UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

July 11, 1995

The Honorable Sue Kelly
United States House of Representatives
Washington, DC 20515

Dear Congresswoman Kelly:

This is to acknowledge receipt of your letter dated June 28, 1995, regarding the restart of the Indian Point 3 Nuclear Power Plant in Westchester County in New York.

Please be assured that we are working on a response and a reply will be forwarded to you as soon as possible.

Sincerely,

Dennis K. Rathbun, Director
Office of Congressional Affairs

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

July 27, 1995

The Honorable Benjamin A. Gilman
United States House of Representatives
Washington, DC 20515-3220

Dear Congressman Gilman:

I am responding to your request for a review of the concerns about the operation of Indian Point Nuclear Generating Unit No. 3 (IP3) expressed by your constituent, Dr. Marthe Schulwolf, in her letter to you dated June 18, 1995. The principal request was to stop the reopening of the plant.

As you know, IP3 was shut down by the New York Power Authority (NYPA) in February 1993, to correct several hardware issues and to implement plant-wide programmatic improvements. The U.S. Nuclear Regulatory Commission (NRC) has undertaken significant inspection and assessment efforts since the February 1993 shutdown to evaluate NYPA's progress in resolving technical concerns and correcting the underlying root causes of the identified deficiencies. I have enclosed a copy of the NRC's letter of June 19, 1995, which modified the IP3 Confirmatory Action Letter and articulated the NRC's basis for supporting the conclusion that the plant was ready to restart. The plant restarted on June 27, 1995. The information contained in our June 19, 1995, letter addresses the majority of concerns expressed by your constituent.

During the IP3 restart, the NRC implemented an augmented inspection plan to assess NYPA's activities. In addition to the three full-time resident inspectors assigned to the site, additional inspectors provided around-the-clock coverage for the first phase of the startup and maintained an augmented inspection effort for about three weeks. NYPA had committed not to increase reactor power above 40 percent until they had performed a self-assessment of their overall safety performance and notified the NRC staff of the results. On July 6, 1995, NYPA notified the NRC staff of the results of this self-assessment. The staff reviewed NYPA's self-assessment and on the basis of our independent augmented inspection effort, we agreed with the findings. Although our augmented startup inspection effort has ended, I assure you that until IP3 has operated at an improved performance level for a sustained period of time, NRC staff will continue to oversee this facility closely.

NYPA has also committed that, after achieving full-power operation, they will conduct a self-assessment of the restart process and they will present the finding of that self-assessment to the NRC staff in a public meeting. This meeting will be held in the vicinity of the site and open for public observation to be followed by a question-and-answer session allowing the public an opportunity to discuss issues with the NRC staff in attendance.

Once we determine the details of this meeting, we will publish a notice regarding the time and location.

Your constituent raises several other concerns that I will elaborate on. These issues pertain to (1) emergency preparedness (i.e., the population density surrounding the plant), (2) radioactive waste, (3) site location on the Ramapo fault (i.e., seismic design), and (4) cost effectiveness. With regard to the first issue, it might be helpful to explain the role of emergency planning and preparedness in NRC's defense-in-depth approach to ensuring adequate protection of public health and safety. Briefly stated, this safety philosophy (1) requires high quality in the design, construction, and operation of nuclear power plants to reduce the likelihood of equipment malfunction; (2) recognizes that equipment can fail and operators can make mistakes, therefore requiring safety systems to reduce the chances that malfunctions will lead to accidents that result in the release of fission products from the fuel; and (3) recognizes that in spite of these precautions, serious fuel damage accidents can happen, therefore requiring containment structures and other safety features to prevent the release of fission products off site. The feature of emergency planning added to the defense-in-depth philosophy provides that even in the unlikely event of an offsite fission-product release, reasonable assurance exists that emergency protective actions can be taken to protect the population around nuclear power plants. Detailed planning is in place for the Emergency Planning Zone (EPZ) to facilitate prompt protective actions in the event of a radiological emergency at the Indian Point site.

Each nuclear power plant is required to conduct an annual exercise of its emergency plan. This annual exercise, which is evaluated by the NRC, can involve partial participation by State and local jurisdictions. Once every 2 years, each nuclear power plant is required to conduct a full-participation exercise that is evaluated by both the Federal Emergency Management Agency (FEMA), the lead Federal agency responsible for evaluating emergency plans for areas around nuclear power plants, and the NRC. The last full-participation exercise conducted at the Indian Point site was successfully performed in June 1994. In addition, as part of NRC's restart readiness review process for IP3, FEMA has received periodic updates of the plant's restart readiness and both FEMA and the NRC maintain that reasonable assurance exists that the public can be protected in the event of a radiological emergency at Indian Point.

With regard to the second issue, commercial nuclear power plants were designed with the capability to safely store both high-level waste (spent fuel) and low-level waste on site. IP3 has the capacity to store spent fuel until the year 2008. Under the Federal Nuclear Waste Policy Act, the U.S. Department of Energy (DOE) is responsible for ultimate management of the Nation's high-level waste and is evaluating several options, including interim storage of spent fuel. Until DOE accepts the spent fuel from licensees, the licensees are responsible for storing their spent fuel. As far as a time frame for storing waste on site, as stated in 10 CFR 51.23, the Commission has made a generic determination that, if necessary, spent fuel generated in any reactor can be

stored safely and without significant environmental impacts for at least 30 years beyond the licensed life for operation (which may include the term of a revised or renewed license).

At the IP3 facility, low-level waste is located on site in an interim low-level waste storage facility that has the capacity to store the volume of waste that would be produced over the next 10 years of plant operation. The State of New York is an Agreement State, and as such, has the authority to determine where in that State low-level waste will be permanently stored. It is actively pursuing a location for a permanent storage site for its low-level waste.

With regard to the third issue, as part of the construction permit and operating license processes, the Indian Point site has undergone thorough geologic and seismic investigations and reviews. Contrary to Dr. Schulwolf's implication in her letter to you, there are no active faults at the Indian Point site. As described in the updated Final Safety Analysis Report, the Ramapo fault was thoroughly evaluated and found to be old, inactive, and not a "capable" fault under Appendix A to 10 CFR Part 100 definitions.

With regard to the fourth issue, the NRC maintains regulatory oversight of nuclear facilities for the protection of the public health and safety. In that regard, it does not involve itself with the economic viability of a nuclear power plant. Since IP3 is owned by the State of New York, your constituent may wish to contact New York State and local elected officials with respect to any economic concerns she may have.

I trust this information will be of assistance to you in responding to your constituent's concerns. As requested, I am also enclosing Dr. Schulwolf's letter.

Sincerely,

Original signed by
James M. Taylor

James M. Taylor
Executive Director
for Operations

Enclosures: 1. NRC restart letter dated June 19, 1995
2. Dr. Schulwolf's letter dated June 18, 1995

Distribution: See attached sheet

*See previous concurrence

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NAME	RZimmerman	TMartin(phone)	WRussell	JTaylor	
DATE	07/21/95	07/20/95	07/ /95	07/ /95	07/ /95

OFFICIAL RECORD COPY

June 19, 1995

Mr. William J. Cahill, Jr.
Chief Nuclear Officer
New York Power Authority
123 Main Street
White Plains, NY 10601

SUBJECT: RESTART OF THE INDIAN POINT 3 NUCLEAR POWER PLANT (MODIFICATION OF CAL-1-93-009)

Dear Mr. Cahill:

The Indian Point 3 Nuclear Power Plant was shut down by the New York Power Authority (NYPA) on February 27, 1993, to correct deficiencies associated with the anticipated transient without scram mitigation system actuation circuitry (AMSAC). In response to a growing list of performance deficiencies, NYPA management decided to keep the plant shut down while effecting plant-wide programmatic improvements. By letter dated March 26, 1993, NYPA agreed not to restart the plant until NYPA management was satisfied with restart readiness and the Regional Administrator, Region I, agreed with that conclusion. On June 17, 1993, the NRC issued Confirmatory Action Letter (CAL) 1-93-009, which documented NYPA's restart commitments. By letter dated June 12, 1995 (Enclosure 1), you stated that Indian Point 3 was ready for restart.

Significant inspection and assessment efforts have been undertaken by the NRC since the February 1993 shutdown to evaluate NYPA's progress in resolving technical concerns and correcting the underlying root causes of the identified performance deficiencies. These efforts included the establishment and implementation of a NYPA Assessment Panel (NAP); the conduct of numerous individual resident and region-based inspections; the conduct of an NRC special team inspection to determine the root causes for the declining performance; the conduct of NRC team inspections to evaluate the adequacy of the fire protection and motor-operated valve programs; an NRC meeting with you on April 3, 1995, to review the results of NYPA's startup readiness evaluation (SURE); and an NRC Readiness Assessment Team Inspection (RATI) during the period of April 3-21, 1995, to independently evaluate the plant's readiness for restart.

Based on the above, the NRC staff has concluded that sufficient progress has been made to support safe plant restart and power operations. Our detailed assessment to support this conclusion is contained in Enclosure 2 to this letter.

In preparation for restart, NYPA has developed a detailed reactor startup plan to describe the process and self-assessment efforts planned to achieve a safe restart of Indian Point 3. The NRC has also developed an augmented inspection plan and will provide augmented inspection coverage to monitor unit startup and return to power operation. Based on your letter dated June 12, 1995, we understand that Indian Point 3 will not exceed 40 percent reactor power until a self-assessment is performed and the NRC staff is notified of the results. In addition, after achieving full power operation, NYPA again will conduct a

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Enclosure 1

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self-assessment and present the results to the NRC staff in a public meeting. Thus, this letter modifies CAL 1-93-009 to reflect your new commitments as discussed above.

In summary, based on the actions you have taken and our independent review of those actions, the NRC agrees with your assessment that the Indian Point 3 plant is ready for restart. If you have any questions regarding our assessment, please contact Curtis Cowgill of my staff at 610-337-5233. We appreciate your cooperation.

Sincerely,

ORIGINAL SIGNED BY:

Thomas T. Martin
Regional Administrator

Docket No. 50-286

Enclosures:
1. NYPA letter dated June 12, 1995 (Readiness to Restart)
2. Indian Point 3 Restart Readiness

cc w/encl:
S. Freeman, President
R. Schoenberger, Chief Operating Officer
L. Hill, Jr., Resident Manager, New York Power Authority
W. Josiger, Vice President - Nuclear Operations
J. Kelly, Vice President - Regulatory Affairs and Special Projects
T. Dougherty, Vice President - Nuclear Engineering
R. Deasy, Vice President Appraisal and Compliance Services
R. Patch, Director - Quality Assurance
G. Wilverding, Manager, Nuclear Safety Evaluation
G. Goldstein, Assistant General Counsel
C. Faison, Director, Nuclear Licensing
A. Donahue, Mayor, Village of Buchanan
C. Jackson, Nuclear Safety and Licensing Manager (Con Ed)
C. Donaldson, Esquire, Assistant Attorney General, New York Department of Law
Chairman, Standing Committee on Energy, NYS Assembly
Chairman, Standing Committee on Environmental Conservation, NYS Assembly
E. Nullet, Executive Chair, Four County Nuclear Safety Committee
Chairman, Committee on Corporations, Authorities, and Commissions
Robert D. Pollard, Union of Concerned Scientists
The Honorable Sandra Galef, NYS Assembly
Director, Energy & Water Division, Department of Public Service, State of New York
A. Song, Assistant Secretary to the Governor
F. Valentino, President, New York State Energy Research and Development Authority
State of New York, SLO Designee

ENCLOSURE 1

New York Power Authority

William J. Cahill, Jr.
Chief Nuclear Officer

June 12, 1995
IPN-95-065

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

SUBJECT: Indian Point 3 Nuclear Power Plant
Docket No. 50-286
Readiness to Restart Indian Point 3

REFERENCES:

1. NYPA letter IPN-93-015, R. E. Beedle to NRC, "Action Plans Regarding the Performance Improvement Outage," dated March 26, 1993.

2. NRC Letter, Thomas T. Martin to R. E. Beedle, "Confirmatory Action Letter 1-93-009, Restart Commitments," dated June 17, 1993.

Dear Sir:

The New York Power Authority voluntarily shut down the Indian Point 3 Nuclear Power Plant in February 1993 in response to indications of programmatic weaknesses (Reference 1). The NRC issued a confirmatory action letter (Reference 2) which outlined the major milestones to be reached prior to returning Indian Point 3 to service. The confirmatory action letter reflects the Power Authority's commitment in reference 1 to obtain the agreement of the NRC Region I Regional Administrator prior to restart.

The Power Authority has implemented corrective actions and conducted a comprehensive self-assessment program to verify the effectiveness of those corrective actions. Criteria used by the Power Authority for determining the readiness of Indian Point 3 for restart are discussed in Attachment I.

During April and May 1995 the Power Authority performed plant heatup using reactor coolant pump energy, to conduct system testing. Plant cooldown was initiated on May 28 for maintenance activities in preparation for reactor restart. The present schedule will allow reactor restart to begin approximately June 21, 1995 contingent upon the agreement of the NRC Region I Regional Administrator.

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The startup process for Indian Point 3 includes hold points to assess plant and staff performance. The Power Authority will provide assessment results to the NRC at approximately 30% to 40% power and after reaching full power. The Power Authority will also meet with the NRC after reaching full power to discuss plant and staff performance during the power ascension evolution.

I have reviewed the readiness of Indian Point 3 with the Authority's senior management, including President and Chief Executive Officer S. David Freeman and Chief Operating Officer Robert Schoenberger. We conclude that the actions needed to support the safe restart and continued safe operation of the plant are complete, as further described in Attachment I. The Power Authority anticipates that the maintenance activities identified during hot functional testing will be complete and Indian Point 3 will be ready in all respects for restart.

We request the agreement of the NRC to restart the reactor. Attachment II contains the commitments made by the Power Authority in this submittal. If you have any questions, please contact me.

Very truly yours,

W. J. Cahill, Jr.
Chief Nuclear Officer

Attachments

cc: Mr. Thomas T. Martin
Regional Administrator/Region I
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406-1415

Mr. Curtis J. Cowgill, Chief
Reactor Projects Branch No. 1
U.S. Nuclear Regulatory Commission
Region I
475 Allendale Road
King of Prussia, PA 19406-1415

Mr. Nicola F. Conicella, Project Manager
Project Directorate I-1
Division of Reactor Projects I/II
U.S. Nuclear Regulatory Commission
Mail Stop 14 B2
Washington, DC 20555

U.S. Nuclear Regulatory Commission
Resident Inspectors' Office
Indian Point 3 Nuclear Power Plant
P.O. Box 337
Buchanan, NY 10511

ATTACHMENT I TO IPN-95-065

READINESS TO RESTART INDIAN POINT 3 NUCLEAR POWER PLANT

I. INTRODUCTION:

The New York Power Authority voluntarily shut down the Indian Point 3 Nuclear Power Plant in February 1993 in response to indications of programmatic weaknesses (Reference 1). The NRC issued a confirmatory action letter (Reference 2) which outlined the major milestones to be reached prior to returning Indian Point 3 to service following the outage. Included in the confirmatory action letter is the condition that the Power Authority obtain the agreement of the NRC Region I Regional Administrator prior to restart.

The Power Authority developed the Restart and Continuous Improvement Plan (RCIP, Reference 3) which describes the objectives, strategies and action plans designed to address the root and contributing causes of the performance decline at Indian Point 3. The RCIP also defined criteria, in three categories, to be used by the Power Authority for determining readiness to restart. The following sections discuss how these criteria for restart have been satisfied.

II. MANAGEMENT ISSUES:

The Restart Action Plans detailed in the RCIP identified specific actions needed to correct and resolve management issues which contributed to the decline in performance at Indian Point 3. Implementation of the Restart Action Plans, during the second half of 1994, was followed by a self-assessment program (Start Up Readiness Evaluation) to verify the implementation and the effectiveness of the corrective actions. The Power Authority notified the NRC of the completion of the Start Up Readiness Evaluation (Reference 4) and invited the NRC to conduct a Readiness Assessment Team Inspection. The Power Authority provided a detailed discussion of the results and conclusions of the Start Up Readiness Evaluation at the public entrance meeting for that inspection on April 3, 1995.

Implementation of the Restart Action Plans and the performance of the self-assessment provide assurance that proper management controls are in place. The RCIP also contains action plans which describe specific steps to be taken after restart to ensure continuous improvement at Indian Point 3.

The Power Authority has developed a procedure which governs the overall startup evolution from the beginning of heatup to the completion of testing at 100% power. The Startup and Power Ascension Procedure (Reference 5) includes provisions for senior management involvement and establishes the methodology for ensuring the safe, controlled and deliberate return to service of Indian Point 3. The startup staffing plan includes a Senior Manager on Shift to provide management representation and oversight during plant startup.

An important aspect of the Authority's performance improvement effort is the continuation of self-assessment activities. The Startup and Power Ascension Procedure includes self-assessment hold points where the effectiveness of management controls and the performance of plant staff and systems are evaluated. At each hold point, a decision is required by the Resident Manager and the Plant Leadership Team (PLT) to continue plant start up. Information to support decision making can include input from Department Managers, the Plant Operations Review Committee (PORC) and Quality Assurance.

III. MATERIAL CONDITION AND EQUIPMENT READINESS:

During the outage, the Power Authority completed thousands of work activities and hundreds of modifications to improve the material condition of the plant. As of June 9, there are approximately 250 work requests to be completed prior to reactor restart. Work requests include corrective and preventive maintenance, modification work requests and acceptance tests, and operations surveillance tests. The prerequisite checklist from the Startup and Power Ascension Procedure includes a requirement to verify that applicable work requests are completed prior to criticality.

The Authority's Restart and Continuous Improvement Plan included a System Certification Program to provide a structured process for evaluating systems prior to returning them to service for plant operations. The Authority provided additional information (Reference 6) to the NRC regarding this program in response to a meeting with the NRC on February 1, 1995. There are 74 plant systems/subsystems that are covered by the System Certification Program. Certification of 72 systems is complete and the remaining 2 will be complete prior to reactor restart.

Plant heatup, using reactor coolant pump energy, commenced on April 17, 1995 to perform the equipment and system testing which required plant conditions above cold shutdown. Normal operating temperature and pressure were achieved on May 9, 1995. Plant cooldown was commenced on May 28, 1995 to perform maintenance activities, including replacement of reactor vessel head O-rings. Maintenance work is presently scheduled to be complete to support reactor restart approximately June 21.

IV. REGULATORY ISSUES:

The NRC Restart Action Plan (RAP, Reference 7) identifies 60 technical, programmatic and management oversight issues which must be addressed by the Authority prior to the restart of Indian Point 3. These issues are in addition to the actions specified in the confirmatory action letter. The Authority has provided information to the NRC to resolve these issues.

During the Readiness Assessment Team Inspection (RATI), the NRC identified (Reference 8) six additional issues which required resolution prior to restart. The Authority has completed or will complete prior to reactor restart the following actions:

1. *Plant Alarm Response Procedures*

   The Power Authority reviewed alarm response procedures and identified 21 which required revision. The 21 procedures have been revised, approved by the Plant Operating Review Committee (PORC) and issued for use.

2. *Auxiliary Feedwater Pump Building Ventilation*

   Additional system testing was performed which verified proper operation of the fans and temperature controllers as stated in Reference 8.

3. *Breaker Panel Load Schedules*

The Power Authority has completed the scheduled walkdowns of breaker panels in the power plant and is in the process of updating controlled drawings for use by plant operators. During the walkdowns, undocumented modifications were identified. A review of past operability is being performed and the affected circuits are being disconnected, deenergized, or authorized as temporary modifications or design changes. Actions to update the breaker panel controlled documents and address the undocumented modifications will be completed prior to reactor restart.

4. *Setpoint Change Control*

Corrective actions taken are as stated in Reference 8. Setpoint change request packages were reviewed to identify plant documents needing revision. Documents identified by the review were updated and additional guidance was issued to supplement the setpoint change control procedure.

5. *Control Room Drawings*

Information from 122 Document Change Requests has been incorporated into the control room vital drawings.

6. *Turnover of Design Changes to the Operations Department*

Corrective actions taken are as stated in Reference 8. A representative sample of design changes was reviewed to ensure that plant procedures had been appropriately updated.

The Power Authority uses the Action and Commitment Tracking System (ACTS) to record and track management, technical and administrative issues, including those identified as regulatory commitments. As of June 9 there are 11 ACTS items remaining to be completed prior to reactor restart.

A roving fire watch is in place for penetration seals until evaluation of information used in the fire seal analysis is complete, as committed during the NRC special inspection to review fire protection and 10 CFR 50 Appendix R restart items (Reference 9). Restart ACTS items related to fire protection and 10 CFR 50 Appendix R are complete and fire protection related restart work requests will be complete prior to restart.

V. CONCLUSION:

The Authority concludes that corrective actions needed to support the safe restart and continued safe operation of the plant are complete. This conclusion is based on:

Successful implementation of the Authority's Restart and Continuous Improvement Plan (RCIP) Restart Action Plans.

- Completion of the Start Up Readiness Evaluation self-assessment program.

- Resolution of regulatory issues identified as requirements for criticality.

- Successful plant heatup from cold shutdown to normal operating temperature and pressure for system testing and implementation of assessment hold points.

- The use of established administrative tools to track the completion of work activities and other prerequisites required prior to commencing reactor restart.

The Power Authority anticipates that Indian Point 3 will be ready in all respects for restart approximately June 21, 1995 pending completion of work activities summarized in Sections III and IV.

VI. REFERENCES:

1. NYPA letter IPN-93-015, R. E. Beedle to NRC, "Action Plans Regarding the Performance Improvement Outage," dated March 26, 1993.

2. NRC letter, Thomas T. Martin to R. E. Beedle, "Confirmatory Action Letter 1-93-009, Restart Commitments," dated June 17, 1993.

3. NYPA Restart and Continuous Improvement Plan for Indian Point 3, Revision 1, dated November 4, 1994.

4. NYPA letter IPN-95-036, W. J. Cahill, Jr., to NRC, "Start Up Readiness Evaluation," dated March 16, 1995.

5. Indian Point 3 Procedure SUP-95-01, "Startup and Power Ascension Procedure."

6. NYPA letter IPN-95-019, L. M. Hill to NRC, "System Certification Program," dated February 23, 1995.

7. NRC letter, R. W. Cooper to William Cahill, Jr., "Revision and Status Update No. 4 of the Indian Point 3 Restart Action Plan," dated March 8, 1995.

8. NRC letter, R. W. Cooper to L. Hill, Jr., "NRC Readiness Assessment Team Inspection (RATI) Report No. 50-286/95-80," dated May 25, 1995.

9. NRC letter, J. T. Wiggins to L. M. Hill, "Special Inspection to Review Fire Protection and Appendix R Restart Items, Inspection Report No. 50-286/95-81," dated May 11, 1995.

ATTACHMENT II TO IPN-95-065
COMMITMENT LIST

Commitment Number	Commitment Description	Due Date
IPN-95-065-01	Provide restart self-assessment results to NRC at approximately 30% to 40% power.	Prior to continuing power ascension
IPN-95-065-02	Provide restart self-assessment results to NRC after reaching full power and meet with NRC to discuss plant and staff performance during the power ascension evolution.	Following operation at 100% power

ENCLOSURE 2

INDIAN POINT 3 RESTART READINESS

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1.0 BACKGROUND

The Indian Point 3 Nuclear Power Plant, owned and operated by the New York Power Authority (NYPA), is a Westinghouse four-loop, 965 megawatt (electric) pressurized-water reactor located 24 miles north of New York City.

The NRC's Indian Point 3 SALP report for the period ending August 1992 indicated an overall decline in performance. Although the licensee continued to display superior performance in the radiological controls functional area, the SALP noted weaknesses in the operations, maintenance/surveillance, emergency preparedness, engineering/technical support, and safety assessment/quality verification functional areas. The most significant weaknesses were in the engineering/technical support functional area. In general, the overall weak performance resulted from inadequate management oversight. Specifically, NYPA was not effective in implementing corrective actions for both long-standing and newly emerging issues. The weak performance was also evidenced by the escalated enforcement record of Indian Point 3. Between May 1992 and July 1993, Indian Point 3 received eight Severity Level III violations, with civil penalties totaling $762,500. In January 1993, NYPA submitted a Performance Improvement Plan (PIP) for Indian Point 3 to the NRC. The plan addressed NYPA's self-assessment efforts and the performance issues noted in the SALP report.

On February 27, 1993, NYPA shut down Indian Point 3 to correct deficiencies associated with the anticipated transient without scram mitigation system actuation circuitry (AMSAC) system and with programmatic weaknesses in the surveillance testing program. However, the growing number of performance deficiencies identified by NRC and licensee personnel prompted NYPA to keep the plant shutdown while effecting plant-wide programmatic improvements. By letter dated March 26, 1993, NYPA committed to make necessary programmatic improvements before resuming power operations. In addition, NYPA officials committed not to restart the plant until it was satisfied with restart readiness and until the NRC agreed with this conclusion.

In May 1993, the NRC conducted a Special Inspection Team at Indian Point 3 and again confirmed that significant fundamental weaknesses in licensee programs and staff performance existed at the plant. As stated in the inspection report, "The team determined that the root causes for the declining performance of Indian Point Unit 3 were weak managerial processes, controls and skills." The team also identified two contributing causes. First, NYPA failed to identify and resolve underlying root causes for problems identified by the Quality Assurance (QA) organization. Second, NYPA's self-assessment process was ineffective because the function was fragmented and selectively applied and the onsite and offsite oversight committees were narrowly focused.

At the Senior Management Meeting on June 15 and 16, 1993, the plant was added to the list of facilities which, while still authorized to operate by the NRC, warranted increased NRC headquarters and regional oversight because of declining performance (i.e., the NRC's "watchlist"). On June 17, 1993, the NRC issued Confirmatory Action Letter (CAL) 1-93-009 which documented the restart commitments made by NYPA.

Over the succeeding months, several PIP action plans were completed by NYPA. However, NYPA concluded that the existing programs and efforts to improve the performance of Indian Point 3 were not sufficiently effective to justify returning the plant to service, nor were they effective in creating a foundation for long-term, sustained improvement. Significant performance problems continued to occur even though programs and process improvements designed to correct those deficiencies had been implemented. On December 17, 1993, the NRC met with NYPA to discuss the progress and status of the PIP. In a letter to NYPA dated December 22, 1993, the NRC documented its concern regarding the effectiveness of the PIP as an integrated plan for overall performance improvement at the station, in light of recurring plant events and procedural violations.

In January 1994, NYPA senior management selected a team of plant and corporate personnel to perform a root cause analysis for the decline in performance at both Indian Point 3 and the NYPA corporate office, and to develop a comprehensive and integrated Restart and Continuous Improvement Plan (RCIP). The RCIP project was completed in May 1994 and by letter dated May 27, 1994, was formally submitted to the NRC for review.

In August 1994, the NRC's NYPA Assessment Panel (NAP) completed its initial review of the RCIP and concluded that if properly implemented, the RCIP should correct the fundamental issues responsible for the performance decline at Indian Point 3. This conclusion was documented in an NRC letter dated August 8, 1994. It appeared that the PIP's shortcomings had been assessed by NYPA and had been corrected in the RCIP.

2.0 NYPA ASSESSMENT PANEL FORMATION

A significant NRC effort was required to follow licensee actions to correct the growing number of deficiencies in late 1992. Therefore, in January 1993, the NRC expanded the already existing FitzPatrick Assessment Panel into the NAP. This action would allow the NRC to continue to monitor FitzPatrick as well as closely follow NYPA's implementation of the Indian Point 3 improvement program and to assist in the coordination of NRC resources for overall performance monitoring and assessment. The NAP is comprised of personnel from both Region I and NRC headquarters. The NAP subsequently assumed the additional role as a restart panel. The responsibilities of the NAP relative to Indian Point 3 are to:

- monitor and assess the licensee's performance
- coordinate the inspection program for the facility
- recommend and coordinate enforcement activities
- assess the adequacy of the Performance Improvement Program (and subsequently the RCIP) and monitor its implementation
- review the licensee's response to inspection findings and assess the adequacy of associated corrective actions
- identify, evaluate, and track restart issues
- provide a plant restart recommendation and basis after NYPA completes its restart program

In July 1993, the NAP developed the Indian Point 3 Restart Action Plan (RAP). The RAP, which was developed from NRC Inspection Manual Chapter 0350, "Staff Guidelines for Restart Approval," established guidance for the NRC to follow and listed specific items that the NRC must complete before concluding that Indian Point 3 was ready to restart. The RAP consisted of three parts. Section 1, "Restart Process Checklist," listed the steps of the NRC overall review process for Indian Point 3 restart. Section 2, "Restart Issues Checklist," listed plant-specific restart issues and the criteria used to develop these issues. Section 3, "Restart Readiness Assessment Checklist," contained "Areas for Assessment" covering items associated with the performance decline at Indian Point 3, its ultimate shutdown and other matters that should be evaluated before restart because of the length of the shutdown. Each assessment area contained a list of "Applicable Items," which was used in part as guidance for developing the inspection plan for the Readiness Assessment Team Inspection (RATI). Enough items were selected in each area to allow a sound assessment of readiness for restart.

3.0 NRC ASSESSMENT OF RESTART READINESS

3.1 INTRODUCTION

As previously stated, the NAP developed a comprehensive restart readiness evaluation process to ensure that required restart issues were thoroughly reviewed and assessed by the NRC before plant restart. The Indian Point 3 RAP was the guiding document used to assess restart readiness. In addition, the NRC conducted a RATI whose principal objective was to perform an in-depth evaluation of the degree of readiness of NYPA administrative controls, programs, plant equipment, and personnel to support safe restart and operation of Indian Point 3. The RATI assessed performance in the areas of Management Programs/Independent Oversight/Self-Assessment, Operations, Maintenance and Surveillance, and Engineering and Technical Support. The RATI also closed six Indian Point 3 RAP restart issues. The preliminary results of the RATI were discussed at an exit meeting, open for public observation, on April 27, 1995. During the public participation portion of this meeting, no new issues were raised that impacted the NRC's restart readiness assessment. The RATI inspection report was issued on May 25, 1995.

The following sections address the areas that were assessed by the NRC to determine if Indian Point 3 was ready for restart. The areas assessed are consistent with the Indian Point 3 RAP and NRC Inspection Manual Chapter 0350.

3.2 NRC RESTART ISSUE CLOSURE

Section 2 of the Indian Point 3 RAP contained 60 technical, programmatic, and management oversight issues which required resolution prior to restart. Fifty-four of these issues were inspected, closed, and documented in various NRC inspection reports. Six issues were specifically assigned to and closed by the RATI. These latter issues included operations effectiveness, maintenance effectiveness, management expectations, QA effectiveness, backlog reviews, and NYPA staff attitude with respect to performance improvement. The Indian Point 3 RAP lists each issue, the inspection report(s) where resolution of the issues are discussed, and the NAP meeting number and date when closure

of each issue was confirmed. The inspection effort required for restart issue closure was above and beyond the normal NRC site inspection program that continued during the shutdown.

Final resolution of each restart issue was confirmed by the NAP during regularly scheduled meetings. Therefore, the NRC concludes that all restart issues are closed.

3.3 READINESS ASSESSMENT TEAM INSPECTION RESULTS

The RATI reviewed Indian Point 3's performance in the areas of Management Programs/Independent Oversight/Self-Assessment, Operations, Maintenance and Surveillance, and Engineering and Technical Support. The RATI consisted of 10 inspectors plus a team leader and included representatives from all four NRC regional offices and headquarters. The majority of the onsite inspection activities took place between April 3 and 21, 1995, with certain activities occurring prior to these dates. Inspection activities were conducted during day shifts, off shifts, and weekends, and over 1000 hours of direct inspection of plant activities was accumulated. During the conduct of the inspection, the team identified six new issues that were considered appropriate for resolution by NYPA prior to restart of the facility:

(1) Plant Alarm Response Procedures

The team identified that several alarm response procedures did not reference the alarm actuating devices or alarm setpoints. A problem was also noted regarding the failure to revise an alarm response procedure following a modification.

(2) Auxiliary Feedwater Building Ventilation Fans

The team identified that the Auxiliary Feedwater Pump Building temperature controllers were not set in accordance with the system drawings and the temperature controllers and fans were not routinely functionally tested.

(3) Breaker Panel Load Schedules

The team noted that the load schedules located inside electrical distribution panels were not controlled documents and did not match the system drawings. The load schedules posted inside the panels did not reflect plant modifications that had added or removed loads.

(4) Setpoint Changes

The closeout process for setpoint changes was not clearly proceduralized. The setpoint change control procedure and process did not ensure that all procedures and documents affected by a setpoint change were revised.

(5) Drawing Changes

The team noted that 122 Requests for Document Change (RDC) were backlogged against the "Type A" (control room vital) drawings. The team concluded that the information provided in the RDCs should be available to the operators.

(6) Design Change Closeouts

The team found that a design change turnover had been completed by the responsible engineer without the adequate review or concurrence by the Operations Department as required by plant administrative procedures. The team concluded that a review of similar design change closeout packages should be conducted to ensure that plant procedures had been appropriately updated.

As discussed in NYPA's letter dated June 12, 1995, each of these issues has been or will be completed prior to restart. The NRC has confirmed that each of these issues has been or will be adequately addressed. Thus, there are no outstanding RATI issues affecting restart of the facility.

RATI Overall Conclusion

The team determined that a common understanding of management expectations and a favorable atmosphere for problem identification existed at Indian Point 3. Management expectations regarding safety had been clearly communicated to the plant staff. The Quality Assurance organization had taken appropriate measures to implement an effective Quality Assurance program. The offsite and onsite review committees were providing quality oversight of important processes and programs. The problem identification process and the corrective action program were sufficiently implemented to identify and resolve plant deficiencies in a timely manner. Self-assessment programs have improved over the past year.

During the period that the team was on the site, the operators maintained the plant in a safe condition. Command and control of operational activities was generally good. Operators were cognizant of plant conditions and control room annunciators. In general, operations procedures were technically adequate, administrative requirements were clearly delineated and proceduralized, and adequate processes were in place to control plant configuration.

The maintenance staff demonstrated a conservative approach to the performance and completion of maintenance activities. Plant and system material condition was good. Identified plant deficiencies were properly prioritized and scheduled to support resolution in a timely manner. Implementation of the preventive maintenance and the surveillance testing programs was also good.

The RATI determined that the plant material condition of safety systems and components was good. Further, the RATI concluded that planning and maintenance programs and processes were adequate to support a safe plant restart. Based on observations of the engineering organization, the RATI concluded that it was capable of providing timely support for emergent

technical issues; additionally, the engineering and technical support staff, procedures, programs, and processes were in place to support a safe restart and continued plant operation.

The major engineering organizations were available to the plant and their support to the station was effective. Both the Design Engineering and Technical Services organizations are taking appropriate steps to control their backlogs of work and the backlogs have been adequately screened for plant restart issues. The permanent and temporary modification processes were adequate to ensure that plant safety margins were not reduced. Safety evaluations contained adequate technical detail that supported reasonable conclusions.

Based on the above, the NRC concludes that staffing, plant equipment, programs and processes are adequate to support safe restart and continued operation of Indian Point 3.

3.4 RESTART READINESS ASSESSMENT CHECKLIST

As previously discussed, Section 3 of the Indian Point 3 RAP contained six "Areas for Assessment," involving issues broader than specific restart issues, that the NRC staff needed to assess before concluding that the plant was ready to restart. The six areas for assessment are discussed below. The information used by the NRC staff to develop its conclusion was obtained, as applicable, from (1) resident and specialist inspections (2) inspections assessing restart issues (3) the RATI (4) NAP activities and (5) NRC management visits.

3.4.1 ROOT CAUSE IDENTIFICATION AND CORRECTION

In mid-1992 NYPA recognized that the performance of Indian Point 3 was declining. An assessment was conducted to identify the causes of performance problems and to develop an improvement program. As previously discussed, the PIP was developed and subsequently submitted to the NRC on January 14, 1993. However, subsequent NRC inspections and continued weak performance in some areas questioned the usefulness of the PIP as an integrated plan for overall performance improvement of the station. NYPA performed a second review and finalized its list of root and contributing causes in the RCIP.

NYPA found six primary root causes:

- Management did not demonstrate the leadership, interpersonal skills, or the credibility to provide a work environment that encouraged open communication, teamwork, innovation, and trust.
- Senior management did not establish the vision or provide the direction to drive the organization's agenda.
- Issue identification, assessment, and problem resolution processes were not well managed and did not result in lasting correction of issues and problems.
- Management did not establish clear performance expectations, provide effective coaching and feedback, or hold people accountable for meaningful performance results.

- Management of change was ineffective.
- Roles and responsibilities were not sufficiently defined to support effective organizational performance.

NYPA found six contributing causes:

- NYPA management did not employ industry experience to establish and implement effective performance standards.
- Information and direction were unclear and often not communicated effectively.
- Policies and procedures were inadequate to support acceptable station performance. They were overly complex, contained technical inaccuracies, and were ineffectively enforced.
- The quality and rate of completion of work by the maintenance function did not support plant needs.
- Information management systems did not support management needs.
- Engineering procedures and products did not effectively support plant operations and maintenance.

Based on the above findings, NYPA developed a comprehensive, long-term RCIP in May 1994. The plan was designed to improve overall performance at the plant and corporate office by correcting the twelve root and contributing causes. NYPA also established a Restart Management Team (RMT) to oversee the RCIP. The RMT, which consisted of the senior managers from NYPA's Nuclear Generation Department, was chartered with directing actions necessary to restart Indian Point 3. The RCIP was revised in November 1994; however, this revision did not change the 12 root and contributing causes as delineated in the original RCIP.

Corrective actions (i.e., action plans) to address the 12 root and contributing causes are addressed in the RCIP. The NRC's NAP conducted a thorough review of the RCIP. In a letter to NYPA dated August 8, 1994, the NRC concluded that the RCIP was a comprehensive plan that addressed the root causes for the previous decline in plant performance, provided appropriate corrective actions, and provided a reasonable process for assessing the effectiveness of those corrective actions.

In a management meeting open for public observation held at the Indian Point 3 site on November 17, 1994, NYPA presented the status of its improvement program, the RCIP, and the results achieved to date. NYPA concluded that progress was being made, but further efforts were warranted. Between December 5 and 16, 1994, NYPA performed a Startup Evaluation for Readiness Team (SERT) inspection. The purpose of this self-assessment was to determine, through evaluation of objective evidence, the effectiveness of corrective actions and improvements relative to restart readiness of Indian Point 3. The SERT concluded that additional work was needed to prepare Indian Point 3 for restart, but that NYPA management had made significant improvements in both plant and corporate activities during the shutdown. These significant improvements included improved programs and processes, increased employee involvement in decision making, improved corporate support, improved employee morale and confidence in management, and improved independent oversight. However, additional effort would be required to make a number of areas fully

effective and capable of supporting restart. The NAP concluded that the SERT took a critical look at NYPA's programs and made appropriate recommendations for improvement.

Over the next several months, NYPA's Start Up Readiness Evaluation (SURE), which is described in the RCIP, continued an organized framework of assessments and reviews necessary to demonstrate that Indian Point 3 was ready for restart. NYPA's letter dated March 16, 1995, informed the NRC that the SURE for Indian Point 3 had been completed; the letter also delineated some items that needed to be addressed prior to restart and requested the NRC to perform the Readiness Assessment Team Inspection.

The NRC staff reviewed the licensee's Startup Plan and the SURE program, including the associated elements of the System Certification, Operational Readiness Review, Startup Evaluation for Readiness Team (SERT), and Quality Assurance Department Oversight. This review was conducted to ensure that NYPA had adequately assessed and resolved outstanding issues and had developed a detailed plan for conducting a plant restart. The NRC staff concluded that the startup plan was detailed and thorough and provided appropriate oversight for plant restart; the SURE program provided plant management an appropriate tool for identifying restart issues, and plant management had provided sound oversight in the resolution of these issues.

The NRC staff reviewed the Deviation Event Report (DER) process to determine the effectiveness of the program in identifying, prioritizing, tracking, and resolving the root causes of problems. The NRC staff interviewed cognizant plant staff and conducted a review of open and closed DERs. The NRC staff concluded that the DER process was being adequately implemented to identify and resolve plant deficiencies in an effective and timely manner.

The NRC staff assessed the effectiveness of the QA organization to give plant management feedback on overall plant performance. The NRC staff conducted interviews, reviewed audit reports and findings, observed several QA meetings, and assessed the open QA findings to ensure that items important to support plant restart had been scheduled for completion prior to restart. The NRC staff concluded that the QA organization had taken the appropriate measures to establish an effective QA program at Indian Point Unit 3, and station management's commitment to establish the QA Department as an integral oversight organization has enhanced its effectiveness.

The NRC staff reviewed recently conducted self-assessment activities in the areas of operations, maintenance, and training. The self-assessment programs have improved over the past year. The currently implemented program provides the basic performance data necessary to identify significant performance issues, and management is using this information appropriately to identify and resolve problems. The NRC concluded that these programs have been sufficiently implemented to support safe startup.

Overall, by implementing the RCIP, NYPA has made significant changes to promote both short- and long-term improvements in performance. Corporate management has provided substantial resources and oversight. The NRC staff will continue to monitor the implementation of this improvement program via

the NRC inspection program and through periodic meetings with the licensee. The NAP will continue to be the focus for NRC oversight of the Indian Point 3 facility until NYPA demonstrates sustained performance improvement.

3.4.2 LICENSEE MANAGEMENT

NYPA has demonstrated a serious commitment to improvement and has provided the management attention and resources necessary to implement its RCIP effectively. NYPA has also made major corporate and site organizational and personnel changes designed to improve performance at the facility.

Since the shutdown in early 1993, the following changes occurred within the NYPA corporate organization: new Chairman of the Board; new President and Chief Executive Officer; new Chief Nuclear Officer; new Vice President of Appraisal, Compliance and Regulatory Affairs (Quality Assurance); new Vice President Engineering; and establishment of a Chief Operating Officer position.

Establishment of the Regulatory Affairs and Special Projects corporate department occurred in October 1994 when the NYPA licensing organization was restructured. The new licensing organization has one corporate director, and each site (Indian Point 3 and FitzPatrick) has one licensing manager reporting to the Vice President Regulatory Affairs and Special Projects. These positions were filled with persons from outside as well as within the NYPA organization to provide site and corporate management with a broader industry perspective in operating and managing Indian Point 3. Observations to date indicate that this organization has been effective in supporting the licensee's improvement efforts.

The following major management changes occurred at the site: new Resident Manager; new General Manager of Support Services; new General Manager of Operations; new General Manager of Maintenance; establishment of a Site Engineering Director; and elevation of the Training Manager position to a General Manager of Training.

The NRC has seen significant improvement in management oversight, direction and support. Management has provided resources for extensive plant modifications, and has increased staffing in operations, engineering, and licensing. Site and corporate management involvement in plant activities and operational concerns has clearly improved, and so has the communication of management expectations and standards of performance to the plant and corporate staff. Improvements in planning and scheduling of activities have been evident. Managers fostering improved accountability, responsibility, and attention to detail have been observed. NYPA management has encouraged improved horizontal and vertical communications and teamwork at the site and between the site and the corporate office. NYPA management has also established a work environment conducive to problem identification and has established improved programs to identify, prioritize, and resolve significant issues. Programs for root cause analysis and the evaluation and utilization of operating experience have been upgraded.

Through developing and effectively implementing the RCIP, NYPA has demonstrated its ability to successfully evaluate performance and to factor the results of those evaluations into improved program and personnel performance. The QA program at the site has been substantially improved and is being used as an effective management tool. Satisfactory performance of the onsite Plant Operations Review Committee (PORC) and the offsite Safety Review Committee (SRC) has been demonstrated.

As previously stated, NYPA developed a startup plan to describe the process and management review necessary to support a safe organized return to service of the plant. The plan describes the physical and administrative requirements for startup. The plan also describes approaches for self-assessments of the startup process. As part of the plan, recommendations will be made to the Resident Manager for the continuation of plant startup when milestones are completed and activities leading up to these milestones are assessed. The plan also requires a senior manager to be assigned to each shift to provide continuous management presence and to supplement the shift supervisor during the startup. The NRC found that the plan was comprehensive and contained sufficient checks and balances for decision making, feedback of information, and sound judgements for a safe plant startup.

Overall, the NRC staff concludes that NYPA management has clearly communicated its expectations to the staff, is providing appropriate direction and oversight of plant activities, and is ready to support restart of the unit.

3.4.3 PLANT AND CORPORATE STAFF

The NRC staff conducted numerous interviews of plant staff and observed meetings to ensure that plant safety issues were being communicated to the proper levels of management. The NRC assessed the licensee's effectiveness in communicating management expectations to the plant staff in the areas of problem identification, procedure adherence, and work safety practices. Based on the common understanding of management expectations and the favorable atmosphere for problem identification, the staff determined that the management team adequately provided direction to the NYPA plant staff.

In addition to routine inspection observations, the NRC observed operations activities during plant heatup. The NRC observed all shifts, including weekend and backshift activities. The NRC assessed operator performance regarding administrative procedures and management expectations. The staff found that operators maintained the plant in a safe condition.

The NRC staff reviewed and assessed the quality of plant operations procedures to ensure the procedures were adequate to conduct a safe plant restart. A sample of operations procedures were found to be technically adequate.

The NRC staff assessed operator control board awareness and annunciator response on all shifts. The NRC also assessed the quality of the Shift Manager and Control Room Supervisor command and control, and operations management involvement in day-to-day plant operation. The NRC found the quality of command and control to be generally good. The NRC observed that teamwork in the control room was good, as evidenced by various shift members

identifying and correcting problems. Operators were cognizant of plant conditions and control room annunciators. Operations management was actively involved in operational activities.

The NRC staff verified that operator training and qualifications were current and that key plant changes made during the performance improvement outage were addressed in operator training. The staff concluded that operator requalification training was up to date. Operator training had been conducted on plant modifications implemented during plant shutdown and the operators were knowledgeable of important plant changes. The NRC staff concluded that specialized operator training to support restart activities was adequate. The staff considered the plant fire brigade to be adequately trained and prepared to effectively respond to plant fires.

As a result of the NYPA engineering reorganization, Design Engineering was created and design engineering personnel and the design authority were relocated to the site from the White Plains Office. The reorganization is ongoing. Observations to date indicate that the engineering reorganization and transition are being appropriately managed.

Overall, the support provided to the plant by the major engineering organizations was effective. Design Engineering response to emergent issues was technically sound and timely. System Engineering response was adequate and was improving as the system engineers gained plant experience. The availability of engineering personnel to the rest of the station was good. Both the Design Engineering and Technical Services organizations were taking appropriate steps to control their backlogs. The transition during the engineering reorganization appeared to be appropriately controlled.

The NRC staff noted that both System Engineering and Design Engineering staff and management were involved in the plant outage meetings and the Outage Work Scope meeting, providing support to other plant organizations. Both System Engineering and Design Engineering staff were supplying around-the-clock coverage for critical activities.

Overall, the NRC staff concludes that NYPA operations staff and support staff are ready for Indian Point 3 restart.

3.4.4 PHYSICAL READINESS OF THE PLANT

During this outage, NYPA has implemented many significant hardware upgrades and programmatic improvements. Examples of systems impacted by these improvements included the AMSAC system, the emergency diesel generators, the control room air conditioning system, the instrument air system, the safety-related motor-operated valves, the power-operated relief valves, and the service water electrical cable duct bank. In addition, thousands of corrective maintenance work items were completed during the shutdown period. Extensive inspection and tours by NRC indicate that overall plant material condition has substantially improved. The overall plant material condition is satisfactory to support restart and continued operation of the facility.

The NRC staff reviewed licensee mechanisms in place to ensure that the status of plant safety-related equipment was being adequately controlled. The NRC staff concluded that Operations has processes in place to control plant configuration for safe plant operation. Operators were cognizant of system status that required entry into technical specifications limiting conditions for operations. Operations control room deficiency and operator work-around programs were good initiatives that were successfully tracking and prioritizing these issues. The protective tagging program effectively tracked the status of plant equipment. In addition, the staff found that protective tags were installed on the correct equipment and that information on the tags was correct. The NRC independently verified that selected systems were appropriately aligned for the current plant condition. The inspectors further verified that the licensee had completed a comprehensive system alignment verification.

The NRC staff reviewed the planning area by conducting interviews, reviewing planned maintenance work requests, and observing work. The staff reviewed the backlogs of corrective and preventive maintenance and observed various meetings to verify that unresolved maintenance issues were assigned appropriate priorities and to ensure that items requiring resolution prior to plant restart were properly scheduled. A work planning process has been developed and is being implemented by the licensee. Although the process is adequate, NYPA is enhancing it to make it more effective.

The NRC staff observed ongoing maintenance activities to verify that these activities were being properly controlled through the use of established procedures, approved technical manuals, drawings, and job-specific instructions. The staff considered the conduct of maintenance activities to be adequate to support plant startup.

The NRC staff conducted several plant tours and system walkdowns to determine if hardware problems had been identified. The staff also reviewed the overall condition of several safety significant systems. Plant material condition was acceptable to support startup.

The NRC staff reviewed the adequacy of preventive maintenance procedures, observed the performance of preventive maintenance (PM) in the field, and assessed coverage of the program with regard to incorporating vendor recommendations, scheduling and deferral, and review and trending of results. The staff determined that NYPA's implementation of a preventive maintenance program was adequate. A strength noted was that only a few PMs were deferred beyond their planned performance date and those that were deferred were adequately evaluated and justified.

The NRC staff reviewed surveillance scheduling and procedures, observed the performance of tests, and reviewed test results to verify that the surveillance program was being conducted in accordance with requirements. The staff determined that the surveillance program was being conducted in an acceptable manner.

The NRC staff reviewed the licensee's modification program and reviewed a sample of permanent modifications. The review compared the design change to the design bases, considering the potential impact of the design on other equipment and its compliance with appropriate procedures. The NRC also reviewed a sample of modification acceptance tests (MATs) to determine if they satisfactorily proved the proper operation of the associated modification. The NRC staff concluded that engineering processes were adequate to ensure that plant safety margins were not reduced. The technical bases and associated documentation for the modifications were adequate. The development and performance of MATs were adequate and demonstrated the proper operation of the associated modification.

The NRC also reviewed the temporary modification (TM) process, including administrative procedures and a sample of TMs. At the end of April 1995, there were 22 installed TMs, seven of these were installed on safety-related systems; two are planned for removal prior to startup, one will be removed after completion of full power testing, and three are scheduled for replacement before July 1995. The NRC concluded that administrative procedures were in place to acceptably control the development, review and approval, installation, and removal of TMs. Overall the NRC concluded that the temporary modifications were acceptable for restart.

All pre-1990 safety-related modifications have been reassessed by NYPA to identify differences between the as-built plant conditions and the plant drawings. Additional controls were added to the modification process in 1990 to prevent undocumented deviations from the modification drawings. The licensee redlined all vital control room drawings with changes in preparation for restart. The NRC staff concluded that the plant's configuration control was acceptable.

The NRC reviewed backlogs in the Technical Services and Design Engineering organizations. This review included those items in the backlog that would not be completed prior to restart and the licensee's method for determining that the item need not be completed prior to restart. The NRC also evaluated the licensee's prioritization of these items. The NRC staff determined that the backlogs had been appropriately screened and prioritized. Both the Technical Services and Design Engineering organizations were taking appropriate steps to control their backlogs.

The NRC staff reviewed the industry operating experience program to ensure that lessons learned were being appropriately incorporated in plant programs and staff training and to verify that appropriate items had been resolved prior to plant restart. The staff concluded that the review process for industry experience was adequate. The staff also noted that the backlog of reviews was manageable. The staff determined that the backlog had been adequately screened by the licensee for plant restart issues.

3.4.5 COMPLIANCE WITH REGULATORY REQUIREMENTS

The NRC staff has issued and granted all applicable license amendments, exemptions, and reliefs. The actions specified in Confirmatory Action Letter 1-93-009 have been satisfied. All significant enforcement issues to date have

been resolved. The NAP also reviewed all open allegations and concluded that none affected restart of the facility. There are no outstanding issues in this area relative to the restart of Indian Point 3.

3.4.6 COORDINATION WITH INTERESTED AGENCIES/PARTIES

The Federal Emergency Management Agency (FEMA) was notified of the pending restart of Indian Point 3 via telephone on June 16, 1995, and FEMA was not aware of any offsite emergency preparedness issues that could potentially affect restart of the plant. The New York State Liaison Officer was notified of the pending restart of Indian Point 3 by the Region I State Liaison Officer via telephone on June 16, 1995, and various government and local public officials were notified in a meeting on June 16, 1995. Individuals from these various agencies identified no issues that would preclude restart of the plant.

The NRC has provided several opportunities, after NRC meetings with the utility, for the public to comment on the possible restart of Indian Point 3. Subsequent to each of these meetings, the staff has reviewed issues of concern, as well as the bases for their position; the staff has concluded that substantive issues that could delay restart do not exist.

4.0 RESTART COORDINATION

In a letter to the NRC dated May 27, 1994, NYPA committed to perform a detailed SURE before restart. The NRC recommended that NYPA complete its SURE before the NRC performed its RATI. The SURE consisted of a SERT inspection, an Operational Readiness Review, Quality Assurance Oversight, and System Certification. By letter dated March 16, 1995, NYPA notified the NRC that the SURE had been completed successfully and that the facility was ready for the NRC RATI. At the public entrance meeting for the NRC's RATI on April 3, 1995, NYPA presented the results of its SURE.

In the licensee's letter dated June 12, 1995, NYPA informed the NRC that Indian Point 3 was ready to be restarted and delineated NYPA's power ascension oversight plan. The licensee plans to have its Restart Management Team (RMT) review activities at various plateaus during power ascension. The RMT will then make recommendations to the Resident Manager regarding readiness to continue to the next plateau. NYPA intends to have a member of the Restart Management Team available 24 hours a day during plant startup; additionally, a senior manager is also to be assigned to each shift until reactor power reaches 100 percent.

The NRC has developed an augmented inspection plan to assess the Indian Point 3 restart. In addition to the resident inspectors assigned to the site, additional inspectors will provide on-shift, around-the-clock coverage, starting 24 hours before the planned reactor startup and continuing for several days. During this time, among other NRC inspection activities, NRC inspectors will review NYPA's self-assessments, Quality Assurance assessments, and support to operations during emergent issues. Following completion of

around-the-clock coverage, the NRC will continue to provide augmented coverage of the power ascension process, including major evolutions as they occur, until the plant stabilizes at 100 percent power.

5.0 OTHER ISSUES

5.1 LATEST SALP

The current SALP assessment period, which was originally scheduled to end on November 17, 1993, was suspended until 6 months after plant restart. The bases for the suspension were that the NAP will continuously oversee the plant under the provisions of Manual Chapter 0350, and that plant restart will be monitored in accordance with the NRC's approved IP3 Restart Action Plan. The latest SALP report is over 2 years old and does not reflect the current status of the facility.

5.2 FIRE BARRIER PENETRATION SEALS

In response to NRC inspection Unresolved Item 50-286/93-24-03, "FIRE SEAL ANALYSIS - Self Ignition Temperature of Cable Insulation as it Relates to the Design of Fire Seals," NYPA initially concluded that the self-ignition temperature of the cable insulation is not less than 785°F and that this temperature is sufficiently above the 700°F maximum allowable unexposed surface temperature criteria for penetration seal designs at Indian Point 3. This conclusion was based on generic cable flammability data published by the Electric Power Research Institute (EPRI). The cables at Indian Point 3 are "similar" to the cables referenced in the EPRI reports, but NYPA could not provide reasonable assurance that the cables specified in the EPRI report are truly representative of the cables installed at Indian Point 3. Because of the broad range in flammability data for cables of "similar" construction and the different test protocols for obtaining the flammability data, the NRC staff was concerned that the generic cable data used in NYPA's fire seal analysis might not adequately represent the cables installed at Indian Point 3. Therefore, this item remains unresolved.

NYPA is doing research, including actual testing if needed, to verify the applicability of the generic information used in its evaluation. NYPA has implemented fire watches in all plant areas where the penetration seals in question are located. These compensatory measures, coupled with other elements of NYPA's fire protection program, ensure an adequate level of fire safety; therefore, the NRC staff has concluded that this issue has low safety significance. Thus, the NRC staff has determined that NYPA's actions are acceptable for restart and subsequent operation until the penetration seal issue is fully resolved.

6.0 CONCLUSION

The NRC has thoroughly assessed the physical condition of the plant, the performance of NYPA's plant and corporate staffs, NYPA's corporate and plant management oversight, and the licensing status of the plant. The NRC has found all of these areas to be adequate to support restart and operation. The NRC also found that NYPA's RCIP is a comprehensive plan that addressed the

root causes and corrective actions for the previous decline in plant performance and provided a reasonable process for assessing the effectiveness of those corrective actions. Furthermore, the NRC found that NYPA's startup plan provides the process and management oversight necessary for a safe organized return to power operation.

NYPA has completed the committed restart actions as described in CAL 1-93-009. In their letter dated June 12, 1995, NYPA committed that Indian Point 3 will not exceed 40 percent reactor power until a self-assessment is performed and the NRC is notified of the results. In addition, NYPA committed to another self-assessment after full power operation is achieved, with the results of this latter self-assessment to be presented to the NRC in a public meeting. The cover letter to this document adds to the commitments contained in CAL 1-93-009 to reflect the above statements and transmits our agreement that Indian Point 3 is ready to restart. The NRC will provide augmented inspection coverage during the startup process. The NRC also will continue to closely monitor NYPA's performance and the implementation of the RCIP.

BENJAMIN A. GILMAN

FOREIGN AFFAIRS COMMITTEE

EUROPE AND MIDDLE EAST

POST OFFICE AND CIVIL SERVICE COMMITTEE

POSTAL SERVICES AND OPERATIONS

Congress of the United States
House of Representatives
Washington, DC 20515-3220

June 30, 1995

Mr. Dennis K. Rathbun
Director
Office of Congressio al Affairs
Nuclear Regulatory Commission
Washin ton, DC 20555

Dear Mr. Rathbun

I have received the attached communication from my constituent, Dr. Marthe Schulwolf of Piermont, New York, concerning the Indian Point 3 Nuclear Facility.

I would welcome your review and every consideration which can be given to this matter will be appreciated.

Please provide me with a report of your findings when your review has been completed and have the letter returned to me with your reply.

Thank you for your kind attention.

Sincerely,

BENJAMIN A. GILMAN
Member of Congress

BAG:rma

PLEASE REPLY TO

WASHINGTON OFFICE
2185 Rayburn Building
Washington DC 20515-3220
Telephone (202) 225-3776

DISTRICT OFFICE
407 East Main Street
Suite 2
P.O. Box 358
Middletown NY 10940-0358
Telephone (914) 343-6666

DISTRICT OFFICE
377 Route 59
Monsey NY 10952-3498
Telephone (914) 357-9000

DISTRICT OFFICE
32 Main Street
Hastings on Hudson
NY 10706-1602
Telephone (914) 478-5550

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2pp.

Marthe Schulwolf, Ph.D.
109 DeVries Court
Piermont, N.Y. 10968

June 18, 1995

Representative Benjamin Gilman
2185 Rayburn House Office Building
Washington, D C. 20515

VIA FAX 202-225-2541

Re: Indian Point 3

Dear Congressman Gilman:

I wish to voice my strong opposition to and indeed outrage at the Nuclear Regulatory Commission's decision to reopen the Indian Point 3 Nuclear Facility. This plant's history of operating difficulties and the dangers inherent in its very location within the greater New York metropolitan ares and on the Ramapo earthquake fault magnify the already extraordinary risks involved in this outdated and no longer even cost efficient technology. It is becoming clearer and clearer that nuclear power generation is the way of the past, not the future. Why not face this fact now? Why take any further risks with the safety of the millions of residents of this area? Why continue to generate wastes that will plague us for generations to come? Please let us begin to act with some care and common sense before an accident occurs, rather than later.

I urge you to act on behalf of your constituents, who receive no economic benefit from this plant whatsoever and yet suffer the risks. I urge you to plead the cause of our County to the NRC and to do everything and anything in your power to stop the reopening of Indian Point 3.

Very truly yours,

Dr. Marthe Schulwolf

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

CHAIRMAN

February 15, 1996

The Honorable Eliot L. Engel
United States House of Representatives
Washington, D.C. 20515

Dear Congressman Engel:

I am responding to your letter of January 2, 1996, in which you expressed concern about the potential risks posed to your constituents by continued safety violations at Indian Point Nuclear Generating Unit No. 3 (IP3), which is operated by the New York Power Authority (NYPA). At present, IP3 is on the NRC's "Watch List" of plants meriting special scrutiny, and an NRC inspection team is on-site at IP3, closely monitoring the licensee's preparation for restarting the facility. I can assure you that if the NRC staff determines that it lacks reasonable assurance that the plant can operate safely, it will not hesitate to take appropriate action.

NYPA shut down IP3 in February 1993 to correct several hardware deficiencies and to implement plant-wide programmatic improvements for correcting the underlying root causes of identified performance deficiencies. Enclosure 1 is a copy of NRC's letter of June 19, 1995, which provided NRC's basis for the conclusion that the plant was ready to restart from the extended outage.

The plant restarted from that outage on June 27, 1995. During the restart, the NRC conducted inspections to assess NYPA's activities. Additional inspectors assisted the three full-time resident inspectors assigned to the site in providing around-the-clock coverage for the first phase of the startup and conducted an inspection lasting about 3 weeks. Safety violations similar to those that led to the extended shutdown were identified shortly after restart, and NYPA was cited for failing to follow safe operating procedures. The staff found that from July 10 through 12, 1995, IP3 operated with reduced reactor coolant system (RCS) pressure which was outside the plant's design basis.

Some of the factors contributing to the violation were issues that the NRC had previously brought to the attention of NYPA, such as weak management oversight of the operation department's activities, problems in the procedure upgrade program, and insufficient understanding of the facility's design basis. Consequently, NRC issued an escalated enforcement notice (Severity Level III). However, in accordance with our enforcement policy, NRC waived the monetary civil penalty because NYPA identified the violation itself, conducted a detailed root cause analysis, and took significant corrective action. A copy of the notice of violation, which was issued on October 16, 1995, and the details relating to its issuance are provided in Enclosure 2.

In September 1995, IP3 entered a forced outage to correct self-identified equipment problems. However, the new equipment problems were different from those that had been corrected during the previous shutdown.

On October 15, 1995, the IP3 operations staff violated regulatory requirements by increasing the RCS temperature above 200°F with three engineered safety features pumps inoperable due to incorrect control switch positions. A predecisional enforcement conference, which was open to the public, was held on December 13, 1995, to discuss the apparent violation, its root cause, the safety significance of the event, and subsequent corrective actions taken by NYPA. A copy of the notice of violation, which was issued on January 2, 1996, and the details relating to its issuance is provided in Enclosure 3. The violation resulted in escalated enforcement and the imposition of a $50,000 civil penalty. The notice indicates the factors that the staff weighed in determining the amount of the civil penalty. For example, though the operational staff performed poorly, a quality assurance staff member took quick and effective action to correct the problem, and though temperature limits for the RCS were exceeded, no actual hazard to safety resulted.

In light of the safety violations which occurred following initial restart the NRC, on December 22, 1995, requested that NYPA provide the current status of its performance improvement effort and delineate the corrective actions it has taken. Our purpose was to ensure that performance problems are being arrested and that lasting improvements are being facilitated. The NRC's request and NYPA's response dated January 12, 1996, are included as Enclosures 4 and 5, respectively.

The Commission will continue to pay close attention to IP3 and will keep you informed of any significant further actions that we may take with respect to IP3.

Sincerely,

Shirley Ann Jackson

Shirley Ann Jackson

Enclosures:
1. NRC Letter, June 19, 1995
2. Notice of Violation, October 16, 1995
3. Notice of Violation, January 2, 1996
4. Request for Information, December 22, 1995
5. NYPA Response to the December 22, 1995, Request 2 for Information, January 12, 1996

June 19, 1995

Mr. William J. Cahill, Jr.
Chief Nuclear Officer
New York Power Authority
123 Main Street
White Plains, NY 10601

SUBJECT: RESTART OF THE INDIAN POINT 3 NUCLEAR POWER PLAN (MODIFICATION OF CAL-1-93-009)

Dear Mr. Cahill:

The Indian Point 3 Nuclear Power Plant was shut down by the New York Power Authority (NYPA) on February 27, 1993, to correct deficiencies associated with the anticipated transient without scram mitigation system actuation circuitry (AMSAC). In response to a growing list of performance deficiencies, NYPA management decided to keep the plant shut down while effecting plant-wide programmatic improvements. By letter dated March 26, 1993, NYPA agreed not to restart the plant until NYPA management was satisfied with restart readiness and the Regional Administrator, Region I, agreed with that conclusion. On June 17, 1993, the NRC issued Confirmatory Action Letter (CAL) 1-93-009, which documented NYPA's restart commitments. By letter dated June 12, 1995 (Enclosure 1), you stated that Indian Point 3 was ready for restart.

Significant inspection and assessment efforts have been undertaken by the NRC since the February 1993 shutdown to evaluate NYPA's progress in resolving technical concerns and correcting the underlying root causes of the identified performance deficiencies. These efforts included the establishment and implementation of a NYPA Assessment Panel (NAP); the conduct of numerous individual resident and region-based inspections; the conduct of an NRC special team inspection to determine the root causes for the declining performance; the conduct of NRC team inspections to evaluate the adequacy of the fire protection and motor-operated valve programs; an NRC meeting with you on April 3, 1995, to review the results of NYPA's startup readiness evaluation (SURE); and an NRC Readiness Assessment Team Inspection (RATI) during the period of April 3-21, 1995, to independently evaluate the plant's readiness for restart.

Based on the above, the NRC staff has concluded that sufficient progress has been made to support safe plant restart and power operations. Our detailed assessment to support this conclusion is contained in Enclosure 2 to this letter.

In preparation for restart, NYPA has developed a detailed reactor startup plan to describe the process and self-assessment efforts planned to achieve a safe restart of Indian Point 3. The NRC has also developed an augmented inspection plan and will provide augmented inspection coverage to monitor unit startup and return to power operation. Based on your letter dated June 12, 1995, we understand that Indian Point 3 will not exceed 40 percent reactor power until a self-assessment is performed and the NRC staff is notified of the results. In addition, after achieving full power operation, NYPA again will conduct a

ENCLOSURE 1

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self-assessment and present the results to the NRC staff in a public meeting. Thus, this letter modifies CAL 1-93-009 to reflect your new commitments as discussed above.

In summary, based on the actions you have taken and our independent review of those actions, the NRC agrees with your assessment that the Indian Point 3 plant is ready for restart. If you have any questions regarding our assessment, please contact Curtis Cowgill of my staff at 610-337-5233. We appreciate your cooperation.

Sincerely,

ORIGINAL SIGNED BY:

Thomas T. Martin
Regional Administrator

Docket No. 50-286

Enclosures:
1. NYPA letter dated June 12, 1995 (Readiness to Restart)
2. Indian Point 3 Restart Readiness

cc w/encl:
S. Freeman, President
R. Schoenberger, Chief Operating Officer
L. Hill, Jr., Resident Manager, New York Power Authority
W. Josiger, Vice President - Nuclear Operations
J. Kelly, Vice President - Regulatory Affairs and Special Projects
T. Dougherty, Vice President - Nuclear Engineering
R. Deasy, Vice President Appraisal and Compliance Services
R. Patch, Director - Quality Assurance
G. Wilverding, Manager, Nuclear Safety Evaluation
G. Goldstein, Assistant General Counsel
C. Faison, Director, Nuclear Licensing
A. Donahue, Mayor, Village of Buchanan
C. Jackson, Nuclear Safety and Licensing Manager (Con Ed)
C. Donaldson, Esquire, Assistant Attorney General, New York Department of Law
Chairman, Standing Committee on Energy, NYS Assembly
Chairman, Standing Committee on Environmental Conservation, NYS Assembly
E. Nullet, Executive Chair, Four County Nuclear Safety Committee
Chairman, Committee on Corporations, Authorities, and Commissions
Robert D. Pollard, Union of Concerned Scientists
The Honorable Sandra Galef, NYS Assembly
Director, Energy & Water Division, Department of Public Service, State of New York
A. Song, Assistant Secretary to the Governor
F. Valentino, President, New York State Energy Research and Development Authority
State of New York, SLO Designee

New York Power Authority

William J. Cahill, Jr.
Chief Nuclear Officer

June 12, 1995
IPN-95-065

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

SUBJECT: Indian Point 3 Nuclear Power Plant
Docket No. 50-286
Readiness to Restart Indian Point 3

REFERENCES:
1. NYPA letter IPN-93-015, R. E. Beedle to NRC, "Action Plans Regarding the Performance Improvement Outage," dated March 26, 1993.
2. NRC Letter, Thomas T. Martin to R. E. Beedle, "Confirmatory Action Letter 1-93-009, Restart Commitments," dated June 17, 1993.

Dear Sir:

The New York Power Authority voluntarily shut down the Indian Point 3 Nuclear Power Plant in February 1993 in response to indications of programmatic weaknesses (Reference 1). The NRC issued a confirmatory action letter (Reference 2) which outlined the major milestones to be reached prior to returning Indian Point 3 to service. The confirmatory action letter reflects the Power Authority's commitment in reference 1 to obtain the agreement of the NRC Region I Regional Administrator prior to restart.

The Power Authority has implemented corrective actions and conducted a comprehensive self-assessment program to verify the effectiveness of those corrective actions. Criteria used by the Power Authority for determining the readiness of Indian Point 3 for restart are discussed in Attachment I.

During April and May 1995 the Power Authority performed plant heatup using reactor coolant pump energy, to conduct system testing. Plant cooldown was initiated on May 28 for maintenance activities in preparation for reactor restart. The present schedule will allow reactor restart to begin approximately June 21, 1995 contingent upon the agreement of the NRC Region I Regional Administrator.

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The startup process for Indian Point 3 includes hold points to assess plant and staff performance. The Power Authority will provide assessment results to the NRC at approximately 30% to 40% power and after reaching full power. The Power Authority will also meet with the NRC after reaching full power to discuss plant and staff performance during the power ascension evolution.

I have reviewed the readiness of Indian Point 3 with the Authority's senior management, including President and Chief Executive Officer S. David Freeman and Chief Operating Officer Robert Schoenberger. We conclude that the actions needed to support the safe restart and continued safe operation of the plant are complete, as further described in Attachment I. The Power Authority anticipates that the maintenance activities identified during hot functional testing will be complete and Indian Point 3 will be ready in all respects for restart.

We request the agreement of the NRC to restart the reactor. Attachment II contains the commitments made by the Power Authority in this submittal. If you have any questions, please contact me.

Very truly yours,

W. J. Cahill, Jr.
Chief Nuclear Officer

Attachments

cc: Mr. Thomas T. Martin
Regional Administrator/Region I
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406-1415

Mr. Curtis J. Cowgill, Chief
Reactor Projects Branch No. 1
U.S. Nuclear Regulatory Commission
Region I
475 Allendale Road
King of Prussia, PA 19406-1415

Mr. Nicola F. Conicella, Project Manager
Project Directorate I-1
Division of Reactor Projects I/II
U.S. Nuclear Regulatory Commission
Mail Stop 14 B2
Washington, DC 20555

U.S. Nuclear Regulatory Commission
Resident Inspectors' Office
Indian Point 3 Nuclear Power Plant
P.O. Box 337
Buchanan, NY 10511

ATTACHMENT I TO IPN-95-063

READINESS TO RESTART INDIAN POINT 3 NUCLEAR POWER PLANT

I. INTRODUCTION:

The New York Power Authority voluntarily shut down the Indian Point 3 Nuclear Power Plant in February 1993 in response to indications of programmatic weaknesses (Reference 1). The NRC issued a confirmatory action letter (Reference 2) which outlined the major milestones to be reached prior to returning Indian Point 3 to service following the outage. Included in the confirmatory action letter is the condition that the Power Authority obtain the agreement of the NRC Region I Regional Administrator prior to restart.

The Power Authority developed the Restart and Continuous Improvement Plan (RCIP, Reference 3) which describes the objectives, strategies and action plans designed to address the root and contributing causes of the performance decline at Indian Point 3. The RCIP also defined criteria, in three categories, to be used by the Power Authority for determining readiness to restart. The following sections discuss how these criteria for restart have been satisfied.

II. MANAGEMENT ISSUES:

The Restart Action Plans detailed in the RCIP identified specific actions needed to correct and resolve management issues which contributed to the decline in performance at Indian Point 3. Implementation of the Restart Action Plans, during the second half of 1994, was followed by a self-assessment program (Start Up Readiness Evaluation) to verify the implementation and the effectiveness of the corrective actions. The Power Authority notified the NRC of the completion of the Start Up Readiness Evaluation (Reference 4) and invited the NRC to conduct a Readiness Assessment Team Inspection. The Power Authority provided a detailed discussion of the results and conclusions of the Start Up Readiness Evaluation at the public entrance meeting for that inspection on April 3, 1995.

Implementation of the Restart Action Plans and the performance of the self-assessment provide assurance that proper management controls are in place. The RCIP also contains action plans which describe specific steps to be taken after restart to ensure continuous improvement at Indian Point 3.

The Power Authority has developed a procedure which governs the overall startup evolution from the beginning of heatup to the completion of testing at 100% power. The Startup and Power Ascension Procedure (Reference 5) includes provisions for senior management involvement and establishes the methodology for ensuring the safe, controlled and deliberate return to service of Indian Point 3. The startup staffing plan includes a Senior Manager on Shift to provide management representation and oversight during plant startup.

An important aspect of the Authority's performance improvement effort is the continuation of self-assessment activities. The Startup and Power Ascension Procedure includes self-assessment hold points where the effectiveness of management controls and the performance of plant staff and systems are evaluated. At each hold point, a decision is required by the Resident Manager and the Plant Leadership Team (PLT) to continue plant start up. Information to support decision making can include input from Department Managers, the Plant Operations Review Committee (PORC) and Quality Assurance.

III. MATERIAL CONDITION AND EQUIPMENT READINESS:

During the outage, the Power Authority completed thousands of work activities and hundreds of modifications to improve the material condition of the plant. As of June 9, there are approximately 250 work requests to be completed prior to reactor restart. Work requests include corrective and preventive maintenance, modification work requests and acceptance tests, and operations surveillance tests. The prerequisite checklist from the Startup and Power Ascension Procedure includes a requirement to verify that applicable work requests are completed prior to criticality.

The Authority's Restart and Continuous Improvement Plan included a System Certification Program to provide a structured process for evaluating systems prior to returning them to service for plant operations. The Authority provided additional information (Reference 6) to the NRC regarding this program in response to a meeting with the NRC on February 1, 1995. There are 74 plant systems/subsystems that are covered by the System Certification Program. Certification of 72 systems is complete and the remaining 2 will be complete prior to reactor restart.

Plant heatup, using reactor coolant pump energy, commenced on April 17, 1995 to perform the equipment and system testing which required plant conditions above cold shutdown. Normal operating temperature and pressure were achieved on May 9, 1995. Plant cooldown was commenced on May 28, 1995 to perform maintenance activities, including replacement of reactor vessel head O-rings. Maintenance work is presently scheduled to be complete to support reactor restart approximately June 21.

IV. REGULATORY ISSUES:

The NRC Restart Action Plan (RAP, Reference 7) identifies 60 technical, programmatic and management oversight issues which must be addressed by the Authority prior to the restart of Indian Point 3. These issues are in addition to the actions specified in the confirmatory action letter. The Authority has provided information to the NRC to resolve these issues.

During the Readiness Assessment Team Inspection (RATI), the NRC identified (Reference 8) six additional issues which required resolution prior to restart. The Authority has completed or will complete prior to reactor restart the following actions:

1. *Plant Alarm Response Procedures*

   The Power Authority reviewed alarm response procedures and identified 21 which required revision. The 21 procedures have been revised, approved by the Plant Operating Review Committee (PORC) and issued for use.

2. *Auxiliary Feedwater Pump Building Ventilation*

   Additional system testing was performed which verified proper operation of the fans and temperature controllers as stated in Reference 8.

3. *Breaker Panel Load Schedules*

The Power Authority has completed the scheduled walkdowns of breaker panels in the power plant and is in the process of updating controlled drawings for use by plant operators. During the walkdowns, undocumented modifications were identified. A review of past operability is being performed and the affected circuits are being disconnected, deenergized, or authorized as temporary modifications or design changes. Actions to update the breaker panel controlled documents and address the undocumented modifications will be completed prior to reactor restart.

4. *Setpoint Change Control*

Corrective actions taken are as stated in Reference 8. Setpoint change request packages were reviewed to identify plant documents needing revision. Documents identified by the review were updated and additional guidance was issued to supplement the setpoint change control procedure.

5. *Control Room Drawings*

Information from 122 Document Change Requests has been incorporated into the control room vital drawings.

6. *Turnover of Design Changes to the Operations Department*

Corrective actions taken are as stated in Reference 8. A representative sample of design changes was reviewed to ensure that plant procedures had been appropriately updated.

The Power Authority uses the Action and Commitment Tracking System (ACTS) to record and track management, technical and administrative issues, including those identified as regulatory commitments. As of June 9 there are 11 ACTS items remaining to be completed prior to reactor restart.

A roving fire watch is in place for penetration seals until evaluation of information used in the fire seal analysis is complete, as committed during the NRC special inspection to review fire protection and 10 CFR 50 Appendix R restart items (Reference 9). Restart ACTS items related to fire protection and 10 CFR 50 Appendix R are complete and fire protection related restart work requests will be complete prior to restart.

V. CONCLUSION:

The Authority concludes that corrective actions needed to support the safe restart and continued safe operation of the plant are complete. This conclusion is based on:

- Successful implementation of the Authority's Restart and Continuous Improvement Plan (RCIP) Restart Action Plans.

- Completion of the Start Up Readiness Evaluation self-assessment program.
- Resolution of regulatory issues identified as requirements for criticality.
- Successful plant heatup from cold shutdown to normal operating temperature and pressure for system testing and implementation of assessment hold points.
- The use of established administrative tools to track the completion of work activities and other prerequisites required prior to commencing reactor restart.

The Power Authority anticipates that Indian Point 3 will be ready in all respects for restart approximately June 21, 1995 pending completion of work activities summarized in Sections III and IV.

VI. REFERENCES:

1. NYPA letter IPN-93-015, R. E. Beedle to NRC, "Action Plans Regarding the Performance Improvement Outage," dated March 26, 1993.

2. NRC letter, Thomas T. Martin to R. E. Beedle, "Confirmatory Action Letter 1-93-009, Restart Commitments," dated June 17, 1993.

3. NYPA Restart and Continuous Improvement Plan for Indian Point 3, Revision 1, dated November 4, 1994.

4. NYPA letter IPN-95-036, W. J. Cahill, Jr., to NRC, "Start Up Readiness Evaluation," dated March 16, 1995.

5. Indian Point 3 Procedure SUP-95-01, "Startup and Power Ascension Procedure."

6. NYPA letter IPN-95-019, L. M. Hill to NRC, "System Certification Program," dated February 23, 1995.

7. NRC letter, R. W. Cooper to William Cahill, Jr., "Revision and Status Update No. 4 of the Indian Point 3 Restart Action Plan," dated March 8, 1995.

8. NRC letter, R. W. Cooper to L. Hill, Jr., "NRC Readiness Assessment Team Inspection (RATI) Report No. 50-286/95-80," dated May 25, 1995.

9. NRC letter, J. T. Wiggins to L. M. Hill, "Special Inspection to Review Fire Protection and Appendix R Restart Items, Inspection Report No. 50-286/95-81," dated May 11, 1995.

ATTACHMENT II TO IPN-95-065
COMMITMENT LIST

Commitment Number	Commitment Description	Due Date
IPN-95-065-01	Provide restart self-assessment results to NRC at approximately 30% to 40% power.	Prior to continuing power ascension
IPN-95-065-02	Provide restart self-assessment results to NRC after reaching full power and meet with NRC to discuss plant and staff performance during the power ascension evolution.	Following operation at 100% power

ENCLOSURE 2

INDIAN POINT 3 RESTART READINESS

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1.0 BACKGROUND

The Indian Point 3 Nuclear Power Plant, owned and operated by the New York Power Authority (NYPA), is a Westinghouse four-loop, 965 megawatt (electric) pressurized-water reactor located 24 miles north of New York City.

The NRC's Indian Point 3 SALP report for the period ending August 1992 indicated an overall decline in performance. Although the licensee continued to display superior performance in the radiological controls functional area, the SALP noted weaknesses in the operations, maintenance/surveillance, emergency preparedness, engineering/technical support, and safety assessment/quality verification functional areas. The most significant weaknesses were in the engineering/technical support functional area. In general, the overall weak performance resulted from inadequate management oversight. Specifically, NYPA was not effective in implementing corrective actions for both long-standing and newly emerging issues. The weak performance was also evidenced by the escalated enforcement record of Indian Point 3. Between May 1992 and July 1993, Indian Point 3 received eight Severity Level III violations, with civil penalties totaling $762,500. In January 1993, NYPA submitted a Performance Improvement Plan (PIP) for Indian Point 3 to the NRC. The plan addressed NYPA's self-assessment efforts and the performance issues noted in the SALP report.

On February 27, 1993, NYPA shut down Indian Point 3 to correct deficiencies associated with the anticipated transient without scram mitigation system actuation circuitry (AMSAC) system and with programmatic weaknesses in the surveillance testing program. However, the growing number of performance deficiencies identified by NRC and licensee personnel prompted NYPA to keep the plant shutdown while effecting plant-wide programmatic improvements. By letter dated March 26, 1993, NYPA committed to make necessary programmatic improvements before resuming power operations. In addition, NYPA officials committed not to restart the plant until it was satisfied with restart readiness and until the NRC agreed with this conclusion.

In May 1993, the NRC conducted a Special Inspection Team at Indian Point 3 and again confirmed that significant fundamental weaknesses in licensee programs and staff performance existed at the plant. As stated in the inspection report, "The team determined that the root causes for the declining performance of Indian Point Unit 3 were weak managerial processes, controls and skills." The team also identified two contributing causes. First, NYPA failed to identify and resolve underlying root causes for problems identified by the Quality Assurance (QA) organization. Second, NYPA's self-assessment process was ineffective because the function was fragmented and selectively applied and the onsite and offsite oversight committees were narrowly focused.

At the Senior Management Meeting on June 15 and 16, 1993, the plant was added to the list of facilities which, while still authorized to operate by the NRC, warranted increased NRC headquarters and regional oversight because of declining performance (i.e., the NRC's "watchlist"). On June 17, 1993, the NRC issued Confirmatory Action Letter (CAL) 1-93-009 which documented the restart commitments made by NYPA.

Over the succeeding months, several PIP action plans were completed by NYPA. However, NYPA concluded that the existing programs and efforts to improve the performance of Indian Point 3 were not sufficiently effective to justify returning the plant to service, nor were they effective in creating a foundation for long-term, sustained improvement. Significant performance problems continued to occur even though programs and process improvements designed to correct those deficiencies had been implemented. On December 17, 1993, the NRC met with NYPA to discuss the progress and status of the PIP. In a letter to NYPA dated December 22, 1993, the NRC documented its concern regarding the effectiveness of the PIP as an integrated plan for overall performance improvement at the station, in light of recurring plant events and procedural violations.

In January 1994, NYPA senior management selected a team of plant and corporate personnel to perform a root cause analysis for the decline in performance at both Indian Point 3 and the NYPA corporate office, and to develop a comprehensive and integrated Restart and Continuous Improvement Plan (RCIP). The RCIP project was completed in May 1994 and by letter dated May 27, 1994, was formally submitted to the NRC for review.

In August 1994, the NRC's NYPA Assessment Panel (NAP) completed its initial review of the RCIP and concluded that if properly implemented, the RCIP should correct the fundamental issues responsible for the performance decline at Indian Point 3. This conclusion was documented in an NRC letter dated August 8, 1994. It appeared that the PIP's shortcomings had been assessed by NYPA and had been corrected in the RCIP.

2.0 NYPA ASSESSMENT PANEL FORMATION

A significant NRC effort was required to follow licensee actions to correct the growing number of deficiencies in late 1992. Therefore, in January 1993, the NRC expanded the already existing FitzPatrick Assessment Panel into the NAP. This action would allow the NRC to continue to monitor FitzPatrick as well as closely follow NYPA's implementation of the Indian Point 3 improvement program and to assist in the coordination of NRC resources for overall performance monitoring and assessment. The NAP is comprised of personnel from both Region I and NRC headquarters. The NAP subsequently assumed the additional role as a restart panel. The responsibilities of the NAP relative to Indian Point 3 are to:

- monitor and assess the licensee's performance
- coordinate the inspection program for the facility
- recommend and coordinate enforcement activities
- assess the adequacy of the Performance Improvement Program (and subsequently the RCIP) and monitor its implementation
- review the licensee's response to inspection findings and assess the adequacy of associated corrective actions
- identify, evaluate, and track restart issues
- provide a plant restart recommendation and basis after NYPA completes its restart program

In July 1993, the NAP developed the Indian Point 3 Restart Action Plan (RAP). The RAP, which was developed from NRC Inspection Manual Chapter 0350, "Staff Guidelines for Restart Approval," established guidance for the NRC to follow and listed specific items that the NRC must complete before concluding that Indian Point 3 was ready to restart. The RAP consisted of three parts. Section 1, "Restart Process Checklist," listed the steps of the NRC overall review process for Indian Point 3 restart. Section 2, "Restart Issues Checklist," listed plant-specific restart issues and the criteria used to develop these issues. Section 3, "Restart Readiness Assessment Checklist," contained "Areas for Assessment" covering items associated with the performance decline at Indian Point 3, its ultimate shutdown and other matters that should be evaluated before restart because of the length of the shutdown. Each assessment area contained a list of "Applicable Items," which was used in part as guidance for developing the inspection plan for the Readiness Assessment Team Inspection (RATI). Enough items were selected in each area to allow a sound assessment of readiness for restart.

3.0 NRC ASSESSMENT OF RESTART READINESS

3.1 INTRODUCTION

As previously stated, the NAP developed a comprehensive restart readiness evaluation process to ensure that required restart issues were thoroughly reviewed and assessed by the NRC before plant restart. The Indian Point 3 RAP was the guiding document used to assess restart readiness. In addition, the NRC conducted a RATI whose principal objective was to perform an in-depth evaluation of the degree of readiness of NYPA administrative controls, programs, plant equipment, and personnel to support safe restart and operation of Indian Point 3. The RATI assessed performance in the areas of Management Programs/Independent Oversight/Self-Assessment, Operations, Maintenance and Surveillance, and Engineering and Technical Support. The RATI also closed six Indian Point 3 RAP restart issues. The preliminary results of the RATI were discussed at an exit meeting, open for public observation, on April 27, 1995. During the public participation portion of this meeting, no new issues were raised that impacted the NRC's restart readiness assessment. The RATI inspection report was issued on May 25, 1995.

The following sections address the areas that were assessed by the NRC to determine if Indian Point 3 was ready for restart. The areas assessed are consistent with the Indian Point 3 RAP and NRC Inspection Manual Chapter 0350.

3.2 NRC RESTART ISSUE CLOSURE

Section 2 of the Indian Point 3 RAP contained 60 technical, programmatic, and management oversight issues which required resolution prior to restart. Fifty-four of these issues were inspected, closed, and documented in various NRC inspection reports. Six issues were specifically assigned to and closed by the RATI. These latter issues included operations effectiveness, maintenance effectiveness, management expectations, QA effectiveness, backlog reviews, and NYPA staff attitude with respect to performance improvement. The Indian Point 3 RAP lists each issue, the inspection report(s) where resolution of the issues are discussed, and the NAP meeting number and date when closure

of each issue was confirmed. The inspection effort required for restart issue closure was above and beyond the normal NRC site inspection program that continued during the shutdown.

Final resolution of each restart issue was confirmed by the NAP during regularly scheduled meetings. Therefore, the NRC concludes that all restart issues are closed.

3.3 READINESS ASSESSMENT TEAM INSPECTION RESULTS

The RATI reviewed Indian Point 3's performance in the areas of Management Programs/Independent Oversight/Self-Assessment, Operations, Maintenance and Surveillance, and Engineering and Technical Support. The RATI consisted of 10 inspectors plus a team leader and included representatives from all four NRC regional offices and headquarters. The majority of the onsite inspection activities took place between April 3 and 21, 1995, with certain activities occurring prior to these dates. Inspection activities were conducted during day shifts, off shifts, and weekends, and over 1000 hours of direct inspection of plant activities was accumulated. During the conduct of the inspection, the team identified six new issues that were considered appropriate for resolution by NYPA prior to restart of the facility:

(1) Plant Alarm Response Procedures

The team identified that several alarm response procedures did not reference the alarm actuating devices or alarm setpoints. A problem was also noted regarding the failure to revise an alarm response procedure following a modification.

(2) Auxiliary Feedwater Building Ventilation Fans

The team identified that the Auxiliary Feedwater Pump Building temperature controllers were not set in accordance with the system drawings and the temperature controllers and fans were not routinely functionally tested.

(3) Breaker Panel Load Schedules

The team noted that the load schedules located inside electrical distribution panels were not controlled documents and did not match the system drawings. The load schedules posted inside the panels did not reflect plant modifications that had added or removed loads.

(4) Setpoint Changes

The closeout process for setpoint changes was not clearly proceduralized. The setpoint change control procedure and process did not ensure that all procedures and documents affected by a setpoint change were revised.

(5) Drawing Changes

The team noted that 122 Requests for Document Change (RDC) were backlogged against the "Type A" (control room vital) drawings. The team concluded that the information provided in the RDCs should be available to the operators.

(6) Design Change Closeouts

The team found that a design change turnover had been completed by the responsible engineer without the adequate review or concurrence by the Operations Department as required by plant administrative procedures. The team concluded that a review of similar design change closeout packages should be conducted to ensure that plant procedures had been appropriately updated.

As discussed in NYPA's letter dated June 12, 1995, each of these issues has been or will be completed prior to restart. The NRC has confirmed that each of these issues has been or will be adequately addressed. Thus, there are no outstanding RATI issues affecting restart of the facility.

RATI Overall Conclusion

The team determined that a common understanding of management expectations and a favorable atmosphere for problem identification existed at Indian Point 3. Management expectations regarding safety had been clearly communicated to the plant staff. The Quality Assurance organization had taken appropriate measures to implement an effective Quality Assurance program. The offsite and onsite review committees were providing quality oversight of important processes and programs. The problem identification process and the corrective action program were sufficiently implemented to identify and resolve plant deficiencies in a timely manner. Self-assessment programs have improved over the past year.

During the period that the team was on the site, the operators maintained the plant in a safe condition. Command and control of operational activities was generally good. Operators were cognizant of plant conditions and control room annunciators. In general, operations procedures were technically adequate, administrative requirements were clearly delineated and proceduralized, and adequate processes were in place to control plant configuration.

The maintenance staff demonstrated a conservative approach to the performance and completion of maintenance activities. Plant and system material condition was good. Identified plant deficiencies were properly prioritized and scheduled to support resolution in a timely manner. Implementation of the preventive maintenance and the surveillance testing programs was also good.

The RATI determined that the plant material condition of safety systems and components was good. Further, the RATI concluded that planning and maintenance programs and processes were adequate to support a safe plant restart. Based on observations of the engineering organization, the RATI concluded that it was capable of providing timely support for emergent

technical issues; additionally, the engineering and technical support staff, procedures, programs, and processes were in place to support a safe restart and continued plant operation.

The major engineering organizations were available to the plant and their support to the station was effective. Both the Design Engineering and Technical Services organizations are taking appropriate steps to control their backlogs of work and the backlogs have been adequately screened for plant restart issues. The permanent and temporary modification processes were adequate to ensure that plant safety margins were not reduced. Safety evaluations contained adequate technical detail that supported reasonable conclusions.

Based on the above, the NRC concludes that staffing, plant equipment, programs and processes are adequate to support safe restart and continued operation of Indian Point 3.

3.4 RESTART READINESS ASSESSMENT CHECKLIST

As previously discussed, Section 3 of the Indian Point 3 RAP contained six "Areas for Assessment," involving issues broader than specific restart issues, that the NRC staff needed to assess before concluding that the plant was ready to restart. The six areas for assessment are discussed below. The information used by the NRC staff to develop its conclusion was obtained, as applicable, from (1) resident and specialist inspections (2) inspections assessing restart issues (3) the RATI (4) NAP activities and (5) NRC management visits.

3.4.1 ROOT CAUSE IDENTIFICATION AND CORRECTION

In mid-1992 NYPA recognized that the performance of Indian Point 3 was declining. An assessment was conducted to identify the causes of performance problems and to develop an improvement program. As previously discussed, the PIP was developed and subsequently submitted to the NRC on January 14, 1993. However, subsequent NRC inspections and continued weak performance in some areas questioned the usefulness of the PIP as an integrated plan for overall performance improvement of the station. NYPA performed a second review and finalized its list of root and contributing causes in the RCIP.

NYPA found six primary root causes:

- Management did not demonstrate the leadership, interpersonal skills, or the credibility to provide a work environment that encouraged open communication, teamwork, innovation, and trust.
- Senior management did not establish the vision or provide the direction to drive the organization's agenda.
- Issue identification, assessment, and problem resolution processes were not well managed and did not result in lasting correction of issues and problems.
- Management did not establish clear performance expectations, provide effective coaching and feedback, or hold people accountable for meaningful performance results.

- Management of change was ineffective.
- Roles and responsibilities were not sufficiently defined to support effective organizational performance.

NYPA found six contributing causes:

- NYPA management did not employ industry experience to establish and implement effective performance standards.
- Information and direction were unclear and often not communicated effectively.
- Policies and procedures were inadequate to support acceptable station performance. They were overly complex, contained technical inaccuracies, and were ineffectively enforced.
- The quality and rate of completion of work by the maintenance function did not support plant needs.
- Information management systems did not support management needs.
- Engineering procedures and products did not effectively support plant operations and maintenance.

Based on the above findings, NYPA developed a comprehensive, long-term RCIP in May 1994. The plan was designed to improve overall performance at the plant and corporate office by correcting the twelve root and contributing causes. NYPA also established a Restart Management Team (RMT) to oversee the RCIP. The RMT, which consisted of the senior managers from NYPA's Nuclear Generation Department, was chartered with directing actions necessary to restart Indian Point 3. The RCIP was revised in November 1994; however, this revision did not change the 12 root and contributing causes as delineated in the original RCIP.

Corrective actions (i.e., action plans) to address the 12 root and contributing causes are addressed in the RCIP. The NRC's NAP conducted a thorough review of the RCIP. In a letter to NYPA dated August 8, 1994, the NRC concluded that the RCIP was a comprehensive plan that addressed the root causes for the previous decline in plant performance, provided appropriate corrective actions, and provided a reasonable process for assessing the effectiveness of those corrective actions.

In a management meeting open for public observation held at the Indian Point 3 site on November 17, 1994, NYPA presented the status of its improvement program, the RCIP, and the results achieved to date. NYPA concluded that progress was being made, but further efforts were warranted. Between December 5 and 16, 1994, NYPA performed a Startup Evaluation for Readiness Team (SERT) inspection. The purpose of this self-assessment was to determine, through evaluation of objective evidence, the effectiveness of corrective actions and improvements relative to restart readiness of Indian Point 3. The SERT concluded that additional work was needed to prepare Indian Point 3 for restart, but that NYPA management had made significant improvements in both plant and corporate activities during the shutdown. These significant improvements included improved programs and processes, increased employee involvement in decision making, improved corporate support, improved employee morale and confidence in management, and improved independent oversight. However, additional effort would be required to make a number of areas fully

effective and capable of supporting restart. The NAP concluded that the SERT took a critical look at NYPA's programs and made appropriate recommendations for improvement.

Over the next several months, NYPA's Start Up Readiness Evaluation (SURE), which is described in the RCIP, continued an organized framework of assessments and reviews necessary to demonstrate that Indian Point 3 was ready for restart. NYPA's letter dated March 16, 1995, informed the NRC that the SURE for Indian Point 3 had been completed; the letter also delineated some items that needed to be addressed prior to restart and requested the NRC to perform the Readiness Assessment Team Inspection.

The NRC staff reviewed the licensee's Startup Plan and the SURE program, including the associated elements of the System Certification, Operational Readiness Review, Startup Evaluation for Readiness Team (SERT), and Quality Assurance Department Oversight. This review was conducted to ensure that NYPA had adequately assessed and resolved outstanding issues and had developed a detailed plan for conducting a plant restart. The NRC staff concluded that the startup plan was detailed and thorough and provided appropriate oversight for plant restart; the SURE program provided plant management an appropriate tool for identifying restart issues, and plant management had provided sound oversight in the resolution of these issues.

The NRC staff reviewed the Deviation Event Report (DER) process to determine the effectiveness of the program in identifying, prioritizing, tracking, and resolving the root causes of problems. The NRC staff interviewed cognizant plant staff and conducted a review of open and closed DERs. The NRC staff concluded that the DER process was being adequately implemented to identify and resolve plant deficiencies in an effective and timely manner.

The NRC staff assessed the effectiveness of the QA organization to give plant management feedback on overall plant performance. The NRC staff conducted interviews, reviewed audit reports and findings, observed several QA meetings, and assessed the open QA findings to ensure that items important to support plant restart had been scheduled for completion prior to restart. The NRC staff concluded that the QA organization had taken the appropriate measures to establish an effective QA program at Indian Point Unit 3, and station management's commitment to establish the QA Department as an integral oversight organization has enhanced its effectiveness.

The NRC staff reviewed recently conducted self-assessment activities in the areas of operations, maintenance, and training. The self-assessment programs have improved over the past year. The currently implemented program provides the basic performance data necessary to identify significant performance issues, and management is using this information appropriately to identify and resolve problems. The NRC concluded that these programs have been sufficiently implemented to support safe startup.

Overall, by implementing the RCIP, NYPA has made significant changes to promote both short- and long-term improvements in performance. Corporate management has provided substantial resources and oversight. The NRC staff will continue to monitor the implementation of this improvement program via

the NRC inspection program and through periodic meetings with the licensee. The NAP will continue to be the focus for NRC oversight of the Indian Point 3 facility until NYPA demonstrates sustained performance improvement.

3.4.2 LICENSEE MANAGEMENT

NYPA has demonstrated a serious commitment to improvement and has provided the management attention and resources necessary to implement its RCIP effectively. NYPA has also made major corporate and site organizational and personnel changes designed to improve performance at the facility.

Since the shutdown in early 1993, the following changes occurred within the NYPA corporate organization: new Chairman of the Board; new President and Chief Executive Officer; new Chief Nuclear Officer; new Vice President of Appraisal, Compliance and Regulatory Affairs (Quality Assurance); new Vice President Engineering; and establishment of a Chief Operating Officer position.

Establishment of the Regulatory Affairs and Special Projects corporate department occurred in October 1994 when the NYPA licensing organization was restructured. The new licensing organization has one corporate director, and each site (Indian Point 3 and FitzPatrick) has one licensing manager reporting to the Vice President Regulatory Affairs and Special Projects. These positions were filled with persons from outside as well as within the NYPA organization to provide site and corporate management with a broader industry perspective in operating and managing Indian Point 3. Observations to date indicate that this organization has been effective in supporting the licensee's improvement efforts.

The following major management changes occurred at the site: new Resident Manager; new General Manager of Support Services; new General Manager of Operations; new General Manager of Maintenance; establishment of a Site Engineering Director; and elevation of the Training Manager position to a General Manager of Training.

The NRC has seen significant improvement in management oversight, direction and support. Management has provided resources for extensive plant modifications, and has increased staffing in operations, engineering, and licensing. Site and corporate management involvement in plant activities and operational concerns has clearly improved, and so has the communication of management expectations and standards of performance to the plant and corporate staff. Improvements in planning and scheduling of activities have been evident. Managers fostering improved accountability, responsibility, and attention to detail have been observed. NYPA management has encouraged improved horizontal and vertical communications and teamwork at the site and between the site and the corporate office. NYPA management has also established a work environment conducive to problem identification and has established improved programs to identify, prioritize, and resolve significant issues. Programs for root cause analysis and the evaluation and utilization of operating experience have been upgraded.

Through developing and effectively implementing the RCIP, NYPA has demonstrated its ability to successfully evaluate performance and to factor the results of those evaluations into improved program and personnel performance. The QA program at the site has been substantially improved and is being used as an effective management tool. Satisfactory performance of the onsite Plant Operations Review Committee (PORC) and the offsite Safety Review Committee (SRC) has been demonstrated.

As previously stated, NYPA developed a startup plan to describe the process and management review necessary to support a safe organized return to service of the plant. The plan describes the physical and administrative requirements for startup. The plan also describes approaches for self-assessments of the startup process. As part of the plan, recommendations will be made to the Resident Manager for the continuation of plant startup when milestones are completed and activities leading up to these milestones are assessed. The plan also requires a senior manager to be assigned to each shift to provide continuous management presence and to supplement the shift supervisor during the startup. The NRC found that the plan was comprehensive and contained sufficient checks and balances for decision making, feedback of information, and sound judgements for a safe plant startup.

Overall, the NRC staff concludes that NYPA management has clearly communicated its expectations to the staff, is providing appropriate direction and oversight of plant activities, and is ready to support restart of the unit.

3.4.3 PLANT AND CORPORATE STAFF

The NRC staff conducted numerous interviews of plant staff and observed meetings to ensure that plant safety issues were being communicated to the proper levels of management. The NRC assessed the licensee's effectiveness in communicating management expectations to the plant staff in the areas of problem identification, procedure adherence, and work safety practices. Based on the common understanding of management expectations and the favorable atmosphere for problem identification, the staff determined that the management team adequately provided direction to the NYPA plant staff.

In addition to routine inspection observations, the NRC observed operations activities during plant heatup. The NRC observed all shifts, including weekend and backshift activities. The NRC assessed operator performance regarding administrative procedures and management expectations. The staff found that operators maintained the plant in a safe condition.

The NRC staff reviewed and assessed the quality of plant operations procedures to ensure the procedures were adequate to conduct a safe plant restart. A sample of operations procedures were found to be technically adequate.

The NRC staff assessed operator control board awareness and annunciator response on all shifts. The NRC also assessed the quality of the Shift Manager and Control Room Supervisor command and control, and operations management involvement in day-to-day plant operation. The NRC found the quality of command and control to be generally good. The NRC observed that teamwork in the control room was good, as evidenced by various shift members

identifying and correcting problems. Operators were cognizant of plant conditions and control room annunciators. Operations management was actively involved in operational activities.

The NRC staff verified that operator training and qualifications were current and that key plant changes made during the performance improvement outage were addressed in operator training. The staff concluded that operator requalification training was up to date. Operator training had been conducted on plant modifications implemented during plant shutdown and the operators were knowledgeable of important plant changes. The NRC staff concluded that specialized operator training to support restart activities was adequate. The staff considered the plant fire brigade to be adequately trained and prepared to effectively respond to plant fires.

As a result of the NYPA engineering reorganization, Design Engineering was created and design engineering personnel and the design authority were relocated to the site from the White Plains Office. The reorganization is ongoing. Observations to date indicate that the engineering reorganization and transition are being appropriately managed.

Overall, the support provided to the plant by the major engineering organizations was effective. Design Engineering response to emergent issues was technically sound and timely. System Engineering response was adequate and was improving as the system engineers gained plant experience. The availability of engineering personnel to the rest of the station was good. Both the Design Engineering and Technical Services organizations were taking appropriate steps to control their backlogs. The transition during the engineering reorganization appeared to be appropriately controlled.

The NRC staff noted that both System Engineering and Design Engineering staff and management were involved in the plant outage meetings and the Outage Work Scope meeting, providing support to other plant organizations. Both System Engineering and Design Engineering staff were supplying around-the-clock coverage for critical activities.

Overall, the NRC staff concludes that NYPA operations staff and support staff are ready for Indian Point 3 restart.

3.4.4 PHYSICAL READINESS OF THE PLANT

During this outage, NYPA has implemented many significant hardware upgrades and programmatic improvements. Examples of systems impacted by these improvements included the AMSAC system, the emergency diesel generators, the control room air conditioning system, the instrument air system, the safety-related motor-operated valves, the power-operated relief valves, and the service water electrical cable duct bank. In addition, thousands of corrective maintenance work items were completed during the shutdown period. Extensive inspection and tours by NRC indicate that overall plant material condition has substantially improved. The overall plant material condition is satisfactory to support restart and continued operation of the facility.

The NRC staff reviewed licensee mechanisms in place to ensure that the status of plant safety-related equipment was being adequately controlled. The NRC staff concluded that Operations has processes in place to control plant configuration for safe plant operation. Operators were cognizant of system status that required entry into technical specifications limiting conditions for operations. Operations control room deficiency and operator work-around programs were good initiatives that were successfully tracking and prioritizing these issues. The protective tagging program effectively tracked the status of plant equipment. In addition, the staff found that protective tags were installed on the correct equipment and that information on the tags was correct. The NRC independently verified that selected systems were appropriately aligned for the current plant condition. The inspectors further verified that the licensee had completed a comprehensive system alignment verification.

The NRC staff reviewed the planning area by conducting interviews, reviewing planned maintenance work requests, and observing work. The staff reviewed the backlogs of corrective and preventive maintenance and observed various meetings to verify that unresolved maintenance issues were assigned appropriate priorities and to ensure that items requiring resolution prior to plant restart were properly scheduled. A work planning process has been developed and is being implemented by the licensee. Although the process is adequate, NYPA is enhancing it to make it more effective.

The NRC staff observed ongoing maintenance activities to verify that these activities were being properly controlled through the use of established procedures, approved technical manuals, drawings, and job-specific instructions. The staff considered the conduct of maintenance activities to be adequate to support plant startup.

The NRC staff conducted several plant tours and system walkdowns to determine if hardware problems had been identified. The staff also reviewed the overall condition of several safety significant systems. Plant material condition was acceptable to support startup.

The NRC staff reviewed the adequacy of preventive maintenance procedures, observed the performance of preventive maintenance (PM) in the field, and assessed coverage of the program with regard to incorporating vendor recommendations, scheduling and deferral, and review and trending of results. The staff determined that NYPA's implementation of a preventive maintenance program was adequate. A strength noted was that only a few PMs were deferred beyond their planned performance date and those that were deferred were adequately evaluated and justified.

The NRC staff reviewed surveillance scheduling and procedures, observed the performance of tests, and reviewed test results to verify that the surveillance program was being conducted in accordance with requirements. The staff determined that the surveillance program was being conducted in an acceptable manner.

The NRC staff reviewed the licensee's modification program and reviewed a sample of permanent modifications. The review compared the design change to the design bases, considering the potential impact of the design on other equipment and its compliance with appropriate procedures. The NRC also reviewed a sample of modification acceptance tests (MATs) to determine if they satisfactorily proved the proper operation of the associated modification. The NRC staff concluded that engineering processes were adequate to ensure that plant safety margins were not reduced. The technical bases and associated documentation for the modifications were adequate. The development and performance of MATs were adequate and demonstrated the proper operation of the associated modification.

The NRC also reviewed the temporary modification (TM) process, including administrative procedures and a sample of TMs. At the end of April 1995, there were 22 installed TMs, seven of these were installed on safety-related systems; two are planned for removal prior to startup, one will be removed after completion of full power testing, and three are scheduled for replacement before July 1995. The NRC concluded that administrative procedures were in place to acceptably control the development, review and approval, installation, and removal of TMs. Overall the NRC concluded that the temporary modifications were acceptable for restart.

All pre-1990 safety-related modifications have been reassessed by NYPA to identify differences between the as-built plant conditions and the plant drawings. Additional controls were added to the modification process in 1990 to prevent undocumented deviations from the modification drawings. The licensee redlined all vital control room drawings with changes in preparation for restart. The NRC staff concluded that the plant's configuration control was acceptable.

The NRC reviewed backlogs in the Technical Services and Design Engineering organizations. This review included those items in the backlog that would not be completed prior to restart and the licensee's method for determining that the item need not be completed prior to restart. The NRC also evaluated the licensee's prioritization of these items. The NRC staff determined that the backlogs had been appropriately screened and prioritized. Both the Technical Services and Design Engineering organizations were taking appropriate steps to control their backlogs.

The NRC staff reviewed the industry operating experience program to ensure that lessons learned were being appropriately incorporated in plant programs and staff training and to verify that appropriate items had been resolved prior to plant restart. The staff concluded that the review process for industry experience was adequate. The staff also noted that the backlog of reviews was manageable. The staff determined that the backlog had been adequately screened by the licensee for plant restart issues.

3.4.5 COMPLIANCE WITH REGULATORY REQUIREMENTS

The NRC staff has issued and granted all applicable license amendments, exemptions, and reliefs. The actions specified in Confirmatory Action Letter 1-93-009 have been satisfied. All significant enforcement issues to date have

been resolved. The MAP also reviewed all open allegations and concluded that none affected restart of the facility. There are no outstanding issues in this area relative to the restart of Indian Point 3.

3.4.6 COORDINATION WITH INTERESTED AGENCIES/PARTIES

The Federal Emergency Management Agency (FEMA) was notified of the pending restart of Indian Point 3 via telephone on June 16, 1995, and FEMA was not aware of any offsite emergency preparedness issues that could potentially affect restart of the plant. The New York State Liaison Officer was notified of the pending restart of Indian Point 3 by the Region I State Liaison Officer via telephone on June 16, 1995, and various government and local public officials were notified in a meeting on June 16, 1995. Individuals from these various agencies identified no issues that would preclude restart of the plant.

The NRC has provided several opportunities, after NRC meetings with the utility, for the public to comment on the possible restart of Indian Point 3. Subsequent to each of these meetings, the staff has reviewed issues of concern, as well as the bases for their position; the staff has concluded that substantive issues that could delay restart do not exist.

4.0 RESTART COORDINATION

In a letter to the NRC dated May 27, 1994, NYPA committed to perform a detailed SURE before restart. The NRC recommended that NYPA complete its SURE before the NRC performed its RATI. The SURE consisted of a SERT inspection, an Operational Readiness Review, Quality Assurance Oversight, and System Certification. By letter dated March 16, 1995, NYPA notified the NRC that the SURE had been completed successfully and that the facility was ready for the NRC RATI. At the public entrance meeting for the NRC's RATI on April 3, 1995, NYPA presented the results of its SURE.

In the licensee's letter dated June 12, 1995, NYPA informed the NRC that Indian Point 3 was ready to be restarted and delineated NYPA's power ascension oversight plan. The licensee plans to have its Restart Management Team (RMT) review activities at various plateaus during power ascension. The RMT will then make recommendations to the Resident Manager regarding readiness to continue to the next plateau. NYPA intends to have a member of the Restart Management Team available 24 hours a day during plant startup; additionally, a senior manager is also to be assigned to each shift until reactor power reaches 100 percent.

The NRC has developed an augmented inspection plan to assess the Indian Point 3 restart. In addition to the resident inspectors assigned to the site, additional inspectors will provide on-shift, around-the-clock coverage, starting 24 hours before the planned reactor startup and continuing for several days. During this time, among other NRC inspection activities, NRC inspectors will review NYPA's self-assessments, Quality Assurance assessments, and support to operations during emergent issues. Following completion of

around-the-clock coverage, the NRC will continue to provide augmented coverage of the power ascension process, including major evolutions as they occur, until the plant stabilizes at 100 percent power.

8.0 OTHER ISSUES

8.1 LATEST SALP

The current SALP assessment period, which was originally scheduled to end on November 17, 1993, was suspended until 6 months after plant restart. The bases for the suspension were that the NAP will continuously oversee the plant under the provisions of Manual Chapter 0350, and that plant restart will be monitored in accordance with the NRC's approved IP3 Restart Action Plan. The latest SALP report is over 2 years old and does not reflect the current status of the facility.

8.2 FIRE BARRIER PENETRATION SEALS

In response to NRC inspection Unresolved Item 50-286/93-24-03, "FIRE SEAL ANALYSIS - Self Ignition Temperature of Cable Insulation as it Relates to the Design of Fire Seals," NYPA initially concluded that the self-ignition temperature of the cable insulation is not less than 785°F and that this temperature is sufficiently above the 700°F maximum allowable unexposed surface temperature criteria for penetration seal designs at Indian Point 3. This conclusion was based on generic cable flammability data published by the Electric Power Research Institute (EPRI). The cables at Indian Point 3 are "similar" to the cables referenced in the EPRI reports, but NYPA could not provide reasonable assurance that the cables specified in the EPRI report are truly representative of the cables installed at Indian Point 3. Because of the broad range in flammability data for cables of "similar" construction and the different test protocols for obtaining the flammability data, the NRC staff was concerned that the generic cable data used in NYPA's fire seal analysis might not adequately represent the cables installed at Indian Point 3. Therefore, this item remains unresolved.

NYPA is doing research, including actual testing if needed, to verify the applicability of the generic information used in its evaluation. NYPA has implemented fire watches in all plant areas where the penetration seals in question are located. These compensatory measures, coupled with other elements of NYPA's fire protection program, ensure an adequate level of fire safety; therefore, the NRC staff has concluded that this issue has low safety significance. Thus, the NRC staff has determined that NYPA's actions are acceptable for restart and subsequent operation until the penetration seal issue is fully resolved.

9.0 CONCLUSION

The NRC has thoroughly assessed the physical condition of the plant, the performance of NYPA's plant and corporate staffs, NYPA's corporate and plant management oversight, and the licensing status of the plant. The NRC has found all of these areas to be adequate to support restart and operation. The NRC also found that NYPA's RCIP is a comprehensive plan that addressed the

root causes and corrective actions for the previous decline in plant performance and provided a reasonable process for assessing the effectiveness of those corrective actions. Furthermore, the NRC found that NYPA's startup plan provides the process and management oversight necessary for a safe organized return to power operation.

NYPA has completed the committed restart actions as described in CAL 1-93-009. In their letter dated June 12, 1995, NYPA committed that Indian Point 3 will not exceed 40 percent reactor power until a self-assessment is performed and the NRC is notified of the results. In addition, NYPA committed to another self-assessment after full power operation is achieved, with the results of this latter self-assessment to be presented to the NRC in a public meeting. The cover letter to this document adds to the commitments contained in CAL 1-93-009 to reflect the above statements and transmits our agreement that Indian Point 3 is ready to restart. The NRC will provide augmented inspection coverage during the startup process. The NRC also will continue to closely monitor NYPA's performance and the implementation of the RCIP.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PENNSYLVANIA 19406-1415

October 16, 1995

EA 95-176

Mr. W. J. Cahill Jr.
Chief Nuclear Officer
New York Power Authority
123 Main Street
White Plains, New York 10601

SUBJECT: NOTICE OF VIOLATION
(NRC Inspection Report No. 50-286/95-12)

Dear Mr. Cahill:

This letter refers to the NRC inspection conducted from July 11, 1995, to August 7, 1995, at the Indian Point 3 Nuclear Power Plant, Buchanan, New York. During the inspection, the inspectors reviewed the circumstances associated with a violation identified by your staff involving the failure to perform a safety evaluation, pursuant to 10 CFR 50.59, prior to making a change to the facility as described in the Final Safety Analysis Report (FSAR). The specific change involved the operation of the reactor coolant system (RCS) from July 10 through July 12, 1995, with pressure lower than the minimum amount specified in your Final Safety Analysis Report (FSAR).

The violation was discussed with your staff at the inspection exit meeting on August 7, 1995, and also was described in the NRC letter, dated August 23, 1995, transmitting the inspection report. In that letter, we indicated that it may not be necessary to conduct a predecisional enforcement conference in order to enable the NRC to make an enforcement decision in this case. However, before making an enforcement decision, we provided you an opportunity to either (1) respond to the apparent violation addressed in this inspection report within 30 days of the date of that letter, or (2) request a predecisional enforcement conference. You requested a conference which was held with you and members of your staff on October 5, 1995 to discuss the apparent violation, its causes, and your corrective actions.

The violation occurred when you operated at reduced reactor coolant system (RCS) pressure (below 2205 psig) from July 10 to July 12, 1995, in attempting to seat a leaking safety valve. After discussions with operations management, operators invoked portions of alarm response procedure (ARP)-3 to allow them to reduce RCS pressure in an attempt to reseat the leaking safety valve. That procedure, which had been revised on June 20, 1995 to provide specific guidance for such pressure reduction based on a vendor recommendation, allowed the operators to reduce pressure to as low as 1900 psig to stop the leakage. That procedure was inadequate because it permitted the operation of the reactor at a pressure below 2205 psig which was not in accordance with your FSAR; therefore, it placed the reactor in a condition outside the accident analysis and design basis. Prior to reducing the RCS pressure, neither management nor staff ensured that a safety evaluation was performed, as required by 10 CFR 50.59, to provide a basis that the change from the FSAR did not involve an unreviewed safety question. In addition, operators maintained the reduced pressure for more than eight hours, which was contrary to the procedure, without evaluating the impacts of doing so.

ENCLOSURE 2

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The NRC recognizes that a safety evaluation was performed after the violation was identified, which concluded that the safety consequences for the operating condition during the period from July 10-12, 1995, were minimal. Nonetheless, the NRC is concerned with the poor performance by your managers and staff prior to, during, and in immediate response to the event, which occurred less than a month after your startup from the extended shutdown. For example, the revision to ARP-3 did not appropriately consider that its implementation would be contrary to the FSAR. Also, although minimum RCS pressure currently is not provided in your technical specifications, senior management should have recognized, before reducing pressure, that an evaluation should have been conducted to ensure that the change did not involve an unreviewed safety question. In addition, management, the operations staff, and engineering staff should have demonstrated a technically inquisitive attitude and aggressively questioned the appropriateness of this evolution before implementing it. It was not until corporate engineering and the vendor, Westinghouse, were contacted on July 12, 1995, two days after the evolution began, that you learned that operation at reduced RCS pressure, both long-term and short-term, was outside the accident analysis for the plant as stated in the FSAR. Furthermore, after the problem was discovered, the Deficiency Evaluation Report (DER) classified the event at a lower level than it should have been. Therefore, while the actual safety significance of the violation was low, given the regulatory significance of the failures by management and staff, this violation has been categorized at Severity Level III in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600, (60 FR 34381; June 30, 1995).

In accordance with the Enforcement Policy, a base civil penalty in the amount of $50,000 is considered for a Severity Level III violation. Because your facility has been the subject of escalated enforcement actions within the last two years, (a Severity Level III Notice of Violation was issued to you on April 26, 1994 - EAs 93-280 and 93-305), the NRC considered whether credit was warranted for identification and corrective action in accordance with the civil penalty assessment process in Section VI.B.2 of the Enforcement Policy. Credit was warranted because your staff identified the violation and conducted a detailed root cause analysis, and subsequently, you have taken significant corrective actions, as noted in the inspection report and your presentation at the enforcement conference. The corrective actions included (1) counselling of senior managers by the Chief Nuclear Officer regarding conservative plant operation; (2) communicating the initial lessons learned at a department managers' meeting; (3) timely issuance of a standing order regarding operating within normal ranges and seeking formal review if operating outside of normal ranges; (4) training of operations staff regarding lessons learned from this event, as well as enhanced training for licensed operators, site reactor engineers, and managers on certain transient and accident analysis; (5) definition of operating ranges for selected key plant parameters and incorporation into the applicable plant operating procedures; (6) planned review prior to restart from the current forced outage of alarm response procedures, plant operating procedures, and off-normal operating procedures by engineering to assure they do not permit unanalyzed operating conditions; (7) increased oversight of plant operations by the Independent Safety Engineering Group; and (8) reevaluation of the procedure review and approval process to include a more

to assure they do not permit unanalyzed operating conditions; (7) increased oversight of plant operations by the Independent Safety Engineering Group; and (8) reevaluation of the procedure review and approval process to include a more enhanced safety screening practice.

Therefore, to encourage prompt identification and comprehensive correction of violations, I have been authorized, after consultation with the Director, Office of Enforcement, not to propose a civil penalty in this case. However, significant violations in the future could result in a civil penalty.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. In your response, you should document the specific actions taken and any additional actions you plan to prevent recurrence. Your response may reference or include previous docketed correspondence, if the correspondence adequately addresses the required response. After reviewing your response to this Notice, including your proposed corrective actions and the results of future inspections, the NRC will determine whether further NRC enforcement action is necessary to ensure compliance with NRC regulatory requirements.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response will be placed in the NRC Public Document Room (PDR). To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction.

The responses directed by this letter and the enclosed Notice are not subject to the clearance procedures of the Office of Management and Budget as required by the Paperwork Reduction Act of 1980, Pub. L. No. 96.511.

Sincerely,

Thomas T. Martin
Regional Administrator

Docket No. 50-286
License Nos. DPR-64

Enclosure: Notice of Violation

cc w/encl:
R. Schoenberger, President and Chief Operating Officer
L. Hill, Jr., Site Executive Officer
W. Josiger, Vice President - Engineering and Project Management
J. Kelly, Vice President - Regulatory Affairs and Special Projects
T. Dougherty, Vice President - Nuclear Engineering
R. Deasy, Vice President Appraisal and Compliance Services
R. Patch, Director - Quality Assurance
G. Wilverding, Director - Independent Oversight
G. Goldstein, Assistant General Counsel
C. Faison, Director, Nuclear Licensing
A. Donahue, Mayor, Village of Buchanan
C. Jackson, Nuclear Safety and Licensing Manager (Con Ed)
C. Donaldson, Esquire, Assistant Attorney General, New York Department of Law
Chairman, Standing Committee on Energy, NYS Assembly
Chairman, Standing Committee on Environmental Conservation, NYS Assembly
Chairman, Committee on Corporations, Authorities, and Commissions, NYS Assembly
E. Mullet, Executive Chair, Four County Nuclear Safety Committee
R. Pollard, Union of Concerned Scientists
The Honorable Sandra Galef, NYS Assembly
Director, Energy & Water Division, Department of Public Service, State of New York
A. Song, Assistant Secretary to the Governor
F. Valentino, President, New York State Energy Research and Development Authority

ENCLOSURE

NOTICE OF VIOLATION

New York Power Authority
Indian Point 3 Nuclear Power Plant

Docket No. 50-286
License No. DPR-64
EA 95-176

During an NRC inspection conducted between July 11 and August 7, 1995, a violation of NRC requirements was identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG-1600, (60 FR 34381; June 30, 1995), the violation is listed below:

10 CFR Part 50.59(a), Changes, Tests and Experiments, in part, permits licensees to make changes in the facility as described in the safety analysis report without prior Commission approval, unless the proposed change involves a change in the technical specifications incorporated in the license or an unreviewed safety question.

10 CFR Part 50.59(b)(1) requires, in part, that the licensee maintain records of changes in the facility that constitute changes in the facility as described in the Safety Analysis Report (SAR), and the records must include a written safety evaluation which provides the bases for the determination that the change does not involve an unreviewed safety question.

The Final Safety Analysis Report, Chapter 14, evaluates the safety aspects of the plant and demonstrates that the plant can be operated safely and that the exposures from credible accidents do not exceed the guidelines of 10 CFR Part 100. The accident evaluation assumes that the minimum reactor coolant system pressure shall be 2205 psig while the reactor is operating.

Contrary to the above, from July 10, 1995 to July 12, 1995, while the reactor was in an operational mode, the licensee changed the facility as described in the SAR by operating with reactor coolant system pressure below 2205 psig, which is the minimum initial pressure assumed in the FSAR accident analysis. This change was made without prior Commission approval and without performing a written safety evaluation, which provided the basis for the determination that the change does not involve an unreviewed safety question. (IFS Code 01013)

This is a Severity Level III violation (Supplement I).

Pursuant to the provisions of 10 CFR 2.201, New York Power Authority is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555 with a copy to the Regional Administrator, Region I, and a copy to the NRC Resident Inspector at the facility that is the subject of this Notice, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each violation: (1) the reason for the violation, or, if contested, the basis for disputing the violation, (2) the corrective steps that have been

taken and the results achieved, (3) the corrective steps that will be taken to avoid further violations, and (4) the date when full compliance will be achieved. Your response may reference or include previous docketed correspondence, if the correspondence adequately addresses the required response. If an adequate reply is not received within the time specified in this Notice, an Order or a Demand for Information may be issued as to why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

Under the authority of Section 182 of the Act 42 U.S.C. 2232, this response shall be submitted under oath or affirmation.

Because your response will be placed in the NRC Public Document Room (PDR), to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction. However, if you find it necessary to include such information, you should clearly indicate the specific information that you desire not to be placed in the PDR, and provide the legal basis to support the request for withholding the information from the public.

Dated at King of Prussia, Pennsylvania
this 16th day of October 1995

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA PENNSYLVANIA 19406 1415

January 2, 1996

EA 95-251

Mr. William J. Cahill, Jr.
Chief Nuclear Officer
New York Power Authority
123 Main Street
White Plains, New York 10601

SUBJECT: NOTICE OF VIOLATION AND PROPOSED IMPOSITION OF CIVIL PENALTY - $50,000
(NRC Inspection Report No. 50-286/95-15)

Dear Mr. Cahill:

This letter refers to the NRC inspection conducted on September 19 through October 30, 1995, at the Indian Point 3 Nuclear Power Plant. An exit meeting was conducted on November 2, 1995. During the inspection, the inspectors conducted an independent evaluation of the circumstances surrounding an event which occurred at the facility on October 15, 1995, involving the plant exiting the cold shutdown condition with the control switches for the recirculation and containment spray pumps in the trip pullout position. The event, as well as the related violation of the technical specification, was identified by a member of your Quality Assurance staff, and was described in the NRC inspection report transmitted with our letter, dated November 30, 1995. On December 13, 1995, an open Predecisional Enforcement Conference was conducted with you and members of your staff to discuss the violations, their causes, and your corrective actions.

The violation of the technical specifications is described in the enclosed Notice of Violation. The technical specifications require that at least one recirculation pump and two containment spray pumps be operable prior to entering the hot shutdown condition. However, on October 15, 1995, the reactor was heated up above the cold shutdown condition (200°F) with both recirculation pumps and both containment spray pumps inoperable because of the control switches in the control room being in the trip pullout position. In that position, the automatic start features of the containment spray pumps were defeated, and the normal sequence for manually starting the recirculation pumps was altered. This condition existed for about four hours, until it was identified by a member of your Quality Assurance staff during his review of the control room conditions.

The NRC commends the Quality Assurance individual who identified this condition, which was corrected within ten minutes of identification. However, the performance of the operations staff in this matter was poor. The responsible control room supervisor initialed steps in the "Plant Heatup From Cold Shutdown" procedure indicating that the recirculation pumps and the

5pp

ENCLOSURE 3

containment spray pumps were operable (even though he knew the switches were in the trip pullout position) because he believed that subsequent steps in the procedure would require that the switches be placed in automatic prior to the heatup. Although such a requirement had previously existed in the procedure, it had been deleted in 1993. In addition, the responsible Shift Manager also initialed the procedure indicating that the pumps were operable when they were not. Furthermore, after the heatup was started, a control room supervisor shift turnover, which included a detailed control board walkdown, was conducted, but failed to identify that the recirculation and containment spray pump switches were in the trip pullout position and did not support exiting the cold shutdown condition. Finally, for several hours, the control room operators did not discover the switches in the trip pullout position, nor question this discrepant position, even though they should have been aware of the status of the equipment on the control boards. These failures by operations staff constitute three additional violations of NRC requirements which are also described in the enclosed Notice.

The NRC acknowledges that the safety significance of the technical specification violation relative to plant status was minimal, considering that the reactor coolant system temperature was about 230°F at the time of discovery. At this temperature, a loss of coolant accident would not result in plant conditions that would require the automatic starting of the containment spray pumps. Further, a common safeguards system alarm existed in the control room, which would have been expected to be cleared when the auxiliary feedwater and safety injection pumps were made operable prior to exceeding 350°F, but would not have cleared because of the inoperable recirculation and containment spray pumps, and thereby, would have alerted the operators. Nonetheless, the violation is of significant concern to the NRC because of the poor performance of the operations staff, given the fact that several members of multiple organizational levels of the operations staff had an opportunity to detect the mispositioned switches, both prior to, and following the heatup, but did not do so. Given the regulatory significance of this performance, the violations indicate a lack of adequate attention to licensed responsibilities and have been categorized in the aggregate at Severity Level III in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600, (60 FR 34381; June 30, 1995).

In accordance with the Enforcement Policy, a base civil penalty in the amount of $50,000 is considered for a Severity Level III problem. Indian Point 3 has been the subject of an escalated enforcement action within the last two years (for example, issuance of a Severity Level III violation without a civil penalty was issued to you on October 16, 1995 for a violation associated with the operation of the reactor for two days at low pressure without performing an evaluation pursuant to 10 CFR 50.59; Reference, EA 95-176). Therefore, in accordance with the enforcement policy, the NRC considered whether credit was warranted for identification and corrective action in accordance with the civil penalty assessment process in Section VI.B.2 of the Enforcement Policy.

The NRC has decided that credit for identification is warranted because of the timely actions of the Quality Assurance Inspector which prevented further heatup of the reactor. Credit for corrective action is also warranted because your corrective actions, after identification, were considered prompt and comprehensive. These actions, which were noted in the inspection report, and your presentation at the predecisional enforcement conference, included, but were not limited to: (1) management personnel and organizational changes to enhance the communication of expectations to operators, (2) significant assessment and monitoring of operators to ensure clear understanding of expectations and a satisfactory level of performance, (3) review of and revisions to procedures to minimize challenges to the operators, and (4) accountability initiatives to reinforce performance standards.

In view of your identification and corrective actions, a civil penalty normally would not be issued. However, after consultation with the Director of Enforcement and the Deputy Executive Director for Nuclear Reactor Regulation, Regional Operations, and Research, I have been authorized to exercise discretion and issue the enclosed Notice of Violation and Proposed Imposition of Civil Penalty (Notice) in the amount of $50,000 for this Severity Level III problem, because of the poor performance by the operations staff. The penalty is intended to emphasize (1) the importance of adherence to procedural requirements to ensure that the plant is operated in accordance with the technical specifications, and (2) prompt identification and comprehensive correction of violations when they exist. If not for the identification of the plant condition by the Quality Assurance inspector, a larger civil penalty would have been issued.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. In your response, you should document the specific actions taken and any additional actions you plan to prevent recurrence. Your response may reference or include previous docketed correspondence, if the correspondence adequately addresses the required response. After reviewing your response to this Notice, including your proposed corrective actions and the results of future inspections, the NRC will determine whether further NRC enforcement action is necessary to ensure compliance with NRC regulatory requirements.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response will be placed in the NRC Public Document Room (PDR). To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction.

The responses directed by this letter and the enclosed Notice are not subject to the clearance procedures of the Office of Management and Budget as required by the Paperwork Reduction Act of 1980, Pub. L. No. 96.511.

Sincerely,

Thomas T. Martin
Regional Administrator

Docket Nos. 50-286
License Nos. DPR-64

Enclosure: Notice of Violation and
Proposed Imposition of Civil Penalty

cc: w/encl
L. M. Hill, Jr., Site Executive Officer
C. Rappleyea, Chairman and Chief Executive Officer
R. Schoenberger, President and Chief Operating Officer
W. Josiger, Vice President - Engineering and Project Management
J. Kelly, Director - Regulatory Affairs and Special Projects
T. Dougherty, Director - Nuclear Engineering
R. Deasy, Vice President Appraisal and Compliance Services
R. Patch, Director - Quality Assurance
G. Wilverding, Director - Independent Oversight
G. Goldstein, Assistant General Counsel
C. Faison, Director, Nuclear Licensing
A. Donahue, Mayor, Village of Buchanan
C. Jackson, Nuclear Safety and Licensing Manager (Con Ed)
C. Donaldson, Esquire, Assistant Attorney General, New York Department of Law
Chairman, Standing Committee on Energy, NYS Assembly
Chairman, Standing Committee on Environmental Conservation, NYS Assembly
E. Nullet, Executive Chair, Four County Nuclear Safety Committee
Chairman, Committee on Corporations, Authorities, and Commissions
Robert D. Pollard, Union of Concerned Scientists
The Honorable Sandra Galef, NYS Assembly
Director, Energy & Water Division, Department of Public Service, State of New York
A. Song, Assistant Secretary to the Governor
F. Valentino, President, New York State Energy Research and Development Authority

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12/27/95	12/27/95	12/ /95	12/ /95

...END...

ENCLOSURE

NOTICE OF VIOLATION
AND
PROPOSED IMPOSITION OF CIVIL PENALTY

New York Power Authority
Indian Point 3 Nuclear Power Station

Docket No. 50-286
License No. DPR-64
EA 95-251

As a result of an NRC inspection conducted between September 19 and October 30, 1995, the exit meeting of which was held on November 2, 1995, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG-1600, (60 FR 34381; June 30, 1995), the Nuclear Regulatory Commission proposes to impose a civil penalty pursuant to Section 234 of the Atomic Energy Act of 1954, as amended (Act), 42 U.S.C. 2282, and 10 CFR 2.205. The particular violations and associated civil penalty are set forth below:

A. The Indian Point Unit 3 Technical Specifications, section 3.3.A.1.d, state that the reactor coolant system average temperature shall not exceed 200°F unless one recirculation pump, together with its associated piping and valves, is operable.

The Indian Point Unit 3 Technical Specifications, section 3.3.B.1.b, state, in part, that the reactor shall not be brought above the cold shutdown condition unless the two containment spray pumps, with their associated valves and piping, are operable. Technical Specifications, section 1.2.1, define the cold shutdown condition to be when the reactor is subcritical by at least 1% $\Delta k/k$ and average temperature is less than or equal to 200°F.

Contrary to the above, on October 15, 1995, from about 11:25 a.m. to 3:33 p.m., the reactor coolant system average temperature exceeded 200°F with both recirculation pumps and both containment spray pumps inoperable. The pumps were inoperable in that the control switches for these pumps were in the trip pullout position, rather than the automatic position, and would have prevented the automatic start of the pumps.

B. Indian Point 3 Technical Specification 6.8.1 requires that written procedures shall be established, implemented and maintained covering activities referenced in Appendix A of Regulatory Guide 1.33, "Quality Assurance Program Requirements", November 1972. Appendix A of Regulatory Guide 1.33, Section 2, requires general operating procedures for cold shutdown to hot standby.

Indian Point 3 Procedure POP-1.1, "Plant Heatup From Cold Shutdown Condition", Revision 34, requires, in Attachment 3, Sections 3.4 and 3.6.3, respectively, that the Control Room Supervisor and the Shift

4pp.

Manager initial the procedure to indicate that at least one recirculation pump and both containment spray pumps are operable. Procedure POP 1.1 defines operable as capable of performing the intended function in the intended manner (e.g., control switches in Automatic).

Contrary to the above, between October 14 and October 15, 1995, the Control Room Supervisor and the Shift Manager initialed Indian Point 3 Procedure POP-1.1 to indicate that at least one recirculation pump and both containment spray pumps were operable. However, the pumps were inoperable in that the control switches were in the trip pullout position rather than the automatic position.

C. Indian Point 3 Technical Specification 6.8.1 requires that written procedures shall be established, implemented and maintained covering activities referenced in Appendix A of Regulatory Guide 1.33, "Quality Assurance Program Requirements", November 1972. Appendix A of Regulatory Guide 1.33, Section 1.g, requires administrative procedures for shift and relief turnover.

Indian Point 3 Procedure OD-6, Shift Relief and Turnover, Revision 8, Section 6.2.4, requires that the tasks identified in section 3.0 of the applicable shift turnover sheet shall be completed prior to assuming the watch. Shift turnover sheet OPT-2, Control Room Supervisor Turnover Sheet, Revision 6, Section 3.0, requires the control room supervisor to walkdown the control boards prior to assuming the watch. Procedure OD-6 defines walkdown as a detailed review of the status of appropriate control panels by applicable on-coming and off-going watchstanding personnel.

Contrary to the above, on October 15, 1995, the control room supervisor did not perform a detailed review of the control panels prior to assuming the watch, as indicated by the failure to identify that the control switches for the recirculation and containment spray pumps were in the trip pullout position, and would not support exceeding the cold shutdown condition.

D. 10 CFR Part 50, Appendix B, Criteria XVI, Corrective Actions, requires that measures be established to ensure that conditions adverse to quality, such as nonconformances, are promptly identified and corrected.

Contrary to the above, after the reactor coolant system average temperature exceeded 200°F on October 15, 1995 at about 11:25 a.m. until 3:23 p.m, measures were not established to ensure that the two reactor operators on duty identified a condition adverse to quality that existed at the time, namely, the inoperability of the recirculation pumps and

both containment spray pumps. The pumps were inoperable in that the control switches for these pumps were in the trip pullout position, rather than the automatic position, and would have prevented the automatic start of the pumps.

This is a Severity Level III problem (Supplement I).
Civil Penalty - $50,000.

Pursuant to the provisions of 10 CFR 2.201, New York Power Authority is hereby required to submit a written statement or explanation to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, within 30 days of the date of the Notice of Violation and Proposed Imposition of Civil Penalty (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each alleged violation: (1) admission or denial of the alleged violation, (2) the reasons for the violations if admitted, and if denied, the reasons why, (3) the corrective steps that have been taken and the results achieved, (4) the corrective steps that will be taken to avoid further violations, and (5) the date when full compliance will be achieved.

If an adequate reply is not received within the time specified in this Notice, an Order or a Demand for Information may be issued as to why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Consideration may be given to extending the response time for good cause shown. Under the authority of Section 182 of the Act, 42 U.S.C. 2232, this response shall be submitted under oath or affirmation.

Within the same time as provided for the response required above under 10 CFR 2.201, the Licensee may pay the civil penalty by letter addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, with a check, draft, money order, or electronic transfer payable to the Treasurer of the United States in the amount of the civil penalty proposed above, or the cumulative amount of the civil penalties if more than one civil penalty is proposed, or may protest imposition of civil penalty in whole or in part, by written answer addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission. Should the Licensee fail to answer within the time specified, an order imposing the civil penalty will be issued. Should the Licensee elect to file an answer in accordance with 10 CFR 2.205 protesting the civil penalty in whole or in part, such answer should be clearly marked as an "Answer to a Notice of Violation" and may: (1) deny the violation(s) listed in the Notice, in whole or in part, (2) demonstrate extenuating circumstances, (3) show error in this Notice, or (4) show other reasons why the penalty should not be imposed. In addition to protesting the civil penalty in whole or in part, such answer may request remission or mitigation of the Penalty.

In requesting mitigation of the proposed penalty, the factors addressed in Section VI.B.2 of the Enforcement Policy should be addressed. Any written answer in accordance with 10 CFR 2.205 should be set forth separately from the statement or explanation in reply pursuant to 10 CFR 2.201, but may incorporate parts of the 10 CFR 2.201 reply by specific reference (e. g., citing page and paragraph numbers) to avoid repetition. The attention of the Licensee is directed to the other provisions of 10 CFR 2.205, regarding the procedure for imposing a civil penalty.

Upon failure to pay any civil penalty due which subsequently has been determined in accordance with the applicable provisions of 10 CFR 2.205, this matter may be referred to the Attorney General, and the penalty, unless compromised, remitted, or mitigated, may be collected by civil action pursuant to Section 234c of the Act, U.S.C. 2282c.

The response noted above (Reply to Notice of Violation, letter with payment of civil penalty, and Answer to a Notice of Violation) should be addressed to: James Lieberman, Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852-2738, with a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region I, and a copy to the NRC Resident Inspector at Indian Point 3.

Because your response will be placed in the NRC Public Document Room (PDR), to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction. However, if you find it necessary to include such information, you should clearly indicate the specific information that you desire not to be placed in the PDR, and provide the legal basis to support the request for withholding the information from the public.

Dated at King of Prussia, Pennsylvania
this 2nd day of January 1996

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PENNSYLVANIA 19406-1415

December 22, 1995

Mr. William J. Cahill, Jr.
Chief Nuclear Officer
Power Authority of the State of New York
123 Main Street
White Plains, NY 10601

SUBJECT: REQUEST FOR INFORMATION REGARDING THE STATUS OF PERFORMANCE IMPROVEMENT/CORRECTIVE ACTIONS PRIOR TO RESTARTING INDIAN POINT 3

Dear Mr. Cahill:

NYPA and the NRC have identified a series of Indian Point 3 Operations department performance deficiencies since restart of the unit in June 1995. These performance deficiencies were manifested during the operation of the reactor coolant system at low pressure on July 10-12, 1995; again on October 15, 1995, when the plant exceeded the cold shutdown condition with the control switches for required engineered safety features (ESF) pumps in the pull-to-lock position; and more recently, on December 2-3, 1995, in the lengthy period of time which it took to identify the component cooling water (CCW) relief valve leakage. The occurrence of these events reemphasizes the importance of your continuing efforts to improve performance.

NYPA is currently preparing to restart Indian Point 3 from a forced outage that began in September 1995. We request that you provide in writing the specific corrective actions that you intend to implement prior to restart to address these performance weaknesses, and the basis for your concluding that the specified set of actions are sufficient to arrest the performance problems and facilitate lasting improvements. We also request that you describe the criteria you are using to determine the effectiveness of these corrective actions prior to and during the restart of the facility. Finally, we request that you describe how your ongoing, Continuous Improvement Plan has been factored into these required restart activities to assure continued safe plant operation.

We appreciate your cooperation in this matter.

Sincerely,

Thomas T. Martin
Regional Administrator

Docket No. 50-286

ENCLOSURE 4

NewYorkPower Authority

William J. Cahill Jr.

January 12, 1996
IPN-96-002

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

Subject: Indian Point 3 Nuclear Power Plant
Docket No. 50-286
Response to Request for Information
Regarding the Status of Performance Improvement and
Corrective Actions Prior to Restarting Indian Point 3

Reference: NRC letter, T. Martin to W. J. Cahill, Jr., "Request for Information Regarding the Status of Performance Improvement/Corrective Actions Prior to Restarting Indian Point 3," dated December 22, 1995.

Dear Sir:

We welcome the opportunity to provide the information requested in your letter of December 22, 1995. As discussed below, we have aggressively pursued critical self-assessments of deficiencies in operations and operations support activities, and have developed corrective actions which address the events cited in your letter, and found in our total start-up experience to form the basis of our dynamic continuous improvement activities. The corrective actions which we implemented are structured to root cause assessments and tailored to ensure lasting improvement. Although your letter refers to operations department activities, we are addressing deficiencies observed in other aspects of operational support, including maintenance and engineering, as described in this letter.

During 1994, NYPA developed a Restart and Continuous Improvement Plan (RCIP) which was intended to identify deficiencies and improvement potentials in the physical plant and in the associated organization and staff. Throughout the completion of the outage work, and reactivation of the plant systems and equipment, many corrective actions and improvements were made. Some of these could only be identified during restart, or as plant conditions revealed a deficiency. During initial operation, we identified and corrected several physical deficiencies. Similarly, that initial operating expenence has revealed the need to strengthen our operations organization to ensure timely response to plant needs, and to provide leadership in effecting change to a more formal mode of operation. The corrective actions associated with initial operating experience started before we reached full power and have culminated in a new organizational structure which is specifically designed to enhance safe, reliable operation in accordance with appropriate written procedures. The following summary serves to illustrate the ways in which we have implemented our policy of continuous improvement at Indian Point 3.

Enclosure 5

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After the extended outage, which commenced in February 1993, Indian Point 3 was successfully restarted (initial criticality in June 1995). It operated through four heatup and cooldown cycles. The operating philosophy demonstrated during the subsequent operational periods was based upon implementing a critical self-assessment of not only the physical and material condition of the plant, but most importantly, the performance demonstrated by our operational staff and management team. Executive management expectations were directed toward ensuring deliberate, conservative plant operations. In most situations, the plant staff was successful in meeting those expectations. One example of this was an action to replace the reactor head o-ring seals based upon evidence of minor leakage in May 1995. Similar conservative actions were demonstrated in response to the main generator hydrogen cooler leakage in September 1995, and the subsequent actions to take the plant to the cold shutdown condition in response to indications of problems with certain containment penetrations. As a result of a critical self-assessment of performance during this initial start-up evolution, the recent maintenance outage was extended to complete a comprehensive scope of corrective actions designed to ensure lasting improvement in plant operation.

Operational events, as referenced in your letter of December 22, 1995, represent performance deficiencies that were self-identified and have led to the accomplishment of several rigorous root-cause analyses through our self-assessment process. This effort was focused not only on the isolated events but also on a broad, integrated look at total performance. Deficiencies demonstrated during these and similar events indicated the need for additional corrective actions beyond the scope of the recently completed restart portion of the RCIP. These actions compliment the RCIP actions and provide additional clarification of management expectations. These continuing improvement initiatives have resulted in restructuring the plant organization to strengthen individual performance and the management process. Significant effort was directed toward improved definition of individual roles and responsibilities and increased emphasis on personal accountability. Additional improvements have been directed toward enhanced understanding of conservative decision-making and establishing an operating philosophy with reduced tolerance for equipment deficiencies. This understanding has been further developed and applied to staff use of operating procedures and a reinforced practical understanding of adherence to procedures.

Extensive effort has been extended to address equipment deficiencies to provide assurance that the plant operations staff would not be challenged with unnecessary equipment performance problems. An evaluation of surveillance testing results indicates a continuing improvement trend in the material condition of IP3 based upon a decreasing number of test result deficiencies as illustrated in Figure 1. We are completing prerequisites to assure timely implementation and compliance with the Maintenance Rule. An expert panel was used to identify 28 systems as risk-significant with a total of 110 systems included in oversight as stipulated by the Maintenance Rule. Activities in progress include the identification of system boundaries and equipment selection in support of the maintenance rule functions, training for the development of performance criteria and obtaining related system data. Compliance with the rule requirements is expected by April 1996.

A similar level of effort has been expended within the site engineering function to improve the effectiveness of that organization to support plant operations. Most significantly, a major reorganization has been accomplished which has consolidated the majority of site engineering functions within a single organization under the direction of a new manager who

has extensive industry experience and a record of success. Improved communications and focus on plant technical issues provides confidence in the ability of the engineering organization to support plant operations. As previously noted, system engineers are participating in training to support the development of system performance criteria and have implemented processes based on project management attributes. All of the above have contributed to improved responsiveness by the site engineering organization and improved technical and management skills, resulting in the timely resolution of both emergent and long-standing operational issues.

As previously stated, we have reorganized Indian Point 3 to support safe, effective plant operations in compliance with NRC requirements. This change includes the establishment of the General Manager Operations (GMO) position with functional responsibility for operations, radiation protection, chemistry, performance engineering, planning and scheduling, and training. This provides our new GMO, a person who successfully performed the function at our James A. FitzPatrick plant during a critical period of performance improvement, with the resources necessary to manage operations and to establish the priority of work for the plant. Additional changes made to support operations include the recent assignment of a new Operations Manager, who also has extensive industry experience.

Human performance has improved significantly, as illustrated in Figure 2, because of increased emphasis on personal accountability and improved understanding of individual roles and responsibilities. This positive performance trend and Figures 3 and 4 indicate improved attention to detail and improved performance in the area of conservative decision-making.

Additional oversight of plant operations has also been implemented with the reinstitution of the Operations Shift Mentoring Program, which consists of experienced nuclear professionals with prior shift supervisor experience. These mentors provide an additional level of technical oversight of plant operations and real-time critical feedback to shift operations and operations management concerning crew performance. Implementation of this oversight role commenced with the development of a plan, which included an orientation period to provide the shift mentors familiarity with previous operational deficiencies and a personal indoctrination concerning enhanced IP3 performance expectations. Specific assessments of crew performance focus on previously identified performance deficiencies and include the effectiveness of management leadership and direction, communications, shift turnover formality and effectiveness, procedural adherence, conservative decision-making, questioning attitude and attention to detail. Although the Operations Shift Mentoring Program has been in effect for only about one month, the shift mentors have provided meaningful feedback to operations management attesting to the technical capabilities of the operating shifts, increasing improvement in the effectiveness of the shift turnover process, communications and self-assessments of that process, and rigorous procedure compliance supplemented by a skeptical, but healthy, questioning attitude. Continuing feedback is being provided by the Shift Operations Mentors concerning process improvements and identified individual performance enhancements. Although subjective in nature, the Shift Mentors have assessed IP3 Plant Operations as being comparable to other operating staffs with apparent strengths in some areas, but recognized development needs in other areas.

A number of performance indicators at IP3 have demonstrated a continuous improvement since the spring of 1995, when we first heated up the plant. The monthly and cumulative

average human performance error rate, as noted above, has improved continuously during the period and is approaching the industry goal (Figure 2). The percentage of deficiencies discovered by plant personnel compared to the number discovered by Quality Assurance personnel and outside agencies has also continued to improve during this period (Figures 3 and 4). This demonstrates that the critical self evaluation being performed by NYPA personnel over this period has improved. During this same period, the material condition of the plant has also improved. This is demonstrated by the fact that the rates of deficient surveillance test results, for Technical and Operational Specifications, has steadily declined, as noted above (Figure 1).

Three operator training requalification cycles have been completed since July 1995. Nine operators required remediation because of weak performance in the first cycle, three operators required remediation in the second cycle, and no remediation was required in the last cycle. Also, the seven operators who took the NRC exam in December, passed.

We are planning to resume power operation of IP3 upon satisfaction of the following criteria, which we expect to accomplish this month:

1. Plant Operating Procedures and related System Operating Procedures updated and training complete.

2. Requisite corrective actions associated with recent significant events completed, as determined by the GM-Operations.

3. Shift Technical Advisor roles and responsibilities defined, training completed and qualified STAs assigned to each operating shift. While we had qualified STAs before, we will now have the on-shift Watch Engineer qualified as the STA. These WEs/STAs will provide oversight of plant operations.

4. Plant material and equipment condition established to support restart based on evaluation of the integrated impact of the following parameters:

   - Outstanding Work Requests (Figure 5)
   - Control Room Deficiencies (Figure 6)
   - Operator Work-Arounds (Figure 7)
   - Temporary Modifications (Figure 8)
   - Catch Containments (Figure 9)

In the case of operator work-arounds, the long term trend of total numbers is improving. In other cases, such as control room deficiencies and catch containments, the number has increased during periods when the plant has been at hot shutdown and operating, a more challenging period for these parameters. Our restart plan provides for a systematic evaluation of the impact of these items, both individually and in the aggregate, to assure that the plant will operate safely, effectively, and in compliance with regulatory requirements.

5. Supporting determinations will be provided by selected department managers to further ensure that there is nothing outstanding in their areas of responsibility that will preclude plant start up. These determinations will be supplemented by:

   - Operations Shift Managers and Control Room Supervisors,
   - Tactical Assessment Coordinator, and
   - Operations Shift Mentor Team Leader.

6. Determination and endorsement that the equipment and staff are capable of safely and effectively restarting IP3. This will be based on an evaluation performed by the GM-Operations and Operations Manager of the integrated impact of items 1-5.

7. Overall Approval for Restart

   - Site Executive Officer
   - Chief Nuclear Officer

The Continuous Improvement Plan (CIP) and the Restart Plan described here have been made part of the IP3 Action Item Tracking System (ACTS). Although the schedule for some of the CIP items from 1995 has been extended, these CIP items will be controlled by use of the ACTS system.

In some areas such as teamwork training, significant progress has been made. The CIP Action Plan C-1.1.1.1, addressing "core competence," is nearing completion. This topic involved identifying needed management skills for the plant staff, developing a training program to meet these needs and implementing the training. The development of a management skills training program covering teamwork and communication resulted from this action plan. Training has been provided for approximately 800 staff members, or 90% of the people scheduled to attend, in 2-3 day sessions as of the end of 1995. Another CIP Action Plan, C-1.2.1.1 addressing the personnel evaluation process, is complete. This new process is now being used to evaluate performance of Nuclear Generation Department personnel during 1995.

Each of the other CIP action plans will be tracked with the ACTS system for completion and closure. We recognize that in some cases, expected progress has not been realized. To address this, we have reinforced the importance of these plans and will assign a staff member to manage this program.

I would also like to address some of the points from the NRC Inspection Report 50-286/95-16, which we received on January 10, 1996. This report, covering inspections during the period October 31 to December 4, included a performance based team inspection of the Authority's Corrective Action Program. As a result of this inspection, we reviewed management observations performed in 1995 and ensured that observations requiring resolution were either corrected or entered into the appropriate corrective action process (DER, PID, ACTS, etc.). The Management Observation Plant Standard is being revised to make it more effective. These changes are scheduled for completion this month.

As previously mentioned, some parts of the CIP have been aggressively pursued and completed, while others were rescheduled. Also as noted above, the management of the entire CIP is being restructured this month.

The inspection report also noted that the Authority was not effectively prioritizing work backlogs. During December we implemented a new prioritization system similar to one recently implemented at our James A. FitzPatrick plant. Station work at IP3 is being prioritized using this new method. We will monitor the effectiveness of this method in addressing the management of work backlogs later this year.

CONCLUSION:

We have taken and are taking many actions to address our performance weaknesses. Some of the key actions are:

1. Clarifying improved instruction and enforcing those expectations relative to procedure adherence.

2. Extensively revising operating procedures to ensure they can be followed, consistent with item 1 above, and providing on-shift personnel to support procedure revisions.

3. Reorganizing the Operations department, including establishing the position of GM-Operations, with additional resources and authority to control operations and readiness to operate.

4. Providing and enforcing more specific directions to the shift crews regarding the formality and conduct of periodic walkdowns, logkeeping and shift turnovers.

5. Providing additional training on plant awareness and conservative decision-making.

6. Increased monitoring of operating performance by using Watch Engineers/STAs, the Tactical Assessment Group and shift mentors.

We believe these actions will significantly improve performance and facilitate lasting improvement because they address the root causes and common issues that have been part of our operating events, such as those cited in your letter.

Based on our experience in restarting and operating IP3 following an extended outage, in accomplishing numerous complex operational evolutions and recent confirming indications, we conclude that IP3 can be restarted safely and in conformance with procedures.

We will continue to monitor the effectiveness of our actions using oversight groups previously mentioned and by performing self-assessments prior to exceeding 200°F, prior to criticality, at approximately 30-40 percent power and at full power. We will revise our Continuous Improvement Plan if necessary, based on the assessments we perform during start up.

We are confident that the actions described in this letter support the safe restart and continued safe operation of the plant which we anticipate will be ready to resume the latter part of this month.

If you have any questions, please contact me

Very truly yours,

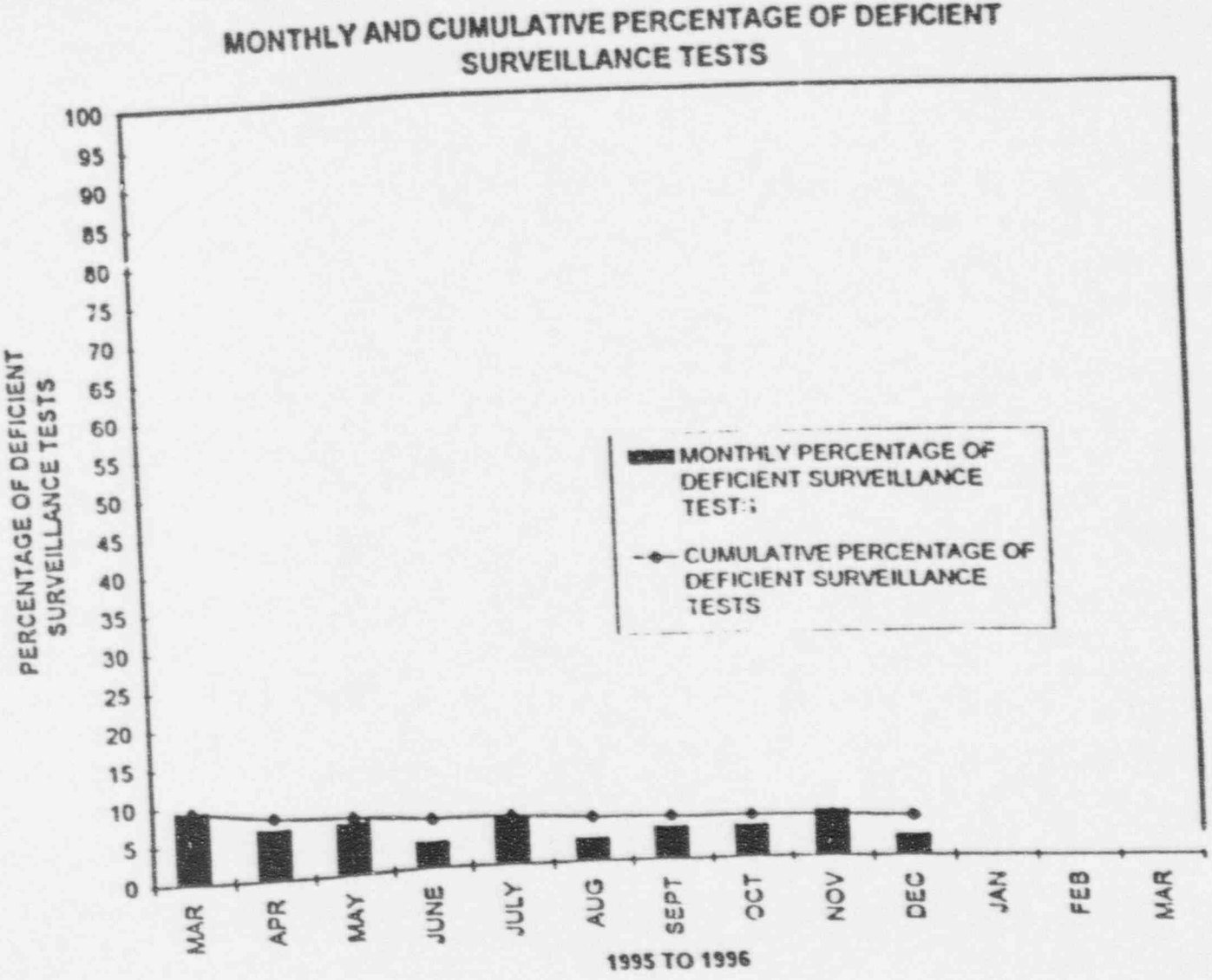
William J. Cahill, Jr.
Chief Nuclear Officer

Attachments

cc: Mr. Thomas T. Martin
Regional Administrator
Region I
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, Pennsylvania 19406-1415

Mr. Curtis J. Cowgill III, Chief
Projects Branch No. 1
Division of Reactor Projects
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, Pennsylvania 19406-1415

U.S. Nuclear Regulatory Commission
Resident Inspectors' Office
Indian Point 3 Nuclear Power Plant


MONTHLY AND CUMULATIVE PERCENTAGE OF DEFICIENT SURVEILLANCE TESTS
PERCENTAGE OF DEFICIENT SURVEILLANCE TESTS
100
95
90
85
80
75
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MONTHLY PERCENTAGE OF DEFICIENT SURVEILLANCE TEST:;
CUMULATIVE PERCENTAGE OF DEFICIENT SURVEILLANCE TESTS
MAR
APR
MAY
JUNE
JULY
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SEPT
OCT
NOV
DEC
JAN
FEB
MAR
1995 TO 1996

FIGURE 1

MONTHLY AND CUMULATIVE AVERAGE HUMAN PERFORMANCE ERROR RATES PER 10,000 HOURS WORKED

Goal is ≤ 1.0 errors per month per 10,000 hours worked

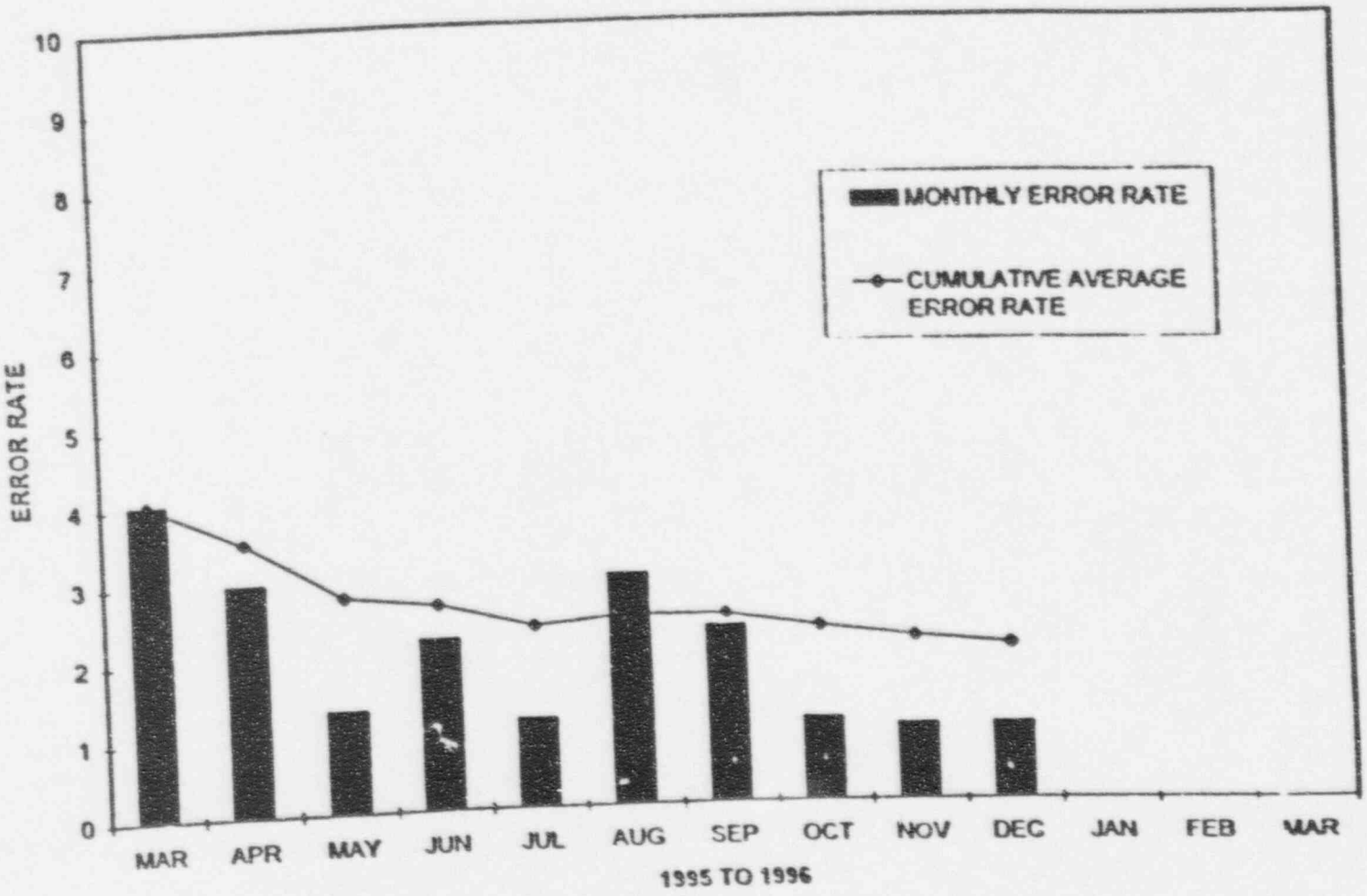
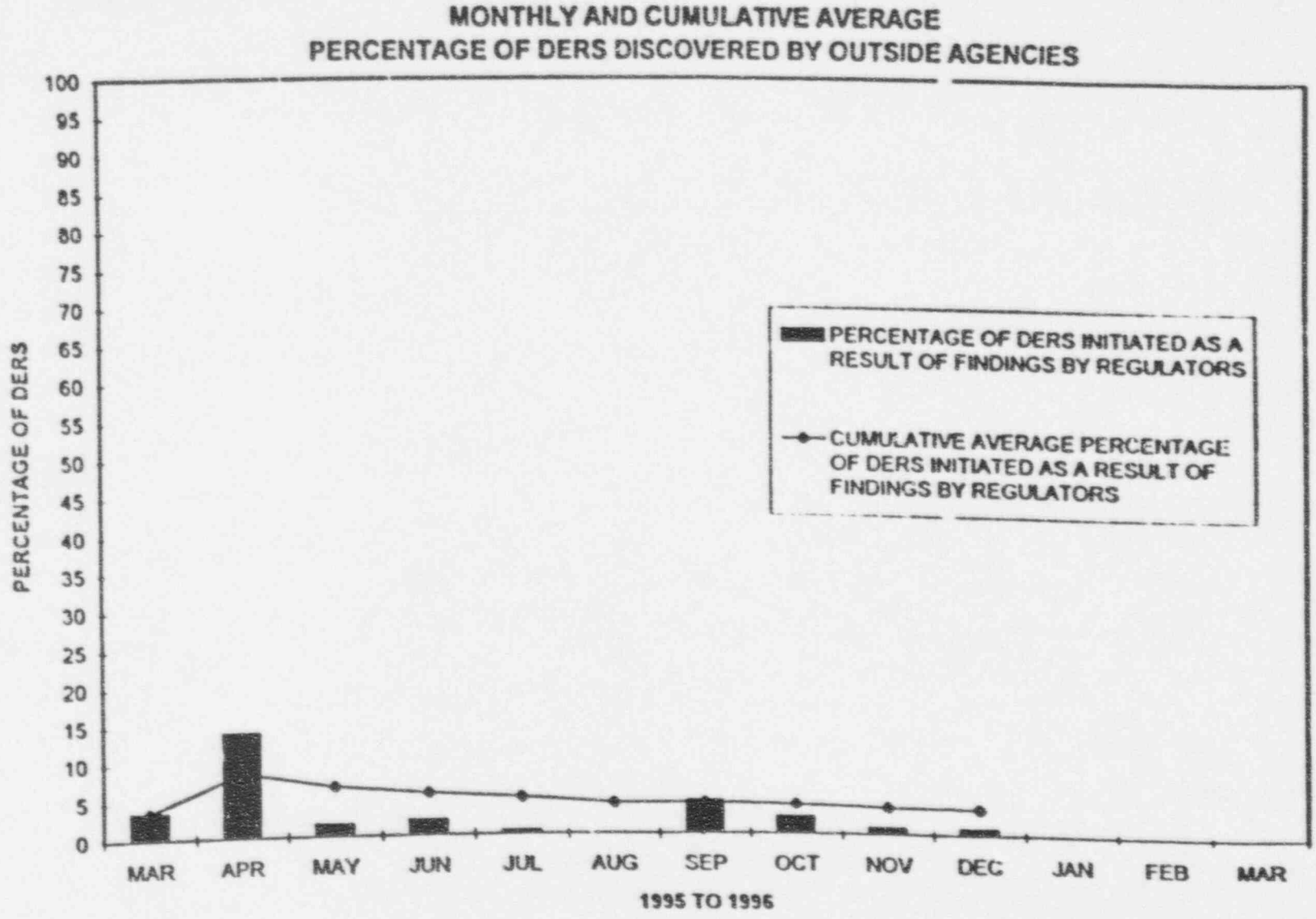


FIGURE 2


MONTHLY AND CUMULATIVE AVERAGE
PERCENTAGE OF DERS DISCOVERED BY OUTSIDE AGENCIES
PERCENTAGE OF DERS
100
95
90
85
80
75
70
65
60
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50
45
40
35
30
25
20
15
10
5
0
PERCENTAGE OF DERS INITIATED AS A RESULT OF FINDINGS BY REGULATORS
CUMULATIVE AVERAGE PERCENTAGE OF DERS INITIATED AS A RESULT OF FINDINGS BY REGULATORS
MAR
APR
MAY
JUN
JUL
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SEP
OCT
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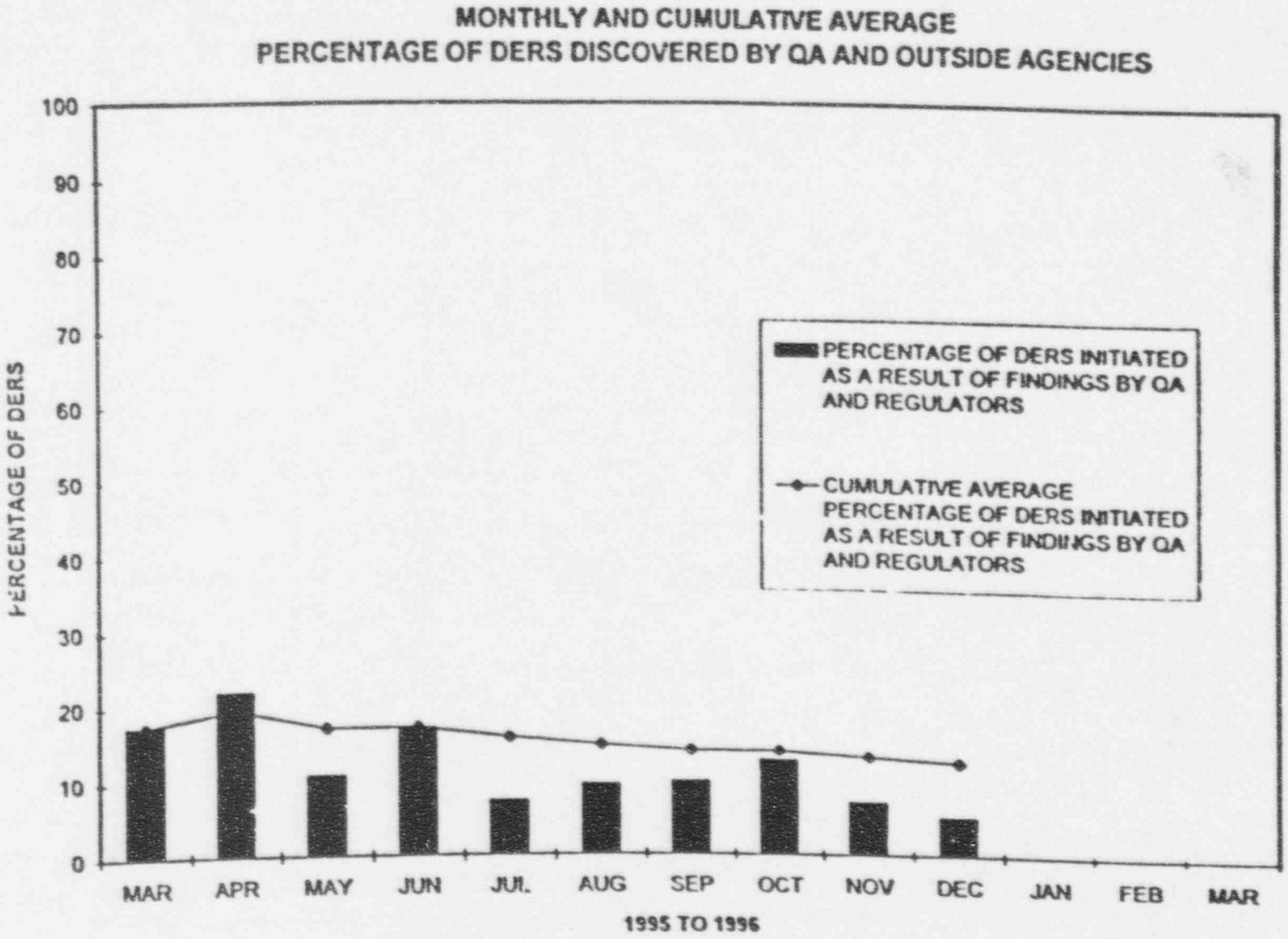
DEC
JAN
FEB
MAR
1995 TO 1996

FIGURE 3


MONTHLY AND CUMULATIVE AVERAGE
PERCENTAGE OF DERS DISCOVERED BY QA AND OUTSIDE AGENCIES
PERCENTAGE OF DERS
100
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PERCENTAGE OF DERS INITIATED AS A RESULT OF FINDINGS BY QA AND REGULATORS
CUMULATIVE AVERAGE PERCENTAGE OF DERS INITIATED AS A RESULT OF FINDINGS BY QA AND REGULATORS
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JUL
AUG
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OCT
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DEC
JAN
FEB
MAR
1995 TO 1996

FIGURE 4

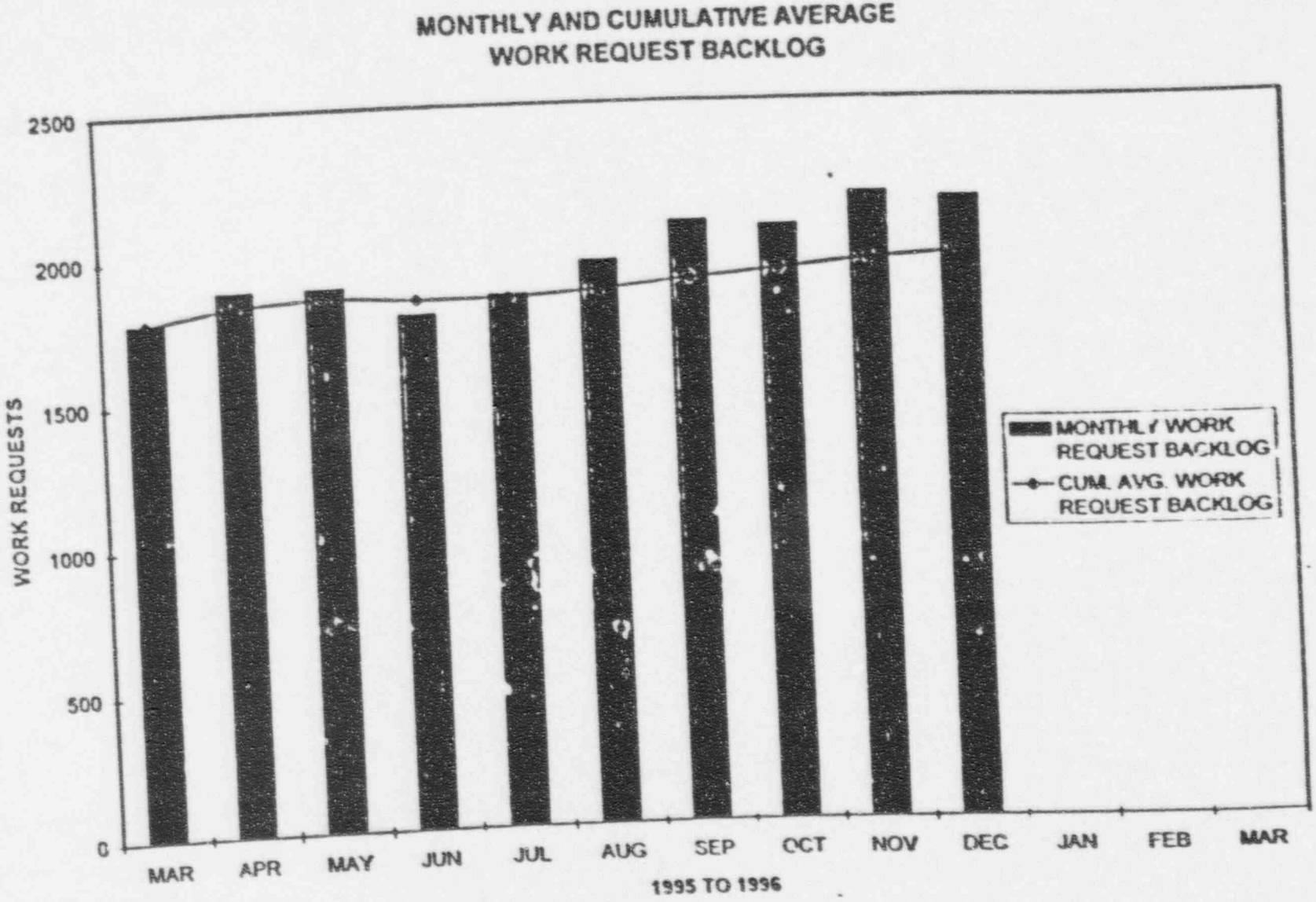

MONTHLY AND CUMULATIVE AVERAGE
WORK REQUEST BACKLOG
WORK REQUESTS
2500
2000
1500
1000
500
0
MONTHLY WORK REQUEST BACKLOG
CUM. AVG. WORK REQUEST BACKLOG
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
JAN
FEB
MAR
1995 TO 1996

FIGURE 5

MONTHLY AND CUMULATIVE AVERAGE NUMBER OF CONTROL ROOM DEFICIENCIES

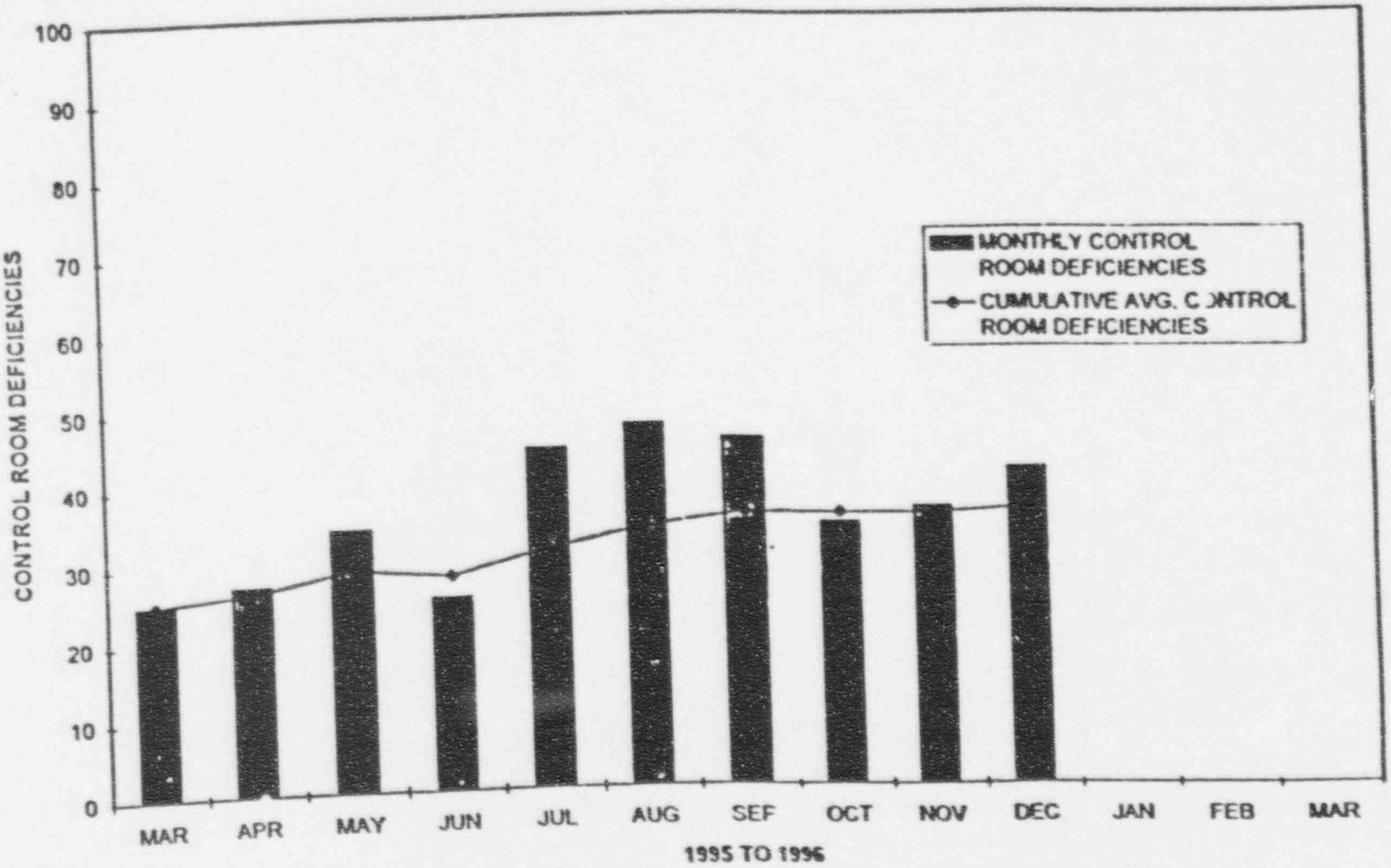


FIGURE 6

MONTHLY AND CUMULATIVE AVERAGE NUMBER OF TEMPORARY MODS

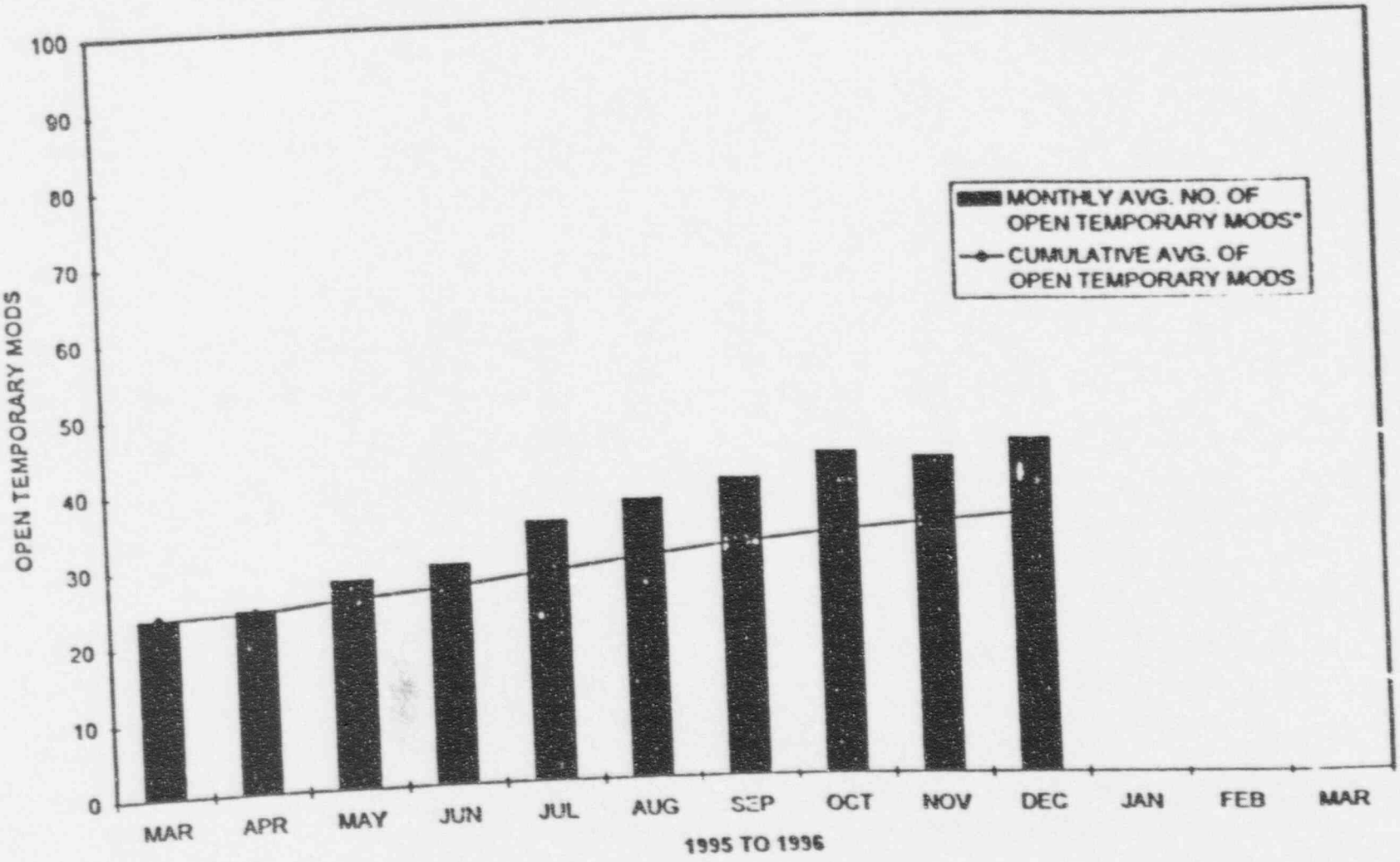
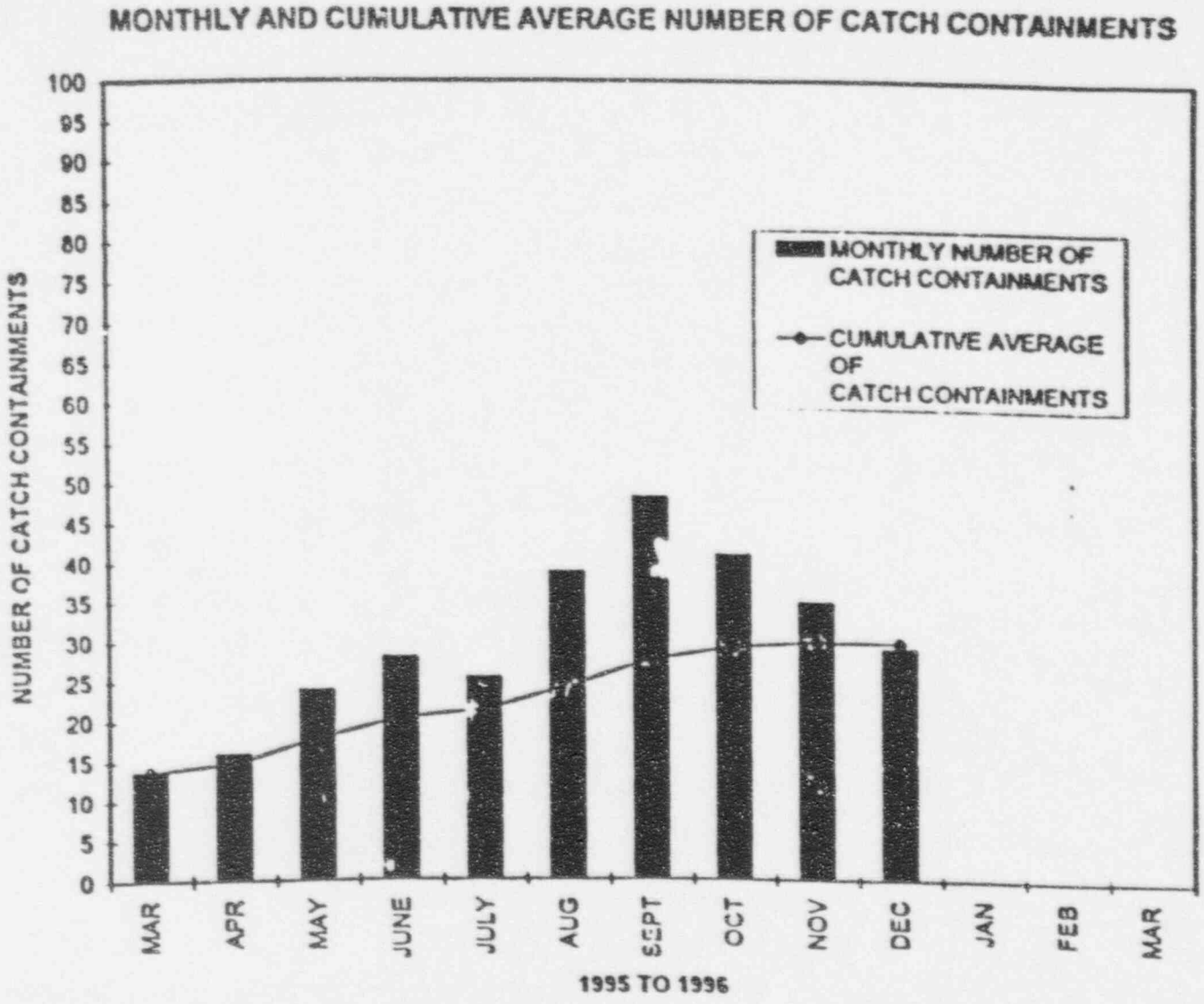


FIGURE 8

*This number represents the average of weekly open temporary mods for each month


MONTHLY AND CUMULATIVE AVERAGE NUMBER OF CATCH CONTAINMENTS
NUMBER OF CATCH CONTAINMENTS
100
95
90
85
80
75
70
65
60
55
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45
40
35
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25
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15
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5
0
MONTHLY NUMBER OF CATCH CONTAINMENTS
CUMULATIVE AVERAGE OF CATCH CONTAINMENTS
MAR
APR
MAY
JUNE
JULY
AUG
SEPT
OCT
NOV
DEC
JAN
FEB
MAR
1995 TO 1996

FIGURE 9

Recd DRPE 1/4/96

1. JV
2. Marsh
3. Harold

ACTION

EDO Principal Correspondence Control

FROM:

DUE: 01/~~17~~24/96

EDO CONTROL: 0000937
DOC DT: 01/02/96
FINAL REPLY:

Rep. Nita M. Lowey
Rep. Eliot L. Engel

TO:

Chairman Jackson

FOR SIGNATURE OF : ** PRI **

CRC NO: 96-0009

Chairman Jackson

DESC:

ROUTING:

POTENTIAL RISKS TO CONSTITUENTS POSED BY SAFETY VIOLATIONS AT THE INDIAN POINT 3 NUCLEAR POWER PLANT

Taylor
Milhoan
Thompson
Blaha
TTMartin, RI
Lieberman, OE

DATE: 01/04/96

ASSIGNED TO: CONTACT:

NRR Russell

SPECIAL INSTRUCTIONS OR REMARKS:

NRR RECEIVED: JANUARY 4, 1996
NRR ACTION: DRPE:YARGA

NRR ROUTING:
[redacted]SSELL
[redacted]RAGLIA
THADANI
ZIMMERMAN
CRUTCHFIELD
BOHRER

ACTION

DUE TO NRR DIRECTOR'S OFFICE

BY Jan. 11, 1996

Reid DRPE 1/4/96

1. JV
2. Marsh
3. Harold

ACTION

EDO Principal Correspondence Control

FROM: DUE: 01/17/96 EDO CONTROL: 0000937
DOC DT: 01/02/96
FINAL REPLY:

Rep. Nita M. Lowey
Rep. Eliot L. Engel

TO:

Chairman Jackson

FOR SIGNATURE OF : ** PRI ** CRC NO: 96-0009

Chairman Jackson

DESC:

POTENTIAL RISKS TO CONSTITUENTS POSED BY SAFETY VIOLATIONS AT THE INDIAN POINT 3 NUCLEAR POWER PLANT

ROUTING:

Taylor
Milhoan
Thompson
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TTMartin, RI
Lieberman, OE

DATE: 01/04/96

ASSIGNED TO: CONTACT:

NRR Russell

SPECIAL INSTRUCTIONS OR REMARKS:

NRR RECEIVED: JANUARY 4, 1996
NRR ACTION: DRPE:YARGA

NRR ROUTING: RUSSELL
BORALIA
THADANI
ZIMMERMAN
CRUTCHFIELD
BOHRER

ACTION
DUE TO NRR DIRECTOR'S OFFICE
BY Jan. 11, 1996

OFFICE OF THE SECRETARY
CORRESPONDENCE CONTROL TICKET

PAPER NUMBER: CRC-96-0009 LOGGING DATE: Jan 4 96

ACTION OFFICE: EDO

AUTHOR: L. ENGEL, & A. LOWERY
AFFILIATION: U.S. HOUSE OF REPRESENTATIVES

ADDRESSEE: CHAIRMAN JACKSON

LETTER DATE: Jan 2 96 FILE CODE: IDR-5 INDIAN POINT

SUBJECT: POTENTIAL RISKS TO CONSTITUENTS POSED BY SAFETY VIOLATIONS AT THE INDIAN POINT 3 NUCLEAR POWER PLANT

ACTION: Signature of Chairman

DISTRIBUTION: CHAIRMAN, ROGERS, RF

SPECIAL HANDLING: OCA TO ACK

CONSTITUENT:

NOTES:

DATE DUE: Jan 19 96

SIGNATURE: DATE SIGNED:
AFFILIATION:

Congress of the United States
House of Representatives
Washington, DC 20515

January 2, 1996

Ms. Shirley A. Jackson
Chairman
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Ms. Jackson:

We are writing about the potential risks to our constituents posed by continuing safety violations at the Indian Point 3 nuclear power plant in Buchanan, New York. As representatives of millions of New Yorkers who live in the vicinity of the plant, we urge the U.S. Nuclear Regulatory Commission (NRC) to take all necessary action to ensure that these violations cease.

As you know, in February 1993 the Indian Point 3 plant was shut down after the New York Power Authority (NYPA) filed reports with the NRC admitting that the plant had not complied with its safety design criteria. Because safety problems at the plant were so acute, the plant did not resume operations until June 1995 -- almost two and a half years later.

We understand that as soon as the plant resumed operations this June, the NRC found safety violations of the same type that had been occurring before the shutdown. As far as we are aware, however, the NRC has taken no enforcement action as a result of those violations. Moreover, on several occasions since June Indian Point 3 has again been cited for failing to follow safe operating procedures. Most recently, in mid-October the temperature of the reactor's cooling system was raised while three pumps that serve backup safety systems were inoperable, in violation of the plant's operating procedures.

The continuing violations at Indian Point 3 lead us to seriously question why the NRC permitted Indian Point 3 to resume operations when the underlying causes that led to its shutdown in 1993 had not been corrected. We want to know why these violations continue to occur and what action the NRC is taking with the NYPA to ensure they do not continue.

In light of the plant's location in one of the nation's most densely populated regions, our constituents rely upon

2 pp.

your agency to ensure their safety by holding Indian Point 3 to the very highest safety standards.

We appreciate your prompt attention to our concerns.

Sincerely,

Eliot L. Engel

Rita M. Lowey

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

CHAIRMAN

February 15, 1996

The Honorable Nita M. Lowey
United States House of Representatives
Washington, D.C. 20515

Dear Congresswoman Lowey:

I am responding to your letter of January 2, 1996, in which you expressed concern about the potential risks posed to your constituents by continued safety violations at Indian Point Nuclear Generating Unit No. 3 (IP3), which is operated by the New York Power Authority (NYPA). At present, IP3 is on the NRC's "Watch List" of plants meriting special scrutiny, and an NRC inspection team is on-site at IP3, closely monitoring the licensee's preparation for restarting the facility. I can assure you that if the NRC staff determines that it lacks reasonable assurance that the plant can operate safely, it will not hesitate to take appropriate action.

NYPA shut down IP3 in February 1993 to correct several hardware deficiencies and to implement plant-wide programmatic improvements for correcting the underlying root causes of identified performance deficiencies. Enclosure 1 is a copy of NRC's letter of June 19, 1995, which provided NRC's basis for the conclusion that the plant was ready to restart from the extended outage.

The plant restarted from that outage on June 27, 1995. During the restart, the NRC conducted inspections to assess NYPA's activities. Additional inspectors assisted the three full-time resident inspectors assigned to the site in providing around-the-clock coverage for the first phase of the startup and conducted an inspection lasting about 3 weeks. Safety violations similar to those that led to the extended shutdown were identified shortly after restart, and NYPA was cited for failing to follow safe operating procedures. The staff found that from July 10 through 12, 1995, IP3 operated with reduced reactor coolant system (RCS) pressure which was outside the plant's design basis.

Some of the factors contributing to the violation were issues that the NRC had previously brought to the attention of NYPA, such as weak management oversight of the operation department's activities, problems in the procedure upgrade program, and insufficient understanding of the facility's design basis. Consequently, NRC issued an escalated enforcement notice (Severity Level III). However, in accordance with our enforcement policy, NRC waived the monetary civil penalty because NYPA identified the violation itself, conducted a detailed root cause analysis, and took significant corrective action. A copy of the notice of violation, which was issued on October 16, 1995, and the details relating to its issuance are provided in Enclosure 2.

H/5

In September 1995, IP3 entered a forced outage to correct self-identified equipment problems. However, the new equipment problems were different from those that had been corrected during the previous shutdown.

On October 15, 1995, the IP3 operations staff violated regulatory requirements by increasing the RCS temperature above 200°F with three engineered safety features pumps inoperable due to incorrect control switch positions. A predecisional enforcement conference, which was open to the public, was held on December 13, 1995, to discuss the apparent violation, its root cause, the safety significance of the event, and subsequent corrective actions taken by NYPA. A copy of the notice of violation, which was issued on January 2, 1996, and the details relating to its issuance are provided in Enclosure 3. The violation resulted in escalated enforcement and the imposition of a $50,000 civil penalty. The notice indicates the factors that the staff weighed in determining the amount of the civil penalty. For example, though the operational staff performed poorly, a quality assurance staff member took quick and effective action to correct the problem, and though temperature limits for the RCS were exceeded, no actual hazard to safety resulted.

In light of the safety violations which occurred following initial restart, the NRC, on December 22, 1995, requested that NYPA provide the current status of its performance improvement effort and delineate the corrective actions it has taken. Our purpose was to ensure that performance problems are being arrested and that lasting improvements are being facilitated. The NRC's request and NYPA's response dated January 12, 1996, are included as Enclosures 4 and 5, respectively.

The Commission will continue to pay close attention to IP3 and will keep you informed of any significant further actions that we may take with respect to IP3.

Sincerely,

Shirley Ann Jackson

Shirley Ann Jackson

Enclosures: See letter to Engel
1. NRC Letter, June 19, 1995
2. Notice of Violation, October 16, 1995
3. Notice of Violation, January 2, 1996
4. Request for Information, December 22, 1995
5. NYPA Response to the December 22, 1995, Request for Information, January 12, 1996

Congress of the United States
House of Representatives
Washington, DC 20515

January 2, 1996

Ms. Shirley A. Jackson
Chairman
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Ms. Jackson:

We are writing about the potential risks to our constituents posed by continuing safety violations at the Indian Point 3 nuclear power plant in Buchanan, New York. As representatives of millions of New Yorkers who live in the vicinity of the plant, we urge the U.S. Nuclear Regulatory Commission (NRC) to take all necessary action to ensure that these violations cease.

As you know, in February 1993 the Indian Point 3 plant was shut down after the New York Power Authority (NYPA) filed reports with the NRC admitting that the plant had not complied with its safety design criteria. Because safety problems at the plant were so acute, the plant did not resume operations until June 1995 -- almost two and a half years later.

We understand that as soon as the plant resumed operations this June, the NRC found safety violations of the same type that had been occurring before the shutdown. As far as we are aware, however, the NRC has taken no enforcement action as a result of those violations. Moreover, on several occasions since June Indian Point 3 has again been cited for failing to follow safe operating procedures. Most recently, in mid-October the temperature of the reactor's cooling system was raised while three pumps that serve backup safety systems were inoperable, in violation of the plant's operating procedures.

The continuing violations at Indian Point 3 lead us to seriously question why the NRC permitted Indian Point 3 to resume operations when the underlying causes that led to its shutdown in 1993 had not been corrected. We want to know why these violations continue to occur and what action the NRC is taking with the NYPA to ensure they do not continue.

In light of the plant's location in one of the nation's most densely populated regions, our constituents rely upon

 7pp.

your agency to ensure their safety by holding Indian Point 3 to the very highest safety standards.

We appreciate your prompt attention to our concerns.

Sincerely,

Eliot L. Engel

Nita M. Lowey

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

July 3, 1996

The Honorable Benjamin A. Gilman, Chairman
Committee on International Relations
U.S. House of Representatives
Washington, D.C. 20515

Dear Mr. Chairman,

The U.S. Nuclear Regulatory Commission (NRC) has sent to the Office of the Federal Register for publication the enclosed final rule which amends the Commission's export regulations in 10 CFR Part 110. The amendments expand the authority of U.S. companies to export nonsensitive nuclear reactor equipment and minor quantities of nuclear materials under NRC general licensing. The final rule also adds uranium conversion plants and especially designed or prepared equipment thereof to the export licensing authority of the NRC.

The new regulations reflect the Executive Branch's nuclear non-proliferation policies and conform the export controls of the United States to the international export control guidelines of the Nuclear Suppliers Group.

Sincerely,

Dennis K. Rathbun

Dennis K. Rathbun, Director
Office of Congressional Affairs

Enclosure: As stated

cc: Representative Lee Hamilton

2pp.

The Honorable Lauch Faircloth, Chairman
Subcommittee on Clean Air, Wetlands, Private Property,
and Nuclear Safety
Committee on Environment and Public Works
United States Senate
Washington, D.C. 20510

cc: Senator Bob Graham

The Honorable Jesse Helms, Chairman
Committee on Foreign Relations
United States Senate
Washington, D.C. 20510

cc: Senator Claiborne Pell

The Honorable Ted Stevens, Chairman
Committee on Governmental Affairs
United States Senate
Washingon, D.C. 20510

cc: Senator John Glenn

The Honorable Pete V. Domenici, Chairman
Subcommittee on Energy and Water Development
Committee on Appropriations
United States Senate
Washington, D.C. 20510

cc: Senator J. Bennett Johnston

The Honorable Dan Schaefer, Chairman
Subcommittee on Energy and Power
Committee on Commerce
U.S. House of Representatives
Washington, D.C. 20515

cc: Representative Frank Pallone, Jr.

The Honorable Benjamin A. Gilman, Chairman
Committee on International Relations
U.S. House of Representatives
Washington, D.C. 20515

cc: Representative Dana Rohrabacher

The Honorable John T. Myers, Chairman
Subcommittee on Energy and Water Development
Committee on Appropriations
U.S. House of Representatives
Washington, D.C. 20515

cc: Representative Tom Bevill

ND

Ltr dtd 26

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

September 26,, 1995

The Honorable Benjamin A. Gilman
United States House of Representatives
Washington, DC 20515-3220

Dear Congressman Gilman:

I am responding to your letter of August 17, 1995, in which you requested information for one of your constituents. As requested by your constituent, I am enclosing a copy of the portions of Part 73 to Title 10, Code of Federal Regulations, that govern security of nuclear power plants.

Your constituent also asked why the security force at the nuclear plant where he works is not informed when the Federal Bureau of Investigation (FBI) receives threats regarding a nuclear power plant. If the FBI receives a credible threat and decides prompt notification is important, the FBI may first inform the licensees and then advise the NRC of the action it has taken. The FBI field offices have contingency plans for assisting nuclear power plant licensees in the event of a credible threat. In other instances, the FBI may send a threat advisory to the U.S. Nuclear Regulatory Commission (NRC). The NRC then decides whether it should pass the threat on to one or more licensees. The NRC staff does not report threats that are not remotely credible. The NRC passes on to licensees only credible threats and those threats that the NRC decides warrant prudent handling. Your constituent should understand that both the FBI and the NRC take all threats to nuclear power plants (and other NRC-licensed activities) very seriously and therefore both agencies work very closely together to ensure that the public health and safety are being protected.

This letter does not contain your constituent's name because we were asked that the request be kept confidential.

I hope that this letter responds to your constituent's concerns.

Sincerely,

James L. Milhoan for
James M. Taylor
Executive Director
for Operations

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PART 73

PHYSICAL PROTECTION OF PLANTS AND MATERIALS

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59 FR 48944

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Section 73.1 also issued under secs. 135, 141, Pub. L. 97-425, 96 Stat. 2232, 2241 (42 U.S.C. 10155, 10161). Section 73.37(f) also issued under sec. 301, Pub. L. 96-295, 94 Stat. 789 (42 U.S.C. 5841 note). Section 73.57 is issued under sec. 606, Pub. L. 99-399, 100 Stat. 876 (42 U.S.C. 2169).

59 FR 38889

§ 73.1 Purpose and scope.

(a) *Purpose.* This part prescribes requirements for the establishment and maintenance of a physical protection system which will have capabilities for the protection of special nuclear material at fixed sites and in transit and of plants in which special nuclear material is used. The following design basis threats, where referenced in ensuing sections of this part, shall be used to design safeguards systems to protect against acts of radiological sabotage and to prevent the theft of special nuclear material. Licensees subject to the provisions of § 72.182, § 72.212, § 73.20, § 73.50, and § 73.60 are exempt from § 73.1(a)(1)(i)(E) and § 73.1(a)(1)(iii).

44 FR 68184

(1) *Radiological Sabotage.* (i) A determined violent external assault, attack by stealth, or deceptive actions, of several persons with the following attributes, assistance and equipment: (A) Well-trained (including military training and skills) and dedicated individuals, (B) inside assistance which may include a knowledgeable individual who attempts to participate in a passive role (e.g., provide information), an active role (e.g., facilitate entrance and exit, disable alarms and communications, participate in violent attack), or both, (C) suitable weapons, up to and including hand-held automatic weapons, equipped with silencers and having effective long range accuracy, (D) hand-carried equipment, including incapacitating agents and explosives for use as tools of entry or for otherwise destroying reactor, facility, transporter, or container integrity or features of the safeguards system, and

59 FR 38889

(E) A four-wheel drive land vehicle used for transporting personnel and their hand-carried equipment to the proximity of vital areas, and

(ii) An internal threat of an insider, including an employee (in any position), and

(iii) A four-wheel drive land vehicle bomb.

44 FR 68184

(2) *Theft or Diversion of Formula Quantities of Strategic Special Nuclear Material.*

53 FR 45447

(i) A determined, violent, external assault, attack by stealth, or deceptive actions by a small group with the following attributes, assistance, and equipment:

(A) Well-trained (including military training and skills) and dedicated individuals;

(B) Inside assistance that may include a knowledgeable individual who attempts to participate in a passive role (e.g., provide information), an active role (e.g., facilitate entrance and exit, disable alarms and communications, participate in violent attack), or both;

(C) Suitable weapons, up to and including hand-held automatic weapons, equipped with silencers and having effective long-range accuracy;

(D) Hand-carried equipment, including incapacitating agents and explosives for use as tools of entry or for otherwise destroying reactor, facility, transporter, or container integrity or features of the safe-guards system;

(E) Land vehicles used for transporting personnel and their hand-carried equipment; and

(F) the ability to operate as two or more teams.

44 FR 68184

(ii) An individual, including an employee (in any position), and

(iii) A conspiracy between individuals in any position who may have: (A) Access to and detailed knowledge of nuclear power plants or the facilities referred to in § 73.20(a), or (B) items that could facilitate theft of special nuclear material (e.g., small tools, substitute material, false documents, etc.), or both.

45 FR 67845

(b) *Scope.* (1) This part prescribes requirements for (i) the physical protection of production and utilization facilities licensed pursuant to Part 50 of this chapter, (ii) the physical protection of plants in which activities licensed pursuant to Part 70 of this chapter are conducted, and

47 FR 57446

(iii) the physical protection of special nuclear material by any person who, pursuant to the regulations in Part 61 or 70 of this chapter, possesses or uses at any site or contiguous sites subject to the control by the licensee, formula quantities of strategic special nuclear material or special nuclear material of moderate strategic significance or special nuclear material of low strategic significance.

45 FR 67845

(2) This part prescribes requirements for the physical protection of special nuclear material in transportation by any person who is licensed pursuant to the regulations in Part 70 and Part 110 of this chapter who imports, exports, transports, delivers to a carrier for transport in a single shipment, or takes delivery of a single shipment free on board (F.O.B.) where it is delivered to a carrier, formula quantities of strategic special nuclear material, special nuclear material of moderate strategic significance or special nuclear material of low strategic significance.

(3) This part also applies to shipments by air of special nuclear material in quantities exceeding (i) 20 grams or 20 curies, whichever is less, of plutonium or uranium-233, or (ii) 350 grams of uranium-235 (contained in uranium enriched to 20 percent or more in the U-235 isotope)

(4) Special nuclear material subject to this part may also be protected pursuant to security procedures prescribed by the Commission or another Government agency for the protection of classified materials. The provisions and requirements of this part are in addition to, and not in substitution for, any such security procedures. Compliance with the requirements of this part does not relieve any licensee from any requirement or obligation to protect special nuclear material pursuant to security procedures prescribed by the Commission or other Government agency for the protection of classified materials.

(5) This part also applies to the shipment of irradiated reactor fuel in quantities that in a single shipment both exceed 100 grams in net weight of irradiated fuel, exclusive of cladding or other structural or packaging material, and have a total radiation dose in excess of 100 rems per hour at a distance of 3 feet from any accessible surface without intervening shielding.

53 FR 31651

(6) This part prescribes requirements for the physical protection of spent fuel stored in either an independent spent fuel storage installation (ISFSI) or a monitored retrievable storage installation (MRS) licensed under part 72 of this chapter.

48FR51718

(7) This part prescribes requirements for the protection of Safeguards Information in the hands of any person, whether or not a licensee of the Commission, who produces, receives, or acquires Safeguards Information.

52FR6849

(8) This part prescribes requirements for advance notice of export and import shipments of special nuclear material, including irradiated reactor fuel.

59 FR 48944

(9) As provided in part 76 of this chapter, the regulations of this part establish procedures and criteria for physical security for the issuance of a certificate of compliance or the approval of a compliance plan.

§ 73.2 Definitions.

As used in this part:

(a) Terms defined in Parts 50 and 70 of this chapter have the same meaning when used in this part.

"Appropriate Nuclear Regulatory Commission Regional Office listed in Appendix A" means:

(1) For domestic shipments—the Regional Office within whose region the licensee who is responsible for the physical protection arrangements of the shipment is located.

(2) For export shipments—the Regional Office within whose region the licensee who is responsible for the physical protection arrangements of the shipment is located, and the Regional Office for the region in which the last point of exit of the shipment from the U.S. is located.

(3) For import shipments—the Regional Office within whose region the licensee who is responsible for the physical protection arrangements of the shipment is located, and the Regional Office for the region in which the first point of entry of the shipment into the U.S. is located.

"Armed escort" means an armed person, not necessarily uniformed, whose primary duty is to accompany shipments of special nuclear material for the protection of such shipments against theft or radiological sabotage. (53 FR 45447)

"Armed response personnel" means persons, not necessarily uniformed, whose primary duty in the event of attempted theft of special nuclear material or radiological sabotage shall be to respond, armed and equipped, to prevent or delay such actions.

"Authorized individual" means any individual, including an employee, a student, a consultant, or an agent of a licensee who has been designated in writing by a licensee to have responsibility for surveillance of or control over special nuclear material or to have unescorted access to areas where special nuclear material is used or stored.

"Bullet/resisting" means protection against complete penetration, passage of fragments of projectiles, and spalling (fragmentation) of the protective material that could cause injury to a person standing directly behind the bullet-resisting barrier.

"Continuous visual surveillance" means unobstructed view at all times of a shipment of special nuclear material, and of all access to a temporary storage area or cargo compartment containing the shipment. (53 FR 45447)

"Controlled access area" means any temporarily or permanently established area which is clearly demarcated, access to which is controlled and which affords isolation of the material or persons within it.

"Deceit" means methods used to attempt to gain unauthorized access, introduce unauthorized materials, or remove strategic special nuclear materials, where the attempt involves falsification to present the appearance of authorized access.

"DOE" and "Department of Energy" means the Department of Energy established by the Department of Energy Organization Act (Pub. L. 95-91, 91 Stat. 565, 42 U.S.C. 7101 *et seq.*), to the extent that the Department, or its duly authorized representatives, exercises functions formerly vested in the U.S. Atomic Energy Commission, its Chairman, members, officers and components and transfered to the U.S. Energy Research and Development Administration and to the Administrator thereof pursuant to sections 104(b), (c) and (d) of the Energy Reorganization Act of 1974 (Pub. L. 93-438, 88 Stat. 1233 at 1237, 42 U.S.C. 5814) and retransferred to the Secretary of Energy pursuant to section 301(a) of the Department of Energy Organization Act (Pub. L. 95-91, 91 Stat. 565 at 577-578, 42 U.S.C. 7151).

"Force" means violent methods used by an adversary to attempt to steal strategic special nuclear material or to sabotage a nuclear facility or violent methods used by response personnel to protect against such adversary actions. (53 FR 45447)

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). This class of material is sometimes referred to as a Category I quantity of material. (57 FR 33426)

Contiguous sites means licensee controlled locations, deemed by the Commission to be in close enough proximity to each other, that the special nuclear material must be considered in the aggregate for the purpose of physical protection. (57 FR 33426)

"Guard" means a uniformed individual armed with a firearm whose primary duty is the protection of special nuclear material against theft, the protection of a plant against radiological sabotage, or both.

"Incendiary device" means any self-contained device intended to create an intense fire that can damage normally flame-resistant or retardant materials. (53 FR 45447)

"Intrusion alarm" means a tamper indicating electrical, electromechanical, electrooptical, electronic or similar device which will detect intrusion by an individual into a building, protected area, vital area, or material access area, and alert guards or watchmen by means of actuated visible and audible signals.

"Isolation zone" means any area adjacent to a physical barrier, clear of all objects which could conceal or shield an individual.

"Lock" in the case of vaults or vault type rooms means a three-position, manipulation resistant, dial type, built-in combination lock or combination padlock and in the case of fences, walls, and buildings means an integral door lock or padlock which provides protection equivalent to a six-tumbler cylinder lock. "Lock" in the case of a vault or vault type room also means any manipulation resistant, electromechanical device which provides the same function as a built-in combination lock or combination padlock, which can be operated remotely or by the "reading" or insertion of information, which can be uniquely characterized, and which allows operation of the device. "Locked" means protected by an operable lock.

"Material access area" means any location which contains special nuclear material, within a vault or a building, the roof, walls, and floor of which each constitute a physical barrier.

"Movement control center" means an operations center which is remote from transport activity and which maintains periodic position information on the movement of strategic special nuclear material, receives reports of attempted attacks or thefts, provides a means for reporting these and other problems to appropriate agencies and can request and coordinate appropriate aid.

"Need to know" means a determination by a person having responsibility for protecting Safeguards Information that a proposed recipient's access to Safeguards Information is necessary in the performance of official, contractual, or licensee duties of employment. (53 FR 45447)

"Person" means (1) any individual, corporation, partnership, firm, association, trust, estate, public or private institution, group, government agency other than the Commission or the Department of Energy (DOE), (except that the DOE shall be considered a person to the extent that its facilities are subject to the licensing and related regulatory authority of the Commission pursuant to section 202 of the Energy Reorganization Act of 1974 and sections 104, 105, and 202 of the Uranium Mill Tailings Radiation Control Act of 1978), any state or political subdivision of a state, or any political subdivision of any government or nation, or other entity; and (2) any legal successor, representative, agent, or agency of the foregoing.

"Physical Barrier" means: (1) Fences constructed of No. 11 American wire gauge, or heavier wire fabric, topped by three strands or more of barbed wire or similar material on brackets angled inward or outward between 30° and 45° from the vertical, with an overall height of not less than 8 feet, including the barbed topping; (2) building walls, ceilings and floors constructed of stone, brick, cinder block, concrete, steel or comparable materials (openings in which are secured by grates, doors, or

covers of construction and fastening of sufficient strength such that the integrity of the wall is not lessened by any opening), or walls of similar construction, not part of a building, provided with a barbed topping described in paragraph (1) of this definition of a height of not less than 8 feet; or

(3) Any other physical obstruction constructed in a manner and of materials suitable for the purpose for which the obstruction is intended.

"Protected area" means an area encompassed by physical barriers and to which access is controlled.

"Radiological sabotage" means any deliberate act directed against a plant or transport in which an activity licensed pursuant to the regulations in this chapter is conducted, or against a component of such a plant or transport which could directly or indirectly endanger the public health and safety by exposure to radiation.

"Safeguards Information" means information not otherwise classified as National Security Information or Restricted Data which specifically identifies a licensee's or applicant's detailed, (1) security measures for the physical protection of special nuclear material, or (2) security measures for the physical protection and location of certain plant equipment vital to the safety of production or utilization facilities.

"Security management" means persons responsible for security at the policy and general management level.

"Security Storage Container" includes any of the following repositories: (1) For storage in a building located within a protected or controlled access area, a steel filing cabinet equipped with a steel locking bar and a three position, changeable combination, GSA approved padlock; (2) A security filing cabinet that bears a Test Certification Label on the side of the locking drawer, or interior plate, and is marked, "General Services Administration Approved Security Container" on the exterior of the top drawer or door; (3) A bank safe-deposit box; and (4) Other repositories which in the judgement of the NRC, would provide comparable physical protection.

"Security supervision" means persons, not necessarily uniformed or armed, whose primary duties are supervision and direction of security at the day-to-day operating level.

Special nuclear material of low strategic significance means:

(1) Less than an amount of special nuclear material of moderate strategic significance as defined in paragraph (1) of the definition of strategic nuclear material of moderate strategic significance in this section, but more than 15 grams of uranium-235 (contained in uranium enriched to 20 percent or more in U-235 isotope) or 15 grams of uranium-233 or 15 grams of plutonium or the combination of 15 grams when computed by the equation, grams = (grams contained U-235) + (grams plutonium) + (grams U-233); or

(2) Less than 10,000 grams but more than 1,000 grams of uranium-235 (contained in uranium enriched to 10 percent or more but less than 20 percent in the U-235 isotope); or

(3) 10,000 grams or more of uranium-235 (contained in uranium enriched above natural but less than 10 percent in the U-235 isotope).

This class of material is sometimes referred to as a Category III quantity of material.

Special nuclear material of moderate strategic significance means:

(1) Less than a formula quantity of strategic special nuclear material but more than 1,000 grams of uranium-235 (contained in uranium enriched to 20 percent or more in the U-235 isotope) or more than 500 grams of uranium-233 or plutonium, or in a combined quantity of more than 1,000 grams when computed by the equation, grams = (grams contained U-235) + 2 (grams U-233 + grams plutonium); or

(2) 10,000 grams or more of uranium-235 (contained in uranium enriched to 10 percent or more but less than 20 percent in the U-235 isotope).

This class of material is sometimes referred to as a Category II quantity of material.

"Stealth" means methods used to attempt to gain unauthorized access, introduce unauthorized materials, or remove strategic special nuclear material, where the fact of such attempt is concealed or an attempt is made to conceal it.

"Strategic special nuclear material" means uranium-235 (contained in uranium enriched to 20 percent or more in the U-235 isotope), uranium-233, or plutonium.

"Tactical Response Team" means the primary response force for each shift which can be identified by a distinctive item of uniform, armed with specified weapons, and whose other duties permit immediate response.

"Transport" means any land, sea, or air conveyance or modules for these conveyances such as rail cars or standardized cargo containers.

"Undergoing processing" means performing active operations on material such as chemical transformation, physical transformation, or transit between such operations, to be differentiated from storage or packaging for shipment.

"Vault" means a windowless enclosure with walls, floor, roof and door(s) designed and constructed to delay penetration from forced entry.

"Vault-type room" means a room with one or more doors, all capable of being locked, protected by an intrusion alarm which creates an alarm upon the entry of a person anywhere into the room and upon exit from the room or upon movement of an individual within the room.

"Vital area" means any area which contains vital equipment.

"Vital equipment" means any equipment, system, device, or material, the failure, destruction, or release of which could directly or indirectly endanger the public health and safety by exposure to radiation. Equipment or systems which would be required to function to protect public health and safety following such failure, destruction, or release are also considered to be vital.

"Watchman" means an individual, not necessarily uniformed or armed with a firearm, who provides protection for a plant and the special nuclear material therein in the course of performing other duties.

53 FR 45447

57 FR 33428

53 FR 45447

38 FR 35430

§ 73.3 Interpretations.

Except as specifically authorized by the Commission in writing, no interpretation of the meaning of the regulations in this part by any officer or employee of the Commission other than a written interpretation by the General Counsel will be recognized as binding upon the Commission.

53 FR 43319

§ 73.4 Communications.

Except where otherwise specified, all communications and reports concerning the regulations in this part should be addressed to the Director of Nuclear Material Safety and Safeguards or the Director of Nuclear Reactor Regulation, as appropriate, U.S Nuclear Regulatory Commission, Washington, DC 20555, or may be delivered in person at the Commission's offices at 2120 L Street, NW., Washington, DC, or at 11555 Rockville Pike, Rockville, Maryland.

38 FR 35430

§ 73.5 Specific exemptions.

The Commission may, upon application of any interested person or upon its own initiative, grant such exemptions from the requirements of the regulations in this part as it determines are authorized by law and will not endanger life or property or the common defense and security, and are otherwise in the public interest.

58 FR 31467

§ 73.6 Exemptions for certain quantities and kinds of special nuclear material.

A licensee is exempt from the requirements of 10 CFR part 26 and §§ 73.20, 73.25, 73.26, 73.27, 73.45, 73.46, 73.70 and 73.72 with respect to the following special nuclear material:

49 FR 52840

(a) Uranium-233 contained in uranium enriched to less than 20 percent in the U-235 isotope;

(b) Special nuclear material which is not readily separable from other radioactive material and which has a total external radiation dose rate in excess of 100 rems per hour at a distance of 3 feet from any accessible surface without intervening shielding; and

(c) Special nuclear material in a quantity not exceeding 350 grams of uranium-235, uranium-233, plutonium, or a combination thereof, possessed in any analytical, research, quality control, metallurgical or electronic laboratory.

44 FR 68184

(d) Special nuclear material that is being transported by the United States Department of Energy transport system.

(e) Special nuclear material at nonpower reactors.

Licensees subject to § 73.60 are not exempted from §§ 73.70 and 73.72, and licensees subject to § 73.67(e) are not exempted from § 73.72 of this part.

49 FR 19623

§ 73.8 Information collection requirements: OMB approval.

(a) The Nuclear Regulatory Commission has submitted the information collection requirements contained in this part to the Office of Management and Budget (OMB) for approval as required by the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.). OMB has approved the information collection requirements contained in this part under control number 3150-0002.

(b) The approved information collection requirements contained in this part appear in §§ 73.20, 73.24, 73.25, 73.26, 73.27, 73.37, 73.40, 73.45, 73.46, 73.50, 73.55, 73.67, 73.70, 73.71, 73.72, and Appendices B and C.

44 FR 68184

§ 73.20 General performance objective and requirements.

(a) In addition to any other requirements of this part, each licensee who is authorized to operate a fuel reprocessing plant pursuant to Part 50 of this chapter, possesses or uses formula quantities of strategic special nuclear material at any site or contiguous sites subject to control by the licensee; is authorized to transport or deliver to a carrier for transportation pursuant to Part 70 of this chapter formula quantities of strategic special nuclear material; takes delivery of formula quantities of strategic special nuclear material free on board (f.o.b.) the point at which it is delivered to a carrier for transportation; or imports or exports formula quantities of strategic special nuclear material, shall establish and maintain or make arrangements for a physical protection system which will have as its objective to provide high assurance that activities involving special nuclear material are not inimical to the common defense and security, and do not constitute an unreasonable risk to the public health and safety. The physical protection system shall be designed to protect against the design basis threats of theft or diversion of strategic special nuclear material and radiological sabotage as stated in § 73.1(a).

(b) To achieve the general performance objective of paragraph (a) of this section a licensee shall establish and maintain, or arrange for, a physical protection system that:

(1) Provides the performance capabilities described in § 73.25 for in-transit protection or in § 73.45 for fixed site protection unless otherwise authorized by the Commission;

57 FR 33426

(2) Is designed with sufficient redundancy and diversity to ensure maintenance of the capabilities described in §§ 73.25 and 73.45;

(3) Includes a safeguards contingency capability that can meet the criteria in appendix C to this part "Licensee Safeguards Contingency Plans;" and

(4) Includes a testing and maintenance program to assure control over all activities and devices affecting the effectiveness, reliability, and availability of the physical protection system, including a demonstration that any defects of such activities and devices will be promptly detected and corrected for the total period of time they are required as a part of the physical protection system.

(c) Each licensee subject to the requirements of paragraphs (a) and (b) of this section shall establish, maintain, and follow NRC-approved safeguards physical protection and safeguards contingency plans that describe how the licensee will comply with the requirements of paragraphs (a) and (b) of this section.

45 FR 71718

§ 73.21 Requirements for the protection of safeguards information.

(a) *General performance requirement.* Each licensee who (1) possesses a formula quantity of strategic special nuclear material, or (2) is authorized to operate a nuclear power reactor, or (3) transports, or delivers to a carrier for transport, a formula quantity of strategic special nuclear material or more than 100 grams of irradiated reactor fuel, and each person who produces, receives, or acquires Safeguards Information shall ensure that Safeguards Information is protected against unauthorized disclosure. To meet this general performance requirement, licensees and persons subject to this section shall establish and maintain an information protection system that includes the measures specified in paragraphs (b) through (i) of this section. Information protection procedures employed by State and local police forces are deemed to meet these requirements.

(b) *Information to be protected.* The specific types of information, documents, and reports that shall be protected are as follows:

(1) *Physical Protection at Fixed Sites.* Information not otherwise classified as Restricted Data or National Security Information relating to the protection of facilities that possess formula quantities of strategic special nuclear material, and power reactors. Specifically: (i) The composite physical security plan for the

nuclear facility or site.

(ii) Site specific drawings, diagrams, sketches, or maps that substantially represent the final design features of the physical protection system.

(iii) Details of alarm system layouts showing location of intrusion detection devices, alarm assessment equipment, alarm system wiring, emergency power sources, and duress alarms.

(iv) Written physical security orders and procedures for members of the security organization, duress codes, and patrol schedules.

(v) Details of the on-site and off-site communications systems that are used for security purposes.

(vi) Lock combinations and mechanical key design.

(vii) Documents and other matter that contain lists or locations of certain safety-related equipment explicitly identified in the documents as vital for purposes of physical protection, as contained in physical security plans, safeguards contingency plans, or plant specific safeguards analyses for production or utilization facilities.

(viii) The composite safeguards contingency plan for the facility or site.

(ix) Those portions of the facility guard qualification and training plan which disclose features of the physical security system or response procedures.

(x) Response plans to specific threats detailing size, disposition, response times, and armament of responding forces.

(xi) Size, armament, and disposition of on-site reserve forces.

(xii) Size, identity, armament, and arrival times of off-site forces committed to respond to safeguards emergencies.

46 FR 51718

(xiii) Information required by the Commission pursuant to 10 CFR 73.55 (c) (8) and (9).

59 FR 38889

(2) *Physical protection in transit.* Information not otherwise classified as Restricted Data or National Security Information relative to the protection of shipments of formula quantities of strategic special nuclear material and spent fuel. Specifically: (i) The composite transportation physical security plan.

(ii) Schedules and itineraries for specific shipments. (Routes and quantities for shipments of spent fuel are not withheld from public disclosure. Schedules for spent fuel shipments may be released 10 days after the last shipment of a current series.)

(iii) Details of vehicle immobilization features, intrusion alarm devices, and communication systems.

(iv) Arrangements with and capabilities of local police response forces, and locations of safe havens.

(v) Details regarding limitations of radio-telephone communications.

(vi) Procedures for response to safeguards emergencies.

(3) *Inspections, audits and evaluations.* Information not otherwise classified as National Security Information or Restricted Data relating to safeguards inspections and reports. Specifically:

(i) Portions of safeguards inspection reports, evaluations, audits, or investigations that contain details of a licensee's or applicant's physical security system or that disclose uncorrected defects, weaknesses, or vulnerabilities in the system. Information regarding defects, weaknesses or vulnerabilities may be released after corrections have been made. Reports of investigations may be released after the investigation has been completed, unless withheld pursuant to other authorities, e.g., the Freedom of Information Act (5 U.S.C. 552).

(4) *Correspondence.* Portions of correspondence insofar as they contain safeguards information specifically defined in paragraphs (b)(1) through (b)(3) of this paragraph.

(c) *Access to Safeguards Information.* (1) Except as the Commission may otherwise authorize, no person may have access to Safeguards Information unless the person has an established "need to know" for the information and is:

46 FR 51718

(i) An employee, agent, or contractor of an applicant, a licensee, the Commission, or the United States Government. However, an individual to be authorized access to Safeguards Information by a nuclear power reactor applicant or licensee must undergo a Federal Bureau of Investigation criminal history check to the extent required by 10 CFR 73.57;

54 FR 17703

(ii) A member of a duly authorized committee of the Congress;

(iii) The Governor of a State or designated representative;

(iv) A representative of the International Atomic Energy Agency (IAEA) engaged in activities associated with the U.S./IAEA Safeguards Agreement who has been certified by the NRC;

(v) A member of a state or local law enforcement authority that is responsible for responding to requests for assistance during safeguards emergencies; or

(vi) An individual to whom disclosure is ordered pursuant to § 2.744(e) of this chapter.

46 FR 51718

(2) Except as the Commission may otherwise authorize, no person may disclose Safeguards Information to any other person except as set forth in paragraph (c)(1) of this section.

(d) *Protection while in use or storage.* (1) While in use, matter containing Safeguards Information shall be under the control of an authorized individual.

(2) While unattended, Safeguards Information shall be stored in a locked security storage container. Knowledge of lock combinations protecting Safeguards Information shall be limited to a minimum number of personnel for operating purposes who have a "need to

know" and are otherwise authorized access to Safeguards Information in accordance with the provisions of this section.

(e) *Preparation and marking of documents.* Each document or other matter that contains Safeguards Information as defined in paragraph (b) in this section shall be marked "Safeguards Information" in a conspicuous manner to indicate the presence of protected information (portion marking is not required for the specific items of information set forth in paragraph § 73.21(b) other than guard qualification and training plans and correspondence to and from the NRC). Documents and other matter containing Safeguards Information in the hands of contractors and agents of licensees that were produced more than one year prior to the effective date of this amendment need not be marked unless they are removed from storage containers for use.

(f) *Reproduction and destruction of matter containing Safeguards Information.* (1) Safeguards Information may be reproduced to the minimum extent necessary consistent with need without permission of the originator.

(2) Documents or other matter containing Safeguards Information may be destroyed by any method that assures complete destruction of the Safeguards Information they contain.

(g) *External transmission of documents and material.* (1) Documents or other matter containing Safeguards Information, when transmitted outside an authorized place of use or storage, shall be packaged to preclude disclosure of the presence of protected information.

(2) Safeguards Information may be transported by messenger-courier, United States first class, registered, express, or certified mail, or by any individual authorized access pursuant to § 73.21(c).

(3) Except under emergency or extraordinary conditions, Safeguards Information shall be transmitted only by protected telecommunications circuits (including facsimile) approved by the NRC. Physical security events required to be reported pursuant to § 73.71 are considered to be extraordinary conditions.

(h) *Use of automatic data processing (ADP) systems.* Safeguards Information may be processed or produced on an ADP system provided that the system is self-contained within the licensee's or his contractor's facility and requires the use of an entry code for access to stored information. Other systems may be used if approved for security by the NRC.

(i) *Removal from Safeguards Information category.* Documents originally containing Safeguards Information shall be removed from the Safeguards Information category whenever the information no longer meets the criteria contained in this section.

46 FR 51718

§ 73.24 Prohibitions.

(a) Except as specifically approved by the Nuclear Regulatory Commission, no shipment of special nuclear material shall be made in passenger aircraft in excess of (1) 20 grams or 20 curies, whichever is less, of plutonium or uranium-233, or (2) 350 grams of uranium-235 (contained in uranium enriched to 20 percent or more in the U-235 isotope).

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(b) Unless otherwise approved by the Nuclear Regulatory Commission, no licensee may make shipments of special nuclear material in which individual shipments are less than a formula quantity, but the total quantity in shipments in transit at the same time could equal or exceed a formula quantity, unless either of the following conditions are met:

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(1) The licensee shall confirm and log the arrival at the final destination of each individual shipment and retain the log for three years from the date of the last entry in the log. The licensee shall also schedule shipments to ensure that the total quantity for two or more shipments in transit at the same time does not equal or exceed the formula quantity, or

(2) Physical protection in accordance with the requirements of §§ 73.20, 73.25, and 73.26 is provided by the licensee for such shipments as appropriate so that the total quantity of special nuclear material in the remaining shipments not so protected, and in transit at the same time, does not equal or exceed a formula quantity.

Physical Protection of Special Nuclear Material in Transit

44 FR 68184

§ 73.25 Performance capabilities for physical protection of strategic special nuclear material in transit.

(a) To meet the general performance objective and requirements of § 73.20 an in-transit physical protection system shall include the performance capabilities described in paragraphs (b) through (d) of this section unless otherwise authorized by the Commission.

(b) Restrict access to and activity in the vicinity of transports and strategic special nuclear material. To achieve this capability the physical protection system shall:

(1) Minimize the vulnerability of the strategic special nuclear material by using the following subfunctions and procedures:

(i) Preplanning itineraries for the movement of strategic special nuclear material;

(ii) Periodically updating knowledge of route conditions for the movement of strategic special nuclear material;

(iii) Maintaining knowledge of the status and position of the strategic special nuclear material en route; and

(iv) Determining and communicating alternative itineraries en route as conditions warrant.

(2) Detect and delay any unauthorized attempt to gain access or introduce unauthorized materials by stealth or force into the vicinity of transports and strategic special nuclear material using the following subsystems and subfunctions:

(i) Controlled access areas to isolate strategic special nuclear material and transports to assure that unauthorized persons shall not have direct access to, and unauthorized materials shall not be introduced into the vicinity of, the transports and strategic special nuclear material, and

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(ii) Access detection subsystems and procedures to detect, assess and communicate any unauthorized penetration (or such attempts) of a controlled access area by persons, vehicles or materials so that the response will satisfy the general performance objective and requirements of § 73.20(a).

(3) Detect attempts to gain unauthorized access or introduce unauthorized materials into the vicinity of transports by deceit using the following subsystems and subfunctions:

(i) Access authorization controls and procedures to provide current authorization schedules and access criteria for persons, materials and vehicles; and

(ii) Access controls and procedures to verify the identity of persons, materials and vehicles, to assess such identity against current authorization schedules and access criteria before permitting access, and to initiate response measures to deny unauthorized entries.

(c) Prevent or delay unauthorized entry or introduction of unauthorized materials into, and unauthorized removal of, strategic special nuclear material from transports. To achieve this capability the physical protection system shall:

(1) Detect attempts to gain unauthorized entry or introduce unauthorized materials into transports by deceit using the following subsystems and subfunctions:

(i) Access authorization controls and

procedures to provide current authorization schedules and entry criteria for access into transports for both persons and materials; and

(ii) Entry controls and procedures to verify the identity of persons and materials and to permit transport entry only to those persons and materials specified by the current authorization schedules and entry criteria.

(2) Detect attempts to gain unauthorized entry or introduce unauthorized material into transports by stealth or force using the following subsystems and subfunctions:

(i) Transport features to delay access to strategic special nuclear material sufficient to permit the detection and response systems to function so as to satisfy the general performance objective and requirements of § 73.20(a);

(ii) Inspection and detection subsystems and procedures to detect unauthorized tampering with transports and cargo containers; and

(iii) Surveillance subsystems and procedures to detect, assess and communicate any unauthorized presence of persons or materials and any unauthorized attempt to penetrate the transport so that the response will satisfy the general performance objective and requirements of § 73.20(a).

(3) Prevent unauthorized removal of strategic special nuclear material from transports by deceit using the following subsystems and subfunctions:

(i) Authorization controls and procedures to provide current schedules for authorized removal of strategic special nuclear material which specify the persons authorized to remove and receive the material, the authorized times for such removal and receipt and authorized places for such removal and receipt.

(ii) Removal controls and procedures to establish activities for transferring cargo in emergency situations; and

(iii) Removal controls and procedures to permit removal of strategic special nuclear material only after verification of the identity of persons removing or receiving the strategic special nuclear material, and after verification of the identity and integrity of the strategic special nuclear material being removed from transports.

(4) Detect attempts to remove strategic special nuclear material from transports by stealth or force using the following subsystems and subfunctions:

(i) Transport features to delay unauthorized strategic special nuclear material removal attempts sufficient to assist detection and permit a response to satisfy the general performance objective and requirements of § 73.20(a); and

(ii) Detection subsystems and procedures to detect, assess and communicate any attempts at unauthorized removal of strategic special nuclear material so that response to the attempt can be such as to satisfy the general performance objective and requirements of § 73.20(a).

(d) Respond to safeguards contingencies and emergencies to assure that the two capabilities in paragraphs (b) and (c) of this section are achieved, and to engage and impede adversary forces until local law enforcement forces arrive. To achieve this capability, the physical protection system shall:

(1) Respond rapidly and effectively to safeguards contingencies and emergencies using the following subsystems and subfunctions:

(i) A security organization composed of trained and qualifed personnel, including armed escorts, one of whom is designated as escort commander, with procedures for command and control, to execute response functions.

(ii) Assessment procedures to assess the nature and extent of security related incidents.

(iii) A predetermined plan to respond to safeguards contingency events.

(iv) Equipment and procedures to enable responses to security related incidents sufficiently rapid and effective to achieve the predetermined objective of each action.

(v) Equipment, vehicle design features, and procedures to protect security organization personnel, including those at the movement control center, in their performance of assessment and response related functions.

(2) Transmit detection, assessment and other response related information using the following subsystems and subfunctions:

(i) Communications equipment and procedures to rapidly and accurately transmit security information among armed escorts.

(ii) Equipment and procedures for two-way communications between the escort commander and the movement control center to rapidly and accurately transmit assessment information and requests for assistance by local law enforcement forces, and to coordinate such assistance.

(iii) Communications equipment and procedures for the armed escorts and the movement control center personnel to notify local law enforcement forces of the need for assistance.

(3) Establish liaisons with local law enforcement authorities to arrange for assistance en route.

(4) Assure that a single adversary action cannot destroy the capability of armed escorts to notify the local law enforcement forces of the need for assistance.

§ 73.26 Transportation physical protection systems, subsystems, components, and procedures.

(a) A transportation physical protection system established pursuant to the general performance objectives and requirements of § 73.20 and performance capability requirements of § 73.25 shall include, but are not necessarily limited to, the measures specified in paragraphs (b) through (l) of this section. The Commission may require, depending on the individual transportation conditions or circumstances, alternate or additional measures deemed necessary to meet the general performance objectives and requirements of §73.20. The Commission also may authorize protection measures other than those required by this section if, in its opinion, the overall level of performance meets the general performance objectives and requirements of § 73.20 and the performance capability requirements of § 73.25.

(b) Planning and Scheduling.

(1) Shipments shall be scheduled to avoid regular patterns and preplanned to avoid areas of natural disaster or civil disorders, such as strikes or riots. Such shipments shall be planned in order to avoid storage times in excess of 24 hours and to assure that deliveries occur at a time when the receiver at the final delivery point is present to accept the shipment.

(2) Arrangements shall be made with law enforcement authorities along the route of shipments for their response to an emergency or a call for assistance.

(3) Security arrangements for each shipment shall be approved by the Nuclear Regulatory Commission prior to the time for the seven-day notice required by § 73.72. Information to be supplied to the Commission in addition to the general security plan information is as follows:

(i) Shipper, consignee, carriers, transfer points, modes of shipment,

(ii) Point where escorts will relinquish responsibility or will accept responsibility for the shipment,

(iii) Arrangements made for transfer of shipment security, and

(iv) Security arrangements at point where escorts accept responsibility for an import shipment.

(4) Hand-to-hand receipts shall be completed at origin and destination and at all points enroute where there is a transfer of custody.

(c) Export/Import Shipments.

(1) A licensee who imports a formula quantity of strategic special nuclear material shall make arrangements to assure that the material will be protected in transit as follows:

44 FR 68184

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Physical Protection Requirements at Fixed Sites

58 FR 13699

§ 73.40 Physical protection: General requirements at fixed sites.

Each licensee shall provide physical protection at a fixed site, or contiguous sites where licensed activities are conducted, against radiological sabotage, or against theft of special nuclear material, or against both, in accordance with the applicable sections of this Part for each specific class of facility or material license. If applicable, the licensee shall establish and maintain physical security in accordance with security plans approved by the Nuclear Regulatory Commission.

44 FR 68184

§ 73.45 Performance capabilities for fixed site physical protection systems.

(a) To meet the general performance requirements of § 73.20 a fixed site physical protection system shall include the performance capabilities described in paragraphs (b) through (g) of this section unless otherwise authorized by the Commission.

(b) Prevent unauthorized access of persons, vehicles and materials into material access areas and vital areas. To achieve this capability the physical protection system shall:

(1) Detect attempts to gain unauthorized access or introduce unauthorized material across material access or vital area boundaries by stealth or force using the following subsystems and subfunctions:

(i) Barriers to channel persons and material to material access and vital area entry control points and to delay any unauthorized penetration attempts by persons or materials sufficient to assist detection and permit a response that will prevent the penetration; and

(ii) Access detection subsystems and procedures to detect, assess and communicate any unauthorized penetration attempts by persons or materials at the time of the attempt so that the response can prevent the unauthorized access or penetration.

(2) Detect attempts to gain unauthorized access or introduce unauthorized materials into material access areas or vital areas by deceit using the following subsystems and subfunctions:

(i) Access authorization controls and procedures to provide current authorization schedules and entry criteria for both persons and materials; and

(ii) Entry controls and procedures to verify the identity of persons and materials and assess such identity against current authorization schedules and entry criteria before permitting entry and to initiate response measures to deny unauthorized entries.

(c) Permit only authorized activities and conditions within protected areas, material access areas, and vital areas. To achieve this capability the physical protection system shall:

(1) Detect unauthorized activities or conditions within protected areas, material access areas and vital areas using the following subsystems and subfunctions:

(i) Controls and procedures that establish current schedules of authorized activities and conditions in defined areas;

(ii) Boundaries to define areas within which the authorized activities and conditions are permitted; and

(iii) Detection and surveillance subsystems and procedures to discover and assess unauthorized activities and conditions and communicate them so that response can be such as to stop the activity or correct the conditions to satisfy the general performance objective and requirements of § 73.20(a).

44 FR 68184

(d) Permit only authorized placement and movement of strategic special nuclear material within material access areas. To achieve this capability the physical protection system shall:

(1) Detect unauthorized placement and movement of strategic special nuclear material within the material access area using the following subsystems and subfunctions:

(i) Controls and procedures to delineate authorized placement and control for strategic special nuclear material;

(ii) Controls and procedures to establish current authorized placement and movement of all strategic special nuclear material within material access areas;

(iii) Controls and procedures to maintain knowledge of the identity, quantity, placement, and movement of all strategic special nuclear material within material access areas; and

(iv) Detection and monitoring subsystems and procedures to discover and assess unauthorized placement and movement of strategic special nuclear material and communicate them so that response can be such as to return the strategic special nuclear material to authorized placement or control.

(e) Permit removal of only authorized and confirmed forms and amounts of strategic special nuclear material from material access areas. To achieve this capability the physical protection system shall:

(1) Detect attempts at unauthorized removal of strategic special nuclear material from material access areas by stealth or force using the following subsystems and subfunctions:

(i) Barriers to channel persons and materials exiting a material access area to exit control points and to delay any unauthorized strategic special nuclear material removal attempts sufficient to assist detection and assessment and permit a response that will prevent the removal; and satisfy the general performance objective and requirements of § 73.20(a); and

(ii) Detection subsystems and procedures to detect, assess and communicate any attempts at unauthorized removal of strategic special nuclear material so that response to the attempt can be such as to prevent the removal and satisfy the general performance objective and requirements of § 73.20(a).

44 FR 68184

(2) Confirm the identity and quantity of strategic special nuclear material presented for removal from a material access area and detect attempts at unauthorized removal of strategic special nuclear material from material access areas by deceit using the following subsystems and subfunctions:

(i) Authorization controls and procedures to provide current schedules for authorized removal of strategic special nuclear material which specify the authorized properties and quantities of material to be removed, the persons authorized to remove the material, and the authorized time schedule;

(ii) Removal controls and procedures to identify and confirm the properties and quantities of material being removed and verify the identity of the persons making the removal and time of removal and assess these against the current authorized removal schedule before permitting removal; and

(iii) Communications subsystems and procedures to provide for notification of an attempted unauthorized or unconfirmed removal so that response can be such as to prevent the removal and satisfy the general performance objective and requirements of § 73.20(a).

(f) Provide for authorized access and assure detection of and response to unauthorized penetrations of the protected area to satisfy the general performance objective and requirements of § 73.20(a). To achieve this capability

the physical protection system shall:

(1) Detect attempts to gain unauthorized access or introduce unauthorized persons, vehicles, or materials into the protected area by stealth or force using the following subsystems and subfunctions:

(i) Barriers to channel persons, vehicles, and materials to protected area entry control points; and to delay any unauthorized penetration attempts or the introduction of unauthorized vehicles or materials sufficient to assist detection and assessment and permit a response that will prevent the penetration or prevent such penetration and satisfy the general performance objective and requirements of § 73.20(a); and

(ii) Access detection subsystems and procedures to detect, assess and communicate any unauthorized access or penetrations or such attempts by persons, vehicles, or materials at the time of the act or the attempt so that the response can be such as to prevent the unauthorized access or penetration, and satisfy the general performance objective and requirements of § 73.20(a).

(2) Detect attempts to gain unauthorized access or introduce unauthorized persons, vehicles, or materials into the protected area by deceit using the following subsystems and subfunctions:

(i) Access authorization controls and procedures to provide current authorization schedules and entry criteria for persons, vehicles, and materials; and

(ii) Entry controls and procedures to verify the identity of persons, materials and vehicles and assess such identity against current authorization schedules before permitting entry and to initiate response measures to deny unauthorized access.

(g) Response. Each physical protection program shall provide a response capability to assure that the five capabilities described in paragraphs (b) through (f) of this section are achieved and that adversary forces will be engaged and impeded until offsite assistance forces arrive. To achieve this capability a licensee shall:

(1) Establish a security organization to:

(i) Provide trained and qualified personnel to carry out assigned duties and responsibilities; and

(ii) Provide for routine security operations and planned and predetermined response to emergencies and safeguards contingencies.

(2) Establish a predetermined plan to respond to safeguards contingency events.

(3) Provide equipment for the security organization and facility design features to:

(i) Provide for rapid assessment of safeguards contingencies;

(ii) Provide for response by assigned security organization personnel which is sufficiently rapid and effective to achieve the predetermined objective of the response; and

(iii) Provide protection for the assessment and response personnel so that they can complete their assigned duties.

(4) Provide communications networks to:

(i) Transmit rapid and accurate security information among onsite forces for routine security operation, assessment of a contingency, and response to a contingency; and

(ii) Transmit rapid and accurate detection and assessment information to offsite assistance forces.

(5) Assure that a single adversary action cannot destroy the capability of the security organization to notify offsite response forces of the need for assistance.

§ 73.46 Fixed site physical protection systems, subsystems, components, and procedures.

(a) A licensee physical protection system established pursuant to the general performance objective and requirements of § 73.20(a) and the performance capability requirements of § 73.45 shall include, but are not necessarily limited to, the measures specified in paragraphs (b) through (h) of this section. The Commission may require, depending on individual facility and site conditions, alternate or additional measures deemed necessary to meet the general performance objective and requirements of § 73.20. The Commission also may authorize protection measures other than those required by this section if, in its opinion, the overall level of performance meets the general performance objective and requirements of § 73.20 and the performance capability requirements of § 73.45.

(b) Security Organization.

(1) The licensee shall establish a security organization, including guards. If a contract guard force is utilized for site security, the licensee's written agreement with the contractor will clearly show that (i) the licensee is responsible to the Commission for maintaining safeguards in accordance with Commission regulations and the licensee's security plan, (ii) the NRC may inspect, copy, and take away copies of all reports and documents required to be kept by Commission regulations, orders, or applicable license conditions whether such reports and documents are kept by the licensee or the contractor, (iii) the requirement, in § 73.46(b)(4) of this section that the licensee demonstrate the ability of physical security personnel to perform their assigned duties and responsibilities, include demonstration of the ability of the contractor's physical security personnel to perform their assigned duties and responsibilities in carrying out the provisions of the Security Plan and these regulations, and (iv) the contractor will not assign any personnel to the site who have not first been made aware of these responsibilities.

(2) The licensee shall have onsite at all times at least one full time member of the security organization with authority to direct the physical protection activities of the security organization.

(3) The licensee shall have a management system to provide for the development, revision, implementation, and enforcement of security procedures. The system shall include:

(i) Written security procedures which document the structure of the security organization and which detail the duties of the Tactical Response Team, guards, watchmen, and other individuals responsible for security. The licensee shall retain a copy of the current procedures as a record until the Commission terminates the license for which these procedures were developed and, if any portion of these procedures is superseded, retain the superseded material for three years after each change; and

(ii) Provision for written approval of such procedures and any revisions thereto by the individual with overall responsibility for the security function.

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57 FR 33426

(g) *Response requirement.* (1) The licensee shall establish, maintain, and follow an NRC-approved safeguards contingency plan for responding to threats, thefts, and radiological sabotage related to the special nuclear material and nuclear facilities subject to the provisions of this section. Safeguards contingency plans must be in accordance with the criteria in appendix C to this part, "Licensee Safeguards Contingency Plans." The licensee shall retain the current safeguards contingency plan as a record until the Commission terminates the license and, if any portion of the plan is superseded, retain the superseded portion for 3 years after the effective date of the change.

53 FR 19240

(2) The licensee shall establish and document liaison with law enforcement authorities. The licensee shall retain the documentation of the current liaison as a record until the Commission terminates each license for which the liaison was developed and, if any portion of the liaison documentation is superseded, retain the superseded material for three years after each change.

42 FR 64183

(3) Upon detection of abnormal presence or activity of persons or vehicles within an isolation zone, a protected area, a material access area, or a vital area; or upon evidence or indication of intrusion into a protected area, material access area, or vital area, the licensee security organization shall:

(i) Determine whether or not a threat exists,

(ii) Assess the extent of the threat, if any, and

(iii) Take immediate concurrent measures to neutralize the threat, by:

(A) Requiring responding guards to interpose themselves between material access areas and vital areas and any adversary attempting entry for the purpose of theft of special nuclear material or radiological sabotage and to intercept any person exiting with special nuclear material, and,

(B) Informing local law enforcement agencies of the threat and requesting assistance.

(4) The licensee shall instruct every guard to prevent or impede attempted acts of theft or radiological sabotage by using force sufficient to counter the force directed at him including deadly force when the guard has a reasonable belief it is necessary in self-defense or in the defense of others.

57 FR 33426

(h) Each licensee shall establish, maintain, and follow an NRC-approved training and qualifications plan outlining the processes by which guards, watchmen, armed response persons, and other members of the security organization will be selected, trained, equipped, tested, and qualified to ensure that these individuals meet the requirements of paragraph (a)(4) of this section.

51 FR 27817

§ 73.55 Requirements for physical protection of licensed activities in nuclear power reactors against radiological sabotage.

By Dec. 2, 1988 each licensee, as appropriate, shall submit proposed amendments to its security plan which define how the amended requirements of paragraphs (a), (d)(7), (d)(9), and (e)(1) will be met. Each submittal must include a proposed implementation schedule for Commission approval. The amended safeguards requirements of these paragraphs must be implemented by the licensee within 180 days after Commission approval of the proposed security plan in accordance with the approved schedule.

(a) *General performance objective and requirements.* The licensee shall establish and maintain an onsite physical protection system and security organization which will have as its objective to provide high assurance that activities involving special nuclear material are not inimical to the common defense and security and do not constitute an unreasonable risk to the public health and safety. The physical protection system shall be designed to protect against the design basis threat of radiological sabotage as stated in § 73.1(a). To achieve this general performance objective, the onsite physical protection system and security organization must include, but not necessarily be limited to, the capabilities to meet the specific requirements contained in paragraphs (b) through (h) of this section. The Commission may authorize an applicant or licensee to provide measures for protection against radiological sabotage other than those required by this section if the applicant or licensee demonstrates that the measures have the same high assurance objective as specified in this paragraph and that the overall level of system performance provides protection against radiological sabotage equivalent to that which would be provided by paragraphs (b) through (h) of this section and meets the general performance requirements of this section. Specifically, in the special cases of licensed operating reactors with adjacent reactor power plants under construction, the licensee shall provide and maintain a level of physical protection of the operating reactor against radiological sabotage equivalent to the requirements of this section. In accordance with § § 50.54 (x) and (y) of Part 50, the licensee may suspend any safeguards measures pursuant to § 73.55 in an emergency when this action is immediately needed to protect the public health and safety and no action consistent with license conditions and technical specification that can provide adequate or equivalent protection is immediately apparent. This suspension must be approved as a minimum by a licensed senior operator prior to taking the action. The suspension of safeguards measures must be reported in accordance with the provisions of § 73.71. Reports made under § 50.72 need not be duplicated under § 73.71.

51 FR 27817

(b) *Physical Security Organization.* (1) The licensee shall establish a security organization, including guards, to protect his facility against radiological sabotage. If a contract guard force is utilized for site security, the licensee's written agreement with the contractor that must be retained by the licensee as a record for the duration of the contract will clearly show that:

53 FR 19240

(i) The licensee is responsible to the Commission for maintaining safeguards in accordance with Commission regulations and the licensee's security plan;

(ii) The NRC may inspect, copy, and take away copies of all reports and documents required to be kept by Commission regulations, orders, or applicable license conditions whether the reports and documents are kept by the licensee or the contractor,

(iii) The requirement in paragraph (b)(4) of this section that the licensee demonstrate the ability of physical security personnel to perform their assigned duties and responsibilities includes demonstration of the ability of the contractor's physical security personnel to perform their assigned duties and responsibilities in carrying out the provisions of the Security Plan and these regulations, and

(iv) The contractor will not assign any personnel to the site who have not first been made aware of these responsibilities.

44 FR 68184

(2) At least one full time member of the security organization who has the authority to direct the physical protection activities of the security organization shall be onsite at all times.

(3) The licensee shall have a management system to provide for the development, revision, implementation, and enforcement of security procedures. The system shall include:

(i) Written security procedures that document the structure of the security organization and detail the duties of guards, watchmen, and other individuals responsible for security. The licensee shall maintain a copy of the current procedures as a record until the Commission terminates each license for which the procedures were developed and, if any portion of the procedure is superseded, retain the superseded material for three years after each change.

(ii) Provision for written approval of these procedures and any revisions to the procedures by the individual with overall responsibility for the security functions. The licensee shall retain each written approval as a record for three years from the date of the approval.

(4)(i) The licensee may not permit an individual to act as a guard, watchman, armed response person, or other member of the security organization unless the individual has been trained, equipped, and qualified to perform each assigned security job duty in accordance with Appendix B, "General Criteria for Security Personnel," to this part. Upon the request of an authorized representative of the Commission, the licensee shall demonstrate the ability of the physical security personnel to carry out their assigned duties and responsibilities. Each guard, watchman, armed response person, and other member of the security organization shall requalify in accordance with Appendix B to this part at least every 12 months. This requalification must be documented. The licensee shall retain the documentation of each requalification as a record for three years after the requalification.

53 FR 19240

(ii) Each licensee shall establish, maintain, and follow an NRC-approved training and qualifications plan outlining the processes by which guards, watchmen, armed response persons, and other members of the security organization will be selected, trained, equipped, tested, and qualified to ensure that these individuals meet the requirements of this paragraph. The licensee shall maintain the current training and qualifications plan as a record until the Commission terminates the license for which the plan was developed and, if any portion of the plan is superseded, retain that superseded portion for 3 years after the effective date of the change. The training and qualifications plan must include a schedule to show how all security personnel will be qualified 2 years after the submitted plan is approved. The training and qualifications plan must be followed by the licensee 60 days after the submitted plan is approved by the NRC.

57 FR 33426

(c) *Physical barriers.* (1) The licensee shall locate vital equipment only within a vital area, which in turn, shall be located within a protected area such that access to vital equipment requires passage through at least two physical barriers of sufficient strength to meet the performance requirements of paragraph (a) of this section. More than one vital area may be located within a single protected area.

(2) The physical barriers at the perimeter of the protected area shall be separated from any other barrier designated as a physical barrier for a vital area within the protected area.

(3) Isolation zones shall be maintained in outdoor areas adjacent to the physical barrier at the perimeter of the protected area and shall be of sufficient size to permit observation of the activities of people on either side of that barrier in the event of its penetration. If parking facilities are provided for employees or visitors, they shall be located outside the isolation zone and exterior to the protected area barrier.

(4) Detection of penetration or attempted penetration of the protected area or the isolation zone adjacent to the protected area barrier shall assure that adequate response by the security organization can be initiated. All exterior areas within the protected area shall be periodically checked to detect the presence of unauthorized persons, vehicles, or materials.

(5) Isolation zones and all exterior areas within the protected area shall be provided with illumination sufficient for the monitoring and observation requirements of paragraphs (c)(3), (c)(4), and (h)(4) of this section, but not less than 0.2 footcandle measured horizontally at ground level.

(6) The walls, doors, ceiling, floor, and any windows in the walls and in the doors of the reactor control room shall be bullet-resisting.

42 FR 10836

➧(7) Vehicle control measures, including vehicle barrier systems, must be established to protect against use of a land vehicle, as specified by the Commission, as a means of transportation to gain unauthorized proximity to vital areas.

(8) Each licensee shall compare the vehicle control measures established in accordance with 10 CFR 73.55 (c)(7) to the Commission's design goals (i.e., to protect equipment, systems, devices, or material, the failure of which could directly or indirectly endanger public health and safety by exposure to radiation) and criteria for protection against a land vehicle bomb. Each licensee shall either:

59 FR 38889

(i) Confirm to the Commission that the vehicle control measures meet the design goals and criteria specified; or

(ii) Propose alternative measures, in addition to the measures established in accordance with 10 CFR 73.55 (c)(7), describe the level of protection that these measures would provide against a land vehicle bomb, and compare the costs of the alternative measures with the costs of measures necessary to fully meet the design goals and criteria. The Commission will approve the proposed alternative measures if they provide substantial protection against a land vehicle bomb, and it is determined by an analysis, using the essential elements of 10 CFR 50.109, that the costs of fully meeting the design goals and criteria are not justified by the added protection that would be provided.

(9) Each licensee authorized to operate a nuclear power reactor shall:

(i) By February 28, 1995 submit to the Commission a summary description of the proposed vehicle control measures as required by 10 CFR 73.55 (c)(7) and the results of the vehicle bomb comparison as required by 10 CFR 73.55 (c)(8). For licensees who choose to propose alternative measures as provided for in 10 CFR 73.55 (c)(8), the proposal must be submitted in accordance with 10 CFR 50.90 and include the analysis and justification for the proposed alternatives.

(ii) By February 29, 1996 fully implement the required vehicle control measures, including site-specific alternative measures as approved by the Commission.

(iii) Protect as Safeguards Information, information required by the Commission pursuant to 10 CFR 73.55(c) (8) and (9).

(iv) Retain, in accordance with 10 CFR 73.70, all comparisons and analyses prepared pursuant to 10 CFR 73.55 (c) (7) and (8).

(10) Each applicant for a license to operate a nuclear power reactor pursuant to 10 CFR 50.21(b) or 10 CFR 50.22, whose application was submitted prior to August 31, 1994, shall incorporate the required vehicle control program into the site Physical Security Plan and implement it by the date of receipt of the operating license.

59 FR 38889

51 FR 27822

(d) *Access Requirements.* (1) The licensee shall control all points of personnel and vehicle access into a protected area. Identification and search of all individuals unless otherwise provided herein must be made and authorization must be checked at these points. The search function for detection of firearms, explosives, and incendiary devices must be accomplished through the use of both firearms and explosive detection equipment capable of detecting those devices. The licensee must subject all persons except bona fide Federal, State, and local law enforcement personnel on official duty to these equipment searches upon entry into a protected area. When the licensee has cause to suspect that an individual is attempting to introduce firearms, explosives, or incendiary devices into protected areas, the licensee shall conduct a physical pat-down search of that individual. Whenever firearms or explosives detection equipment at a portal is out of service or not operating satisfactorily, the licensee shall conduct a physical pat-down search of all persons who would otherwise have been subject to equipment searches. The individual responsible for the last access control function (controlling admission to the protected area) must be isolated within a bullet-resisting structure as described in paragraph (c)(6) of this section to assure his or her ability to respond or to summon assistance. By Dec. 2, 1986 each licensee shall submit revisions to its security plan which define how the final search requirements of this paragraph will be met. The final search requirements of this package must be implemented by the licensee within 60 days after Commission approval of the proposed security plan revisions.

42 FR 10836

(2) At the point of personnel and vehicle access into a protected area, all hand-carried packages shall be searched for devices such as firearms, explosives, and incendiary devices, or other items which could be used for radiological sabotage.

(3) All packages and material for delivery into the protected area shall be checked for proper identification and authorization and searched for devices such as firearms, explosives and incendiary devices or other items which could be used for radiological sabotage, prior to admittance into the protected area, except those Commission approved delivery and inspection activities specifically designated by the licensee to be carried out within vital or protected areas for reasons of safety, security or operational necessity.

(4) All vehicles, except under emergency conditions, shall be searched for items which could be used for sabotage purposes prior to entry into the protected area. Vehicle areas to be searched shall include the cab, engine compartment, undercarriage, and cargo area. All vehicles, except designated licensee vehicles, requiring entry into the protected area shall be escorted by a member of the security organization while within the protected area and, to the extent practicable, shall be off loaded in the protected area at a specific designated materials receiving area that is not adjacent to a vital area. Designated licensee vehicles shall be limited in their use to onsite plant functions and shall remain in the protected area except for operational, maintenance, repair security and emergency purposes. The licensee shall exercise positive control over all such designated vehicles to assure that they are used only by authorized persons and for authorized purposes.

(5) A numbered picture badge identification system shall be used for all individuals who are authorized access to protected areas without escort. An individual not employed by the licensee but who requires frequent and extended access to protected and vital areas may be authorized access to such areas without escort provided that he receives a picture badge upon entrance into the protected area which must be returned upon exit from the protected area and which indicates: (i) Non-employee-no escort required, (ii) areas to which access is authorized and (iii) the period for which access has been authorized. Badges shall be displayed by all individuals while inside the protected area.

53 FR 19240

(6) Individuals not authorized by the licensee to enter protected areas without escort shall be escorted by a watchman or other individual designated by the licensee while in a protected area and shall be badged to indicate that an escort is required. In addition, the licensee shall require that each individual register his or her name, date, time, purpose of visit, employment affiliation, citizenship, and name of the individual to be visited. The licensee shall retain the register of information for three years after the last entry in the register.

51 FR 27817

(7) The licensee shall:

(i) Establish an access authorization system to limit unescorted access to vital areas during nonemergency conditions to individuals who require access in order to perform their duties. To achieve this, the licensee shall:

(A) Establish current authorization access lists for each vital area. The access lists must be updated and reapproved by the cognizant licensee manager or supervisor at least once every 31 days. The licensee shall include on the access list only individuals whose specific duties require access to vital areas during nonemergency conditions.

(B) Positively control, in accordance with the access list established pursuant to paragraph (d)(7)(i) of this section, all points of personnel and vehicle access to vital areas.

(C) Revoke, in the case of an individual's involuntary termination for cause, the individual's unescorted facility access and retrieve his or her identification badge and other entry devices, as applicable, prior to or simultaneously with notifying this individual of his or her termination.

(D) Lock and protect by an activated intrusion alarm system all unoccupied vital areas.

(ii) Design the access authorization system to accommodate the potential need for rapid ingress or egress of individuals during emergency conditions or situations that could lead to emergency conditions. To help assure this, the licensee shall:

(A) Ensure prompt access to vital equipment.

(B) Periodically review physical security plans and contingency plans and procedures to evaluate their potential impact on plant and personnel safety.

42 FR 10836

(8) Access to the reactor containment shall be through doors or hatches which shall be alarmed and have locks of substantial construction to offer penetration resistance and impede both surreptitious and forced entry. Any time frequent access is permitted to containment such as during refueling or major maintenance, positive access control to assure that only authorized personnel and materials are permitted into the containment shall be exercised by the licensee, with a guard or watchman.

51 FR 27817

(9) All keys, locks, combinations, and related access control devices used to control access to protected areas and vital areas must be controlled to reduce the probability of compromise. All such keys, locks, combinations, and related access control devices must be changed or rotated at least every 12 months. Whenever there is evidence or suspicion that any key, lock, combination, or related access control devices may have been compromised, it must be changed or rotated. The licensee shall issue keys, locks, combinations, and other access control devices to protected areas and vital areas only to persons granted unescorted facility access. Whenever an individual's unescorted access is revoked due to his or her lack of trustworthiness, reliability, or inadequate work performance, keys, locks, combinations, and related access control devices to which that person had access must be changed or rotated.

52 FR 12364

(e) *Detection aids.* (1) All alarms required pursuant to this part must annunciate in a continuously manned central alarm station located within the protected area and in at least one other continuously manned station not necessarily onsite, so that a single act cannot remove the capability of calling for assistance or otherwise responding to an alarm. The onsite central alarm station must be considered a vital area and its walls, doors, ceiling, floor, and any windows in the walls and in the doors must be bullet-resisting. The onsite central alarm station must be located within a building in such a manner that the interior of the central alarm station is not visible from the perimeter of the protected area. This station must not contain any operational activities that would interfere with the execution of the alarm response function. Onsite secondary power supply systems for alarm annunciator equipment and non-portable communications equipment as required in paragraph (f) of this section must be located within vital areas.

42 FR 10836

(2) All alarm devices including transmission lines to annunciators shall be tamper indicating and self-checking e.g., an automatic indication is provided when failure of the alarm system or a component occurs, or when the system is on standby power. The annunciation of an alarm at the alarm stations shall indicate the type of alarm (e.g., intrusion alarm, emergency exit alarm, etc.) and location.

(3) All emergency exits in each protected area and each vital area shall be alarmed.

(f) *Communication requirements.* (1) Each guard, watchman or armed response individual on duty shall be capable of maintaining continuous communication with an individual in each continuously manned alarm station required by paragraph (e)(1) of this section, who shall be capable of calling for assistance from other guards, watchmen, and armed response personnel and from local law enforcement authorities.

(2) The alarm stations required by paragraph (e)(1) of this section shall have conventional telephone service for communication with the law enforcement authorities as described in paragraph (f)(1) of this section.

(3) To provide the capability of continuous communication, radio or microwave transmitted two-way voice communication, either directly or through an intermediary, shall be established, in addition to conventional telephone service, between local law enforcement authorities and the facility and shall terminate in each continuously manned alarm station required by paragraph (e)(1) of this section.

(4) Non-portable communications equipment controlled by the licensee and required by this section shall remain operable from independent power sources in the event of the loss of normal power.

(g) *Testing and maintenance.* Each licensee shall test and maintain intrusion alarms, emergency alarms, communications equipment, physical barriers, and other security related devices or equipment utilized pursuant to this section as follows:

(1) All alarms, communication equipment, physical barriers, and other security related devices or equipment shall be maintained in operable condition. The licensee shall develop and employ compensatory measures including equipment, additional security personnel and specific procedures to assure that the effectiveness of the security system is not reduced by failure or other contingencies affecting the operation of the security related equipment or structures.

42 FR 10836

(2) Each intrusion alarm shall be tested for performance at the beginning and end of any period that it is used for security. If the period of continuous use is longer than seven days, the intrusion alarm shall also be tested at least once every seven (7) days.

(3) Communications equipment required for communications onsite shall be tested for performance not less frequently than once at the beginning of each security personnel work shift. Communications equipment required for communications offsite shall be tested for performance not less than once a day.

57 FR 33426

(4) The security program must be reviewed at least every 12 months by individuals independent of both security program management and personnel who have direct responsibility for implementation of the security program. The security program review must include an audit of security procedures and practices, an evaluation of the effectiveness of the physical protection system, an audit of the physical protection system testing and maintenance program, and an audit of commitments established for response by local law enforcement authorities. The results and recommendations of the security program review, management's findings on whether the security program is currently effective, and any actions taken as a result of recommendations from prior program reviews must be documented in a report to the licensee's plant manager and to corporate management at least one level higher than that having responsibility for the day-to-day plant operation. These reports must be maintained in an auditable form, available for inspection, for a period of 3 years.

(h) *Response requirement.* (1) The licensee shall establish, maintain, and follow an NRC-approved safeguards contingency plan for responding to threats, thefts, and radiological sabotage related to the nuclear facilities subject to the provisions of this section. Safeguards contingency plans must be in accordance with the criteria in appendix C to this part, "Licensee Safeguards Contingency Plans."

53 FR 19240

(2) The licensee shall establish and document liaison with local law enforcement authorities. The licensee shall retain documentation of the current liaison as a record until the Commission terminates each license for which the liaison was developed and, if any portion of the liaison documentation is superseded, retain the superseded material for three years after each change.

43 FR 11962

(3) The total number of guards, and armed, trained personnel immediately available at the facility to fulfill these response requirements shall nominally be ten (10), unless specifically required otherwise on a case by case basis by the Commission; however, this number may not be reduced to less than five (5) guards.

44 FR 68184

(4) Upon detection of abnormal presence or activity of persons or vehicles within an isolation zone, a protected area, material access area, or a vital area; or upon evidence or indication of intrusion into a protected area, a material access area, or a vital area, the licensee security organization shall:

(i) Determine whether or not a threat exists,

(ii) Assess the extent of the threat, if any,

(iii) Take immediate concurrent measures to neutralize the threat by:

(A) Requiring responding guards or other armed response personnel to interpose themselves between vital areas and material access areas and any adversary attempting entry for the purpose of radiological sabotage or theft of special nuclear material and to intercept any person exiting with special nuclear material, and,

(B) Informing local law enforcement agencies of the threat and requesting assistance.

(5) The licensee shall instruct every guard and all armed response personnel to prevent or impede attempted acts of theft or radiological sabotage by using force sufficient to counter the force directed at him including the use of deadly force when the guard or other armed response person has a reasonable belief it is necessary in self-defense or in the defense of others.

42 FR 10836

(6) To facilitate initial response to detection of penetration of the protected area and assessment of the existence of a threat, a capability of observing the isolation zones and the physical barrier at the perimeter of the protected area shall be provided, preferably by means of closed circuit television or by other suitable means which limit exposure of responding personnel to possible attack.

56 FR 18997

§ 73.56 Personnel access authorization requirements for nuclear power plants.

(a) *General.* (1) Each licensee who is authorized on April 25, 1991, to operate a nuclear power reactor pursuant to §§ 50.21(b) or 50.22 of this chapter shall comply with the requirements of this section. By April 27, 1992, the required access authorization program must be incorporated into the site Physical Security Plan as provided for by 10 CFR 50.54(p)(2) and implemented. By April 27, 1992, each licensee shall certify to the NRC that it has implemented an access authorization program that meets the requirements of this part.

56 FR 24239

(2) Each applicant for a license to operate a nuclear power reactor pursuant to §§ 50.21(b) or 50.22 of this chapter, whose application was submitted prior to April 25, 1991, shall either by April 27, 1992, or the date of receipt of the operating license, whichever is later, incorporate the required access authorization program into the site Physical Security Plan and implement it.

56 FR 18997

(3) Each applicant for a license to operate a nuclear power reactor pursuant to §§ 50.21(b) or 50.22 of this chapter and each applicant for a combined construction permit and operating license pursuant to part 52 of this chapter, whose application is submitted after April 25, 1991, shall include the required access authorization program as part of its Physical Security Plan. The applicant, upon receipt of an operating license or upon receipt of operating authorization, shall implement the required access authorization program as part of its site Physical Security Plan.

(4) The licensee may accept an access authorization program used by its contractors or vendors for their employees provided it meets the requirements of this section. The licensee may accept part of an access authorization program used by its contractors, vendors, or other affected organizations and substitute, supplement, or duplicate any portion of the program as necessary to meet the requirements of this section. In any case, the licensee is responsible for granting, denying, or revoking unescorted access authorization to any contractor, vendor, or other affected organization employee.

56 FR 18997

(b) *General performance objective and requirements.* (1) The licensee shall establish and maintain an access authorization program granting individuals unescorted access to protected and vital areas with the objective of providing high assurance that individuals granted unescorted access are trustworthy and reliable, and do not constitute an unreasonable risk to the health and safety of the public including a potential to commit radiological sabotage.

(2) Except as provided for in paragraphs (c) and (d) of this section, the unescorted access authorization program must include the following:

(i) A background investigation designed to identify past actions which are indicative of an individual's future reliability within a protected or vital area of a nuclear power reactor. As a minimum, the background investigation must verify an individual's true identity, and develop information concerning an individual's employment history, education history, credit history, criminal history, military service, and verify an individual's character and reputation.

(ii) A psychological assessment designed to evaluate the possible impact of any noted psychological characteristics which may have a bearing on trustworthiness and reliability.

(iii) Behavioral observation, conducted by supervisors and management personnel, designed to detect individual behavioral changes which, if left unattended, could lead to acts detrimental to the public health and safety.

(3) The licensee shall base its decision to grant, deny, revoke, or continue an unescorted access authorization on review and evaluation of all pertinent information developed.

(4) Failure by an individual to report any previous suspension, revocation, or denial of unescorted access to nuclear power reactors is considered sufficient cause for denial of unescorted access authorization.

(c) *Existing, reinstated, transferred, and temporary access authorization.* (1) Individuals who have had an uninterrupted unescorted access authorization for at least 180 days on April 25, 1991 need not be further evaluated. Such individuals shall be subject to the behavioral observation requirements of this section.

(2) The access authorization program may specify conditions for reinstating an interrupted access authorization, for transferring an access authorization from another licensee, and for permitting temporary unescorted access authorization.

(3) The licensee shall grant unescorted access authorization to all individuals who have been certified by the Nuclear Regulatory Commission as suitable for such access.

(d) *Requirements during cold shutdown.* (1) The licensee may grant unescorted access during cold shutdown to an individual who does not possess an access authorization granted in accordance with paragraph (b) of this section provided the licensee develops and incorporates into its Physical Security Plan measures to be taken to ensure that the functional capability of equipment in areas for which the access authorization requirement has been relaxed has not been impaired by relaxation of that requirement.

(2) Prior to incorporating such measures into its Physical Security Plan the licensee shall submit those plan changes to the NRC for review and approval pursuant to § 50.90.

(3) Any provisions in licensees' security plans that allow for relaxation of access authorization requirements during cold shutdown are superseded by this rule. Provisions in licensees' Physical Security Plans on April 25, 1991 that provide for devitalization (that is, a change from vital to protected area status) during cold shutdown are not affected.

(e) *Review procedures.* Each licensee implementing an unescorted access authorization program under the provisions of this section shall include a procedure for the review, at the request of the affected employee, of a denial or revocation by the licensee of unescorted access authorization of an employee of the licensee, contractor, or vendor, which adversely affects employment. The procedure must provide that the employee is informed of the grounds for denial or revocation and allow the employee an opportunity to provide additional relevant information, and provide an opportunity for an objective review of the information on which the denial or revocation was based. The procedure may be an impartial and independent internal management review. Unescorted access may not be granted to the individual during the review process.

(f) *Protection of information.* (1) Each licensee, contractor, or vendor who collects personal information on an employee for the purpose of complying with this section shall establish and maintain a system of files and procedures for the protection of the personal information.

(2) Licensees, contractors, and vendors small make available such personal information to another licensee, contractor, or vendor provided that the request is accompanied by a signed release from the individual.

(3) Licensees, contractors, and vendors may not disclose the personal information collected and maintained to persons other than:

(i) Other licensees, contractors, or vendors, or their authorized representatives, legitimately seeking the information as required by this section for unescorted access decisions and who have obtained a signed release from the individual.

(ii) NRC representatives;

(iii) Appropriate law enforcement officials under court order;

(iv) The subject individual or his or her representative;

(v) Those licensee representatives who have a need to have access to the information in performing assigned duties, including audits of licensee's, contractor's, and vendor's programs;

(vi) Persons deciding matters on review or appeal; or

(vii) Other persons pursuant to court order. This section does not authorize the licensee, contractor, or vendor to withhold evidence of criminal conduct from law enforcement officials.

(g) *Audits.* (1) Each licensee shall audit its access authorization program within 12 months of the effective date of implementation of this program and at least every 24 months thereafter to ensure that the requirements of this section are satisfied.

(2) Each licensee who accepts the access authorization program of a contractor or vendor as provided for by paragraph (a)(4) of this section shall have access to records and shall audit contractor or vendor programs every 12 months to ensure that the requirements of this section are satisfied. Licensees may accept audits of contractors and vendors conducted by other licensees. Each sharing utility shall maintain a copy of the audit report, to include findings, recommendations and corrective actions. Each licensee retains responsibility for the effectiveness of any contractor and vendor program it accepts and the implementation of appropriate corrective action.

(h) *Records.* (1) Each licensee who issues an individual unescorted access authorization shall retain the records on which the authorization is based for the duration of the unescorted access authorization and for a five-year period following its termination. Each licensee who denies an individual unescorted access shall retain the records on which the denial is based for 5 years.

(2) Each licensee shall retain records of results of audits, resolution of the audit findings and corrective actions for three years.

§ 73.57 Requirements for criminal history checks of individuals granted unescorted access to a nuclear power facility or access to Safeguards Information by power reactor licensees.

(a) *General.* (1) Each licensee who is authorized to operate a nuclear power reactor under Part 50 shall comply with the requirements of this section.

(2) Each applicant for a license to operate a nuclear power reactor pursuant to Part 50 of this chapter shall submit fingerprint cards for those individuals who have or will have access to Safeguards Information.

(3) Each applicant for a license to operate a nuclear power reactor pursuant to Part 50 of this chapter may submit fingerprint cards prior to receiving its operating license for those individuals who will require unescorted access to the nuclear power facility.

(b) *General performance objective and requirements.* (1) Except those listed in paragraph (b)(2) of this section, each licensee subject to the provisions of this section shall fingerprint each individual who is permitted unescorted access to the nuclear power facility or access to Safeguards Information. Individuals who have unescorted access authorization on April 1, 1987 will retain such access pending licensee receipt of the results of the criminal history check on the individual's fingerprints, so long as the cards were submitted by September 28, 1987. The licensee will then review and use the information received from the Federal Bureau of Investigation (FBI), and based on the provisions contained in this rule, determine either to continue to grant or to deny further unescorted access to the facility or Safeguards Information for that individual. Individuals who do not have unescorted access or access to Safeguards Information after April 1, 1987 shall be fingerprinted by the licensee and the results of the criminal history records check shall be used prior to making a determination for granting unescorted access to the nuclear power facility or access to Safeguards Information.

(2) Licensees need not fingerprint in accordance with the requirements of this section for the following categories:

(i) For unescorted access to the nuclear power facility or for access to Safeguards Information (but must adhere to provisions contained in § 73.21): NRC employees and NRC contractors on official agency business;

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...dividuals responding to a si • emergency in accordance with the provisions of § 73.55(a); a representative of the International Atomic Energy Agency (IAEA) engaged in activities associated with the U.S./IAEA Safeguards Agreement at designated facilities who has been certified by the NRC; law enforcement personnel acting in an official capacity; State or local government employees who have had equivalent reviews of FBI criminal history data; and individuals employed at a facility who possess "Q" or "L" clearances or possess another active government granted security clearance, i.e., Top Secret, Secret, or Confidential;

(ii) For access to Safeguards Information only but must adhere to provisions contained in § 73.21: Employees of other agencies of the United States Government; a member of a duly authorized committee of the Congress; the Governor of a State or his/her designated representative; individuals to whom disclosure is ordered pursuant to § 2.744(e);

(iii) Any licensee currently processing criminal history requests through the FBI pursuant to Executive Order 10450 need not also submit such requests to the NRC under this section; and

(iv) Upon further notice to licensees and without further rulemaking, the Commission may waive certain requirements of this section on a temporary basis.

(3) The licensee shall notify each affected individual that the fingerprints will be used to secure a review of his/her criminal history record, and inform the individual of proper procedures for revising the record or including explanation in the record.

(4) Fingerprinting is not required if the utility is reinstating the unescorted access to the nuclear power facility or access to Safeguards Information granted an individual if:

- (i) The individual returns to the same nuclear power utility that granted access and such access has not been interrupted for a continuous period of more than 365 days; and

(ii) The previous access was terminated under favorable conditions.

(5) Fingerprints need not be taken, in the discretion of the licensee, if an individual who is an employee of a licensee, contractor, manufacturer, or supplier has been granted unescorted access to a nuclear power facility or to Safeguards Information by another licensee, based in part on a criminal history records check under this section. The criminal history check file may be transferred to the gaining licensee in accordance with the provisions of paragraph (f)(3) of this section.

(6) All fingerprints obtained by the licensee under this section must be submitted to the Attorney General of the United States through the Commission.

(7) The licensee shall review the information received from the Attorney General and consider it in making a determination for granting unescorted access to the individual or access to Safeguards Information.

(8) A licensee shall use the information obtained as part of a criminal history records check solely for the purpose of determining an individual's suitability for unescorted access to the nuclear power facility or access to Safeguards Information.

(c) *Prohibitions.* (1) A licensee may not base a final determination to deny an individual unescorted access to the nuclear power facility or access to Safeguards Information solely on the basis of information received from the FBI involving:

(i) An arrest more than 1 year old for which there is no information of the disposition of the case; or

(ii) An arrest that resulted in dismissal of the charge or an acquittal.

(2) A licensee may not use information received from a criminal history check obtained under this section in a manner that would infringe upon the rights of any individual under the First Amendment to the Constitution of the United States, nor shall the licensee use the information in any way which would discriminate among individuals on the basis of race, religion, national origin, sex, or age.

(d) *Procedures for processing of fingerprint checks.* (1) For the purpose of complying with this section, licensees shall submit one completed, legible standard fingerprint card (Form FD–258, ORIMDNRCOOOZ, NRC Division of Security, Rockville, MD) which may be obtained from the NRC for each individual requiring unescorted access to the nuclear power facility or access to Safeguards Information to the Director, Division of Security, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Attention: Criminal History Check Section. Copies of these forms may be obtained by writing to: Information and Records Management Branch, U.S. Nuclear Regulatory Commission, Washington, DC 20555. The licensee shall establish procedures to ensure that the quality of the fingerprints taken results in minimizing the rejection rate of fingerprint cards due to illegible or incomplete cards.

(2) The Commission will review applications for criminal history checks for completeness. Any Form FD–258 containing omissions or evident errors will be returned to the licensee for corrections. The fee for processing fingerprint checks includes one free resubmission if the initial submission is returned by the FBI because the fingerprint impressions cannot be classified. The one free resubmission must have the initial (rejected) fingerprint cards attached. If additional submissions are necessary, they will be treated as an initial submittal and require a second payment of the processing fee. The payment of a new processing fee entitles the submitter to an additional free resubmittal, if necessary. Previously rejected submissions may not be included with the third submission because the submittal will be rejected automatically.

(3) Fees for the processing of fingerprint checks are due upon application. Licensees shall submit payment with the application for the processing of fingerprints through corporate check, certified check, cashier's check, or money order made payable to "U.S. NRC." The amount of the fee is the user fee for processing fingerprint cards submitted by the Nuclear Regulatory Commission on behalf of nuclear power plants charged by the FBI for each card. Combined payment for multiple applications is acceptable. The Commission will publish the user fee charged by the FBI in the **Federal Register** whenever the fee changes. The Commission will directly notify licensees who are subject to this regulation of any fee changes.

(4) The Commission will forward to the submitting licensee all data received from the FBI as a result of the licensee's application(s) for criminal history checks, including the individual's fingerprint card.

(e) *Right to correct and complete information.* (1) Prior to any final adverse determination, the licensee shall make available to the individual the contents of records obtained from the FBI for the purpose of assuring correct and complete information. Confirmation of receipt by the individual of this notification must be maintained by the licensee for a period of 1 year from the date of the notification.

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(2) If after reviewing the record, an individual believes that it is incorrect or incomplete in any respect and wishes changes, corrections, or updating (of the alleged deficiency), or to explain any matter in the record, the individual may initiate challenge procedures. These procedures include direct application by the individual challenging the record to the agency, i.e., law enforcement agency, that contributed the questioned information or direct challenge as to the accuracy or completeness of any entry on the criminal history record to the Assistant Director, Federal Bureau of Investigation Identification Division, Washington, DC 20537–9700 as set forth in 28 CFR 16.30 through 16.34. In the latter case, the FBI then forwards the challenge to the agency that submitted the data requesting that agency to verify or correct the challenged entry. Upon receipt of an official communication directly from the agency that contributed the original information, the FBI Identification Division makes any changes necessary in accordance with the information supplied by that agency. Licensees must provide at least 10 days for an individual to initiate action to challenge the results of an FBI criminal history records check after the record being made available for his/her review. The licensee may make a final adverse determination based upon the criminal history record, if applicable, only upon receipt of the FBI's confirmation or correction of the record.

(f) *Protection of information.* (1) Each licensee who obtains a criminal history record on an individual under this section shall establish and maintain a system of files and procedures for protection of the record and the personal information from unauthorized disclosure.

(2) The licensee may not disclose the record or personal information collected and maintained to persons other than the subject individual, his/her representative, or to those who have a need to have access to the information in performing assigned duties in the process of granting or denying unescorted access to the nuclear power facility or access to Safeguards Information. No individual authorized to have access to the information may re-disseminate the information to any other individual who does not have a need to know.

(3) The personal information obtained on an individual from a criminal history record check may be transferred to another licensee:

(i) Upon the individual's written request to the licensee holding the data to re-disseminate the information contained in his/her file; and

(ii) The gaining licensee verifies information such as name, date of birth, social security number, sex, and other applicable physical characteristics for identification.

(4) The licensee shall make criminal history records obtained under this section available for examination by an authorized representative of the NRC to determine compliance with the regulations and laws.

(5) The licensee shall retain all fingerprint cards and criminal history records received from the FBI, or a copy if the individual's file has been transferred, on an individual (including data indicating no record) for 1 year after termination or denial of unescorted access to the nuclear power facility or access to Safeguards Information.

52 FR 6310

52 FR 6310

58 FR 13699

§73.60 Additional requirements for physical protection at nonpower reactors.

Each nonpower reactor licensee who, pursuant to the requirements of part 70 of this chapter, possesses at any site or contiguous sites subject to control by the licensee uranium–235 (contained in uranium enriched to 20 percent or more in the U–235 isotope), uranium–233, or plutonium, alone or in any combination in a quantity of 5000 grams or more computed by the formula, grams = (grams contained U–235) + 2.5 (grams U–233 + grams plutonium), shall protect the special nuclear material from theft or diversion pursuant to the requirements of paragraphs 73.67 (a), (b), (c), and (d), in addition to this section, except that a licensee is exempt from the requirements of paragraphs (a), (b), (c), (d), and (e) of this section to the extent that it possesses or uses special nuclear material that is not readily separable from other radioactive material and that has a total external radiation dose rate in excess of 100 rems per hour at a distance of 3 feet from any accessible surface without intervening shielding.

57 FR 33426

(a) *Access requirements.* (1) Special nuclear material shall be stored or processed only in a material access area. No activities other than those which require access to special nuclear material or equipment employed in the process, use, or storage of special nuclear material, shall be permitted within a material access area.

(2) Material access areas shall be located only within a protected area to which access is controlled.

(3) Special nuclear material not in process shall be stored in a vault equipped with an intrusion alarm or in a vault-type room, and each such vault or vault-type room shall be controlled as a separate material access area.

44 FR 68199

44 FR 68199

(4) Enriched uranium scrap in the form of small pieces, cuttings, chips, solutions or in other forms which result from a manufacturing process, contained in 30-gallon or larger containers, with a uranium-235 content of less than 0.25 grams per liter, may be stored within a locked and separately fenced area which is within a larger protected area provided that the storage area is no closer than 25 feet to the perimeter of the protected area. The storage area when unoccupied shall be protected by a guard or watchman who shall patrol at intervals not exceeding 4 hours, or by intrusion alarms.

(5) Admittance to a material access area shall be under the control of authorized individuals and limited to individuals who require such access to perform their duties.

(6) Prior to entry into a material access area, packages shall be searched for devices such as firearms, explosives, incendiary devices, or counterfeit substitute items which could be used for theft or diversion of special nuclear material.

(7) Methods to observe individuals within material access areas to assure that special nuclear material is not diverted shall be provided and used on a continuing basis.

(b) *Exit requirement.* Each individual, package, and vehicle shall be searched for concealed special nuclear material before exiting from a material access area unless exit is into a contiguous material access area. The search may be carried out by a physical search or by use of equipment capable of detecting the presence of concealed special nuclear material.

(c) *Detection aid requirement.* Each unoccupied material access area shall be locked and protected by an intrusion alarm on active status. All emergency exits shall be continuously alarmed.

(d) *Testing and maintenance.* Each licensee shall test and maintain intrusion alarms, physical barriers, and other devices utilized pursuant to the requirements of this section as follows:

(1) Intrusion alarms, physical barriers, and other devices used for material protection shall be maintained in operable condition.

(2) Each intrusion alarm shall be inspected and tested for operability and required functional performance at the beginning and end of each interval during which it is used for material protection, but not less frequently than once every seven (7) days.

47 FR 19112

(i) Make all shipments of the material either (A) in dedicated transports with no intermediate stops to load or unload other cargo and with no carrier or vehicle transfers or temporary storage in-transit, or (B) under arrangements whereby the custody of the shipment and all custody transfers are acknowledged by signature, and

(ii) Maintain the material under lock or under the control of an individual who has acknowledged acceptance of custody of the material by signature.

53 FR 19240

(5) Each licensee who exports special nuclear material of moderate strategic significance shall comply with the requirements specified in paragraphs (c) and (e)(1), (3), and (4) of this section. The licensee shall retain each record required by these sections for three years after the close of period for which the licensee possesses the special nuclear material under each license that authorizes the licensee to export this material. Copies of superseded material must be retained for three years after each change.

47FR19112

(6) Each licensee who imports special nuclear material of moderate strategic significance shall,

53 FR 19240

(i) Comply with the requirements specified in paragraphs (c) and (e)(2), (3), and (4) of this section. The licensee shall retain each record required by these sections for three years after the close of period for which the licensee possesses the special nuclear material under each license that authorizes the licensee to import this material. Copies of superseded material must be retained for three years after each change.

47FR19112

(ii) Notify the exporter who delivered the material to a carrier for transport of the arrival of such material.

(7) If, after receiving advance notice pursuant to §73.72 from a licensee planning to import, export, transport, deliver to a carrier for transport in a single shipment, or take delivery at the point where it is delivered to a carrier, special nuclear material of moderate strategic significance containing in any part strategic special nuclear material, it appears to the Commission that two or more shipments of special nuclear material of moderate strategic significance, constituting in the aggregate an amount equal to or greater than a formula quantity of strategic special nuclear material, may be en route at the same time, the Commission may order one or more of the shippers to delay shipment according to the following provisions.

46 FR 12695

(i) The shipper shall provide to the Commission, upon request, such additional information regarding a planned shipment as the Commission considers pertinent to the decision on whether to delay such shipment.

(ii) The receiver of each shipment, or the shipper if the receiver is not a licensee, shall notify the Administrator of the appropriate Nuclear Regulatory Commission Regional Office listed in Appendix A by telephone, no later than 24 hours after arrival of such shipment at its final destination, or after such shipment has left the United States as an export, to confirm the integrity of the shipment at the time of receipt or exit from the United States.

(iii) The Commission shall notify the affected shippers no later than two days before the scheduled shipment date that a given shipment is to be delayed.

(iv) Shipments of special nuclear material of moderate strategic significance which are protected in accordance with the provisions of §§73.20, 73.25, and 73.26 shall not be subject to orders to delay shipment nor considered to constitute a portion of an aggregate formula quantity of strategic special nuclear material for the purposes of determining whether any shipments must delayed.

57 FR 33426

(f) *Fixed site requirements for special nuclear material of low strategic significance.* Each licensee who possesses, stores, or uses special nuclear material of low strategic significance at a fixed site or contiguous sites, except those who are licensed to operate a nuclear power reactor pursuant to part 50, shall:

(1) Store or use the material only within a controlled access area,

(2) Monitor with an intrusion alarm or other device or procedures the controlled access areas to detect unauthorized penetrations or activities.

(3) Assure that a watchman or offsite response force will respond to all unauthorized penetrations or activities, and

(4) Establish and maintain response procedures for dealing with threats of thefts or thefts of this material. The licensee shall retain a copy of the current response procedures as a record for three years after the close of period for which the licensee possesses the special nuclear material under each license for which the procedures were established. Copies of superseded material must be retained for three years after each change.

(g) *In-transit requirements for special nuclear material of low strategic significance.* (1) Each licensee who transports or who delivers to a carrier for transport special nuclear material of low strategic significance shall:

(i) Provide advance notification to the receiver of any planned shipments specifying the mode of transport, estimated time of arrival, location of the nuclear material transfer point, name of carrier and transport identification.

(ii) Receive confirmation from the receiver prior to commencement of the planned shipment that the receiver will be ready to accept the shipment at the planned time and location and acknowledges the specified mode of transport.

(iii) Transport the material in a tamper indicating sealed container.

(iv) Check the integrity of the containers and seals prior to shipment, and

(v) Arrange for the in-transit physical protection of the material in accordance with the requirements of § 73.67(g)(3) of this part, unless the receiver is a licensee and has agreed in writing to arrange for the in-transit physical protection.

(2) Each licensee who receives quantities and types of special nuclear material of low strategic significance shall:

(i) Check the integrity of the containers and seals upon receipt of the shipment,

(ii) Notify the shipper of receipt of the material as required in § 70.54 of Part 70 of this chapter, and

(iii) Arrange for the in-transit physical protection of the material in accordance with the requirements of § 73.67(g)(3) of this part, unless the shipper is a licensee and has agreed in writing to arrange for the in-transit physical protection.

(3) Each licensee, either shipper or receiver, who arranges for the physical protection of special nuclear material of low strategic significance while in transit or who takes delivery of such material free on board (f.o.b.) the point at which it is delivered to a carrier for transport shall:

(i) Establish and maintain response procedures for dealing with threats or thefts of this material. The licensee shall retain a copy of the current response procedures as a record for three years after the close of period for which the licensee possesses the special nuclear material under each license for which the procedures were established. Copies of superseded material must be retained for three years after each change.

(ii) Make arrangements to be notified immediately of the arrival of the shipment at its destination, or of any such shipment that is lost or unaccounted for after the estimated time of arrival at its destination, and

(iii) Conduct immediately a trace investigation of any shipment that is lost or unaccounted for after the estimated arrival time and notify the NRC Operations Center [1] within one hour after the discovery of the loss of the shipment and within one hour after recovery of or accounting for such lost shipment in accordance with the provisions of § 73.71 of this part.

(4) Each licensee who exports special nuclear material of low strategic significance shall comply with the appropriate requirements specified in paragraphs (c) and (g) (1) and (3) of this section. The licensee shall retain each record required by these sections for three years after the close of period for which the licensee possesses the special nuclear material under each license that authorizes the licensee to export this material. Copies of superseded material must be retained for three years after each change.

(5) Each licensee who imports special nuclear material of low strategic significance shall:

(i) Comply with the requirements specified in paragraphs (c) and (g) (2) and (3) of this section and retain each record required by these paragraphs for three years after the close of period for which the licensee possesses the special nuclear material under each license that authorizes the licensee to import this material. Copies of superseded material must be retained for three years after each change.

(ii) notify the person who delivered the material to a carrier for transport of the arrival of such material.

[1] Commercial telephone number of the NRC Operations Center is (301) 816-5100.

Records and Reports

§ 73.70 Records.

Each record required by this part must be legible throughout the retention period specified by each Commission regulation. The record may be the original or a reproduced copy or a microform provided that the copy or microform is authenticated by authorized personnel and that the microform is capable of producing a clear copy throughout the required retention period. The record may also be stored in electronic media with the capability for producing legible, accurate, and complete records during the required retention period. Records such as letters, drawings, specifications, must include all pertinent information such as stamps, initials, and signatures. The licensee shall maintain adequate safeguards against tampering with and loss of records. Each licensee subject to the provisions of §§ 73.20, 73.25, 73.26, 73.27, 73.45, 73.46, 73.55, or 73.60 shall keep the following records:

(a) Names and addresses of all individuals who have been designated as authorized individuals. The licensee shall retain this record of currently designated authorized individuals for the period during which the licensee possesses the appropriate type and quantity of special nuclear material requiring this record under each license that authorizes the activity that is subject to the recordkeeping requirement and, for three years thereafter. Copies of superseded material must be retained for three years after each change.

(b) Names, addresses, and badge numbers of all individuals authorized to have access to vital equipment or special nuclear material, and the vital areas and material access areas to which authorization is granted. The licensee shall retain the record of individuals currently authorized this access for the period during which the licensee possesses the appropriate type and quantity of special nuclear material requiring this record under each license that authorizes the activity that is subject to the recordkeeping requirement and, for three years thereafter. Copies of superseded material must be retained for three years after each change.

57 FR 33426

(c) A register of visitors, vendors, and other individuals not employed by the licensee pursuant to §§ 73.40(d)(13), 73.55(d)(6), or 73.60. The licensee shall retain this register as a record, available for inspection, for 3 years after the last entry is made in the register.

53 FR 19240

(d) A log indicating name, badge number, time of entry, and time of exit of all individuals granted access to a vital area except those individuals entering or exiting the reactor control room. The licensee shall retain this log as a record for three years after the last entry is made in the log.

(e) Documentation of all routine security tours and inspections, and of all tests, inspections, and maintenance performed on physical barriers, intrusion alarms, communications equipment, and other security related equipment used pursuant to the requirements of this part. The licensee shall retain the documentation for these events for three years from the date of documenting each event.

(f) A record at each onsite alarm annunciation location of each alarm, false alarm, alarm check, and tamper indication that identifies the type of alarm, location, alarm circuit, date, and time. In addition, details of response by facility guards and watchmen to each alarm, intrusion, or other security incident shall be recorded. The license shall retain each record for three years after the record is made.

(g) Shipments of special nuclear material subject to the requirements of this part, including names of carriers, major roads to be used, flight numbers in the case of air shipments, dates and expected times of departure and arrival of shipments, verification of communication equipment on board the transfer vehicle, names of individuals who are to communicate with the transport vehicle, container seal descriptions and identification, and any other information to confirm the means utilized to comply with §§ 73.25, 73.26, and 73.27. This information must be recorded prior to shipment. Information obtained during the course of the shipment such as reports of all communications, change of shipping plan, including monitor changes, trace investigations, and others must also be recorded. The licensee shall retain each record about a shipment required by this paragraph (g) for three years after the record is made.

(h) Procedures for controlling access to protected areas and for controlling access to keys for locks used to protect special nuclear material. The licensee shall retain a copy of the current procedures as a record until the Commission terminates each license for which the procedures were developed and, if any portion of the procedure is superseded, retain the superseded material for three years after each change.

53 FR 19240

§ 73.71 Reporting of safeguards events.

59 FR 14085

(a) (1) Each licensee subject to the provisions of §§ 73.25, 73.26, 73.27(c), 73.37, 73.67(e) or 73.67(g) shall notify the NRC Operations Center [1] within one hour after discovery of the loss of any shipment of SNM or spent fuel, and within one hour after recovery of or accounting for such lost shipment.

52 FR 21651

(2) This notification must be made to the NRC Operations Center via the Emergency Notification System, if the licensee is party to that system. If the Emergency Notification System is inoperative or unavailable, the licensee shall make the required notification via commercial telephonic service or other dedicated telephonic system or any other methods that will ensure that a report is received by the NRC Operations Center within one hour. The exemption of § 73.21(g)(3) applies to all telephonic reports required by this section.

(3) The licensee shall, upon request to the NRC, maintain an open and continuous communication channel with the NRC Operations Center.

(4) The initial telephonic notification must be followed within a period of 30 days by a written report submitted to the U.S. Nuclear Regulatory Commission, Document Control Desk, Washington, DC 20555. The licensee shall also submit one copy to the appropriate NRC Regional Office listed in Appendix A to this part. The report must include sufficient information for NRC analysis and evaluation.

(5) Significant supplemental information which becomes available after the initial telephonic notification to the NRC Operations Center or after the submission of the written report must be telephonically reported to the NRC Operations Center and also submitted in a revised written report (with the revisions indicated) to the Regional Office and the Document Control Desk. Errors discovered in a written report must be corrected in a revised report with revisions indicated. The revised report must replace the previous report; the update must be a complete entity and not contain only supplementary or revised information. Each licensee shall maintain a copy of the written report of an event submitted under this section as record for a period of three years from the date of the report.

52 FR 21651

(b)(1) Each licensee subject to the provisions of §§ 73.20, 73.37, 73.50, 73.55, 73.60, or 73.67 shall notify the NRC Operations Center within one hour of discovery of the safeguards events described in paragraph I(a)(1) of Appendix G to this part. Licensees subject to the provisions of §§ 73.20, 73.37, 73.50, 73.55, 73.60 or each licensee possessing strategic special nuclear material (SSNM and subject to § 73.67(d) shall notify the NRC Operations Center within one hour after discovery of the safeguards events described in paragraphs I(a)(2), (a) (3), (b), and (c) of Appendix G to this part. Licensees subject to the provisions of §§ 73.20, 73.37, 73.50, 73.55 or 73.60 shall notify the NRC Operations Center within one hour after discovery of the safeguards events described in paragraph I(d) of Appendix G to this part.

(2) This notification must be made in accordance with the requirements of paragraphs (a) (2), (3), (4), and (5) of this section.

60 FR 13615

(c) Each license subject to the provisions of §§ 73.20, 73.37, 73.50, 73.55, 73.60, or each licensee possessing SSNM and subject to the § 73.67(d) shall maintain a current log and record the safeguards events described in paragraphs II (a) and (b) of Appendix G to this part within 24 hours of discovery by a licensee employee or member of the licensee's contract security organization. The licensee shall retain the log of events recorded under this section as a record for three years after the last entry is made in each log.

(d) Each licensee shall submit to the Commission the 30-day written reports required under the provisions of this section that are of a quality which will permit legible reproduction and processing. If the facility is subject to § 50.73 of this chapter, the licensee shall prepare the written report on NRC Form 366. If the facility is not subject to § 50.73 of this chapter, the licensee shall not use this form but shall prepare the written report in letter format. The report must include sufficient information for NRC analysis and evaluation.

52 FR 21651

(e) Duplicate reports are not required for events that are also reportable in accordance with §§ 50.72 and 50.73 of this chapter.

[1] Commercial telephone number of the NRC Operations Center is (301) 816-5100.

52 FR 9649

§ 73.72 Requirement for advance notice of shipment of formula quantities of strategic special nuclear material, special nuclear material of moderate strategic significance, or irradiated reactor fuel.

(a) A licensee, other than one specified in paragraph (b) of this section, who, in a single shipment, plans to deliver to a carrier for transport, to take delivery at the point where a shipment is delivered to a carrier for transport, to import, to export, or to transport a formula quantity of strategic special nuclear material, special nuclear material of moderate strategic significance, or irradiated reactor fuel required to be protected in accordance with § 73.37, shall:

60 FR 24549

(1) Notify in writing the Division of Industrial and Medical Nuclear Safety, U.S. Nuclear Regulatory Commission, Washington, DC 20555;

52 FR 9649

(2) Assure that the notification will be received at least 10 days before transport of the shipment commences at the shipping facility;

(3) Include the following information in the notification:

(i) The name(s), address(es), and telephone number(s) of the shipper, receiver, and carrier(s);

(ii) A physical description of the shipment:

(A) For a shipment other than irradiated fuel, the elements, isotopes, enrichment, and quantity;

(B) For a shipment of irradiated fuel, the physical form, quantity, type of reactor, and original enrichment;

(iii) A listing of the mode(s) of shipment, transfer point(s), and route(s) to be used;

(iv) The estimated time and date that shipment will commence and that each country along the route is scheduled to be entered; and

(v) The estimated time and date of arrival of the shipment at the destination;

60 FR 24549

(4) Notify the Division of Industrial and Medical Nuclear Safety by telephone at (301) 415-7197 at least 10 days before the shipment commences at the shipping facility that an advance notice has been sent; and

(5) Notify the Division of Industrial and Medical Nuclear Safety by telephone at (301) 415-7197 of any changes to the shipment itinerary.

52 FR 9649

(b) A licensee who makes a road shipment or transfer with one-way transit times of one hour or less in duration between installations of the licensee is exempt from the requirements of this section for that shipment or transfer.

§ 73.73 Requirement for advance notice and protection of export shipments of special nuclear material of low strategic significance.

(a) A licensee authorized to export special nuclear material of low strategic significance shall:

60 FR 24549

(1) Notify in writing the Division of Industrial and Medical Nuclear Safety, U.S. Nuclear Regulatory Commission, Washington, DC 20555;

52 FR 9649

(2) Assure that the notification will be received at least 10 days before transport of the shipment commences at the shipper's facility;

(3) Include the following information in the notification:

(i) The name(s), address(es), and telephone number(s) of the shipper, receiver, and carrier(s);

(ii) A physical description of the shipment (the elements, isotopes, form, etc.);

(iii) A listing of the mode(s) of shipment, transfer points, and routes to be used;

(iv) The estimated time and date that shipment will commence and that each country along the route is scheduled to be entered; and

(v) The estimated time and date of arrival of the shipment at the destination;

(4) Assure that during transport outside the United States, the shipment will be protected in accordance with Annex I to the Convention on the Physical Protection of Nuclear Material (see Appendix E of this part).

60 FR 24549

(b) A licensee who needs to amend a written advance notification required by paragraph (a) of this section may do so by telephoning the Division of Industrial and Medical Nuclear Safety at (301) 415-7197.

52 FR 9649

§ 73.74 Requirement for advance notice and protection of import shipments of nuclear material from countries that are not party to the Convention on the Physical Protection of Nuclear Material.

(a) A licensee authorized to import special nuclear material of low strategic significance from a country not a party to the Convention on the Physical Protection of Nuclear Material (i.e., not listed in Appendix F of this part) shall:

60 FR 24549

(1) Notify in writing the Division of Industrial and Medical Nuclear Safety, U.S. Nuclear Regulatory Commission, Washington, DC 20555;

52 FR 9649

(2) Assure that the notification will be received at least 10 days before transport of the shipment commences at the shipper's facility; and

(3) Include the following information in the notification:

(i) The name(s), address(es) and telephone number(s) of the shipper, receiver, and carrier(s);

(ii) A physical description of the shipment (the isotopes, enrichment, quantity, etc.);

(iii) A listing of mode(s) of shipment, transfer points, and routes to be used;

(iv) The estimated time and date that shipment will commence and that each country along the route is scheduled to be entered; and

(v) The estimated time and date of arrival of the shipment at the destination.

60 FR 24549

(b) A licensee who needs to amend a written advance notification required by paragraph (a) of this section may do so by telephoning the Division of Industrial and Medical Nuclear Safety at (301) 415-7197.

52 FR 9649

(c) A licensee authorized to import from a country not a party to the Convention on the Physical Protection of Nuclear Material (i.e., not listed in Appendix F of this part) a formula quantity of special nuclear material, special nuclear material of moderate strategic significance, special nuclear material of low strategic significance, or irradiated reactor fuel shall assure that during transport outside the United States the shipment will be protected in accordance with Annex I to the Convention on the Physical Protection of Nuclear Material (see Appendix E of this part).

ENFORCEMENT

57 FR 55062

§ 73.80 Violations.

(a) The Commission may obtain an injunction or other court order to prevent a violation of the provisions of—

(1) The Atomic Energy Act of 1954, as amended;

(2) Title II of the Energy Reorganization Act of 1974, as amended; or

(3) A regulation or order issued pursuant to those Acts.

(b) The Commission may obtain a court order for the payment of a civil penalty imposed under section 234 of the Atomic Energy Act:

(1) For violations of—

(i) Sections 53, 57, 62, 63, 81, 82, 101, 103, 104, 107, or 109 of the Atomic Energy Act of 1954, as amended;

(ii) Section 206 of the Energy Reorganization Act;

(iii) Any rule, regulation, or order issued pursuant to the sections specified in paragraph (b)(1)(i) of this section;

(iv) Any term, condition, or limitation of any license issued under the sections specified in paragraph (b)(1)(i) of this section.

(2) For any violation for which a license may be revoked under Section 186 of the Atomic Energy Act of 1954, as amended.

§ 73.81 Criminal penalties.

(a) Section 223 of the Atomic Energy Act of 1954, as amended, provides for criminal sanctions for willful violation of, attempted violation of, or conspiracy to violate, any regulation issued under sections 161b, 161i, or 161o of the Act. For purposes of section 223, all the regulations in part 73 are issued under one or more of sections 161b, 161i, or 161o, except for the sections listed in paragraph (b) of this section.

(b) The regulations in part 73 that are not issued under sections 161b, 161i, or 161o for the purposes of section 223 are as follows: §§ 73.1, 73.2, 73.3, 73.4, 73.5, 73.6, 73.8, 73.25, 73.45, 73.80, and 73.81.

60 FR 24549

APPENDIX A TO PART 73—U.S. NUCLEAR REGULATORY COMMISSION REGIONAL OFFICES

	Addresses	Telephone (24 hours)
NRC Operations Center (via NRC Operator)	USNRC, Office for Analysis and Evaluation of Operational Data, Washington, DC 20555.	(301) 415-7000
Region I: Connecticut, Delaware, District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont.	USNRC, 475 Allendale Road, King of Prussia, PA 19406.	(610) 337-5000 (FTS) 346-5000
Region II: Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, Puerto Rico, South Carolina, Tennessee, Virginia, Virgin Islands, and West Virginia.	USNRC, 101 Marietta Street, NW Suite 2900, Atlanta, GA 30323.	(404) 331-4503 (FTS) 242-4503
Region III: Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, and Wisconsin.	USNRC, 801 Warrenville Road, Lisle, IL 60532-4351.	(708) 829-9500 (FTS) 829-9500
Region IV: Alaska, Arizona, Arkansas, California, Colorado, Hawaii, Idaho, Kansas, Louisiana, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Texas, Utah, Washington, Wyoming, and the U.S. territories and possessions in the Pacific.	USNRC, 611 Ryan Plaza Drive, Suite 400, Arlington, TX 76011.	(817) 860-8100 (FTS) 728-8100
Region IV: Field Office	USNRC, Region IV, Walnut Creek Field Office, 1450 Maria Lane, Suite 300, Walnut Creek, CA 94596.	(510) 975-0200

Appendix B—General Criteria for Security Personnel

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Introduction

57 FR 33428

Security personnel who are responsible for the protection of special nuclear material on site or in transit and for the protection of a facility or shipment vehicle against radiological sabotage should, like other elements of the physical security system, be required to meet minimum criteria to ensure that they will effectively perform their assigned security-related job duties. In order to ensure that those individuals responsible for security are properly equipped and qualified to execute the job duties prescribed for them, the NRC has developed general criteria that specify security personnel qualification requirements.

These general criteria establish requirements for the selection, training, equipping, testing, and qualification of individuals who will be responsible for protecting special nuclear materials, nuclear facilities, and nuclear shipments.

When required to have security personnel that have been trained, equipped, and qualified to perform assigned security job duties in accordance with the criteria in this appendix, the licensee must establish, maintain, and follow a plan that shows how the criteria will be met. The plan must be submitted to the NRC for approval and must be implemented within 90 days after approval by the NRC unless otherwise specified by the NRC in writing.

Definitions

Terms defined in Parts 50, 70, and 73 of this chapter have the same meaning when used in this appendix.

Criteria

43 FR 37421

I. Employment suitability and qualification.

A. Suitability: 1. Prior to employment, or assignment to the security organization, an individual shall meet the following suitability criteria:

a. Educational development—Possess a high school diploma or pass an equivalent performance examination designed to measure basic job-related mathematical, language, and reasoning skills, ability, and knowledge, required to perform security job duties.

b. Felony convictions—Have no felony convictions involving the use of a weapon and no felony convictions that reflect on the individual's reliability.

2. Prior to employment or assignment to the security organization in an armed capacity, the individual, in addition to (a) and (b) above, must be 21 years of age or older.

B. Physical and mental qualifications. 1. Physical qualifications:

a. Individuals whose security tasks and job duties are directly associated with the effective implementation of the licensee physical security and contingency plans shall have no physical weaknesses or abnormalities that would adversely affect their performance of assigned security job duties.

b. In addition to a. above, guards, armed response personnel, armed escorts, and central alarm station operators shall successfully pass a physical examination administered by a licensed physician. The examination shall be designed to measure the individual's physical ability to perform assigned security job duties as identified in the licensee physical security and contingency plans. Armed personnel shall meet the following additional physical requirements:

43 FR 37421

(1) Vision: (a) For each individual, distant visual acuity in each eye shall be correctable to 20/30 (Snellen or equivalent) in the better eye and 20/40 in the other eye with eyeglasses or contact lenses. If uncorrected distance vision is not at least 20/40 in the better eye, the individual shall carry an extra pair of corrective lenses. Near visual acuity, corrected or uncorrected, shall be at least 20/40 in the better eye. Field of vision must be at least 70° horizontal meridian in each eye. The ability to distinguish red, green, and yellow colors is required. Loss of vision in one eye is disqualifying. Glaucoma shall be disqualifying, unless controlled by acceptable medical or surgical means, provided such medications as may be used for controlling glaucoma do not cause undesirable side effects which adversely affect the individual's ability to perform assigned security job duties, and provided the visual acuity and field of vision requirements stated above are met. On-the-job evaluation shall be used for individuals who exhibit a mild color vision defect.

(b) Where corrective eyeglasses are required, they shall be of the safety glass type.

(c) The use of corrective eyeglasses or contact lenses shall not interfere with an individual's ability to effectively perform assigned security job duties during normal or emergency operations.

59 FR 50688

(2) Hearing: (a) Individuals shall have no hearing loss in the better ear greater than 30 decibels average at 500 Hz, 1,000 Hz, and 2,000 Hz with no level greater that 40 decibels at any one frequency (by ISO 389 "Standard Reference Zero for the Calibration of Puritone Audiometer" (1975) or ANSI S3.6–1969 (R. 1973) "Specifications for Audiometers"). ISO 389 and ANSI S3.6–1969 have been approved for incorporation by reference by the Director of the Federal Register. A copy of each standard is available for inspection at the NRC Library, 11545 Rockville Pike, Rockville, Maryland 20852-2738.

43 FR 37421

(b) A hearing aid is acceptable provided suitable testing procedures demonstrate auditory acuity equivalent to the above stated requirement.

(c) The use of a hearing aid shall not decrease the effective performance of the individual's assigned security job duties during normal or emergency operations.

(3) Diseases—Individuals shall have no established medical history or medical diagnosis of epilepsy or diabetes, or, where such a condition exists, the individual shall provide medical evidence that the condition can be controlled with proper medication so that the individual will not lapse into a coma or unconscious state while performing assigned security job duties.

(4) Addiction-Individuals shall have no established medical history or medical diagnosis of habitual alcoholism or drug addiction, or, where such a condition has existed, the individual shall provide certified documentation of having completed a rehabilitation program which would give a reasonable degree of confidence that the individual would be capable of performing assigned security job duties.

(5) Other physical requirements—An individual who has been incapacitated due to a serious illness, injury, disease, or operation, which could interfere with the effective performance of assigned security job duties shall, prior to resumption of such duties, provide medical evidence of recovery and ability to perform such security job duties.

43 FR 37421

2. Mental qualifications: a. Individuals whose security tasks and job duties are directly associated with the effective implementation of the licensee physical security and contingency plans shall demonstrate mental alertness and the capability to exercise good judgment, implement instructions, assimilate assigned security tasks, and possess the acuity of senses and ability of expression sufficient to permit accurate communication by written, spoken, audible, visible, or other signals required by assigned job duties.

b. Armed individuals, and central alarm station operators, in addition to meeting the requirement stated in paragraph a. above, shall have no emotional instability that would interfere with the effective performance of assigned security job duties. The determination shall be made by a licensed psychologist or psychiatrist, or physician, or other person professionally trained to identify emotional instability.

c. The licensee shall arrange for continued observation of security personnel and for appropriate corrective measures by responsible supervisors for indications of emotional instability of individuals in the course of performing assigned security job duties. Identification of emotional instability by responsible supervisors shall be subject to verification by a licensed, trained person.

[43 FR 37421]

C. Medical examinations and physical fitness qualifications—Guards, armed response personnel, armed escorts and other armed security force members shall be given a medical examination including a determination and written certification by a licensed physician that there are no medical contraindications as disclosed by the medical examination to participation by the individual in physical fitness tests. Subsequent to this medical examination, guards, armed response personnel, armed escorts and other armed security force members shall demonstrate physical fitness for assigned security job duties by performing a practical physical exercise program within a specific time period. The exercise program performance objectives shall be described in the license training and qualifications plan and shall consider job-related functions such as strenuous activity, physical exertion, levels of stress, and exposure to the elements as they pertain to each individual's assigned security job duties for both normal and emergency operations. The physical fitness qualification of each guard, armed response person, armed escort, and other security force member shall be documented and attested to by a licensee security supervisor. The licensee shall retain this documentation as a record for three years from the date of each qualification.

[53 FR 19240]

D. Contract security personnel—Contract security personnel shall be required to meet the suitability, physical, and mental requirements as appropriate to their assigned security job duties in accordance with section I of this appendix.

[43 FR 37421]

E. Physical requalification—At least every 12 months, central alarm station operators shall be required to meet the physical requirements of B.1.b of this section, and guards, armed response personnel, and armed escorts shall be required to meet the physical requirements of paragraphs B.1.b (1) and (2), and C of this section. The licensee shall document each individual's physical requalification and shall retain this documentation of requalification as a record for three years from the date of each requalification.

[53 FR 19240]

F. Documentation—The results of suitability, physical, and mental qualifications data and test results must be documented by the licensee or the licensee's agent. The licensee or the agent shall retain this documentation as a record for three years from the date of obtaining and recording these results.

[43 FR 37421]

G. Nothing herein authorizes or requires a licensee to investigate into or judge the reading habits, political or religious beliefs, or attitudes on social, economic, or political issues of any person.

II. Training and qualifications.

A. Training requirements—Each individual who requires training to perform assigned security-related job tasks or job duties as identified in the licensee physical security or contingency plans shall, prior to assignment, be trained to perform these tasks and duties in accordance with the licensee or the licensee's agent's documented training and qualifications plan. The licensee or the agent shall maintain documentation of the current plan and retain this documentation of the plan as a record for three years after the close of period for which the licensee possesses the special nuclear material under each license for which the plan was developed and, if any portion of the plan is superseded, retain the material that is superseded for three years after each change.

[53 FR 19240]

B. Qualification requirements—Each person who performs security-related job tasks or job duties required to implement the licensee physical security or contingency plan shall, prior to being assigned to these tasks or duties, be qualified in accordance with the licensee's NRC-approved training and qualifications plan. The qualifications of each individual must be documented and attested by a licensee security supervisor. The licensee shall retain this documentation of each individual's qualifications as a record for three years after the employee ends employment in the security-related capacity and for three years after the close of period for which the licensee possesses the special nuclear material under each license, and superseded material for three years after each change.

C. Contract personnel—Contract personnel shall be trained, equipped, and qualified as appropriate to their assigned security-related job tasks or job duties, in accordance with sections II, III, IV, and V of this appendix. The qualifications of each individual must be documented and attested by a licensee security supervisor. The licensee shall retain this documentation of each individual's qualifications as a record for three years after the employee ends employment in the security-related capacity and for three years after the close of period for which the licensee possesses the special nuclear material under each license, and superseded material for three years after each change.

[53 FR 19240]

D. Security knowledge, skills, and abilities—Each individual assigned to perform the security related task identified in the licensee physical security or contingency plan shall demonstrate the required knowledge, skill, and ability in accordance with the specified standards for each task as stated in the NRC approved licensee training and qualifications plan. The areas of knowledge, skills, and abilities that shall be considered in the licensee's training and qualifications plan are as follows:

[43 FR 37421]

1. Protection of nuclear facilities, transport vehicles, and special nuclear material.
2. NRC requirements and guidance for physical security at nuclear facilities and for transportation.
3. The private security guard's role in providing physical protection for the nuclear industry.
4. The authority of private guards.
5. The use of nonlethal weapons.
6. The use of deadly force.
7. Power of arrest and authority to detain individuals.
8. Authority to search individuals and seize property.
9. Adversary group operations.
10. Motivation and objectives of adversary groups.
11. Tactics and force that might be used by adversary groups to achieve their objectives.
12. Recognition of sabotage related devices and equipment that might be used against the licensee's facility or shipment vehicle.
13. Facility security organization and operation.
14. Types of physical barriers.
15. Weapons, lock and key control system operation.
16. Location of SNM and/or vital areas within a facility.
17. Protected area security and vulnerability.
18. Types of alarm systems used.
19. Response and assessment to alarm annunciations and other indications of intrusion.
20. Familiarization with types of special nuclear material processed.
21. General concepts of fixed site security systems.
22. Vulnerabilities and consequences of theft of special nuclear material or radiological sabotage of a facility.
23. Protection of security system information.
24. Personal equipment use and operation for normal and contingency operations.
25. Surveillance and assessment systems and techniques.
26. Communications systems operation, fixed site.
27. Access control systems and operation for individuals, packages, and vehicles.
28. Contraband detection systems and techniques.
29. Barriers and other delay systems around material access or vital areas.

30. Exterior and interior alarm systems operation.
31. Duress alarm operation.
32. Alarm stations operation.
33. Response force organization.
34. Response force mission.
35. Response force operation.
36. Response force engagement.
37. Security command and control system during normal operation.
38. Security command and control system during contingency operation.
39. Transportation systems security organization and operation.
40. Types of SNM transport vehicles.
41. Types of SNM escort vehicles.
42. Modes of transportation for SNM.
43. Road transport security system command and control structure.
44. Use of weapons.
45. Communications systems operation for transportation, shipment to control center and intraconvoy.
46. Vulnerabilities and consequences of theft of special nuclear material or radiological sabotage of a transport vehicle.
47. Protection of transport system security information.
48. Control of area around transport vehicle.
49. Normal convoy techniques and operations.
50. Familiarization with types of special nuclear materials shipped.
51. Fixed post station operations.
52. Access control system operation.
53. Search techniques and systems for individuals, packages and vehicles.
54. Escort and patrol responsibilities and operation.
55. Contengency response to confirmed intrusion or attempted intrusion.
56. Security system operation after component failure.
57. Fixed site security information protection.
58. Security coordination with local law enforcement agencies.
59. Security and situation reporting, documentation and report writing.
60. Contingency duties.
61. Self defense.
62. Use of and defenses against incapacitating agents.
63. Security equipment testing.
64. Contingency procedures.
65. Night vision devices and systems.
66. Mechanics of detention.
67. Basic armed and unarmed defensive tactics.
68. Response force deployment.
69. Security alert procedures.

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70. Security briefing procedures.
71. Response force tactical movement.
72. Response force withdrawal.
73. Reponse force use of support fire.
74. Response to bomb and attack threats.
75. Response to civil disturbances (e.g., strikes, demonstrators).
76. Response to confirmed attempted theft of special nuclear material and/or radiological sabotage of facilities.
77. Response to hostage situations.
78. Site specific armed tactical procedures and operation.
79. Security response to emergency situations other than security incidents.
80. Basic transportation defensive response tactics.
81. Armed escort deployment.
82. Armed escort adversary engagement.
83. Armed escort formations.
84. Armed escort use of weapons fire (tactical and combat).
85. Armed escort and shipment movement under fire.
86. Tactical convoying techniques and operations.
87. Armed escort tactical exercises.
88. Armed escort response to bomb and attack threats.
89. Verification of shipment documentation and contents.
90. Continuous surveillance of shipment vehicle.
91. Normal and contingency operation for shipment mode transfer.
92. Armed personnel procedures and operation during temporary storage between mode transfers of shipments.
93. Armed escort threat assessment and response.
94. System for and operation of shipment vehicle lock and key control.
95. Techniques and procedures for isolation of shipment vehicle during a contingency situation.
96. Transportation coordination with local law enforcement agencies.
97. Procedures for verification of shipment locks and seals.
98. Transportation security and situation reporting, documentation, and report writing.
99. Procedures for shipment delivery and pickup.
100. Transportation security system for escort by road, rail, air and sea.

43 FR 37421

E. Requalification—Security personnel shall be requalified at least every 12 months to perform assigned security-related job tasks and duties for both normal and contingency operations. Requalification shall be in accordance with the NRC-approved licensee training and qualifications plan. The results of requalification must be documented and attested by a licensee security supervisor. The licensee shall retain this documentation of each individual's requalification as a record for three years from the date of each requalification.

53 FR 19240

III. Weapons training.

A. Guards, armed response personnel and armed escorts requiring weapons training to perform assigned security related job tasks or job duties shall be trained in accordance with the licensees' documented weapons training programs. Each individual shall be proficient in the use of his assigned weapon(s) and shall meet prescribed standards in the following areas:

1. Mechanical assembly, disassembly, range penetration capability of weapon, and bullseye firing.
2. Weapons cleaning and storage.
3. Combat firing, day and night.
4. Safe weapons handling.
5. Clearing, loading, unloading, and reloading.
6. When to draw and point a weapon.
7. Rapid fire techniques.
8. Close quarter firing.
9. Stress firing.
10. Zeroing assigned weapon(s).

43 FR 37421

IV. Weapons qualification and requalification program.

Qualification firing for the handgun and the rifle must be for daylight firing, and each individual shall perform night firing for familiarization with assigned weapon(s). The results of weapons qualification and requalification must be documented by the licensee or the licensee's agent. Each individual shall be requalified at least every 12 months. The licensee shall retain this documentation of each qualification and requalification as a record for three years from the date of the qualification or requalification, as appropriate.

53 FR 19240

A. Handgun—Guards, armed escorts and armed response personnel shall qualify with a revolver or semiautomatic pistol firing the national police course, or an equivalent nationally recognized course. Qualifying score shall be an accumulated total of 70 percent of the maximum obtainable score.

B. Semiautomatic Rifle—Guards, armed escorts and armed response personnel, assigned to use the semiautomatic rifle by the licensee training and qualifications plan, shall qualify with a semiautomatic rifle by firing the 100-yard course of fire specified in section 17.5(1) of the National Rifle Association, High Power Rifle Rules book (effective March 15, 1976),[1] or a nationally recognized equivalent course of fire. Targets used shall be as stated in section 17.5 for the 100-yard course. Time limits for individuals shall be as specified in section 8.2 of the NRA rule book, regardless of the course fired. Qualifying score shall be an accumulated total of 60 percent of the maximum obtainable score.

43 FR 37421

[1] Copies of the "NRA High Power Rifle Rules" may be examined at, or obtained from, the National Rifle Association, 1600 Rhode Island Avenue NW., Washington, D.C. 20036.

59 FR 50688

C. Shotgun—Guards, armed escorts, and armed response personnel assigned to use the 12 gauge shotgun by the licensee training and qualifications plan shall qualify with a full choke or improved modified choke 12 gauge shotgun firing the following course:

Range	Position	No. Rounds [1]	Target [2]
15 yds	Hip fire point	4	B–27
25 yds	Shoulder	4	B–27

[1] The 4 rounds shall be fired at 4 separate targets within 10 seconds using 00 gauge (9 pellet) shotgun shells.

[2] As set forth by the National Rifle Association (NRA) in its official rules and regulations, "NRA Target Manufacturers Index," December 1978. The index has been approved for incorporation by reference by the Director of the Federal Register. A copy of the index is available for inspection at the NRC Library, 11545 Rockville Pike, Rockville, Maryland 20853-2738.

To qualify the individual shall be required to place 50 percent of all pellets (36 pellets) within the black silhouette.

43 FR 37421

D. Requalification—Individuals shall be weapons requalified at least every 12 months in accordance with the NRC approved licensee training and qualifications plan, and in accordance with the requirements stated in A, B, and C of this section.

V. Guard, armed response personnel, and armed escort equipment.

A. Fixed Site—Fixed site guards and armed response personnel shall either be equipped with or have available the following security equipment appropriate to the individual's assigned contingency security related tasks or job duties as described in the licensee physical security and contingency plans:

1. Semiautomatic rifles with following nominal minimum specifications:

(a) .223 caliber.

(b) Muzzle velocity, 1980 ft/sec.

(c) Muzzle energy, 955 foot-pounds.

(d) Magazine or clip load of 10 rounds.

(e) Magazine reload, < 10 seconds.

(f) Operable in any environment in which it will be used.

2. 12 gauge shotguns with the following capabilities:

(a) 4 round pump or semiautomatic.

(b) Operable in any environment in which it will be used.

(c) Full or modified choke.

3. Semiautomatic pistols or revolvers with the following nominal minimum specifications:

(a) .354 caliber.

(b) Muzzle energy, 250 foot-pounds.

(c) Full magazine or cylinder reload capability < 6 seconds.

(d) Muzzle velocity, 850 ft/sec.

(e) Full cylinder or magazine capacity, 6 rounds.

(f) Operable in any environment in which it will be used.

4. Ammunition:

(a) For each assigned weapon as appropriate to the individual's assigned contingency security job duties and as readily available as the weapon:

(1) 18 rounds per handgun.

(2) 100 rounds per semiautomatic rifle.

(3) 12 rounds each per shotgun (00 gauge and slug).

(b) Ammunition available on site—two (2) times the amount stated in (a) above for each weapon.

5. Personal equipment to be readily available for individuals whose assigned contingency security job duties, as described in the licensee physical security and contingency plans, warrant such equipment:

(a) Helmet, combat.

(b) Gas mask, full face.

(c) Body armor (bullet-resistant vest).

(d) Flashlights and batteries.

(e) Baton.

(f) Handcuffs.

(g) Ammunition/equipment belt.

6. Binoculars.

7. Night vision aids, i.e., hand-fired illumination flares or equivalent.

8. Tear gas or other noniethal gas.

9. Duress alarms.

10. Two-way portable radios (handi-talkie) 2 channels minimum, 1 operating and 1 emergency.

43 FR 37421

B. Transportation—Armed escorts shall either be equipped with or have readily available the following security equipment appropriate to the individual's assigned contingency security related tasks or job duties, as described in the licensee physical security and contingency plans:

1. Semiautomatic rifles with the following nominal minimum specifications:

(a) .223 caliber.

(b) Muzzle velocity, 1,980 ft/sec.

(c) Muzzle energy, 955 foot-pounds.

(d) Magazine or clip of 10 rounds.

(e) Reload capability, 10 seconds.

(f) Operable in any environment in which it will be used.

2. 12 gauge shotguns.

(a) 4 round pump or semiautomatic.

(b) Operable in any environment in which it will be used.

(c) Full or modified choke.

3. Semiautomatic pistols or revolvers with the following nominal minimum specifications:

(a) .354 caliber.

(b) Muzzle energy, 250 foot-pounds.

(c) Full magazine or cylinder reload capability 6 seconds.

(d) Muzzle velocity, 850 ft/sec.

(e) Full cylinder or magazine capacity, 6 rounds.

(f) Operable in any environment in which it will be used.

4. Ammunition for each shipment.

(a) For each assigned weapon as appropriate to the individual's assigned contingency security job duties and as readily available as the weapon:

(1) 36 rounds per handgun.

(2) 120 rounds per semiautomatic rifle.

(3) 12 rounds each per shotgun (00 gauge and slug).

5. Escort vehicles, bullet resisting, equipped with communications systems, red flares, first aid kit, emergency tool kit, tire changing equipment, battery chargers for radios (where appropriate, for recharging portable radio batteries).

43 FR 37421

6. Personal equipment to be readily available for individuals whose assigned contingency security job duties, as described in the licensee physical security and contingency plans, warrant such equipment:
(a) Helmet, combat.
(b) Gas mask, full face.
(c) Body armor (bullet-resistant vest).
(d) Flashlights and batteries.
(e) Baton.
(f) Ammunition/equipment belt.
(g) Pager/duress alarms.
7. Binoculars.
8. Night vision aids, i.e., hand-fired illumination flares or equivalent.
9. Tear gas or other nonlethal gas.

APPENDIX C—LICENSEE SAFEGUARDS CONTINGENCY PLANS

INTRODUCTION

57 FR 33428

A licensee safeguards contingency plan is a documented plan to give guidance to licensee personnel in order to accomplish specific defined objectives in the event of threats, thefts, or radiological sabotage relating to special nuclear material or nuclear facilities licensed under the Atomic Energy Act of 1954, as amended. An acceptable safeguards contingency plan must contain: (1) a predetermined set of decisions and actions to satisfy stated objectives, (2) an identification of the data, criteria, procedures, and mechanisms necessary to efficiently implement the decisions, and (3) a stipulation of the individual, group, or organizational entity responsible for each decision and action.

The goals of licensee safeguards contingency plans for responding to threats, thefts, and radiological sabotage are:

(1) to organize the response effort at the licensee level,

(2) to provide predetermined, structured responses by licensees to safeguards contingencies,

(3) to ensure the integration of the licensee response with the responses by other entities, and

(4) to achieve a measurable performance in response capability.

Licensee safeguards contingency planning should result in organizing the licensee's resources in such a way that the participants will be identified, their several responsibilities specified, and the responses coordinated. The responses should be timely.

It is important to note that a licensee's safeguards contingency plan is intended to be complementary to any emergency plans developed pursuant to appendix E to part 50 or to § 70.22(i) of this chapter.

CONTENTS OF THE PLAN

43 FR 11962

Each licensee safeguards contingency plan shall include five categories of information:

1. Background
2. Generic Planning Base
3. Licensee Planning Base
4. Responsibility Matrix
5. Procedures

Although the implementing procedures (the fifth category of Plan information) are the culmination of the planning process, and therefore are an integral and important part of the safeguards contingency plan, they entail operating details subject to frequent changes. They need not be submitted to the Commission for approval, but will be inspected by NRC staff on a periodic basis. The licensee is responsible for ensuring that the implementing procedures reflect the information in the Responsibility Matrix, appropriately summarized and suitably presented for effective use by the responding entities.

The following paragraphs describe the contents of the safeguards contingency plan.

1. *Background.* Under the following topics, this category of information shall identify and define the perceived dangers and incidents with which the plan will deal and the general way it will handle these:

a. Perceived Danger—A statement of the perceived danger to the security of special nuclear material, licensee personnel, and licensee property, including covert diversion of special nuclear material, radiological sabotage, and overt attacks. The statement of perceived danger should conform with that promulgated by the Nuclear Regulatory Commission. (The statement contained in 10 CFR 73.55(a) or subsequent Commission statements will suffice.)

b. Purpose of the Plan—A discussion of the general aims and operational concepts underlying implementation of the plan.

c. Scope of the Plan—A delineation of the types of incidents covered in the plan.

d. Definitions—A list of terms and their definitions used in describing operational and technical aspects of the plan.

2. *Generic Planning Base.* Under the following topics, this category of information shall define the criteria for initiation and termination of responses to safeguards contingencies together with the specific decisions, actions, and supporting information needed to bring about such responses:

43 FR 11962

a. Identification of those events that will be used for signaling the beginning or aggravation of a safeguards contingency according to how they are perceived initially by licensee's personnel. Such events may include alarms or other indications signaling penetration of a protected area, vital area, or material access area; material control or material accounting indications of material missing or unaccounted for; or threat indications—either verbal, such as telephoned threats, or implied, such as escalating civil disturbances.

b. Definition of the specific objective to be accomplished relative to each identified event. The objective may be to obtain a level of awareness about the nature and severity of the safeguards contingency in order to prepare for further responses; to establish a level of response preparedness; or to successfully nullify or reduce any adverse safeguards consequences arising from the contingency.

3. *Licensee Planning Base.* This category of information shall include the factors affecting contingency planning that are specific for each facility or means of transportation. To the extent that the topics are treated in adequate detail in the licensee's approved physical security plan, they may be incorporated by cross reference to that plan. The following topics should be addressed:

a. Licensee's Organizational Structure for Contingency Responses—A delineation of the organization's chain of command and delegation of authority as these apply to safeguards contingencies.

b. Physical Layout—(i) Fixed Sites—A description of the physical structures and their location on the site, and a description of the site in relation to nearby town, roads, and other environmental features important to the effective coordination of response operations. Particular emphasis should be placed on main and alternate entry routes for law-enforcement assistance forces and the location of control points for marshalling and coordinating response activities.

(ii) Transportation—A description of the vehicles, shipping routes, preplanned alternate routes, and related features.

c. Safeguards Systems Hardware—A description of the physical security and accounting system hardware that influence how the licensee will respond to an event. Examples of systems to be discussed are communications, alarms, locks, seals, area access, armaments, and surveillance.

d. Law Enforcement Assistance—A listing of available local law enforcement agencies and a description of their response capabilities and their criteria for response; and a discussion of working agreements or arrangements for communicating with these agencies.

e. Policy Constraints and Assumptions—A discussion of State laws, local ordinances, and company policies and practices that govern licensee response to incidents. Examples that may be discussed include:

Use of deadly force;

Use of employee property;

Use of off-duty employees;

Site security jurisdictional boundaries.

f. Administrative and Logistical Considerations—Descriptions of licensee practices that may have an influence on the response to safeguards contingency events. The considerations shall include a description of the procedures that will be used for ensuring that all equipment needed to effect a successful response to a safeguards contingency will be easily accessible, in good working order, and in sufficient supply to provide redundancy in case of equipment failure.

4. *Responsibility Matrix.* This category of information consists of detailed identification of the organizational entities responsible for each decision and action associated with specific responses to safeguards contingencies. For each initiating event, a tabulation shall be made for each response entity depicting the assignment of responsibilities for all decisions and actions to be taken in response to the initiating event. (Not all entities will have assigned responsibilities for any given initiating event.) The tabulations in the Responsibility Matrix shall provide an overall picture of the response actions and their interrelationships. Safeguards responsibilities shall be assigned in a manner that precludes conflict in duties or responsibilities that would prevent the execution of the plan in any safeguards contingency.

5. *Procedures.* In order to aid execution of the detailed plan as developed in the Responsibility Matrix, this category of information shall detail the actions to be taken and decisions to be made by each member or unit of the organization as planned in the Responsibility Matrix.

[43 FR 11962]

AUDIT AND REVIEW

At intervals not to exceed 12 months, the licensee shall provide for a review of the safeguards contingency plan by individuals independent of both security program management and personnel who have direct responsibility for implementation of the security program. The review must include an audit of safeguards contingency procedures and practices, and an audit of commitments established for response by local law enforcement authorities.

The licensee shall document the results and the recommendations of the safeguards contingency plan review, management findings on whether the safeguards contingency plan is currently effective, and any actions taken as a result of recommendations from prior reviews in a report to the licensee's plant manager and to corporate management at least one level higher than that having responsibility for the day-to-day plant operation. The report must be maintained in an auditable form, available for inspection for a period of 3 years.

[57 FR 33426]

APPENDIX D—PHYSICAL PROTECTION OF IRRADIATED REACTOR FUEL IN TRANSIT, TRAINING PROGRAM SUBJECT SCHEDULE.

Pursuant to the provision of § 73.37 of 10 CFR Part 73, each licensee who transports or delivers to a carrier for transport irradiated reactor fuel is required to assure that individuals used as shipment escorts have completed a training program. The subjects that are to be included in this training program are as follows:

Security Enroute

—Route planning and selection
—Vehicle operation
—Procedures at stops
—Detours and use of alternate routes

Communications

—Equipment operation
—Status reporting
—Contacts with law enforcement units
—Communications discipline
—Procedures for reporting incidents

Radiological Considerations

—Description of the radioactive cargo
—Function and characteristics of the shipping casks
—Radiation hazards
—Federal, State and local ordinances relative to the shipment of radioactive materials
—Responsible agencies

Response to Contingencies

—Accidents
—Severe weather conditions
—Vehicle breakdown
—Communications problems
—Radioactive "spills"
—Use of special equipment (flares, emergency lighting, etc.)

Response to Threats

—Reporting
—Calling for assistance
—Use of immobilization features
—Hostage situations
—Avoiding suspicious situations

[44 FR 34466]

The licensee is also required to assure that armed individuals serving as shipment escorts, other than members of local law enforcement agencies, have completed a weapons training and qualifications program equivalent to that required of guards, as described in III and IV of Appendix B of this part, to assure that each such individual is fully qualified to use weapons assigned him.

[45 FR 37410]

Appendix E—Levels of Physical Protection To Be Applied in International Transport of Nuclear Material [1]

(Verbatim from Annex I to the Convention on the Physical Protection of Nuclear Material)

(a) Levels of physical protection for nuclear material during storage incidental to international nuclear transport include:

(1) For Category III materials, storage within an area to which access is controlled;

(2) For Category II materials, storage within an area under constant surveillance by guards or electronic devices, surrounded by a physical barrier with a limited number of points of entry under appropriate control or any area with an equivalent level of physical protection;

(3) For Category I material, storage within a protected area as defined for Category II, to which, in addition, access is restricted to persons whose trustworthiness has been determined, and which is under surveillance by guards who are in close communication with appropriate response forces. Specific measures taken in this context should have as their objective the detection and prevention of any assault, unauthorized access, or unauthorized removal of material.

(b) Levels of physical protection for nuclear material during international transport include:

(1) For Category II and III materials, transportation shall take place under special precautions including prior arrangements among sender, receiver, and carrier, and prior agreement between natural or legal persons subject to the jurisdiction and regulation of exporting and importing States, specifying time, place and procedures for transferring transport responsibility;

(2) For Category I materials, transportation shall take place under special precautions identified for transportation of Category II and III materials, and in addition, under constant surveillance by escorts and under conditions which assure close communication with appropriate response forces;

(3) For natural uranium other than in the form of ore or ore residue, transportation protection for quantities exceeding 500 kilograms U shall include advance notification of shipment specifying mode of transport, expected time of arrival and [shall provide for] confirmation of receipt of shipment.

[1] See Appendix C to Part 110 of this chapter for the physical description of the categories of nuclear material as set forth in Annex I to the Convention. For the purposes of this part, the following categories of nuclear material are synonymous:

Category I is a formula quantity of strategic special nuclear material;

Category II is special nuclear material of moderate strategic significance or irradiated fuel; and

Category III is special nuclear material of low strategic significance.

52 FR 22849

Appendix F—Nations That Are Parties to the Convention on the Physical Protection of Nuclear Material [1]

Nation	Date of deposit of instrument of ratification with the IAEA
Brazil	Oct. 17, 1985.
Bulgaria	May 2, 1984.
Canada	Mar. 21, 1986.
Czechoslovakia	Apr. 23, 1982.
German Democratic Republic (E. Germany).	Feb. 5, 1981.
Guatemala	Apr. 23, 1985.
Hungary	May 4, 1984.
Indonesia	Nov. 5, 1986.
Korea, Republic of	Apr. 7, 1982.
Liechtenstein	Nov. 25, 1986.
Mongolia	May 26, 1986.
Norway	Aug. 15, 1985.
Paraguay	Feb. 6, 1985.
Philippines	Sept. 22, 1981.
Poland	Oct. 5, 1983.
Sweden	Aug. 1, 1980.
Switzerland	Jan. 6, 1987.
Turkey	Feb. 27, 1985.
Yugoslavia	May 14, 1986.
Union of Soviet Socialist Republic.	May 25, 1983.
United States of America	Dec. 13, 1982.

[1] An update list of party nations will appear annually in the Department of State's publication, Treaties in Force. Appendix F will be amended as required to maintain its currency.

52 FR 22849

Appendix G—Reportable Safeguards Events

Pursuant to the provisions of 10 CFR 73.71 (b) and (c), licensees subject to the provisions of 10 CFR 73.20, 73.37, 73.50, 73.55, 73.60, and 73.67 shall report or record, as appropriate, the following safeguards events.

I. *Events to be reported within one hour of discovery, followed by a written report within 30 days.*

(a) Any event in which there is reason to believe that a person has committed or caused, or attempted to commit or cause, or has made a credible threat to commit or cause:

(1) A theft or unlawful diversion of special nuclear material; or

(2) Significant physical damage to a power reactor or any facility possessing SSNM or its equipment or carrier equipment transporting nuclear fuel or spent nuclear fuel, or to the nuclear fuel or spent nuclear fuel a facility or carrier possesses; or

(3) Interruption of normal operation of a licensed nuclear power reactor through the unauthorized use of or tampering with its machinery, components, or controls including the security system.

(b) An actual entry of an unauthorized person into a protected area, material access area, controlled access area, vital area, or transport.

(c) Any failure, degradation, or the discovered vulnerability in a safeguard system that could allow unauthorized or undetected access to a protected area, material access area, controlled access area, vital area, or transport for which compensatory measures have not been employed.

(d) The actual or attempted introduction of contraband into a protected area, material access area, vital area, or transport.

58 FR 21651

II. *Events to be recorded within 24 hours of discovery in the safeguards event log.*

60 FR 13815

(a) Any failure, degradation, or discovered vulnerability in a safeguards system that could have allowed unauthorized or undetected access to a protected area, material access area, controlled access area, vital area, or transport had compensatory measures not been established.

(b) Any other threatened, attempted, or committed act not previously defined in Appendix G with the potential for reducing the effectiveness of the safeguards system below that committed to in a licensed physical security or contingency plan or the actual condition of such reduction in effectiveness.

52 FR 21651

Appendix H – Weapons Qualification Criteria

The B-27 Target or a target of equivalent difficulty will be used for all weapon qualification testing.

TABLE H–1 MINIMUM DAY FIRING CRITERIA [1]

[see footnotes at end of Table H–1]

Weapon	Stage	String [2]	Distance	Number of rounds	Timing [3]	Position	Scoring
Handgun	1	1 2 3	3 yards	6	9 seconds	Draw and fire 2 rounds (repeat 2 times) 3 seconds each string.	Minimum qualifying = 70%.
	2	1 2	7 yards	6	10 seconds	Draw and fire 2 rounds at center mass and 1 round at the head (repeat once) 5 seconds each string.	
	3	1 2 3	7 yards	6	12 seconds (4 seconds each string).	Using weaker hand only, from the low ready position, fire 2 rounds (repeat twice).	
	4	1	10 yards	2	4 seconds	Draw and fire 2 rounds, come to low ready position.	
		2	10 yards	2	3 seconds	Fire 2 rounds from low ready position and reholster.	
		3	10 yards	4	12 seconds (revolver) 10 seconds (semi-automatic).	Draw and fire 2 rounds, reload, fire 2 rounds and reholster.	
		4	10 yards	2	4 seconds	Draw and fire 2 rounds, come to low ready position.	
		5	10 yards	2	3 seconds	Fire 2 rounds from low ready position and reholster.	
	5	1	15 yards	2	5 seconds	Standing, draw weapon, move to kneeling position, then fire 2 rounds and reholster.	
		2	15 yards	2	5 seconds	Standing, draw weapon, move to kneeling position, then fire 2 rounds and reholster.	
	5	3	15 yards	4	14 seconds (revolver) 12 seconds (semi-automatic).	Standing, draw weapon, fire 2 rounds, move to kneeling position and fire 2 rounds, reload and reholster.	Minimum qualifying = 70%.
		4	15 yards	2	5 seconds	Draw weapon and fire 2 rounds standing, come to low ready position and....	
		5	15 yards	2	3 seconds	Fire 2 rounds from low ready.	
	6	1	25 yards	2	5 seconds	Draw and fire 2 rounds, standing, left side of barricade.	
		2	25 yards	2	5 seconds	Draw and fire 2 rounds, right side of barricade (standing).	
		3	25 yards	4	15 seconds (revolver) 12 seconds (semi-automatic).	Draw weapon and move from standing to kneeling position, fire 2 rounds, left side of barricade, reload, and from the kneeling position, fire 2 rounds, right side of barricade.	
		4	25 yards	2	10 seconds	Draw weapon and move from standing to prone, fire 2 rounds.	
		5	25 yards	2	10 seconds	Draw weapon and move from standing to prone, fire 2 rounds.	
	7	1	50 yards	2	8 seconds	Draw weapon and fire 2 rounds from a standing barricade position (right or left side, shooter's option).	

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Because your response will be placed in the NRC Public Document Room (PDR), to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction. However, if you find it necessary to include such information, you should clearly indicate the specific information that you desire not to be placed in the PDR, and provide the legal basis to support your request for withholding the information from the public.

B. Condition 13 of License No. 29-04236-01 requires, in part, that sealed sources stored for a period of more than 10 years be tested for leakage and/or contamination.

Contrary to the above, as of December 11, 1996, several sealed sources containing between 370 microcuries and 1.96 curies of byproduct material had not been tested for leakage and/or contamination within the past 10 years. Specifically, the licensee's sealed sources numbered B1, B3, G1-G5, G7-G9, G11, G16, and G29 had not been tested for leakage in the past ten years.

This is a Severity Level IV violation. (Supplement VI)

C. Condition 20 of License No. 29-04236-01 requires, in part, that licensed material be possessed and used in accordance with statements, representations and procedures contained in a letter dated December 26, 1990.

Item 3 of the letter requires that contamination surveys, survey meter readings, and wipe test data of the sealed gamma and beta sources in use be performed every six months.

Contrary to the above, as of December 11, 1996, survey meter readings around sealed gamma sources in use were not performed every six months. Specifically, surveys around the cesium-137 sealed sources in use were last conducted on February 3, 1996, and surveys around the cobalt-60 sealed source in use were last conducted on February 20, 1993. The cesium-137 sources were last used on November 27, 1996 and the cobalt-60 source was last used on May 7, 1996.

This is a Severity Level IV violation. (Supplement VI)

Pursuant to the provisions of 10 CFR 2.201, Nuclear Research Corporation is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555, with a copy to the Regional Administrator, Region I, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each violation: (1) the reason for the violation, or, if contested, the basis for disputing the violation, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken to avoid further violations, and (4) the date when full compliance will be achieved. Your response may reference or include previous docketed correspondence, if the correspondence adequately addresses the required response. If an adequate reply is not received within the time specified in this Notice, an order or a Demand for Information may be issued as to why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

NOTICE OF VIOLATION

Nuclear Research Corporation
Dover, New Jersey

Docket No. 030-05302
License No. 29-04236-01

During an NRC inspection conducted on December 10 and 11, 1996, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," (Enforcement Policy), NUREG 1600, the violations are listed below:

A. Conditions 8 and 12 of License No. 29-04236-01 limit, in part, the amount of byproduct material with half lives greater than 120 days that may be possessed at any one time to a total of 10^3 times the quantity specified in Appendix B to 10 CFR Part 30.

Contrary to the above, as of December 11, 1996, the licensee possessed radioactive material with half lives greater than 120 days in excess of 10^3 times the quantity specified in Appendix B to 10 CFR Part 30. (The limit for cobalt-60 is 1 millicurie [mCi] and for cesium-137 is 10 mCi). Specifically, while sealed sources are specifically listed on the license, the following sealed sources were not specifically listed on the license and were in excess of the limit described above:

Licensee's #	Isotope	Activity (mCi)
G1	Cobalt-60	6.87
G2	Cobalt-60	0.43
G3	Cobalt-60	0.37
G4	Cobalt-60	0.43
G5	Cobalt-60	1.32
G6	Cobalt-60	0.001
G7	Cobalt-60	0.93
G8	Cobalt-60	0.43
G9	Cobalt-60	1.27
G11	Cobalt-60	325.70
G12	Cobalt-60	0.07
G13	Cobalt-60	0.15
G14	Cesium-137	82.49
G15	Cesium-137	0.47
G20	Cesium-137	0.46
G29	Cesium-137	1965.23

This is a Severity Level IV violation (Supplement VI).

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Date: December 30, 1996

APPENDIX A

RESPONSE