

Remarks of Ivan Selin  
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**SAFETY AND ECONOMICS FROM A REGULATORY POINT OF VIEW**

Good morning, ladies and gentlemen. I am delighted to be here, to talk about some NRC initiatives and some issues I believe are important to the nuclear industry. These all support one common goal: improving economic performance while continuing to concentrate on safety.

Obviously, the outlook for the nuclear industry depends strongly on your ability to remain competitive in the electricity generation marketplace. To remain competitive, we realize that you must improve the economic performance of your plants while still assuring plant safety. The main path to economic performance is to increase output faster than costs increase, by prudent investment and forceful management. But it is also obvious that costs in certain areas will also have to be reduced.

In parallel with your efforts, the NRC is taking actions to provide a means to improve the safety of your plants in a cost-effective manner. Three such areas that I am going to discuss today are our efforts to reduce your regulatory burden, our attempts to focus our attention on the poorer performers, and our continuing work towards providing you with a clear and well defined license renewal process. In addition, I'd like to tell you about the results of our effort to determine how NRC measures up with the recommendations of the National Performance Review. I also plan to identify some areas that require your attention.

First, an effort began in January of this year when the Commission approved a plan to establish a Regulatory Review Group to perform a detailed review of the regulations affecting operating reactors. Special attention was placed on the feasibility of substituting performance-based requirements and guidance founded on risk insights for existing prescriptive

requirements. They identified regulations and implementing guidance that would be amenable to performance-based techniques. Reducing regulations with marginal safety impact actually would increase safety since this would allow management to focus their attention and resources on more safety-relevant problems. The Group has identified a number of generic technical subject areas for regulatory action, and rulemaking activities have already been initiated for some of these activities. The Commission also approved a plan last August to address a long list of proposals submitted by the industry to eliminate requirements marginal to safety. This effort will continue.

In addition to addressing generic areas, the staff has been actively reviewing plant-specific applications as part of a more complete examination of the current regulatory framework. A utility in the forefront in the area of identifying and submitting recommended plant-specific changes to requirements marginal to safety is Virginia Power. Through their own site specific review at their Surry and North Anna plants, Virginia Power has been able to identify numerous requirements that they believe are marginal to safety, 11 of which have already been approved by the NRC, for a net savings that Virginia Power estimates at more than 16 million dollars for 1993 alone; annual savings in the future should be even greater. With cooperation between you, the licensees, and the NRC staff, I believe that economic gains as well as enhanced plant safety will be the outcome of this effort.

Secondly, we recently implemented a major change to the SALP program which reduced the number of functional areas to four (operations, maintenance, engineering, and plant support) in order to provide a more balanced weighting of the safety significance of the various SALP areas. We now emphasize the most recent six months of licensee performance when assigning category ratings to reduce the historic perspective of the SALP report, and use only senior NRC managers as SALP board members during the assessment process. These and other SALP changes will enable the NRC to focus its attention on significant issues, especially where poor performance is identified, and will enhance our ability to communicate the results of our assessments to the licensee.

Other changes to the NRC inspection program will lead to NRC inspection effort being directed more to the poorer performing licensees. One initiative in this area allows licensees to conduct their own assessment of issues that the NRC would normally review via a major NRC team inspection. The NRC will audit the licensee's assessment at a level commensurate with the licensee's performance. Through this initiative plants at the forefront of safe operations can realize a significant reduction

in NRC inspection effort as compared to a major NRC team inspection.

And finally, one of the most salient economic realities confronting nuclear utilities today is the crucially important area of license renewal. Most plants are quite a few years away from reaching the end of the 40-year license term. However, decisions about capital investments are being made continuously and license renewal is crucial to rational decision-making on these investments. For you to decide whether to make a significant capital improvement in a plant, we appreciate that it is absolutely essential that you know whether that investment will be amortized over a 30-year span or only over the 10 years remaining in the license term. A utility which lacks some degree of assurance that the investment will be useful over 30 more years of operation may feel it has no choice but to shut down rather than devote additional funds to meeting safety requirements or for economic improvements. Without an effective and predictable license renewal program, additional premature plant shutdowns may occur even though such shutdowns may run counter to the utilities' economic interests. Although the NRC will not sacrifice safety to keep a plant operating, we have endeavored to make sure that a strong and clearly defined license renewal process will be in place.

When the NRC first approached the license renewal process, industry and the Department of Energy (DOE) thought the idea of using lead plants was the best way to resolve issues associated with license renewal. As you all know, both lead plants, Monticello and Yankee Rowe, have decided to cancel or defer their license renewal plans for plant-specific reasons. The lesson we learned is that in order to work through the license renewal process for the first time, an approach to resolving generic issues was needed.

As a result, industry efforts are now focused on a more generic approach to license renewal. The Nuclear Management and Resources Council (NUMARC) is currently coordinating industry activities related to development of the generic license renewal processes that industry will submit for NRC staff review and approval. Once approved, these generic processes can then be used by the Owners Groups and individual utilities to develop specific license renewal programs and submittals. It is the NRC's understanding that the Babcock & Wilcox, Westinghouse, General Electric, and Combustion Engineering Owners Groups are interested in submitting generic documents to address the license renewal process for their plants.

In addition, the NRC staff over the past year has developed a process for implementing the license renewal rule, which proposes to shift the focus away from the identification and

evaluation of aging mechanisms themselves, and towards the detection and mitigation of the degradation effects of those aging mechanisms. Under this approach an applicant would not need to evaluate each aging mechanism for each system, structure, and component important to license renewal if he can describe a program that manages the effects of degradation such that each system can perform its required function when called on. Thus it reverses the order foreseen in the license renewal rule -- instead, you would first see if an effective program exists; only if not would you need to evaluate the age related degradation unique to license renewal.

When the staff's approach came before the Commission this spring for action, the Commission wanted to ensure that the regulatory process not be perceived as uncertain, unstable, or poorly defined. In addition, a consensus had not been reached as to whether a rule change would be necessary to support the process. To assist in achieving these goals, a workshop was held on September 30 to bring together all interested parties and solicit their viewpoints on license renewal. Recently NUMARC submitted a helpful proposal on how to modify the rule. A summary of the results of the workshop and a draft of proposed rule changes recommended by the staff are expected at the end of the month. Independent of the details of the proposed rulemaking, it is clear that a coordinated effort between the NRC and the nuclear industry is needed to ensure effective and efficient implementation of the rule.

Now I'd like to tell you about the initiative we have taken to determine how NRC measures up with the recommendations of the recently released National Performance Review report of the Vice President. This study, in my opinion, is an extraordinary effort to get to the bottom of what it takes to make our government work better. The report is based on four principles: 1) **Cutting red tape**, which for us means moving from prescriptive to performance-based management; 2) **Putting the customer first**, in our case, the customer is both the general public and the regulated community; 3) **Empowering employees to get results**; and 4) **Cutting back to basics**, which means abandoning the obsolete, eliminating duplication and cutting costs.

I believe we are already doing rather well in implementing these principles, especially 1, and 2, but there is more we can do in each of these areas. In the area of **Cutting red tape** our guiding principles have been that all regulatory burdens must be justified and that our regulatory process must be efficient. Two initiatives discussed earlier fit within the intent of this principle. One is the Regulatory Review Group look at changes in regulatory practices to give licensees more flexibility in plant operation as long as they maintain a comparable level of safety. The second is the review of burdensome regulations which provide

only marginal safety benefit yet impose a significant cost or regulatory burden. Industry estimates that providing flexibility in areas such as quality assurance and safety-grade procurement could produce savings in the hundreds of millions of dollars each year. In addition, our improved Standard Technical Specifications will reduce reporting and record-keeping burdens. We will be looking at what we can do to extend these efforts to other NRC programs.

With regard to **Putting the customer first**, the Commission has repeatedly stressed how critical it is to the future of nuclear energy that we act and make our decisions in an open atmosphere that will engender public confidence in our actions. In an attempt to be responsive to the public at large, we have conducted workshops in a wide variety of regulatory areas. This practice will continue. The NRC conducted a Regulatory Impact Survey of reactor licensees to determine utility views on the effect of the large number of NRC regulatory initiatives and requirements imposed after the accident at Three Mile Island. As a result of this comprehensive survey, the NRC has made a number of changes in its organization and regulatory practice.

Although we have in place many of the programs cited in the chapter addressing, **Empowering employees to get results**, we have a lot of work to do in the area of decentralizing decision making and reducing layers of supervision. The staff is looking very aggressively at the various layers of management with the idea of consolidating small subunits throughout the agency. We are also looking at ways to improve our information technology systems.

In connection with the final principle, the NRC has embraced the concept of "Eliminating What We Don't Need." For example, we are combining activities in two of our regions to reduce overhead, closing the Uranium Field Recovery Office in Denver, and looking at centralization of certain functions at Headquarters that now are the responsibility of the regions. We also are looking at various areas for reengineering in order to cut costs, such as expanding electronic government to make such processes as filing applications and exchanging information faster and easier.

We take pride in the fact that the NRC already had underway some of the steps mentioned in the National Performance Report, and we plan further progress in these areas.

Now I'd like to acknowledge an important effort that you are currently working on: the development of the Strategic Plan to Improve Economic Performance. The plan is an opportunity for you to become aware of the tools available to measure and improve your economic performance. In conjunction with the plan, industry groups are playing a key role in this initiative. For

example, the "cost-cutting with technology" initiative by EPRI proved to be of great value to Arizona Public Service at their Palo Verde plant when they purchased an infrared camera for \$60,000. With the camera, they were able to detect a hot spot in a bushing leading to one of the main transformers in their switchyard, which they were able to repair while on line, thus avoiding a plant transient. Had the problem gone undetected, it most likely would have caused a forced outage, at an estimated cost of 5 million dollars. Therefore, with EPRI's assistance, Arizona Public Service has proven that by concentrating on plant safety, the outcome will be a more economically run plant.

However, in addition to the current steps you are taking to improve the outlook of the nuclear industry, there are areas that require your attention. I'm referring to the potential for adverse safety impacts as a result of increasing economic pressures. You must ensure that the message you send to your staff to improve economic performance is properly interpreted by everyone in the nuclear organization. There is evidence that some measures directed toward efficiency have been misinterpreted in the management chain.

At a recent evaluation of plant safety performance the first line supervisors and plant staff were "working around" the accumulation of equipment problems, and a growing backlog of maintenance problems, in order to reduce costs. This was based on a message, perhaps unintended, from top management. The expense of restoring degraded plant equipment and reestablishing an operating culture which does not compromise on safety will far exceed any earlier short term savings.

We have also seen evidence that operations staffs feel great pressure to keep the plant on line. Another plant recently became vulnerable to a non-isolable small loss of coolant accident when a small steam leak in a reactor coolant system valve received a temporary leak injection type repair -- a more permanent repair would have required plant shutdown. Any proposed temporary repair associated with reactor pressure boundary or engineered safety features must receive the highest level engineering scrutiny and be brought to senior management's attention. The NRC will be paying close attention to the review and implementation of such temporary repairs.

You must first ensure that the principles of safe, conservative nuclear power plant operations are firmly entrenched in all aspects of the nuclear organization before moving toward improved economics. Employees must have the confidence that management will back well-reasoned safety-based decisions regardless of their impact on production goals and economics. After all, the safety of the public and ultimate success of the nuclear industry depend on your ability to run the plants safely.

I believe you must also take responsibility for improving the performance of the poorer performing, or more specifically the bottom quartile, plants. The gap in performance, as measured by current performance indicators, between the poorer performers and top performers is much too large, and needs to be reduced. Those utilities operating the better performing plants need to communicate their strategies for improving safety more openly and effectively to utilities struggling to improve the safety and reliability of their plants. By working together to improve the performance of these plants, you can raise the level of the poorer performing plants towards the better performers and therefore have a significant impact on improving the outlook for the future of the nuclear industry.

Another related action that you could take is broader promulgation of industry standards. This could help the lagging utilities to improve performance in specific problem areas, such as self-assessment, and/or corrective actions. It could also help some utilities meet our regulations more efficiently in an area such as security. By using the process, the NRC might reference the standard which could then be adopted by licensees without additional review. The greatest benefit would be the accrual of the best practices from successful programs. Although we believe this process has worked well in the areas of Emergency Action Level Guidance and Maintenance Guidance, the process could be used more frequently. By working together, you can make the standards promulgation process an efficient solution for improving the safety and reliability of the nuclear industry.

In order to support a transition toward a less prescriptive, performance-based regulatory program, NRC and industry need additional plant specific system availability data. These data are principally train level availability plus selected major safety component availability. The NRC Executive Director for Operations has requested INPO assistance in compiling and distributing these data. Your support and participation is needed in proceeding with this program. If we can get these data we anticipate offsetting reductions in NPRDS and LER reporting.

An ongoing issue of serious concern to the NRC is the handling of employees who raise safety concerns. The NRC has placed a high value on employees in the nuclear industry being free to raise potential safety issues to their management and, if that fails, to us. It is clearly in the public interest for employees to raise safety issues, since over the years the NRC, the regulated industry, and the public have benefitted from the issues raised by employees of licensees and their contractors. In addition, we think it is also in your interest that such concerns be identified and promptly addressed before an event with adverse consequences occurs. Although most of the employees who raise issues to you or submit allegations to the NRC do so

without retaliation, there are cases where retaliation has occurred, and this simply is not acceptable.

As a result, we have established a task force to review the NRC's handling of harassment and intimidation complaints and to recommend changes to our process where deemed appropriate. However, to solve the problem, you must take the responsibility to prevent discrimination from occurring in the first place. Therefore, it is crucial for you to establish an environment where employees have questioning attitudes and feel free to raise issues without fear of harassment and intimidation. Although most reactor licensees have supplemented their required quality assurance programs with programs which encourage employees to come forward with safety concerns, recent events indicate that some of you are not doing enough to encourage the free flow of information that is essential in the nuclear industry. We at the NRC will be more aggressive in the future in our handling of utilities that allow harassment and intimidation to exist in the work place.

Lastly, I'd like to mention potentially one of the most important issues facing the nuclear industry and a matter that NRC takes very seriously: the final resolution of the Thermo-Lag problem. The Commission was disappointed in the report we received from the staff last Friday on the continued failure to come up with a course of action that would result in a set of solutions to the Thermo-Lag problem. We are contemplating what additional measures we may want to take to bring this fire protection issue to a successful conclusion. Among other things the Commission is seeking the advice from the ACRS to assist in resolving the technical differences that remain between NUMARC and the staff on the test program, and in all likelihood will ask the staff to examine alternatives to the current program in case it does not produce desirable results. The general objective is, of course, to assure nuclear power plants are not particularly vulnerable to the risk of fire. This is an issue we will continue to be talking to you about until we have reached a solution to this problem.

In conclusion, the NRC has taken the initiative to provide for a more economical, yet safer nuclear industry. However, it is up to you, the operators, to ensure that nuclear energy is a part of the future. With the industry taking the responsibility for establishing a more efficient method of operation and bringing the poorer performers up to par, not only will the industry be perceived more favorably by the public, but an improvement in economic performance of the plants will be safely gained.

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