



# NRC NEWS

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## **NUCLEAR SECURITY IN THE POST-SEPTEMBER 11 ENVIRONMENT**

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**National Press Club**  
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Good afternoon. I am pleased to have this opportunity to address you.

I suspect that you have a strong interest in security at nuclear power plants. I hope to provide you with a summary of how the Nuclear Regulatory Commission approaches security matters, with a description of some of the actions taken in the aftermath of the September 11<sup>th</sup> attacks, and with a survey of some of the major challenges ahead.

Let me make a few general points at the outset.

First, and perhaps most important, since September 11<sup>th</sup> there have been no specific credible threats of a terrorist attack on nuclear power plants. Of course, there is information that al Qaeda considers nuclear facilities as potential terrorist targets. In light of the high general threat environment, we and our licensees have maintained our highest security posture.

Second, the physical protection at nuclear power plants is very strong. I know that there has been a lot of discussion concerning the adequacy of security in light of the sensitivity of these facilities. But let me assure you that nuclear plants are not "soft" targets. For decades, security against sabotage has been an important part of the NRC's regulatory activities and our licensees' responsibilities. The plants are among the most formidable structures in existence and they are guarded by well trained and well armed security forces. The security at nuclear plants is and has always been far more substantial than that at other civilian facilities. And it has been augmented since September 11.

Third, I want to assure you that the NRC is responding to the terrorist threat in a comprehensive fashion. September 11 has served to alert America to the need for re-examination of past practices. As a result, the NRC is undertaking a top-to-bottom review of our security program to ensure that we have the right protections in place for the long term.

## **I. The Existing Security System.**

Let me start by providing you with a more detailed description of our security requirements.

Each licensee has a responsibility to defend its nuclear power plant, subject to regulatory scrutiny by the NRC. Under our existing regulatory system, we require that our licensees demonstrate a high assurance that they can defend their facilities against a so-called “design-basis threat.” Although the details of that threat are classified, it basically involves a commando attack by several skilled attackers, armed with automatic weapons, with hand-carried explosives and incapacitating agents, and with assistance by an insider, the use of a 4-wheel drive vehicle, and a vehicle bomb. Our licensees defend against such a threat by the establishment of a fenced perimeter (usually a double fence topped with concertina wire), intrusion detection devices, layers of access barriers, heavily armed and carefully trained guard forces, armored defensive positions, and a comprehensive defensive strategy. The adequacy of the defenses is subject to detailed inspection by the NRC, including periodic force-on-force exercises designed to probe for weaknesses so that corrections can be made.

The design basis threat does not include an aircraft attack. In the aftermath of September 11, many have asked about the consequences if a large airliner, fully loaded with jet fuel, had crashed into a nuclear power plant. We had to say candidly that we were not sure. We know that reactor containments are extremely robust, typically being constructed with two to five feet of reinforced concrete with an interior steel lining. The plants benefit from redundant and diverse safety equipment so that if any active component were unavailable, there is another means to satisfy its function. The operators are trained to respond to unusual events. And carefully designed emergency plans are in place. Nuclear power plants are certainly far more capable to respond to an aircraft attack than other civilian facilities. But the NRC has never previously had reason to perform a detailed engineering analysis of the consequences of a deliberate attack by a large airliner. We are performing those analyses now.

I am sometimes asked whether a terrorist might be able to gain employment at a nuclear plant. Let me describe some of the regulatory requirements that bear on this issue. At the time of employment, every potential employee who will have access to safety equipment is required to pass various background checks, including examination of past employment, references, credit history, and an FBI criminal record check, as well as to undergo psychological testing. During the course of employment, each employee is also subject to fitness-for-duty requirements, which include random drug and alcohol testing. Behavioral monitoring of employees is also required so as to ensure that any aberrant actions receive appropriate attention. Of course, access to the plants is controlled and there are portal detectors for metals and explosives. We are examining whether these requirements should be supplemented in the course of our top-to-bottom review.

## **II. Response to the September 11 Events**

Let me turn now to the events on September 11 and the NRC’s subsequent actions.

Shortly after the second crash into the World Trade Center, the NRC activated its Headquarters Emergency Operations Center and the parallel Incident Response Centers in each of NRC's four regional offices. We immediately called for our major licensees to go to the highest level of security, which we have maintained since that time and augmented as circumstances warranted. This heightened security stance generally includes, among other resources, increased patrols, augmented security forces and weapons, additional security posts, heightened coordination with law enforcement and military authorities, and additional limitations on access of personnel and vehicles to the site.

The NRC's safeguards analysts have worked continually with the intelligence and law enforcement agencies to assess the general threat environment, as well as information about specific targets. In order to assess whether terrorists may have been conducting surveillance of nuclear facilities, we, with assistance from Federal, State and local law enforcement, have carefully examined unusual incidents, such as fly-overs, threats, or the possible probing of defenses. NRC investigators have also examined incidents over the past two years that might have seemed innocent or odd at the time, but that in retrospect might suggest a pattern that should be referred to the FBI for follow-up.

As you might expect, there have been extensive interactions with other governmental agencies. We have worked closely with the new Office of Homeland Security, the FBI, the Federal Emergency Management Agency, the Federal Aviation Administration, the military, and the Department of Energy, among others. And I have communicated with the governors of 40 states so as to ensure that any state defensive assets (National Guard or state police) are used as needed to augment our licensees' defensive strategies.

### **III. Fundamental Challenges**

Let me turn now to some longer-term challenges. The Commission has not yet had the opportunity to complete its consideration of some of these issues, so these comments should be seen as my own.

#### **A. The Need for a Comprehensive Security Strategy**

I shall first discuss the context for examining the security of nuclear plants.

As you know, there have been numerous discussions about the potential vulnerability of nuclear power plants to terrorist attack. Some argue that the only acceptable response to the risk is to shut down the Nation's reactors. Others contend we can continue with nuclear power -- which provides about 20 percent of the Nation's electricity -- so long as appropriate security measures are in place.

The crimes of September 11 were designed to shock the American people in part by the very fact that they involved such large and imposing targets. In the effort to ensure that no such horror ever occurs again, there is a danger of drawing the wrong lesson from the attacks: of blaming the victim, so to speak. The destruction of a skyscraper does not suggest it was a mistake to build skyscrapers, any more than the dissemination of anthrax spores through the mails proves that it is an error to operate a postal service. If we allow the threats of terrorists to determine what we build and what we operate, we would be headed into the past -- back to an era without suspension bridges, harbor tunnels, stadiums, or hydroelectric dams, let alone skyscrapers, liquid natural gas terminals, chemical factories,

or nuclear power plants.

The problem is not the terrorists' targets, but the terrorists themselves. It is they who need to be eliminated, not the creations of a modern industrial society. It is thus my view that a strategy of risk avoidance -- the elimination of the threat by the elimination of potential targets -- does not reflect a sound response. Rather, the evaluation of the terrorist threat to infrastructure, including nuclear plants, should include a careful and realistic examination of risks and benefits and the development of appropriate defenses in light of those risks and benefits.

September 11 has made clear that our society must increase the vigilance with which we defend ourselves from terrorist attack. But the reality is that, as a society, we do not have infinite funds to spend for this purpose. Accordingly, we must allocate our defensive resources in a fashion that serves to minimize the total risk. As a result, any policy regarding the defense of nuclear facilities should be integrated in the overall response to the threat to infrastructure of all kinds.

Clearly this is not a task that the NRC can undertake alone. We have sought, and will continue to seek, appropriate security at facilities subject to our jurisdiction. We look forward to working with the Office of Homeland Security and others to ensure that our strategy is coordinated with the Nation's overall defensive posture. I see this as a great challenge, however, because the task is large and the defense of infrastructure involves government at all levels.

#### **B. Public and Private Roles.**

The second policy issue that I would like to discuss relates to public and private roles in the defense against terrorism. This is an issue that the events of September 11 have brought clearly to the fore.

As I have explained, the NRC licensees must defend nuclear power plants against the "design-basis threat." September 11 obviously revealed a type of attack -- a suicidal assault using a large commercial aircraft -- that has not been part of the NRC's planning (or that of any other agency with similar responsibilities). Moreover, the event has demanded that the NRC and its licensees reevaluate the scope of potential assaults of all types.

There are limits, however, as to what should be expected from a private guard force, even as assisted by local law enforcement. For example, if it were determined that nuclear plants should be defended against aircraft attack, I cannot conceive that the NRC would expect licensees or local law enforcement to acquire and operate anti-aircraft weaponry. Rather, this obligation would be one for the military. Similarly, there might be other types of attacks which should properly involve governmental response because of the size of the assumed attacking force or the equipment that must be employed in defense. As a result, in its development of policy, the NRC must be prepared to differentiate the defensive obligation that is borne by licensees from that which must be undertaken by the government.

As part of the top-to-bottom review that I mentioned earlier, the NRC is examining the new threat environment in coordination with various other agencies of Government. There may also have to be an additional discussion with the military, the States, and local law enforcement about the provision of governmental assets at appropriate times. I do not expect that defining the appropriate

boundary between the public and private sector in the defense of nuclear facilities will be easy.

### **C. The Balance Between Security and Openness.**

The third issue relates to the balance between security and openness. The NRC has sought to achieve public confidence through a variety of means, but perhaps the most effective tool has been a policy of transparency. We recognize that decisions made behind closed doors may be viewed with suspicion. We have therefore sought to assure open decision processes that would enable the public to be fully informed of the issues before us. We cannot aspire to a world in which all will be satisfied by our decisions, but we have hoped that all would see that our decisions were reached through fair processes.

September 11 has made clear that we need to rethink just how open we can and should be with respect to physical security issues. In this process we must give due regard to two vital but competing interests. The first is the public's right to know, a right that is grounded in law and that is one of the most cherished principles of our democracy. The other is the need to keep sensitive information away from those whose purpose is to destroy that democracy. We are striving to strike an appropriate balance between openness and security.

### **D. Achieving Progress In Other Agency Business.**

The final challenge I would like to mention is the need to accomplish security reform at a time of major transition in the energy sector.

Over the past year or two, we have seen a quiet Renaissance in the nuclear business. The nuclear generating companies have become "leaner and meaner": more efficiently run, with far fewer outages and greater reliability. In the past decade, the average capacity factor, which is a measure of plant utilization, has jumped from 70 percent to nearly 90 percent. Not surprisingly, as the electrical production of the average plant has increased, the cost of the electricity has declined. As a result, the production cost of electricity from nuclear plants is less than that from its principal competitors -- coal and natural gas. And nuclear is not burdened with the emissions constraints and concerns about global warming that attend fossil fuels.

Most importantly, by all objective measures, the safety performance of nuclear plants has improved in parallel with economic performance. The NRC tracks "significant events" -- safety system failures, unanticipated plant responses, degradation of key systems or components, and operator errors. The number of significant events has declined 99 percent in 15 years. It is not an accident that safety performance and improved economic performance should be linked to each other: both are furthered by preventive maintenance, better training of operators, and the fostering of a safety culture.

Just a few years ago, some pundits claimed that restructuring in the electricity business would lead to the premature shutdown of nuclear plants. But, as a result of this strong economic and safety performance, we are instead seeing interest among our licensees in expanding their activities. Generating companies are seeking the renewal of the licenses of existing plants so as to allow operation beyond the initial 40-year license term. And some are even contemplating new plant construction.

License renewal involves a careful examination of the systems of the plant that are subject to aging so as to ensure that safety margins are maintained over an extended operating period. We have renewed the licenses for eight plants at four sites already, and either have applications or expect applications from literally the entirety of the remaining 95 plants. We are committed to a thorough, expeditious review of each application.

New construction offers the promise of improvements in both safety and in economics. But new construction presents a significant challenge for many reasons, including that new construction might involve designs that are completely different from existing facilities. For example, there are discussions of reactors that are cooled by helium, rather than water. We have started to prepare for the possibility of new applications so as to ensure that we have the appropriate regulatory and analytical tools in place.

I mention these developments because, even before September 11, the NRC was an agency that was confronting significant challenges. Fortunately, we have used the past quarter century to good advantage, improving our processes and preparing to accommodate technological and economic developments. If society decides to expand reliance on the nuclear option, the NRC is prepared to perform its role of protecting public health and safety.

## **Conclusion**

Let me note in conclusion that we live in very uncertain times and it is difficult at this juncture to predict how the security and other challenges I have mentioned will be finally resolved. I hope that I have left you with the awareness that the NRC takes its obligations very seriously.

Thank you for allowing me to join you. I would be happy to respond to questions.