

Nuclear Regulation: Its Role in the Future of Nuclear Power
Remarks of Commissioner Nils J. Diaz
U.S. Nuclear Regulatory Commission
before the
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Senator Domenici and fellow participants: It is an honor and a privilege to be invited to take part in this forum, on a topic of such importance to the well-being of the American people, among so distinguished a group of leaders, from the private sector, academia, and Government. In his letter of invitation, Senator Domenici wrote of having "challenged the nation to begin a new dialogue about a broad range of nuclear technologies," and every American, regardless of his or her views on how our country should face the issue of nuclear energy and the use of radiological technologies, should applaud the opportunity to do so. Because we know -- though as a nation we all too often seem unwilling to acknowledge this -- that the quality of life of everyone in this country will be directly affected by the decisions that are being made today on how America's electricity will be generated and how we resolve the nuclear technology issues. The availability of energy in the short and long-term and its cost --- in health and safety, in environmental effects and in dollars --- are issues that require national policies and commitment. I believe public debate is the only way to start the process. As a society we must discuss these issues, make the needed decisions and carry them out. Otherwise, we may discover later that we have made decisions — but by default, not by conscious choice, or worse, that good decisions were not carried out. We are challenged to find fundamental changes to the existing conditions to effect improvements, and to do so fully informed.

Senator Domenici has forthrightly stated his own position -- that the nuclear energy option should be revitalized -- and I know others in this room share that view. For my part, I need to make clear, that I am here today as a member of the US Nuclear Regulatory Commission to present my individual views on the regulation of nuclear energy, as well as on the direction and actions that would best serve the interest of this country.

Having said that, I should also say that to me, being a regulator does not imply some sort of umpire-like detachment, in which our only legitimate role is to call the balls and strikes accurately. I think the public expects more from regulators, and rightly so. We who are public servants, whether in the Congress, the Executive Branch, or an independent agency like NRC, have an obligation to add value by facilitating the processes we oversee and making them better. When you are talking about providing a benefit to the American people, there is more to health and safety regulation than preventing things from going wrong or taking enforcement actions when they do; as regulators, we should also be thinking about how to make things go right: ensure safety, and to do so efficiently and effectively. Efficient and effective regulation is an indispensable component of the nuclear scenario. Regulation is not free; the people of America pay for it.

Of course "efficient and effective" could be just buzzwords. We hear them invoked quite frequently, as though merely saying the words brings the objective to fruition. We know this is

not so. It is good to ask: “where’s the beef?”. To the question of how to actually achieve efficiency and effectiveness in regulatory activities with adequate or improved safety, I respond that the answer lies in deploying a state-of-the art, consistent regulatory structure, with sensibly crafted rules and requirements matching technologies with safety requirements that are proportional to risk . That having been said, the bottom line is implementation of such a structure without delay so that the benefits can be reaped. All improvements we make, or try to make, to the process are not worth the paper they are printed on if they do not translate into better practices and implementation in the field.

Before we can talk about a cure for what ails the nuclear option, we need to know what the ailment is. In this regard, I would like to place the role of regulation and its status in perspective. No one would argue with the proposition that the nuclear power industry, after promising beginnings, stopped growing in this country more than 20 years ago, its value in the eyes of the public declined and has yet to recover. Where you will get an argument is the cause of this decline.

I believe there are at least four fundamental preconditions for a sensible and successful nuclear power program:

- political stability;
- financial stability;
- financial capability; and
- stability and effectiveness of the technical and regulatory infrastructure.

Of course, today we know that there are two fundamental post-conditions: the capability to dispose of the nuclear industry wastes and public acceptance; both are still in need of resolution. From 1973 to 1983, the period of nuclear power plant development, one key element was missing: financial stability. We had double-digit inflation and soaring interest rates. Of course, the so-called “energy crises” were the initiating events. This financial turmoil, in turn, resulted in a lack of financial capability to complete costly projects. More than anything else, it was the inability to borrow money at reasonable rates, the steep escalation of costs during construction and demand uncertainty that interrupted nuclear power plant construction and development and brought it to a halt. It occurred early in the development and affected most projects under construction. History shows that nuclear power plants were built under the worst economic conditions for large capital investment projects. The construction standstill was not due to the technology, the safety issues, or the NRC, although they are all frequently blamed for it, especially the NRC.

Was the NRC the main culprit? I think not. I believe that our Government and our citizens would not stand for an agency dismantling an industry without cause or a national policy debate. In fact, the NRC was a minor part of the plant construction debacle. To be sure, the financial crisis came at a time when regulation was in flux, in part a reflection that the nuclear technology and the regulatory technology were both maturing during the same period (73-83). The mandated hearing process, established to provide checks and balances to power plant licensing was imbalanced and unchecked. Eventually, regulation did increase the cost of operation and maintenance from 1979-1989, the post-TMI period; industry improvements then turned the tide.

Where do we stand today on the four preconditions I mentioned? Political stability, the first, has not been an issue in America. The second and third preconditions, financial stability and financial capability, are in excellent shape. For almost 10 years, we have had low inflation

and low interest rates, and with an expanding economy we have the financial capability to develop large-scale projects. We also have an experienced and effective technological infrastructure that has, by all objective measures, matured into a safer technology that keeps improving.

The one pre-condition still in question is whether we have the necessary stable and effective regulatory infrastructure, and whether it is implemented faithfully to policy, and with due process of law. One would expect that the NRC regulatory programs would have matured to the point that they are implemented in straight-forward, consistent, transparent, and accountable manner. Some would say that this has not happened; that it has become bigger rather than better; that we have added complexity instead of infusing simplicity; and that the instinct to preserve the status quo is stronger than the obligation to implement our mission objectives consistent with present realities. I would rather work at fixing it than at explaining.

It is equitable and fair to state that there are many good things the NRC has done and there are many good people that work at the NRC. The present safety record of the nuclear industry has been produced by the industry with the NRC regulatory requirements. It is also fair and equitable to state that improvements were made by the initiatives of the industry or at NRC's instigation, with the reluctance of the other parties. There have been good policies, good policy direction and clarifications, and implementation follow through, and good industry/NRC successes, and the NRC has maintained the highest standards of stakeholders participation in its policy decisions.

— Recent examples:

- Final certification of CE and GE evolutionary reactor designs, and close to completing the advanced Westinghouse AP-600 final design approval.
- The Decommissioning Rulemaking, establishing a 25 mrem clean-up level and no groundwater provisions. It would be fair to say that EPA does not agree with this protective and reasonable rule.
- The Commission expressed support for Interim Storage and Deep Geological Repository for high-level radioactive wastes, and consideration to set radiation dose limits for Yucca Mountain at internationally accepted levels (30 mrem) and no groundwater.
- A better, risk-informed Maintenance Rule, with the clear, safe and functional configuration control requirements.
- A still in-progress integrated inspection and assessment process (known as IRAP), that --- when liberated from enforcement drivers --- can lead to the needed accountability, transparency, objectivity and due process. The IRAP can be fluid, open and can do away with archaic processes like the SALP and the Watch List. They were useful once but no longer are.
- The 50.59 rule changes, where the Commission replaced the de-facto zero threshold and directed the staff to use "minimal" as the criterion. The Commission has bounded the value of "minimal" in the best traditional NRC language: "minimal" is larger than negligible, and substantially less than "significant." Neither of these departures from zero means **any** compromise of protection for public health and safety.
- The enforcement policy changes, the changes in granting of exemptions, the potential to realize risk-informed regulation based on the PRA Policy Statement and Regulatory Guides.

- The Commission also approved the restart of Millstone Unit 3, and delegated to the EDO for startup authority. The industry learned from Millstone; now the NRC has to learn so that it will not happen again.
- The Commission has been reviewing the adjudicatory hearing process for license renewal cases, and is set to streamline it while conserving its value.
- A new approach to enhance public communications by and from the NRC is ready to go to the Public Document Room. It continues our tradition of full disclosure of safety issues, and addresses the “how to’ better.

I also believe that the Commission has shown that it can distinguish between actions that are necessary to assure adequate protection and those that are not necessary. I refer to rejection of the proposed safety-conscious work environment rule, the shut-down operation and spent-fuel pool rule, and the management and organizational factors rule (i.e., affirming the principle that the NRC does not manage nuclear power plants). The Commission is also considering broad impact issues like clearance of low-level radioactive materials in light of new needs and international standards.

To conclude, and to respond to the challenge of this forum, I would like to recommend the following strategies for discussion of improving the regulation of the nuclear industry:

1. Work with and at the fact that nuclear energy is a socio-political issue, and needs to be dealt with in the socio-political arena, with the right tools.
2. Work to offer a “complete package” of satisfied conditions, with safety and economics as the dominant drivers to engage the socio-political structures, which is clearly supported
by environmental advantages, technological advances and solutions to the radioactive waste issues, and sound, credible regulation.
3. Increase and systematize the interactions, exchanges, debates, rulemaking activities between the industry, federal agencies, stakeholders, and the Commission. This is not compromising the NRC’s independence; it is enhancing the participatory processes needed to effect change.
4. Give priority of implementation to risk-informed regulation, first, and to performance-base rules as soon as feasible. Everyone agrees to it, why not do it? I have a suggestion: the industry petitions the NRC to make Part 50 risk-informed. I believe you will get it, and soon thereafter, you can count on performance-based regulation. Risk-informed regulation is not only a method, it is a better way to regulate and operate nuclear power plants.

Let us engage all concerned and move forward on risk-informed regulation. I believe the regulatory process will become less burdensome and the ripple effects will change the way this industry is regulated, and yes, the way the industry functions, for the better. But the regulatory processes will be different. This is not additional regulations. It will change the way the NRC regulates and it will be worth the pain and cost. The changeover will cost, but I advocate that, in this case, it is all right to pay for change but not for the status quo.

Over the years, the NRC has repeatedly asked licensees for corrective action plans. It

is high time that we create an NRC corrective action plan for ourselves and hold ourselves accountable. This will not be a painless process for the NRC, but after 25 years, a thorough appraisal of where we are and where we should be going is long overdue, with the emphasis on implementation. In the long run, I believe that this debate will result in improving the NRC, and ensuring that this agency plays its part in bettering the quality of life of the American people.

The NRC is a licensing and regulatory agency. A license empowers the licensee to conduct the activities in accordance with its license and applicable regulations. Regulation is a tool to assure adequate protection of health and safety, within the boundaries of due process. It is in the balance between licensing rights and our regulatory responsibilities that true efficiency and effectiveness can be found.

The debate that Senator Domenici has set in motion is itself a strong inducement to the NRC to conduct a searching evaluation of itself and make appropriate changes. My colleague, Chairman Jackson, is fond of saying that "the proof's in the pudding." Senator Domenici, and members of like mind are telling us the same thing; "the proof's in the pudding." We should welcome and heed this opportunity. The American People deserve no less.

Thank you.