

STATEMENT SUBMITTED
BY THE
UNITED STATES NUCLEAR REGULATORY COMMISSION

TO THE
SUBCOMMITTEE ON OVERSIGHT AND INVESTIGATIONS
COMMITTEE ON ENERGY AND COMMERCE
UNITED STATES HOUSE OF REPRESENTATIVES

CONCERNING

NUCLEAR POWER PLANT SECURITY

SUBMITTED BY
DR. RICHARD A. MESERVE
CHAIRMAN

SUBMITTED: APRIL 11, 2002

Mr. Chairman and Members of the Subcommittee, I am pleased to appear before you on behalf of the United States Nuclear Regulatory Commission (NRC) to discuss programs related to safeguards and security for NRC-licensed commercial nuclear power plants. I will discuss the current status of actions that NRC and its licensees have taken in response to the terrorist acts that occurred on September 11 and outline the work that lies ahead. I believe that the NRC's response to the September attacks has been appropriate and thoughtful, and that the NRC's current programs continue to provide a very high level of security.

Before September 11, 2001, nuclear power plants were among the best defended and most hardened facilities of the Nation's critical infrastructure. In the aftermath of the attacks, security was strengthened considerably. When I last testified before the Subcommittee on December 5, 2001, I provided an overview of the NRC's existing security and safeguards programs and our response to the attacks.

On September 11, the NRC activated its Emergency Operations Center in Rockville, Maryland and all four Regions activated their Incident Response Centers. We immediately advised the licensees of all nuclear power plants, non-power reactors, nuclear fuel facilities, gaseous diffusion plants, and decommissioning reactors to go to the highest level of security as defined by a 1998 safeguards information notice and they promptly did. Our licensees have remained at the highest level of security as described in the 1998 notice since that time. We have maintained a steady flow of information with our licensees through over 30 updates to the original threat advisory, regular communications between the NRC Regional Administrators and licensees, audits of licensee activities, and numerous interactions with various stakeholders. In February we issued Orders to each operating power reactor licensee specifying actions they must take to continue the high level of security to protect the plants, and thereby public health

and safety and the common defense and security, in the current threat environment. We are currently working on updating our 1998 advisory which has a three level alert system, to bring it into conformance with the five level system described in a Homeland Security Presidential Directive which has been issued for public comment.

I wish to emphasize that there has been no specific credible threat against any NRC-licensed facility since September 11. However, the NRC still receives a substantial and steady flow of information from the intelligence community, law enforcement, and licensees that requires prompt evaluation to determine whether to advise licensees about a change in the threat environment in general or for a particular facility. The NRC has also been in regular communication with other federal agencies, such as the Office of Homeland Security, the Federal Emergency Management Agency, the Federal Aviation Administration and the Department of Defense, which have acted more than once to protect airspace above nuclear power plants.

Our Emergency Operations Center continues to maintain coverage 24 hours a day, 7 days a week, although we have reduced staffing levels. The Operations Center personnel evaluate incoming information and have prompt access to NRC managers and to officials in other agencies. The Operations Center at NRC headquarters and the Incident Response Centers in our regional offices are having their secure phone, video and computer communications systems upgraded. The regions have returned to normal operations in their Incident Response Centers, and have resumed physical protection baseline inspections at the nuclear power plants, incorporating aspects of the security advisories and recently issued Orders into the inspections.

ORGANIZATION

The nature and scope of the recent terrorist attacks have made clear that special and focused attention must be given to adjustments in NRC, licensee, and federal, state, and local response capabilities. We must assure ourselves and the public that our already robust security regime is appropriate to the new circumstances. Therefore, within a few weeks of the attacks, I, with the full support of the Commission, directed the staff to conduct a comprehensive re-evaluation of the current safeguards and security programs. The review, which is ongoing, encompasses a re-analysis of the agency's threat assessment framework and design basis threat, re-evaluation of facility vulnerabilities and access authorization processes, emergency preparedness and response, and review of NRC's infrastructure, resources, and communications.

With regard to NRC infrastructure, I specifically directed the staff to review the agency's organizational structure, staffing, and training in the security and safeguards area. The Commission recently approved the establishment of a new Office of Nuclear Security and Incident Response in order to consolidate NRC security, safeguards, and incident response capabilities and resources. The primary responsibilities of this new office will include safeguards policy development and threat assessment functions, current incident response operations functions, and oversight for the NRC's comprehensive safeguards and security program re-evaluation. We believe that significant efficiency and effectiveness can be gained by centralizing these functions and responsibilities into a single chain of command. We also expect that this reorganization will enhance communications and coordination both within the agency and with external entities.

ADVISORIES AND ORDERS

Immediately after the events of September 11, 2001, the NRC issued safeguards and threat advisories to our major licensees in order to strengthen the licensees' capabilities and readiness to respond to a potential attack on their facilities. Some of the specific measures implemented by the licensees in response to the advisories included increased patrols, augmented security forces and capabilities, additional security posts, installation of additional physical barriers, vehicle checks at greater stand-off distances, enhanced coordination with law enforcement and military authorities, and more restrictive site access controls for all personnel.

The first advisory was issued by the NRC on September 11 and has been followed by more than 30 advisories. We often tailor advisories to various categories of licensees (e.g., power reactors, non-power reactors, fuel facilities, decommissioning reactors, independent spent fuel storage installations, gaseous diffusion plants, and materials licensees) to provide concise and relevant guidance relating to the need for a given category of licensee to take specific action.

The advisory process, which was in place prior to September 11, was developed in order to ensure rapid communication and response to potential security concerns. Although the advisories are not legally binding, they provide a vehicle to accomplish rapid communication to ensure enhanced security under circumstances such as that of September 11. Subsequent inspections and audits by the NRC confirmed that licensees appropriately responded to the actions specified in the advisories.

In light of the continuing elevated threat environment, the Commission concluded that it was appropriate to place the additional actions to improve security at operating power reactors in a more traditional regulatory context. Therefore, on February 25, 2002, the NRC issued Orders that modified the operating licenses for each of these facilities to require compliance with specified interim compensatory measures. Some of the Orders' requirements formalize measures specified in the advisories, while other requirements provide additional security enhancements which have emerged from the on-going comprehensive safeguards and security program re-evaluation. The requirements will remain in effect until such time that the Commission determines that the level of threat has diminished, or that modifications to the Orders are appropriate following the comprehensive re-evaluation. Similar to the process used for operating power reactors, an Order was issued on March 25, 2002, for the licensee of the one uranium conversion facility. The NRC is also considering Orders that will require implementation of interim compensatory measures for other categories of licensees.

In summary, the NRC and its licensees took prompt and appropriate actions following the events of September 11 to enhance security at nuclear facilities. Regardless of the regulatory vehicle that was used (i.e., advisories or Orders), the desired result was achieved in an efficient and effective manner. The NRC will continue to evaluate whether further changes are needed as part of our comprehensive safeguards and security program re-evaluation.

ISSUES

I would now like to discuss briefly a number of specific issues that may be of interest to the Subcommittee. These are: (1) the design basis threat used to assess security readiness at nuclear facilities, (2) the threat of airborne attack, (3) the adequacy of security exercises at

nuclear facilities, (4) personnel access authorization and related security background checks, and (5) protection of spent nuclear fuel.

Design Basis Threat

Since September 11, the NRC has initiated a re-examination of the basic threat assumptions underlying the current civilian nuclear facility security programs. An important aspect of this re-examination is to determine the nature of the threat faced by our licensees and to review and revise, as appropriate, the methods and criteria by which licensee security programs are evaluated. This includes re-consideration of the design-basis threat (DBT). The DBT is a reasonable characterization of an adversary force against which certain NRC licensees (power reactors and Category 1 fuel cycle facilities) must design their physical protection systems and response strategies.

The NRC continually assesses the threat environment and regularly reviews the adequacy of the DBT in close coordination with the national intelligence and law enforcement community. In the past, the NRC has revised the requirements to meet the evolving threat. Further revision will be necessary. But such revision requires consideration of many issues, including a resolution of government/private responsibilities. The Office of Homeland Security has launched an effort to develop a National Physical Infrastructure Protection Plan, in which the NRC is involved, that we expect to provide a means for considering and resolving such matters. In the meantime, our advisories and Orders continue to provide an appropriate level of security until a revised regulatory system is put in place.

Airborne Attack

Many questions have been raised regarding the potential effects on public health and safety if an aircraft attack were made on a nuclear facility. As we have stated many times since the September 11 attacks, nuclear facilities are among the most hardened industrial facilities in the U.S. The design basis of nuclear power plants considered the probability of accidental aircraft crashes that may pose undue risk to public health and safety, but only a few plants were specifically designed to withstand accidental impact of aircraft. No existing nuclear facilities were specifically designed to withstand the deliberate high-velocity direct impact of a large commercial airliner, such as a Boeing 757 or 767. Prior to September 11, such a scenario was not considered to be a credible threat.

Nonetheless, it should be recognized that nuclear power plants are massive structures with thick exterior walls and interior barriers of reinforced concrete. The plants are designed to withstand tornadoes (and missiles generated by tornadoes), hurricanes, fires, floods, and earthquakes. As a result, the structures inherently afford a measure of protection against deliberate aircraft impacts. In addition, the defense-in-depth philosophy used in nuclear facility design means that plants have redundant and separated systems in order to ensure safety. That is, active components, such as pumps, have backups as part of the basic design philosophy. This provides a capability to respond to events of all types, including aircraft attack.

The capability of a plant to successfully cope with an aircraft impact will depend upon the plant's specific design features and the ability of the licensees' staff to utilize these backup systems. In our recent Orders to nuclear power plant licensees, the Commission directed licensees to develop specific plans and strategies to respond to an event that results in damage

to large areas of their plants from explosions or fire. In addition, mitigative measures required by the Orders include assuring the Emergency Plan staffing and associated resources to respond to such an event.

The NRC is continuing a major engineering effort to evaluate the vulnerabilities and the potential effects of a large commercial aircraft impacting on a nuclear facility. This effort will include careful consideration of additional mitigative measures.

In light of the fact that nuclear plants were not specifically designed to withstand a deliberate direct impact of aircraft such as Boeing 757s or 767s, some people have suggested that anti-aircraft defenses should be installed at all U.S. nuclear power plant sites. Of course, the deployment of anti-aircraft weapons would be a decision for the Secretary of Defense, not the NRC. However, the Commission has consulted with the Department of Defense, the Office of Homeland Security, and the FAA, and believes that reliance upon anti-aircraft weaponry at nuclear power plants is undesirable and, as a result, we have not advocated it. Any such application of anti-aircraft weapons would present significant command and control challenges. The operator of the anti-aircraft weapon would need continuous contact with someone who could authorize the downing of a civilian commercial aircraft, with all of the attendant implications, and would need to be able to carry out that act in seconds. It may be difficult in this context to distinguish an aircraft that had drifted off course from an aircraft on an attack mission. And, of course, anti-aircraft munitions could impose collateral damage on the surrounding community. For these reasons, the Commission believes the best general approach at the present time to deal with threats from aircraft is through strengthening airport and airline security measures. Such measures, of course, serve to protect all infrastructure, not just nuclear plants.

Security Exercises

The NRC has conducted force-on-force security exercises, known as Operational Safeguards Response Evaluations (OSREs), at nuclear reactor sites since 1991. These are tough commando-style raids, designed to identify shortcomings in security personnel performance or strategy. Prior to the exercise, the attacking force is made fully aware of the plant's detailed layout and critical equipment that would need to be destroyed, the so-called target sets, and the licensee's defensive strategies and its methods and provisions for protecting these target sets. We are not aware of any comparable performance testing of security measures for any other commercial facilities in the United States.

The performance of licensees in these exercises is sometimes mischaracterized. These are not pass-fail exams. Identified weaknesses are not necessarily indications that the security program is flawed to an extent that a credible attack could lead to a radiological release or public harm. Identification of a weakness during an exercise leads to immediate corrective or compensatory measures to ensure that the security programs remain robust. To identify and correct weaknesses is, in large part, the reason for conducting these exercises.

Following the terrorist attacks, force-on-force exercise activities were temporarily postponed because, in the heightened threat environment, the conduct of exercises would be a significant distraction to security forces. In addition, the NRC had diverted its limited security inspection resources to staff response centers and to monitor and evaluate the licensees' heightened security posture. Moreover, we believe that it would be imprudent and inefficient to conduct exercises using performance criteria based on a pre-September 11 threat while at the same time we were upgrading defenses. We recognize, however, that force-on-force drills are

an important means to assess security readiness. We anticipate resumption of on-site table-top drills by the end of April 2002 and force-on-force exercises in the Fall.

Personnel Access Authorization

The NRC's comprehensive security program re-evaluation includes an assessment of the personnel access authorization requirements and programs at nuclear power facilities. This effort is intended, in part, to address heightened concerns pertaining to potential insider threats.

Current NRC regulations, which were in place prior to September 11, require that individuals having unescorted access to nuclear power plants undergo a background investigation to verify an individual's true identity and to develop information about the person's background. The examination includes investigation of the individual's employment history, education history, credit history, military service, and character and reputation, as well as a psychological assessment to evaluate trustworthiness and reliability. The background investigation also includes a criminal history check conducted by the FBI on the basis of the applicant's fingerprints. In addition, employees are subject to behavioral monitoring once on the job, and are subject to fitness for duty requirements, which include random drug and alcohol testing. Further, those who enter the protected area pass through portal monitors that detect weapons or explosives.

Despite these safeguards, which were part of the NRC pre-September 11 requirements, we took additional steps after September 11. The NRC, in coordination with the FBI, checked all NRC employees and licensee personnel against the FBI watchlist established as part of the investigation of the events of September 11. Since that time, the Office of Homeland Security

has been coordinating efforts to facilitate information sharing among federal agencies to enhance the access to relevant information and improve the access authorization programs.

The NRC is also coordinating with the Immigration and Naturalization Service (INS) in the INS's effort to validate the employment eligibility of employees at nuclear power plants to ensure that only persons authorized to work in the U.S. are employed in nuclear power plants. This review is continuing. In the meantime, the INS has completed a review of the lists of security guards who have access to the plants to ensure that only persons authorized to work in the U.S. are guards at the sites. The NRC has determined, in consultation with INS, that there are no issues concerning employment eligibility of guards working at nuclear power plants.

You should be aware, however, that there are limitations on the NRC's and its licensees' ability to obtain and use information available in INS and other federal data bases to identify and resolve questions about an alien's authorization to work in a U.S. nuclear facility. Current law, 8 U.S.C. § 1342b, prohibits discrimination on the basis of alienage in the context of employment. This section has been interpreted to preclude asking non-citizens for more proof of identity than citizens. As a result, the NRC must tread carefully: in addition to advancing national security, we must also protect equality under the law and due process for citizens and non-citizens alike.¹

¹ I should note that Congress has been cautious in this area. In January, Congress extended an INS/SSA pilot program that permits employers who have entered into memoranda of understanding with the two agencies routinely to enter names and social security numbers into a joint INS/SSA database to verify identity and employment eligibility. But the pilot is limited to six states and it can be used only for new hires and only after the applicant has accepted an offer of employment. The program must be used for all new hires, regardless of nationality. Employers cannot call INS and ask for verification of immigration information about old hires. P.L. 107-128, H.R. Report 107-310, Part 1 (November 30, 2001).

Spent Nuclear Fuel

Spent nuclear fuel is stored at reactor sites in spent fuel pools or in dry cask storage facilities. Spent fuel pools use water to cool the spent fuel and shield personnel from radiation. The pools are robust structures constructed of very thick concrete walls with stainless steel liners, and are designed to withstand earthquakes. Spent fuel casks are also robust, typically constructed of a combination of concrete and steel that allow for air cooling of the spent fuel.

Spent fuel stored at licensed facilities poses a security challenge that is less than that of an operating reactor because the risk posed to the public health and safety is diminished. The comprehensive safeguards and security program re-evaluation being conducted by the NRC includes the consideration of potential consequences of terrorist attacks using various explosives or other techniques on spent fuel pools and spent nuclear fuel dry casks at storage sites. The Commission continues to evaluate the need for additional interim compensatory measures to augment the enhanced security put in place after September 11 through the advisory process.

LEGISLATIVE NEEDS

Many members of Congress have asked the NRC how they can help to improve the security at nuclear power plants. In response, the Commission has requested that Congress enact several specific legislative proposals that amend three statutory provisions reflected in proposed amendments to three sections of the Atomic Energy Act before it adjourns for the year.

One provision would authorize guards at NRC-regulated facilities to carry and use firearms to protect property of significance to the common defense and security. This provision is aimed at giving guards some protection from State criminal prosecution for actions taken during the performance of their official duties. Another provision would allow the Commission, in consultation with the Attorney General, to confer upon guards at NRC-designated facilities the authority to possess or use weapons that are comparable to those available to the Department of Energy guard forces. Some State laws currently preclude private guard forces at NRC-regulated facilities from utilizing a wide range of weapons. A third provision would make it a federal crime to bring unauthorized weapons and explosives into NRC-licensed facilities. Our final proposal would make federal prohibitions on sabotage applicable to the operation and construction of certain nuclear facilities (such as nuclear reactors, enrichment and fuel fabrication facilities). The NRC has been seeking legislative authority for most of these changes for almost fifteen years. We believe these modest changes will have an impact in improving plant security.

The Commission also asks your support in opposing legislation that would federalize the security at nuclear facilities. The private guard force that exists today is qualified, trained, and tightly regulated. There is no need, unlike the situation of airports, to federalize security at nuclear plants. Moreover, any such legislation would divide the management of safety from that of security, which could have unintended adverse consequences on public health and safety.

CONCLUSION

In closing, the events of September 11 have had, and continue to have, a significant effect on both the NRC and our licensees. Nonetheless, our licensees' primary responsibility of

ensuring safe operation of their facilities, and the NRC's fundamental mission of protecting public health and safety, have not changed. Licensees physical protection programs in place prior to September 11 were effective and have been appropriately enhanced since September 11. Moreover, the NRC continues to work with a variety of agencies, under the auspices of the Office of Homeland Security, in an effort to develop an integrated national strategy to deal with critical infrastructure. And we look forward to working with the Congress to continue to ensure adequate protection of public health and safety.

I appreciate being here today to discuss the NRC's programs and am prepared to answer your questions.