NRC NEWS

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"The NRC and the 'Safety Business'"

Remarks Prepared for
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Thank you.

I am very glad to see such a large turnout at this meeting.

Nuclear engineering is much different today than when I first got into the field years ago. Both the academic and business aspects are changing, more rapidly all the time it seems—and not just in the U.S. but around the world. So today, for example, when I travel I find more and more often that my counterpart is a woman… such as Judith Melin in Sweden, or Linda Keen in Canada.

And we are quite proud of the increasingly important role women play at the NRC. If I may brag for a moment, Undine Shoop, an engineer who works in the NRC's Communication's Office, is on the cover of the current issue of *Woman Engineer*.

Now, the changing face of the nuclear power business is a positive development for a number of reasons including basic fairness and greater diversity. There is also the simple fact of self-interest: ensuring full access for women essentially doubles the talent pool. And both government and industry are going to need all the talent we can get. In fact, there are now more women in college than men—so if industry wants to build a future with the best and brightest young talent, it needs to attract and encourage people of both genders and all races.

Another benefit is tied to the fact that the success of the Nuclear Renaissance—if it is to happen—will depend ultimately on public trust. That's a theme I will come back to in a minute. But my point right now is that the more an organization looks like the public, the more likely it is to earn that trust. After all, people are more comfortable with what is familiar. So the more the organization represents society at large, the more likely that it will be trusted by society at large.

This is all the more important today, because one of the potential bottlenecks I see for future growth is workforce development. One of the challenges facing both industry and regulators is the need to prepare the next generation of engineers, as well as electricians, welders, and other skilled crafts people. I have said before that 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. And reaching out to people who were not traditionally well-represented in this business is one of the best ways we can do that. So I am very pleased to see how large and strong a force WIN has become for expanding the industry's talent pool.

On the subject of workforce development, I want to commend you for your decision to hold this event at Disneyland. I assume you chose this venue so that we could all check out the competition… because I know that I regard Disney as my competitor.

That may seem like a somewhat cryptic remark, so let me explain what I mean with a brief story. Bill Gates was once asked who Microsoft's biggest competitor was. He responded, rather surprisingly, that his biggest competitor was Goldman Sachs. Gates explained that both companies were in what he called "the IQ business." "Microsoft must win the IQ war," he said, "or we won't have a future. I don't worry about Lotus or IBM, because the smartest guys would rather come to work for Microsoft. Our competitors for IQ are investment banks such as Goldman Sachs and Morgan Stanley."

So what does that story have to do with nuclear energy and Disneyland? I think it comes down to a similar commonality: safety.

I don't mean to discount IQ, of course. But since we are in a room full of nuclear engineers, I think we can take high IQ's in the nuclear energy business as a given. And, as you know, the NRC is not a Mickey Mouse operation. But what Disney and the nuclear energy business have in common is that they both depend for their success, for their existence, on an absolute commitment to safety.

That focus is key to a successful in-house engineering operation, with a comprehensive education, training and development program. I think you will find this kind of program in companies that understand, as Disney appears to, that without their customers' trust, nothing else matters.

What does it mean for us to recognize that we are in the safety business? And I say "we" because, of course, the safe operation of commercial nuclear plants is a joint responsibility that requires the active cooperation of the utilities and the NRC. What is required for us to fulfill our separate but complementary responsibilities? I am glad you asked, because that brings me to the theme of our panel, "Rebuilding the Nuclear Industrial Infrastructure."

As I have remarked several times over the last few months, I firmly believe that while the NRC faces significant challenges in the near future, we will not be a roadblock to the anticipated growth in nuclear power, if we receive high-quality applications. But I have also pointed out that there seems to be two other areas that may present bottlenecks. I have already talked about workforce development.

The second potential bottleneck is the ability of the global manufacturing sector to meet the growing demand for high-quality nuclear components in a timely way.

I should mention that the relatively small number of firms producing major components at least makes it relatively easier to oversee the quality and authenticity of these components. But we—and I mean here both the utilities and the regulatory community—face a different challenge in ensuring the quality of the thousands of smaller parts and materials that are manufactured in other parts of the world.

The construction of a commercial nuclear plant today involves pumps, valves, motors, fans, pipes… and even bolts… that may be produced by any number of companies—both private and state-owned—around the world. And the close scrutiny that regulatory agencies and nuclear customers can bring to bear on major manufacturers to assure that quality components are produced does not always apply with the same intensity to the sub-vendors that supply parts and materials to the manufacturers.

To address this, I have suggested in meetings with regulators from other nations that we establish more extensive channels of communication to share information about any components or equipment that may be substandard, counterfeit, inadequate or inappropriate to a nuclear power plant. Regulatory agencies and industry would benefit from sharing this data under normal circumstances, but it seems to me even more critical during the current worldwide push to build new plants.

Whether it involves major components, smaller parts, nuclear plant designs, or the actual construction and operation of power plants, we all have an interest in encouraging high levels of safety, and strong safeguards in every country that participates in the fuel cycle.

Now, when I address the need for industry to join with us in being vigilant in this area it is not intended to cast aspersions. It is simply meant to recognize that the NRC depends on industry to be the first line of safety.

It is a well-known adage around my office that if there is something amiss at a commercial nuclear plant, the plant owners and operators should find it first. If they don't find it, INPO should. If INPO doesn't find it… and it falls to the NRC resident inspector to find it… well, then industry has, in a sense, failed. So what I am trying to do when I revisit these themes is to avert problems before they come to our attention as a regulator.

Still, some people wonder why I keep coming back to this theme. So let me offer two examples of why I think this issue is important, and why I want to ensure that all of us are putting sufficient effort into addressing it. Because I have always said that ensuring high-quality components is a challenge we must address together.

Here is the first example: According to data compiled by the American Society of Mechanical Engineers, the number of ASME Nuclear Certificates holders fell worldwide from nearly 600 in 1980, to under 200 this year. More strikingly, the decline was due almost entirely to the loss of nuclear certificates among American companies. The number of certificates held by other nations has remained fairly steady—around 100—since 1980, but the number of American certificate holders today is one-fifth of what it was 27 years ago. Clearly, this must be a consideration as we contemplate the anticipated growth in the demand for parts.

The second point is more anecdotal, but I am sure it is something you have been following in the news… and it seems to be happening more and more often. I am referring to the problems with regard to quality control over both food products and manufactured items that are bought and sold on the global market.

This is bad enough when it concerns contaminated consumer products—which is certainly very serious. But it is a matter of even greater concern when supposedly high-quality machine components are substandard or counterfeit... particularly when such defective or fraudulent parts could find their way into a commercial nuclear reactor. That has not happened. And I am confident that it will not happen… as long as we remember that at the end of the day, nuclear power plants are really in the safety business.

So the question I would leave you with is: Are we being vigilant enough? Is industry doing enough to:

Establish more rigorous safeguards and oversight in procurement?
Find quality vendors and ensure that they maintain high standards?
Make quality assurance a top priority?
That is my charge to you today.

To come back to the point I made at the beginning—it clearly appears Disney understands this. There is a reason they are known and loved and trusted around the world… because this park is a global enterprise, too. No ride, no attraction will be enticing enough if people don't feel safe bringing their families here.

That same confidence, that trust, should be the ultimate goal of those of you trying to bring about the revival of commercial nuclear power.

Thank you.