

EDO Principal Correspondence Control

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FINAL REPLY:

Paul M. Blanch
West Hartford, Connecticut

TO:

Borchardt, EDO

FOR SIGNATURE OF :

** GRN **

CRC NO:

Leeds, NRR

DESC:

ROUTING:

2.206 - Entergy's Management of Spectra/Algonquin
Energy Natural Gas Transmission Lines within the
Site Boundary at Indian Point Nuclear Power Plants
(EDATS: OEDO-2010-0854)

Borchardt
Weber
Virgilio
Ash
Mamish
OGC/GC
Dean, RI
Burns, OGC
Mensah, NRR
Scott, OGC
Kotzalas, OEDO

DATE: 10/25/10

ASSIGNED TO:

CONTACT:

NRR

Leeds

SPECIAL INSTRUCTIONS OR REMARKS:

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SECY Due Date: NONE

Subject: 2.206 - Entergy's Management of Spectra/Algonquin Energy Natural Gas Transmission Lines within the Site Boundary at Indian Point Nuclear Power Plants

Description:

CC Routing: RegionI; OGC; Tanya.Mensah@nrc.gov; Catherine.Scott@nrc.gov

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Recurring Item: NO

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Approval Level: No Approval Required

OEDO Concurrence: NO

OCM Concurrence: NO

OCA Concurrence: NO

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Originator Name: Paul M. Blanch

Date of Incoming: 10/25/2010

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Addressee: R. W. Borchardt, EDO

Date Response Requested by Originator: NONE

Incoming Task Received: Letter

Paul M. Blanch

Energy Consultant

October 25, 2010

Mr. William Borchardt
Executive Director for Operations
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Dear Mr. Borchardt:

SUBJECT: 10 CFR 2.206 Petition regarding Inadequacy of Entergy's Management of Spectra/Algonquin Energy Natural Gas Transmission Lines within the site boundary at Indian Point Nuclear Plants

INTRODUCTION

I am submitting this 10 CFR 2.206 petition solely on behalf of myself due to my grave concern about the undue risk presented by the natural gas transmission lines traversing the entire Indian Point site.

In early 2009 I first became aware of the presence of the natural gas lines¹ from an Indian Point Condition Report (CR) dated December 2008. This CR identified the existence of gas line or lines and its potential to cause buried pipe corrosion of other lines important to nuclear safety.

After many months of research I determined that the proximity of these gas transmission lines to Indian Point nuclear plants may not have been properly analyzed, may not be in compliance with NRC regulations, and likely present an undue risk to the general public.

My concern increased to alarm at news of the San Bruno, California gas line explosion on September 10 of this year, and the realization that the gas lines passing through the Indian Point facility are the same vintage, however are much larger in capacity.

¹ Figure 6 provides an overview of the routing of the gas lines through the Indian Point site

Specifically, my concerns are:

- Indian Point is not in compliance with existing regulations or the regulations in effect at the time of the initial issuance of the license.
- Sections of the gas lines² are unprotected from those wishing harm to the United States.
- The potential consequences to the general public and the New York, New Jersey and Connecticut infrastructure are incalculable and could be devastating to the US economy.
- The potential energy released in one hour³, should a gas line rupture occur, is about the same as that released over Hiroshima in 1945 (about 15,000 tons of TNT).
- It is possible that a rupture of the lines would result in a significant release of radioactive materials from both operating plants along with possible severe damage to the fuel in the spent fuel pools and subsequent releases.
- The original license was predicated on the fact that there were automatic shutoff valves in the gas lines; but these were subsequently removed without any apparent analysis as required by NRC regulations⁴.
- There has been no specific training by the onsite or offsite fire departments to deal with this type of fire/explosion.
- There is no means to extinguish a major gas line fire until the flow of gas is terminated (upstream and downstream) from multiple gas transmission lines.
- Operators may be impaired (dead) due to the heat generated or due to lack of oxygen.
- It is not know if specific procedures are in place to coordinate with the gas company in the event of a rupture or an explosion.

² Figure 5 clearly shows the gas lines exiting the Hudson River have little or no physical protection.

³ <http://convert-to.com/energy-units.html>

⁴10 CFR 50.59

- Even if these procedures are in place it is likely communication channels would be disrupted in the event of an explosion/fire.
- A gas line explosion would likely disable all sources of electrical power due to the proximity to the offsite power and potential lack of oxygen to the emergency power sources.
- There are no references to the gas lines ability to withstand a seismic event.
- Testing of the integrity of the gas pipes is unknown.

I have attempted to resolve my concerns with the NRC Regional Administrator and the Chairman's Office, but have been told by the NRC that.⁵

"[T]he licensee concluded that the pipelines do not pose a safety or security hazard to the Indian Point facility. This evaluation is not available to the public, as it contains security-related information. The NRC staff reviewed the licensee's evaluation, and concluded that the presence of the gas pipelines at the Indian Point site does not endanger the safe or secure operation of the facility."

In the past (2009), I had a similar concerns related to security and safety of Indian Point. As a result of my concerns the NRC Regional Administrator authorized a private meeting with me and NRC technical personnel and shared non-public information, thereby alleviating my concerns. I requested a similar meeting related to the gas lines and my request was rejected.

While some of the information related to the dangers of the gas lines may be security related, this does not justify inaccurate and misleading information contained within official NRC/Entergy documentation and analysis.

Other recent evaluations of natural gas transmission pipeline hazards to nearby nuclear facilities are readily available in the NRC's online electronic library, ADAMS. For example, the 2004 hazard evaluation for the National Enrichment Facility (NEF) can be viewed and downloaded using Accession No. ML042460718. Public access to this evaluation, which concludes that a 16 inch 50 psi natural gas pipeline poses undue risk at NEF, strongly suggests the Indian Point evaluation is being withheld from public disclosure to cover-up a known hazard.

Pursuant to §2.206 of Title 10 in the Code of Federal Regulations, I request that the Nuclear Regulatory Commission (NRC) initiate a proceeding pursuant to §2.202 of Title 10 in the Code of Federal Regulations. I request the NRC to issue a Demand for Information (DFI)

⁵ April 12, 2010 letter to Paul Blanch from David C. Lew, Director Division of Reactor Projects Region I

Order that Entergy Indian Point demonstrate its capability to protect the public in the event of a natural gas line rupture/explosion/fire in the proximity of and passing directly through the Indian Point site.

I further request that the NRC review all information in its possession and the information provided by Entergy and Indian Point's previous owners/operators to determine if the nuclear plant is in compliance with all applicable regulations potentially impacted by a breach and subsequent fire/explosion of the natural gas line(s) traversing the Indian Point site.

It is further requested that the NRC issue a Demand for Information to Entergy seeking the bases for compliance with all regulatory requirements/guidance including but not limited to:

- Subpart A of 10 CFR 100.10⁶ (Evaluation Factors for Stationary Power Reactor Site Applications Before January 10, 1997 and for Testing Reactors)
- Appendix A to Part 100—"Seismic And Geologic Siting Criteria For Nuclear Power Plants"
- 10 CFR 50.48 "Fire protection"
- Appendix R to Part 50—"Fire Protection Program for Nuclear Power Facilities Operating Prior to January 1, 1979"
- 10 CFR 50.55a Codes and standards applicable to piping and systems
- 49 CFR 192 "Transportation Of Natural And Other Gas By Pipeline: Minimum Federal Safety Standards"
- Appendix A to Part 50⁷--"General Design Criteria for Nuclear Power Plants"

⁶ Subpart A of 10 CFR 100.10

"In addition, the site location and the engineered features included as safeguards against the hazardous consequences of an accident, should one occur, should insure a low **risk** of public exposure."

Note there is a significant difference between risk and probability of an event. Risk has not been considered in the Indian Point 2 Individual Plant Examination of External Events (IPEEE) evaluation.

⁷ Criterion 3--Fire protection. Structures, systems, and components important to safety shall be designed and located to minimize, consistent with other safety requirements, the probability and effect of **fires and explosions**.

Criterion 4, "Environmental and Missile Design Basis," of Appendix A, "General Design Criteria for Nuclear Power Plants," to 10 CFR Part 50, "Licensing of Production and Utilization Facilities," requires that nuclear power plant structures, systems, and components important to safety be appropriately protected against dynamic effects resulting from equipment failures that may occur within the nuclear power plant as well as events and conditions **that may occur outside the nuclear power plant.**

- 10 CFR 54.3(a) that defines the Current Licensing Basis that includes Safety Analysis Reports, as well as licensee commitments documented in NRC safety evaluations (SERs).
- NRC Information Notice 91-63: Natural Gas Hazards At Fort St. Vrain Nuclear Generating Station
- 10 CFR §50.59 Changes, tests and experiments.

Background

1. The first supplement to the Safety Analysis Report (SAR) to Indian Point Unit 3 in 1968 states the following with the clear statement that there are **automatic shut-off valves** capable of terminating gas flow in the event of a gas line rupture and/or explosion. The SAR states:

"In the field of maintenance, Algonquin has employed a more comprehensive program than the average industry wide practice. To check for leaks, Algonquin conducts a monthly foot patrol and a bi-weekly airplane patrol of the mains."

*Under this-surveillance, any leak that might develop would be detected before a hazardous condition could arise. In addition to the patrols, Algonquin performs monthly tests on all of the relief valves and **automatic shut-off valves** in the system to make certain that the valves function properly. A monthly check is also made of the cathodic protection system.*

Under the heading of maintenance, it should be mentioned that measures have been taken to avoid the most common cause of pipeline failure which is an accidental puncturing of a main by construction or farm equipment. Although the mains are over 300 feet from the closest point of Unit #3 construction site, as an additional safety measure, Consolidated Edison has staked out the exact location of the mains and signs have been installed warning heavy equipment to stay clear.

However, once Unit #3 is in operation, construction at the site will be completed and the possibility of construction damage to the mains will no longer exist. In the light of the foregoing discussion, it can be concluded that conditions which might lead to a pipeline failure have either been provided for in the design of the pipes, or do not exist at the Indian Point site.

However: postulating a pipeline failure at Indian Point, two possibilities must be considered. The first possibility would be a rupture or explosion of the main, but with no fire occurring. This has been the most common situation according

to the Federal Power Commission's Safety Report. "In the event of an explosion, protection must be provided against concussion damage and missile damage in the form of flying pipe fragments. The distance of the plant from the mains will provide adequate protection for both cases."

The primary fire would be of short duration since **automatic shut off valves** would **isolate the ruptured section of the main within 4 minutes**. Those valves are located at both banks of the Hudson River and at Gomer Street in Yorktown, 10.4 miles from the plant. The secondary fire would be set in the trees surrounding the gas mains. It should be noted that even if the rupture occurred at the closest point to the plant and the wind blew the flames toward the plant, it is extremely unlikely that the flames would reach the plant 400 feet away.

2. The 1973 NRC Safety Evaluation Report for Indian Point Unit #3 states the following:

*Nearby Industrial, Transportation and Military Facilities New York State Route 9, which passes through Peekskill and Buchanan, is located on the east bank of the Hudson River and Route 9W and the Palisades Interstate Parkway on the west bank of the Hudson River. A Penn Central railroad line passes within 0.85 mile of the Indian Point 3 containment structure on the east bank of the Hudson River; on the west bank, a line of the Penn Central Railroad passes approximately one mile from the Indian Point site. Two natural gas lines cross the Hudson River and pass about 620 feet from the Indian Point 3 containment⁸ structure. **Based on previous staff reviews, failures of these gas lines will not impair the safe operation of Indian Point 3.***

3. The 1995 Individual Plant Examination of External Events for Indian Point Unit No. 2 states the following:

(Redacted by NRC staff due to sensitive information. The redactions are made in accordance with 10 CFR 2.390 and Commission paper SECY-04-0191, "Withholding Sensitive Unclassified Information Concerning Nuclear Power Reactors From Public Disclosure," dated October 19, 2004 (ML042310663), and the associated staff requirements memorandum dated November 9, 2004 (ML043140175)).

⁸ There are other structures located closer to the gas lines, such as the control room, emergency power sources and emergency cooling components.

⁹ Other documents indicate the presence of one 30" line and two 26" lines operating at a pressure of about 700 psi. The 2007 Indian Point Energy Center Applicant's Environmental Report Operating License Renewal Stage states there are "three natural gas pipelines (one 30-inch main and two 24-inch mains) that traverse the Indian Point site."

(Redacted by NRC staff due to sensitive information. The redactions are made in accordance with 10 CFR 2.390 and Commission paper SECY-04-0191, "Withholding Sensitive Unclassified Information Concerning Nuclear Power Reactors From Public Disclosure," dated October 19, 2004 (ML042310663), and the associated staff requirements memorandum dated November 9, 2004 (ML043140175))

4. In 2004, Framatome ANP conducted an analysis as required by 10 CFR 70 and NUREG 1520 of a 16-inch natural gas line operating at low pressure of <50 psi. The conclusion of this analysis was that the probability of a pipeline explosion is significantly higher than 10^{-6} explosions per mile-year. The Indian point gas lines are a much larger diameter, two or three lines vs. one line and operating at 700 psi therefore the probability of an explosion is significantly higher, and much greater than 10^{-6} . The final conclusion of this study is:

A postulated rupture of the gas pipeline near the NEF could pose the following the hazards:

- *Overpressure on plant structures due to shock waves generated by detonation or explosion of the gas cloud from mixing of the released gas and the atmosphere.*

- *Impact by missiles propelled by air bursts from detonation or explosion of the gas cloud.*
- *Radiant heat flux on plant structures due to combustion of the gas/air mixture in the gas cloud.*

A hazard model estimated the likelihood of a gas line rupture and the subsequent hazards that could impact NEF plant operations. The yearly probability of these hazards is 9.44×10^{-6} /year. Therefore, the event is considered credible in accordance with NUREG-1520.

The NEF risk was from a single natural gas pipe, 16 inches in diameter and pressurized to less than 50 psi whereas Indian Point has two or three pipes ranging in size from 24 to 30 inches and pressurized to 700 psi. This “pipeline is about 1800 feet (ft) from the Technical Services Building (TSB), the nearest critical NEF structure.”

The risk of a 16 inch, 50 psi gas line located in Eunice, New Mexico is unacceptable yet two or three unprotected gas lines at Indian Point, containing more than 100 times the amount of energy, with more than 20 million residents residing within 50 miles is acceptable according to the NRC.

5. Spectra Energy on its web site¹⁰ states:

“The Algonquin Gas Transmission pipelines transport 2.44 billion cubic feet of gas per day through 1,100 miles of pipeline.”

The gas flow rate passing through the Indian Point site is not known precisely however it can be assumed that a significant portion of this amount does transit the site and would be released due to a line rupture. If it is assumed that 50% or 1.2 billion cubic feet of gas passes per day then about 50 million cubic feet would be released in one hour. This does not assume any back flow in the event of a double ended rupture. The energy contained in these 50 million cubic feet is about 50 billion BTUs. This is about the same amount of energy (12,000 tons of TNT) released by the nuclear bomb dropped on Hiroshima in 1945.

6. The most recent FSARs available for Indian Point Units 2 and 3 are completely silent with respect to the risk due to potential gas line ruptures. These FSARs only

¹⁰ http://www.spectraenergy.com/what_we_do/businesses/us/assets/algonquin/

mention the presence of one 26 inch line and ignores the existence of the other unknown lines.

NUREG 0800 requires the FSAR to contain analysis for each of the mentioned types of accidents. The review covers the following specific areas:

- Hazards associated with nearby industrial activities, such as manufacturing, processing, or storage facilities.
- Hazards associated with nearby transportation routes (aircraft routes, highways, railways, navigable waters, **and pipelines**).
- The following principal types of hazards will be considered with respect to each of the above areas of review.
- Toxic vapors or gases and their potential for incapacitating nuclear plant control room operators.
- Overpressure resulting from explosions or detonations involving materials such as munitions, industrial explosives, or explosive vapor clouds resulting from the atmospheric release of gases (**such as propane and natural gas or any other gas**) with a potential for ignition and explosion.

7. REGULATORY GUIDE 1.91 "Evaluations Of Explosions Postulated To Occur On Transportation Routes Near Nuclear Power Plants" states:

*If transportation routes are closer to structures and systems important to safety than the distances computed using Figure 1, the applicant may show that the risk is acceptably low on the basis of low probability of explosions. A demonstration that the rate of exposure to a peak positive incident overpressure in excess of 1 psi (7 kPa) is less than **10⁻⁶** per year, when based on conservative assumptions, or **10⁻⁷** per year, when based on realistic assumptions, is acceptable. Due consideration should be given to the comparability of conditions on the route to those of the accident data base.*

The gas line traversing is not technically a "transportation route" but the impact is the similar. Figure 1 of this Regulatory Guide clearly shows that if it is assumed that 10% of the natural gas explodes, (1,200 Tons TNT equivalent) the peak overpressure will be exceeded, even if the explosion is more than 1000 feet from vital structures however the closest vital structures are within 500 feet of the gas lines.

8. NRC Information Notice 91-63: Natural Gas Hazards at Fort St. Vrain (Colorado) Nuclear Generating Station. This notice was issued more than 15 years after the occurrence and a full two years after the plant was permanently shutdown. This Information Notice clearly conveys the NRC's expectation that a 10 CFR 50.59

analysis is required for changes that may impact external events such as gas line explosion in the proximity of the nuclear plant. IN 91-63 states:

The natural gas pipelines and wells completed between 1973 and 1983 introduced additional unanalyzed external hazards that could have affected the safe operation of the Fort St. Vrain facility. These additional hazards were not evaluated by the licensee prior to their introduction to the site to determine the impacts on the safe operation of the plant and whether these hazards exceeded those evaluated during the initial licensing of the facility. For the gas well drilled in 1987, the licensee's 10 CFR 50.59 evaluation was too narrowly focused and did not consider additional possible malfunctions before concluding that an unreviewed safety question was not involved.

Information Requested

1. The 1968 SAR for Indian Point clearly states

*"The primary fire would be of short duration since **automatic shut off valves** would **isolate the ruptured section of the main within 4 minutes**. Those valves are located at both banks of the Hudson River and at Gomer Street in Yorktown, 10.4 miles from the plant."*

The SAR is part of the Current licensing Basis (CLB) as defined in 10 CFR 54.3 unless it has been formally changed.

At the time of the SAR, were these valves actually present and did they exist in all gas lines crossing the Indian Point site?

Is monthly testing of relief valves and shutoff valves still conducted and are these results reviewed by Entergy?

Does Entergy have a procedure for reviewing these test results?

Has a single failure as defined by 10 CFR 50 Appendix A been analyzed as it applies to these valves?

2. The 1973 NRC Safety Evaluation Report for Indian Point Unit #3 reports "Based on previous staff reviews, failures of these gas lines will not impair the safe operation of Indian Point 3."

Please provide a copy of the "staff reviews" and the bases for its determination that these gas lines will not impair the safe operation of the plants.

3. The most recent Unit 2 UFSAR states:

"ENIP2 owns Units 1 and 2 while Entergy Nuclear Indian Point 3, LLC (ENIP3) owns Unit 3. The Algonquin Gas Transmission Company has a right-of-way running east to west through the property, 2840-ft long and 65-ft wide. Unit 2 is 1450-ft north of the 26-in. Algonquin gas main."

- The most recent Unit 3 UFSAR states:

"[T]he Algonquin Gas Transmission Company has a 26 inch gas main on a right-of-way (approximately 1350 feet long and 65 feet wide) running east to west through Entergy's property."

Both of these FSARs appear to provide contradictory, inaccurate, and incomplete information (10 CFR 50.9) and infer that there is only one 26" natural gas line. The UFSAR must be accurate and updated per the requirements of 10 CFR 50.71(e).

4. The 1995 Individual Plant Examination of External Events (IPEEE) for Indian Point Unit No. 2 states the following:

(Redacted by NRC staff due to sensitive information. The redactions are made in accordance with 10 CFR 2.390 and Commission paper SECY-04-0191, "Withholding Sensitive Unclassified Information Concerning Nuclear Power Reactors From Public Disclosure," dated October 19, 2004 (ML042310663), and the associated staff requirements memorandum dated November 9, 2004 (ML043140175))

5. Please explain the apparent discrepancies between the 2004 Framatome ANP¹¹ study and the alleged Indian point analysis that concludes:

¹¹ "Natural Gas Pipeline Hazard Risk Determination," by J. H. Snooks. (ML042040266)

"A postulated rupture of the gas pipeline near the NEF could pose the following the hazards:

- *Overpressure on plant structures due to shock waves generated by detonation or explosion of the gas cloud from mixing of the released gas and the atmosphere.*
- *Impact by missiles propelled by air bursts from detonation or explosion of the gas cloud.*
- *Radiant heat flux on plant structures due to combustion of the gas/air mixture in the gas cloud.*

*A hazard model estimated the likelihood of a gas line rupture and the subsequent hazards that could impact NEF plant operations. The yearly probability of these hazards is 9.44×10^{-6} /year. **Therefore, the event is considered credible in accordance with NUREG-1520 (Reference 1).**"*

Since the NEF evaluation, which concludes there is a credible hazard, is publicly available in ADAMS, there seems no basis for NRC to withhold any IP evaluation. Entergy should make its similar evaluation available within ADAMS.

6. Affirm that the onsite fire brigade and off-site responders are aware of the potential dangers of this gas line explosion and Indian Point has written procedures describing actions to deal with a potential explosion and immediately terminate the source of fuel.
7. Confirm that these buried gas lines are within the scope of Indian Point's buried pipe inspection program.
8. Spectra Energy is in the process of construction of new gas lines in New York/New Jersey. Please confirm that these changes will be considered under the requirements of 10 CFR 50.59 for possible impact on the Indian Point operations.

The gas pipelines located within the Indian Point complex represents a clear and present danger that the NRC refuses to consider, even though the NRC's own analysis recognizes the possibility of a gas line explosion as a credible event with unanalyzed consequences.

The NRC's own records clearly demonstrate that the Indian Point plants are not and have not been in compliance with past or present regulations. The Indian Point initial license was based upon information and automatic protection systems that have been removed without any apparent analysis as clearly required by NRC regulations.

The gas transmission line(s) have been in service for more than 50 years. Demand for natural gas has and will continue to increase thereby adding to the probability of a

catastrophic event. With age, corrosion, and higher flow rates the gas lines will also continue to weaken increasing the probability of a major rupture similar to the San Bruno event and the recent explosions in Texas, Connecticut, and Oklahoma and numerous other locations.

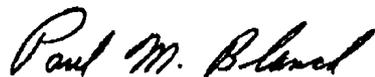
It has long been my contention, and that of other industry watchdogs that the relationship between the NRC and the industry that it is supposed to regulate is far too cozy—similar to the relationship between the US Minerals Management Service and the oil industry that recently led to the Gulf oil disaster.

This situation appears to be one more example of a regulatory agency (NRC) failing to properly identify potential hazards and failure to enforce regulations to preclude further disasters such as the Gulf Oil rupture and the San Bruno gas explosion. These two disasters this year are minor compared to the possible devastation caused by a natural gas explosion/fire occurring on a multiple unit nuclear power plant site, Indian Point.

I have made every possible effort to resolve this issue in non-public dialog with the NRC Chairman's Office, and the NRC's Region 1 Administrator only to be told that I am not entitled to this information.

I am calling upon the NRC, therefore, to do the job it is mandated by Congress; ensure public safety even if it is at Entergy's expense in order to prevent major disaster to the more than 20 million residents in the surrounding areas.

Respectfully submitted,

A handwritten signature in black ink that reads "Paul M. Blanch". The signature is written in a cursive, slightly slanted style.

Paul M. Blanch

Congressman Edward Markey
Congressman John Hall
Senator Kirsten Gillibrand
Congressman Peter Welch

Senator Charles E. Schumer
Senator Joseph Lieberman

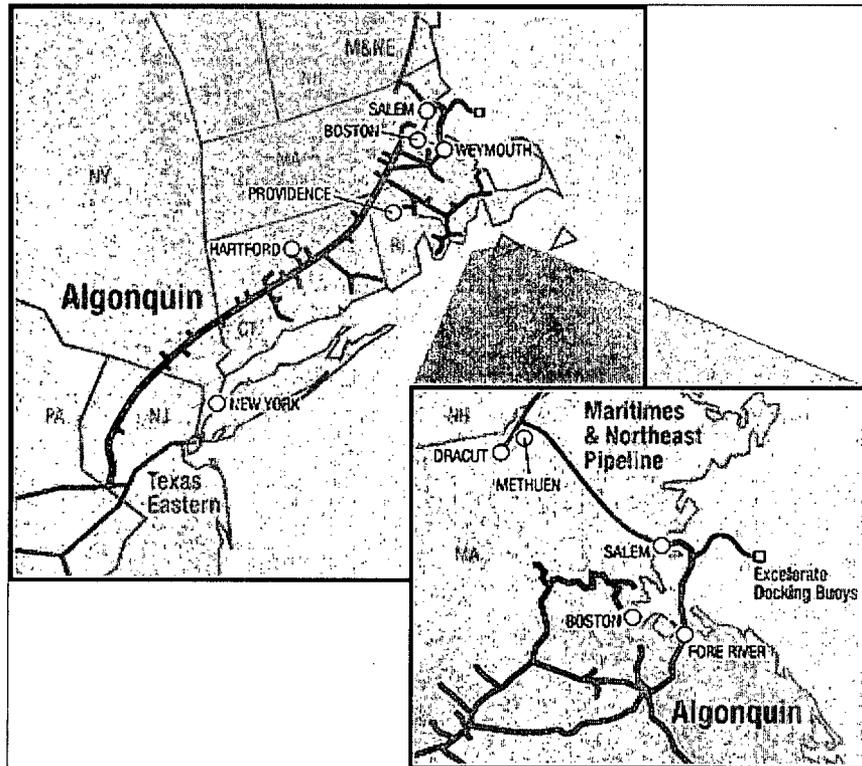
Algonquin Gas Transmission

Length: 1,120 miles

Capacity: 2.44 billion cubic feet per day

Ownership Interest: 100 percent Spectra Energy Transmission

Operator: Spectra Energy Transmission



The Algonquin Gas Transmission pipelines transport 2.44 billion cubic feet of gas per day through 1,100 miles of pipeline. Algonquin connects to Texas Eastern Transmission and Maritimes & Northeast. Its peak day design capacity enables us to offer abundant and reliable natural gas at competitive rates.

Figure 1
From Spectra Energy

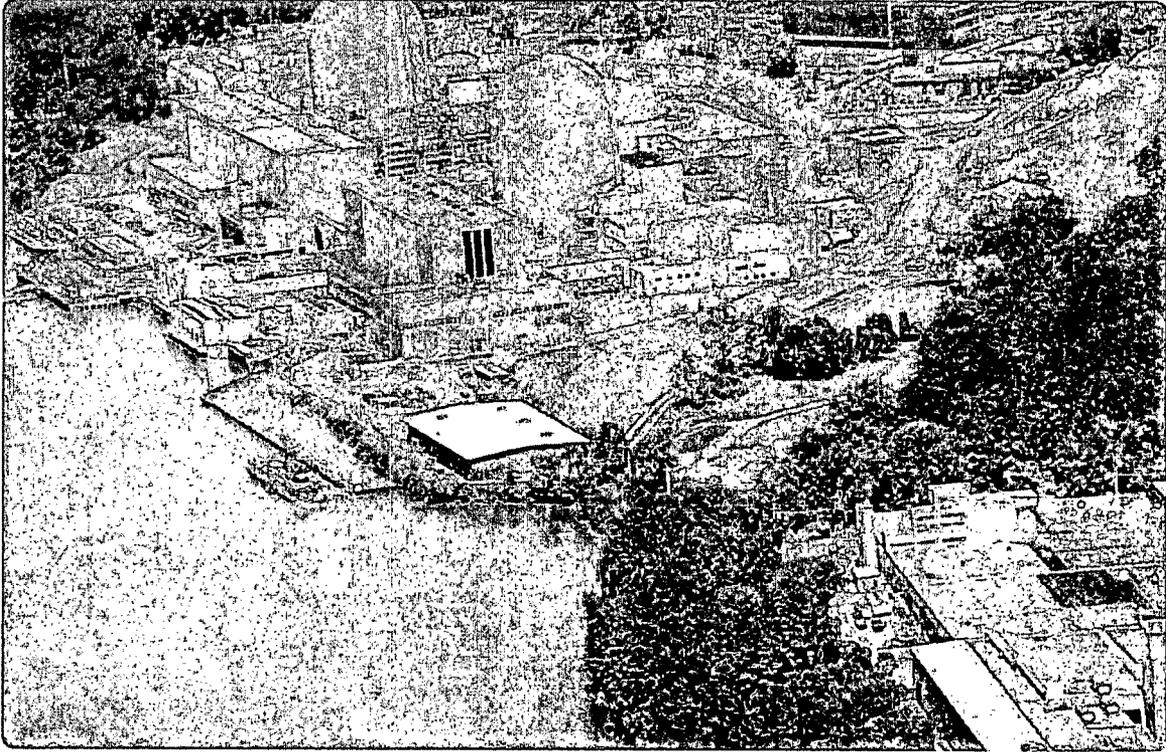


Figure 2¹²

Indian Point site looking north

¹² All photos represent the Indian Point condition in June 2010

Page 16 has been removed by the NRC staff due to sensitive information. The redactions are made in accordance with 10 CFR 2.390 and Commission paper SECY-04-0191, "Withholding Sensitive Unclassified Information Concerning Nuclear Power Reactors From Public Disclosure," dated October 19, 2004 (ML042310663), and the associated staff requirements memorandum dated November 9, 2004 (ML043140175).

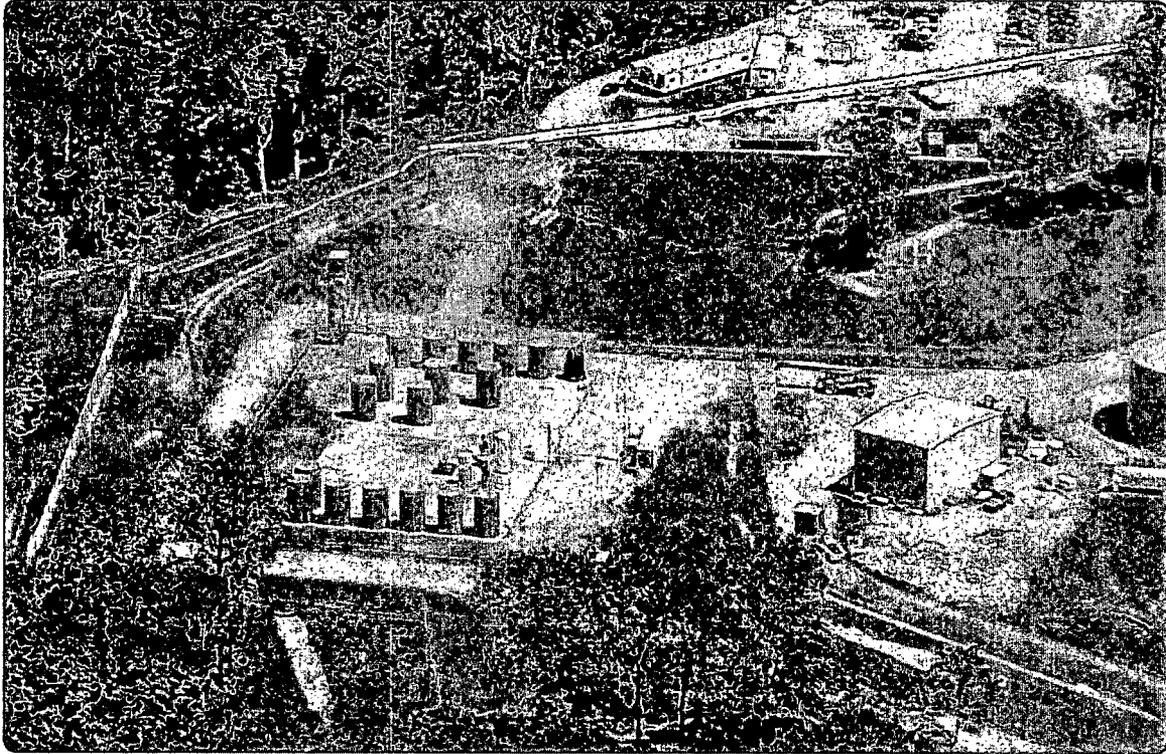


Figure 4

Spent fuel casks viewed from Hudson River

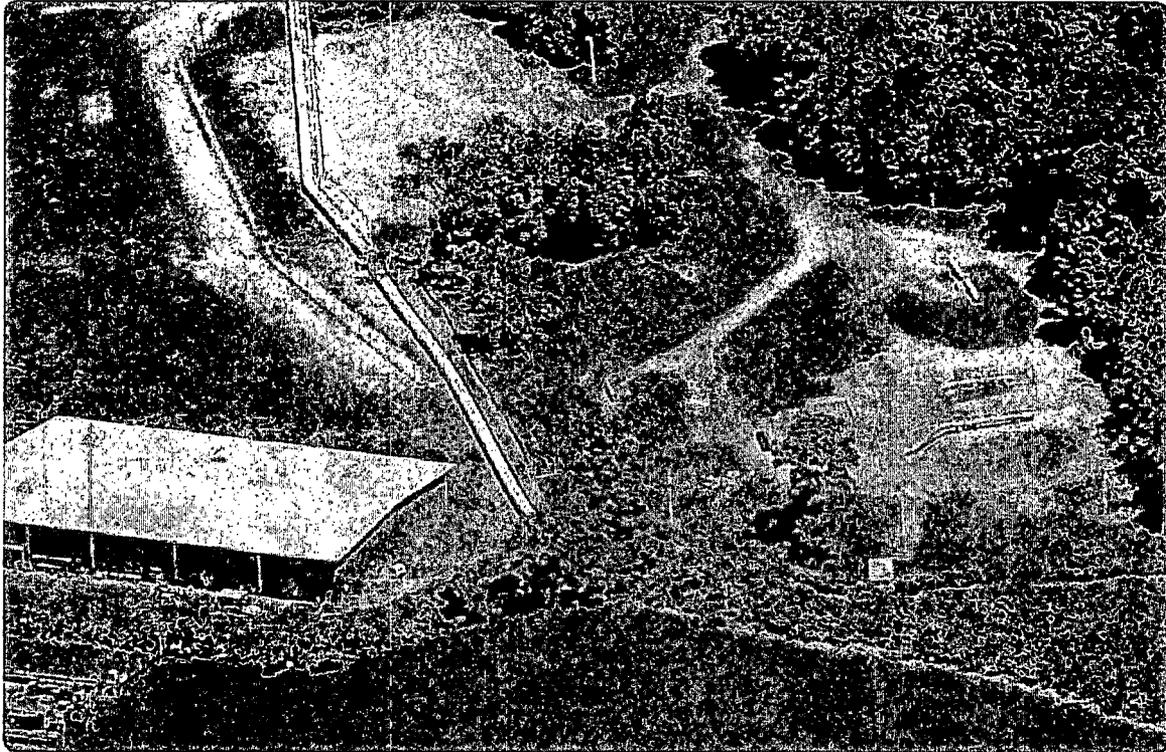


Figure 5

Gas Lines exiting east bank of Hudson River



Figure 6

Path of Gas lines through site from Hudson River to Connecticut



Figure 7

Apparent fuel storage tank adjacent to gas lines

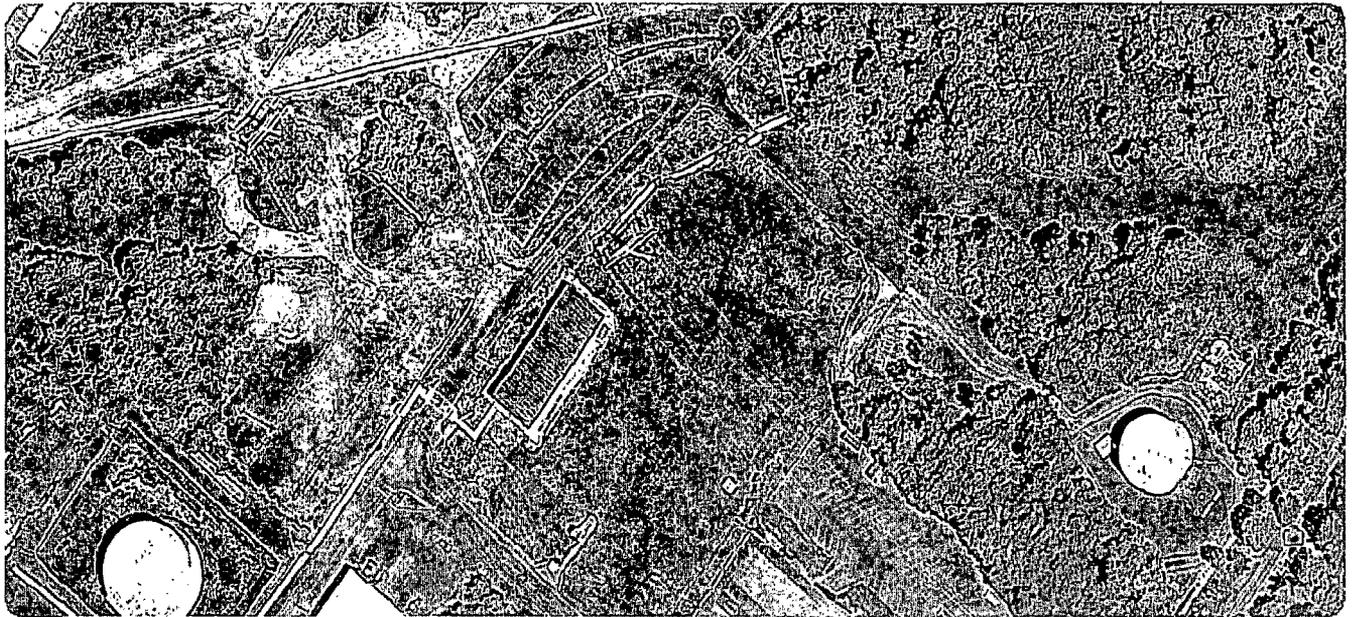


Figure 8

Excavation and repair of Gas and City Water lines

Due to buried pipe stray current corrosion

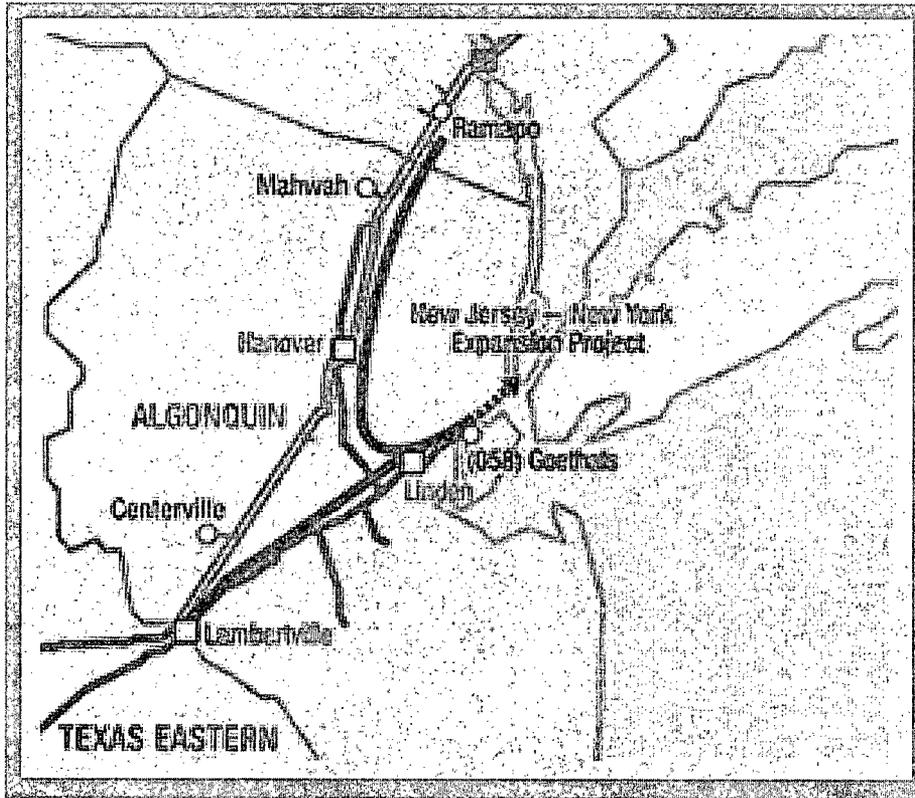


Figure 9

Proposed expansion of gas transmission system



Figure 10
Indian Point site overview showing
Path of gas transmission line

Jaegers, Cathy

From: Borchardt, Bill
Sent: Monday, October 25, 2010 8:48 AM
To: Taylor, Renee
Subject: FW: 2.206 Petition for natural gas lines within Indian Point site
Attachments: 20101025 IP 2.206 petition on gas lines (signed).pdf

From: Paul Blanch
Sent: Monday, October 25, 2010 7:51 AM
To: Borchardt, Bill; MSHD Resource
Subject: 2.206 Petition for natural gas lines within Indian Point site

Mr. Dear Mr. Borchardt:

Enclosed is a 10 CFR 2.206 petition requesting actions by the NRC related to the natural gas transmission lines crossing the Indian Point nuclear plant site.

I am available to meet and discuss this with the NRC's Petition Review Board at your convenience.

Regards,

Paul

--

Paul M. Blanch Energy Consultant

Received: from HQCLSTR01.nrc.gov ([148.184.44.76]) by TWMS01.nrc.gov
([148.184.200.145]) with mapi; Mon, 25 Oct 2010 08:48:21 -0400
Content-Type: application/ms-tnef; name="winmail.dat"
Content-Transfer-Encoding: binary
From: "Borchardt, Bill" <Bill.Borchardt@nrc.gov>
To: "Taylor, Renee" <Renee.Taylor@nrc.gov>
Date: Mon, 25 Oct 2010 08:48:20 -0400
Subject: FW: 2.206 Petition for natural gas lines within Indian Point site
Thread-Topic: 2.206 Petition for natural gas lines within Indian Point site
Thread-Index: Act0OuZZri9t/kgNT+aXurbsumHBZgAB/y8Q
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