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# PUBLIC SUBMISSION

**Docket:** NRC-2014-0161  
Financial Qualifications for Reactor Licensing

**Comment On:** NRC-2014-0161-0001  
Financial Qualifications for Reactor Licensing

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## Submitter Information

**Name:** Gerald Brock

**Address:**

The George Washington University  
805 21st Street, NW  
Washington, DC, 20052

**Email:** gbrock@gwu.edu

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## General Comment

See attached file(s)

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## Attachments

NRC-Financial Qualifications-7-30-15

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# THE GEORGE WASHINGTON UNIVERSITY

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WASHINGTON, DC

Public Interest Comment<sup>1</sup> on

The Nuclear Regulatory Commission's Draft Regulatory Basis

Financial Qualifications for Reactor Licensing

Docket No. NRC-2014-0161 RIN: 3150-AJ43

July 30, 2015

Gerald W. Brock<sup>2</sup>

The George Washington University Regulatory Studies Center

The George Washington University Regulatory Studies Center works to improve regulatory policy through research, education, and outreach. As part of its mission, the Center conducts careful and independent analyses to assess rulemaking proposals from the perspective of the public interest. This comment on the Nuclear Regulatory Commission's Draft Regulatory Basis regarding financial qualifications for reactor licensing does not represent the views of any particular affected party or special interest, but is designed to evaluate the effect of the NRC's proposal on overall consumer welfare.

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<sup>1</sup> This comment reflects the views of the author, and does not represent an official position of the GW Regulatory Studies Center or the George Washington University. The Center's policy on research integrity is available at <http://research.columbian.gwu.edu/regulatorystudies/research/integrity>.

<sup>2</sup> Gerald Brock is Professor of Telecommunication and of Public Policy and Public Administration at the George Washington University Trachtenberg School of Public Policy and Public Administration and Co-director of the Regulatory Studies Center. He can be reached at [gbrock@gwu.edu](mailto:gbrock@gwu.edu) or (202) 994-3989.

The George Washington University Regulatory Studies Center

## Introduction

In June 2015, the Nuclear Regulatory Agency sought public comment on a draft regulatory basis for a proposed rulemaking to amend the financial qualifications standard for new reactor licensing from the current “reasonable assurance” to the proposed “appears to be financially qualified.” I appreciate the opportunity to comment and encourage NRC to proceed with the proposed rulemaking.

President Obama’s EO 13563 states that regulations “must identify and use . . . the least burdensome tools for achieving regulatory ends.”<sup>3</sup> Furthermore, the order states that “agencies shall consider how best to promote retrospective analysis of rules that may be outmoded, ineffective, insufficient, or excessively burdensome, and to modify, streamline, expand, or repeal them in accordance with what has been learned.”<sup>4</sup> EO 13579 extended retrospective review to Independent Regulatory Agencies. That order states “To the extent permitted by law, independent regulatory agencies should comply” with the provisions of EO 13563 and states that “independent regulatory agencies should consider how best to promote retrospective analysis of rules . . . and to modify . . . or repeal them in accordance with what has been learned.”<sup>5</sup>

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 has observed that the link between the current financial requirements and the regulatory goal of increased safety is weak to non-existent and that non-regulated merchant plants find the current rules particularly burdensome. The NRC has stated:

The current NRC reactor FQ [financial qualification] requirements and review process were developed before the electricity markets in the United States were deregulated. While the current rules contemplate applications from non-utility merchant plants, no nuclear power merchant plant applicant has received an initial license as of the writing of this regulatory basis document. All current

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<sup>3</sup> EO 13563, “Improving Regulation and Regulatory Review,” 76 FR 3821 (2011), Section 1(a).

<sup>4</sup> EO 13563, Section 6(a).

<sup>5</sup> EO 13579, “Regulation and Independent Regulatory Agencies,” 76 FR 41587 (2011), Section 2(a).

nuclear power reactor licensees were found to be financially qualified at initial licensing on the basis of their status as rate-regulated utilities.<sup>6</sup>

The NRC is properly asking if the current rules are “outmoded, ineffective, insufficient, or excessively burdensome” in accordance with EO 13563. To some extent, NRC has already answered the question with its reactor construction and oversight process that provides detailed direct evaluation of safety-related characteristics rather than the vague indirect effects created by financial qualifications. The question is whether any form of financial qualification test at the licensing stage can provide a meaningful increase in safety beyond that already provided through the reactor oversight programs. As explained below, I believe that the proposed new financial qualification standard is better than the current financial qualification standard but that simply abolishing the financial qualifications requirement for licensing would be an improvement over the proposed new standard.

I make three arguments in this comment: (1) the statutory language for license qualifications is similar to that found in other statutes and does not show a specific Congressional intent for the NRC to examine financial qualifications; (2) Even qualifications that are not particularly burdensome create the risk of delay and litigation and should only be used if they clearly contribute to the regulatory decision process; (3) The proposed standard of “appears to be financially qualified” is unnecessary for regulatory decision making because there is a market test of financial qualifications that is more accurate than regulatory review.

## **Statutory Language**

The Draft Regulatory Basis for this proceeding contained a discussion of the significance of the statutory mention of financial qualifications, including a staff non-concurrence that contended that the statutory language requires the NRC to continue examining financial qualifications. In addition to the legal analysis refuting that contention presented in the Draft Regulatory Basis, it is useful to consider the similarity of the licensing qualification language in the Atomic Energy Act of 1954 to that of earlier laws for other industries.

The Radio Act of 1927 prescribed procedures for obtaining a license to operate a radio station including the following: “applications shall set forth such facts as the licensing authority by regulation may prescribe as to the citizenship, character, and

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<sup>6</sup> NRC Draft Regulatory Basis Document, June, 2015, Section 4, p. 6.

financial, technical, and other qualifications of the applicant.”<sup>7</sup> Substantial portions of that Act were incorporated into the Communications Act of 1934 that created the Federal Communications Commission (FCC). The standards for licensing included the same five characteristics as the earlier statute and those standards remain in effect:

All applications for station licenses, or modifications or renewals thereof, shall set forth such facts as the Commission by regulation may prescribe as to the citizenship, character, and financial, technical, and other qualifications of the applicant to operate the station;<sup>8</sup>

The FCC prescribed financial qualification requirements for a variety of different services because the grant of a license to use the electromagnetic spectrum was conditioned on an expectation that service would be provided with benefits to the public. In many cases, license applications were mutually exclusive and the grant of a license to one applicant required denying the license to other applicants who wanted to use the particular frequency in a specified geographical area. If a license was given to an applicant that was unable to complete its proposed facilities because of inadequate finances, then the expected service would be unavailable and the “public interest, convenience, and necessity”<sup>9</sup> that the license was meant to satisfy would not be served.

In President Eisenhower’s 1954 message to Congress recommending amendments to the Atomic Energy Act of 1946 in order to allow civilian reactors and other purposes, he stated with regard to licensing: “In order to encourage the greatest possible progress in domestic application of atomic energy, flexibility is necessary in licensing and regulatory provisions of the legislation. Until further experience with this new industry has been gained, it would be unwise to try to anticipate by law all of the many problems that are certain to arise.”<sup>10</sup> In accordance with President Eisenhower’s February request, a bill to amend the Atomic Energy Act of 1946 was introduced in June and the Atomic Energy Act of 1954 was signed in August of that year.

The licensing language in the Atomic Energy Act of 1954 states:

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<sup>7</sup> Section 10 of The Radio Act of 1927, Public Law No. 632, Feb. 23, 1927, 69<sup>th</sup> Congress.

<sup>8</sup> Section 308(b) of the Communications Act of 1934, codified at 47 U.S.C. 308.

<sup>9</sup> 47 U.S.C. 309.

<sup>10</sup> Dwight D. Eisenhower, “Special Message to the Congress Recommending Amendments to the Atomic Energy Act,” February 17, 1954. Available at <http://www.presidency.ucsb.edu/ws/?pid=10163> (visited 7/03/2015).

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.<sup>11</sup>

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 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."<sup>12</sup> 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.

## **Unnecessary Rules Create Opportunity for Litigation and Delay**

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 opportunity for litigation can be illustrated by the tortured history of the Portland Cellular Partnership. Under the FCC rules applicable in 1986, a lottery was held to choose among mutually exclusive applicants for a license to provide cellular telephone service in specific geographic areas. Lottery winners were required to provide their financial qualifications to construct and operate the system in a particular specified form within 30 days of the lottery in order to ensure that the license winner would provide service to the public. The 1986 lottery for Portland, Maine selected a company that became the

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<sup>11</sup> Section 182(a), codified at 42 U.S.C 2232.

<sup>12</sup> Section 182(d), codified at 42 U.S.C. 2332.

Portland Cellular Partnership (“PortCell”), owned 48% by NYNEX Mobile (now part of Verizon) with the remainder split among two other companies. In order to meet the post lottery financial qualifications PortCell presented a letter of credit from NYNEX credit company promising a credit package sufficient for the estimated costs of construction and initial operation, but the letter of credit did not include some of the specific details specified in the FCC’s rules for financial qualification showings.

The FCC staff accepted the letter of credit as adequate because the participation of NYNEX eliminated the substantive question of the lottery winner’s ability to construct and operate the system. Other lottery participants requested review of the staff decision by the full Commission. The Commission upheld the staff decision, finding that even though PortCell did not satisfy the particular form specified for financial qualification showings, a waiver was appropriate because of financial information regarding NYNEX already on file at the Commission. The Commission stated that the purpose of the financial qualification rules was to “assure that lottery entrants are bona fide applicants possessing a demonstrated ability to construct and operate a high quality competitive cellular system” and that “we believe it is fair to take into account the application and license record with the Commission of NYNEX Corporation and its affiliates. This record substantiates in this case the financial capability of the applicant, notwithstanding an absence of some of the usually required specificity regarding financial commitment terms.”<sup>13</sup> On appeal, the FCC decision was overturned as “arbitrary and capricious because it was not based on any rational waiver policy.”<sup>14</sup>

On remand, the FCC concluded that it could not justify the waiver to the court’s satisfaction and consequently dismissed PortCell’s application and granted the license to Northeast Cellular, one of the other lottery participants. Northeast constructed the proposed facilities and began cellular telephone service in the relevant area. PortCell challenged the FCC action, asserting that the information collection requirement of the financial qualification regulation had not been approved by OMB under the Paperwork Reduction Act at the time of the disputed financial qualification filing. According to PortCell, that meant that the requirement was not valid at that time and therefore the FCC could not penalize PortCell for failure to provide information in the specified form. In a series of proceedings before the FCC, the FCC initially rejected PortCell’s

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<sup>13</sup> In re Application of Portland Cellular Partnership, FCC 89-59, adopted February 15, 1989, 4 FCC Record 2050 at 2051.

<sup>14</sup> Northeast Cellular Telephone v. FCC, 897 F2d 1164 (1990)

Paperwork Reduction Act argument, then later accepted it. The FCC then revoked its earlier license grant to Northeast and gave the license to PortCell.

On appeal, the court upheld the change back to PortCell finding that “an agency may not, having belatedly gotten OMB approval of an information collection requirement, punish a respondent for its faulty compliance while the collection was still unauthorized.” The court rejected Northeast’s argument that the financial qualification requirements were a substantive rather than an information collection requirement subject to the PRA. The court concluded: “the regulation imposes both a substantive and a reporting requirement. . . . this case involves PortCell’s failure to comply with a collection of information that lacks an OMB control number and not, as Northeast would have it, PortCell’s failure to fulfill an underlying substantive requirement.”<sup>15</sup> After more than a decade of proceedings before the FCC and the courts, the final result was the same as the original staff decision. There was never any substantive question about the ability of PortCell to construct the facilities but the specific details required in the regulation and PortCell’s failure to follow them exactly provided an opportunity for those who had a chance to receive the valuable license try to find a way to disqualify PortCell. In the NRC case, licenses are not mutually exclusive and thus one applicant does not have the same incentive to challenge other applicants as in the early cellular service. However, there may be parties who have their own reasons for slowing or stopping the grant of nuclear power licenses and any unnecessary specific requirements provide an opportunity for delay and litigation.

## **Neither the Current nor the Proposed Standard is Necessary**

The Saco River case affirming the validity of PortCell’s PRA challenge to the FCC financial qualification rules shows that it is necessary for an independent regulatory agency to obtain OMB approval for any information requirements imposed by regulation.<sup>16</sup> Even if approval is not currently required because of the small number of applications, it is useful to consider whether the proposed NRC financial qualification standard is consistent with the PRA. The PRA states in part: “**Before approving a proposed collection of information, the Director shall determine whether the collection of**

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<sup>15</sup> Saco River Cellular v. FCC, 133 F.3<sup>rd</sup> 25 (1998)

<sup>16</sup> The PRA applies to information collected from ten or more persons. If only a small number of applications for nuclear plants are filed, then NRC regulations may be exempt from the PRA. However, failure to take account of the PRA requirements could result in the odd situation that a sudden increase in nuclear plant applications causes the information requirement to become invalid.

information by the agency is necessary for the proper performance of the functions of the agency, including whether the information shall have practical utility.”<sup>17</sup>

The question in this proceeding is what information on financial qualifications at the licensing stage “is necessary” or has “practical utility” for the NRC’s safety-related objective. Three separate issues make it difficult to show a safety-related benefit from financial information provided at the time of license application: (1) Any particular specification of information requirement (including both the current standard and the proposed new standard) will provide an imperfect view of the applicant’s true financial status at the time of filing; (2) 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; (3) 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.

A financial qualification at licensing may help to prevent a frivolous application, but the other detailed requirements make a frivolous application unlikely. There is no guarantee or even an expectation that such a requirement means the plant will actually be built in a particular time after the license is granted. That distinguishes financial requirements for nuclear plants from FCC license requirements that are explicitly designed to ensure that service is provided to the public within a reasonable time and that a license is not “banked” for use at an indeterminate later time. Until fuel is loaded, nuclear power plant construction is not significantly different from other large complex construction projects. It is unlikely that a party will begin construction using its own funds without assurance of adequate financing to complete the project or that financial entities will advance funds to begin construction without adequate financing for the entire project. Unexpected events subsequent to the beginning of construction could cause a failure to complete the plant, even for a company with extremely strong finances. For an example in a different context, Harvard University began building a \$1.3 billion science facility and then stopped construction on the uncompleted facility at the end of 2009 after large losses on its endowment funds from the financial turmoil of

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<sup>17</sup> 44 U.S.C. 3508

2007-2009.<sup>18</sup> As the wealthiest U.S. university, no degree of preconstruction financial review would have found Harvard unqualified to undertake the project, but unexpected events caused a change in plans. Similarly, it is possible that a licensee could terminate construction on a partially completed nuclear plant in response to unexpected events regardless of the company's financial strength or the financial qualification conditions required to obtain a license. Such an event would cause losses for investors but would create no safety problems beyond the nuisance of a partially completed construction project that occasionally occurs in other industries. If a plant is begun and not finished, it will almost certainly be due to an unanticipated substantial change in circumstances and neither the existing rule nor the proposed new standard would be of any help because both are based on reasonable current expectations based on available information.

In order to proceed to a stage where nuclear safety is an issue, the company must succeed in financing a very expensive construction process and in meeting the initial decommissioning financial requirements. If the licensee does not have adequate financial expertise and resources, it will never reach the fuel loading stage. For non-regulated merchant plants, neither the current standard nor the proposed new standard provides a useful measure of the financial status of the plant during 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.

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

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<sup>18</sup> "Arrested Development," Harvard Magazine, March-April, 2010, available at <http://harvardmagazine.com/2010/03/arrested-development> (visited July 25, 2015). The university has subsequently resumed construction on a modified version of the original plan.

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. In the Draft Regulatory Analysis, it is stated:<sup>19</sup>

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 alternatives, then there is no basis for continuing with financial qualification requirements at the licensing stage.

The NRC's description of the proposed standard "appears to be financially qualified" includes the following:

The NRC will require a cost estimate to ensure that the applicant understands the size and scope of the project. . . . 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 financing. . . . The NRC staff views the applicant's management team and past experiences with infrastructure projects as a key component for demonstrating financial capacity. Such information demonstrates an understanding of the complexities of this type of project, the challenges in raising capital, and the need for ensuring financing before beginning reactor construction.<sup>20</sup>

The regulatory basis document also states "The NRC fully expects that applicants and financiers will perform extensive due diligence on the project and the corresponding financial arrangements. . . . These are not the concerns of the NRC, because NRC's role is solely to ensure that the plant is constructed to operate safely."<sup>21</sup> Later, the document states "the purpose of the NRC staff's review is not to ensure that the project

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<sup>19</sup> Enclosure 4 of the Regulatory Basis package, Section 3.4.6, p. 16.

<sup>20</sup> Draft Regulatory Basis Document, Section 7.1, p. 14.

<sup>21</sup> Draft Regulatory Basis Document, Section 6.3, p. 13.

is completed; rather it is to ensure that an applicant has the financial capacity to obtain financing when the project moves forward.”<sup>22</sup>

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 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.

## **Conclusion**

If strictly enforced, the current financial qualification requirements could cause an applicant that would succeed at building and safely operating a nuclear power plant to be denied a license because that applicant is unable to arrange the required financial commitments at the time specified by the current rules. Thus 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

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<sup>22</sup> Draft Regulatory Basis Document, Section 7.2.1.2, p. 16.

rules because it is unlikely to cause the rejection of a qualified applicant. However, neither standard is likely to provide any improvement in safety. Neither standard will provide as much information about the applicant's financial capability as the observation of whether or not the applicant is able to obtain adequate financing to build the plant. If the applicant is unable to arrange adequate financing and the plant is not built, no safety issues are created. If the applicant is able to arrange adequate financing, it will be an indication that financially sophisticated persons with their own or their institution's money at risk have made a judgment that the applicant is capable of carrying out the proposed project successfully. A NRC staff review of the applicant's financial knowledge at license application time is unlikely to add any relevant information to the analyses conducted by those who are considering providing the capital. Consequently, I recommend that the NRC undertake the proposed rulemaking and abolish the financial qualifications test as a licensing requirement.