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Tel.: 301/415-8200

REVITALIZATION OF THE NUCLEAR INDUSTRY

COMMISSIONER FORREST J. REMICK
U.S. NUCLEAR REGULATORY COMMISSION

PRESENTED AT THE CONFERENCE ON TECHNOLOGY-BASED PERFORMANCE
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Good morning ladies and gentlemen. I am pleased to have been invited to participate as a member of the panel on Revitalization of the Nuclear Industry.

First, I want to share with you an experience my assistant and I had on our way to the motel. Per government procedures, at the airport we rented a subcompact, well-suited for a 6'-3" individual like myself, and began our trip to this hotel. Suddenly, my assistant, who was driving, braked when he noticed a trucker frantically running around his trailer and hitting the sides with a crowbar. My assistant and I looked at each other inquisitively and continued on. In a few minutes the trucker passed us. Later we saw the same trucker repeating the ceremony. I asked my assistant if our plane had landed in Florida, or in California. Again the trucker passed us, and later we again spotted him banging the sides of his trailer. This time, my assistant pulled over and asked the trucker if he was experiencing difficulties. The trucker said: "Well, with the load limit on this highway, I can't carry more than five thousand pounds of cargo. But I have ten thousand pounds of canaries in the trailer, so I need to keep half of them flying at all times!"

It's rumored that during the past several months, some of you were wondering whether the Commission was trying to keep half of the canaries flying, and I'll admit that some important issues have been up in the air, though things are beginning to settle down.

My brief introductory remarks this morning will focus on advanced reactor technology, recent Commission decisions on the NRC staff's review of submittals of standardized designs for certification, and recent developments related to the so-called "one-step licensing" process.

I would first like to emphasize that I believe this country is embarking on a revitalization of its nuclear industry. This revitalization is an important element of the U.S. National Energy Strategy.

An important element of this revitalization is advanced reactor technology. I am pleased to note the efforts vendors are making to incorporate in their designs the lessons from the past and visions for the future. I am pleased also to note the vendors' efforts to incorporate human factors in their designs, not only in relation to operation, but also in relation to maintenance, surveillance, and overhaul activities. It is also noteworthy ; that the vendors are working closely with the Electric Power Research Institute (EPRI) to ensure that the utilities' perspectives and needs are incorporated in the new designs.

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Will this country need to rely on nuclear power? Although I believe it will, the decision to maintain or increase our nuclear generating capacity is for others to make. But judging from remarks high level nuclear utility and industry officials have made at recent Commission meetings and in correspondence with the Commission, I would say that their answer to this question was a strong "yes". As the Nuclear Power Oversight Committee emphasized in its report entitled "Strategic Plan for Building New Nuclear Power Plants," industry wants to maintain the nuclear option for the future. The industry is aiming toward having some advanced nuclear plants operating around the year 2000. If this is the direction the industry decides to go, the Commission is committed to allocate the resources necessary to conduct thorough reviews of the new designs.

The agency's review of standard plant designs will follow the new requirements set forth in its regulations in 10 CFR Part 52. These regulations were enacted to enhance both safety and regulatory stability. Let me briefly describe these regulations for those of you not familiar with them.

The regulations provide for a final design to be certified as a Commission rule. They provide finality to the resolution of the technical issues considered during the certification rulemaking. Consequently, those technical issues will be treated as resolved for any hearing for a license to construct and operate a certified plant. In a moment, I will elaborate on how Part 52 enhances regulatory stability.

During the past year, the Commission has been focusing its attention on policy issues related to the review of standard designs. The Commission will continue to consider and debate policy issues as the staff reviews standard design submittals. Although some might view this as keeping the canaries flying, such debates are productive, because they air the Commission's thinking on future reactor designs and stimulate public input. Both the public and the industry should view these debates as an attempt by the Commission to foster a stable regulatory environment.

Following such discussions and debates, the Commission last week approved a two-tiered approach to the certification of standard designs. Tier 1 would contain the certified portion of the design, while Tier 2 would contain the portion roughly corresponding to the balance of the vendor's submittal, plus any additional information the staff required for its safety determination.

Also, the Commission approved the staff's recommendation to establish a 10 CFR 50.59-like process that would permit a holder of a combined license to make changes to material in Tier 2. Such a process will give a licensee the flexibility to enhance the design through changes in technology and engineering, to replace equipment no longer available on the market with functionally equivalent equipment, and to accommodate normal deviations during construction. This 50.59-type flexibility __ require licensees not only to consider the more traditional "unresolved safety questions," but also to preserve the severe accident, human factors, and operating experience insights embodied in the certified design. I hope and expect that industry will develop a process to assure that the benefits of maintaining standardization are considered in making changes under the process.

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Part of the recent Commission debate focused on the issue of what' level of detail an applicant has to complete for design certification. In response to a Commission request, the NRC staff submitted a document, known as SECY-90-377, which outlined a process that would require a vendor to develop its design in its entirety before certification, whether or not the staff had to review every detail in order to make its safety finding. The proposal in SECY-90-377 would have required the vendor to identify the location of the floor drains in the turbine building, and the location of every cable in every tray. It would have frozen all those details for the sake of achieving a greater degree of standardization than the Commission contemplated when it issued Part 52.

Both industry and DOE vehemently argued that the level of detail proposed in SECY-90-377 significantly exceeded what was necessary for the NRC's safety determination. In contrast, others argued just as vehemently that the NRC was conducting its certification reviews in a "business as usual" fashion, without incorporating the lessons of the past.

Last week the Commission rendered its decision on level of detail. The Commission directed the staff not to require an applicant to develop information that was not necessary for its safety determination. The Commission reemphasized the importance of conducting a thorough review, and it directed the staff to

identify at the earliest possible point those design elements that might need to be confirmed by prototype tests.

In response to arguments that the NRC is conducting its reviews in a "business as usual" fashion, I would like to emphasize that the reviews under Part 52 will not in any way be "business as usual". Part 52 greatly expands the breadth of the technical information required of applicants.

For example: Part 52 expands the review of the balance of plant; it requires incorporation of probabilistic risk assessment into the design and decision making process; it requires design--specific resolution of severe accident issues; it requires resolution of all medium and high priority generic safety issues; it requires the preparation of the "Inspections, Tests, Analyses, and Acceptance Criteria", known as "ITAAC" (ITAAC are to provide reasonable assurance that a plant which references a certified design is built and will operate in accordance with the design); and most important, Part 52 requires resolution of all safety questions associated with the design. These are more detailed and stringent requirements than have ever been imposed on applicants in the past.

These requirements were promulgated to heighten regulatory stability by ensuring that all safety issues are resolved before certification. Stability in the regulatory process is vital to any corporate decision to invest the massive resources required to purchase, construct and operate a nuclear facility.

In the past, a construction permit was issued following receipt of an incomplete description of a plant design in a Preliminary Safety Analysis Report. Under Part 52, a combined license to construct and operate a certified design can be issued only when the information submitted in an application encompasses a depth of detail no less than that in an FSAR at the operating stage for a recently licensed plant.

In the past, new generic safety issues were raised during construction. The resolution of these issues often led to significant backfitting which had to be completed before operation began. Under Part 52, all safety issues will be resolved before construction. Moreover, Section 52.63 provides that, ". . . while a standard design certification is in effect. . . the Commission may not modify, rescind, or impose new requirements on the certification whether on its own motion, or in response to a petition from any person, unless the Commission determines in a rulemaking that a modification is necessary either to bring the certification or the referencing plants into compliance with the Commission's regulations applicable and in effect at the time the certification was issued, or to assure

adequate protection of the public health and safety, or the common defense and security."

In the past, issues would arise during construction over the adequacy of the methods of inspection. Under Section 52.99, the inspection carried out during construction under a combined license will be based on the tests, inspections, analyses, and related acceptance criteria proposed by the applicant, approved by the staff, and incorporated in the combined license.

In the past, the NRC did not review and approve offsite emergency plans until construction was nearly complete. Under Part 52, construction cannot begin until emergency plans are approved. This new process significantly reduces a major uncertainty in the regulatory process.

In the past, some operating licenses were granted with open confirmatory issues. Under Part 52, that practice will not exist.

As I stated earlier, the NRC is not conducting its reviews of standardized advanced reactor designs in a "business as usual" manner. The new licensing process under Part 52 should provide a prospective licensee the assurance it needs that if a plant is constructed in compliance with the combined license, the plant will be permitted to operate.

I should note that one provision of Part 52 was recently overturned by a federal court. That provision limited any hearing held between construction and operation under a combined license to the issue of whether construction conformed to the design as described in the license. Last November, a federal court ruled that, although the new Part 52 was a "bold and creative" response to "the industry's changing knowledge and the public's changing needs," only Congress could restrict preoperational hearings as much as Part 52 restricts them.

However, with the support of the Department of Justice, the Commission has asked the Court to reconsider its decision. The Commission is hopeful that the Court will reconsider and render a favorable decision, especially since the same Court recently affirmed the Commission's new and more stringent requirements concerning the specificity of contentions. In the meantime, the Commission is doing everything it can to ensure that issues resolved before construction are not subject to further litigation.

In conclusion, I would like to restate that the Commission is committed to allocate the resources necessary to conduct a thorough review of designs submitted for certification under the NRC's new Part 52. Part 52 is one

important element of the Commission's efforts to achieve a predictable and stable regulatory environment. The new rules explicitly impose more stringent technical information requirements than have been imposed on vendors in the past. The design process and the review process will not be conducted in a "business as usual" manner. Both the NRC and purchasers will have confidence that plants built according to certified designs will fulfill expectations in safety and performance.

I am proud and confident of this country's renewed leadership in advanced reactor technologies and believe that the licensing process the Commission has established will help ensure enhanced safety in the new designs and will provide regulatory stability. Both this enhancement and this stability are necessary if this country is to succeed in revitalizing its nuclear industry.

Thank you very much for your kind attention.