



NRC NEWS

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“The Right Way: Steering a Course for the Future of Safe Nuclear Power”

Remarks Prepared for NRC Chairman Dale E. Klein

Center for Strategic & International Studies

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Good morning. Thank you, John (Hamre), for that kind introduction.

I would like to begin by commending the Center for Strategic and International Studies for holding this series of conferences, and for all the good work this organization does to elevate and inform the discussion of major public policy issues.

Now, I would like to be clear up front that while I am happy to talk about nuclear energy—which is a subject I know something about—I am not here to “make the case for nuclear.” As a regulator, I am not an advocate for or against commercial nuclear power. My job is to ensure the safety and security of U.S. nuclear power plants and materials.

What I would like to do, then, is just share with you some observations, and allow you to draw your own conclusions. I will keep my remarks fairly short, because what I really enjoy in these types of forums is engaging the audience in the Q and A afterward.

Let’s start by looking at the big picture first. You have already heard Marv Fertel from NEI and some of the other speakers discuss the anticipated increase in energy demand, and how nuclear power could help meet some of that demand. But I would like to recap a few of the numbers, just briefly, to put my other points in context.

The Energy Department’s statistical office estimates that the global demand for electric power generation is expected to rise sharply over the next 20 years. In the U.S., electricity demand is expected to increase by 50 percent in the next thirty years. If nuclear power were to maintain its current share of the electricity supply in this country, the industry would need to add 50 new nuclear power plants, with an average output of 1,000 megawatts each. This would

entail going from the 104 commercial reactors that are currently operating to a little over 150 nuclear power plants.

It is interesting to note that this would generally be consistent with the original projections that were made in the 1970s, during the first construction boom, when the industry's plans were for about 160 plants. Sites were actually laid out and designed with that number in mind. But only two-thirds of those were built for a variety of reasons.

As you may know, that first construction boom ground to halt during the “stagflation” of the late 1970s, when the predicted demand for energy consumption leveled off. In addition, the NRC had only recently been created, and—frankly—was not a very efficient or predictable regulator, in my view. And the only problem people had with “carbon” was that the stuff rubbed off on your fingers when you made “carbon copies” in the typewriter. The prospects for nuclear power did not appear bright. Today, of course, the situation is very different.

Just within the last year, we have seen dramatic changes. A nuclear reactor in Alabama called Brown's Ferry Unit One that had been sitting idle for decades was finally re-started; and the President of the United States personally attended the ribbon-cutting. Construction at the Watts Bar Unit II reactor in Tennessee will resume next month, after sitting in mothballs since 1988. The NRC issued renewal licenses for three operating plants this year, with ten more under review; while 13 power uprates are under review, with one already issued this year. We are expecting applications for several new uranium mining operations; and if the Department of Energy follows through on what it has said, we could be receiving an application for the spent nuclear fuel repository at Yucca Mountain next year. In addition, of course, the first new reactor applications—for sites in Texas and Alabama—have been submitted. And we are preparing for quite a few more.

These are not the signs of a stagnant industry. To the contrary, these are signs of expansion and growth. In fact, the NRC is probably the busiest we have been in our history. And if I can take a moment to give a little recruiting pitch, I would mention that this is also probably the most interesting time to work at the NRC in our history. I should add—in case you hadn't heard—the NRC was chosen earlier this year as The Best Place to Work in the federal government. That's very good news for us, because we really do need to attract the best and brightest in order to perform the important work we do.

Now, as I said at the beginning of my remarks, I am not an advocate for or against commercial nuclear power. But from the perspective of ensuring that any expansion in nuclear power proceeds safely and securely, let me outline what I see as the most significant of the possible roadblocks to the so-called Nuclear Renaissance. There are two main concerns that persistently capture my attention.

The first is whether there is sufficient quality assurance and control over the myriad elements that go into building a modern nuclear reactor. Whether it be major components, minor parts supplied by sub-vendors, reactor designs, manpower, software, or other elements... a new reactor today depends on a supply chain that is truly global in scope. And the close scrutiny that regulatory agencies 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.

According to data compiled by the American Society of Mechanical Engineers, the number of ASME Nuclear Certificates held worldwide fell 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 demand for parts.

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. Everyone involved in nuclear power has an interest in encouraging high levels of safety, and strong safeguards in every country that participates in the fuel cycle.

My second concern is whether we are doing enough to prepare the future nuclear workforce, from the top to the bottom of the ladder and everything in between. At the NRC, in one two-week pay period early this year, nearly 1,000 years of regulatory experience walked out of the agency due to retirements. I have also heard it reported that 75% of the workforce at the Energy Department's National Labs will be eligible for retirement by 2010. On the industry side, I know that NEI has said that roughly 35% of current utility personnel will be eligible for retirement within 5 years.

This is not a crisis, yet. But it has the potential to become one.

I should mention that the need for workforce development is not just limited to nuclear engineers, but also includes other engineering and scientific disciplines as well... not to mention the skilled craft workers such as I & C technicians, electricians, welders, pipe-fitters, mechanics, and others needed to construct and operate the plants.

I have said before that none of our interests is going to be well served if everyone spends 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.

So when I made my short recruiting pitch for the NRC a moment ago, I wasn't kidding. We really do need to find, hire, and train many more employees—about 400 net additional employees by 2009. In FY 2007, the NRC hired 441 people, for a net of 219. We need this expansion in our workforce if we are to fulfill the additional responsibilities we will be facing; and we have been preparing for it. The NRC has a solid plan in place to meet the challenges we face in knowledge transfer and workforce development. And we are ready. I've assured both

industry and Congress that the NRC will not be a bottleneck; and I am confident that the plan we have in place will allow to us to perform timely, quality reviews with no compromise of safety.

That is an important point and, in fact, my final one—so let me repeat it. The NRC needs to be a fair, consistent, and predictable regulator; not a roadblock. But we must also ensure that any nuclear expansion proceeds at a sustainable pace, so that safety and security concerns are adequately addressed at all times. Our standards are objectivity and sound science. So we will not be swayed either by irresponsible or alarmist rhetoric, on the one hand, or by “irrational exuberance” on the other. The virtue of the happy medium was a lesson taught by Aristotle in ancient Greece—although he obviously wasn’t thinking about the regulation of nuclear power. But it was good advice back then, and still is today, even if it is 2,000 years old.

On that note, let me conclude my remarks by thanking you again for your invitation to share some thoughts with you.

Now, I would be happy to take some questions.

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