December 7, 2006

The Honorable Bart Gordon
Ranking Member, Committee on Science
United States House of Representatives
Washington, D.C. 20515

Dear Congressman Gordon:

On behalf of the U.S. Nuclear Regulatory Commission (NRC), I am responding to your letter of October 27, 2006, in which you inquired about the actions that the NRC has taken to incorporate lessons learned from prior studies into its regulatory framework for new reactors. Specifically, your letter requests that the NRC describe how it has factored security enhancements into recently certified reactor designs as well as what the NRC is doing, or planning to do, regarding the implementation of security measures in the next generation of nuclear plants now being designed. I want to assure you that the NRC has taken significant steps to increase security at the Nation's nuclear power plants and that these lessons are being applied to the next generation of nuclear power plants. The NRC has worked closely with the Department of Homeland Security, other Federal agencies, State and local governments, and its licensees in enhancing homeland security and preparedness.

Regarding your concern that NRC statements after September 11, 2001, were contrary to a 1982 Argonne National Laboratory study entitled "Evaluation of Aircraft Crash Hazards Analyses for Nuclear Power Plants," the NRC has indicated in public statements that subsequent classified studies have confirmed that commercial nuclear plants are robust and that the likelihood of a radioactive release affecting public health and safety is low. Such studies include analyses of nuclear power plants' ability to withstand damage to, or loss of, large areas of the plant caused by a range of postulated attacks that could result in large fires and explosions. After examining a number of emergency scenarios involving operating reactors, spent fuel pools, and dry-cask storage installations, the NRC has concluded that the existing planning basis used to develop nuclear power plant emergency plans remains valid and is confident that the public near those facilities can be adequately protected should an attack occur. As a result of these analyses, enhancements were identified, and the NRC ordered changes to enhance security at nuclear power plants. Moreover, based on insights from these studies, industry best practices, and lessons-learned from the response to the attacks of September 11, 2001, additional mitigating capabilities have been put in place at all nuclear power plants.

Insights from that research program, coupled with other studies, have been used as well to inform security measures for new reactors. The NRC staff briefed reactor design vendors to share these key insights for consideration in the design of new reactors.

Regarding your reference to prior NRC-funded studies, the NRC has considered these and more recent studies in developing the technical basis for ongoing security-related rulemaking activities. For example, the 1981 Sandia National Laboratories study (NUREG/CR-1345), "Nuclear Power Plant Design Concepts for Sabotage Protection," provides

an array of design options that applicants could use to satisfy NRC's security regulations. As required by NRC regulations, a licensee or applicant must document how it will, with high assurance, defend against the Design Basis Threat specified in 10 CFR 73.1. Licensees and applicants are allowed to employ different security techniques and features to ensure NRC regulations are satisfied. The NRC is currently updating NUREG/CR-1345 to incorporate new technology gleaned from recent construction at Department of Energy nuclear facilities that licensees and applicants may incorporate to meet the performance-based regulation. All new reactor design certifications met the regulatory standards at the time of certification. Combined license applicants will be required to meet updated security regulations at the time of their applications.

You inquired what the NRC is currently doing to implement security measures for the next generation of nuclear power plants currently being designed. Rulemaking activities are the principal means by which NRC will require the applicants to factor security into the plant designs and plant layouts. The NRC is conducting a series of rulemakings to establish a clear regulatory basis for the security of these plants. The pertinent rulemakings are being completed and include significant revisions to 10 CFR section 73.1, "Purpose and Scope," and section 73.55, "Requirements for Physical Protection of Licensed Activities in Nuclear Power Reactors against Radiological Sabotage." In addition, a new section 73.62, "Security Assessment for Nuclear Power Plants," will soon be published for comment.

The proposed revision to 10 CFR 73.1 describes the design basis threat (DBT) characteristics against which licensee security programs must defend with high assurance. This final rule is expected to be issued in early 2007. The proposed revision to 10 CFR 73.55 describes performance objectives and requirements for the development of licensee physical protection programs. This proposed rule would also incorporate the security requirements imposed by Commission orders issued after the terrorist attacks of September 11, 2001, into the existing regulatory framework. The proposed rule has been published for public comment, and a final rule is anticipated to be issued in early 2008. The Commission has previously concluded that existing plants need not be specifically designed to withstand fully the impact of heavy commercial aircraft.

The Commission has also directed the NRC staff to develop a rulemaking (10 CFR 73.62) to require applicants to assess specific security features that could be incorporated into the facility design (including site layout) to enhance security effectiveness. The Commission further directed that the assessment include the relevant security requirements and enhanced mitigative measures that were established by order for the operating plants. Mitigative measures are those measures licensees would have in place prior to, and execute during, a terrorist attack to minimize the potential consequences. The proposed rule is intended to ensure that security design features are assessed early in the design and regulatory review process. Vendors with previous NRC-certified designs would not be required to perform these security assessments, although applicants for combined licenses would be required to meet the security regulations in effect at the time the application is submitted. Applicants whose reactor designs are in the design certification review process before the final rule is issued will be encouraged, but not required, to submit a design-specific safety and security assessment as part of the application. Of course, the Commission may issue new requirements through rulemaking or orders if deemed necessary to protect public health and safety or common defense and security.

The NRC has taken significant steps to increase security at the Nation's nuclear power plants and similar steps are being taken to incorporate these lessons into the licensing of the next generation of reactor designs. The Commission is committed to ensuring the continued protection of the public health and safety, the environment and the secure use and management of radioactive materials.

Commissioner Jaczko does not agree with the substance of this letter and will provide a separate letter setting forth his views. If you have further questions, please contact me. In addition, the NRC staff would be pleased to brief you on these issues at your convenience.

Sincerely,

/RA/

Dale E. Klein