POLICY ISSUE
(Notation Vote)

June 29, 1998 SECY-98-153

FOR: The Commissioners

FROM: L. Joseph Callan
Executive Director for Operations

SUBJECT: UPDATE OF ISSUES RELATED TO NUCLEAR POWER REACTOR FINANCIAL QUALIFICATIONS IN RESPONSE TO RESTRUCTURING OF THE ELECTRIC UTILITY INDUSTRY

PURPOSE:

To provide the Commission with an update of electric utility deregulation and restructuring issues regarding the financial qualifications of power reactor licensees to operate their facilities safely.

BACKGROUND:

On October 24, 1997, the staff sent to the Commission SECY-97-253, "Policy Options for Nuclear Power Reactor Financial Qualifications in Response to Restructuring of the Electric Utility Industry." In that paper, the staff discussed three options for the Commission's consideration regarding possible approaches that the NRC could use in assessing the financial qualifications of power reactor licensees to operate their plants safely. (The impact of deregulation and restructuring on decommissioning funding assurance is being addressed in a separate rulemaking, which was published in the *Federal Register* on September 10, 1997. A final rule is scheduled to be sent to the Commission by June 30, 1998.) In response to SECY-97-253, the Commission issued a staff requirements memorandum on January 15, 1998, and directed the staff to maintain the existing financial qualifications framework as discussed in Option 2 of SECY-97-253 and to "develop a coherent, efficient plan that would allow timely confirmation of the status of licensees (i.e., whether they meet the definition of 'electric utility')

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as deregulation actions are finalized by States." In response, on April 16, 1998, the staff submitted SECY-98-083, "Plan for the Timely Confirmation of Power Reactor Licensees as 'Electric Utilities' as Economic Deregulation Proceeds."

In addition, the Commission directed the staff to "provide a more detailed identification of the safety concerns that the NRC would like to address, the likely effects and timing of developments in deregulation and restructuring relating to operational safety, and identification of options for efficiently addressing the issues." This paper addresses these issues.

DISCUSSION:

Issue 1: More Detailed Identification of Safety Concerns

As described in SECY-97-253, traditional "cost-of-service" regulation, under which virtually all NRC power reactor licensees have operated, has typically been effective in providing necessary funds for licensees to operate and decommission their nuclear plants safely.[1] With the advent of greater competition within the electric utility industry, pressures to reduce costs and improve efficiency have increased and will almost certainly intensify as deregulation proceeds. Moreover, with deregulation of the generation sector of the industry, traditional cost-of-service regulation is likely to essentially disappear for most generators. Thus, the concept of "electric utility" as currently defined in 10 CFR 50.2 may in the future no longer be meaningful for a large number of, if not all, power reactor licensees. Electricity rates set by competition in a free market may not provide the same degree of assurance of adequate funds for safe operation and decommissioning as traditional cost-of-service ratemaking. In SECY-97-253, the staff cited the example of the "Independent Safety Assessment of Maine Yankee Atomic Power Company" (NRC Staff Report; Ellis W. Merschoff, Team Leader; October 1996), which concluded, "Economic pressure to be a low-cost energy producer has limited available resources to address corrective actions and some plant improvement upgrades."

When the NRC issued its "Final Policy Statement on the Restructuring and Economic Deregulation of the Electric Utility Industry" (62 *Fed. Reg.* 44071; August 19, 1997), specific safety concerns with respect to rate deregulation and restructuring were identified. For example, the final policy statement discussed such safety concerns as reductions in expenditures for manpower and training and other reductions in operations and maintenance (O&M) and capital additions budgets. The issues of on-line maintenance and increased fuel burnup were also addressed.

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[1] In an effort to reduce costs to ratepayers, some States implemented economic performance incentive programs. The NRC expressed its potential concerns about these programs in "Possible Safety Impacts of Economic Performance Incentives: Final Policy Statement," (56 FR 33945; July 24, 1991). State economic performance incentive programs may be seen as a transition from traditional cost-of-service ratemaking to full competition, although, in practice, the NRC staff did not find these programs to have a measurable impact on nuclear plant safety.

In addition, with respect to specific plants such as Maine Yankee, Millstone, and others, the inspection process has identified several manifestations of inappropriate responses to competitive pressures. These include: increased need for corrective actions; maintenance and operator work-arounds; temporary modification and procedure revision backlogs; decreased performance in operator licensing and requalification programs; increased frequency of significant operational and occupational safety events; decreased plant and system reliability; increased volume and acrimony of allegations; and increased frequency of regulatory violations and resulting penalties.

As deregulation proceeds, cost pressures may increase these types of reductions in safety margins at plants. Moreover, because the impact of budgetary reductions can cut across all plant safety-related programs, other impacts in addition to those previously identified may occur as a result of deregulation. For example, a "merchant plant" with no assets other than the nuclear plant itself could be unable to make necessary safety expenditures after an extended outage if it did not have an adequate financial cushion to pay costs incurred during the outage. In such a situation, it is not clear that a transition from indefinite shutdown to permanent shutdown and decommissioning would be sufficiently smooth to prevent funding shortages from causing safety problems during the shutdown transition period. That is, given the requirements in 10 CFR 50.82 with respect to: (1) the limitation on the use of the trust fund to legitimate decommissioning activities; and (2) the timing of significant decommissioning trust fund withdrawals, a licensee could run out of funds for operational safety expenses before it was able to draw on its decommissioning trust fund. This, in turn, could force the NRC to make the decision for the licensee to permanently cease operations and initiate decommissioning pursuant to 10 CFR 50.82.

Issue 2: Likely Effects and Timing of Developments in Deregulation and Restructuring Relating to Operational Safety

The staff believes that the effects of developments in deregulation and restructuring on operations will be mixed. As has been indicated previously by Chairman Jackson and others, an efficient and economical plant is often a safe plant. In earlier studies, the staff has not found a strong correlation between levels of O&M and capital additions expenditure, and measures of safety performance.[2] Many plants have increased capacity factors and reduced O&M costs to the point at which they appear to be well positioned to compete in a deregulated electricity marketplace. In many cases, these plants have demonstrated excellent safety performance, as evidenced by low scores (i.e., "1" being the best score and "3" being the worst) on the NRC's systematic assessments of licensee performance (SALP) and favorable NRC inspection program findings. These plants should continue to be excellent safety performers when and if deregulation occurs, as long as their current safety culture is maintained and they continue to be able to generate sufficient revenues to adequately cover safety expenses.

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[2] In December 1991, the staff completed "An Evaluation of Nuclear Power Plant Operating and Maintenance Costs." The staff also compared O&M and capital additions costs of six good performers and six poor performers as part of the study, although these results were not included in the study. More recent general reviews of similar data continue to show a lack of close correlation between these variables.

Conversely, some plants that spend significantly higher than average amounts on O&M and capital additions costs do not have excellent safety performance. High-cost plants, regardless of their safety performance, will be more vulnerable to early shutdown because of their inability to compete with lower cost alternative sources of power when and if rate deregulation occurs for them. If they shut down, public health and safety concerns with respect to operations would, of course, diminish, with the focus turning to public health and safety concerns related to decommissioning activities. However, those marginal plants that might reduce expenditures in an effort to increase competitiveness should be of concern to the NRC. As previously noted, some instances of these expenditure reductions have occurred in a rate regulatory environment; without recourse to essentially captive ratepayers, incentives to take such shortcuts may increase.

One unknown factor is the future cost of alternative sources of electric power. If natural gas prices drop steeply, if combined-cycle gas turbine plants become significantly more efficient, or if other, low-cost generation technologies are developed, nuclear plants that are currently expected to be competitive may no longer be so. In such cases, incentives to cut costs may increase further, which could adversely affect safety. (Of course, it is possible that nuclear plants can further reduce costs and increase competitiveness without compromising safety.)

With respect to timing, California, New Hampshire, Pennsylvania, and Rhode Island have been leaders in enacting rate deregulation and restructuring legislation. More recently, Connecticut, Illinois, Massachusetts, and Virginia have enacted such legislation. Michigan has extended its deregulation actions through orders by the Michigan Public Service Commission, and New York and Vermont have initiated rate deregulation actions primarily through the actions of their public service commissions. However, other States have chosen to study deregulation further without taking specific action or, as with South Carolina, have taken a deliberate "go slow" approach. At the Federal level, the Administration issued its deregulation plan in March 1998, and has developed draft legislation to implement its plan. Several bills have been introduced in the House of Representatives and the Senate, but it appears unlikely that significant legislation to deregulate the electric utility industry will be enacted by this Congress.

Of those States that have enacted legislation, some have directed that nuclear plant operations remain subject to rate regulation, while others have directed that nuclear plant owners divest their plants, although no divestitures have occurred to date. In most cases, however, States have deferred action on rate treatment of nuclear plant operating costs pending resolution of treatment of recovery of stranded costs.

Issue 3: Identification of Options for Efficiently Addressing the Issues

In SECY-97-253, the staff discussed three options to respond to rate deregulation initiatives as they may affect licensee financial qualifications to operate power reactors. The Commission chose Option 2, which maintains the existing regulatory framework for operational financial qualifications reviews and continues a case-by-case approach to such reviews.

The staff believes that the three options presented in SECY-97-253 remain valid for consideration by the Commission. In view of the continuing uncertainty of the nature and impact of rate deregulation on operational financial qualifications, the staff understands the

Commission's reluctance to impose additional requirements at this time. The staff believes that the current financial qualifications framework allows the NRC substantial discretion in evaluating specific situations -- in particular, the general provision in 10 CFR 50.33(f)(4) that allows the NRC to request a licensee "to submit additional or more detailed information respecting its financial arrangements and status of funds if the Commission considers this information appropriate." Thus, the existing framework generally provides an effective, reasonably efficient process for obtaining information to help the NRC determine whether its power reactor licensees remain financially qualified.

However, the staff proposed some aspects of Option 1 in SECY-97-253 primarily to clarify existing requirements that may be subject to differing interpretations or to codify current staff practice. For example, the changes to 10 CFR 50.33(f) and Appendix C discussed in Option 1 would clarify some ambiguities in existing language and would provide the same level of detail for post construction permit (CP) financial qualifications reviews as currently provided for CP reviews.

Rather than impose additional requirements, these changes are likely to help expedite the review process by making NRC requirements more specific. For example, in meetings between the staff and the Nuclear Energy Institute (NEI), NEI has asked that the NRC clarify the distinction between "established entity" and "newly formed entity." (These terms are used, but not defined, in 10 CFR 50.33(f)(3) and Appendix C to Part 50.) NEI has also asked the NRC to clarify the reporting frequency of financial qualifications information applicable to licensees that no longer meet the NRC's definition of "electric utility." NEI has suggested that these and possibly other clarifications be included in the final "Standard Review Plan on Power Reactor Licensee Financial Qualifications and Decommissioning Funding Assurance" (SRP).[3] Although the staff has incorporated these clarifications in the final SRP, the staff believes that other clarifications are more appropriately accomplished by rulemaking (e.g., codifying current staff practice regarding notification of asset transfers as conditions of the NRC orders approving formations of holding companies). As a result, the Commission may wish to consider rulemaking based on those aspects of Option 1 that essentially clarify existing requirements and staff practice. Finally, the Commission may wish to consider clarifying NRC expectations with respect to resources needed to maintain safety expenditures during extended outages.

In sum, the staff proposes the following actions to monitor licensee financial qualifications for operating plants. First, the staff intends to continue to monitor developments and issues relevant to protecting public health and safety in State and Federal rate deregulation using the process recommended in SECY-98-083. If the staff determines that the existing regulatory framework becomes ineffective or inefficient in addressing operational financial qualifications in the context of rate deregulation, it will inform the Commission and recommend approaches for the Commission's consideration. Second, if the Commission so directs, the staff will develop language to clarify existing NRC financial assurance requirements in 10 CFR 50.33(f) and Appendix C to Part 50. Third, the staff will complete the final "Standard Review Plan on Power Reactor Licensee Financial Qualifications and Decommissioning Funding Assurance" (See Attachment) upon receiving any additional Commission guidance as a result of this paper and

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[3] The draft SRP was issued as NUREG-1577 in January 1997.

the Commission paper that provides the final rule on financial assurance requirements for decommissioning nuclear power reactors. (This latter paper is due to the Commission by June 30, 1998.)

RESOURCES:

There are no additional resource implications based on the evaluation provided herein. If the Commission decides to proceed with clarifying rulemaking, the staff will use existing resources to accomplish it.

COORDINATION:

The Office of the General Counsel has no legal objection to this paper.

RECOMMENDATION:

That the Commission approve the staff's ongoing evaluation of operational financial qualifications processes.

L. Joseph Callan
Executive Director
for Operations

Attachment : Draft Final SRP

Commissioners' completed vote sheets/comments should be provided directly to the Office of the Secretary by COB Wednesday, July 15, 1998.

Commission Staff Office comments, if any, should be submitted to the Commissioners NLT Wedneday, July 8, 1998, with an information copy to the Office of the Secretary. If the paper is of such a nature that it requires additional review and comment, the Commissioners and the Secretariat should be apprised of when comments may be expected.

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ATTACHMENT 1

Standard Review Plan on Power Reactor Licensee Financial Qualifications and Decommissioning Funding Assurance

REVIEW RESPONSIBILITIES

Primary -- Generic Issues and Environmental Projects Branch (PGEB)

Secondary -- None

I. AREAS OF REVIEW

The NRC is issuing this Standard Review Plan (SRP) to describe the process it uses to review the financial qualifications and methods of providing decommissioning funding assurance required of power reactor license applicants and licensees. A separate Standard Review Plan on Antitrust Reviews was issued in December, 1997 (NUREG-1574). This SRP will be used as the basis for reviews as the electric utility industry moves from an environment of rate regulation toward greater competition and the attendant corporate restructuring that competitive forces will likely engender. The NRC issued a draft of this SRP in January, 1997 (NUREG-1577), and received 6 public comment letters as a result. This SRP, like the draft, reflects current NRC

regulations and policy. Thus, some of the public comments received that suggested changes to current requirements for financial qualifications could not be considered. However, the NRC has adopted comments on existing processes and procedures in this SRP, where appropriate. Since the NRC issued the draft SRP, a final rule on decommissioning funding assurance has been issued [date; cite]. This SRP reflects the changes to the NRC's decommissioning funding assurance requirements that the final rule implemented. Additionally, on October 24, 1997, the NRC staff issued SECY-97-253, "Policy Options for Nuclear Power Reactor Financial Qualifications in Response to Restructuring of the Electric Utility Industry." On January 15, 1998, the Commission responded to the staff's proposals in a staff requirements memorandum and indicated that the NRC should continue its current approach to evaluating the financial qualifications of license applicants and licensees of operating nuclear power plants. If the NRC decides to change its financial qualifications review criteria in the future, it will revise this SRP to reflect such changes.

II. ACCEPTANCE CRITERIA

1. Financial Qualifications

Section 182.a. of the Atomic Energy Act of 1954, as amended, (AEA) provides

that "Each application for a license... 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 ... as the Commission may deem appropriate for the license." The NRC's regulations governing financial qualifications reviews of applications for licenses to construct or operate nuclear power plants are in section 50.33(f) of Title 10 of the Code of Federal Regulations. Guidance for Construction Permit (CP) financial qualifications reviews is provided in Appendix C to 10 CFR Part 50. Transfers of licenses are governed by 10 CFR 50.80. If a license amendment is required by, for example, the addition of a new or renamed entity to the license, the provisions of 10 CFR 50.90, 50.91, and 50.92 would be applicable.

2. Decommissioning Funding Assurance

Decommissioning funding assurance for nuclear power plants is governed by 10 CFR 50.33(k), 50.75, and 50.82 in a three-stage process. First, as required in section 50.33(k), on or before July 26, 1990, licensees were required to submit a report, including a certification, specifying how financial assurance for decommissioning would be provided. An applicant for an operating license (OL) under 10 CFR Part 50 or a combined license under 10 CFR Part 52 is required, pursuant to 10 CFR 50.33(k)(1), to submit information

in the form of a report indicating how reasonable assurance will be provided that funds will be available to decommission the facility. Second, licensees are required to adjust annually the amount of decommissioning funding assurance, using an amount equal to or greater than that required under the formula in section 50.75(c)(2), and report on the status of their decommissioning funds as provided by 10 CFR 50.75(f). Periodic adjustments to the funding amount should be made in coordination with a licensee's rate regulator, if applicable, or by itself. Third, in accordance with section 50.75 (f), 5 years before permanent cessation of operations, a licensee must submit a preliminary decommissioning cost estimate that includes plans for adjusting levels of funds assured for decommissioning to demonstrate that a reasonable level of assurance will be provided that funds will be available when needed to cover the cost of decommissioning. By the time of submission of the post-shutdown decommissioning activities report (PSDAR) required in section 50.82, licensees should have either (1) funds plus an estimate of expected earnings on the fund, or (2) a guarantee, insurance, or other funding assurance method for the total estimated decommissioning cost, as provided in 10 CFR 50.75(e). Final funding plans, and adjustments to them during any safe storage period, are also required, as necessary. For those licensees that shut down their power plants prematurely (that is, before the scheduled end of their operating license term), section 50.82 provides that the schedule for collecting any balance of funds estimated to be needed for decommissioning

will be determined on a case-by-case basis. Section 50.75(e) describes allowable funding assurance mechanisms and the circumstances under which licensees may use them. Section III.2. of this SRP provides additional discussion of decommissioning funding assurance.

3. Foreign Ownership

License applications for new facilities or for transfers of ownership of existing facilities may include requests by foreign entities to own all or part of a reactor facility. Section 103d of the AEA prohibits the NRC from issuing a license to an applicant if the NRC knows or has reason to believe that the applicant is owned, controlled, or dominated by an alien, foreign corporation, or foreign government.[1]

III. REVIEW PROCEDURES

The reviewer uses the review procedures described in this section of the SRP

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[1] The NRC regulation that implements this prohibition in the Atomic Energy Act is 10 CFR 50.38, which states:

> Any person who is a citizen, national, or agent of a foreign country, or any corporation, or other entity which the Commission knows or has reason to believe is owned, controlled or dominated by an alien, a foreign corporation, or a foreign government, shall be ineligible to apply for and obtain a license.

as may be appropriate for a particular case.

1. Financial Qualifications

a. Construction Permit Reviews

The NRC does not currently have any CP applications for review. All reviews for any new CP applications will be performed under the following procedures. Section 50.33(f)(1) requires CP applicants to submit information that "demonstrates that 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 directions for evaluating the financial qualifications of CP applicants. Applicants should provide at least 3 types of information: (1) an estimate of construction costs, including plant costs ascribable to the nuclear plant itself; general and overhead plant costs, including any transmission and distribution costs ascribable to the plant; and nuclear fuel cost for the first core load; (2) the source(s) of construction funds, including a financial plan describing internal and external sources of funds; and (3) the latest published annual financial reports, together with any current interim financial statements that are pertinent, including income, balance sheet, and cash flow statements.

In addition to this information, section 50.33(f)(3) and Appendix C to 10 CFR Part 50 require newly-formed entities[2] to provide information showing: (1) the legal and financial relationships they have or propose to have with their stockholders, corporate affiliates, and others (such as financial institutions) upon which they are relying for financial assistance;

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[2] The NRC views the term, "newly-formed entity," in the context of CP, OL, or post-OL reviews, as being largely self-explanatory, but is providing examples to help clarify this term. As provided in 10 CFR 50.33(f)(3), additional information is required of newly-formed entities when they are organized for the primary purpose of constructing or operating a nuclear power plant. Thus, for example, the NRC will treat, as it has in previous reviews, such an operating company as a newly-formed entity and will require information that is typically contained in operating or participation agreements. The NRC will also evaluate the ability of the plant owners to meet their obligations to the operating company. If, for example, the owners of an operating company meet the definition of an "electric utility" as provided in 10 CFR 50.2, less detailed information will be required. (As described in the section on OL reviews, a newly-formed entity that is an "electric utility" will not be subject to further review.) The NRC will evaluate new companies formed as the result of mergers to determine their status as "electric utilities" or, if they do not meet this definition, will evaluate their projected combined financial statements and other relevant information as described in this SRP to determine their financial qualifications. Similarly, the NRC will evaluate formations of new holding companies over existing licensees to determine the potential financial impact of the new company on the existing licensee, but will perform only a limited review if the licensee is an "electric utility". A newly-formed entity that has been formed to buy and operate a nuclear plant as its only significant asset (e.g., a "merchant plant" or a "GENCO") would normally be expected to submit more detailed information to support its financial qualifications, unless it meets the definition of "electric utility," than other applicants. Corporate reorganizations (e.g., functional unbundling of nuclear plant operations from other corporate activities) or initiation of contracts with other parties to provide nuclear plant operational support would not normally be considered to be "newly-formed entities," although such changes may be subject to review pursuant to 10 CFR 50.80, as described below.

(2) information to support the financial capability of stockholders, corporate affiliates, and others to meet their current or intended commitments to the applicant(s); (3) any other information considered necessary by the Commission to enable it to determine applicants' financial qualifications; and (4) applicants' statements of assets, liabilities, and capital structure as of the date of the application.

The NRC believes that this framework is sufficient to provide reasonable assurance of the financial qualifications of both electric utility and non-electric-utility applicants under the various ownership arrangements currently contemplated. These ownership arrangements include: (1) holding companies; (2) operating, generating, or service company subsidiaries; (3) merged companies; (4) independent power producers (IPPs); (5) exempt wholesale generators; and (6) "hybrid" companies with characteristics of various combinations of these organizations. If entities using unanticipated ownership arrangements apply for new CPs, the NRC has sufficiently broad authority under section 50.33(f) either to require adequate information to assure itself that the applicant has demonstrated reasonable assurance of obtaining adequate funds for the safe construction of the facility or to deny issuance of a CP.

b. Operating License Reviews

"Electric utilities" as defined in 10 CFR 50.2 are exempt under 10 CFR 50.33(f) from financial qualification reviews for OL applications. OL applicants that are "electric utilities" will not be subject to further NRC financial qualifications review, other than to determine that they, in fact, are "electric utilities" with respect to the operation of their nuclear plants and all of their corporate owners (i.e., parent companies) have been identified. OL applicants that are not "electric utilities" are required under section 50.33(f)(2) to submit information that demonstrates that they possess or have reasonable assurance of obtaining the funds necessary to cover estimated operating costs for the period of the license. Non-electric utility OL applicants are required to submit estimates for total annual operating costs for each of the first 5 years of operation of their facilities, and must also indicate the source(s) of funds to cover operating costs. Information on the sources of funds should include projections of the market price of power in the area in which the plant will be located, any long-term contracts that the applicant has for the plant, contracts or other arrangements with relevant transmission 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), corporate revenues from other sources that may be used at the nuclear plant, and any other information

relevant to the source of revenues. The NRC will evaluate this information for reasonableness and will compare it to plants of similar size, design, and location. If applicable, the NRC will also use information from Moody's, Standard and Poors, and Value Line or other widely accepted rating organizations to assist in its reviews. If a license applicant has an "investment-grade" rating or equivalent from at least two of these sources, or has demonstrated that it has met the electricity supply and demand test described above, the NRC will find such applicants financially qualified. If an applicant cannot meet these criteria, the NRC will also consider other relevant financial information (i.e., 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)(3). On the basis of the information submitted for OL applications, the staff issues findings as to the financial qualifications of its license applicants. If the NRC determines that a license applicant does not meet these financial qualification standards, it will either deny issuance or transfer of the OL, condition the OL, or take other regulatory action to mitigate financial qualifications concerns.

c. Combined License Applications

As authorized in 10 CFR Part 52, applicants may apply for a combined CP and OL license. In accordance with section 52.77, all such applications must contain all of the information required under section 50.33, including information regarding financial qualifications. The review procedures as described in Sections III.1.a. and b. will be used to review any combined applications that the NRC receives.

d. Post-OL Non-transfer Reviews

The NRC does not systematically review its power reactor licensees once it has issued an OL, other than for transfers discussed in Section III.1.e. However, section 50.33(f)(4) states: "The Commission may request an established entity or newly-formed entity to submit additional or more detailed information respecting its financial arrangements and status of funds if the Commission considers this information appropriate. This may include information regarding a licensee's ability to continue the conduct of the activities authorized by the license and to decommission the facility." The NRC has used this provision only in limited situations and normally will not require licensees, including those that are not "electric utilities," to report on

their financial qualifications at specified intervals.[3] However, the NRC has and will continue to conduct general follow-up reviews of all licensees by screening trade and financial press reports, and other sources of information. This information will be used to determine whether any additional NRC action is warranted, including requests for additional information and the assignment of additional inspection resources to monitor the adequacy of plant safety performance.

e. Reviews of Transfers of Licenses

NRC regulations in 10 CFR 50.80 require Commission review of and written consent to direct as well as indirect transfers of operating licenses, including licenses for nuclear power plants owned or operated by "electric utilities."[4] When the transfer involves a change in the licensee listed on the NRC license, the applicant must also apply for a license amendment under section 50.90. The NRC performs reviews to determine whether, in the case of a direct transfer, a proposed transferee is qualified to hold the license, or

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[3] All power reactor licensees are required, pursuant to 10 CFR 50.71(b), to submit annual financial reports.

[4] Section 50.80(a) reads, "No license for a production or utilization facility, or any right thereunder, shall be transferred, assigned, or in any manner disposed of, either voluntarily or involuntarily, directly or indirectly, through transfer of control of the license to any person, unless the Commission shall give its consent in writing."

whether, in the case of an indirect transfer, the holder of the license is qualified to hold the license. Section 50.80(b) requires license transfer applicants to include as much of the information with respect to, among other things, the financial qualifications of the proposed holder of the license as required in section 50.33(f). Thus, the review criteria described in other sections of III.1. of this SRP are also relevant to license transfer reviews.

To date, the NRC has evaluated transfers involving mergers, acquisitions, formations of holding companies, and sales of portions of facilities to other parties. The NRC evaluates the financial qualifications associated with these transfers by: (1) determining whether the proposed holder of the license will remain an "electric utility" following the direct or indirect transfer; (2) for non-"electric-utility" applicants, reviewing the recent financial performance of the proposed transferee, or, if the proposed transferee is a new entity such as an operating, generating, or service company subsidiary, evaluating the ownership or participation agreement with its owners or other responsible party; and (3) identifying all parent companies that are not licensed by the NRC or did not undergo an NRC section 50.80 review.

The NRC has been treating applications involving changes of ownership, mergers, formation of holding companies, and other restructuring proposals that go beyond corporate name changes or internal reorganizations as potential

transfers of licenses, directly or indirectly, through transfer of control of the license, subject to section 50.80 review, and not merely subject to a section 50.90 license amendment review. In some cases, the NRC will need to conduct a "threshold" review to determine whether the proposed action does, in fact, constitute a transfer subject to section 50.80.

Approval of a transfer under section 50.80 will be accomplished by order. When appropriate, a conforming license amendment will be issued. (A name change of a licensee that does not involve license transfer considerations under section 50.80 will be effected by a license amendment issued administratively under section 50.90.) In addition, the NRC intends to review transfers for their potential impact on the licensee not only to determine the adequacy of funds for safe operation and decommissioning, but to ensure that the licensee maintains adequate technical qualifications and organizational control and authority over the facility. All orders approving section 50.80 transfers are signed by the Director, Office of Nuclear Reactor Regulation (NRR). Additionally, the Director, NRR, will consult with the Commission on all applications for transfers of licenses that represent new or unusual approaches or organizations.

For mergers and restructuring actions involving the formation of holding companies, the NRC determines whether the surviving licensed owner or operator

will remain an "electric utility" as defined in section 50.2. Because of the concern that the establishment of a holding (parent) company over a licensee could eventually result in the parent depleting assets from the licensee to such an extent that the ability to fund safe operations and decommissioning could be affected, the NRC has conditioned transfer approvals to require the licensee to inform the NRC before significant assets are transferred from the licensee to its parent or related company. When co-owners have requested NRC consent to transfer their interests in power reactors, the NRC has reviewed the financial qualifications of each buyer to own or operate its proposed percentage share of the facility by following the same procedure as described in other sections of III.1. of this SRP. Generally, the NRC will not deem as license transfers under section 50.80 those internal corporate reorganizations (i.e., that do not entail mergers, holding company formations, acquisitions, or divestitures) that do not alter the licensee's status as an "electric utility," do not substantially affect corporate ownership or identity of the licensee, or do not otherwise materially affect the licensee's financial qualifications. However, such reorganizations are subject to NRC review to determine whether the licensee's technical qualifications are unaffected by the reorganization.

The NRC will also review financial qualifications of non-"electric-utility" applicants on the basis of financial data based on current information from

the financial ratings services such as Moody's and Value Line. To date, the NRC has not found any proposed restructuring actions in which the surviving licensee would not remain an "electric utility" or that would render the proposed transferee not financially qualified.[5] The NRC publishes the results of such an evaluation in a Safety Evaluation Report (SER), and issues an order, with a license amendment when appropriate. These actions are noticed in the Federal Register.

NRC regulations in 10 CFR 50.81 govern the relationships that licensees may have with their creditors, including trustees under any mortgage, pledge, or lien and court-appointed trustees under bankruptcy proceedings. This section permits the creation of such creditor relationships, provided that creditors do not take possession of the facility and are subject to the same restrictions under NRC regulations and the AEA as the licensee. The NRC has typically not reviewed creditor relationships other than sale-leaseback[6]

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[5] In one case, the NRC received information as part of a request for approval of the formation of a holding company over a licensee that indicated that the licensee did not meet the NRC's definition of an "electric utility." However, the formation of the holding company in this case did not cause the licensee's status as an "electric utility" to change.

[6] Sale-leaseback transactions typically involve the licensed owner of a nuclear power plant selling all or a portion of its share of the plant to an investor, who then leases back that portion of the facility to the licensee. The licensee continues to "possess" and/or operate the plant and is responsible for safe operation and decommissioning under the terms of the NRC license.

transactions. *See* Arizona Public Service Co. (Palo Verde Nuclear Generating Station, Unit 1), CLI-85-17, 22 NRC 875 (1985)

2. Decommissioning Funding Assurance

a. Verifying the Initial Certification Amount

As part of the reporting requirements in section 50.75(f), a licensee's calculations of both the basic certification formula amount and the annual escalation amount are subject to NRC verification. As described in section III.2.b. of this SRP, NRC regulations require licensees to report information on decommissioning funds at least once every two years following the initial report filed by March 31, 1999.

(1) Power reactor licensees were required to certify by July 27, 1990, that they would have adequate funds to decommission each unit by the time they plan to shut the unit down. Pursuant to section 50.33(k), a new applicant for an OL is required to submit information in the form of a report indicating how reasonable assurance of decommissioning will be provided. This certification is required to be based on the applicable formulas contained in sections 50.75(c)(1) and (2), or upon a site-specific estimate, provided that the estimate is not less than the value derived from section 50.75(c).

(a) Section 50.75(c)(1) contains two formulas to determine the certification amounts *in 1986 dollars* for pressurized water reactors (PWRs) and boiling water reactors (BWRs). The formulas include scaling factors to account for size differences in reactors. The decommissioning cost ranges in 1986 dollars are from $85.6 million to $105 million for PWRs and from $114.8 million to $135 million for BWRs.

(b) Section 50.75(c)(2) contains a formula to determine the annual change (inflation or escalation, although deflation is also possible) in the three primary decommissioning cost components -- labor, energy, and low-level waste (LLW) burial charges.

- The 1990 certifications should have included escalation calculations from 1986 dollars to 1989 or 1990 dollars.

- Licensees are required to recalculate the formula amounts annually to account for changes in the three decommissioning cost factors during the previous year. Calculations are to be based on data from the U.S. Bureau of Labor Statistics and current versions of NUREG-1307 as specified in section 50.75(c)(2). (Power reactor licensees are required to change their collection amounts

periodically. For licensees that remain under rate regulation, this period may coincide with licensees' usual rate cycles. Licensees that are not rate regulated or do not have access to non-bypassable charges for decommissioning should adjust their funding levels over reasonable periods. In all cases, however, pursuant to section 50.75(e)(2), the NRC reserves the right, either in cooperation with a licensee's rate regulators or independently, to take action on a case-by-case basis to modify a licensee's schedule for the accumulation of decommissioning funds.)

(2) A licensee's calculations of both the basic certification formula amount and the escalation amount from 1986 to the current year are subject to NRC verification. Such verification will be determined primarily by evaluation of the biennial reports required in 10 CFR 50.75(f), as described in III.2.b. of this SRP, but may also be accomplished through the NRC inspection process. Although data may be over a year out-of-date, the licensee is required to have performed an escalation calculation within the previous 12 months.

- Because escalation in the three decommissioning cost factors, labor, energy, and LLW disposal, are given regionally in the reference documents, the NRC may check a licensee's methodology and sources in making the calculations.

- Licensees may use information from several tables of regional data in the U.S. Department of Labor, Bureau of Labor Statistics cited in section 50.75(c). Such information is subject to NRC inspection to confirm that the choice of data is reasonable. That is, site-specific data should not vary substantially from generic cost data without demonstrable reason.

(3) The NRC formulas in section 50.75(c) include only those decommissioning costs incurred by licensees to remove a facility or site safely from service and reduce residual radioactivity to a level that permits: (1) release of the property for unrestricted use and termination of the license; or (2) release of the property under restricted conditions and termination of the license. Thus, for example, the costs of dismantling or demolishing non-radiological systems and structures are not included in the NRC cost formulas. In addition, the costs of managing and storing spent fuel on site until transfer to the Department of Energy for permanent disposal are not included in NRC cost formulas. Therefore, the NRC will ensure that either--

- Such costs are not included in licensee formula calculations; or

- If such costs are included, they are separately identified and are in addition to NRC-defined decommissioning costs included in the

formulas.

b. Evaluating the Biennial Decommissioning Fund Status Reports

(1) As provided in 10 CFR 50.75(f)(1), each power reactor licensee is required to report to the NRC on a calendar year basis, beginning on March 31, 1999, and every 2 years thereafter, on the status of its decommissioning funding for each reactor or share of a reactor that it owns. The information in this report must include, at a minimum: the amount of decommissioning funds estimated to be required, pursuant to 10 CFR 50.75(b) and (c); the amount accumulated to the end of the calendar year preceding the date of the report; a schedule of the annual amounts remaining to be collected; the assumptions used regarding rates of escalation in decommissioning costs, rates of earnings on decommissioning funds, and rates of other factors used in funding projections; any contracts upon which the licensee is relying pursuant to 10 CFR 50.75(e)(1)(ii)(C); and any modifications to a licensee's current method of providing financial assurance occurring since the last submitted report. Any licensee for a plant that is within 5 years of the projected end of operation, or where conditions have changed such that it will close within 5 years, or has already closed, is required to submit the report annually.

(2) As long as the information described above is included in the report, no

specific reporting format is required. However, each licensee should indicate the assurance mechanism being used as a source of revenues for the external sinking fund (e.g., traditional "cost-of-service" ratemaking, a non-bypassable charge, long-term contracts that the NRC has found to be acceptable pursuant to 10 CFR 50.75(e)(1)(v)).[7] If the assumed real earnings rate on an external sinking fund exceeds 2 percent, each licensee should indicate the specific rate ruling or decision by its rate regulator that documents the earnings rate being used, as provided in 10 CFR 50.75(e)(1)(i) or (ii). If a licensee is using an assurance mechanism other than an external sinking fund, it should include as part of the report adjustments to the assurance mechanisms (e.g., a surety bond or letter of credit) to account for any escalation since the previous report.

c. Verifying Annual Amortization Amounts for External Sinking Funds

(1) Once a licensee has established the decommissioning cost for each of its reactors in current-year dollars, it must demonstrate to the NRC that it will have this amount (less future estimated earnings as provided in 10 CFR

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[7] To the extent that power reactor licensees have received rate regulator approval to use market-based rates for a significant portion of their nuclear-related revenues (i.e., greater than 20 percent), the NRC will not consider them to be subject to traditional cost-of-service rate regulation for that portion of their rates.

50.75(e)(1)(I) or (ii)) by the time it plans to shut down by using one of the financial assurance mechanisms allowed in section 50.75(e). Virtually all power reactor licensees so far have chosen to use an external sinking fund. This assurance method requires a licensee, or a designated representative of a licensee, to make payments, at least annually, into an external trust fund held by a third party, usually a bank licensed by a State, acting as trustee. The trustee will invest a licensee's deposits in order to earn interest and dividends to increase the value of the fund. If a licensee permanently shuts down its reactor at the expected end of the reactor's operating life, it should have sufficient funds (less future estimated earnings) to complete decommissioning, either by immediate dismantlement or by storage over some period followed by deferred dismantlement. If, on the other hand, a licensee permanently shuts down its reactor prematurely, it will need to accumulate any shortfall in decommissioning funds (less future estimated earnings). As provided in section 50.82(c), the collection period for making up any shortfall will be determined on a case-by-case basis.

(2) In the 1988 decommissioning rule, the NRC deferred to the ratemaking authority of the PUCs and FERC to set annual rates for decommissioning. As rate deregulation proceeds, some licensees may no longer have rate regulatory oversight with respect to decommissioning. (to the extent such oversight continues to be provided, it may include direct oversight as provided in

traditional cost-of-service or similar ratemaking, or indirect oversight through government-mandated non-bypassable charges or other mechanisms.) The NRC expects that, for licensees that continue to have direct or indirect rate regulatory oversight, it will continue to be able to defer to rate regulators to determine the appropriate amortization schedule for decommissioning funds, provided that there is reasonable assurance that, at the time of permanent cessation of operations, decommissioning funds plus estimated earnings will be available in the amount estimated to be necessary to complete decommissioning. If the source of decommissioning trust funds is a State-mandated non-bypassable charge, the NRC reserves the right to evaluate the assumptions used in calculating and collecting the charge to determine that it, plus estimated future earnings, will be adequate over the stipulated collection period, to provide the funds estimated to be needed for decommissioning. Provisions should be made in the non-bypassable charge to cover increases in decommissioning cost estimates. If the non-bypassable charge does not have such provisions, the licensee will be required to use one of the other decommissioning funding assurance mechanisms allowed in 10 CFR 50.75(e) for the unfunded difference. The NRC expects that it will have to exercise greater oversight of those licensees that no longer have such rate regulatory oversight. In either case, the NRC reserves the right to review, as needed, the rate of accumulation of decommissioning funds, and, either independently or in coordination with a licensee's rate regulators, take additional actions

as appropriate on a case-by-case basis, including modification of a licensee's schedule for the accumulation of decommissioning funds. When the NRC evaluates licensees' amortization schedules, it will use the following benchmarks:

(a) Some licensees will base their amortization schedules on the certification amount adjusted to current-year dollars. At its simplest, licensees should have an annual amortization amount that equals the adjusted certification amount divided by the remaining years of projected plant operation. This amount will change as the certification amount is continually readjusted to account for inflation and trust fund earnings and as the remaining operating life decreases.

(b) Other licensees will project decommissioning costs out to the planned time of permanent shutdown by inflating costs at some predetermined inflation rate. They will most likely also discount the fund by the expected earnings rate on the fund. On the basis of these calculations, licensees will be able to calculate an annual amortization amount that, coupled with projected earnings, will equal the inflated certification amount.

- Although projected inflation rates may be expected to vary, they should be in the 2 percent to 5 percent range based on recent economic experience. Some licensees may use higher rates for LLW disposal costs.

- Projected earnings rates on funds may also vary. A licensee, of course, may take credit for any earnings already accumulated. However, projected future earnings are limited to a real rate (i.e., the nominal earnings rate less inflation) of up to two percent, unless a licensee's rate regulator authorizes the use of a higher rate.

(c) The decommissioning rule is structured to allow for changes in amortization rates over time. Thus, it is not essential that a licensee achieve prorated annual amortizations as long as the licensee periodically adjusts the amortization rate to compensate for changes in the certification amount and the fund earnings rate.

- Licensees' adjustments to the amortization rate do not need to be made annually, but should be coordinated with licensees' rate case schedules with their PUCs, if applicable. Rate cases are

typically on a three-year cycle, but the licensee should document decommissioning rate filings and their underlying assumptions.

- Licensees that no longer have rate regulatory oversight or access to non-bypassable charges for decommissioning should adjust their assurance mechanisms annually to reflect any changes in decommissioning cost estimates derived from the formulas or site-specific estimates in 10 CFR 50.75(c).

(d) Some licensees are part owners of power reactors. In such cases, the NRC will evaluate separately each licensee's amortization schedule for its share of the facility, unless the lead licensee has agreed to coordinate funding documentation and reporting for all co-owners.

d. Evaluating Investments in External Trust Funds

(1) For power reactor licensees that are either subject to cost-of-service rate regulation or have access to a non-bypassable charge(s) to recover the estimated costs of decommissioning, the NRC will typically defer to State PUCs and FERC to set standards for the types of investments allowed for external sinking funds. For other power reactor licensees, the NRC has specified in Regulatory Guide 1.159 that external decommissioning trust fund investments

should be "investment-grade."[8]

(a) For example, this means that corporate or municipal bonds or preferred stocks should be rated at least "BBB" by Moody's or an equivalent rating by another bond rating agency. (Standard and Poors, Duff and Phelps, and Fitch are examples of other major rating agencies.)

(b) Common stocks are not rated. Although the NRC does not explicitly prohibit external trusts from being invested in common stocks, NRC guidance indicates that speculative issues (e.g., stocks of companies with limited operating history, or that have low "safety" rankings from rating agencies) should be avoided. There is no simple way to determine whether a stock issue is speculative. A licensee's own stock, as well as those of other power reactor licensees are inappropriate.

(c) As long as an external trust is invested in a diversified portfolio of bonds, stocks, and other investments, losses on any one issue should not significantly affect the overall value of the trust fund. Further, because external trust funds are required to be adjusted periodically, losses in one year may be recouped by

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[8] Regulatory Guide 1.159, "Assuring the Availability of Funds for Decommissioning Nuclear Reactors," August 1990.

increased amortizations in following years. When the NRC reviews the amortization amounts, it will ensure that licensees are revising their amortization rates based on the current net market value of their trust investment portfolios.

(2) Power reactor licensees that are either subject to cost-of-service rate regulation or have access to a non-bypassable charge(s) to recover the estimated costs of decommissioning should document any rate regulators' decisions with respect to investments in external sinking funds and have them available at a licensee location for possible NRC inspection. Other licensees should document their investments and have them available for NRC inspection.

e. Evaluating External Sinking Fund Trust Documents

(1) Power reactor licensees were required to submit executed or conformed copies of their external sinking fund trusts (or other assurance mechanisms, if used) by July 27, 1990. Essentially, all power reactor licensees are currently using external sinking fund trusts. These trusts were reviewed by the NRC shortly after submission in 1990. The NRC notified those few licensees whose trust provisions were found to be deficient. In accordance

with 10 CFR 50.75(f),[9] licensees are required to submit any material revisions to trust agreements to ensure that NRC records are current. Material revisions to trust agreements include: (1) changes in trustees; (2) provisions for payment into and out of the trust; (3) changes in trust investment management; and (4) any other changes that would have a direct bearing on the amount, availability, and assurance of funds for decommissioning. The NRC will follow review procedures for these changes similar to those it used for the 1990 submissions.

(2) The NRC does not require licensees to use specific trust wording. However, sample wording is provided in Appendix B.3.1. of Regulatory Guide 1.159. Trusts are acceptable in this respect if they contain the following provisions:

(a) The trust should be segregated from the licensee's assets and outside the licensee's administrative control. The licensee should avoid day-to-day investment decisions.

(b) The trustee should be licensed to act as trustee by State or Federal authority.

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[9] See also Section 2.1.6. of Regulatory Guide 1.159.

(c) Disbursements from the trust should be restricted to decommissioning expenses or for transfer to another assurance mechanism acceptable under section 50.75(e). Licensees may make withdrawals from decommissioning trust funds as long as the purpose of such withdrawals meets the criteria specified in section 50.82(a)(8)(i). In addition, licensees are restricted at various stages of the decommissioning process by section 50.82(a)(8)(ii) to (iv) in the amounts of funds they may withdraw for decommissioning expenses until the NRC has terminated the license. Finally, licensees may not use decommissioning trust funds for "operational" expenses (e.g., waste disposal costs while a plant remains in operating status).

f. Evaluating Other Financial Assurance Mechanisms

(1) If a power reactor licensee decides to switch from an external trust to some other assurance mechanism, the licensee should submit information on this new mechanism to the NRC in accordance with section 50.9 and Regulatory Guide 1.159, Section 2.6.1. Sample wording of other mechanisms is provided in Regulatory Guide 1.159.

(2) Third-party guarantee mechanisms, such as surety bonds or letters of credit, should guarantee the total amount of currently estimated

decommissioning costs. If these mechanisms are used in combination with other assurance mechanisms, the combined amount should at least equal current estimated decommissioning costs.

(3) Licensees or license applicants who use long-term contracts as a method of demonstrating decommissioning funding assurance must demonstrate that the provisions of the contracts meet the criteria specified in 10 CFR 50.75(e)(1)(v).

(4) As indicated in 10 CFR 50.75(e)(1)(vi), the NRC will evaluate other decommissioning funding assurance mechanisms or combinations of mechanisms proposed by licensees or license applicants on a case-by-case basis to determine that the mechanism or combination of mechanisms provide assurance of decommissioning funding equivalent to that provided by the mechanisms specified in 10 CFR 50.75(e)(1)(i) - (iv).

C. Foreign Ownership

As indicated in Section II.3. of this SRP, foreign ownership, control, or domination of a power reactor licensee is prohibited by the Atomic Energy Act and the NRC's regulations. Because the Commission has determined that all co-owners of reactor facilities are co-licensees, each licensee of a power

reactor must be evaluated to determine that it is not owned, controlled, or dominated by an alien, foreign corporation, or foreign government. In each case, the staff will evaluate the totality of the facts and circumstances against Commission precedent (e.g., General Electric Co. and Southwest Atomic Energy Assoc., 3 AEC 99 (1966)) in order to determine whether foreign ownership, control or domination exists. The NRC has not determined whether any percentage ownership would be sufficiently small as to be considered *de minimis*. (The staff notes that, normally, it does not evaluate power reactor licensees to determine the degree to which foreign entities or individuals own their voting stock.)

IV. EVALUATION FINDINGS

The reviewer verifies that sufficient information has been provided to satisfy the requirements of this Standard Review Plan section and the underlying regulations, and concludes that his or her evaluation is sufficiently complete and adequate to support the conclusion to be included in the staff's safety evaluation report that the applicant (1) is financially qualified to conduct the activities under the license, (2) has satisfied the NRC's decommissioning funding assurance requirements, and (3) is not owned, controlled, or dominated by a foreign individual or entity.

V. IMPLEMENTATION

The following is intended to provide guidance to applicants and licensees regarding the NRC staff's plans for using this SRP.

Except in those cases in which the applicant proposes an acceptable alternative method for complying with specified portions of the NRC's regulations, the method described herein will be used by the staff in its evaluation of conformance with Commission regulations.

VI. REFERENCES

1. Part 50 "Domestic Licensing of Production and Utilization Facilities" of Title 10 of the Code of Federal Regulations (10 CFR Part 50)

--- 10 CFR 50.33(f)

--- 10 CFR 50.33(k)

--- 10 CFR 50.75

--- 10 CFR 50.82

--- 10 CFR Part 50, Appendix C

2. Part 30 "Rules of General Applicability to Domestic Licensing of Byproduct

Material" of Title 10 of the Code of Federal Regulations (10 CFR Part 30)

--- 10 CFR Part 30, Appendices A and C