



NUCLEAR ENERGY INSTITUTE

DSI-10

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Dr. Thomas D. Ryan
SENIOR VICE PRESIDENT
REGULATORY POLICY & REFORM

November 27, 1996

Mr. John C. Hoyle
Secretary of the Commission
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001



ATTENTION: Chief, Docketing and Service Branch

SUBJECT: NRC Strategic Assessment and Rebaselining
(61 *Federal Register* 195; October 7, 1996)
Request for Comments

Dear Mr. Hoyle:

The Nuclear Energy Institute (NEI),¹ on behalf of the nuclear energy industry, has reviewed the Direction Setting Issue (DSI) papers which form a part of the NRC Strategic Assessment and Rebaselining Initiative. The purpose of these papers is to discuss key issues affecting the future strategic direction of NRC and provide options for selection by the Commission. The NRC has requested comments from all "stakeholders" to be considered as part of the Commission's decision making process. Our comments on each DSI paper are organized in the following format:

1. What, if any important considerations have been omitted?
2. How accurate are the NRC's assumptions and projections for internal and external factors?

¹ NEI is the organization responsible for establishing unified nuclear industry policy on matters affecting the nuclear energy industry, including the regulatory aspects of generic operational and technical issues. NEI's members include all utilities licensed to operate commercial nuclear power plants in the United States, nuclear plant designers, major architect/engineering firms, fuel fabrication facilities, materials licensees, and other organizations and individuals involved in the nuclear energy industry.

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3. Do the Commission's preliminary views respond to the current environment and challenge?

4. NEI Recommendations

The NRC is to be commended for undertaking this effort. It is important to periodically review the overall direction of the agency, particularly given the dynamic circumstances in the nuclear industry today. The DSIs identified through the early phases of this assessment are reasonably complete, highlighting the areas in which strategic decisions are needed. Many of our comments highlight areas where the staff analysis of the issues does not include viewpoints significantly different from the status quo.

We are concerned that insufficient review time will reduce the effectiveness of the stakeholder comment process. The stakeholders had a very limited time to solicit and compile comments from their constituencies. We recognize that the public comment period was extended, but the two week extension was announced too late in the process to affect the collection of comments from NEI's members. It is likely that other "stakeholders" representing large constituencies, including licensees with multiple internal organizational groups, were similarly constrained.

Of greater significance is the amount of time the NRC has indicated will be used to assess the comments. NRC staff indicated during the workshops that "Stakeholder Interaction Reports," compiling the comments, would be forwarded to the Commission for consideration within three weeks after the comment deadline. This schedule would make it very difficult for NRC management to consider the variety and volume of public comments that are likely to be received. It could restrict the ability to revise the thinking that went into the initial papers, to define and flesh out new options which may be suggested by the comments, or to provide analysis of such new options for the Commission's consideration. We encourage NRC to take the time necessary to derive full benefit from this important endeavor.

A significant omission from this strategic assessment is the current enforcement policy. That policy has a pervasive effect on the relationship between the NRC and its licensees and on the message the public perceives regarding the safety significance of problems. Other federal agencies with safety mandates, and many foreign nuclear regulatory authorities, have different approaches to enforcement. Some of these are structured differently specifically to encourage compliance, rather than punish non-compliance. NEI strongly encourages the NRC to subject the enforcement policy to the same type of review, examining options different from the

agency's historical practice, as has been applied to other programs in many of the DSIs.

In many of the DSI papers, past actions of the agency are summarized, but often not critically evaluated. Instead, it appears to be accepted that past regulatory actions were necessary and remain appropriate as continuing regulatory requirements. In fact, many of these actions were in response to specific events and issues, may not have been the most effective means of dealing with the issue, and are inappropriate as continuing burdensome requirements since the causes of the events have been dealt with. A more thorough assessment of previous NRC actions could produce lessons on how the agency could have been, and could be, more effective in addressing issues. Today, the regulatory problems at the Millstone station are the issue of the moment. References to these problems permeate the DSI papers. The papers could well have had a different tone had they been prepared a year earlier. While it is necessary to deal with compliance problems when they are found, it seems inappropriate for individual situations such as Millstone to color so completely the strategic picture for a regulatory agency.

There is agreement between the NRC and industry that safety performance has improved over the last several years. Performance indicators monitored by NRC and industry both demonstrate such improvement. Nevertheless, the total burden imposed by regulatory requirements continues to increase. There is danger that this increasing burden will make it economically infeasible for some nuclear power plants to continue operation, thus depriving the nation of a reliable, clean source of electric power. Such an outcome is not in the public interest if safety is not in question. An improved focus is needed in the nuclear regulatory process on safety significance. We note that Chairman Jackson has often expressed her support for the concept of risk-informed, performance-based regulation. We agree that this is an excellent mechanism for providing the needed focus. It would allow issues to be addressed in their appropriate context, considering both their individual significance and the overall level of safety performance in the industry. It would lead to more efficient means to address those issues that require action. It would appropriately allow for individual variation in the response to an issue, as it is seldom the case that a single specific action is the appropriate, effective response for all members of a class of NRC licensees. The regulatory process needs to recognize this, and allow problems to be addressed in the manner which will be most effective given the circumstances of individual licensees. We encourage the NRC to utilize fully this strategic planning process to further the transition to this more effective and efficient regulatory regime.

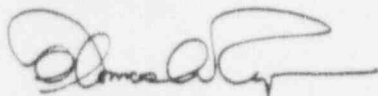
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Several of the DSIs would benefit from a practical definition of an adequate level of protection of public health and safety. It is difficult to discuss how to (1) improve public communication, (2) improve the efficiency and effectiveness of the regulator, and (3) properly focus a regulatory oversight program without defining the baseline against which effectiveness can be measured. Without a more objective definition of adequate safety levels, one cannot determine when programs are successful or address a perception that more needs to be done. The NRC needs to develop means for applying the safety goals in a practical manner in order to provide a benchmark that is useful for determining when and how much additional action is required to assure safety.

Significant management attention will be required to implement any changes that result from this strategic planning process. The experience with risk-informed performance-based regulation is instructive in that regard. The Commissioners and senior staff management repeatedly have made comments supportive of such approaches to regulation. There appears to be an understanding, at the policy level, that it is appropriate to deal with issues in their particular safety context. This policy has not been effectively transferred to the working level of the staff. Inspectors and reviewers, whose actions impact NRC licensees on a daily basis, remain focused on detailed, prescriptive approaches. They continue to be concerned with how the "requirements" of NRC guidance documents are met, regardless of the safety objective and inherent flexibility of guidance. It will be very important for the Commission and staff management to devote considerable effort to translating any policy changes resulting from this rebaselining to changes in practice at the working level, so that they may indeed improve the effectiveness of the regulatory process.

We appreciate the opportunity to comment on these issues. We are willing to meet with the Commission or staff to discuss our comments or the related broader issues. Please contact me at (202) 739-8013 if there are any questions regarding our comments.

Sincerely,



Thomas D. Ryan

TDR/RWH/ec
Enclosure

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c: Hon. Shirley Ann Jackson, Chairman
Hon. Kenneth C. Rogers, Commissioner
Hon. Greta J. Dicus, Commissioner
Hon. Nils J. Diaz, Commissioner
Hon. Edward McGaffigan, Jr., Commissioner
Mr. James M. Taylor, EDO

Nuclear Energy Institute Comments

on

Direction Setting Issue Papers

from

NRC Strategic Assessment and Rebaselining Initiative

November 27, 1996

DSI 10 – Reactor Licensing for Future Applicants

1. What, if any, important considerations may have been omitted?

- Although the issue paper presents the Commission's views on standardization of next-generation reactors, it does not fully articulate the policies expressed by the Commission when it promulgated Part 52 and that were adopted by Congress in the Energy Policy Act of 1992. The beneficial attributes of these licensing reforms included: (1) the resolution of safety issues prior to the commencement of construction, (2) the establishment of objective standards against which the constructed plant could be measured in order to determine when the plant is ready to operate, and (3) the minimization of uncertainties in the licensing process that inhibit support for new nuclear power plants. These issues are critical to the viability of nuclear power as a future energy option in the United States.

As one outcome of its current Strategic Reassessment, the NRC should enhance and build upon its existing 1986 policy on advanced plants and standardization and its policy under Part 52. The NRC has found that advanced, standard designs represent a substantial improvement in safety. In light of the substantial improvements in safety achieved by the standard designs, the NRC should have a policy of removing unnecessary regulatory burdens and barriers that may discourage new orders for nuclear plants referencing these designs. Such an enhanced policy would be consistent with the NRC's mission of ensuring adequate protection of public health and safety and the broader national policy objective to preserve the nuclear plant option in the United States.

- Spurred by the promise of Part 52 to encourage the development of advanced standard designs and remove major procedural obstacles to the licensing, construction and operation of new nuclear power plants, the industry initiated and has maintained its Strategic Plan for Building New Nuclear Power Plants. The purpose of the plan is to ensure that nuclear power will be available as a viable, cost-effective option for utilities in need of future baseload generating capacity. The paper fails to adequately recognize that the NRC Part 52 licensing reform initiative, like the industry Strategic Plan, is a work-in-progress. As stated in the paper, the nearly-completed design certifications represent only a single element of a three-element Part 52 approach to establishing a predictable and stable procedural framework for the certification, siting and licensing of new nuclear power plants. The other two elements remain largely undeveloped.

The paper clearly underestimates the importance to prospective licensees of understanding the siting and licensing elements of the Part 52 process when it states, "it is only conjecture that [licensing issues associated with

construction and operation] would be critical at time of application." On the contrary, a thorough advance understanding of the complete Part 52 process, including major issues associated with plant licensing, construction and operation, is essential to a prospective licensee's decision to build a new nuclear power plant. Indeed, significant unknowns would likely make it impossible to obtain the necessary financing and state regulatory approvals to move forward with a license application.

- The paper asserts that experience on the ABWR and System 80+ design certifications demonstrates that the basic design certification process is predictable and stable. We believe this conclusion is arguable, but we will not rebut the paper's assertion here. The Commission is aware of our concerns regarding shifting NRC staff positions during the rulemaking process, and that certain staff positions are contrary to the Part 52 goal of a predictable and stable licensing process.
- The paper does not adequately recognize the vital role of advanced reactor program activities in maintaining a strong nuclear power industry. Utilities, the NRC, and the public share a vested interest in a sustained advanced reactor program -- based on the future domestic market and a strong overseas market -- to maintain a robust nuclear infrastructure in this country to support the continued operation of domestic plants and the option to build new plants in the future. As stated in the industry's Strategic Plan, these are the principal motivations behind the industry's steadfast pursuit of design certification -- not foreign market objectives as stated in the paper.
- The paper fails to consider that industry restructuring and competition may result in utilities opting for base load additions in the 600 MWe range. Therefore, high priority on the AP600 FDA and design certification should be maintained. In the changeable business environment ahead, utilities will benefit from having the flexibility to order either large or mid-size plants to meet their baseload generation needs.
- The paper does not reflect that the industry and NRC staff have made a start on post-design certification issues and met (on February 5, 1996) to discuss NEI's Regulatory Issue Resolution Plan (RIRP) for addressing remaining work necessary to enable use of the Part 52 process by prospective licensees. Issues identified in the RIRP include rulemaking to amend Part 52 to reflect lessons learned from design certification, Part 50 rulemakings related to advanced plant emergency planning and maintenance of design PRAs, development of regulatory guidance on ITAAC verification, implementation of the "50.59-like" process to preserve severe accident insights, and combined license (COL) issues potentially requiring Commission policy guidance.

As described to the NRC staff, the RIRP anticipates NRC resource limitations and thus is structured to require relatively modest NRC resources over the next few years. This will be accomplished through close coordination with the NRC staff and reliance in most cases, on the industry to prepare draft documents for staff consideration. Issues that are ready to be addressed now include emergency planning rulemaking, COL policy issues, and the "50.59-like" process. Other issues would be pursued as resources allow.

Steady progress on these issues is needed to provide guidance for future industry and NRC staff on major generic aspects of Part 52 implementation to enable the initial COL application. Industry and NRC staff familiar with Part 52 and lessons learned on the design certifications are available now for the task. Deferral of these interactions would be adverse to the continuity of Part 52 implementing regulations and guidance. As a byproduct of continued interactions on post-design certification issues, the industry and the NRC will maintain a core of expertise regarding Part 52 implementation that may be effectively augmented in the event of an actual combined license application.

2. How accurate are the NRC's assumptions and projections for internal and external factors?

- Much of the discussion in the paper appears to reflect the view that further work on Part 52 implementation may be deferred because industry interest in new nuclear power plants is low, and there is no plant order on the horizon. Contrary to this view, the industry's continuing high level of interest is reflected in its Strategic Plan for Building New Nuclear Power Plants, including the investment of over \$150 million (and counting) by Advanced Reactor Corporation utilities. These utilities presently operate roughly half of the current reactor fleet.

Moreover, the paper's estimates of when a new nuclear plant order will be placed, including "well into the next century," "sometime in the next century," and "far off," are confusing and arbitrary. These estimates are based on the judgment that "it is unlikely that ... utility management would build plants with high capital costs, as is the case with nuclear plants, ..." This view does not reflect the industry projections of the relative costs of future nuclear and fossil plants, which clearly show the potential for nuclear to be economically competitive. No mention is given of the impact of potential future environmental controls on power plant costs. For example, the imposition of carbon taxes to help meet recent government commitments to reduce carbon dioxide emissions from power plants would clearly give new nuclear plants economic superiority. It is this kind of issue and other contingencies, such as the availability and cost of gas and oil, that has

motivated the utilities to seek diversity in future power capacity.

In that context, the industry has sponsored the ALWR Program and associated Strategic Plan with the goal of opening the option for future nuclear power orders as distinct from the orders themselves. The importance of that goal has not diminished with the slow growth of baseload generation needs. Nor can the vigor of our pursuit of this goal be reduced because the slow demand growth has been more than matched by the slow pace of progress in realizing the institutional conditions necessary to opening the option, including a stable and predictable licensing process. Progress on many of the other institutional conditions necessary for opening this option is contingent upon confidence in a stable and predictable licensing process.

- The paper fails to recognize that utility planning for the addition of new baseload capacity generally begins several years before construction of a plant is actually begun. Thus, the paper's assertion that "in a realistic planning horizon of 5 to 7 years, there is virtually no chance [of a new plant order]" is very misleading and misses a key point: all major aspects of Part 52 implementation, including issues associated with siting, combined licensing, construction inspection, and the operational regulatory environment, must be well understood long before a utility will consider placing a new order. These factors must be understood when utility decisionmaking about new baseload capacity is begun, or the nuclear option is likely to be dismissed. The "many interesting [post-design certification] issues," as they are described in the paper, cannot await the first application to be addressed, as the paper seems to suggest. The remaining regulatory uncertainty will make it unlikely that the first application would ever come.

Based on the length of time that has been required to complete the design certification process, and the likely restrictions on NRC resources available for further Part 52 work, it is expected to take a period of years to complete these interactions. Considering the need to provide prospective licensees a reasonable understanding of, and confidence in, the COL process to support the early stages of baseload planning, we must not delay in addressing post-design certification issues.

- Among the reasons given in the paper to not address, at this time, issues associated with post-design certification issues is the asserted low value of documented agreements on these issues, unless codified via rulemaking. We do not agree with this view. As discussed above, documented understandings on key issues will be essential to the decision to order a new nuclear plant.

We accept that issue resolutions documented in Commission SRMs, NUREGs, etc., would not be binding on future NRC staff and Commissions.

However, we expect that, as has generally been the case, future Commissions will continue to place a premium on continuity and coherence with prior Commission guidance. We expect that properly documented generic issue resolutions that form part of the basis for proceeding with a new nuclear plant order and license application would not be revisited, except in the case where it can be clearly shown that the prior Commission decision would not assure the public health and safety.

3. Do the Commission's preliminary views respond to the current environment and challenge?

We are pleased that the Commission's preliminary views reflect the need to give continued high priority to review of standard and advanced reactor designs such as the AP600, as well as to early siting and licensing for new plants. For the many reasons and factors discussed above, we believe that the Commission should be more specific in its final views on this paper on the need to begin now to address major generic issues associated with the siting and licensing elements of Part 52. These elements, in combination with the design certification element, will collectively determine whether the goal of a more predictable and stable process has been achieved. A thorough advance understanding of the total Part 52 process, as well as an understanding of the regulatory environment for advanced standardized plants, is essential to future consideration of the nuclear option in deciding the type of new baseload plants to build.

Because the decision to build new baseload plants is made several years before such projects are begun, and because of the length of time it is expected to take, under anticipated resource limitations, to adequately address combined licensing, ITAAC verification and other key issues, industry / NRC staff interactions in these areas should begin now. As NRC resource commitments to the existing design certification applications are completed, NRC resource requirements for continued work on Part 52 implementation will be substantially reduced. Thus, it will be possible to achieve important progress on Part 52 implementation even with less resources than have been expended over the last several years.

4. NEI Recommendation

Option 2 is preferred. Under this option, we understand that the NRC would give continued high priority to completing the ABWR and System 80+ design certifications and the AP600 FDA and design certification, and dedicate the appropriate resources, in response to industry initiatives, to address generic licensing, construction and operational issues to the degree needed and practicable to provide prospective licensees adequate advance understanding of the total Part 52 process. We encourage the Commission to adopt this option

because it is necessary to fulfill the Part 52 policy objective to establish a predictable, stable licensing process, and because it corresponds to the needs and priorities of the industry and the nation, as described above.

We believe the NRC's Strategic Reassessment presents a key opportunity to reinforce and amplify the Commission's 1986 policy statement on advanced plants. As discussed above, NRC policy should be to reduce unnecessary regulatory barriers and burdens on new orders for nuclear plants.

Related Issue

The paper identifies one issue related to reactor licensing for future applications:

Can emergency planning (EP) requirements be simplified for advanced light-water reactor designs?

As we have discussed on several occasions with the NRC staff, we believe the answer to this question is "yes," and we consider appropriate ALWR emergency planning requirements to be an important factor in the decision to build a new advanced nuclear plant or some other form of baseload generation. We plan to submit a petition for Part 50 rulemaking to accomplish this objective in 1997.