July 24, 2002

Ms. Donna De Costanzo
Legislative Attorney
The Council of the City of New York
75 Park Place, 5th Floor
New York, NY 10007

Dear Ms. De Costanzo:

I am responding to your letter of June 24, 2002, in which you requested information about Nuclear Regulatory Commission oversight of nuclear power plants, particularly the Indian Point facility. You raised questions in a number of areas, including plant security, spent fuel storage, operator requalification testing, and accident consequence studies.

In the enclosure, we have attempted to address the questions and topics in your letter. Much of the information that you requested is publically available on our website (www.nrc.gov). For example, NRC Chairman, Dr. Richard A. Meserve, discussed issues related to nuclear power plant security in statements to Congress on November 1, 2001, December 5, 2001, April 11, 2002, and June 5, 2002. The Chairman's testimony can be found on the NRC website at http://www.nrc.gov/reading-rm/doc-collections/congress-docs/congress-testimony.

We understand the concerns and interest that the New York City Council has in safe operation of the Indian Point facility. We trust that you will find that the attached information addresses these concerns.

Sincerely,

/RA/

Hubert J. Miller
Regional Administrator

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ENCLOSURE

The following information is provided in response to questions incorporated in the eleven topical areas contained in the New York City Council letter, dated June 24, 2002. References are provided to specific website addresses for additional information on the topic, when available.

1. Operational Safeguards Readiness Evaluation (OSRE) Program

An OSRE has multiple components, but the key element consists of tough, simulated commando-style raids, carried out by security specialists. The exercises are designed to identify potential security vulnerabilities and, in turn, lead to improvements. These are not pass-fail exams. Identification of a weakness during an exercise leads to immediate corrective or compensatory measures. OSREs were last conducted at Indian Point 2 and Indian Point 3 in 1994.

Following the September 11 attacks, force-on-force exercises were temporarily suspended 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 licensees' heightened security posture. We recognize, however, that force-on-force drills are an important means to assess security readiness. The NRC staff is currently preparing options for Commission consideration on how to reinstate security exercises.

Additional information regarding the OSRE program is available on the NRC website at http://www.nrc.gov/what-we-do/safeguards/oversight.html and in Chairman Meserve's testimony before Congress on April 11 and June 5, 2002 at http://www.nrc.gov/reading-rm/doc-collections/congress-docs/congress-testimony/2002.

2. February 25, 2002 Orders

The details of specific security measures required by the February 25, 2002 Orders are sensitive, but they include such things as additional personnel access controls; enhanced requirements for guard forces; increased stand-off distances for searches of vehicles approaching nuclear facilities; and heightened coordination with appropriate local, State, and Federal authorities. These Orders mandate many of the security measures and features already implemented in response to Threat Advisories issued after the September 11th attacks.

Implementation of the requirements of the Orders must be completed by August 31, 2002. A licensee would have to meet a very high threshold to receive an extension of that date, and no such extension has been granted thus far. Entergy has indicated that the required actions will be completed at Indian Point by August 31, 2002.

Additional information regarding the February 25, 2002 Orders can be found on the NRC website at http://www.nrc.gov/reading-rm/doc-collections/enforcement/security/ and in Chairman Meserve's testimony before Congress on April 11 and June 5, 2002 at http://www.nrc.gov/reading-rm/doc-collections/congress-docs/congress-testimony/2002.

3. Dry Cask Storage

Spent nuclear fuel is stored at reactor sites in spent fuel pools and some sites have also utilized dry cask storage. Both storage methods are considered safe. Spent fuel casks are robust containers, typically constructed of a combination of concrete and steel. Air-cooled heat exchangers are used to remove any remaining heat from the spent fuel.

NRC's ongoing comprehensive safeguards and security program re-evaluation includes consideration of potential consequences of terrorist attacks using various explosives or other techniques on spent nuclear fuel dry casks at storage sites.

Additional information regarding dry cask storage can be found on the NRC website at http://www.nrc.gov/waste/spent-fuel-storage/dry-cask-storage.html and in Chairman Meserve's testimony before Congress on June 5, 2002 at http://www.nrc.gov/reading-rm/doc-collections/congress-docs/congress-testimony/2002.

4. Spent Fuel Pools

Spent fuel pools are robust structures constructed of very thick concrete walls with stainless steel liners. The spent fuel rods are stored at the bottom of the pools and are covered by approximately 27 feet of water at Indian Point. As long as the fuel rods are covered by water it is not possible for the rods to melt or burn. The risk of a breach that could drain a spent fuel pool below the level of the fuel rods is very low because the pools are partially below grade in all three of the spent fuel pools at Indian Point. The risk of uncovering the fuel due to a loss of cooling water that could cause the water in the pool to boil off is also very low because it would take a significant period of time for this to occur - at least 12 to 20 hours for fuel that was recently removed from the reactor, longer for fuel removed during previous outages. Backup sources of water could be used to keep the fuel rods covered during this time.

NRC's ongoing comprehensive safeguards and security program re-evaluation includes consideration of potential consequences of terrorist attacks using various explosives or other techniques on spent fuel pools.

Additional information regarding spent fuel pools can be found on the NRC website at http://www.nrc.gov/waste/spent-fuel-storage/pools.html and in Chairman Meserve's testimony before Congress on June 5, 2002 at http://www.nrc.gov/reading-rm/doc-collections/congress-docs/congress-testimony/2002.

5. NRC Requirements for Operating and Decommissioned Plants

On May 24, 2002, the NRC issued Orders requiring all decommissioning nuclear power plants with spent fuel stored in water-filled pools to implement compensatory security measures for the current threat environment. The specific security measures are sensitive, but generally include requirements for increased patrols,

augmented security forces and capabilities, additional security posts, installation of additional barriers, vehicle checks at greater standoff distances, enhanced coordination with law enforcement and military authorities, and more restrictive site access controls for personnel.

Additional information regarding the May 24, 2002 Orders can be found on the NRC website at http://www.nrc.gov/reading-rm/doc-collections/enforcement/security.

Spent fuel pools and spent fuel in dry cask storage are located within the protected area at most nuclear power plants, including Indian Point. Therefore, the pools and storage casks would be subject to the security measures required by the February 25 and May 24, 2002 Orders for operating plants and decommissioning plants respectively. An operating plant that was temporarily shutdown (inactive) would still be subject to the requirements of the February 25, 2002 Order.

Additional information and references regarding security and safety measures for nuclear power plant fuel can be found on the NRC website at http://www.nrc.gov/what-we-do/safeguards/reg-guide.html.

Inspections at operating nuclear power plants and plants that are temporarily shutdown are performed in accordance with the Reactor Oversight Program (ROP). Additional information on the ROP and NRC oversight of operating reactors can be found on the NRC website at http://www.nrc.gov/reactors/operating/oversight.html.

NRC resident inspectors would not normally be stationed at a power plant undergoing decommissioning. However, during active decommissioning, NRC inspectors may be at the facility 2 or 3 times a month. Additional information on NRC oversight of decommissioning reactors can be found on the NRC website at http://www.nrc.gov/reactors/decommissioning/oversight.html.

6. Re-evaluation of NRC Security Regulations and Programs

Within a few weeks of the September 11 terrorist attacks, the Chairman, 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 encompasses analysis of the agency's threat assessment framework and design basis threat (DBT), evaluation of facility vulnerabilities, access authorization processes, and emergency preparedness and response, and review of NRC's infrastructure, programs and communications. The NRC has not waited for this review to be complete to take necessary actions. As needed changes have been identified, actions have been taken such as the Orders on interim compensatory security measures and establishment of a new NRC Office of Nuclear Security and Incident Response. The review is ongoing, and NRC will continue to evaluate whether further changes are needed.

The NRC continually assesses the threat environment and regularly reviews the adequacy of the DBTs in close coordination with the national intelligence and law enforcement community. Longer term revisions to the DBTs are anticipated to reflect changes in the threat environment. Such revision requires consideration of many issues, including a resolution of government/private responsibilities. The Commission is currently developing specific guidance to the NRC staff for revising the DBTs. We expect changes to be made later this year. If information arises that indicates the need for immediate action, we will act.

Additional information on threat assessment can be found on the NRC website at http://www.nrc.gov/what-we-do/safeguards/threat.html and in Chairman Meserve's testimony before

Congress on April 11 and June 5, 2002 at
http://www.nrc.gov/reading-rm/doc-collections/congress-docs/congress-testimony/2002.

7. Shutdown of Nuclear Facilities

The NRC requires all licensees to operate their facilities in conformance with NRC regulatory requirements, including those in NRC regulations, the facility license, and particularly the facility Technical Specifications. The NRC monitors the licensee's compliance with these requirements through its inspection program.

Pursuant to the authority granted under Section 160 of the Atomic Energy Act, the NRC can issue an Order to modify, suspend, or revoke the license in order to protect health and safety and minimize danger to life or property. In accordance with the Reactor Oversight Process, a shutdown Order would be issued in situations in which NRC lacks reasonable assurance that the licensee can or will conduct its activities without undue risk to public health and safety.

A shutdown Order was issued to the Peach Bottom Nuclear Power Plant in 1987. The Order was issued because some of the control room operators were found sleeping while on duty in the control room and were otherwise inattentive to their license obligations. A number of other nuclear power plants have not been allowed to restart without NRC permission due to various performance problems.

Additional information on NRC response to plant performance can be found on the NRC website at http://www.nrc.gov/reactors/operating/oversight/rop-description.html. Additional information on NRC's Enforcement Program can be found on the NRC website at http://www.nrc.gov/what-we-do/regulatory/enforcement.html.

8. 10 CFR 50.13: Attacks by an Enemy of the United States

10CFR 50.13, Attacks and destructive acts by enemies of the United States; and defense activities, was developed and put in place in 1967 to codify the Commission's practice of not requiring applicants to provide for design features or other measures for the specific purpose of protection against the effects of attacks directed against the facility by enemies of the United States. The protection of the United States against hostile enemy acts is a responsibility of the nation's defense establishment. One factor underlying the Commission's practice in this connection is recognition that reactor design features to protect against the full range of the modern arsenal of weapons are simply not practical. They believed at the time that the risk of enemy attack or sabotage against nuclear plants, like the risk to other industrial or commercial facilities, is a risk shared by the nation as a whole.

In the context of the ongoing comprehensive security program review, NRC will consider whether there is a need for a revision to 10 CFR 50.13. As discussed above, the NRC works in close coordination with the national intelligence and law enforcement community to continually assess the threat environment. Further, the Office of Homeland Security has launched an effort to develop a National Physical Infrastructure Protection Plan, in which the NRC is involved.

9. Licensed Operator Requalification

Following the requalification program test failures in 2001, Entergy removed involved operators from shift duties until retraining and subsequent evaluations were completed. Entergy has initiated a Training Improvement Plan which includes: 1) improved training materials; 2) additional experienced instructors; and 3) additional management support and oversight of training. The annual licensed operator requalification examinations are scheduled for later this year. Any operator who fails the examination must be removed from shift until he or she is retrained and retested. The NRC will continue to monitor licensed operator performance through our normal inspection program and oversight of Entergy's Training Improvement Plan.

Additional information on the Indian Point 2 licensed operator requalification program "yellow" finding can be found on the NRC website at http://www.nrc.gov/NRR/OVERSIGHT/ASSESS/IP2/ip2_pim.html.

10. Sandia National Laboratory Calculation of Reactor Accident Consequences (CRAC-2) Study

The Sandia National Laboratory (CRAC-2) study was intended to evaluate, in a quantitative manner, the relative merit of various preventive and mitigative actions for nuclear plant accidents. It was not supposed to represent a realistic accident at any plant, but rather assumed that everything failed - redundant safety systems, the several-foot-thick containment, skilled operators, etc. - in order to postulate the worst combination of events. The estimates of large consequences that are often quoted are based on no actions being taken to mitigate the event. The study was an effort by the NRC to compare the effect that factors such as population densities, meteorology, geography, geology, and emergency planning could play in the consequences of severe nuclear accident. In order to provide meaningful comparisons between the effects of these factors, analysts employed an accident scenario orders of magnitude greater than what is believed possible.

Current analysis tools are much better than the simplistic models used in the 1980s. The Sandia study does not factor in the numerous probabilistic risk studies that have been performed since 1982. More realistic, current inputs, assumptions, and modeling techniques would be expected to result in much smaller health consequences.

11. Industry Liability for Nuclear Accidents

The CRAC-2 report does not represent what would be expected if a severe accident occurred at a nuclear power plant - for whatever reason. Therefore, the economic damages estimated in the CRAC-2 report are not considered realistic. We are not aware of any more recent completed studies regarding economic damages due to a radioactive release at Indian Point.

Information regarding the Price-Anderson Act and nuclear power industry accident liability can be found on the NRC website at http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/funds.html and in NRC staff congressional testimony on October 24, 2001 and January 23, 2002 at http://www.nrc.gov/reading-rm/doc-collections/congress-docs/congress-testimony.