NRC NEWS

U. S. NUCLEAR REGULATORY COMMISSION

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CROSSROADS AND CROSS-CUTTING

Chairman Nils J. Diaz
U.S. Nuclear Regulatory Commission

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Sra. Presidente del Consejo de Seguridad Nuclear de España, doña Maria Teresa Estevan, distinguidos miembros del Comite Organizador de la Conferencia , distinguidos participantes en ICAAP, Señoras y Señores:

es para mi un verdadero placer el co-presidir esta sesión plenaria y el dirigirles unas breves palabras, tratando de captar lo que nos preocupa y la importancia del momento, y con su permiso, Sra. Presidente, cambio para el ingles:

The last 25 years of nuclear power operation and development have not been easy, and the path forward is not easy, but there is a light at the end of the tunnel and I believe it can be made into a bright light. A few months ago, in Salamanca, I said "today, there is nothing easy regarding nuclear energy." This fact is a challenge to be acknowledged, but in no way a deterrent. Besides, it is not new.

Why is the nuclear road so harsh, when those who understand the technology, its good points and its limitations, think nuclear energy is an indispensable component of the energy mix and should grow? Because public information is our greatest failure, and losing so many of those battles has made nuclear energy more a socio-political issue than an energy issue or a technology issue. Nuclear technologists and regulators have been lousy communicators, and we have failed to get the true perspective on nuclear energy to the classrooms of our countries. Nuclear energy

and radiation technologies are not “rocket science”, they are understandable and manageable applications of a well-regulated mature technology, with its substantial benefits and low risks well established; the complete picture needs to reach the classroom. Attitudes, commitments and efforts of the users and regulators have to change to provide the public with the information they need so they can reach informed conclusions. I believe that the right conclusion is that safe nuclear energy is good for the nation that has decided to use it and good for the world.

We are at a crossroads. We could choose to continue past practices or choose to provide leadership individually and collectively, and make advances in technology, regulatory practices, and communications.

I think two parallel but correlated paths can be mapped now: advances in nuclear technology and advances in regulation and in regulatory processes. While the independence of these acuities at decision-making time is indispensable, their development can and should go hand-in-hand. The third path is more difficult: how do we actively communicate the safety and benefits of nuclear energy. There are four salient points on which to focus attention: safety, economics, strategic importance and the environment. With policy-makers, it is often better to do it one issue at a time. For regulators, safety is the issue. For industry, assuring a very competitive production cost advantage coupled with an impeccable safety record would be their focus.

We are at a crossroads, with many cross-cutting issues. Some could choose to ignore the later, to pursue a mono-faceted approach only to find that what you left behind will come back and bite you. There are no mono’s in nuclear energy, only multi: (disciplinary, national, ...).

I believe it is now time to aggressively advance nuclear energy and radiation technologies to the next level of safety performance, and to have regulators move to a correspondingly more effective safety construct, where it is clear that the determining factor is the quality of life of our people, based on the assurance of public health and safety, the environment and the common defense and security, all in the context of the independence of national interests, but with the respect and consideration of global strategic and economic interests.

A safety construct should not be a passive, impassive or a plain set of safety rules and regulations, and especially not in the nuclear arena. It should be an active and interactive set that regulates, operates, informs and permits the lawful development of beneficial activities. The outcome of the safety construct is the implementation of the licensed activities, which through oversight becomes the major feedback to the construct itself. “Where the rubber meets the road,” is where safety is most significant.

I see risk-informed and performance-based regulation as a pivotal component of a better safety construct to help us focus on what really matters, since radiation safety is the final consideration.

The NRC is doing its part in this regard.

I am pleased to say that the Commission has very recently approved, and directed the NRC staff to issue for public comment, voluntary risk-informed approaches to 10 CFR Part 50. A proposed rulemaking to risk-inform 10 CFR 50.46, the basic requirements for emergency core cooling systems, includes consideration of redefining the design basis loss of coolant accident (LOCA). This is a fundamental shift in reactor regulation. We know much more about the probability and consequences of LOCAs than we did in the 1970s and we are now acting on that knowledge. In addition, a new proposed rule, 50.69, which would allow licensees to use a risk-informed alternative to the current Special Treatment requirements (such as quality assurance requirements), would incorporate risk information into plant operations on a day-to-day basis. In both of these cases (50.46 and 50.69), the new risk-informed and performance based approaches would involve living processes which should automatically address new, pertinent information through updated PRA's and associated processes.

When we add these measures to the changes already made to the maintenance rule, 50.64, in the area of risk assessment and management, to the proposed changes to risk-inform the combustible gas control requirements of 50.44, to the hundreds of license amendment changes accomplished through Regulatory Guide 1.174, and to the new Reactor Oversight Process, we have the *foundation* for a risk-informed and performance-based regulatory program. Risk-informed regulation cannot and should not be expected to carry the whole load; it is time to pair it, where appropriate, with performance-based regulation, so that these two powerful and sometimes interdependent improvements to our regulatory processes can act synergistically. The result, I believe, will lead progressively to more safety-focused licensing and regulation, enabling licensees to achieve correspondingly greater safety focus in the design, construction, operation, and maintenance of nuclear power plants. I also believe that, for future reactor designs, the old design basis concept embodied in the current NRC regulations will ultimately be replaced with a new, risk-informed and performance-based framework which provides increased safety focus and increased design flexibility.

In the area of improved communication, I see the need for communication with clear, factual plain language without minimizing or exaggerating issues; and through our actions. The actions of strong and active regulators, and the actions of strong and responsible designers and operators carry a strong message. Yet, these actions need to be well communicated. I have said before, and I continue to believe that increasing public confidence is a goal that we achieve based upon our <u>actions</u> and the manner in which we communicate with our stakeholders.

You, at the front line of advances in nuclear energy, can not be shy: nuclear energy and radiation technologies are poised for a forward leap, with many near term advances in materials, instrumentation, controls, systems and risk-management ready for deployment, and many longer term advances holding the promise of the energy of the nucleus for a better world, as nuclear energy becomes an enabler of the future for many people. Energy is the multiplier of the labor of man; with abundant and economic energy it is possible to provide the food, the water, the hygiene, the environment, and the quality of life essential to the dignity and well-being of every human. Nuclear energy, safe and abundant, is and should be an important part of such a bright future.