which the CP holder has considerably more flexibility in how it constructs the unit. For CPs, the ultimate NRC approval to operate comes at the OL stage.

6.2.2 Construction Reactor Oversight Process

The NRC fully implemented the cROP in July 2013. The cROP is a risk-informed, tiered approach that helps provide reasonable assurance that the facility has been constructed and will operate in conformance with the license, as described in Inspection Manual Chapter 2506, "Construction Reactor Oversight Process General Guidance and Basis Document" (Ref. 22). Resident inspectors oversee day-to-day licensee and contractor activities throughout construction, and other NRC specialists conduct periodic onsite inspections to ensure that the facilities are being constructed in accordance with the approved design. The current cROP provides a more risk-informed, robust oversight regime than that used by the NRC during construction of the current operating fleet.

6.2.3 Reactor Oversight Process

The ROP is the agency's program to inspect, measure, and assess the safety and security performance of operating commercial nuclear power plants and to respond to any decline in their performance. The program was implemented in 2000, with the goal of providing an objective, risk-informed, understandable, and predictable approach to the oversight of nuclear power plant performance, as described in NUREG-1649, Revision 5, "Reactor Oversight Process," issued February 2014 (Ref. 23). Once a new reactor begins operating and throughout its operating life, the ROP verifies that the plant is operating in accordance with the license and NRC regulations. Under the ROP, the NRC expects licensees to effectively address all issues that arise, whether of low or high safety significance. As the number of issues at a plant increases, the frequency of NRC inspections increases. The agency's supplemental inspections and other actions (if needed) ensure that significant performance issues are addressed promptly. The NRC has found that this is a more effective oversight process than its predecessor programs.

6.2.4 Resident Inspectors Program

The NRC launched its Resident Inspectors Program in 1978 to increase the agency's knowledge of conditions at plants, improve the NRC's ability to independently verify the performance of plant personnel and equipment, and enhance the NRC's incident response capability. Further information on this program can be found in the NRC's "Backgrounder on NRC Resident Inspectors Program," issued March 2014 (Ref. 24). The resident inspector serves as the agency's initial evaluator of plant events or incidents and as the first point of contact for a plant employee's allegation of a safety violation.

On a daily basis, the resident inspector scrutinizes activities at the plant and checks on adherence to Federal safety requirements. That oversight can include, among other things, visiting the control room and reviewing operator logbook entries, watching operators conduct plant manipulations, performing visual assessments of conditions in one or more areas of the plant, observing tests of or repairs to important systems or components, asking plant employees whether they have any safety concerns, and checking corrective action documents to ensure that problems have been identified and appropriate fixes have been implemented. Resident inspectors also bring identified safety-significant issues promptly to the attention of plant management and communicate these issues, when necessary, to NRC management. The NRC considers whether enforcement action is warranted, based on the significance of the issue.

6.2.5 Reactor Operating Experience Program

The NRC's Reactor Operating Experience Program serves to collect, evaluate, communicate, and apply operating experience information in a systematic, timely, and coordinated manner to support the NRC's goal of ensuring safety. The program is delineated in Management Directive 8.7, "Reactor Operating Experience Program," dated September 27, 2012 (Ref. 28). The program reviews information from a variety of sources related to domestic and international reactor operating experience and evaluates its relevance for the safe operation of U.S. reactors. Operating experience program evaluations provide insights to improve NRC safety assessments and inform decisions on how best to improve licensing, inspection, and other

regulatory programs. The coordinated use of information collected under this program allows the NRC to provide accurate, timely, and balanced information to the public and other interested parties on actual or potential hazards to health and safety.

6.2.6 Vendor Inspection Program

The NRC's VIP, relocated to NRC Headquarters offices from Region IV in 1984, verifies that reactor applicants and licensees are fulfilling their regulatory obligations to provide effective oversight of the supply chain, as described in the "Vendor Inspection Program Plan," Revision 11, issued March 2015 (Ref. 26). To accomplish this, the program performs various activities, including (1) targeting inspections of safety-related activities performed under a vendors' QA programs, (2) identifying and selecting vendors to sample the effectiveness of their domestic and international supply chains, both for the current fleet and new reactor construction, and (3) ensuring that vendor inspectors obtain the knowledge and skills necessary to perform effective inspections.

The VIP Plan establishes an overall approach for VIP activities, including goals, priorities, performance metrics, and resource management strategies. Key parts of the plan include the following:

- the objectives of the VIP, including overarching goals linked to the NRC's statutory mission of protecting public health, safety, and the environment and the common defense and security;
- the organization, staffing, training, and qualification of the vendor inspection staff;
- the needed infrastructure, including inspection and regulatory guidance and tools such as information systems for QA, inspection planning and scheduling, and self-assessment tracking; and
- communication and coordination activities with internal and external stakeholders.

6.2.7 Quality Assurance Inspection Program

As a result of quality-related problems in the construction of some nuclear power plants, in late 1969, the Atomic Energy Commission issued a directive to the regional compliance offices to implement the "General Facility Under Construction Inspection Program." In 1972, it issued a procedure titled "QA During Design and Construction." In 1973, and after a major revision in 1975, detailed inspection procedures were issued covering predocketing and preconstruction permit inspections. However, the NRC has recently made major changes to refine and prioritize the inspection procedures, increase inspection coverage with resident inspectors and team inspections, and direct more inspection efforts to independently confirm the quality of hardware and completed work.

Under the current NRC QA inspection program, the NRC performs inspections specifically to determine whether licensees and their contractors are meeting the agency's QA requirements, as described in NUREG/BR-0164 (Ref. 21). These inspections ensure that licensee and

contractor QA plans, instructions, and procedures for specific safety-related activities conform to the licensee's QA program and are implemented as prescribed in its QA program description. The NRC has established QA inspection procedures specifically for new reactor applications and conducts inspections for early site permit and COL applications. The agency also conducts QA audits for predesign certification and pre-COL reviews. Written reports documenting the scope, observations, and findings of the NRC's inspections and audits are available to the public.

6.2.8 NRC Oversight of Non-power Production or Utilization Facilities

At NPUFs, the NRC's inspection and enforcement programs serve as important tools for evaluating and ensuring safe operations. The NRC performs biannual safeguards program inspections and reactive inspections. In addition, the NRC manages an NPUF's operator license examination program and the NRC training and qualification programs for the NPUF's inspectors and license examiners. The NRC also manages the review of emergency and security plans and develops and implements policy and guidance on the NPUF's licensing program. These programs, currently implemented for 31 operating NPUFs, provide the NRC's first line of safety oversight of these NRC-licensed facilities.

The NRC concludes that these regulatory programs can be relied on for reducing FQ requirements for NPUFs in a similar manner as the programs outlined in sections 6.2.1-6.2.7 are relied on for power reactors.

In 2004, when the NRC revised its FQ regulations for power reactor license renewal, the NRC did not eliminate the FQ requirements for license renewal of non-power reactors. However, the NRC is currently working on an NPUF license renewal rulemaking, of which one part will eliminate the 10 CFR 50.33(f)(2) FQ requirements at time of license renewal. This draft proposed rulemaking would eliminate the requirement for NPUF licensees to provide FQ data while ensuring that adequate protection of public health and safety is maintained. The draft proposed rulemaking is currently with the Commission for its review and approval.

Accordingly, the NRC recognizes that the basis presented here for reducing power reactor FQ requirements, coupled with the regulatory basis and the current rulemaking to eliminate FQ requirements for NPUFs at the time of license renewal, provides a basis by which the FQ requirements for NPUFs may also be reduced.

Finally, the NRC received comments in response to its June 17, 2015, notice of the draft regulatory basis in the *Federal Register* (Ref. 4), suggesting that NPUFs should be required to meet the same FQ requirements as power production facilities. The staff's considerations noted above, coupled with its review and analysis of comments received from the public, have resulted in modifications to various sections within this regulatory basis addressing NPUF FQ requirements and, in particular, the FQ requirements proposed in Section 7. Appendix A to this document details the comments.

6.3 Applicants' Financial Arrangements

Historically, the NRC review of FQ was solely a review to determine whether the applicant had enough capital to construct and operate the plant safely. It did not determine if the project was financially viable or whether the project was likely to be completed. Indeed, many licensees did cease construction for financial reasons.

The current requirements under Appendix C to 10 CFR Part 50 call for the applicant to describe in detail the legal and financial relationships with its stakeholders, corporate affiliates, or others (such as financial institutions) upon which the applicant is relying for financial assistance. Moreover, Appendix C calls for information to support the financial capability of each such entity to meet its commitment to the applicant.

After closely examining this issue, the NRC has determined that the details of these arrangements go well beyond its mandate of ensuring safety. The NRC fully expects that applicants and financiers will perform extensive due diligence on the project and the corresponding financial arrangements. Indeed, financiers' views on the financial risk of the project will influence the terms of financing (e.g., interest rates, equity commitment). These are not the concerns of the NRC, because its role is solely to ensure the plant is constructed to operate safely.

6.4 Conclusion

Through its licensing process and oversight programs for both power reactors and NPUFs, the NRC directly ensures new reactor construction and operations are carried out safely and in accordance with the license and NRC regulations. While the NRC has not found a direct correlation between licensees' pre-licensing financial reviews and later safe construction and operating performance, the NRC concludes that its basis for a rulemaking that will reduce current FQ requirements, with reliance on license conditions as necessary, will allow for licensing based on a judgment of financial capacity. This FQ standard will give the NRC information allowing it to determine that an applicant has the financial capacity to move forward with its plans to construct and operate a nuclear plant. Thus, and that at the time just prior to commencement of beginning of both construction and initial operations, there is a reduced likelihood that the applicant's financial arrangements will contribute to compromises in safety.

The NRC received four sets of comments on the draft regulatory basis, as reflected in Appendix A to this document. The primary concern of two of the four commenters, the University of Florida (Ref. 27) and Coquí RadioPharmaceuticals Corp. (Ref. 28), focused on NPUFs and their view that FQ requirements for these facilities should be the same as, or similar to, those being developed for power production facilities. Coupled with a current NRC rulemaking effort to address FQ requirements for NPUFs at time of license renewal, the staff's consideration of these comments has resulted in modifications to the regulatory basis as it applies to NPUFs. Specifically, proposed FQ standards for initial licensing of NPUFs now reflect standards similar to those proposed for merchant power reactor applicants. These

changes will be included within the scope of the rulemaking and reflected within the proposed rule. The remaining two commenters, NEI (Ref. 29) and The George Washington University Regulatory Studies Center (GW) (Ref. 30), like those previously cited, support moving forward with rulemaking. However, their comments assert that the regulatory basis did not provide a sufficient basis for the anticipated proposed rule. Specifically, while NEI and GW commented that the regulatory basis and anticipated rule improve upon the existing FQ requirements, they also further advocated for complete rescission of the FQ requirements at the time of licensing and construction.

The NRC staff has made some modifications to, and addressed public comments in, this regulatory basis. Appendix A to this document summarizes the comments received and the staff's response to those comments. Section 8, "Stakeholder Involvement," further discusses the NEI and GW comments. In the future, after the staff develops the proposed rule as supported by this regulatory basis and provides it and any necessary implementation guidance to the Commission for approval, the staff will publish it in the *Federal Register* for further comment.

7. Proposed Financial Qualifications Requirements

This section describes the considerations for applicants to meet the proposed FQ review standard, proposed changes to current review guidance and processes, and other factors on which the NRC requested public comment on the draft regulatory basis.

7.1 New Review Standard—Appears To Be Financially Qualified and the Demonstration of Financial Capacity

As it currently stands, the revised FQ review standard will reflect the financial capacity of the applicant to obtain the necessary funding for the project. Financial capacity will be reflected in an applicant financial capacity plan (AFCP), along with the construction cost estimate at the time of application. The AFCP and cost estimate should provide the NRC with adequate information to conclude that the applicant appears to be financially qualified. An applicant's financial capacity is not a predictive finding of the likelihood of an applicant ultimately obtaining financing. Rather, it reflects the applicant's level of understanding of the size and scope of the project, including the level of capital necessary to undertake the project, and it reflects the organizational and human resources, experience, skills, and expertise required to obtain proper financing and ultimately finance the project, when appropriate.

For the NRC to find that an applicant appears to be financially qualified, the applicant must satisfactorily demonstrate its financial capacity by providing the following:

- Construction cost estimate—The NRC will require a cost estimate to ensure that the applicant understands the size and scope of the project. The cost estimate should be detailed enough to give the NRC a good understanding of the costs and cost assumptions associated with construction.

- Applicant Financial Capacity Plan—The NRC will require a high-level summary discussion with information detailed enough to conclude that the applicant has both an understanding of the project requirements and the financial capacity to obtain or provide financing, when appropriate. The AFCP may include aspects of the following:
 - The type or source of funding anticipated to provide the required capital for the project;
 - a description of the management organization, including personnel associated with the organization and any consultants, as applicable;
 - a description reflecting the experience and expertise of organizations that contribute to the financial capacity of the applicant in the areas of finance, capital sourcing, and development and completion of other similar projects, including large-build projects in the case of power reactor applicants;
 - the applicant's relationship, or those of its consultants, with potential sources of project funding, and/or the potential for other government, academic, or corporate sources of capital, as applicable; and
 - pertinent information, as applicable, about individuals affiliated with the project or applicant and their expertise as it relates to similar projects of size, scope, and possible finance sourcing.

As cited in the list above, the plan should describe the anticipated funding methods and sources and discuss past successes, if applicable, with such financing used in past energy or other large-build projects. These methods may include, but are not limited to, the following:

- rate recovery arrangement;
- commitments on the part of project finance funding sources, as well as any commitments from Federal and State government agencies, and documentation of such commitments, if applicable;
- power sales contracts, power purchase arrangements, other planned sales of electricity, and the anticipated sale of products and services, if applicable;
- other guarantees; and
- license conditions.

The information as identified above demonstrates an understanding of the complexities of these types of projects, the challenges in raising capital, and the need to ensure financing before the start of reactor construction. The NRC staff further discusses in Section 7.2 how different classes of applicants can show their methods of funding to establish their financial capacity.

7.2 Classes of Applicants

The revised requirements will affect the following classes of applicants.

7.2.1 Merchant Applicants and Non-power Production or Utilization Facility Applicants

The NRC understands that most merchant plant applicants will not have any committed sources of funding at the time of application and that they intend to establish financing for their projects after obtaining the license. In many cases, merchant applicants will likely pursue funding through the project finance model¹⁰ to establish all funding for the project at one time using multiple sources of capital. The project finance model is often used to underwrite long-term financing of infrastructure and industrial projects based on the projected cash flow of the project rather than on the balance sheets of its sponsors. This approach usually involves a number of equity investors, known as “sponsors,” as well as a “syndicate” of banks or other lending institutions that provide loans to the project. Loans made to fund the project are generally secured by the project assets, rather than from the general assets or creditworthiness of the project sponsors, and are paid entirely from the project’s cash flow.

The NRC staff recognizes the possibility that an applicant, particularly one with an aggressive construction schedule, may present an application that contains committed sources of funding. The NRC staff thinks it is unlikely that an applicant will have partial funding at the time of application but recognizes that this is theoretically possible. Accordingly, the NRC staff has decided to distinguish between applicants that have more than 50 percent of their financing versus those with 50 percent or less of their financing at the time of application.

NPUFs include all existing nonpower reactors licensed under 10 CFR 50.21(a) and (c) and proposed production or utilization facilities licensed under 10 CFR 50.22, “Class 103 Licenses; for Commercial and Industrial Facilities,” for the production of medical radioisotopes, such as molybdenum-99. Based on comments received from the public on the draft regulatory basis and on further analysis by the staff, the NRC recognizes that applicants for this type of facility may have difficulties similar to merchant plant applicants in meeting current FQ requirements. Modifications to this section have resulted from (1) considerations by staff as noted in Section 6.2.8, (2) the current rulemaking to eliminate FQ requirements for NPUFs at the time of license renewal, and (3) staff’s review and analysis of comments received from the public on this issue.

7.2.1.1 Financial Qualifications Review of Construction for Merchant Applicants and Nonpower Production or Utilization Facility Applicants with Financing of 50 Percent or Less at the Time of Application

For those applicants with 50 percent or less committed funding sources at the time of application, the NRC expects that the applicant will provide the following:

¹⁰ See the discussion of project finance, “Transcript of Public Meeting on Financial Qualifications for Merchant Plant Combined License Applicants,” dated January 8, 2013, beginning with Mr. Kenneth Hansen’s discussion on page 17 of the transcript (Ref. 31).

- a construction cost estimate; and
- an AFCP with proposed license condition(s).

The cost estimate and AFCP are intended to demonstrate an applicant's financial capacity, as described in Section 7.1. The NRC expects that the applicant will propose a license condition (or conditions) to ensure funding is available before beginning reactor construction.¹¹ The NRC will use the license condition (or conditions) to find that the applicant has financial capacity when funding is not otherwise committed.

The following is an example of such a license condition, which would need to be met by the licensee before beginning reactor construction:

The licensee will notify the NRC at least 60 days prior to its anticipated date of construction that the license condition has been fulfilled and that the following are available for inspection:

- an updated cost estimate;
- documentation justifying any variances from the original cost estimate provided in the application; and
- documentation demonstrating that the licensee has secured financing to meet the updated cost estimate for the project, including closing documents or documented proof of parent and affiliate assurances, or capital from other sources that reflect financing for the project.

An updated cost estimate is the basis for determining that the licensee has the funds necessary to begin reactor construction. The documentation demonstrating that the licensee has secured financing ensures the availability of funds to begin reactor construction.

As discussed in Section 6.3, the NRC staff does not believe that it needs a more detailed financial review to fulfill its public health and safety mission. Accordingly, the NRC will not review levels of equity, evaluate the creditworthiness of investors, or perform other detailed financial analyses as currently required by Appendix C to 10 CFR Part 50. The purpose in meeting this license condition is to confirm the licensee's financial capacity at the time of beginning construction.

¹¹ The regulations do not mandate using license conditions. Therefore, it is possible that an applicant could propose an alternative approach. The NRC will consider such approaches on a case-by-case basis.

7.2.1.2 Financial Qualifications Review of Construction for Merchant Applicants and Non-power Production or Utilization Facility Applicants with Financing of More Than 50 Percent

For those applicants with more than 50 percent committed funding sources at the time of application, the NRC expects that the applicant will provide the following:

- a construction cost estimate
- an AFCP with documentation demonstrating commitments of financing equal to more than 50 percent of the construction cost estimate

The cost estimate and AFCP are intended to demonstrate an applicant's financial capacity, as described in Section 7.1. The NRC staff believes that an applicant with commitments for at least 50 percent of its construction funding has made a sufficient demonstration of financial capacity. In fact, having such commitments is a stronger showing of financial capacity than the license condition outlined in Section 7.2.1.1. Accordingly, where the applicant has identified such commitments, a license condition requiring documentation for the remaining portion of the construction funding is not necessary. This is because the purpose of the NRC staff's review is not to ensure that the project is completed; rather, it is to ensure that an applicant has the financial capacity to obtain financing when the project moves forward.

7.2.1.3 Financial Qualifications Review of Operations for Merchant Applicants and Non-power Production or Utilization Facility Applicants

The NRC expects that the information to be submitted for operations would be similar to what is currently required in 10 CFR 50.33(f)(2). The NRC staff's review of a 5-year projected cost of operations, along with projected sources of funding for those 5 years, is a well-established financial review approach. Therefore, for operations, the NRC expects that the applicant will provide (1) an estimate of total annual operating cost for each of the first 5 years of operations and (2) documentation of sources of funds to cover each of the first 5 years of operations. In the case of a power reactor applicant, such sources could come from, but are not limited to, power purchase agreements, parent assurances, and/or projected revenue from the anticipated sale of power. In the case of an NPUF, such sources could come from, but are not limited to, the anticipated sale of products and services if applicable, commitments from Federal and State or other government agencies and documentation of such commitments, if applicable, and other guarantees.

The documentation reflecting available funds to cover operating and maintenance expenses ensures that the licensee can operate and maintain the plant after completion of construction.

If an applicant does not have finalized sources of funds for operations, the applicant could propose a license condition for operations. The applicant would submit an estimate for the total annual operating cost for each of the first 5 years of operations, along with a license condition. The following is an example of such a license condition:

The licensee will notify the NRC, at least 60 days prior to initial loading of fuel, that the license condition has been fulfilled and that the following are available for inspection:

- an updated cost estimate for each of the first 5 years of operations;
- documentation justifying any material variance from the original cost estimate provided in the application; and
- documentation of sources of funds to cover each of the first 5 years of operations, with sources that could come from, but are not limited to, power purchase agreements, parent assurances, and/or projected revenue from the anticipated sale of power.

An NPUF applicant would use a similar license condition reflecting its cost, cost variance, and source of funds documentation. If the applicant does not have finalized sources of funding for operations at the time of application, this condition will ensure that adequate funds are available prior to initial fuel loading.

7.2.2 Utilities

Utilities need only provide FQ for construction, because they are qualified for operations based on the availability of rate recovery.

For utility applicants, the NRC expects that the applicant will provide the following:

- a construction cost estimate; and
- an AFCP with documentation demonstrating rate recovery for construction.

The NRC considers a utility that has rate recovery for construction to be financially qualified. In this circumstance, the only submittals that the NRC expects are a construction cost estimate and an AFCP that demonstrates the availability of rate recovery for construction. To the extent the utility does not have rate recovery for construction, the NRC will treat the applicant in the same manner that it treats merchant applicants and will expect the utility to submit the information discussed in Section 7.2.1.

7.2.3 License Transfers

The NRC staff conducts its review of license transfer applications under 10 CFR 50.80. Currently, 10 CFR 50.80(b)(1) requires an applicant to submit the same FQ information as would be required if the application were for an initial license. Information needed to demonstrate FQ varies, depending on whether the license transfer is for a CP, OL, or COL. The NRC does not propose to change 10 CFR 50.80.

The staff would review a transfer of a license for a facility that is either under construction or where construction has not yet begun, as discussed in Sections 7.2.1 and 7.2.2, depending on whether the applicant is a merchant, an NPUF, or a utility. The NRC anticipates that license

conditions will be used as appropriate for facilities that have not yet begun construction. If an applicant proposes to transfer a CP for a facility that has already begun construction, the NRC staff will evaluate the applicant's financial capacity on a case-by-case basis. The NRC staff will determine whether using license conditions is appropriate, depending on the specific circumstances of the applicant.

The staff would review a transfer of a license to a merchant or NPUF applicant for a facility where construction has been completed but where operations have not yet begun, as discussed in Section 7.2.1.3. The NRC will consider using license conditions for a facility that has not completed fuel load.¹² The transfer of a license for a facility to a utility applicant where construction has been completed but where operations have not yet begun does not require an FQ review.

The staff would review the transfer of a license to a merchant or NPUF applicant for a facility that is operating as described in Section 7.2.1.3. The NRC does not anticipate that there will be a significant change from its current practice for review of a license transfer application for operating facilities. Currently, an applicant for a license transfer must demonstrate reasonable assurance of obtaining the funds necessary to cover estimated operating costs. This demonstration is typically achieved by providing the source of funds necessary to cover the cost of 5 years of operations. Similarly, the NRC expects that an applicant will provide the source of funds for 5 years of operations under the new proposed requirement. As directed in SRM-SECY-13-0124, "Policy Options for Merchant (Non-Electric Utility) Plant Financial Qualifications (Ref. 1), this is consistent with how staff conducts reviews for facilities licensed under 10 CFR Part 70. The NRC will review a license transfer application during operation in the same way license transfer reviews are currently performed. The NRC does not currently anticipate using license conditions, because it does not envision a circumstance where these conditions would be needed. The transfer of a license, for a facility that is currently operating, to a utility applicant does not require an FQ review.

7.2.4 Change of Status

The NRC staff's review of a change of status application is conducted under 10 CFR 50.76. A change of status is when a licensee ceases to be an electric utility. The NRC does not anticipate that there will be a significant change in its review of change-of-status applications. The standard for change-of-status applicants is shifting from a finding of "reasonable assurance" to a finding of "appears to be financially qualified," and the review will follow an approach similar to that in Section 7.2.3 for an OL transfer.

7.3 Summary

The NRC staff believes that this new review standard, as discussed in Section 7.1, will remove an unnecessary impediment to licensing and provide a new process for efficient FQ reviews for the various classes of applicants described in Section 7.2. The NRC staff also believes that this new review standard will protect public health and safety. Accordingly, this financial capacity

¹² An example of when a license condition might be appropriate is if the applicant for the license transfer does not have a schedule for loading fuel.

assessment and the finding that the applicant “appears to be financially qualified” will contribute to the staff’s overall regulatory findings at the time the license is issued.

8. Stakeholder Involvement

During the development of SECY-13-0124 (Ref. 9), the NRC conducted public outreach to inform the development of the options presented to the Commission. The NRC held public meetings on October 11, 2012 (Ref. 32), and January 8, 2013 (Ref. 31), to seek industry and public feedback about the FQ requirements of 10 CFR 50.33(f) as applied to merchant plant applicants. The second meeting focused on the proposed alternative of using license conditions to meet the current requirements.

The NRC conducted a public meeting on April 29, 2015, to discuss Section 7 of this document (Ref. 33). Industry stakeholders and members of the public did not raise major concerns with the proposed FQ requirements. The agency did not accept formal comments at this meeting.

The NRC also conducted a public meeting on July 8, 2015, to promote full understanding of the regulatory basis for the proposed rulemaking and to facilitate public comment. As previously discussed, the NRC published notice of the draft regulatory basis in the *Federal Register* on June 17, 2015 (Ref. 4), with a 45-day comment period lasting through August 3, 2015. As described in Section 6.4, the NRC received three sets of comments during this public comment period and one additional set of comments after the comment period closed. The staff has changed the final regulatory basis partly as a result of comments received during or after the comment period and from comments received in a letter from NEI related to Interim Staff Guidance (ISG) OL/FR-ISG-2014-01, “Reviewing and Assessing the Financial Condition of Operating Power Reactor Licensees, including Requests for Additional Information” (Ref. 34).

Specifically, through its public interaction and stakeholder involvement efforts, the NRC staff learned of concerns related to current NRC FQ requirements governing the licensing of NPUFs. Accordingly, one significant change has been that proposed FQ standards for initial licensing of NPUFs now reflect standards similar to those proposed for merchant power reactor applicants.

In addition to comments that address proposed FQ requirements for NPUFs, two commenters acknowledged that proposed FQ requirements as presented in the draft regulatory basis were an improvement over the current regulations, but these commenters stated a basis and preference for complete rescission of FQ requirements. These comments suggest that the proposals in the draft regulatory basis do not go far enough to address the NRC’s FQ requirements. NEI stated the following (Ref. 29):

Mindful of the direction in the SRM, NEI supports the proposed rulemaking approach outlined in the DRB [draft regulatory basis] as the option most beneficial to the industry—absent elimination of initial FQ licensing reviews for reactors.

GW echoed NEI’s comment (Ref. 30):

...the NRC should undertake the proposed rulemaking to modify or abolish the current financial qualification rules. The proposed new standard is an improvement over the current rules.... However neither standard is likely to provide any improvement in safety.

The more limited financial capacity review described in this regulatory basis will establish a prelicensing review and evaluation opportunity for the NRC to determine (1) that an applicant has the financial capacity to move forward with its plans to construct and operate a nuclear plant and (2) that at the time of construction, and beginning operation, there is a reduced likelihood that the applicant's financial arrangements will contribute to compromises in safety.

In consideration of comments that suggest a complete rescission of current FQ requirements, the NRC staff has proposed to adopt a moderate approach to FQ that reduces the level of rigor required by license applicants in their submittal of financial information. In the NRC staff's view, the proposed approach does not constitute an onerous requirement for the applicant. It does, however, retain a licensing requirement that will require information that is qualitative in nature, give staff a level of confidence in an applicant's financial capacity and qualifications, and give the public confidence that the applicant has or will have access to adequate funding to support safe construction and eventual operation of the facility.

In its comments on the draft regulatory basis, NEI questioned the need for 10 CFR 50.33(f)(5), stating that, to the extent it was intended to apply to operating licensees, it was both unnecessary, and misplaced in the "contents of application" section. Upon further consideration, the staff agrees. As outlined in Section 6, the staff has well-developed methods of directly assuring safety. Moreover, the staff has broad authority under the Atomic Energy Act to obtain information from its licensees and applicants as is necessary to protect public health and safety. The staff can issue a demand for information pursuant to 10 CFR 2.204, "Demand for Information." The staff can deny an application, pursuant to 10 CFR 2.108, "Denial of application for failure to supply information," if an applicant fails to respond to a request for additional information. In the context of Part 50 and Part 52 licensees, the staff may require a licensee to submit information to establish whether a license should be modified, suspended or revoked, pursuant to 10 CFR 50.54(f). The staff must prepare the reason or reasons for that request prior to issuance to ensure that the burden of responding is justified in view of the potential safety significance. Pursuant to 10 CFR 50.54(cc), any licensee who enters bankruptcy is required to notify the NRC. Pursuant to 10 CFR 50.75(f)(1), all power reactor licensees are required to report the status of their decommissioning funds every other year.

In conforming to a Part 70 framework, the staff notes that there is no corresponding provision to 50.33(f)(5) in Part 70. Furthermore, if the staff becomes aware of a licensee's degraded financial health, such information may be used in the planning of NRC inspection activities, if appropriate, absent this provision. In light of these regulations, it is the staff's intent to propose rescinding the requirement of 10 CFR 50.33(f)(5) in the proposed rule stage. Similarly, staff intends to revise OL/FR-ISG-2014-01, "Reviewing and Assessing the Financial Condition of Operating Power Reactor Licensees, including Requests for Additional Information" (Ref. 34) consistent with the modifications made in the final rule.

The NRC has updated the regulatory basis to acknowledge and reflect public comments as well as staff and NRC subject matter expert deliberations. This final regulatory basis reflects public comments received on the draft and the staff's evaluation of those comments and concerns. The staff will continue to consider all public comments as it uses this final regulatory basis to develop a proposed rule. As it relates to public comment, SRM-SECY-13-0124 states, "The Commission will receive diverse comments from industry, citizen groups, and other members of the public that will merit consideration as this process proceeds. As with any rulemaking, the staff should provide ample opportunity for such input and discussion so that any final product is well informed and considers all points of view" (Ref. 1). After the staff provides the proposed rule and any necessary implementation guidance to the Commission, the staff will publish the proposed rule in the *Federal Register* for comment. The *Federal Register* notice for the proposed rule will include specific questions to elicit stakeholder feedback on the proposed approach, on options raised by the comments on the draft regulatory basis, and other considerations regarding NRC financial qualifications. The staff believes a broader and more diverse set of stakeholders may comment on the proposed rule. This feedback would then inform the development and direction of the final rule.

9. Additional Analyses

9.1 Backfitting and Issue Finality

The changes to the regulations under consideration by the NRC would not meet the definition of "backfitting," as that term is defined in 10 CFR 50.109, "Backfitting" (also referred to as the "Backfit Rule"), nor would they be inconsistent with the issue-finality provisions of 10 CFR Part 52.¹³ Backfitting is defined in 10 CFR 50.109(a)(1) as follows:

the modification of or addition to systems, structures, components, or design of a facility...or the procedures or organization required to design, construct or operate a facility; any of which may result from a new or amended provision in the Commission's regulations or the imposition of a regulatory staff position interpreting the Commission's regulations that is either new or different from a previously applicable staff position.

The changes under consideration would be changes to the NRC's regulatory review process for reviewing license applications. This process is not a system, structure, component, or design of a facility, nor is it a procedure or organization required to design, construct, or operate a facility. Therefore, the NRC's proposed changes to the 10 CFR Part 50 FQ demonstration requirements would not constitute backfitting under the Backfit Rule.

Even if the Backfit Rule were applied to the NRC's license application procedures, the changes described in this regulatory basis would still not constitute backfitting. The Backfit Rule is

¹³ Hereinafter, references to the Backfit Rule include references to the issue finality provisions of 10 CFR Part 52.

intended to ensure that, once the NRC issues a license, the NRC does not arbitrarily change post hoc the terms and conditions for operating under the license or in the regulations that applied when the license was issued (Ref. 34). Accordingly, an applicant for a license has no backfitting protection per se stemming from the Backfit Rule until the license has been issued.¹⁴ Therefore, a rule changing requirements for a license application would not provide any basis for the Backfit Rule to apply.

9.2 Regulatory Flexibility Analysis

The Regulatory Flexibility Act (Ref. 35), enacted in September 1980, requires agencies to consider the impact of their regulatory proposals on small entities, analyze alternatives that minimize small entity impacts, and make their analyses available for public comment.

None of the licensees and CP holders falls within the definition of “small entities” set forth in the size standards established by the NRC in 10 CFR 2.810, “NRC Size Standards” (Ref. 36). Therefore, this rulemaking would not have a significant economic impact on a substantial number of small entities.

9.3 Compliance with the National Environmental Policy Act

The proposed rule is an amendment to 10 CFR Part 50 that is categorically excluded, consistent with 10 CFR 51.22(c)(3)(i), as it relates to procedures for filing and reviewing applications for licenses or CPs. Therefore, no further environmental review is necessary.

9.4 Safety Goal Evaluation

Safety goal evaluations are applicable to regulatory initiatives considered to be generic safety enhancement backfits subject to the substantial additional protection standard in 10 CFR 50.109(a)(3). This regulatory basis describes potential regulatory changes that would not qualify as generic safety enhancement backfits, because the changes under consideration would be changes to the NRC’s regulatory review process for reviewing license applications. Therefore, no safety goal evaluation is needed.

9.5 Peer Review of Regulatory Basis

The Office of Management and Budget’s (OMB’s) “Final Information Quality Bulletin for Peer Review,” dated January 14, 2005 (Ref. 37), requires each Federal agency to subject “influential scientific information” to peer review before dissemination. OMB defines “influential scientific information” as “scientific information the agency reasonably can determine will have or does have a clear and substantial impact on important public policies or private sector decisions.” This regulatory basis document does not contain “influential scientific information.” Therefore, there is no need for a peer review of the regulatory basis.

¹⁴ The exception to this principle is a COL applicant that references an already-issued design certification or early site permit, but this exception is not applicable to the FQ requirements.

10. Conclusion

The NRC finds there is sufficient regulatory basis to proceed with rulemaking to amend the current reactor FQ requirements. The current FQ requirements would generally preclude a class of applicants, merchant plants, from obtaining a license without securing project funding in advance of initial license issuance. Similarly, based on public comments, the staff has concluded that current FQ requirements may also preclude NPUF applicants from obtaining a license without securing the necessary funding in advance of initial license issuance. The NRC expects this new review standard will remove an unnecessary impediment to licensing and provide a new process for efficient FQ reviews for the various classes of applicants described in Section 7.2. This new review standard will still maintain public health and safety.

The NRC received comments on the draft regulatory basis from four parties who advocated for the following, among other things:

- (1) FQ requirements for NPUF applicants should conform to 10 CFR Part 70 standards as currently proposed for power reactor applicants.
- (2) FQ requirements for all power and non-power reactor applicants should be completely rescinded.

The NRC staff amended the draft regulatory basis to address various comments. In addressing item (1), staff agreed with this comment, and made changes to the proposed FQ requirements for NPUF applicants so that they are now comparable to those proposed for merchant plant applicants. This final regulatory basis document provides the staff's rationale for this change. In addressing item (2), staff did not agree with the comment, but made modifications to the regulatory basis, in particular to Section 8. When preparing the final rule, the staff will evaluate any additional comments received in response to the publication in the *Federal Register* of the proposed rule.

11. References

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2. *U.S. Code of Federal Regulations*, "Domestic Licensing of Production and Utilization Facilities," Part 50, Chapter I, Title 10, "Energy."
3. *U.S. Code of Federal Regulations*, "Domestic Licensing of Special Nuclear Material," Part 70, Chapter I, Title 10, "Energy."
4. U.S. Nuclear Regulatory Commission, "Financial Qualifications for Reactor Licensing," June 17, 2015 (80 FR 34559).

5. *U.S. Code of Federal Regulations*, “Licenses, Certifications, and Approvals for Nuclear Power Plants,” Part 52, Chapter I, Title 10, “Energy.”
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10. U.S. Nuclear Regulatory Commission, “Standard Review Plan on Power Reactor Licensee Financial Qualifications and Decommissioning Funding Assurance,” NUREG-1577, Rev. 1, December 13, 2001, ADAMS Accession No. ML013330264.
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14. “Executive Order 13579—Regulation and Independent Regulatory Agencies,” July 11, 2011 (76 FR 40591).
15. *Private Fuel Storage, LLC*, CLI-00-13, 52 NRC 23, 34 (2000).
16. *Capitol Airways, Inc. v. Civil Aeronautics Bd.*, 292 F.2d 755, 758 (D.C. Cir. 1961).
17. *Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit1), CLI-80-16, 11 NRC 674 (1980).
18. *Delta Airlines v. United States*, 490 F. Supp. 907, 912-13 (N.D. Ga. 1980).

19. U.S. Nuclear Regulatory Commission, "Generic Issue of Financial Qualifications: Licensing of Production and Utilization Facilities," Commission Paper SECY-79-299, April 27, 1979, ADAMS Accession No. ML12236A723.
20. Hausman, Catherine, "Corporate Incentives and Nuclear Safety," *American Economic Journal: Economic Policy*, 6(3): 178–206, 2014.
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27. Daniel J. Cronin, Licensing Engineer, UF Training Reactor Facility, College of Engineering, University of Florida, "Initial Comments on the Draft Regulatory Basis for Financial Qualifications for Reactor License Rulemaking," Docket ID NRC-2014-0161, July 8, 2015, ADAMS Accession No. ML15190A386.
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30. The George Washington University Regulatory Studies Center, "Public Interest Comment on the Nuclear Regulatory Commission's Draft Regulatory Basis Financial Qualifications for Reactor Licensing," Docket ID NRC-2014-0161, July 30, 2015, ADAMS Accession No. ML15222A298.

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35. U.S. Nuclear Regulatory Commission, “Early Site Permits; Standard Design Certifications; and Combined Licenses for Nuclear Power Reactors; Final Rule,” *Federal Register*, Vol. 54, No. 73, April 18, 1989, pp. 15385–15386.
36. Regulatory Flexibility Act, Public Law No. 96-354, 94 Stat. 1164 (1980) (codified at 5 U.S.C. § 601).
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APPENDIX A

Financial Qualifications for Reactor Licensing Rulemaking—Disposition of Public Comments

This appendix describes how the staff dispositioned the four public comments received on the draft regulatory basis.

University of Florida

| | Comment | NRC Response | Disposition in Regulatory Basis Document |
|---|--|--|---|
| 1 | NPUF licensees were unaware of the FQ rulemaking effort and NRC did not explicitly reach out to them on this issue. | In order to address this concern, members of the financial qualifications rulemaking working group spoke at a regularly scheduled, quarterly meeting between the NRC and the National Organization of Test, Research, and Training Reactors, on August 18, 2015. The working group explained to the NPUF community the substance of the regulatory basis and rulemaking, and invited further discussion. | No changes were made to the regulatory basis. |
| 2 | The NRC should extend the comment period until October 3, 2015. | While the NRC did not formally extend the comment period, comments received after August 3, 2015, were considered as practical to do so. The NRC did accept late comments filed on April 18, 2016. | No changes were made to the regulatory basis. |
| 3 | The NRC should reach out to the RTR branch of the NRC to verify whether current FQ regulations are being applied consistent with the assertions made in Section 7.2.3 and clarify Section 7.2.3 if needed. | In response to this and other comments, the NRC has rewritten Section 7.2.3 and no longer distinguishes between RTRs and power reactors in this rulemaking. | Changes were made to the regulatory basis throughout Section 7. |

| | Comment | NRC Response | Disposition in Regulatory Basis Document |
|---|---|--|---|
| 4 | Some of the considerations discussed in Section 6 do not apply to NPUFs (e.g., Resident Inspectors Program). Moreover, there is precedent for requiring more extensive FQ review for this class of applicants (i.e., power reactors). Because of the unique constraints imposed by AEA Section 104(c), the minimal resources of the RTR licensees, and the lack of any nexus to safety, a high priority should be placed on correcting the 2004 decision regarding FQ requirements for RTR licensees. | In response to this and other comments, the NRC has rewritten Section 7.2.3 and no longer distinguishes between RTRs and power reactors in this rulemaking. | Changes were made to the regulatory basis throughout Section 7. |
| 5 | The NRC should eliminate FQ requirements for license renewal on non-power reactors to bring this aspect of the regulatory scheme back in compliance with AEA Section 104(c). | The Commission is currently considering a proposed NPUF license renewal rule, which includes a proposal to eliminate the 10 CFR 50.33(f)(2) FQ requirements at time of license renewal. This rulemaking intends to reduce the burden on NPUF licensees by eliminating the need for NPUF licensees to provide FQ data at the time of license renewal while ensuring that adequate protection of public health and safety is maintained. The final NPUF rule is expected to be issued in early 2018. | No changes were made to the regulatory basis. |

Coquí RadioPharmaceuticals Corp.

| | Comment | Response | Resolution |
|---|--|---|--|
| 6 | The NRC does not plan to include NPUFs in the scope of this rule and should. | The staff now does plan to include NPUFs in the scope. | Changes were made to the regulatory basis throughout Sections 6 and 7. |
| 7 | Small NPUFs should not be subjected to stricter financial requirements than large power plants. | The staff agrees and has made changes such that NPUFs and large power reactors will be treated the same as it relates to financial qualifications at initial licensing. | Changes were made to the regulatory basis throughout Sections 6 and 7. |
| 8 | To the extent that the NRC believes that commercial non-power reactors are somehow not subject to the same chicken and egg project finance issue that NINA and other merchant plant applicants face, Coqui also respectfully submits that this is not correct. Like the NRC noted for merchant plants in the FQ Draft Regulatory Basis Document, Coqui must rely on its own internal resources or third-party project finance investors. Our project is an approximately \$500 million project. Few companies, if any, would have their own internal resources to finance a project of this size. Therefore, we intend to utilize the latter option. However, as with NINA, we would have difficulty meeting the NRC's present FQ requirements using our intended project finance model. | The staff agrees and has made changes such that NPUFs and large power reactors will be treated the same as it relates to financial qualifications at initial licensing. | Changes were made to the regulatory basis throughout Sections 6 and 7. |
| 9 | The NRC staff does not state a safety reason to support the position for only changing large merchant plant FQ qualifications. | The staff agrees and has made changes such that NPUFs and large power reactors will be treated the same as it relates to financial qualifications at initial licensing. | Changes were made to the regulatory basis throughout Sections 6 and 7. |

| | Comment | Response | Resolution |
|----|--|---|--|
| 10 | Coqui would like to underscore the critical importance of the NRC licensing a facility like the Medical Isotope Production Facility. The Facility will produce life-saving medical isotopes that are of critical importance in the U.S. The NRC should not keep arcane regulations that could impede our project development unless these regulations are supported by a sound safety or security concern. | The staff agrees and has made changes such that NPUFs and large power reactors will be treated the same as it relates to financial qualifications at initial licensing. | Changes were made to the regulatory basis throughout Sections 6 and 7. |

Nuclear Energy Institute

| | Comment | Response | Resolution |
|----|---|---|---|
| 11 | NEI has previously argued that NRC FQ regulations for reactor licensing have little or no usefulness in ensuring the safety of subsequent plant construction and operation, and that “safety” issues associated with FQ can and should be identified and addressed throughout the license term of the plant by the licensee’s programs (e.g., maintenance, quality assurance) and NRC inspection and enforcement programs. Notably the Staff corroborates our view with respect to the absence of any direct correlation between pre-licensing FQ reviews and subsequent safe construction and operating performance. | The NRC staff agrees, “to the extent that such a nexus does exist, it has been characterized as indirect.” This proposed FQ standard, however, will give the NRC information allowing it to determine that an applicant has the financial capacity to move forward with its plans to construct and operate a nuclear plant and that an applicant’s finances and financial arrangements will not contribute to compromised safety. The NRC staff has proposed to adopt a moderate approach to FQ that reduces the level of rigor required by license applicants in their submittal of financial information. The proposed approach does not constitute an onerous requirement for the applicant. It does, however, retain a licensing requirement that | No changes were made to the regulatory basis. |

| | Comment | Response | Resolution |
|----|--|---|---|
| | | will require information that is qualitative in nature, give NRC staff a level of confidence in an applicant's financial capacity and qualifications, and give the public confidence that the applicant has or will have access to adequate funding to support safe construction and eventual operation of the facility. | |
| 12 | The draft regulatory basis provides that electric utility applicants that recover costs of construction and operation are considered to be financially qualified with no further review (DRB, pp. 17–18). However, this intent does not appear to be expressed in the draft rule language modifying 10 CFR 50.33(f)(1) as it pertains to construction. | The staff did not intend to eliminate the requirement for a cost estimate for a utility for construction. The staff views the cost estimates for electric utilities who have rate recovery for construction as necessary because, it reflects the applicant's level of understanding of the size and scope of the project, including the level of capital necessary to undertake the project. Accordingly the staff has modified the regulatory basis to reflect the draft rule language. | Changes were made to the regulatory basis throughout Section 7.2.2. |
| 13 | As a consequence of being promulgated before development of the U.S. merchant power market, the existing FQ regulations do not consider how license applicants might satisfy certain FQ provisions in cases where the applicant intends to use Project Finance to fund construction. We believe that revising FQ regulations is essential to resolve the FQ issue generically and permanently—and to avoid foreclosure of Project Finance for use in new plant construction. | The NRC staff agrees and is moving forward with rulemaking to amend the current reactor FQ requirements. | No changes were made to the regulatory basis. |

| | Comment | Response | Resolution |
|----|--|---|---|
| 14 | <p>Overall, the proposed rule language reflects a reasonable approach to implementing the Commission's SRM. However, the specific proposed revision to 10 CFR 50.33(f)(5) (renumbered in the proposed rule language as 10 CFR 50.33(f)(4)) appears overly broad in that it extends beyond FQ issues. It expands the scope to licensed activities themselves. This would appear to cover many activities such as quality assurance and operating programs, which are already subject to other NRC regulations. To the extent this provision is intended to relate to FQ, this is already covered by existing requirements. Lastly to the extent this provision is aimed at existing licensees, its placement in the section describing the content of applications appears inappropriate.</p> | <p>Staff's intent to modify the language in 10 CFR 50.33(f)(5) as part of the draft regulatory basis inadvertently expanded the scope of this requirement to have a broader focus than on a licensee's ongoing financial health. Additionally, to assure alignment of the FQ requirements under 10 CFR Part 50 with those in 10 CFR Part 70, the staff agrees that provisions currently exist in both regulations to address the financial condition of a licensee when a significant financial event occurs (such as bankruptcy) and/or the staff identifies a circumstance of potential safety significance by which additional information may be warranted. Therefore, in the proposed rule stage, the staff will propose rescinding the requirement of 10 CFR 50.33(f)(5). Similarly, staff will recommend revising the associated Interim Staff Guidance OL/FR-ISG-2014-01, "Reviewing and Assessing the Financial Condition of Operating Power Reactor Licensees, including Requests for Additional Information," (Adams Accession No. ML14218A625), as appropriate, when the associated guidance for the rule is finalized.</p> | <p>Changes were made to the regulatory basis in Section 8. The proposed rule language will reflect these changes.</p> |

| | Comment | Response | Resolution |
|----|--|--|--|
| 15 | The requirement that the AFCP include a description of the “management team” is unclear and seemingly unnecessary. The NRC staff stated during an April 29, 2015 public meeting that the AFCP description of the “management team” should focus on the financial capacity of companies or corporate entities rather than individuals, and may account for the financial capacity of the applicant’s parent company (companies). We think it would be useful for the final regulatory basis document to include such a clarification. | The staff agrees in part. An AFCP could rely solely on financial capacity of companies or corporate entities as the commenter suggests; however, the staff also thinks that an AFCP could rely on individuals. The staff has revised Section 7.1 to make clear that these are examples of things that could be included in the AFCP rather than a prescriptive list. | Changes were made to the regulatory basis throughout Section 7.1. |
| 16 | We see no reason why applicants for NPUFs should not be granted the same funding approaches as those available to applicants for power reactor facility licenses. Therefore, if such applicants have the requisite financial capacity, they should also be allowed to use a license condition to establish FQ. | The staff agrees and has modified the proposed NPUF requirements to be more similar to those for power reactor applicants. | Changes were made to the regulatory basis throughout Sections 6 and 7. |
| 17 | NEI supports distinguishing between applicants depending on the level of committed financing at the time of application with the license conditions limited to those applicants who have 50 percent or less committed financing at the time of application. This change should relieve the need for a license condition in cases where some funding is available, appropriately reducing regulatory burden in those cases. NEI therefore supports the | The staff agrees and intends to carry forward the explanation in the regulatory basis into the proposed rule. | No changes were made to the regulatory basis. |

| | Comment | Response | Resolution |
|----|--|---|---|
| | draft regulatory basis's explanation of the appropriate use of license conditions in the FQ context. The NRC should document these points (e.g., in the Supplementary Information section) when the proposed rule is published for comment. | | |
| 18 | NEI believes the statement in the DRB is correct—there is no direct correlation between the NRC's FQ licensing reviews and later safe plant construction and operation. Licensee management and operating programs, as well as ongoing NRC oversight, ensure the safety of construction and operation. Given the NRC staff's conclusion that there is no significant correlation, it does not appear that another NRC study is warranted. Further, the agency's limited resources, and the importance of prioritizing those resources based on safety significance, also argue against another NRC study. This activity would unnecessarily delay the proposed rulemaking. | The staff agrees and does not intend to do a study. | No changes were made to the regulatory basis. |
| 19 | NEI is not aware of any examples where a licensee's financial health at the time of the FQ licensing review correlated to a later degradation of nuclear safety. | The staff agrees with the comment. | No changes were made to the regulatory basis. |
| 20 | Although NRC licensees have been involved in some bankruptcy matters (e.g. Diablo Canyon, Comanche Peak); those proceedings did not have any relationship to | The NRC acknowledges the commenter's identification of two examples in which licensees have undergone bankruptcy proceedings without adverse impacts on | No changes were made to the regulatory basis. |

| | Comment | Response | Resolution |
|----|---|--|---|
| | safe operations; NEI does not believe that any of these situations involved precursors that were detected or detectable at the time of the pre-licensing financial reviews. | safety. However, the NRC does not consider details unique to individual bankruptcy proceedings as addressing or reflecting on the full, comprehensive scope of potential financial matters or conditions that may impact a licensee. | |
| 21 | There is no evidence of a relationship between any case of poor operational or regulatory performance and pre-licensing financial qualifications. | The staff is also unaware of any such evidence at the current time. | No changes were made to the regulatory basis. |
| 22 | We do not expect that the NRC will detect a correlation between regulatory or plant performance indicators and financial indicators (much less, pre-licensing financial indicators). | As previously stated above, the staff does not intend to perform a study to determine if a correlation does or does not exist between plant performance and financial indicators. | No changes were made to the regulatory basis. |
| 23 | As indicated in NRC's regulatory analysis, the cost of the rulemaking is relatively small. The rule itself would reduce some of the current costs of preparing applications, and that reduction would also be relatively small. In contrast, the benefits of the rule would be significant. The rule would enable some merchant applicants to receive a license in cases in which they currently could not obtain a license given the provisions in the current rule. This benefit substantially outweighs the costs of the rulemaking. | The staff agrees. | No changes were made to the regulatory basis. |

The George Washington University Regulatory Studies Center

| | Comment | Response | Resolution |
|----|--|--|---|
| 24 | Any particular specification of information requirements (including both the current standard and the proposed new standard) will give an imperfect view of the applicant's true financial status at the time of filing. | The staff agrees that the proposed new standard does not provide a comprehensive and detailed view of the applicant's financial status. However, the staff intends to gather a limited amount of information from an applicant to determine whether or not the applicant meets the "appears to be financially qualified" standard, and prior to construction and operation, has the financial capacity to move forward with its plans to construct and operate a nuclear plant. | No changes were made to the regulatory basis. |
| 25 | The applicant's financial status at the time of filing is a very weak indicator of the applicant's financial status at the time operation commences because the applicant will have spent a very large amount of money for construction and initial decommissioning requirements, and the years between application and the commencement of operation will have led to numerous unanticipated changes. The commenter also gives an example related to Harvard University noting that no degree of preconstruction financial review would have found Harvard unqualified to build a \$1.3 billion facility, but Harvard stopped construction on the uncompleted facility after large losses on its endowment fund from the financial turmoil of 2007 to 2009. | The NRC does have an interest in ensuring safety during both construction and operation. The construction requirement is intended to reduce the likelihood that financial pressures will lead to compromised safety during construction and the operation requirement is intended to reduce the likelihood that financial pressures will lead to compromised safety during operation. While the commenter may be correct that the financial conditions of applicants are likely to change during the course of construction, the current and proposed FQ requirements separately evaluate an applicant's financial qualifications for both construction and operation. | No changes were made to the regulatory basis. |

| | Comment | Response | Resolution |
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| 26 | The relationship between financial status and safe operation is so weak that it has not been clearly measured by either the NRC or outside researchers. | The staff agrees that any nexus between financial condition and safe operation is of an indirect nature and difficult to measure. However, the NRC is proposing to retain a licensing requirement that will provide applicant financial information that is qualitative in nature, give staff a level of confidence in an applicant's financial capacity and qualifications, and give the public confidence that the applicant has or will have access to adequate funding to support safe construction and eventual operation of the facility. | No changes were made to the regulatory basis. |
| 27 | A financial qualification at licensing may help to prevent a frivolous application, but the other detailed requirements make a frivolous application unlikely. | Preventing frivolous applications is not the purpose of the proposed FQ regulation. | No changes were made to the regulatory basis. |
| 28 | Although the current NRC materials do not place this proceeding in the context of President Obama's retrospective review order, this is a good example of retrospective review. The NRC is properly asking if the current rules are "outmoded, ineffective, insufficient, or excessively burdensome" in accordance with Executive Order 13563. | The staff agrees. | No changes were made to the regulatory basis. |
| 29 | For nonregulated merchant plants, neither the current standard nor the proposed new standard provides a useful measure of the financial status of the plant during | The staff agrees that neither the current standard nor the proposed new standard is predictive of the success of any particular project or the future financial condition of an | No changes were made to the regulatory basis. |

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| | <p>operation. The long time lag between the preparation of initial license application material and the commencement of operation, together with the intrinsic uncertainty in the construction cost, mean that financial estimates prepared at license application time are likely to be substantially different from the actual financial condition of the plant during operation. Even if it were the case (contrary to current empirical evidence) that stronger finances during operation implied better safety, it is unlikely that any reasonable financial test at licensing time could distinguish plants that will have strong finances during operation from those that will have weak finances. That distinction depends primarily on the future course of electricity prices (including any impact of a carbon tax or carbon trading program). Strict financial requirements at licensing would effectively limit new nuclear power licenses to regulated utilities because the accurate projection of financial condition many years in the future is inconsistent with the uncertainty of market prices.</p> | <p>applicant. The staff further agrees that the items identified by the commenter (time lag, intrinsic cost uncertainty, future course of electricity prices) may impact the future financial condition of an applicant. However, the staff views its proposed standard as reducing the likelihood, at the time of initial license construction and operation, that the applicant will experience financial pressures that might impact safety.</p> | |
| 30 | <p>The draft regulatory analysis states, "The following attributes are not affected by any of the alternatives presented: (1) public health (accident), (2) public health (routine), (3) occupational health (accident), (4) occupational health (routine). If safety and health are unaffected by any of the</p> | <p>The draft regulatory analysis (Section 3.4.6) was an attachment to the draft regulatory basis. Section 3.4.6 of the draft regulatory analysis is entitled, "Attributes Not Affected." The staff agrees, if the safety measures of each alternative evaluated are equal, then the least resource-intensive</p> | <p>The regulatory analysis will be updated and published with the proposed rule. Among other updates, the regulatory analysis will better reflect the safety differences between the proposed options.</p> |

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| | alternatives, then there is no basis for continuing with financial qualification requirements at the licensing stage. | option would generally be the best alternative. However, the staff believes that an indirect nexus to safety exists and will be accounted for in the regulatory analysis moving forward. | |
| 31 | Given the NRC's stated role as "solely to ensure that the plant is constructed to operate safely" and its unconcern with whether or not the project is completed, the proposed information required by the "appears to be financially qualified" standard is useless to the NRC's regulatory purpose. An applicant's awareness of financial requirements at the application stage does not provide any predictive value of the applicant's actual financial resources at the time of fuel loading. An applicant that lacks adequate financial resources and expertise as judged by potential financiers of the plant will simply not be able to obtain funds and will not proceed to the construction phase. If the NRC staff review concludes that an applicant is fully financially qualified but potential financiers do not share that opinion, the plant will not be built. If potential financiers are willing to provide the necessary large amounts of capital to build a plant, the applicant should be considered to have adequate financial knowledge and expertise regardless of how the NRC staff evaluates that applicant's financial expertise. Different financial | The staff agrees that neither the current standard nor the proposed new standard is predictive of the success of any particular project or the future financial condition of an applicant. The new standard retains a licensing requirement that will require information that is qualitative in nature, give staff a level of confidence in an applicant's financial capacity and qualifications, and give the public confidence that the applicant has or will have access to adequate funding to support safe construction and eventual operation of the facility. The staff views its proposed standard as reducing the likelihood, at the time of initial license construction and operation, that the applicant will experience financial pressures that might impact safety. | No changes were made to the regulatory basis. |

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| | <p>experts are likely to have different opinions regarding the financial viability of an expensive complex long-term project such as a nuclear power plant. Not only is the construction cost subject to uncertainty, but the overall financial viability of the plant depends on electricity prices and energy policies over the operating lifetime of the plant. The financial capabilities of any particular applicant are subject to the market test of whether or not the applicant can obtain the necessary financing to construct and operate the plant. There is no reason to turn down an applicant because the NRC staff believes that they will not be able to obtain financing. If that view is correct, then the applicant will not be able to obtain financing, the plant will not be built, and no safety issues are created. If that view is wrong, then it would be a social loss to refuse to grant an otherwise satisfactory license application because of a staff error in judging the financial expertise of the applicant.</p> | | |
| 32 | <p>The language is similar to the corresponding language in the Communications Act of 1934. The NRC is entitled to inquire about the same exact list of possible qualifications (citizenship, character, technical, financial, and other) as specified in the Radio Act of 1927 and in the Communications Act of 1934. While the</p> | <p>The staff agrees with the history of the AEA and its relation to the Radio Act of 1927 and Communications Act of 1934. The NRC has historically relied on safety as the basis for FQ requirements.</p> | <p>No changes were made to the regulatory basis.</p> |

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| | <p>origin of the financial qualifications language in the 1954 act is uncertain, it appears to have been adapted from previous statutes at a time when the 1954 law was written quickly in response to Eisenhower's request that there be flexibility in licensing requirements because of the limited information on issues likely to arise at that time. The law included a provision for priority "if there are conflicting applications for a limited opportunity for such license." Conflicting applications would create the same issues as the FCC's mutually exclusive applications and would provide similar reasons for a financial qualifications requirement at licensing. However, without conflicting applications the public interest concern that all licensed facilities be completed disappears and the case (if any) for imposing financial qualifications requirements on applicants must rest on other grounds.</p> | | |
| 33 | <p>The proposed standard of "appears to be financially qualified" should not be difficult to satisfy and is unlikely to be especially burdensome to applicants. However, even weak requirements should not be imposed unless they have a clear purpose because any specific requirement creates an opportunity for dispute and delay. The commenter provides an example involving</p> | <p>The staff agrees that requirements should only be imposed if the purpose of the regulation is clear. The staff views the purpose of this regulation as allowing the NRC to determine that an applicant has the financial capacity to move forward with its plans to construct and operate a nuclear plant and that an applicant's finances and financial arrangements will not contribute to compromised safety. In the staff's view, the</p> | <p>No changes were made to the regulatory basis.</p> |

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| | litigation with Portland Cellular Partnership in 1986. | proposed approach does not constitute an onerous requirement for the applicant. | |
| 34 | Financial qualifications have been described as an “indirect” method of promoting safety in addition to the direct methods of detailed oversight and inspections, but there has been no showing of how the indirect effect is expected to operate. No empirical evidence has been provided to show that the existing financial qualification requirements have contributed to nuclear safety and the NRC has suggested that there may not be any link between financial qualifications and safety. | When the staff uses the term “indirect method” of ensuring safety it means that financial troubles may potentially lead to safety problems in the future. The staff views its current proposal as potentially reducing the likelihood of financial pressures leading to reduced safety. The staff is not currently aware of empirical evidence to support either its previous FQ requirements or its new proposed requirements. | No changes were made to the regulatory basis. |