NEW YORK STATE
DIVISION OF HOMELAND SECURITY AND EMERGENCY SERVICES

Andrew M. Cuomo, Governor **Jerome S. Hauer, Commissioner**

December 9, 2011

Mr. Eric J. Leeds
Director, Office of Nuclear Reactor Regulation
United States Nuclear Regulatory Commission
Mail Stop O13H16M
Washington, D.C. 20555-0001

RE: Indian Point Fire Protection Program
Environmental Assessment and Finding of No Significant Impact
76 Fed. Reg. 74832-74834 (Dec 1, 2011)

Dear Mr. Leeds:

I am writing in response to the Federal Register Notice issued by the United States Nuclear Regulatory Commission (NRC) on December 1, 2011 (76 Fed. Reg. 74832-74834). In this notice, the NRC issued an Environmental Assessment and Finding of No Significant Impact (FONSI) in response to the request by Entergy Nuclear, the operator of Indian Point Units 2 and 3, for numerous exemptions from Part 50 C.F.R. Title 10, Appendix R, "Fire Protection Program for Nuclear Power Facilities Operating Prior to January 1, 1979."

The State of New York questions the propriety and timing of this notice. First, the State of New York filed extensive comments (enclosed) on May 11, 2011, expressing concern that Entergy's requests for many of the exemptions would create an undue risk for public health and safety. The risk of fire hazards that the State enumerated in its comments, particularly the cumulative effect of previously issued fire safety exemptions at Indian Point, belie a FONSI.

Second, you must be aware that the New York Attorney General filed a petition pursuant to 10 CFR § 2.206 requesting the NRC to enforce against Entergy for operating pursuant to these "exemptions," which have not yet been granted. The NRC has indicated that the § 2.206 petition will not be addressed until April 30, 2012 (October 2011 Report on the Status of Public Petitions under Title 10 of the Code Of Federal Regulations, Section 2.206, Enclosure 1, at p. 8 [ML11305A033]). The NRC's issuance of a FONSI, or any other action, is premature at best given that the § 2.206 petition is pending and will be so for at least five more months. At worst it prejudges the petition many months before the NRC will determine its merits.

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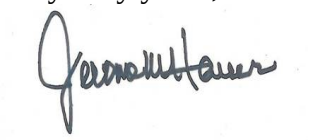
Therefore, we ask that you rescind the FONSI at this time and engage in a full environmental review of Indian Point's requested exemptions under the National Environmental Policy Act. Among other things, the State requests that the NRC examine alternatives to the proposed action, including straightforward compliance with the Appendix R fire safety regulations, which have been in force since 1980. New York's State's public safety and welfare requires that approach.

Very truly yours,



Jerome M. Hauer
Commissioner

Enclosure

cc: John Boska, Indian Point Licensing Project Manager, NRR/DORL
Doug Pickett, Senior Project Manager, NRR/DORL
Nancy McNamara, NRC Region 1 State Liaison Officer

The State of New York opposes the pending request by Entergy Nuclear Operations, Inc. ("Entergy"), the owner of the Indian Point nuclear power plants, for over 100 exemptions from the long-standing federal fire safety regulations for such facilities. The State urges the Nuclear Regulatory Commission ("NRC") to examine alternatives to the proposed exemptions, including requiring the plants to comply with the actual terms of the regulations.

Entergy's request to NRC for exemptions from its fire safety regulations, at numerous locations within the facilities, would present an undue risk to public health and safety and therefore should be denied as a matter of law and as a matter of public safety.

Regulatory Framework

The Atomic Energy Act, 42 U.S.C. § 2011, *et seq.*, requires the NRC to ensure that nuclear power plants are secure against accidents or deliberate attacks. *See, e.g.*, 42 U.S.C. § 2232(a).

NRC recognized the importance of fire safety measures at nuclear facilities after a nearly catastrophic fire at the Tennessee Valley Authority's Browns Ferry nuclear plant in Alabama in 1975. This incident resulted in a fundamental change in fire protection at U.S. nuclear power plants when, in 1980, NRC adopted fire safety regulations at 10 C.F.R. § 50.48 to prevent similar incidents by requiring that each licensee maintain the ability to shut down their reactor safely in the event of a fire. 10 C.F.R. pt. 50, Appendix R; 45 Fed. Reg. 76,602, 76,608 (Nov. 19, 1980).

The 1980 regulations prescribed specific prescriptive standards to protect electrical cables from fire damage and required nuclear power plants to comply with those standards. See 10 C.F.R. pt. 50, app. R, III-(G)(2)(a),(c). These requirements — which then-Commissioner Jaczko of NRC recently praised as "[s]imple, straightforward regulations," NRC, Briefing on Fire Protection Issues, at 33, ML082030647 — are incorporated into operating licenses through 42 U.S.C. § 2237 and 10 C.F.R. § 50.54(h), which make licenses subject to all NRC's regulations. In promulgating these requirements, the NRC Commissioners also made clear that the specific fire protection standards were necessary and that "reverting to generalized guidance would not accomplish the intended purpose of the proposed rule." 45 Fed. Reg. at 76,602.

10 C.F.R. Part 50, Appendix R, requires separation of cables and equipment by: (1) a fire barrier having a 3-hour rating; (2) separation of more than 20 feet with no intervening combustibles or fire hazards with fire detectors and an automatic fire suppression system in the fire area; or (3) enclosure of cables and equipment in a fire barrier having a one hour rating with fire detectors with an automatic fire suppression system in the fire area. Consequently, unless alternative or dedicated shutdown capability is provided or an exemption from paragraph III.G.2 is granted, circuits which could cause loss of control or prevent operation of redundant trains for post-fire safe shutdown, and are located in the same fire area, must be protected in accordance with paragraph III.G.2.[1]

The requirements imposed by the fire safety regulations are incorporated into operating licenses, through 10 C.F.R. § 50.54(h), and this incorporation is also made explicit in Indian Point's operating licenses.

As of today, safety related cable at numerous locations within Indian Point do not comply with the text of NRC's fire safety regulations, 10 C.F.R. § 50.48, Appendix R. NRC's Appendix R fire safety regulations do not authorize "operator manual actions" as a means of protecting a redundant system from fire. Nonetheless, Entergy acknowledges that it would need to resort to unapproved operator manual actions to shut down Indian Point Unit 2 and Unit 3 if safety related electrical cables were damaged. March 6, 2009, Entergy Communications NL-09-031 (IP2 Table 1), NL-09-032 (IP3 Table 1).

Exemptions from Regulations

NRC has promulgated a regulation that authorizes it to grant an "exemption" from a specific regulation upon an application from an interested person or on the NRC's own initiative. 10 C.F.R. § 50.12. That regulation authorizes NRC to grant an exemption only when the proposed exemption is "authorized by law, will not present an undue risk to the public health and safety,

[1] Title 10 of the Code of Federal Regulations (10 C.F.R.), Part 50, Section 48 (§ 50.48), requires that nuclear power plants that were licensed before January 1, 1979, satisfy the requirements of 10 C.F.R. Part 50, Appendix R, "FIRE PROTECTION PROGRAM FOR NUCLEAR POWER FACILITIES OPERATING PRIOR TO JANUARY 1, 1979," Section III, "SPECIFIC REQUIREMENTS," Subsection G, "Fire protection of safe shutdown capability." Indian Point Unit 1, Indian Point 2, and Indian Point Unit 3 were licensed to operate prior to January 1, 1979. As such, the Indian Point facilities must comply with the specific requirements contained in Section III G of 10 C.F.R. Part 50, Appendix R.

and [is] consistent with the common defense and security". In addition, NRC will not grant exemptions unless "special circumstances are present." Id. Special circumstances include the following: "[a]pplication of the regulation in the particular circumstances would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule." 10 C.F.R. § 50.12 (2)(ii).

Entergy's request for fire safety exemptions fails to demonstrate that grounds for an exemption are present. Moreover, the undue risk inherent in Entergy's application is further exacerbated by the extraordinary number of exemptions sought and, to our knowledge, the unprecedented number of locations within the facility in which Entergy requests exemptions be granted.

The number of locations for which Entergy requests exemptions from the NRC fire safety regulations should alone be sufficient grounds to deny this application. However, the unique location of Indian Point further adds to the undue risk that would be created by granting these exemptions.

Previous Exemptions from Fire Safety Regulations at Indian Point

Entergy and NRC do not take into account the cumulative effect of previous fire safety regulation exemptions that have already been granted for the Indian Point reactors.

NRC has previously granted Indian Point Unit 2 and Unit 3 several exemptions from the Appendix R fire safety regulations. For example, on February 2, 1984, NRC issued Indian Point Unit 3 an exemption from Appendix R because "redundant shutdown divisions are not separated by more than 20 feet without intervening combustible material. In addition, the alternate shutdown capability for the vulnerable shutdown systems in the lower cable tunnel is not independent of the lower cable tunnel." To address fire protection concerns, by September 1985, Indian Point Unit 3 had installed one hour fire barriers around cables in the cable tunnels and in the upper electrical penetration area. *See* 72 Fed. Reg. 56, 798.

By way of further example, in August 1984, Indian Point Unit 3 requested additional exemptions from the fire protection regulations. The request sought to exempt the Primary Auxiliary

Building (or "PAB") from the requirement that safety systems be separated by more than 20 feet free from intervening combustibles and protected by an automatic sprinkler system. For the cable tunnels, Entergy sought exemption, for Indian Point Unit 3, from Appendix R "to the extent that it requires that redundant shutdown systems be separated by more than 20 feet, free of intervening combustibles or fire hazards and to the extent that it requires that redundant systems be separated by a 1-hour fire barrier in an area which is protected by automatic fire detection and suppression systems." On January 7, 1987, NRC Staff granted this exemption.

The Safety Evaluation that accompanied the January 1987 exemption contains relevant observations about two fire areas, the Primary Auxiliary Building and the Cable Tunnels. First, with respect to the Primary Auxiliary Building, the evaluation notes that at one location "the closest separation points between redundant power cables is [sic] approximately 6 inches." Although the evaluation mentioned that the pumps were 15 feet apart, it did not address the fact that the power cables were only 6 inches apart and that PAB areas apparently lacked an automatic fire suppression system. Second, with respect to the electric cable tunnels, the evaluation acknowledged that "[t]he combined in-situ and transient fire load for this area is about 80,000 BTU/ft^2, which represents a fire severity of about l-hour as determined by the ASTM E-119 time temperature curve." The exemption relied upon the commitment that "[t]he licensee also committed to protect one train of instrumentation in the upper penetration area and at the electrical tunnel entranceway from the Cable Spreading Room with a l-hour fire-rated barrier." Although Indian Point Unit 3 relied upon Hemyc fire barriers to provide one-hour fire protection as part of the facility's fire protection plan, testing revealed that Hemyc did not perform up to its specifications.

In response to the tests conducted in 1993 and 2005 showing that Hemyc fire barriers did not meet the one-hour fire resistance standard, NRC issued a Generic Letter in 2006 which gave licensees until December 1, 2007, to state whether they were using Hemyc and, if they were, how they would maintain safe reactor shutdown function despite their use of Hemyc. 71 Fed. Reg. 24,871 (Apr. 27, 2006) (notice of letter). The letter provided several examples of corrective actions plants could take, including replacing Hemyc with "an appropriately rated fire barrier

material," upgrading Hemyc "to a rated barrier," or "rerouting cables or instrumentation lines through another fire area."

In July 2006, instead of explaining to NRC the corrective measures it would take to comply with the one-hour resistance standard, Entergy asked NRC to exempt it from that standard with regard to the Unit 3 electrical cables and equipment wrapped with Hemyc, and impose a fire-resistance requirement of thirty minutes. In August 2007, Entergy supplemented its request to seek a fire-resistance requirement of twenty-four minutes for some of its Hemyc-wrapped equipment. On September 28, 2007, NRC Staff granted the exemption. 72 Fed. Reg. 56,798 (Oct 4, 2007).

NRC and Entergy must identify and take into account all of the previous exemptions to fire safety regulations that have been granted to Indian Point Units 2 and 3 before considering any request for further fire safety exemptions at the facilities.

NRC's Administration of the Federal Fire Safety Regulations

Recent reports by NRC's own Office of the Inspector General ("OIG") and the Government Accountability Office ("GAO") found significant deficiencies in the NRC's exercise of its responsibilities with respect to fire protection issues. *NRC's Oversight of Hemyc Fire Barriers*, (Jan. 18, 2008) ML080250003; GAO Report to Congressional Requesters, *NUCLEAR SAFETY, NRC Oversight of Fire Protection at U.S. Commercial Nuclear Reactor Units Could Be Strengthened*, GAO-08-747 (June 30, 2008).

According to the GAO Report:

> NRC has not resolved several long-standing issues that affect the nuclear industry's compliance with existing NRC fire regulations, and NRC lacks a comprehensive database on the status of compliance. These long-standing issues include (1) nuclear units' reliance on manual actions by unit workers to ensure fire safety (for example, a unit worker manually turns a valve to operate a water pump) rather than "passive" measures, such as fire barriers and automatic fire detection and suppression; (2) workers' use of "interim compensatory measures" (primarily fire watches) to ensure fire safety for extended periods of time, rather than making repairs; (3) uncertainty regarding the effectiveness of fire wraps used to protect electrical cables necessary for the safe shutdown of a nuclear unit; and (4) mitigating the impacts of short circuits that can cause simultaneous, or near-simultaneous, malfunctions of safety-related equipment (called "multiple spurious

> actuations") and hence complicate the safe shutdown of nuclear units. Compounding these issues is that NRC has no centralized database on the use of exemptions from regulations, manual actions, or compensatory measures used for long periods of time that would facilitate the study of compliance trends or help NRC's field inspectors in examining unit compliance.

GAO-08-747, preface. NRC Chairman Dale Klein has acknowledged that the response of NRC and industry to the continuing problems in the fire safety area "has not been a stellar performance." NRC Briefing on Fire Protection Issues (July 17, 2008), at 4, ML08203067. Indeed, today, more than thirty years after the NRC promulgated the fire safety regulations, most of the nation's commercial nuclear power plants have not yet come into compliance with these regulations,[2] including Indian Point.

Security Issues

Fire safety at nuclear power plants has taken on greater importance since September 11, 2001, when terrorists hijacked four jet airliners and crashed three of them into their intended targets, causing explosions and large, long-lasting fires. Those explosions and fires destroyed a portion of the Pentagon in northern Virginia and caused the collapse of the World Trade Center towers in New York City. *See* Nat'l Inst. of Standards & Tech., *Final Report on the Collapse of the World Trade Center Towers*, 175-76 (2005) (concluding that long-lasting fires were a significant factor in the collapse of the Twin Towers).

Following 9/11, NRC amended all reactor licenses, including the operating licenses for Indian point Unit 2 and Indian Point Unit 3, "to address the generalized high-level threat environment in a consistent manner throughout the nuclear reactor community." *See generally* 67 Fed. Reg. 9,792 (Mar. 4, 2002). The amended licenses required the identification of mitigative measures to reduce the consequences of explosions or fire at nuclear plants, "including those that an aircraft impact might create." *See* Letter from J. Boska, NRC, to M. Balduzzi, Entergy Nuclear Operations (July 11, 2007), ML071920023; *see, e.g.,* NRC, *IP Nuclear Generating Unit 3 Operating License*, Amendment No. 203, at 8 (July 11, 2007), ML052720273. However, NRC's amendments to Indian Point's operating licenses did not specifically compel the Indian Point

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[2] U.S. Government Accountability Office Report - http://www.gao.gov/products/GAO-08-747

facilities to address their shortcomings with the 10 C.F.R. § 50.48, Appendix R, Section III fire safety regulations.

Seismic Issues

A report by Sandia National Laboratories acknowledged that an earthquake involving a nuclear power reactor facility could result in fires. *Fire Risk Scoping Study: Investigation of Nuclear Power Plant Fire Risk, Including Previously Unaddressed Issues*, NURE/CR-5088, SAND88-0177 (1989). According to a recent report, Indian Point Unit 3 has the highest core damage frequency ("CDF") probability number of U.S. facilities; Indian Point Unit 2 also has a relatively high CDF number.

Special Circumstances Exist that Justify the Rejection of the Exemption Requests

The Indian Point reactors are unique among operating nuclear reactors in the United States.

Indian Point, which was selected as the site of one of the first commercial power reactors in the nation in March 1955, before the Atomic Energy Commission ("AEC) or NRC developed detailed siting regulations (*see* 10 C.F.R. § 100.21(h)), has the highest surrounding population of any operating reactor site in the United States. Each day, more than 17 million people live, work, or travel within fifty miles of Indian Point. An incident at Indian Point has the potential to affect more people than an incident at any other reactor in the country.

The Indian Point reactors are located 24 miles north of New York City and approximately 35 miles from Times Square, and 38 miles from Wall Street. According to the AEC, the NRC, and the Federal Emergency Management Agency ("FEMA"), more people live within 10 and 50 miles of the Indian Point reactors than at any other operating power reactor in the nation. Indeed, no other operating reactor site in the country comes close to Indian Point in terms of surrounding population.[3] As noted above, more than 17 million people live, work or travel within 50 miles of Indian Point, and the population is projected to grow to 20 million by 2035. The U.S. Census Bureau estimated that New York City had a population of more than 7.8

[3] *See, e.g.*, AEC, Population Distribution Around Nuclear Power Plant Sites, Figure 2: Typical Site Population Distribution (5-50 Miles) (April 17, 1973); FEMA, Nuclear Facilities & Population Density Within 10 Miles (June 2005).

million in 2010. The facilities are approximately three miles southwest of Peekskill, with a population of 37,095; five miles northeast of the town of Haverstraw, with a population of 37,095; 16 miles southeast of Newburgh, with a population of 28,101; and 17 miles northwest of White Plains, with a population of 57,342. Indian Point is also 23 miles northwest of Greenwich, Connecticut, 37 miles west of Bridgeport, Connecticut, and 37 to 39 miles north northeast of Jersey City and Newark, New Jersey. Portions of four New York counties – Westchester, Rockland, Orange, and Putnam – fall within the inner 10-mile Emergency Planning Zone. Additional population centers in New York, such as New York City's five boroughs and Nassau County, lie within the 50-mile Emergency Planning Zone, as do significant population centers in Connecticut and New Jersey.

Moreover, the communities within the 50-mile radius around Indian Point also contain some of the most densely-developed and expensive real estate in the country, critical natural resources, centers of national and international commerce, transportation arteries and hubs, and historic sites.

In addition, the Indian Point reactors are approximately five miles west of the New Croton Reservoir in Westchester County, which provides drinking water to New York City. A regional gas pipe line, which was constructed before the Consolidated Edison Company ("ConEd") and AEC selected the site for nuclear reactors, travels under portions of the site.

Entergy's Request for Exemptions

In March 2009, Entergy submitted a request to the NRC seeking numerous exemptions, for Indian Point Units 2 and 3, to allow the use of operator manual actions, in approximately 275 fire zones, rather than comply with the prescriptive engineered fire protection requirements, contained in 10 C.F.R. Part 50, Appendix R, Paragraph III.G.2. Entergy proposes to resort to these operator manual actions to compensate for a lack of certain characteristics of physical train separation. Previously, NRC had informed the industry that such practices were not in compliance with 10 C.F.R. Part 50, Appendix R.[4] In response, Entergy has submitted these

[4] NRC Enforcement Guidance Memorandum (EGM) 07-004

exemptions requests for Indian Point Units 2 and 3 for approval of operator manual actions, rather than alter their infrastructure in a manner to comply with the regulations.

In its application to the NRC, Entergy claims that "special circumstances" exist warranting NRC's granting an exemption, based on language in 10 C.F.R. § 50.12(a)(2)(ii) that reads: *Application of the regulation in the particular circumstances would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule.*

Entergy asserts that the underlying purpose of Appendix R is to provide reasonable assurance that safe shutdown of the reactor can be achieved and maintained in the event of a postulated fire in any plant area. Entergy, however, provides no citation to support that statement. In promulgating the rule, what NRC actually stated was: "[T]he basic objective of the proposed Appendix R is to specify the minimum fire protection requirements with respect to certain recurring generic issues for nuclear power plants operating prior to January 1, 1979." 45 Fed. Reg. 36082, at 36083-84 (May 29, 1980). New York State contends that the mass substitution of operator manual actions for the required engineered solutions is not consistent with the underlying purpose of the rule.

It is Entergy's position that the requested exemptions should be granted for the following reasons:

- The identified operator manual actions are feasible and reliably implemented with the available operations shift staff, even considering the adverse conditions encountered during the post-fire environment and in consideration of possible multiple spurious actuations;
- Limited hazards and existing fire protection features provide assurance that the need to implement the operator manual actions is remote; and
- No demonstrable fire/nuclear safety benefit would be gained by implementation of additional modifications in lieu of continued crediting of the defined operator manual actions, as credible and reliable means of achieving and maintaining safe-shutdown conditions.

There does not appear to be any independently verified data to support Entergy's assertions that the operator manual actions are a feasible or reliable means to assure safe shutdown in a fire situation or that there are no safety benefits to be gained through modifications of the physical

plant. Further, the substitution of manual actions for engineered fire protection features does not provide an acceptable alternative or an equivalent level of safety. To the contrary, the best assurance for safe reactor shutdown in the event of a fire is through compliance with the provisions of paragraph III.G.2.

Entergy's position is premised upon "if" a fire might occur, not "when" a fire occurs. To assure the highest level of safety, it should be assumed that a fire will occur and the facility should be prepared for its consequences. Assuming a fire will be a rare event, but making fewer preparations for it, will result in a lower level of safety. There is no dispute that one of the leading risk factors for a U.S. nuclear plant meltdown is fire. Approximately one-half of the core damage risk at operating reactors results from accident sequences that initiate with fire events.[5] Between January 1995 and December 2007, 125 fires at 54 sites were reported to the NRC, 13 of which were classified as "alerts." GAO-08-747 at 4, 11-12.

Fire Safety Comments

According to Entergy, there are approximately 50 separate locations (points of vulnerability) where Indian Point Units 2 and 3 currently do not meet the requirements of 10 C.F.R. 50, Appendix R, for cable fire protection.[6] In addition, based on other statements by Entergy, it appears that approximately 140 different fire zones in Indian Point Unit 2 would resort to operator manual actions to bring about a shutdown should safety related cables become damaged by a fire. The story is similar at Unit 3, where it appears that approximately 135 different fire zones would resort to operator manual actions to bring about a shutdown should safety related cables become damaged by a fire. The fire zones that would need employees to take manual

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[5] NRC *Briefing on Fire Protection Issues*, at 58-59 (July 17, 2008), Statement of Jack Grobe, NRC Associate Director, Office of Nuclear Reactor Regulation for Safety Systems and Engineering.

[6] This number is based on tables submitted by Entergy in its May 4, 2010 "Response to January 20, 2010 Request for Additional Information Regarding Request for Exemption from 10 CFR 50, Appendix R, Paragraph III.G.2 for Use of Operator Manual Actions for Indian Point Unit No. 2 (TAC No. ME0798) and Unit No.3 (TAC No. ME0799)." In tables RAI-GEN-1 through RAI-GEN-27 (Unit No. 2) and RAI-GEN-1 through RAI-GEN-23 (Unit No. 3), Entergy summarizes compliance with Paragraph III.G.2 for each of the Fire Zones for which it wishes to resort to operator manual actions. These tables describe the regulatory deficiencies, for each of the 50 zones, such as a lack of fire barriers, spatial separation, automatic suppression, etc., that lead to the need for operator manual actions. It should be noted that in each of these areas more than one discrete operator manual action may be required for a specific area, and hence the number of operator manual actions at issue in Entergy's request for exemptions will be higher than the number of areas.

actions are identified in tables from Entergy submissions to NRC and are attached to this petition. Entergy Communications NL-09-031 (Table 1), NL-09-032 (Table 1). Entergy seeks to rely on operator manual actions as a viable method to provide for safe shutdown, should a fire compromise the control cables in any of these locations.

It is also noteworthy that many of the operator manual actions that Entergy would resort to involve more than one discrete task that must be performed by the employee to engage and/or operate a specific safety system. Thus, in several instances, multiple discrete employee tasks that are needed to bring about safe shutdown may be grouped together into what Entergy may label or count as a single operator manual action. Entergy's March 2009 request for exemptions identifies more than 100 discrete manual tasks.

The review of Entergy's application focused on the probability of a fire occurring, thus the potential need to implement one or more of the operator manual actions. This review did not evaluate an individual's ability to perform any operator manual actions (*e.g.* "can an operator turn a particular valve or throw a particular switch?").

The strength of the "defense-in-depth" features in place at Indian Point were also considered, specifically, the robustness of Entergy's existing: fire prevention activities and programs; fire detection systems for early notification and quick suppression by installed automatic systems (to include maintenance, testing and inspection of such systems); fire containment by barriers to minimize fire spread; and the capabilities of the on-site plant to operate fire brigades.

Notwithstanding Entergy's assertions regarding the defense-in-depth features at Indian Point, the likelihood of a fire to ignite and impact both control cable trains is increased by the sheer number of points of vulnerability. Similarly, the potential need to employ one or more operator manual actions is also increased based upon the number of points of vulnerability. Moreover, NRC already granted Indian Point Unit 2 and Unit 3 several exemptions from the fire safety regulations for nuclear power plants – exemptions that undercut current claims about defense-in-depth.

It is not in the best interest of public safety to rely upon Entergy's current defense-in-depth features to mitigate the effects of a fire before it gets to the point of compromising the redundant trains of control cables, and thus requiring the use of operator manual actions, especially in light of the many areas in both units that have been identified as lacking in one or more of the layers of defense (e.g. fire detection or fire suppression).

Entergy has not provided sufficient assurances that a fire at Indian Point, which may affect its ability to shut down the plant automatically and safely, can be rapidly detected, contained and suppressed, leaving redundant automatic control systems in place, so that manual shut down actions do not have to be used. A concern with relying on manual actions instead of engineered fire protection is that there is no back-up protection if the manual actions fail. There are also concerns related with human reliability during fire emergencies, and reliance on such could result in an unacceptable lower probability of safe shutdown.

Actual compliance with the prescriptive engineered design fire protective requirements of 10 C.F.R. 50, Appendix R, is simply the best approach to preserve an ability to maintain safe shutdown of Indian Point Units 2 and 3 following a fire event. Manual actions should not be considered as a reliable means, or an equivalent method, to provide for critical operational control in a post-fire shutdown scenario.

Entergy's 2009 request for wholesale exemptions from the Appendix R fire safety requirements demonstrates that it has not seriously explored how it could come into actual compliance with the federal regulations contained in 10 C.F.R. § 50.48, Appendix R, Section III.G.2. Entergy has not informed the State (or apparently NRC) about any efforts to come into compliance or any credible analysis about the steps to come into such compliance. Further, Entergy has not provided any evidence to demonstrate why actual compliance with the straightforward prescriptive fire protection design criteria contained in 10 C.F.R. 50, Appendix R, for Indian Point Units 2 and 3 is either technically infeasible or cost prohibitive. Rather, Entergy merely reports that such modifications represent an unwarranted burden since, in their opinion, the modifications are not necessary to meet the underlying purpose of the rule. NRC should

carefully and transparently examine the alternatives to Entergy's proposed action, including actual compliance with the straightforward requirements set forth in Appendix R.

Although Entergy has asked NRC Staff to exempt numerous locations within the Indian Point facilities from the binding fire safety regulations, NRC should not approve this exemption request. Such a large number of exemptions would be inconsistent with NRC's commitment that exemptions not swallow a regulation. 50 Fed. Reg. 50,764, 50,765 (Dec. 12, 1985). The NRC Commissioners have held that the exemption authority in 10 C.F.R. § 50.12 is extraordinary and available only in the presence of exceptional circumstances. *See In re U. S. Dep't of Energy (Clinch River Breeder Reactor Plant)*, 17 N.R.C. 1, 4-6 (1983) (collecting cases). Those exceptional circumstances simply are not present with respect to the Indian Point facilities.

It appears that the requested action will effectively amend the facility's operating license as well as the operative regulation, 10 C.F.R. § 50.48 and Appendix R to Part 50 Appendix R, Section III.G. Thus, regardless of what words are used, the public should be offered an opportunity to comment on the environmental impacts and potential alternatives to the proposed action. Such transparency and opportunity for participation is consistent with the Atomic Energy Act (AEA), the National Environmental Policy Act (NEPA), the Administrative Procedure Act (APA), the federal Council on Environmental Quality regulations, and the Commission's commitment to public participation in its administrative matters. Also, the application does not appear to discuss the impact of the proposed change on the defense and security of the facilities and host community, the feasibility of the proposed change during a significant fire event, the cumulative effect of the proposed change given the several previous changes to the fire protection program at the facilities, or an alternative to the proposed exemption – namely, compliance with the Appendix R fire safety regulations. It is necessary to address these issues via a public forum under the AEA, APA, and NEPA before reaching any final decision.

Conclusion

Entergy's request for more than 100 exemptions from basic fire safety measures, at approximately 50 separate locations at the Indian Point facility, should be denied, as granting the requests would create an undue risk to public health and safety. Moreover, Entergy has failed to

meet its burden to demonstrate any special circumstances that would support the exemptions. In addition, NRC should examine the alternative of ensuring that the Indian Point reactors actually comply with the straightforward standards contained in the Appendix R federal fire safety regulations.