



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
REGION I  
2100 RENAISSANCE BLVD., SUITE 100  
KING OF PRUSSIA, PA 19406-2713

September 17, 2014

**MEETING SUMMARY**

LICENSEE: ENTERGY NUCLEAR OPERATIONS, INC.  
FACILITY: INDIAN POINT ENERGY CENTER, UNITS 2 AND 3  
SUBJECT: SUMMARY OF PUBLIC MEETING

On June 4, 2014, from 6:00 p.m. to 9:00 p.m., the U.S. Nuclear Regulatory Commission (NRC) met with members of the public at the Colonial Terrace, Cortlandt Manor, NY, to discuss the NRC's assessment of safety performance at Indian Point for calendar year 2013.

From 6:00 p.m. to 7:00 p.m., the NRC held an Open House during which NRC personnel were available, in an informal setting, to answer questions from individuals and discuss issues or concerns related to Indian Point. From 7:00 p.m. to 9:00 p.m., the NRC hosted a question and answer session in an adjacent area, during which interested stakeholders were able to ask questions or make statements in a public forum. The NRC did not make a formal presentation.

Approximately 200 people attended the meeting, including representatives of federal, state, and local governments. During the question and answer session, individuals requested time to either make a statement or ask a question related to NRC oversight of Indian Point. Following the question and answer session, NRC personnel were available to speak individually with stakeholders.

Both during and after the meeting, the NRC received questions from members of the public on a wide variety of regulatory topics that were not able to be immediately answered. The NRC's position and actions taken regarding these topics is included in the Enclosure to this letter.

The NRC's assessment letter can be found in the Agencywide Documents Access and Management System (ADAMS) with an Accession Number of ML14063A053. The annual assessment meeting notice can be found in ADAMS with an Accession Number of ML14136A046. ADAMS is accessible from the NRC website at <http://www.nrc.gov/reading-rm/adams.html>.

/RA/

Arthur L. Burritt, Chief  
Projects Branch 2  
Division of Reactor Projects

Enclosures:

1. Public Meeting Sign-in Sheet
2. Annual Assessment Meeting Topics of Public Interest

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### DISTRIBUTION:

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RidsNRRPMLIndianPoint Resource

DOCUMENT NAME: \\G:\DRP\BRANCH2\Site Visits, Briefings, Meetings\2014 Annual Assessment meetings\IP\IP2014 AAM SummaryRev2.docx

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DATE	09/15/14	09/17/14			

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INDIAN POINT  
2014 ANNUAL ASSESSMENT MEETING  
ATTENDANCE LIST

Name	Organization
Margo Schepart	IPSEC/WestCAN
Jacquelyn Drechsler	very concerned Citizen
Jocelyn DeCrescenzo	very, very concerned citizen
Susan Spear	US Senator Gillibrand
Allison Dengler	Sierona Club
Amide Snider	CFOU
Pendy Golek	NYS Assemblyman

**INDIAN POINT  
2014 ANNUAL ASSESSMENT MEETING  
ATTENDANCE LIST**

Name	Organization
EVAN GILLER	SHUT DOWN INDIAN POINT NOW!
Ritsuko Higashi	Manhattan Project
Maureen Garner Ritter	IPSEC
Marilyn Elie	IPSEC/WOSCAN
YOSHIIKO Kameda	freelance writer
Mizuho Kaneda	
Yuko Tonohira	
FRANK PENYA	Consultant.
Shula Geist	SDIPN
DEAN M <sup>c</sup> BETH	Self



INDIAN POINT  
2014 ANNUAL ASSESSMENT MEETING  
ATTENDANCE LIST

JUNE 4, 2014

Name	Organization
KEN GALE	ECO-LOGIC, WBAI-FM
SUNNY ARMER	Raging Grannies WOVW
Ayumi Hirai	N/A
Kileen Mahood-Jase	
Vicki Fox	teacher at Copper Beech Middle School, Lakeland S.D.
EWENE GOLDENBERG	SOMERS N.Y. PLANNING Board
Alan Morris	Amber INC Somers, NY
Rich Thomas	New York AREA
Connie Hogarth	Beacon NY
Valery Keramaty	Katonah, NY



# INDIAN POINT 2014 ANNUAL ASSESSMENT MEETING ATTENDANCE LIST

Name	Organization
Donna Stein	NYC Friends of Clearwater
Michel Lee	Council on Intelligent Energy & Conservation Policy in NIBS
Julio C Gomez	GOMEZ LLC Attorney At Law
Judy Allen	IPSEC
Annie Wilson	New York Environmental Law and Justice Project
Jeff Tkacs	Town of Cortlandt (Supervisor Linda D. Paglisi)
Ken Segal	WESPA
March Gallagher	Self- Enteram Shareholder
VICTOR Tkach	Self
Susan Likes	WESpac Riverkeeper Clearwater

**INDIAN POINT  
2014 ANNUAL ASSESSMENT MEETING  
ATTENDANCE LIST**

Name	Organization
Jerry Ravnitzky	Community Watersheds Clean Water Coalition
Philip B. Liden #1	Wespace, Clearwater, Riverkeeper.
FRANCES J GALATI	Resident of Hudson Valley (GARRISON)
Sister Margaret Sikora	Franciscan Sisters of the Atonement, ROAR (Garrison)
Felicia Tavano	IPSEC, Riverkeeper, I live here ☺
Gary Dunlap	Riverkeeper, IPSEC.
Ken O'Kin	Resident of Briardale mnh
Paula Gier	SAFE
Pat Evans	<u>Clearwater</u>
Gail Evans	Walkabout Clearwater Chorus -- Sloop Club



INDIAN POINT  
2014 ANNUAL ASSESSMENT MEETING  
ATTENDANCE LIST

Name	Organization
Kevin McClane	
VANE LASHUA	THNK TNK/SELF
Manna Jo Greene	HR Sloop Clearwater
Sara Levine	Congresswoman Nita Lowey
Curt Pratt	Entergy
Emilie McGlane	<del>AV</del> Peace Boat U
Susan Van Dolsen	Stop the Algonquin Pipeline Expansion SAPE
MIRIAM RUBIN	Stony Point NY, Resident



## **Annual Assessment Meeting Topics of Public Interest**

### **Planning and selection of the meeting venue**

The planning for this year's Annual Assessment meeting included visits to a number of venues near the Indian Point facility. The Colonial Terrace was chosen as the meeting's location because of its availability, ability to accommodate a sizable audience, and the fact that it is within the 10-mile-radius Emergency Planning Zone for Indian Point. With respect to the last factor, the location allowed for easier access to those who live in communities near the plant, as opposed to further locations.

### **Use of transcription for annual assessment meetings**

Many NRC meetings and hearings have publically available records. In the case of Annual Assessment meetings, these are not hearings or decision-making sessions. Annual Assessment meetings are intended to be a public outreach information event and not a decision-making session or one at which the NRC is soliciting formal testimony, as is the case at a hearing. We hold hundreds of public meetings each year and must balance the agency's commitment to openness with attention to our fiscal responsibilities. As such, many of our meetings are not transcribed or video-recorded. We engage in active listening and note-taking during these meetings and do our best to respond to key questions and concerns. If we cannot answer a question on the spot, we provide a response sometime afterwards when an individual requests a reply. Each year we look at ways to improve public meetings. The Chairman has tasked the staff with looking at how we can improve NRC meetings, and an initiative to do that has begun. This initiative includes determining ways to better document public meetings, such as considering the use of transcription.

### **Nuclear plant design to withstand seismic events**

Nuclear plant structures, systems, and components important to safety must be designed to safely withstand the effects of natural phenomena, such as earthquakes, without loss of capability to perform their safety function. The vibratory ground motion for which these structures, systems, and components must be designed to remain functional is the plant's safe shutdown earthquake (SSE). The NRC requires that if the SSE ground motion occurs, these structures, systems, and components must be able withstand the effects and assure the plant's capability to shut down the reactor and maintain it in a safe-shutdown condition. For any seismic ground motion felt onsite, licensee procedures require walkdowns to be conducted to verify that plant components and structures, including the spent fuel pool, are capable to perform their intended functions. If the SSE is exceeded, as was the case in the August 2011 Virginia earthquake near North Anna Nuclear Power Station, NRC regulations require that the station not start up until it can demonstrate that no functional damage occurred to those features needed for continued safe operation.

The ability of a nuclear plant to withstand certain levels of ground motion is measured in accelerations (g's), not the Richter scale. Ground motion depends not only on an earthquake's magnitude, but also on its distance from the site and geological characteristics of materials (density, saturation, elasticity, and energy damping properties) through which the energy waves travel. The ground acceleration used for the design of Indian Point Units 2 and 3 safety-related structures, including the spent fuel pool, is 0.15g. As part of the NRC's post-Fukushima actions, each plant was required to perform a seismic hazard reevaluation. We are currently in the process of reviewing those reevaluations. Indian Point has been prioritized as a Tier 1 plant,

which means the results of its reevaluation qualify it for the most immediate attention. Entergy submitted seismic reevaluations for Indian Point Unit 2 and Unit 3 on March 31, 2014. The plants can continue to operate until these reviews are complete because their robust designs and redundant safety features ensure they can safely shut down during the largest postulated seismic event. Since plants generally have significant margin beyond their existing seismic design basis, it is possible they can continue to operate safely without modification even with a higher seismic hazard. No decisions have been made yet with respect to whether any structures at Indian Point will have to be modified or reinforced.

*Indian Point spent fuel design and storage capacity (original vs. current)*

Anytime a plant's owner intends to increase the capacity of its spent fuel pool beyond the licensed amount, a thorough evaluation must be conducted to ensure the continued safe storage of the material, including a review of the increased heat load and an analysis of any increased potential for safety hazards. In the case of Indian Point, this took place each time they changed the configuration of the spent fuel pools, providing assurance that the pools remained safe. The NRC independently reviewed each of the spent fuel pool evaluations and concluded that the spent fuel pools remain safe under the licensed loading limit. Both Indian Point Unit 2 and 3 were originally licensed for a maximum capacity of 264 fuel assemblies. Since then, analyses and evaluations have proven that the pool can safely accommodate more than the original licensed limit. Currently, the Unit 2 spent fuel pool has a capacity of 1374 assemblies, and the Unit 3 spent fuel pool has a capacity of 1345 assemblies. Both pools are similarly loaded near full capacity.

Indian Point began using dry cask storage for some of its spent nuclear fuel several years ago. As is the case at other U.S. nuclear power plants, Indian Point schedules periodic dry cask loading campaigns, during which a number of spent fuel assemblies are removed from the spent fuel pools and moved into dry casks. These moves are made to afford the licensee operational flexibility and to comply with regulatory requirements regarding spent fuel pool capacity. Spent fuel assemblies are loaded into dry casks using specialized equipment located in the Unit 2 spent fuel pool area. Entergy has been granted license amendments to allow spent fuel transfer from the Unit 3 spent fuel pool to the Unit 2 spent fuel pool using a newly designed transfer cask. The NRC has performed a significant amount of inspection regarding this fuel transfer to verify that it is executed safely.

*Operation of Indian Point absent a long-term solution for spent fuel storage*

The NRC has repeatedly reaffirmed its view that spent fuel can be safely stored on-site at U.S. nuclear power plants, either in spent fuel pools or in dry cask storage. The D.C. Circuit of Appeals several years ago remanded the agency's 2010 Waste Confidence Decision and Rule to the agency for further environmental review. The NRC is currently in the process of addressing those concerns. For more information about the Waste Confidence Decision and Rule, see the following webpage on the NRC website: <http://www.nrc.gov/waste/spent-fuel-storage/wcd.html>

*Algonquin natural gas pipeline (AIM Project)*

Federal Energy Regulatory Commission (FERC) approves the siting and oversees environmental matters related to natural gas pipelines. The Department of Transportation develops the regulations that assure safety in the design, construction, testing, maintenance, and operating standards for natural gas pipelines. Indian Point is required to ensure the plant

can withstand any hazard the pipeline may introduce to structures, systems, or components important to safety. An installation of a new gas pipeline on the Indian Point property may require Indian Point to perform modifications to the plant, which could require prior NRC review and approval.

#### *NRC actions post-Fukushima*

The NRC has taken significant action to enhance the safety of reactors in the U.S. based on the lessons learned from the events at Fukushima. After the Fukushima accident, a task force of senior NRC staff reviewed the circumstances of the event to determine what lessons could be learned. In July 2011, the task force provided recommendations to enhance U.S. reactor safety, and these became the foundation of the NRC's post-Fukushima activities. The Commission then approved a three-tiered prioritization which is currently being implemented. A few examples of the many requirements the NRC has initiated to enhance U.S. reactor safety include requiring strategies that will allow plants to cope without permanent electrical power sources for an indefinite amount of time; requiring reevaluations of flooding and seismic effects or hazards that could impact the site; and reassessing emergency plans and staffing needed to respond to a large accident. Information about these and many other requirements are available at our publically available website on our Japan Lessons Learned webpage: <http://www.nrc.gov/reactors/operating/ops-experience/japan-dashboard.html>

#### *Indian Point Unit 2 and Unit 3 current operating licenses*

Both Indian Point Unit 2 and Unit 3 license renewal applications meet the “timely renewal” provisions of Title 10 of the *Code of Federal Regulations* (10 CFR) 2.109(b). This states, “If the licensee of a nuclear power plant licensed under 10 CFR 50.21(b) or 50.22 files a sufficient application for renewal of either an operating license or a combined license at least 5 years before the expiration of the existing license, the existing license will not be deemed to have expired until the application has been finally determined.” Indian Point Unit 2 entered the period of extended operations in September 2013, and the original 40-year license for Unit 3 expires in December 2015. While Indian Point Unit 2 continues to operate under its current license, they have implemented commitments made to the NRC in their renewed license application. The NRC has performed inspections to ensure that the licensee has properly implemented these commitments.

#### *Operations of Indian Point before and during Superstorm Sandy*

The NRC closely monitored the plant during the storm to verify safe operations and to determine whether it should remain online. No safety concerns were identified with the continued operation of Indian Point. Additionally, wind speed thresholds requiring shutdown, which are described in the Indian Point Technical Requirements Manual and monitored by NRC inspectors, were not exceeded. Indian Point Unit 3 automatically shut down in response to electrical grid disturbances caused by the storm. Shutdowns as a result of grid disturbances are within the plant design and safety system readiness to provide core cooling or emergency electric power was not affected.

#### *Underground piping and inspections*

The NRC continues to engage the nuclear industry on the subject of underground piping integrity. The NRC has a significant amount of information related to this topic and our requirements in this area on our website, including inspecting underground piping. More

information on underground piping can be found at the following webpage: <http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/buried-pipes-tritium.html>. To date, the NRC has not identified any safety significant issues with underground piping integrity at Indian Point.

### Potassium Iodide (KI)

The NRC's current consideration of KI in emergency planning is described on the following website: <http://www.nrc.gov/about-nrc/emerg-preparedness/about-emerg-preparedness/potassium-iodide.html#current-status>. Further information on the topic of KI can be found at the following webpage: <http://www.nrc.gov/about-nrc/emerg-preparedness/about-emerg-preparedness/potassium-iodide/ki-faq.html>

### 10-mile emergency planning zones

The NRC has determined that the 10-mile-radius Emergency Planning Zone (EPZ) should be the focus of emergency planning activities, including biennial exercises, sirens, and the stockpiling of KI tablets, because that is the area that would likely be most significantly impacted by a severe accident at a U.S. nuclear power plant. However, evacuations or other protective actions would not be bound by that geographical area. Emergency planning decision-makers have the ability to call for protective measures beyond the EPZ if they deem that necessary. The Federal Emergency Management Agency (FEMA) takes the lead in initially reviewing and assessing the offsite planning and response and in assisting State and local governments, while the NRC reviews and assesses the onsite planning and response. We would also note that once every six years, a 50-mile Ingestion Planning Zone drill is conducted.