

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION  
OFFICE OF NUCLEAR REACTOR REGULATION

Eric J. Leeds, Director

In the Matter of	)	
	)	
ENTERGY NUCLEAR OPERATIONS, INC.	)	
	)	
Indian Point Nuclear Generating Unit	)	Dockets No. 50-003, 50-247,
Nos. 1, 2, and 3	)	and 50-286
	)	License Nos. DPR-5, DPR-26,
	)	and DPR-64

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PROPOSED DIRECTOR'S DECISION UNDER 10 CFR 2.206

I. Introduction

By electronic transmission dated March 28, 2011 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML110890871), Eric T. Schneiderman, Attorney General for the State of New York, the Petitioner, submitted a petition pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) 2.206, "Requests for Action under This Subpart," to Mr. R. W. Borchardt, Executive Director for Operations, U.S. Nuclear Regulatory Commission (NRC). The Petitioner requested that the NRC take enforcement action to correct alleged non-compliance with fire protection regulations at Indian Point Nuclear Generating Unit Nos. 1, 2, and 3.

Actions Requested

The Petitioner asked the NRC to take immediate action by issuing an Order that requires the following actions regarding Indian Point Nuclear Generating Unit Nos. 1, 2, and 3:

Proposed

- Identify the violations of paragraphs F and G of Section III of Appendix R, "Fire Protection Program for Nuclear Power Facilities Operating Prior to January 1, 1979," to 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," which exist as of the date of the petition (i.e., March 28, 2011), at Indian Point Unit Nos. 1, 2, and 3.
- Compel Entergy Nuclear Operations, Inc. (Entergy, or the licensee), and its affiliates to comply on or before September 20, 2011, with the requirements in paragraphs F and G for all fire zones in Indian Point Unit Nos. 2 and 3, and any Indian Point Unit No. 1 fire zone or system, structure, or component relied on by Indian Point Unit Nos. 2 and 3.
- Convene an evidentiary hearing before the Commission to adjudicate the violations by Entergy and its affiliates as cited in paragraphs F and G at Indian Point Unit Nos. 1, 2, and 3.

As the basis for the request, the Petitioner stated, in part, the following:

- The Petitioner noted that the NRC's fire safety regulations found in 10 CFR 50.48(b) and Appendix R to 10 CFR Part 50 have been in effect since 1980 and the Indian Point reactors still do not comply with the prescriptive requirements.
- The Petitioner cited the population centers adjacent to the Indian Point facility and the associated consequences of a major fire and radiological release at Indian Point. According to the Petitioner, more than 17 million people live within 50 miles of the Indian Point site, which has the highest surrounding population of any operating reactor site in the country. The Petitioner also notes that Indian Point is located within 5 miles of the New Croton Reservoir in Westchester County, which provides drinking water for New York City.

- The Petitioner noted that Indian Point was built before the NRC or its predecessor, the Atomic Energy Commission, developed siting criteria and questioned if a reactor facility would be approved at this site today.
- The Petitioner noted that approximately one-half of the core damage risk at operating reactors results from accident sequences initiating from fires.
- The Petitioner described past investigations by both the NRC Office of Investigations and the Government Accountability Office on fire barriers, most specifically Thermo-Lag and Hemyc. The Petitioner observed that both products failed to meet their endurance ratings during extended testing, and the Petitioner is of the opinion that the NRC staff has not been aggressive in resolving fire barrier issues or in taking meaningful enforcement action against the Indian Point facility.
- The Petitioner focused on the proposed exemptions to Appendix R to 10 CFR Part 50 that the licensee submitted on March 6, 2009. These exemption requests would require NRC approval of operator manual actions (OMAs) in many fire areas at Indian Point. The Petitioner stated that NRC regulations do not authorize OMAs as a way to protect a redundant system from fire, and it recommended that the NRC not approve them.
- The Petitioner referred to the accident at the Fukushima Dai-ichi Nuclear Power Plant resulting from the March 11, 2011, Great Tōhoku Earthquake and subsequent tsunami and questioned whether plant operators would be capable of performing the necessary manual actions in the event of such a disaster at Indian Point.
- In conclusion, the Petitioner stated that (1) the NRC should reserve exemptions for extraordinary circumstances, (2) the NRC should not approve the Indian Point licensee's

exemptions proposed on March 6, 2009, and (3) Entergy has not made a serious effort to comply with Federal regulations.

Representatives of the Petitioner met with the Office of Nuclear Reactor Regulation's (NRR's) Petition Review Board (PRB) on May 9, 2011, to clarify the bases for the petition. The transcript of this meeting, included in the meeting summary dated June 8, 2011 (ADAMS Accession Nos. ML111520459 and ML111520469), is being treated as a supplement to the petition and is available for inspection at the Commission's Public Document Room (PDR), located at One White Flint North, Public File Area O1 F21, 11555 Rockville Pike (first floor), Rockville, Maryland 20852. Publicly available documents created or received at the NRC are accessible electronically through ADAMS in the NRC Library at <http://www.nrc.gov/reading-rm/adams.html>. Persons who do not have access to ADAMS or who encounter problems in accessing the documents located in ADAMS should contact the NRC PDR reference staff by telephone at 1-800-397-4209 or 301-415-4737, or by sending an e-mail to [PDR.Resource@nrc.gov](mailto:PDR.Resource@nrc.gov).

In a letter dated June 30, 2011 (ADAMS Accession No. ML111520393), the NRC informed the Petitioner that the request for immediate action was denied. The Petitioner was informed that there were no identified safety concerns when compensatory measures that were in place were considered. Therefore, the NRC had no basis for taking immediate actions. Finally, the NRC informed the Petitioner that the issues in the petition were being referred to NRR for appropriate action.

## II. Discussion

Plants licensed to operate before January 1, 1979, must meet the fire safety regulations found in Appendix R to 10 CFR Part 50. Indian Point Nuclear Generating Unit No. 1 was

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permanently shut down on October 31, 1974. The Unit No. 2 station blackout diesel generator, that also supports alternative shutdown capability for Appendix R, is located in a Unit No. 1 structure. However, neither the diesel generator fire area nor any OMAs related to the Unit No. 2 station blackout diesel generator were included in the licensee's request for exemptions and therefore, systems, structures, and components for Unit No. 1 are not applicable to this petition. Indian Point Nuclear Generating Unit Nos. 2 and 3, were licensed before January 1, 1979, and must meet the established level of protection as intended by Section III.G of Appendix R to 10 CFR Part 50.

The underlying purpose of Section III.G of Appendix R to 10 CFR Part 50 is to ensure that the ability to achieve and maintain safe shutdown is preserved following a fire event. In 10 CFR Part 50, Appendix R, Section II states that a licensee's fire protection program shall extend the concept of defense-in-depth to fire protection with the following objectives:

- prevent fires from starting,
- rapidly detect, control, and promptly extinguish fires that do occur, and
- provide protection for structures, systems, and components important-to-safety so that a fire not promptly extinguished by the fire suppression activities will not prevent the safe shutdown of the plant.

Paragraph III.G.2 of Appendix R to 10 CFR Part 50 requires one of the following means to ensure that a redundant train of safe-shutdown cables and equipment is free of fire damage, where redundant trains are located in the same fire area outside of primary containment:

- a. separation of cables and equipment by a fire barrier having a 3-hour rating,
- b. separation of cables and equipment by a horizontal distance of more than 20 feet with no intervening combustibles or fire hazards and with fire detectors and an

automatic fire suppression system installed in the fire area, or

- c. enclosure of cables and equipment of one redundant train in a fire barrier having a 1-hour rating and with fire detectors and an automatic fire suppression system installed in the fire area.

However, as a result of safe-shutdown-focused inspections conducted in 2000, the NRC identified that, in lieu of the methods specified in Paragraph III.G.2, some licensees, including Indian Point, were crediting OMAs, in lieu of the above means specified to protect cables and equipment, to achieve and maintain safe shutdown in the event of a fire affecting areas in which both trains of a safe-shutdown system or component are co-located. On June 30, 2006, the NRC issued Regulatory Issue Summary (RIS) 2006-10, "Regulatory Expectations with Appendix R Paragraph III.G.2 Operator Manual Actions," (ADAMS Accession No. ML061650389), which stated that the use of OMAs in lieu of the protection methods specified in paragraph III.G.2 of 10 CFR 50, Appendix R, is not consistent with the regulations and plant-specific regulatory approval is necessary for their use.

On June 30, 2007, the NRC issued Enforcement Guidance Memorandum (EGM) 07-004, "Enforcement Discretion for Post-Fire Manual Actions Used as Compensatory Measures for Fire Induced Circuit Failures," (ADAMS Accession No. ML071830345). EGM 07-004 established March 6, 2009, as the date by which licensees must complete corrective actions for OMA non-compliances to qualify for enforcement discretion for those violations. Available licensee corrective actions, per EGM 07-004, included submission of exemption requests. In accordance with EGM 07-004, enforcement discretion continues for the duration of the NRC staff review of licensing actions, including exemption requests.

On March 6, 2009, Entergy submitted requests for exemptions from the requirements of 10 CFR Part 50, Appendix R, in accordance with the guidance in RIS 2006-10 and EGM 07-004, for Indian Point Nuclear Generating Units Nos. 2 and 3 (ADAMS Accession Nos. ML090770151 and ML090760993). The exemptions proposed OMAs as a permanent resolution for credited safe-shutdown components that could be rendered incapable of performing their safety function if either the component or supporting electrical cables were damaged by fire in a fire area.

In May 2011, NRC regional inspection staff performed an inspection at Indian Point in accordance with Inspection Procedure 71111.05T, "Fire Protection (Triennial)." In the ensuing inspection report dated July 11, 2011 (ADAMS Accession No. ML111920339), NRC inspectors verified the feasibility of the OMAs in accordance with the inspection procedure.

By letters dated February 1, 2012 (ADAMS Accession Nos. ML112140509 and ML112200442), the NRC completed its review approving some, but denying other exemption requests at Indian Point Nuclear Generating Unit Nos. 2 and 3. By separate letter, also dated February 1, 2012 (ADAMS Accession No. ML12031A176), the licensee was informed that the period of enforcement discretion for non-compliance with NRC fire protection requirements ended with the issuance of these letters and the OMAs that were not approved represented potential non-compliances with 10 CFR 50.48(b) and Appendix R to 10 CFR Part 50, pending completion of inspections by NRC Region I inspectors. The NRC directed that, within 30 days, the licensee provide its schedule and plans to achieve and verify compliance with the requirements of 10 CFR Part 50, Appendix R, for those areas in which the NRC denied the licensee's request for an exemption. The NRC informed the licensee that, following receipt and review of the licensee's response, the NRC would complete appropriate

inspection activities relating to this issue and then inform the licensee of its enforcement decisions.

By letter dated March 1, 2012 (ADAMS Accession No. ML12074A028), the licensee provided its schedule and planned actions for completing corrective actions that will resolve each issue related to protection of redundant safe shutdown trains and thereby establish compliance with the applicable requirements of 10 CFR Part 50, Appendix R III.G.2 for both Indian Point operating units. Compliance with the applicable section of 10 CFR 50, Appendix R, Section III.G would be without the use of exemptions to justify reliance upon OMAs. The licensee informed the NRC that its planned resolution will be accomplished through a combination of engineering analysis and plant modifications. The engineering analysis will consist of revisions to the respective 10 CFR Part 50, Appendix R, post-fire safe-shutdown analysis and methodology. Plant modifications will involve installation of appropriately rated fire barriers, potential rerouting of circuits, and potential modification of circuit protection or control schemes. The licensee informed the NRC that, with few exceptions, completion of all engineering analyses and plant modifications are projected by the end of 2012. Exceptions to projected completion involve plant modifications for Indian Point Unit No. 2, which will not be completed until the spring 2014 refueling outage because those modifications involve access to plant areas accessible only during a plant shutdown.

In a letter dated March 22, 2012 (ADAMS Accession No. ML120820384), the NRC responded to the licensee's letter of March 1, 2012. The NRC informed the licensee that a near-term inspection would verify that plans for achieving full compliance with fire protection regulations have been entered into the licensee's corrective action program, compensatory measures are appropriate and remain in place, and that the schedule for achieving full



compliance will adequately assure public health and safety. The NRC also advised the licensee that additional inspections would be performed to monitor progress in its completion of corrective actions.

### III. Conclusion

The Petitioner has sought enforcement action to achieve compliance with NRC regulations governing fire protection at Indian Point Nuclear Generating Unit Nos. 1, 2, and 3. The Petitioner recommended that the NRC deny exemptions requested by the licensee that relied on OMAs and that the NRC issue an Order taking enforcement action.

The Petitioner requested that the NRC identify violations of paragraphs F and G of Section III of Appendix R to 10 CFR Part 50 that exist at Indian Point as of the date of the petition. As noted, the NRC has identified areas of licensee non-compliance for which the licensee has provided a schedule for achieving full compliance. The NRC will monitor this progress and unresolved violations and potential enforcement actions will be identified through planned inspections consistent with the NRC's ongoing reactor oversight program. Therefore, as specified above, the NRC is granting the Petitioner's request to identify violations of fire protection regulations at Indian Point and to take appropriate enforcement actions as part of planned inspection activities.

The Petitioner further requested the NRC to compel the licensee and its affiliates to comply on or before September 20, 2011, with the requirements in paragraphs F and G of Section III of 10 CFR Part 50, Appendix R, for all fire zones in Indian Point Unit Nos. 2 and 3, and any Indian Point Unit No. 1 fire zone or system, structure, or component relied on by Indian Point Unit Nos. 2 and 3. The NRC's letter of June 30, 2011, which denied the Petitioner's request for immediate action, has already denied the Petitioner's request to order compliance by

September 20, 2011. The licensee has provided its plans and schedules to resolve the denied exemptions. The licensee's schedule currently anticipates full compliance with the Commission's fire protection regulations at both operating units following the spring 2014 refueling outage at Indian Point Unit No. 2. Therefore, as specified above, the NRC is granting the Petitioner's request that the licensee be brought into compliance inasmuch as the licensee's earlier reliance on denied exemptions will be resolved through this schedule for achieving compliance.

The Petitioner requested that NRC convene an evidentiary hearing to adjudicate the violations by the licensee and its affiliates of paragraphs F and G of Section III of 10 CFR Part 50, Appendix R, at Indian Point Unit Nos. 1, 2, and 3. The NRC staff will disposition any violations identified as part of its ongoing reactor oversight process. Evidentiary hearings before the NRC at the request of third parties are not a part of this process. Therefore, the Petitioner's request to convene a hearing before the Commission is denied.

As provided in 10 CFR 2.206(c), a copy of this Director's Decision will be filed with the Secretary of the Commission for the Commission to review. As provided for by this regulation, the decision will constitute the final action of the Commission 25 days after the date of the decision unless the Commission, on its own motion, institutes a review of the decision within that time.

Dated at Rockville, Maryland, this        day of        2012.

FOR THE NUCLEAR REGULATORY COMMISSION

Eric J. Leeds, Director  
Office of Nuclear Reactor Regulation

Proposed