NRC NEWS

U.S. NUCLEAR REGULATORY COMMISSION

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Thank you. I am very pleased to be here.

By now, you have all heard—several times probably—about the coming Nuclear Renaissance. In fact, you haven't just heard about it, you're in the middle of it. At the NRC, we've been told that industry plans to submit license applications for 27 new plants over the next several years. So we know what's coming and so do you.

The real question, it seems to me, is: Are we ready? We've been giving quite a bit of thought to that question at the NRC. So I would like to spend a few moments this morning talking about how we are preparing for the expanded workload we are expecting. Then I thought it might be useful to look at a few areas on the industry side, and ask all of you that same question.

The Commission's most immediate challenge is finding and hiring additional staff to meet our enlarged regulatory obligations. We need to increase the number of full-time employees at the NRC by a net of 600, which we hope to accomplish by 2009. This significant expansion of our staff, in addition to ordinary employee turnover, means that we will have 1,200 new people at the NRC headquarters by 2009—nearly one-third of our entire workforce.

Obviously, this kind of growth and transition will not be easy. And given our serious and often complex regulatory responsibilities, hiring people is just the first step. In addition to finding qualified employees, we need to ensure that the staff is appropriately *trained* to handle our future regulatory obligations, including new reactor technologies, such as Digital Information and Control.

This demand for qualified staff is complicated by the fact that at the same time we are looking for qualified engineers and skilled workers, industry is also seeking to hire such people to meet its needs. That is a point I want to come back to in a moment. For now, let me just say that NRC has a comprehensive plan in place, and we believe that we will be able to meet the significant challenges we face in the areas of workforce development and knowledge transfer.

Let me take a moment to look at the timeline for the new reactor license applications we are expecting. I mentioned that we've been told by plant owners and utility representatives to expect license applications for as many as 27 new plants over the next few years. This slide shows the anticipated timeline for new reactor licensing applications for which the site and technology have been

selected. The next slide reflects applications in which the site or technology have not yet been determined.

I should mention here that new reactor applications are only part of the increased workload we are facing. We have approved licenses for centrifuge enrichment facilities at LES in New Mexico and USEC in Ohio, and we are expecting a license amendment this year for SILEX, as you know. In addition, we are preparing for applications for new uranium mining operations, and—if DOE follows through on what it has said—an application for the Yucca Mountain repository in 2008.

That is a lot to deal with. But in the final analysis, I am confident that we will be prepared. I have assured Congress and industry that the NRC will not be a bottleneck. Notwithstanding the challenges I just outlined, our staff is highly professional, motivated, and dedicated. And in case you missed the announcement, we are the "Best Place to Work" in the federal government. So we will do our job, and we will do it well.

Now, having discussed how the NRC is getting ready, I thought I might take some time to ask all of you whether you are as prepared as well as you can be—and raise a few areas in which I think greater attention or effort might be warranted.

The first involves the manufacturing sector. As we confront the prospect of a global nuclear expansion, the companies that will make those multibilliondollar orders must make critically important decisions as to where to buy their systems and components. And many of the world's nuclear manufacturers are now operating at capacity. Right now, the lead time for delivery of reactor vessels is upwards of four years, and other key components have equally long backlogs. In the face of those long lead times, nuclear projects will need to get in line and scour the globe for available components and materials.

The NRC has in place the rigorous inspection programs needed to ensure the quality and authenticity of the components that go into plants built in the United States. However, we cannot ensure the quality of the materials used globally, and if use of substandard materials should lead to a high-profile event anywhere in the world, the nuclear industry worldwide would suffer.

There is also the fact that the nuclear manufacturing industry used to consist of several national companies serving the world's needs. But over the years, these companies have merged or been bought out to form multinational companies; and this consolidation of manufacturing also presents challenges.

The second area in which I would ask whether industry is fully prepared involves the training of the next generation of construction workers, engineers, technical workers, and managers.

A nuclear industry survey done in 2001 estimated that demand for nuclear engineers through the end of the decade would be about 150 percent of supply and the need for radiation protection professionals would be about 160 percent of the supply. I'm told the next survey, due out later this year, will show an even more acute shortage of candidates to fill the waiting jobs. And of course, the problem is just as bad—or perhaps worse—with regard to skilled workers such as electricians, welders, pipe-fitters, etc.

None of our interests is going to be well served if we spend our time and money chasing after a limited number of candidates. Instead of bidding against each other, all of us – industry and government alike – must focus on an intensive nationwide effort to expand the base of qualified people.

I know that the nuclear industry is working on many fronts to address this critical need. It has launched major programs to provide scholarships, training programs, and recruitment drives. These efforts are invaluable; but this is still an enormous challenge that will require even more concerted effort by people at the highest levels.

You may know that I spent some time working at DOD. While I was there I was impressed by the process through which the military develops its senior officer corps. I believe that there would be

of great benefit for the safe and effective operation of nuclear power plants if the industry had something like a Command School for a nuclear energy equivalent of Flag Officers, a structure that brings up-and-coming managers together in an organized way and gives them the big picture. Such a program for developing a cadre of well-trained executives might look for inspiration to a place like the National Defense University, which—to quote from their mission statement—addresses "national and international security challenges through multi-disciplinary educational programs, research, professional exchanges, and outreach." Substitute "nuclear energy" for "national security" and you have some notion of what I am suggesting.

That is, of course, just one idea—which builds on the good work already being done by INPO. What we really need, however, is a comprehensive approach through every level of education in the country, starting with a commitment to get elementary and middle school children interested in science and engineering.

Let me make another observation that I know is something each of the five Commissioners believe in, and have said before, which is this: owning a commercial nuclear reactor is not a business for amateurs. If the nuclear power business is treated with less than the seriousness it deserves—and people begin to think that anyone can just jump on the nuclear bandwagon—it opens up the very real danger of making the "wave" of the nuclear resurgence look more like a "bubble." And bubbles have a tendency to pop.

It is not my function as a regulator to tell industry how to manage its capital investments or construct its business models. As a regulator, however, I do have a legitimate interest in seeing that the "captains" of the nuclear energy industry have a proper appreciation for the technical, engineering, and security challenges involved in operating commercial nuclear reactors. So when I observe utilities spinning off their nuclear energy components, or see plans for changes in the ownership of nuclear power companies, I think it is worth reiterating the basic point that the nuclear energy business is in many ways unique, and should be treated as such. Highly qualified technical leadership will continue to be essential – and so it needs to be developed and maintained.

You probably have all heard of Admiral Hyman Rickover, who was the father of the U.S. nuclear navy. One of the things Rickover was famous for was his insistence on safety, and his demand that the officers who ran nuclear-powered vessels be absolutely and thoroughly qualified. He took this so seriously, that he personally interviewed *every* prospective officer being considered for a nuclear ship.

Rickover died in 1986, but there are lot of people in this industry—like Admiral Skip Bowman who runs the Nuclear Energy Institute and Jim Ellis at INPO—who will tell you that Rickover's influence is still felt, and his ghost still inspires a very strong safety culture, not just in the Navy, but in the civilian nuclear power industry as well. I hope that you will be inspired to share the same focused commitment to safety, training, and qualifications.

Again, there is some very good work being done already. Just yesterday I spoke at a conference sponsored by INPO, the National Academy for Nuclear Training, and the Goizueta Business School Emory. The conference is specifically designed to educate board members and officers of companies with nuclear electric generating assets. It's an excellent program; but if the industry is going to grow substantially, we will need much more along those lines.

If the expansion in nuclear power is to proceed in both a timely manner and a safe manner we must be more vigilant than ever. Industry cannot let future plans distract them from their current operations. If anything, NRC will be increasing our vigilance of current plants to check for troubling signs, because continued safe, efficient performance is so important. This is also a key to maintaining public confidence in the very companies that are planning new construction.

I think this next slide illustrates my point well. When the May 17 edition of *Energy Daily* came out, with this headline on the front page, "House Hearing Reveals BP's Cost-Cutting Drove Accidents," I held it up at our morning staff meeting and said, "This is a headline none of us ever wants to see with regard to a nuclear power plant." And I think you would all agree.

As regulator I cannot be an advocate for or against commercial nuclear energy. And while that is unquestionably true, it is also true that you and I share the same ultimate goal: the safety and security of nuclear power plants and materials. These critical goals of safety and security require each of us to fulfill our separate but complementary responsibilities.

For our part, the NRC will be a strong and independent Commission; and we will continue developing the needed framework of regulatory stability. In turn, we expect that the manufacturers, builders, and operators of current and future plants will meet their obligations to the public as well. In this way, with all of us doing our jobs, nuclear energy will continue to play a valuable role in our nation's energy future.

Thank you for your attention. I will be happy to take some questions.