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S-99-27

“The Regulatory Environment for Test, Research, and Training Reactors”

by

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National Organization of Test,
Research, and Training Reactors (TRTR)

Annual Conference

Gaithersburg, Maryland

September 15, 1999

Introduction

Good morning, ladies and gentleman. Thank you, Ray (Ray Kammer). I am pleased to be here with you on NRC Day, and I am particularly pleased to have the opportunity to speak to you at this conference. I wanted to talk to you today about the regulatory environment, but I find myself really wanting to dwell on how wonderful the environment is here at NIST. Although we miss his significant contributions to non-power reactors at the NRC, I now fully understand Dr. Sy Weiss' decision to come here!

I must say at the outset that my background is primarily in radiation biology, but my role as Commissioner has increasingly introduced me to the Test, Research, and Training Reactor (TRTR) community and its importance to the nuclear industry. While reviewing some information recently, I was struck by the fact that Congress acknowledged the unique and significant nature of this community in Section 104 of the Atomic Energy Act, when it recognized that minimal regulation was appropriate. As you are probably aware, most organizations in the TRTR community are exempt from NRC user fees, which is also a direct reflection of its importance to the nation.

I know that other members of the NRC staff will be speaking today, and so I will not try to tell you things you'll hear from them. Instead, I'd like to address some of the things that the Nuclear Regulatory Commission is dealing with in the power reactor and materials areas, whose principles I believe are also applicable to this community.

Changing Regulatory Environment

As you may know, in the last year, the NRC has been transforming itself, with sweeping changes to many of our regulatory functions. Why are we doing this? We are doing it because the industry and its environment are changing, and we must change with it if we are to properly and effectively carry out our mission. We have taken a hard look -- helped by input from our stakeholders -- at the way we were doing business, and we are embarked on a path to change and improve our regulatory structure. We are seeking greater efficiencies and effectiveness in our processes, and trying to eliminate unnecessary regulatory burdens where they may exist. At the same time, we are continuing to maintain safety and public confidence. This is no small undertaking, and I can tell you that the NRC staff and the Commission have devoted a great deal of time and energy to accomplish it.

We are doing this at a time when our resources are constrained by several years of "rightsizing." I believe that efforts to maintain a balanced federal budget will continue, which will necessitate that we continue our streamlining efforts. I just submitted the NRC's FY2001 budget to the Office of Management and Budget, and it is the lowest budget in constant dollars that the NRC has submitted in its history.

Today the U.S. nuclear industry is mature, and has accumulated a great deal of operating experience. The issues that we are dealing with today are variations on existing issues rather than the new licensing issues that were present when we were forming our regulatory framework. Future issues are those associated with aging, renewal of expiring licenses, and

decommissioning. Although we have certified several advanced reactor designs, and stand ready to license new power reactor facilities, no orders are projected in the foreseeable future.

Economic pressures from deregulation are causing industry restructuring. While at first blush, it doesn't seem like this would have too great an impact on safety, several difficult issues have emerged. For example, the availability of funds for decommissioning must be ensured when companies consolidate or split; the extent of foreign ownership must be considered on purchases to ensure the nation's security is protected; anti-trust issues must be considered; the extent of control by non-owner or contract operators of nuclear power plants must be evaluated to determine compliance with licensing requirements; and increased numbers of independent system operators supplying power to the North American grid can affect the operation of nuclear power facilities and increase the reliability requirements of their emergency diesel generators.

The Commission has actively worked with our stakeholders to develop new processes that are commensurate with increased regulatory insights, improved industry performance, and continuing advancements in risk assessment methodology. We have demonstrated the willingness to re-examine our existing programs in a fundamental manner. However, this does not mean bowing to industry complaints and political pressures! In all of our efforts, we have not lost sight of our focus on the most safety significant aspects of facilities. We will not promise that our efforts will satisfy all of our stakeholders. However, we are committed to considering all inputs in making our regulatory decisions, and we strive to ensure that our stakeholders understand how we arrived at our decisions. My experience is that even if our stakeholders don't always agree with our decisions, if the process is understood, then their confidence in the NRC is enhanced. At the end of the day, we believe that what we are doing will both ensure safety and provide stability, clarity, and predictability on the regulatory side of the nuclear equation.

NRC Responses to the Regulatory Environment

I'd like to discuss just a few of the initiatives that the NRC has undertaken in response to the changing environment.

We have just launched a pilot version of our new power reactor oversight program. The new program offers sweeping changes to our inspection, assessment, and enforcement processes. We received feedback from our stakeholders that our processes were too subjective, difficult to understand, and therefore not predictable. In addition, our processes did not adequately recognize the improving performance of the nuclear industry as a whole. The new framework is designed to address these issues. We have worked closely with industry and our stakeholders to develop a concept of "cornerstones"--key areas of licensee performance that must be monitored to ensure that unacceptable public risks do not arise from nuclear reactor operations. We have developed quantitative performance indicators in each of these cornerstones, so that we can more easily identify areas that need attention. These indicators, as well as the NRC's current assessment of licensee performance, will be communicated more clearly to the public by posting them in graphical form on our web site (www.nrc.gov) on a quarterly basis. We began these pilot inspections at nine sites in June of this year, and we are optimistic that the program will be able to implemented for the entire industry in April 2000. Early feedback from licensees on the pilot program is encouraging, but we have more work to do before the program

is ready for full implementation. Much of the work that remains relates to bench-marking, pilot evaluation, procedure development, and NRC staff training.

The Commission believes that these broad-scale changes will allow the NRC staff to make conclusions about licensee safety performance that are objective, predictable, defensible, and more easily communicated. We also expect that the added focus on the most important aspects of performance will lead to more timely NRC and licensee responses to declining safety performance. In other words, we are hoping to “separate the wheat from the chaff.” As an added benefit, because it is focused on the most significant aspects of performance, this new approach could reduce the overall burden of inspection and enforcement, so that licensees and the NRC can focus resources on those aspects of the plant that have the greatest effect on safety.

Another focus area for the NRC has been the renewal of licenses for our older plants, and I am very pleased to report to you on the progress that we have made. We have aggressively worked through literally hundreds of technical issues on the first two applications Calvert Cliffs and Oconee, and the projected time to review a license has been reduced from over five years to under 30 months. I need to credit the NRC staff for this success story. It really is a good example of firm, fair, regulation, while considering stakeholder concerns. In fact, *Inside NRC* published a story last month discussing how licensees are jockeying to be next in line for staff review. So what we have apparently done to reward ourselves is bring on more work! But I think this a good problem. From a *resource perspective*, the NRC is gearing up to handle this increased number of applications. From a *process perspective*, we will continue our efforts to streamline the license renewal process, develop clear review schedules and milestones, and refine the scope of our reviews. From a *technical perspective*, the NRC staff is examining whether some issues can be resolved generically for all future license renewal applicants, and is consolidating lessons learned from the pilot reviews into revised regulatory guidance that will be published in the next few months.

You may have heard a good deal about “risk-informing” our regulations, but are not too sure about what that means. In general terms, it means analyzing various risks associated with facilities to determine the most safety significant aspects of equipment and performance, then adjusting the regulations to more directly address these aspects. As I mentioned earlier, our regulatory framework was established years ago using deterministic means and a philosophy of defense-in-depth. That framework has served our nation quite well for many years, and we don't expect to throw it out and start over. Rather, we are trying to refine the regulations to focus them on these most significant aspects, so that our regulations do not become an unnecessary burden on our licensees. Specific areas that we are addressing include parts of the ASME Code, In-Service Inspections, improved allowed outage times for technical specifications, and a more systematic approach to fire protection. Is this easy? Absolutely not! But that doesn't mean we should not do it. I expect that we will approach this very carefully, and as our methods of analyzing risk improves, we will continue to refine our approach. I can also tell you that the U.S. has taken a leadership role in this area, and the rest of the world is watching to see what we will come up with.

In response to deregulation and industry restructuring, we are trying to monitor developments and be as responsive with our regulations as possible. For example, the Commission has taken specific steps to understand and respond appropriately to the effects that the changing

business environment could have on nuclear safety. We have worked with the Federal Energy Regulatory Commission (FERC), the Department of Energy (DOE), and other interested parties to address issues regarding electrical grid reliability. The NRC staff has tried to anticipate changing economic conditions in the development of criteria for the review of license transfers when one utility purchases another. We have issued a revised rule that will better ensure the availability of funds for reactor facility decommissioning, and are considering approaches to better assure the adequacy of decommissioning funds in connection with license transfers. These funds typically run into the hundreds of millions of dollars, and you may have heard that Congress has recently taken an interest in clarifying the status of these funds for tax purposes. In addition, the economy is increasingly becoming a global one, and we must recognize that practices of other countries can affect our licensees and decision-making. Specifically, we are currently considering guidance for foreign ownership of our licensees.

Looking into the future, high-level waste disposal remains a difficult problem. Let me say that the Commission remains firmly convinced that a permanent geologic repository is the appropriate mechanism for the U.S. to ultimately manage spent fuel and other high-level radioactive waste. The NRC continues to progress in its reviews and pre-licensing consultation under existing law related to the DOE program to develop a high-level waste repository. Based on the Nuclear Waste Policy Act and the Energy Policy Act of 1992, before licensing a repository, the NRC must consult extensively with the DOE to develop a regulatory framework, to evaluate the DOE site characterization and waste form, and ultimately, to determine whether the NRC can authorize repository construction and receipt of waste. We are continuing to develop a Yucca Mountain review plan and to resolve key technical issues to prepare for reviewing the DOE license application expected in 2002. We have an ongoing dialogue with DOE on a draft license application so that we can provide guidance on what is needed for a complete and high quality application. We have just received the DOE draft Environmental Impact Statement for Yucca Mountain, and will be reviewing that over the next few months. As with the other areas I have discussed, our progress in resolving high-level waste issues includes extensive consultation and interaction with the public and our other stakeholders.

Decommissioning appears to be a growth area for all licensees. We all recognize that our nuclear facilities are aging. Those that cannot demonstrate their value or are not economical will be shut down and decommissioned. We realize that there may be inefficiencies in our current regulatory framework, since we hold our decommissioned facilities bound by regulations that were designed primarily for operating facilities. As a result, in the power reactor area, the NRC is taking a formal look at our whole approach to decommissioning to see if we need to create a new regulatory framework, and to see if we can focus on the areas of greatest risk. I expect this review to be complete by the middle of next year. In the non-power reactor area, we are also looking at any changes that can be made, such as the emergency preparedness requirements for shutdown facilities.

Improving Stakeholder Relationships

One of the more important issues for the Commission is to maintain and improve public confidence in the NRC. Most licensees recognize that a competent, credible regulator improves public and stakeholder confidence that nuclear technology is viable. But who is the public? Who is a stakeholder? Depending on the situation, these people could mean

licensees, industry groups, Federal entities, States, Agreement States, public interest groups, trade press, local and national newspapers, NRC employees, and of course, the general public. It is vital that each of these groups be considered when discussing and communicating issues to “the public.”

We are looking at several ways to improve our communications with the public. We are daily becoming more transparent as we put more and more information on our web site. In October, we will provide the ability to retrieve documents electronically from our web site that previously had to be obtained from our Public Document Rooms or had to be ordered. In the near future, we will be implementing the ability for licensees to submit documents electronically to us. These efforts offer tremendous increases in access to information to our stakeholders and the public.

We are working hard to present issues clearly, and to ensure that findings are presented in the proper safety context so that stakeholder concerns are not unnecessarily raised. The Commission recognizes that it is not enough to put out raw facts and data about the nuclear power industry. While this information may be clear to licensees, if it is not placed in context, stakeholders that are not directly involved may not perceive the information in the intended way, which causes public confidence to suffer.

The Commission is trying to improve public involvement in its processes. For example, we have established a new informal hearing process for power plant license transfers; we go out of our way to notify people of public meetings; and we are increasingly involving the public in meetings, including having various stakeholder groups give presentations at public Commission meetings.

And yet I see that the NRC and the nuclear industry are not doing nearly enough. The rest of the world is simply moving too fast to be asked to understand a lengthy discussion of nuclear issues. We must be able to state facts clearly, simply, and to the point. To communicate poorly invites degrading the public confidence.

Impact of Environment on TRTR

Having described NRC’s overall regulatory environment and specific aspects of our power reactor regulatory environment, how does all of this apply to Test, Research, and Training Reactors? I know that the NRC staff is cautious in suggesting too much change in this area. I also know that we are a learning organization that seeks to improve its processes through feedback and innovation. To this end, the NRC is examining its functions to see if there are areas that can be improved. The NRC staff is assessing the way it does inspections, license amendments, operator licensing, license renewal, and decommissioning. I would ask that you provide candid feedback on ways that the regulatory framework can be enhanced. This effort cannot be successful without stakeholder input. I also recognize that resources are tight for many organizations, but I ask that you remember that the effort that is given today will pay off in the future in both safety benefits and potential resource savings.

As a means to stimulate your thinking, I ask that you consider how to “risk-inform” the regulations applicable to your facility. This is not simple. Doing it well includes a careful look at

the original licensing and design basis for your facility, considers how the design has changed over the years, and how it is maintained and operated today. The point is to analyze your facility in as systematic and realistic manner as possible, identifying the most safety significant areas, and considering ways to address them. The NRC welcomes suggestions on how to refocus its regulations from those areas that are less significant to those that are more significant.

I heartily encourage you to maintain a top-notch public outreach program. Consider increasing the number of tours of your facility, ensuring that the written information about your facility and nuclear issues is readily available, holding public information meetings, enlisting the support of community leaders, engaging the students and faculty at your universities, and otherwise informing people about nuclear technology. Maintaining public confidence is something that all nuclear professionals are responsible for, and it is just as true for test, research, and training reactors as it is for power reactors or materials licensees. If you are a nuclear professional, you must have a sensitivity to public interests and concerns in today's environment.

Closing

I would like to close by reenforcing the need for you to remain engaged in your community and work closely with the NRC on making the appropriate improvements in our regulatory structure. The community needs each of your efforts to train future leaders, advance nuclear technology through research, and serve as a testbed for new ideas. The future of much of our nation's nuclear expertise resides in your programs. I believe you will have to continue to be a repository of nuclear knowledge, so that if the nation does decide to aggressively pursue nuclear energy, we are all ready with the requisite people and tools to fulfill our respective roles in protecting public health and safety. I applaud and thank you for your efforts.

Now I will be glad to answer any questions you may have.

Thank you again for the opportunity to speak with you today.