REVISED FINAL

U.S. NUCLEAR REGULATORY COMMISSION

PRELIMINARY QUESTIONS

FOR THE HEARING

ON

U.S. FEDERAL EFFORTS TO COMBAT TERRORISM

TO THE

COMMITTEE ON APPROPRIATIONS

HEARING DATE

05/08/01

QUESTION 1. Describe the Department's current activities relating to combating terrorism.

ANSWER.

The U.S. Nuclear Regulatory Commission (NRC) regulates civilian nuclear facilities and materials to ensure adequate protection of the public health and safety, to promote the common defense and security, and to protect the environment. As part of its comprehensive regulatory program under the Atomic Energy Act and Energy Reorganization Act, the NRC requires that nuclear materials are safeguarded against radiological sabotage and theft and diversion. Radiological sabotage means a deliberate act against a nuclear facility or interference with the transport of nuclear material which could directly or indirectly endanger the public health and safety by exposure to radiation. Theft and diversion includes any activities directed at acquiring nuclear material to produce an improvised nuclear device or a radiological dispersal device or to commit other malevolent acts involving the theft of special nuclear material.

NRC activities related to domestic safeguards and security and emergency response can be grouped into four categories:

- Developing and implementing requirements for safeguarding certain types of nuclear facilities and material and inspecting compliance with them;
- Assessing the domestic threat environment and the international environment insofar as it has implications for domestic threats;
- Maintaining and coordinating emergency response capabilities; and
- Providing physical security for NRC employees and facilities.

Safeguarding Nuclear Facilities

Beginning in the late 1970s, the NRC established requirements to safeguard civilian nuclear power plants and fuel facilities that possess significant amounts of strategic special nuclear material (SNM).[1] The regulations apply a graded approach - - that is, greater controls and protection are applied to materials and facilities that are more attractive to an adversary. The NRC licenses nuclear facilities and materials, inspects the facilities and materials to ensure adequate protection and compliance with NRC requirements, assesses licensee performance, and enforces the regulations.

Threat Assessment

The NRC monitors and assesses the threat environment in the United States and abroad in support of the domestic regulatory program and the licensing of nuclear exports. The threat assessment program ensures the continued adequacy of the design basis threats specified in NRC regulations. (A design basis threat defines adversary characteristics to which a licensee must be prepared to respond.) Licensees use these characteristics to establish their safeguards and security systems. Moreover, the NRC maintains a threat assessment capability through continuous liaison with the national intelligence and law enforcement communities, thereby enabling the assessment of any reported threat to a licensee and the capacity to provide timely threat advisory and assessment information to our licensees.

[1] Special Nuclear Material is defined as (1) Plutonium, uranium-233, uranium enriched in the isotope 233 or in the isotope 235, and any other material which the Commission, pursuant to the provisions of section 51 of the Act, determines to be special nuclear material, but does not include source material; or (2) Any material artificially enriched by any of the foregoing but does not include source material. (10CFR 72.3)

Emergency Response

NRC maintains a robust emergency response program including the capability to implement an emergency response that might be necessary because of a sabotage incident. This is done within the U.S. government interagency crisis and consequence management framework. Most of these capabilities are maintained and implemented under the Federal Radiological Emergency Response Plan (FRERP), in coordination with the Federal Emergency Management Agency (FEMA), Department of Energy (DOE), and other Federal participants. NRC's program is designed to assess licensee responses to emergencies and to support local, State, and Federal authorities in the event of an emergency. NRC routinely conducts exercises to ensure that these capabilities are maintained by working with licensees and other responders to ensure a high level of preparedness and capability if an emergency occurs. NRC also cooperates and assists other agencies, including the Federal Bureau of Investigation (FBI) in its lead role in responding to crises associated with acts of sabotage, theft or diversion at facilities licensed or certified by the NRC.

Physical Security

The NRC protects NRC personnel and facilities against terrorism through a comprehensive physical and personnel security program.

Currently, the NRC is in the process of improving the regulatory framework associated with physical protection at power reactor facilities. The Commission has directed that particular attention be given to the use of risk insights. Moreover, the performance-based rule, when implemented, should provide additional flexibility and, most importantly, should focus licensee

resources on the protection of the facilities risk-significant assets, while not unnecessarily burdening operational safety.

The NRC safeguards and emergency response programs reside principally in four NRC Headquarters offices (Nuclear Reactor Regulation, Nuclear Material Safety and Safeguards, Incident Response Operations, and the Office of Administration), and in the four NRC Regional Offices.

- The Office of Nuclear Reactor Regulation (NRR) is responsible for regulating safeguards programs at nuclear power reactors and non-power reactors. These regulations include the areas of physical protection of licensee activities, personnel access authorization, access control, and fitness-for-duty. NRC regional staff conduct safeguards inspections, independent security system testing, and performance-based evaluations of licensees' safeguards contingency response capabilities. For power reactors, these activities are inspected, assessed, and enforced under the new Reactor Oversight Process. NRR is active in the development of improved power reactor regulations relating to protecting against acts of radiological sabotage. NRR is in the process of revising regulations in the area of physical security requirements for evaluating power reactor licensees' capability to respond to safeguards contingency events. The purpose of the revisions is to modify the regulations to be more performance-based while considering risk-informed insights. In addition, these regulations will require power reactor licensees to: identify target sets of equipment associated with protection against an armed assault by the design basis threat of radiological sabotage; develop protective strategies to protect against such an assault; and exercise these strategies periodically. Furthermore, the NRC has in-place

regulations that impose requirements for Fitness-for-Duty programs at the power reactors.

! The Office of Nuclear Material Safety and Safeguards (NMSS) regulates safeguards at fuel cycle facilities, including physical protection and material control and accounting (MC&A). The most stringent controls apply to the two NRC-licensed fuel fabrication facilities that process weapons-usable material (Strategic Special Nuclear Material).[2] NMSS and Regional staff also inspect physical protection plans, MC&A programs at the fuel facilities, and supervise performance-based testing of site security forces. Additionally, the NRC threat assessment program resides in NMSS. NRC threat analysis staff coordinate with national law enforcement and intelligence community agencies, maintain the design basis threat model, and is continuously available to respond to and assess threats against licensed facilities and materials. Currently, the NRC is documenting its process for screening adversary characteristics and providing these characteristics to licensees in response to their request for this information. The adversary characteristics, which are sensitive information, will be used by licensees in conducting safeguards self-assessments and exercises, as well as by NRC in evaluating the adequacy of licensee physical protection programs in licensing and inspection. The intent is to avoid subjectivity and instability in the NRC performance assessment process by providing consistent and clear guidance for use among

[2] Strategic special nuclear material means uranium-235 (contained in uranium enriched to 20 percent or more in the U235 isotope), uranium-233, or plutonium (10 CFR 70.4). Weapons usable is a reference to nuclear material in a form that can readily be fabricated into nuclear weapons, without need for processes that alter the isotopic content, leaving the material ready for conventional manufacturing operations or conventional chemical processes.

licensees. It is further intended to improve the quality and performance of the NRC regulatory program for power reactors and fuel cycle facilities. The staff also recognized that development of such guidance would help to fulfill NRC's performance goals in the reactor safety, material safety, and waste safety arenas.

! Incident Response Operations (IRO) is responsible for the operation of the NRC Operations Center. This center maintains daily contact with U.S. power reactors and fuel cycle facilities, and serves as a clearing house for nuclear and radiological incident reporting from NRC licensees. In the event of a nuclear safety or security related incident or terrorist attack involving an NRC-licensed activity, the Operations Center would be fully staffed with management and technical experts from all NRC offices to interact with other Federal agencies (such as FBI, DOE and FEMA) coordinating the national response to any radiological emergency. IRO also coordinates interagency emergency response planning and conducts exercises. During the last few years, IRO has also been coordinating with other agencies and conducting exercises that simulate the government response to terrorist events that pose both safeguards/security and radiological safety risks. This has helped improve the interface and communication between the agencies in preparation for responding to emergencies. Additional exercises of this type are planned. The Director of IRO also serves as the agency Critical Infrastructure Assurance Officer as designated under Presidential Decision Directive (PDD) 63 and IRO also coordinates the agency responsibilities under PDD 67, Continuity of Government.

- The Office of Administration manages a comprehensive security program to protect the personnel, information, and physical assets at the Headquarters complex. Security measures appropriate to each of our regional offices also are in place. To reduce the "insider threat," background investigations or suitability determination checks are conducted for all NRC and contractor employees afforded unescorted building access. The NRC continually assesses and adjusts its physical security measures in response to Federal government-wide advisories and agency-specific situations. NRC is a member of the Washington, DC, area interagency Protective Services Working Group, which is led by the FBI.

QUESTION 2. What does the Department perceive its role and responsibilities to be in combating terrorism? What responsibilities should the Department have that it currently does not?

ANSWER.

The overall mission of the NRC is to regulate the Nation's civilian use of byproduct,[3] source,[4] and special nuclear materials to ensure adequate protection of public health and safety, to promote the common defense and security, and to protect the environment. These responsibilities include regulation of commercial nuclear power plants; research, test, and training reactors; fuel cycle facilities; medical, academic, and industrial uses of these nuclear materials; and the transport, storage, and disposal of these nuclear materials and wastes. Among other things, the NRC's regulatory responsibility is to ensure that licensed facilities and materials are adequately protected against radiological sabotage and theft or diversion of special nuclear material. In addition to these responsibilities, NRC has Lead Federal Agency responsibilities in responding to emergencies involving facilities and materials licensed by the NRC or Agreement States under the Federal Radiological Emergency Response Plan (FRERP) for managing Federal onsite activities. Pursuant to this plan, NRC serves as the primary Federal source of technical information regarding onsite status and offsite radiological conditions, and ensures development of coordinated Federal protective action assessments for use by State and local authorities.

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[3] Byproduct material is (1) any radioactive material (except special nuclear material) yielded in, or made radioactive by, exposure to the radiation incident to the process of producing or using special nuclear material (as in a reactor); and (2) the tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content, including discrete surface wastes resulting from solution extraction processes. (10 CFR 20.1003).

[4] Source material is uranium or thorium, or any combination thereof, in any physical or chemical form or ores which contain by weight one-twentieth of one percent (0.05%) or more of: (1) uranium, (2) thorium or (3) any combination thereof. Source material does not include special nuclear material (10 CFR 20.1003).

The NRC has long-standing Memoranda of Understanding with the FBI for contingency response planning, coordination, and cooperation in dealing with threats or acts of sabotage or theft at NRC-licensed facilities; with FEMA for cooperation in radiological emergency response planning; and with DOE for collecting radiation measurements and forecasting the migration of atomospheric plumes of radioactive contamination.

In response to the second question, the Commission considers the current NRC responsibilities as defined in the FRERP are appropriate, given the NRC's overall role and mission of regulating U.S. civilian nuclear facilities and materials. Although the Commission is not seeking additional responsibilities to combat terrorism, the Commission on its own initiative has sought and continues to pursue certain legislative changes that would strengthen our regulatory program. These changes include: authorizing guards at Commission-designated licensed or certified facilities to carry and use firearms to protect property of significance to the common defense and security; making it a Federal crime to bring unauthorized weapons and explosives into NRC-licensed facilities; and making Federal criminal prohibitions on sabotage applicable to the operation or construction of certain nuclear facilities (such as a nuclear reactor, or an enrichment or fuel fabrication facility). All of these provisions are currently contained in S. 472, the Nuclear Energy Electricity Assurance Act, Sections 608, 611 and 612.

QUESTION 3. How high a priority is combating terrorism for the Department?

ANSWER.

The Commission places a very high priority on the need to protect the nation's civilian nuclear facilities and licensed materials against acts of sabotage, theft and diversion. The 103 commercial nuclear reactors currently operating in the U.S. account for over 20% of U.S. electrical generating capacity, second only to coal-fired plants. This represents an important part of the Nation's energy infrastructure. Fortunately, there has not been a terrorist attack against an NRC-licensed nuclear facility or materials. Nonetheless, NRC requirements and programs have resulted in facilities with significant physical protection and "hardening" against potential adversaries. Some aspects of these programs have come under increased Commission scrutiny and review in the past few years as the Commission seeks to continue to ensure protection of these facilities and materials while not posing an unnecessary regulatory burden on the licensees. Currently, the NRC is in the process of improving the regulatory framework associated with physical protection at power reactor facilities. The Commission has directed that particular attention be given to the use of risk insights. Moreover, the performance-based rule, when implemented, should provide additional flexibility and, most importantly, should focus licensee resources on the protection of the facilities risk-significant assets, while not unnecessarily burdening operational safety.

QUESTION 4. Does the Department feel adequately funded, given its perceived responsibilities?

ANSWER.

Currently, the NRC is adequately funded to support our safeguards and emergency response responsibilities. NRC's safeguards and security programs undergo an annual review through NRC's Planning, Budgeting, and Performance Management Process, where management carefully considers the relative priority of work and its importance in fulfilling NRC performance goals.

QUESTION 5. Does the Department feel that the funding level for terrorism programs is realistic and proportional to the threat? If not, where is funding lacking and what effect has the lack of funds had on performance?

ANSWER.

Based on current threat projections, the NRC's funding level for its safeguards and security programs is both realistic and proportional to the perceived threat to licensed facilities and materials. While the consensus in the U.S. government is that the threat of terrorism and weapons of mass destruction worldwide has increased, threats to NRC-licensed facilities and materials have been low.

QUESTION 6. To whom does the Department answer on terrorism-related matters?

ANSWER.

The NRC is an independent regulatory agency of the Executive Branch. In safeguards, security, sabotage, and theft or diversion-related matters, however, NRC closely coordinates security, policy, and emergency response planning issues with other Executive Branch agencies, particularly FEMA, DOE and the FBI. It is only through close and continuing coordination that we can ensure an adequate protection against sabotage, theft and diversion and a timely and effective response to an act of sabotage, theft or diversion involving civilian nuclear facilities or material, should such an act occur.

QUESTION 7. Who is the Department's top decision-maker on matters pertaining to combating terrorism?

ANSWER.

The five-member Commission is the agency's top decision making body and is responsible for making policy and program decisions regarding regulatory requirements and policy direction, including those concerned with safeguards, security, and emergency response. The Executive Director for Operations reports to the Chairman of the Commission and is responsible for implementing the programs and policies established by the Commission. During an emergency response to a safety or security incident, the Chairman or his designee is the top decision maker.

QUESTION 8. How well does the Department feel it is coordinating with other agencies?

ANSWER.

The NRC coordinates effectively at the working level with other agencies involved in combating terrorism. The Commission understands the need for timely and effective interagency coordination, particularly in the areas of emergency response and threat assessment and carries out these activities on a daily basis. NRC remains attentive to the need for continuing coordination with Executive Branch agencies to ensure that NRC's roles and responsibilities, as enumerated in the FRERP, are clearly understood and will be carried out in a timely and effective manner during an actual response to an act of sabotage, theft or diversion involving a nuclear facility or nuclear materials. Although NRC's role is not formally recognized in certain other planning documents, NRC has established working-level relationships with the agencies with designated responsibilities for nuclear-related incidents.

QUESTION 9. What agencies, if any, do you see as integral partners?

ANSWER.

NRC's partners during an emergency response are identified in the FRERP. The FBI, as Lead Federal Agency (LFA) for crisis management to a domestic terrorist incident, would be NRC's integral partner in responding to an incident involving licensed nuclear facilities or material. Under the FRERP, NRC is the LFA for any radiological incident involving NRC licensees, and NRC would support FBI efforts to resolve a terrorism crisis at an NRC-licensed facility. NRC also would support FEMA and State and local agencies in responding to the consequences of a terrorism incident. In addition, NRC would request that DOE provide radiological monitoring support and other technical expertise in response to a radiological incident.

In 2000, NRC conducted terrorism-related emergency response exercises at two of its licensed fuel fabrication facilities possessing weapons useable material, with participation by FBI, FEMA, DOE, State and local agencies, and the licensees. These exercises were helpful in clarifying command and control procedures and the respective roles and responsibilities of the participants. NRC and one of its licensees also will participate in an FBI-led interagency counterterrorism exercise in Phoenix, Arizona in May 2001.

In addition, NRC supports the FBI Nuclear Site Security program in which local FBI field offices coordinate with NRC-licensed nuclear facilities directly to exchange security planning and emergency response data in order to prepare for a response to an actual terrorist or criminal event. NRC headquarters and regional staff facilitate these interactions.

Finally, the NRC coordinates with the national intelligence and law enforcement communities as part of its ongoing threat assessment activities. As a consumer of the information, NRC relies upon prompt and effective communication of information from these agencies in fulfilling its threat assessment, safeguards, export licensing, and non-proliferation responsibilities.

QUESTION 10. Does the Department rely on other agencies for expertise, technology, or information?

ANSWER.

NRC's program to combat terrorism is based upon supporting the FBI and FEMA in crisis and consequence management, respectively, while responding as the LFA for any radiological emergency. In addition, the NRC extensively consults and coordinates with the national law enforcement and intelligence communities for the sharing of threat-related intelligence on criminal and terrorist incidents, tactics and weapons. Further, the NRC recently resumed its relationship with the interagency Technical Support Working Group, composed of a number of Federal agencies concerned with combating terrorism, which coordinates interagency research on a variety of physical security, intelligence, critical infrastructure and other projects. Finally, the NRC works closely with DOE's Office of Safeguards and Security to coordinate policy involving the protection of weapons-usable material, and relies on Lawrence Livermore National Laboratory, through an agreement with the FBI, for credibility assessment for certain types of communicated threats to NRC-licensed facilities and activities.

QUESTION 11. Does the Department's jurisdiction overlap with that of other agencies? Or, is the Department's contribution to combating terrorism unique? Please describe.

ANSWER.

NRC may be unique in that it is the only agency regulating the security of civilian nuclear facilities and materials in the U.S. While NRC shares common security interests with other agencies in some areas, such as protection of high-level waste in transit and storage and NRC regulation of activities at select DOE contractor facilities, these activities are complementary. NRC maintains sole jurisdiction over nuclear reactor facility licensees in regulating safeguards and protecting public health and safety from radiological hazards from these facilities. As an example of NRC's unique contribution in the area of nuclear materials, there are currently about 21,000 nuclear materials licenses in the U.S., 5,000 issued by NRC and 16,000 issued by States that have signed agreements under the Atomic Energy Act with the NRC to regulate these materials. In 1998, NRC issued an Information Notice to these licensees concerning the FBI's recently expanded jurisdiction under Section 831 of Chapter 39 of Title 18 of the U.S. Code to initiate criminal investigations and pursue prosecutions in cases where the theft or malicious use of radioactive materials are involved. NRC staff, working with the Agreement State counterparts, monitors the reported theft and loss of licensed material and, if necessary, reports the suspicious loss of such material to the FBI for possible follow-up investigation as part of the Nation's defense against Weapons of Mass Destruction.

There is overlap in the emergency response area. NRC has Lead Federal Agency emergency response duties under the FRERP in responding to the consequences associated with

emergencies at NRC licensed facilities, those involving licensed materials, and in emergencies at licensed facilities in Agreement States when the State requests Federal assistance. We believe these duties overlap to some extent with more recently established responsibilities assigned to the Department of Energy. To date, through close cooperation and communication between the agencies, this overlap has not created conflicts in emergency exercises or responses to actual events. The NRC will continue to work with the other Federal agencies in an attempt to ensure that this overlap does not create conflicts.

QUESTION 12. How does the Department measure its progress/success in fulfilling its responsibilities for combating terrorism?

ANSWER.

NRC's Strategic Plan includes a number of performance measures related to combating sabotage, theft, and diversion for NRC licensed facilities and materials. These include:

- No radiological sabotage at nuclear reactors, and no breakdowns of physical security that significantly weaken the protection against radiological sabotage or theft or diversion of special nuclear materials;

- No losses, thefts, or diversion of formula quantities[5] of special nuclear material; radiological sabotage; or unauthorized enrichment of special nuclear material regulated by the NRC;

- No breakdowns of physical protection or material control and accounting systems resulting in a vulnerability to radiological sabotage, theft, diversion, or unauthorized enrichment of special nuclear material;

- No losses, thefts, diversions, or radiological sabotage of special nuclear material or radioactive waste.

[5] Formula quantity means strategic special nuclear material in any combination in a quantity of 5,000 grams or more computed by the formula, grams=(grams contained U^{235})+2.5 (grams U^{233}+grams plutonium). (10 CFR 74.4)

In addition, NRC also measures the timeliness and effectiveness of its responses to actual incidents and events. NRC measurement of performance in these areas is made through rigorous review and analysis of the frequency and licensee performance regarding the actual incidents and events listed above. However, due to their infrequent occurrence, NRC employs additional measures through analysis of information collected from various programs which include safeguards inspection activities, independent security system testing, Licensee Performance Reviews for the fuel cycle facilities, the Revised Reactor Oversight Program, performance indicators for licensee security programs, reviews of licensee Security Plans and Contingency Response Plans, reviews of licensee developed target sets which specify equipment related to the licensee's protection strategies, and observation of force-on-force exercises at nuclear power reactor facilities and certain fuel fabrication facilities.

QUESTION 13. Can you give specific examples of how the Department has been successful or unsuccessful?

ANSWER.

To date, NRC has met or exceeded all performance measures listed in the Strategic Plan. This high level of performance is documented in NRC's Annual Performance Reports. In addition, in 2000, the NRC successfully completed two emergency exercises (Cavalier Challenge and Volunteer Victory) that involved both crisis management and consequence management at licensed fuel fabrication facilities in cooperation with the FBI, DOE, FEMA, the licensees, and other State and local response agencies.

QUESTION 14. Please describe the Department's activities aimed at assisting State and local first responders in their efforts to combat terrorism.

ANSWER.

NRC provides training aimed at assisting State and local entities in their responses to radiological emergencies.

NRC's IRO conducts State Emergency Response Outreach Training at various locations around the country. This training is designed to enhance the coordination between NRC and the State and local responders to a radiological emergency involving NRC licensees which could include potential radiological consequences of a sabotage event. In these training sessions, NRC staff meet with State and local responders to discuss how each responds in an emergency and what capabilities and expectations each would have in an event. A major goal of these training sessions is to enhance the interaction between NRC and the State and local responders and decision-makers. Training takes place through participation in drills, exercises, major planning meetings, conferences, and specifically scheduled training sessions.

NRC also has comprehensive State coordination through its Office of State and Tribal Programs. This office encompasses two program areas: the Agreement State Program and the Federal, State and Tribal Liaison Program which are implemented through NRC Headquarters and Regional Offices. Through the Agreement State Program, thirty-two States to date have formal agreements with the NRC by which those States have assumed regulatory responsibility over certain byproduct, source, and small quantities of special nuclear material. Similar to NRC's materials program, while these programs focus on radiological safety, they could be

applicable to consequence management and emergency response to a terrorism event. Again, NRC does not conduct training for State and local first responders specifically targeting terrorism. However, employees of Agreement States are allowed to attend technical training courses presented at NRC training facilities for a fee, plus travel and per diem costs. This consists of training courses and workshops for Agreement State and NRC staff to assist State and NRC radiation control personnel in their goal of maintaining high quality regulatory programs. Course subjects are diverse, covering health physics, industrial radiography safety, transportation of radioactive nuclear materials, nuclear medicine, inspection procedures, and materials licensing. In addition, special workshops on specific areas are held as needed.