



NRC NEWS

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Challenges Facing the NRC Administrative Judges

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I. Introduction

Good evening. I appreciated the opportunity to join you today in your program, and I'm honored to speak to you this evening.

My principal message for you this evening is that effective regulation is vital to the NRC as an independent regulator, given the many challenges before the agency today and in the foreseeable future. The roles that the Commission and the Administrative Judges play in this process are important ones.

I'd like to begin with a caveat. My remarks are my own personal view and do not necessarily represent the collective view of the Commission. In addition, as some of you know, my own background has been completely outside the legal area, so you'll get no advice from me in that area.

I've done quite a bit of traveling for the agency since the New Year began. Just a few weeks ago, I had the opportunity to represent the Agency and our nation at the "Nuclear Energy Arena" Conference in Istanbul, Turkey, before traveling on to Armenia.

Turkey is about to request proposals for 5000 MW of future nuclear power. At present, they have one research reactor. Turkish legislators were very interested to hear about our public involvement activities, and I returned home with requests to provide them with details on our hearing process. Armenia operates a single reactor of very early Soviet vintage, which, despite numerous upgrades, does not represent a safety standard acceptable here. They are hoping that a new reactor will be built to replace their current unit.

Both countries have regulatory agencies, but Turkey's is part of its Atomic Energy Commission, while Armenia's reports through one of its Ministers. My efforts in these interactions - which I think were quite successful - were to impress upon their leaders the importance of an independent regulator and the role that such independence plays in maintaining public confidence in the decisions underpinning the safety of commercial reactors.

Visits to foreign countries like these, as well as the many visits I have made to other nations, reinforce to me that we have a very solid regulatory system here in the United States - one with which I'm proud to be associated. Our regulatory standard of adequate protection, the independence of the NRC, the responsibility that we have for both security and safety, and the openness of our regulatory processes are all aspects which, I believe, serve the American people very well. As Administrative Judges, you serve a vital role in preserving these strengths of our system.

In addition, visits to countries with very strong nuclear energy programs impress upon me the extent to which nuclear energy is a global enterprise, with countless contributions from a very wide range of countries. Such visits are also a reminder that while the United States originated much of the nuclear technology in use around the world, there are many situations in which the most modern applications of these technologies are now occurring abroad.

II. The Current Environment

The NRC is probably the busiest we have been in our history, and I don't see this changing in the foreseeable future. Brown's Ferry Unit 1 was restarted on May 22, 2007; construction and licensing activities for Watts Bar Unit 2 are resuming; the NRC issued three license renewals with 10 more under review; and 12 plants have asked for power uprates, with two issued, Crystal River 3 in December of 2007 and Susquehanna in January 2008. We are expecting applications for several new uranium mining operations; and we could be receiving an application for Yucca Mountain later this year. The NRC has also received four combined operating license applications: one for two GE Advanced Boiling Water Reactors at the South Texas Project site, one for two Westinghouse AP1000 reactors at the Bellefonte site in Alabama, one for a GE Economic Simplified Boiling Water Reactor at the North Anna site, and one for an AP1000 at a new site in South Carolina. In addition, the environmental portion of a combined license application for an Evolutionary Power Reactor at the Calvert Cliffs site in Maryland has been accepted for review.

Advanced Reactor Design Certification reviews are also in progress. We are reviewing a substantial design amendment for the Westinghouse AP1000 and three applications for new design certifications. As you know, over a year ago the NRC created the Office of New Reactors (NRO) to accommodate the expected extraordinary workload increase in regulatory licensing and construction oversight without losing our focus on operating safety of current reactors.

This upsurge in current activity, as well as the future licensing requests we expect to be receiving, is not surprising. 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 30 years. If nuclear power were merely to maintain its current share of the electricity supply in this country, the industry would need to add 40 to 50 new nuclear power plants.

III. The Need for Effective Regulation

With all of the interest in nuclear energy, effective regulation is essential. Regulation is a tool that society uses to achieve the predictable and beneficial uses of an activity. Effective regulation results in timely, predictable, credible and scientifically sound outcomes. At the NRC, effective regulation also includes ensuring that our regulatory processes involve public participation - both in rulemakings in which our regulations are promulgated and in adjudications in which our rules are applied. Public participation is important to effective regulation in any free society, but it is particularly important for the regulation of nuclear energy, a technology that is always in the public eye and frequently the subject of adverse public perception.

IV. The Importance of Open and Clear Communication with Stakeholders

I recognize that achieving a balance between listening, respecting, and analyzing different views from stakeholders, while retaining independence, is one of the greatest challenges we face as a regulator charged with interpreting a statutory mandate. Make no mistake that you, as the adjudicatory arm of this agency, are regulators, just as much as we, the Commissioners, are. You are quite often, in fact, the “public face” of the NRC, since the public sees you far more often than it sees us.

Throughout the NRC, we are all responsible for clearly communicating how we have arrived at our decisions as to what constitutes adequate protection. Communicating the basis of our regulatory decisions to stakeholders and the public is critically important because what constitutes adequate protection can be seen not only from a technical perspective, but from a social/cultural perspective as well. We should accept as a positive development that stakeholders and the public want more information, control, and ownership. Further, stakeholders and the public want greater accountability. This reality is often reflected in the contentions that are submitted by interveners.

For example, during license renewal proceedings for existing plants, two types of contentions involving safety requirements come to mind: first, contentions that are based on an intervener’s concern that adequate protection is not being maintained by current regulations. In some cases, this may stem from a societal rather than a technical concern as to whether the agency’s standard of adequate protection is met. Second, contentions that are based on an intervener’s viewpoint that newer and better technology is available and should, therefore, be required, although there is no showing of deficiencies or errors concerning the safety of the existing plant. Whatever the basis for the contention, your role as Administrative Judges involves a constant challenge to determine whether the NRC’s safety threshold has been met.

V. NRC’s Statutory Mandate – Adequate Protection – In Perspective

In exercising our regulatory responsibilities, the NRC’s mandate to assure the adequate protection of public health and safety and the promotion of the common defense and security stems from the Atomic Energy Act, while the National Environmental Policy Act provides that authority as it pertains to environmental considerations.

Although this safety threshold is established in law, Congress did not define “adequate” in our enabling statutes. We know that "adequate" can mean different things to different people; however, Congress delegated the responsibility to interpret what is necessary to meet adequate protection to the NRC. This process starts when we interpret the laws we are tasked to implement through rulemaking and continues through the agency’s adjudicatory process. It is through these activities that the NRC establishes what is meant by “adequate protection.”

Underlying any regulatory scheme implementing adequate protection is an agency’s recognition that all human activities inherently contain some risk. However, our agency is also aware that we are responsible for ensuring that our licensees take measures to manage risk and reduce it to an acceptably low level. To that end, we incorporate multiple barriers and processes to prevent accidents that could have a significant impact on public health and safety. These barriers are fundamental to safe operations and provide defense-in-depth to prevent problems by relying on a diversity of approaches and separation of functions to assure safety. As judges, you are frequently challenged to assess the adequacy of these measures.

Other countries in Western Europe have also established their safety threshold by statute. This process can, however, create an onerous burden for license applicants to meet when this threshold is particularly prescriptive. In Germany, for example, the 1959 Act on Peaceful Uses of Nuclear Energy states that a license can be granted only if

every precaution is taken that is necessary in light of the state of the art in science and technology to prevent damage resulting from the construction and operation of the installation.

“Necessary precaution” imposes a very high safety threshold. The German Supreme Administrative Court has held that “necessary precaution” goes far beyond the threshold of danger and also comprises more than what is deemed sufficient by engineering experience; additionally, a region of mere apprehension, of precaution against “theoretical” risks, has to be included. This is an onerous burden on license applicants, but imagine the burden this places on the competent authority who must determine what is actually necessary to reach this threshold!

On the other hand, some western European countries do not contain statements in their enabling statutes about what is “safe enough.” In these countries, an operating license can be obtained if a plant complies with the technical regulations, and the relevant regulatory authority is satisfied. Judgments are based on the principle that risk must be “as low as reasonably practicable.” For that reason, there are fewer obstacles to constantly raising required safety standards during the operation of a plant, allowing the regulator or stakeholders to request or demand safety enhancements throughout the life of the plant.

Finland has a very demanding statutory mandate without an accompanying safety threshold. Its statute requires that

for further safety enhancements, actions shall be taken which can be regarded as justified considering operating experience and the results of safety research as well as the advancement of science and technology.

Switzerland's statute likewise requires that an operating plant

has to perform backfitting to the extent that is necessary according to experience and the state of the art in backfitting, and beyond, if necessary if it contributes to a further reduction of risks and provided it is reasonable.

On its face, this regulatory approach may result in the finding that a new technology negates the validity of the regulator's initial decision to license a plant. However, I should note that the regulatory approach taken by countries like Finland and Switzerland does require a reasonableness test. This might include an analysis of benefits and costs or an impact assessment of a backfitting measure, which should, in practice, lead to new requirements being limited to new plants. So, maybe in practice, the end results are not much different than ours.

This brings me back to my opening remark that we have a very solid regulatory system here in the United States. I believe that the approach we have taken is very effective, resulting in predictable, credible, and scientifically sound regulatory outcomes. For example, if new information demonstrates that the NRC's decision to license a nuclear power plant was based on an error and the plant is not as safe as we believed it was, we can require the plant to take the steps necessary to reach the safety level that was originally intended. However, while technical or scientific developments leading to the possibility of improving plant safety may occur, and the staff may even encourage licensees to adopt newer technologies, the possibility of improving plant safety does not negate the validity of our original decision to license the plant.

Before the agency revises the requirements for an operating plant, the NRC uses a backfit process, which includes a cost-benefit analysis that must be consistently applied. The NRC backfitting rule at 10 CFR 50.109, while allowing for the introduction of new requirements at existing nuclear power plants to ensure compliance of the plants with the agency's standard of adequate protection, imposes very strict conditions on requirements aimed squarely at raising the safety level of existing plants. Such requirements must lead to "a substantial increase in the overall protection of the public health and safety," and they are only permissible if "the direct and indirect costs of implementation ... are justified in view of this increased protection."

This approach is also applicable to the license renewal process. Some interveners look at the license renewal process as a 'blank check.' This is hardly the case. The NRC staff has a legal responsibility to make safety findings on all relevant issues before a license may be renewed. As 10 CFR 54.29 points out, the Commission must make specific findings addressing actions that have been identified and that have been or will be taken to address or manage the effects of aging. On the other hand, 10 CFR 54.30 indicates that while the licensee's compliance with its current licensing basis may require the licensee to take measures under its current license, such compliance is not within the scope of the license renewal review. This is because the renewal process does not negate the basis for our original determination that the plant has demonstrated that it meets our safety threshold.

VI. Yucca Mountain

Before closing this evening, I would also like to say a few words about the Yucca Mountain process that would follow the submission of an application by the Department of Energy (DOE).

There is no question that if DOE submits a license application the agency will face a monumental task to review it. The Atomic Safety Licensing Board (ASLB) would have the responsibility to make initial decisions on matters in controversies that may arise. Our five-member Commission - at least I hope we have five members at that time - would be involved in deciding appeals of rulings by the Board. I cannot imagine a proceeding this controversial not being the subject of numerous appeals. Because the Commissioners would have to act collectively as an adjudicatory body, I cannot, of course, comment on the merits of any issue. The Nuclear Waste Policy Act states that the Commission can take up to 3 and, possibly, 4 years to decide whether to grant the license for Yucca Mountain. Those would be busy years for this agency.

That being said, the ASLB and the technical staff of the NRC have been laying the groundwork for the license application examination for quite some time now. We now have the technical capabilities, including the facility here in Las Vegas, to ensure that these proceedings are made widely available to interested stakeholders. I believe we stand ready to initiate this review.

VII. Closing

I would like to conclude by stating that I believe we have a mandate to regulate nuclear energy so that that it can be used for the well-being of the people, for the common good, and with full consideration of the national interest. The agency's performance will be measured to a large extent, and in my view, rightly so, by how credible, predictable, and technically strong our regulations are, by whether our procedures are available and can be easily understood at whatever level of expertise our stakeholders possess; by whether our stakeholders believe we are listening and welcome their input; and by whether we make our decisions in a timely fashion.

Effective regulation may sometimes restrict activities, but it should not deter beneficial activities. Rather, it should frame them and guide them. As independent decision makers, all of us have a high goal to meet - effective regulation - and together we must strive to meet this goal.