NRC NEWS

U.S. NUCLEAR REGULATORY COMMISSION

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No. S-08-020

"Challenges to Licensing the Next Generation of Nuclear Plants"
NRC Chairman Dale E. Klein
NEI/NEA Conference
Chicago
May 6, 2008

Thank you.

I know that you asked me to talk a bit about "Challenges to Licensing the Next Generation of Nuclear Plants," and I will; but there are also some other items I would like to address first.

Let me begin by saying a few words about the senior management reordering we recently undertook at the NRC. As you know, Luis Reyes, who served as our Executive Director of Operations for almost four years, has returned to be with his family in Atlanta, where he will oversee our Region II office. His replacement as EDO is Bill Borchardt, who set up and then directed our Office of New Reactors. We have also announced the appointment of Jim Dyer—who had been the director of the Office of Nuclear Reactor Regulation—as the new Chief Financial Officer.

Now, when a senior management reordering of this magnitude occurs, many people would think that it is a sign that something is wrong. But in this case, the changes are actually an example of how successful our succession planning efforts have been, and they reveal a lot about the depth of talent we have at the agency.

I won't go into their entire backgrounds and experience here, but let me simply note that our new EDO, Bill Borchardt, has been with the agency for 25 years. Jim Dyer, our new CFO, has also been with the agency for 25 years. Their replacements, I admit, are somewhat more junior. Eric Leeds, who is taking over at NRR, has been with the agency for only 24 years. And

the new director of the Office of New Reactors, Mike Johnson, is practically a new employee—he has only been with us for 22 years. Each of them is very capable. In fact, the hardest task facing the Commission as we made these choices was picking the right candidates from a very broad and deep pool of talent at the NRC.

I wanted to say all that in order to make clear that the agency is still strong, stable, highly functioning, and still on track to handle the expanded workload we have been planning for. And on that note, let me tell you where we are with regard to COL applications. So far, the NRC has received nine site applications for 15 reactors. As I have said many times before, we knew this day was coming, and we do not intend to be a roadblock. But I have also said many times that our ability to review applications quickly depends directly on the quality and completeness of those applications.

Licensing a new nuclear power plant under NRC's revised process involves two potential steps in advance of an actual license application: certifying a plant design and approving a site. We have been strongly encouraging applicants to use designs that have already been certified, as well as Early Site Permits, which authorize the general appropriateness of a location for a potential reactor. The combined construction and license application is intended to review how a certified design works at a particular site, with its specific features of terrain, water access, and other factors. But in the interest of getting nuclear power plants built and operating soon, some utilities are not taking advantage of the full benefits of the improved licensing process, and have skipped the opportunity to apply for an Early Site Permit. We will, of course, work to overcome these challenges. The NRC is committed to being an effective and timely regulator, and that has not changed.

With that said, let me turn to next generation plants. As you know, Energy Policy Act of 2005 initiated the Next Generation Nuclear Plant project. The NGNP is intended to demonstrate hydrogen production through high-temperature processes supported by an advanced gas-cooled reactor design. In addition, these new reactor designs can offer additional safety improvement over the already improved safety of the latest light water reactor designs now expected to be built in the United States.

The NRC is working with the U.S. Department of Energy to develop a licensing framework to meet this unique licensing need, and we are currently on target to deliver the licensing strategy to the Congress by August 2008, as required by the Energy Policy Act of 2005. However, DOE is still in the process of receiving submissions in response to two Solicitations of Interest it issued just a few weeks ago; so I am not able to share too much more information with you at this point. I can say that it has been many years since the NRC licensed a gas-cooled reactor. This fact, combined with advances in materials science that have been made during that time, means that we must re-learn and focus on the applicable science needed to perform our safety reviews.

Looking further ahead, we know that many of the world's nuclear nations have chosen to recycle their spent fuel. Whether the United States also takes this route is not for the NRC to determine. But while this choice in not within our control, we nevertheless need to be prepared for that eventuality.

One of the long-term priorities for our agency, therefore, is to begin the preparations to determine how these facilities will be licensed, and how we will maintain high standards of safety and security, while also promoting a strong non-proliferation agenda. Our challenge will be to (1) develop a regulatory framework for commercial facilities, (2) provide guidance to applicants, (3) develop qualified NRC staff to support a timely NRC licensing review, and (4) maintain an effective inspection program.

Certainly, we must engage actively with regulators in other advanced nuclear nations, as well as international organizations, to develop these capabilities if we go for the recycling option. NRC would benefit greatly from drawing on the regulatory experiences of facilities in Britain, France, and Japan.

Since I am on this subject of international cooperation and advanced reactors, let me pause here for a moment to address some concerns I have heard that the NRC's attention to current new reactor licensing may be distracted by our international activities and our commitment to preparing for future technologies, such as gas-cooled reactors. Let me assure you, the NRC is carrying its workload now, and we will continue to do so. And our top priority remains the safety and security of the existing fleet.

But we also spend time and money interacting with our international colleagues—not only to share information and learn about best-practices, but in order to be a global leader in nuclear safety and security. You may not be ordering fast reactors today, but other nations have already made political and financial commitments to do so. Even if the United States is not proceeding down this path at the same pace as other nations, we need to keep "our place at the table" in order to participate in establishing international norms and standards.

I wonder if the people who think we are devoting too many resources to preparing for Generation IV reactors today also think that the NRC should not have planned ahead for passive design reactors back in the 1980s. In fact, I would go even further, and say that it is only because the NRC has been consistently forward looking that an effective and reliable process is in place for license renewals, and that significant steps are underway to implement Digital Instrumentation and Controls. Let me add that our commitment to keeping up with technology is also part of our effort to attract the best and brightest talent into our ranks.

Therefore, the NRC will continue to improve and modernize the agency, including in areas like risk-informed and performance-based assessments. Let me say a few words about that. You all saw the massive media coverage a few weeks ago of the FAA's heightened inspection scrutiny, leading some airlines to ground hundreds of planes. This has prompted a lot of people—in Congress, in business, and in the general public—to think about how safety regulations should work, and the appropriate way to regulate different kinds of risk.

I don't regulate airlines, so I can't speak to the FAA's approach, but let me tell you a little about how the NRC approaches the subject of risk and regulation. Some you may be familiar with this, but I think it is worth providing a clarification and update on where the agency stands today.

The NRC has used risk assessment in some form for a long time. In recent years, we have been moving toward more systematic and comprehensive implementation of probabilistic risk assessment. We use risk information to focus attention on areas that are more risk-significant, and sometimes to adjust our requirements in low-risk-significant areas.

What this means in terms of enforcement is that we do not treat all violations equally, but rather weigh the safety implications through a careful process of significance assessment. In addition, the NRC enforcement policy provides incentives for our licensees to engage in self-reporting and self-correcting actions—to resolve any potential issue quickly and effectively. In short, we don't use our regulatory authority in a strictly deterministic way, but rather deploy a variety of tools and technologies to address changing and complex issues.

Let me close by noting something that many of you in this audience have told me: namely, that the NRC is more intrusive than any other industry regulator. That may be true, but I believe that it is also true that the NRC's relationship with industry is neither friendly nor adversarial, but is characterized by mutual respect. I think this respect arises from the fact that both NRC and this industry share a common commitment to the safety and security of the nation's nuclear power plants. Whatever the future holds for nuclear energy, that basic commitment must always be our first priority.

Ladies and gentlemen, I know that I have covered a lot of material, but I wanted to give you something to think about over lunch!

Thank you for your kind invitation to speak to you this morning.