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Docket: NRC-2020-0021

Indian Point Nuclear Generating Unit Nos. 1, 2, and 3; Transfer of Control of Licenses and Approval of Conforming License Amendments

Comment On: NRC-2020-0021-0002

Indian Point Nuclear Generating Unit Nos. 1, 2, and 3; Consideration of Approval of Transfer of Control of Licenses and Conforming Amendments

Document: NRC-2020-0021-DRAFT-0309

Comment on FR Doc # 2020-03258

Submitter Information

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Beacon, NY, 12508

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General Comment

To: U.S. Nuclear Regulatory Commission, Rule-makings and Adjudications Staff:

Re: Hearing Docket ID NRC-2020-0021 - Opposing Indian Point License Transfer from Entergy to Holtec

Hudson River Sloop Clearwater strongly opposes the sale and transfer of Indian Point Licenses from Entergy Nuclear Operations, Inc. to Holtec International and Holtec Decommissioning International (HDI), LLC. After performing extensive research, we have concluded that Holtec and its subsidiaries are not qualified to hold the licenses for decommissioning the Indian Point Energy Center.

Given the company's record, Clearwater, shares the view of members of New York's Congressional delegation, the New York State Attorney General, many local and state elected officials, Riverkeeper and area residents - namely that we have no confidence in Holtec's ability to decommission Indian Point safely and with financial surety. We therefore oppose it becoming the Indian Point licensee. As listed in detail in the attached documents, Holtec has had multiple problems, any one of which should disqualify it from holding Indian Point's licenses and decommissioning the plant. Taken together, these deficiencies add up to a clear imperative to reject Holtec as the licensee. We urge the Nuclear Regulatory Commission to deny the Joint License Transfer Application for the reason submitted herewith.

Sincerely,

Manna Jo Greene, Environmental Director
Hudson River Sloop Clearwater, Inc.

Attachments

Clearwater Public Comments on IP LTA.3.25.20

CW comments on IP PSDAR.1.15.2020

CWR revised Holtec background to comments on license transfer on LH.3.24.20

Admiral Len Hering on Holtec. Transcription (May 2019).

NRC Inspector General Report Findings



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“... In summary, Clearwater’s witnesses did a thorough job of revealing the EJ population’s concerns about relicensing Indian Point and the potential disproportionate and adverse impact this population may experience, in comparison to the non-EJ population, were there to be an accident at Indian Point. Thus, the record now contains evidence of informed public participation and adequate analysis to foster informed decision-making. Therefore, the NRC, despite the inadequate FSEIS, has met its NEPA burden with regards to the issues raised in CW-EC-3A.”

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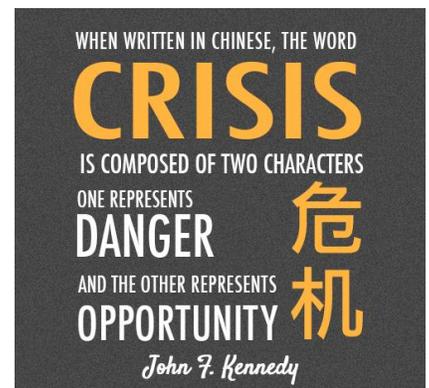
- did not properly undergo quality assurance requirements/procedures for conducting safety related calculations.

The OIG Report speaks of “backwards engineering to get a desired result” and confirms the concerns of Clearwater and many other stakeholders regarding the NRC’s lax oversight and bending the rules to ensure desired answers and outcomes.

2) **Coronavirus Pandemic:** The other major new development is the rapid and devastating spread of the SARS-Cov-2 coronavirus causing COVID-19, its impact on our entire society here and around the globe, and specifically with regard to adequate personnel at operating, closed and decommissioning nuclear plants. At a March 20 teleconference on its COVID-19 response, the NRC staff was asked a series of legitimate questions regarding what actions they would take to ensure public health and safety in this crisis. The NRC staff repeatedly deferred to other, often unspecified, agencies, and to the licensees. As the NRC restricts its activities because of the pandemic, granting operators more waivers from NRC inspections, and affirming the operators’ prerogative to come up with their own protocols to handle the spread of COVID-19 among workers, and decides whether to keep operating, it is demonstrating a lack of appropriate, proactive oversight, even amid this very serious, potentially catastrophic situation, even as demand for electricity falls precipitously, and even for Indian Point, which is in the epicenter of the U.S. outbreak. Nuclear facilities in the UK and elsewhere are shutting down when workers test positive for COVID-19. If there aren’t sufficient rules and regulations in place for the NRC, in cooperation with OSHA and others, to address this crisis appropriately and make sure U.S. nuclear plants weather the pandemic safely, then it is urgent to let Congress know what must be done, so it can step in, provide the needed oversight, and take whatever action is needed to protect public health and safety.

In Crisis is Opportunity: As President John F. Kennedy observed, when the word “crisis” is written in Chinese, it is composed of two characters: One represents danger, and the other represents opportunity.

Today’s trying circumstances can create a unique opportunity for the NRC to restore public trust by denying the license transfer of Indian Point Nuclear Power Plant from Entergy to Holtec. The public needs and deserves more stringently protective standards for all decommissioning companies to ensure technical proficiency, financial surety and trustworthiness. If these do not exist, they should be promptly promulgated and applied to all license transfer applications, and incorporated as conditions for approving license transfer. In the meantime, Holtec’s application should be denied or deferred from consideration until adequate protections are in place.



We sincerely hope the NRC will treat this as an opportunity to rise to the challenge of a complex and dangerous situation, and to fulfill its mission to: “regulate the Nation’s civilian use of radioactive materials to protect public health and safety, promote the common defense and security, and protect the environment” – and to achieve its vision to be “A trusted, independent, transparent, and effective nuclear regulator.”

Thank you for this opportunity to comment on the proposed License Transfer of Indian Point from Entergy to Holtec.

Sincerely,

Manna Jo Greene

Manna Jo Greene, Environmental Director
 Hudson River Sloop Clearwater, Inc.
 845-265-8080 x 7113 845-807-1270 (cell)
mannajo@clearwater.org www.clearwater.org
 Submitted: March 25, 2020

Attachments:

- Hudson River Sloop Clearwater comments on Holtec LTA and PSDAR
- Background Supplement to Comments by Hudson River Sloop Clearwater on Indian Point Proposed License Transfer to Holtec.
- Transcript of Admiral Leendert “Len” Hering, Sr., USN Len Hering, Washington, DC (May 13, 2019)
- Summary of NRC Inspector General Report Findings



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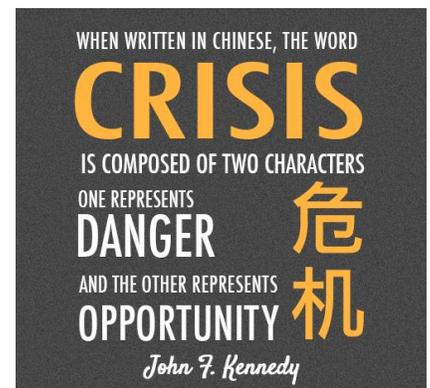
- did not properly undergo quality assurance requirements/procedures for conducting safety related calculations.

The OIG Report speaks of “backwards engineering to get a desired result” and confirms the concerns of Clearwater and many other stakeholders regarding the NRC’s lax oversight and bending the rules to ensure desired answers and outcomes.

2) **Coronavirus Pandemic:** The other major new development is the rapid and devastating spread of the SARS-Cov-2 coronavirus causing COVID-19, its impact on our entire society here and around the globe, and specifically with regard to adequate personnel at operating, closed and decommissioning nuclear plants. At a March 20 teleconference on its COVID-19 response, the NRC staff was asked a series of legitimate questions regarding what actions they would take to ensure public health and safety in this crisis. The NRC staff repeatedly deferred to other, often unspecified, agencies, and to the licensees. As the NRC restricts its activities because of the pandemic, granting operators more waivers from NRC inspections, and affirming the operators’ prerogative to come up with their own protocols to handle the spread of COVID-19 among workers, and decides whether to keep operating, it is demonstrating a lack of appropriate, proactive oversight, even amid this very serious, potentially catastrophic situation, even as demand for electricity falls precipitously, and even for Indian Point, which is in the epicenter of the U.S. outbreak. Nuclear facilities in the UK and elsewhere are shutting down when workers test positive for COVID-19. If there aren’t sufficient rules and regulations in place for the NRC, in cooperation with OSHA and others, to address this crisis appropriately and make sure U.S. nuclear plants weather the pandemic safely, then it is urgent to let Congress know what must be done, so it can step in, provide the needed oversight, and take whatever action is needed to protect public health and safety.

In Crisis is Opportunity: As President John F. Kennedy observed, when the word “crisis” is written in Chinese, it is composed of two characters: One represents danger, and the other represents opportunity.

Today’s trying circumstances can create a unique opportunity for the NRC to restore public trust by denying the license transfer of Indian Point Nuclear Power Plant from Entergy to Holtec. The public needs and deserves more stringently protective standards for all decommissioning companies to ensure technical proficiency, financial surety and trustworthiness. If these do not exist, they should be promptly promulgated and applied to all license transfer applications, and incorporated as conditions for approving license transfer. In the meantime, Holtec’s application should be denied or deferred from consideration until adequate protections are in place.



We sincerely hope the NRC will treat this as an opportunity to rise to the challenge of a complex and dangerous situation, and to fulfill its mission to: “regulate the Nation’s civilian use of radioactive materials to protect public health and safety, promote the common defense and security, and protect the environment” – and to achieve its vision to be “A trusted, independent, transparent, and effective nuclear regulator.”

Thank you for this opportunity to comment on the proposed License Transfer of Indian Point from Entergy to Holtec.

Sincerely,

Manna Jo Greene

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 Submitted: March 25, 2020

Attachments:

- Hudson River Sloop Clearwater comments on Holtec LTA and PSDAR
- Background Supplement to Comments by Hudson River Sloop Clearwater on Indian Point Proposed License Transfer to Holtec.
- Transcript of Admiral Leendert “Len” Hering, Sr., USN Len Hering, Washington, DC (May 13, 2019)
- Summary of NRC Inspector General Report Findings



BACKGROUND SUPPLEMENT TO COMMENTS SUMMITTED BY HUDSON RIVER SLOOP CLEARWATER ON INDIAN POINT LICENSE TRANSFER APPLICATION FROM ENTERGY TO HOLTEC

In New York, Indian Point's reactors will shut down in 2020 and 2021, and its owner Entergy has applied to transfer the licenses to subsidiaries of Holtec International. Holtec has already acquired the shuttered Oyster Creek plant in New Jersey. It has also been awarded the license for the closed Pilgrim plant in Massachusetts via a contested process over which the Massachusetts Attorney General has sued the NRC.

Holtec and partners have other deals pending to acquire Palisades Nuclear Generating Station in Michigan as well as Entergy's decommissioned Big Rock Point Nuclear Power Plant site in Michigan, which also hosts an Independent Spent Fuel Storage Installation (ISFSI). Holtec is contracted to handle transfer of spent fuel from fuel pools to dry storage at the San Onofre Nuclear Generating Station (SONGS) in California, owned by Southern California Edison.

Risks of Holtec's Decommissioning Approach

Nationally, some 20 reactors at 15 commercial nuclear power plants are either undergoing decommissioning or have ceased operating and will be decommissioned soon. Traditionally, the decommissioning process takes many decades to complete. Many decommissioning projects start with a process called SAFSTOR, in which the plant is monitored for up to 45 years to give the radioactive materials time to decay and to allow the decommissioning trust funds to grow.¹ For example, before it announced its intention to sell Indian Point to Holtec, Entergy planned to delay decommissioning for 50 years after IP3 shut down, arguing "the delay will result in lower working area dose rate (from natural decay of the radionuclides produced from plant operations)."²

But Holtec and other decommissioning companies have created a new private market for their services by promising to dismantle shuttered plants in five to eight years, or in some cases even faster. In Indian Point's case, Holtec has filed plans to decommission it in 15 years.

These newly formed companies use a "rip and ship" [approach], which saves time and limits worker exposure to dangerous levels of radiation.

"They used to decontaminate the floor drains and it was hard to do," said Bruce Watson, who heads the NRC's decommissioning branch and has overseen shutdowns at Maine Yankee and Rancho Seco. "Now you go up, you hit it with a hammer, break the concrete, yank the pipe out and put it in a low-level waste bin. You don't waste your time cleaning it. You just measure it and put it in the bin."³

¹ "Changing Hands at Indian Point?" by Brian PJ Cronin, *Highlands Current*, December 21, 2019. <https://highlandscurrent.org/2019/12/21/changing-hands-at-indian-point/>

² PRELIMINARY DECOMMISSIONING COST ANALYSIS for the INDIAN POINT ENERGY CENTER, UNIT 3, December 2010. <https://www.nrc.gov/docs/ML1035/ML103550608.pdf>

³ "Dismantling nuclear plants is a gold mine for some, but at what risk to you?" by Thomas C. Zambito, *Rockland/Westchester Journal News*, June 19, 2017. <https://www.lohud.com/story/news/investigations/2019/06/19/nuclear-plant-decommissioning-is-a-gold-mine-for-some-but-at-what-risk/1269407001/>

This accelerated approach is a key part of Holtec’s business model, which requires decommissioning nuclear plants as quickly and inexpensively as possible, in order to maximize the money left over in the ratepayer-funded decommissioning trust funds, then claim that money as profit. Holtec is also setting up a “consolidated interim storage” site in New Mexico to accept nuclear waste from its decommissioned plants, which would be another source of profit for it, and entail shipping nuclear waste across the country.

On its face, license transfer to Holtec for fast, cheap decommissioning seems like an attractive proposition for reactor communities. It’s definitely attractive to nuclear plant owner/operators like Entergy, because after the lucrative operations phase during which massive amounts of radioactivity built up on site with nowhere to go (since a geological repository for nuclear waste at Yucca Mountain never materialized), license transfer relieves the owner of the responsibility and liability for decommissioning and remediating the site. But license transfer to Holtec also raises vital questions that New York communities, officials and citizens need to grapple with and resolve.

What will fast-track decommissioning that keeps costs down and private profits up mean for public health and safety, and for the state’s economy? Private, for-profit nuclear plant decommissioning is a new market, and Holtec is in effect learning on the job. It has never decommissioned a nuclear plant before; its first decommissioning job is Oyster Creek, which it acquired in July 2019. The bulk of its experience is in spent fuel handling, where its performance has been poor. It is also working to build and export small modular reactors (SMRs). Its entire nuclear “fleet” was acquired less than a year ago. Does it have the experience and expertise to deliver fast decommissioning of such a complex, sensitive nuclear plant as Indian Point safely and cost-effectively? Or will it leave the job half done or undone, stranding the region and the state with unmet costs for ongoing remediation and spent fuel storage?

Holtec’s Partner and Subsidiary Structure

The entity seeking to acquire Indian Point is commonly referred to as “Holtec,” but it’s more complicated than that, and involves several subsidiaries and joint ventures.

Holtec Decommissioning International (HDI) is a wholly owned subsidiary of Holtec International, headquartered in Camden, New Jersey. HDI functions as the licensed operator for Holtec-owned nuclear power plants. HDI provides the licensee oversight for decommissioning and also manages the decommissioning trust fund and other owner interests, such as licensing strategy, insurance, land and government interface.⁴

Comprehensive Decommissioning International, LLC (CDI), also headquartered in Camden, New Jersey, is a new jointly-owned decommissioning general contractor – the one doing the actual decommissioning work – formed in 2018. CDI is a joint venture between Holtec International (USA) and SNC-Lavalin. According to a self-description on its website, CDI “seeks to become an industry-leading decommissioning company by providing comprehensive project solutions for retiring nuclear power plants... [and] is committed to the enhancement of the communities in which it operates, and employing financially sustainable business practices that ensure the upholding of obligations made as a trusted steward of legacy nuclear materials.”⁵ CDI’s first contract is to decommission Oyster Creek in New Jersey, which Holtec acquired in July 2019.

Holtec International is a privately held energy technology company with operation centers in in the US, Brazil, Dubai, India, South Africa, Spain, UK and Ukraine. Its boilerplate says it is specialized in the handling spent fuel, including what it calls “densifying” or reracking fuel pools to store more waste in them than they were originally designed to hold, “deferring the need for and expense of alternative measures by as much as two decades,” putting spent fuel into dry storage, and transporting it. It also points out Holtec is “pioneering...the world’s first below-ground Consolidated Interim Storage Facility being developed in New Mexico and a 160-Megawatt walk away safe small modular reactor, SMR-160.” It emphasizes financial stability: “Holtec has no history of any long-term debt and enjoys a platinum credit rating from the financial markets.”⁶

⁴ <https://holtecinternational.com/productsandservices/decommissioning/>

⁵ www.cdi-decom.com

⁶ www.holtecinternational.com

SNC-Lavalin Group Inc. is a Canadian company based in Montreal that provides engineering, procurement, and construction (EPC) services in various industries.⁷ It specializes in building demolitions, something Holtec has no experience in. SNC-Lavalin describes itself as “a global fully integrated professional services and project management company and a major player in the ownership of infrastructure... Our teams provide comprehensive end-to-end project solutions – including capital investment, consulting, design, engineering, construction management, sustaining capital and operations and maintenance – to clients across the EDPM (engineering, design and project management), Infrastructure, Nuclear and Resources businesses.... SNC-Lavalin maintains exceptionally high standards for health and safety, ethics and compliance and environmental protection.”⁸

Holtec’s Pattern of Corruption, Bribery and Fraud

Yet Holtec and SNC-Lavalin, the two companies behind the Indian Point decommissioning contractor CDI, are embroiled in ongoing corruption scandals and controversies that weigh against their claims of high standards in ethics, compliance, financially sustainable business practices and trusted stewardship of nuclear materials.

In 2010, SNC-Lavalin was part of the consortium that won a \$1.3 billion contract to design, build and maintain the McGill University Health Centre's Glen Site. That contract became the subject of a criminal investigation, and was called "the biggest fraud and corruption investigation in Canadian history" by a Quebec provincial police detective. Three SNC-Lavalin employees were charged with offering bribes.⁹

An investigation by CBC News and The Globe and Mail found SNC-Lavalin used a secret internal accounting code that former employees said was for bribes on projects across Africa and Asia.¹⁰

In 2013, the World Bank found SNC-Lavalin was engaged in a pattern of bribery and corruption in several countries, and banned it for ten years from bidding on any contracts funded by the Bank, “following the company’s misconduct in relation to the Padma Multipurpose Bridge Project in Bangladesh, as well as misconduct under another Bank-financed project.... in relation to the World Bank-financed Rural Electrification and Transmission project in Cambodia.... SNC-Lavalin’s misconduct involved a conspiracy to pay bribes and misrepresentations when bidding for Bank-financed contracts.”¹¹

In February 2015, Canadian police charged SNC-Lavalin and two of its subsidiaries with corruption and fraud in connection with its dealings in Libya. After raiding SNC-Lavalin’s Montreal headquarters, Canadian police alleged that between 2001 and 2011, the company offered Libyan government officials under the Moammar Gadhafi regime bribes worth \$47.7 million to influence decisions. They also charged that the company defrauded the Libyan government and other entities of "property, money or valuable security or service" worth approximately \$129.8 million. Three former SNC-Lavalin employees were charged.¹² A former SNC-Lavalin vice president with close ties to the Gadhafi family in Libya went to prison in Switzerland, charged with “fraud, money-laundering, and corruption of officials.” Another SNC-Lavalin consultant who worked to get members of the Gadhafi family into Mexico went to prison there under charges of “consorting with organized crime, falsifying documents, and human trafficking.”¹³

⁷ <https://en.wikipedia.org/wiki/SNC-Lavalin>

⁸ <https://www.snclavalin.com/en/investors/corporate-overview>

⁹ "A closer look at SNC-Lavalin's sometimes murky past" CBC News, February 8, 2019, <https://www.cbc.ca/news/canada/snc-lavalin-corruption-fraud-bribery-libya-muhc-1.5010865>

¹⁰ "SNC-Lavalin International used secret code for 'bribery' payments" by Dave Seglins, CBC News, May 15, 2013. <https://www.cbc.ca/news/canada/snc-lavalin-international-used-secret-code-for-bribery-payments-1.1386670>

¹¹ "World Bank Debars SNC-Lavalin Inc. and its Affiliates for 10 years," April 17, 2013. <https://www.worldbank.org/en/news/press-release/2013/04/17/world-bank-debars-snc-lavalin-inc-and-its-affiliates-for-ten-years>

"Justin Trudeau Faces Calls to Resign" by Chantal da Silva, *Newsweek*, February 28, 2019. <https://www.msn.com/en-us/news/world/justin-trudeau-faces-calls-to-resign/ar-BBUcCnQ?li=BBnbfcL&ocid=iehp>

¹² "A closer look at SNC-Lavalin's sometimes murky past" CBC News, op. cit.

¹³ <https://columbusfreepress.com/article/dark-dawning-age-nuclear-waste-begins>

Despite its track record of corruption, bribery and fraud, in 2015 Canada's then Conservative government led by Prime Minister Stephen Harper put SNC-Lavalin and its corporate partners (also accused of corruption) in charge of cleaning up Canada's radioactive waste, as well as all federally owned nuclear facilities. The consortium is paid about a billion dollars in public money each year. In its role as steward of Canada's nuclear waste, it attracted the opposition of 140 municipalities, NGOs and nuclear experts for its plan to permanently store a million cubic meters of mixed radioactive wastes on the surface next to the Ottawa River at Chalk River National Labs. Opponents of the proposal include former senior Chalk River scientists.¹⁴

The same consortium is actively working to build, test and deploy a whole new generation of "Small Modular Reactors" (SMRs) using Canadian federal lands and facilities. The Canadian Nuclear Safety Commission actively lobbied the government to exempt most of these new SMRs from any independent environmental assessment under Canada's Impact Assessment Act. In November 2018 Natural Resources Canada (NRCan) published a "Road Map" for SMRs, which envisions hundreds of such small modular reactors deployed widely in Canada. But they face public opposition. "I ask you: If experimental, unproven nuclear reactors don't have to undergo impact assessment, then what's the point?" said Green Party MP candidate Keller-Herzog. "In other words, the Liberal government, Minister McKenna and senior public servants are lining up their ducks to pave the way for the plans of SNC-Lavalin and its American partners. Does that sound familiar?"¹⁵

Revelations of SNC-Lavalin corruption did become familiar to Canadians, and did not end with the World Bank disbarment or the charges stemming from the Libya scandal. For example, the company is facing criminal charges for its tactics to win a new hospital construction contract in Montreal,¹⁶ and another criminal probe related to a Montreal bridge contract. A former Canadian federal official pleaded guilty in 2017 to accepting more than \$2.3 million in payments from SNC-Lavalin in connection with the bridge project, and court documents lay out a \$127 million bribery scheme.¹⁷

In 2018, Canada's federal election watchdog reported SNC-Lavalin made more than \$117,000 in illegal political contributions to both parties. A former SNC-Lavalin executive was charged with soliciting employees to make the contributions and concealing their identities.¹⁸ He pleaded guilty this year before the case went to trial and no others were charged, even though there is evidence other executives were involved. A compliance agreement signed by SNC-Lavalin refers to the involvement of "certain former senior executives" in a scheme to encourage employees to donate to federal political parties, then get reimbursed by the company through "false refunds for personal expenses or payment of fictitious bonuses."¹⁹

Allegations of the Trudeau administration acting to protect SNC-Lavalin prompted calls from Trudeau's political opponents for him to resign as Prime Minister. In a new report, ethics commissioner and political scientist Mario Dion found Trudeau violated the Conflict of Interest Act in 2018 when he tried to pressure Canada's Minister of Justice and Attorney General, Jody Wilson-Raybould to overrule a federal prosecutor's

¹⁴ Information from Dr. Gordon Edwards, nuclear consultant, scientist and President of the Canadian Coalition for Nuclear Responsibility

¹⁵ "Greens talk radioactive waste, Chalk River and SNC-Lavalin – and why Ottawans should care" by Taylor Blewett, *Ottawa Citizen*, September 5, 2019. <https://ottawacitizen.com/news/local-news/greens-talk-radioactive-waste-chalk-river-and-snc-lavalin-and-why-ottawans-should-care>

¹⁶ <https://www.theglobeandmail.com/canada/article-former-snc-lavalin-ceo-pleads-guilty-in-fraud-case/>

¹⁷ "SNC-Lavalin could face criminal charges over Montreal bridge contract, court documents reveal," by Christopher Reynolds, *National Post*, February 12, 2019.

<https://nationalpost.com/news/canada/snc-lavalin-faces-criminal-probe-over-montreal-bridge-contract-documents-reveal>

¹⁸ "Former SNC-Lavalin exec charged with illegal federal political contributions" by Ross Marowitz, May 17, 2018. <https://business.financialpost.com/pmn/business-pmn/former-snc-lavalin-exec-charged-with-illegal-federal-political-contributions>

¹⁹ "Key figure in illegal election financing scheme quietly pleads guilty" by Elizabeth Thompson, CBC News, January 19, 2019. <https://www.cbc.ca/news/politics/election-financing-snc-lavalin-charbonneau-1.4984823>

decision to send SNC-Lavalin to trial on corruption charges.²⁰ Wilson-Raybould described a coordinated effort by senior officials close to Trudeau to discourage her from prosecuting SNC-Lavalin for fraud and corruption around government contracts in Libya. If convicted of the charges, SNC-Lavalin could face a decade-long ban from competing for federal government contracts. Wilson-Raybould said she was barraged with demands and even veiled threats asking her to shut down the case and pursue a deferred prosecution agreement instead, which would have allowed SNC-Lavalin to pay a fine to address the allegations. She refused and pursued the corruption case. But after four months, she was demoted to veteran affairs minister.²¹ The scandal threatened to bring down the Trudeau government and swing the 2019 election toward conservatives.²² Trudeau was returned as prime minister in 2019, but with a minority government.

SNC-Lavalin did manage to avoid going to trial on the charge of bribing Libyan officials to get contracts. In December 2019, after a former top SNC-Lavalin executive was found guilty of fraud and corruption charges related to the Libya case, the company decided SNC-Lavalin's Construction unit would plead guilty to fraud, and reached a settlement. SNC-Lavalin Construction will pay a C\$280 million (US\$211 million) fine over five years, and it is subject to three years' probation. As part of the settlement, all other charges against SNC-Lavalin Group Inc. and its international marketing arm, SNC-Lavalin International, Inc, were withdrawn. A court conviction would have barred SNC-Lavalin from bidding on government contracts for 10 years. SNC-Lavalin was quoted as saying it does not expect the guilty plea to affect its ability to compete for future projects.²³

Like SNC-Lavalin, Holtec's track record is also problematic. It includes scandal, bribery, lack of transparency, lying to officials, attracting public opposition and pushing private agendas. Holtec is a family-owned company founded by India-born CEO Krishna 'Kris' Singh. Singh and Holtec were involved in a bribery scandal at the Tennessee Valley Authority (TVA).

Holtec had been awarded a contract to build a storage facility for spent nuclear fuel at TVA's Browns Ferry Nuclear Plant in Alabama. John Symonds, a TVA supervisor pleaded guilty in 2007 to a federal charge of failing to disclose the receipt of about \$55,000 in payments from a Holtec contractor.²⁴ As a result of a criminal investigation, the TVA created a formal suspension and debarment process and in 2010, in an unprecedented move, barred Holtec from doing business with it for 60 days. Holtec was also reportedly forced to agree to pay a \$2 million "administrative fee" and to submit to independent monitoring of its operations for twelve months. Holtec subsequently restored its relationship with the TVA and continues to hold contracts with the agency.²⁵

While Holtec remains privately held and little is known about its finances, published reporting and other information do show that Holtec has sought to leverage public money in questionable and sometimes illegal ways.

In 2017 then New Jersey Governor Chris Christie announced Holtec had been awarded a \$260 million "Grow NJ" tax credit from the state's Economic Development Authority (EDA), to be paid out in ten annual installments of \$26 million. It was the second-largest tax break in New Jersey's history. But it was put on hold after the first installment when investigative reporting by WNYC and ProPublica found Singh's sworn certification in the application to EDA claimed Holtec had never been barred from doing business with a

²⁰ "SNC-Lavalin report vindicates Jody Wilson-Raybould, says political scientist" CBC Radio, August 14, 2019.

<https://www.cbc.ca/radio/asithappens/as-it-happens-wednesday-edition-1.5246796/snc-lavalin-report-vindicates-jody-wilson-raybould-says-political-scientist-1.5246798>

²¹ "Justin Trudeau Faces Calls to Resign" by Chantal da Silva, *Newsweek*, February 28, 2019. <https://www.msn.com/en-us/news/world/justin-trudeau-faces-calls-to-resign/ar-BBUcCnQ?li=BBnbfL&ocid=iehp>

²² *The Guardian*, March 4, 2019. <https://www.youtube.com/watch?v=Cjq1ccXV6hE>

²³ "Canada's SNC-Lavalin unit pleads guilty to fraud charge in Libya case," by Alison Lampert, Reuters, December 18, 2019. <https://www.reuters.com/article/us-snc-lavalin-court/canadas-snc-lavalin-unit-pleads-guilty-to-fraud-charge-in-libya-case-idUSKBN1YM1V0>

²⁴ <https://columbusfreepress.com/article/dark-dawning-age-nuclear-waste-begins>

²⁵ *ibid.*

state or federal agency. In fact, it had been barred from doing business with the TVA due to the bribery scandal.

Holtec's tax break applications and the response to the suspension were handled by the law firm Parker McCay where Philip Norcross is managing partner. He is the brother of Democratic Party leader George Norcross, one of the wealthiest people in New Jersey,²⁶ who sits on Holtec's board. He is also the brother of Congressman Donald Norcross (D-NJ). Emails obtained under a public records request show that Parker McCay and Philip Norcross were involved in rewriting tax break laws in 2013 that gave special advantages to companies that moved to Camden,²⁷ including Holtec, where George Norcross is on the board, the insurance company Conner Strong & Buckelew where George Norcross is executive chair, and Cooper University Health Care System, where George Norcross is board chair and Philip Norcross is a trustee. WNYC and ProPublica found that companies linked to George Norcross and Philip Norcross' law firm Parker McCay received at least \$1.1 billion worth of tax breaks from New Jersey.²⁸

The New Jersey tax break program is now under investigation by the New Jersey Attorney General and a task force appointed by Governor Murphy. Recently the EDA, which administers the program, received a state grand jury subpoena to provide information about several tax breaks awarded to companies with ties to George Norcross. Norcross filed a lawsuit challenging the task force's authority, and sued to prevent its report from being made public.²⁹ However, that suit failed and the report was published with harsh criticism of the treatment Norcross-linked firms received, including taking EDA staff to task for not pointing out Holtec had been disbarred from doing business with a government entity, which could have been discovered through a mere Google search.³⁰ Norcross is also the focus of new investigative reporting showing that he and his business partners used tax breaks Norcross helped establish to buy up and profit from valuable real estate in Camden.³¹

During the task force proceedings, it also came to light that Singh personally had been investigated by the TVA's Office of the Inspector General, which convinced an employee there to allow it to secretly record a call with Singh. "The OIG report found, based on witness testimony, that this unnamed Holtec representative engaged in the funneling of money to Mr. Symonds and courting him with future employment in order to secure the TVA nuclear contract for Holtec," task force Counsel Jim Walden said during the hearing. "Essentially, the OIG found a bribe." Walden said the report makes clear Singh "played a role in, or at least at a minimum, had been aware of the underlying activity" involving payments to Symonds.³²

Holtec and Parker McCay had argued that failing to mention the TVA debarment in Singh's sworn application to the New Jersey EDA for tax breaks was just an "inadvertent mistake." Yet it was not the only misleading omission: Singh also claimed that number of other states, including Ohio and South Carolina, had offered "robust proposals" to persuade Holtec to leave New Jersey and move to them. But he didn't mention that just weeks before he submitted the New Jersey application, Ohio stripped Holtec of state tax credits for failing to create the jobs it had promised as part of a similar tax break program.

According to records obtained by WNYC and ProPublica, none of the 200 jobs Holtec had pledged in 2009 to bring to Orrville, a small town outside Akron, Ohio, ever materialized. Holtec, in a letter to Ohio regulators, blamed it on the failure of new manufacturing equipment that led to a "major setback." The company also

²⁶ https://en.wikipedia.org/wiki/George_Norcross#Insurance

²⁷ "Emails Reveal Norcross Family's Pull Over NJ Tax Breaks" by Nancy Solomon and Jeff Pillets, WNYC News, May 21, 2019. <https://www.wnyc.org/story/emails-reveal-norcross-familys-pull-over-nj-tax-breaks/>

²⁸ "The Norcross Connections," by Nancy Solomon and Jeff Pillets, WNYC, May 3, 2019. <https://www.wnyc.org/story/norcross-connections/>

²⁹ https://en.wikipedia.org/wiki/George_Norcross#Insurance *op cit*.

³⁰ "EDA task force issues scathing report with heavy focus on Norcross-linked firms" by Matt Friedman and Katherine Landergan, Politico, June 17, 2019. <https://www.politico.com/states/new-jersey/story/2019/06/17/eda-task-force-issues-scathing-report-with-heavy-focus-on-norcross-linked-firms-1065486>

³¹ <https://projects.propublica.org/graphics/camden>

³² "Task force uncovers bombshell report on Holtec," by Ryan Hutchins, *Politico*, July 10, 2019. <https://www.politico.com/newsletters/new-jersey-playbook/2019/07/10/task-force-uncovers-bombshell-report-on-holtec-454824>

said it was suffering an overall “decline in orders” caused by “lower quality overseas competitors.” Ohio and South Carolina officials and economic development staffers said in interviews that they knew of no approved package of incentives their states had offered Holtec. New Jersey EDA officials confirmed that Holtec did not disclose its Ohio troubles to them. “This was not reported in Holtec’s application or legal questionnaire,” said Virginia Pellerin, a spokeswoman for the authority.³³

Oyster Creek: Holtec’s Inauspicious Decommissioning Debut

New Jersey’s Oyster Creek nuclear plant is CDI’s first decommissioning job. When the sale of Oyster Creek to Holtec was completed in July 2019, Singh said in a press release, “Our primary goal is to decommission Oyster Creek safely and with the community’s best interests in mind. Many of the excellent plant staff will join our exceptionally qualified engineers as we set a new bar in decommissioning excellence.”³⁴

But since then, multiple unions have objected to Holtec hiring lower-wage, lower-skilled workers to do the decommissioning work, accusing the company of endangering workers and neighbors thereby. Oyster Creek Vice President Jeff Dostal admitted labor costs are being considered in Holtec’s decisions, because the company must complete all cleanup and demolition using Oyster Creek’s nearly \$1 billion decommissioning trust fund. But Dostal said that safety was an integral focus of Holtec and its staff. “You can’t say ‘safety’ when you have people (working) who have never touched a pipe before,” said Randall Davis, who worked inside Oyster Creek for years as a member of the United Association of Plumbers & Pipe Fitters Local 9. In addition to holding various technical and safety certifications, Davis said he had to pass a background check and a week of testing before he was permitted to work on pipes and valves inside the plant.³⁵

For more than a year, local residents around Oyster Creek have been calling for an advisory panel to oversee to Holtec’s decommissioning activities. Recently Governor Murphy responded to the call and announced the creation of a new Oyster Creek Safety Advisory Panel headed by New Jersey Department of Environmental Protection Commissioner Catherine R. McCabe will head the new Oyster Creek Safety Advisory Panel, which will also include members of the New Jersey State Police, the Office of Homeland Security and Preparedness, and the Board of Public Utilities. “Providing the public with an opportunity to participate in the robust public input process is critical to ensuring transparency during the decommissioning process,” Murphy said. Citizens’ groups generally welcomed the announcement, but some noted the panel was composed of officials (it does have one independent scientist) and didn’t include advocacy groups or concerned citizens.³⁶

Pilgrim License Transfer to Holtec Strongly Opposed by State Officials

Holtec’s acquisition of the Pilgrim nuclear plant in Plymouth, Massachusetts was recently approved by the NRC, over strong objections of state environmental officials and the Massachusetts Attorney General’s office. They had petitioned the NRC to hold a hearing on their concerns about Holtec’s lack of experience, qualifications and finances before ruling on the sale.

³³ “A Huge Tax Break Went to a Politically Connected Company in New Jersey Despite Red Flags,” by Jeff Pillets and Nancy Solomon, WNYC, and Alex Mierjeski, ProPublica June 26, 2019. <https://www.propublica.org/article/a-huge-tax-break-went-to-a-politically-connected-company-in-new-jersey-despite-red-flags>

³⁴ “Oyster Creek nuclear plant sale to Holtec is complete” by Amanda Oglesby, *Asbury Park Press*, July 2, 2019. <https://www.app.com/story/news/local/land-environment/2019/09/24/unions-oyster-creek-cuts-corners-risks-safety-hiring-cheap-labor/2379570001/>

³⁵ “Unions: Oyster Creek cuts corners, risks safety by hiring cheap labor” by Amanda Oglesby, *Asbury Park Press*, September 24, 2019. <https://www.app.com/story/news/local/land-environment/2019/09/24/unions-oyster-creek-cuts-corners-risks-safety-hiring-cheap-labor/2379570001/>

³⁶ “Murphy panel ordered to ensure Oyster Creek decommissioning won’t be dangerous,” by Amanda Oglesby, *Asbury Park Press*, October 3, 2019. <https://www.app.com/story/news/local/land-environment/2019/10/03/oyster-creek-nuclear-plant-decommissioning-phil-murphy-panel/3843335002/>

The NRC declined and approved the sale to Holtec without giving state officials a hearing. Along with the license transfer, NRC approved a regulatory exemption Holtec had requested to be allowed to use \$541 million of the \$1.1 billion decommissioning trust fund for spent fuel management – for example building canisters and pads to store spent fuel and roads to transfer it. Ordinarily the trust funds are strictly reserved for decommissioning activities per se, such as dismantling and clean-up of the facility.³⁷ Experts say that allowing Holtec to use the fund for nuclear spent fuel expenses as well threatens to deplete the trust fund before decommissioning is complete. The procedure would allow Holtec to reimburse itself in advance for what it spends on spent fuel management from the decommissioning fund, then turn around and sue the Department of Energy for breach of contract (DoE had undertaken to remove spent fuel to a geologic repository, but Yucca was suspended so DoE never took the fuel) to recover that money, in effect getting paid for twice for the same work. NRC staff confirmed that any funds Holtec recovers from DoE for spent fuel management would not go back into the decommissioning trust fund, but into Holtec's pocket.³⁸

The NRC's action to approve the Pilgrim license transfer to Holtec without hearing state officials' concerns drew strong opposition from Governor Baker's administration, Senator Ed Markey and Attorney General Maura Healey. Healey's office filed suit in federal court against the NRC to challenge the decision.

The AG's complaint says the NRC "acted arbitrarily and capriciously, abused its discretion" and violated the law in failing to provide Massachusetts with a "meaningful opportunity to participate in the process." "The NRC has repeatedly rubber stamped Holtec's plans, despite serious concerns about the company's financial capacity, technical qualifications, and competency to safely decommission and clean up the Pilgrim site," said Healey in a statement. "We are asking the Court to exercise its authority to vacate the NRC's misguided and unsupported actions."³⁹

In legal briefs filed with the NRC, Attorney General Healey and other Massachusetts officials expressed skepticism about Holtec's plan to "decommission Pilgrim on an expedited schedule never before achieved," despite having never owned a nuclear plant nor managed a decommissioning start to finish.⁴⁰

In her petition to the NRC, Healy also pointed out that Holtec set aside only a very small portion of the decommissioning fund for contingency planning. "Holtec's attempt to account for contingencies and uncertainty risk is woefully deficient," she said. She also warned the exemption allowing Holtec to use the decommissioning trust fund for spent fuel management "poses a significant risk that insufficient funds will exist" to clean the site, leaving "taxpayers to bear the financial burden and responsibility for finishing the work."⁴¹

In January 2020 New York Attorney General Letitia James led a coalition of 12 states in supporting Massachusetts Attorney General Healy's suit, citing the coalitions "significant concerns about Holtec's ability to successfully oversee the facility's decommissioning." It filed an amicus brief⁴² in the US Court of Appeals, District of Columbia Circuit, arguing that the NRC's failure to hear from Massachusetts before approving the license transfer violates Nuclear Regulatory Commission rules, and the federal Atomic Energy and

³⁷ "NRC could get earful on Pilgrim nuclear plant license transfer" by Christine Legere, *Cape Cod Times* September 9, 2019. <https://www.capecodtimes.com/news/20190909/nrc-could-get-earful-on-pilgrim-nuclear-plant-license-transfer>

³⁸ Information from presenters at the October 10, 2019 [Regional Nuclear Decommissioning Forum](#), including Mary Lampert, director of Pilgrim Watch, and Bob Alvarez, former senior policy advisor to the US Department of Energy and senior scholar, Institute for Policy Studies.

³⁹ "Healey sues federal nuclear regulators over Plymouth plant transfer" by Danny McDonald, *Boston Globe*, September 26, 2019. <https://www.bostonglobe.com/metro/2019/09/26/mass-healey-sues-federal-nuclear-regulators-over-plymouth-plant-transfer/iloDF9bwYAjNI9bULYiJPL/story.html>

⁴⁰ "Risks, Rewards Accompany Faster Cleanup of Closed Nuclear Reactors" by Bob Salsberg, May 22, 2019. <https://www.claimsjournal.com/news/national/2019/05/22/291057.htm>

⁴¹ "Investors see huge profits from old nuclear plants, but it could cost taxpayers" by Chris Maag, *North Jersey Record*, June 19, 2019. <https://www.lohud.com/story/news/watchdog/2019/06/19/nuclear-plant-decommissioning-holtec-other-firms-see-profit/1456809001/>

⁴² https://ag.ny.gov/sites/default/files/2020.01.17_-_massachusetts_v_nrc_amicus_br_.pdf

Administrative Procedure Acts. Joining Attorney General James in this action were the Attorneys General of Connecticut, Illinois, Iowa, Maryland, Michigan, Minnesota, New Jersey, New Mexico, Oregon, Pennsylvania, and Vermont.

Attorney General James also expressed “grave concerns” about Holtec’s competence to hold Indian Point’s licenses: “I have multiple, grave concerns about the application now before the Nuclear Regulatory Commission that would hand off the responsibility for Indian Point’s decommissioning to a company with absolutely no experience in such an enormous, complex, and consequential undertaking,” she said.⁴³

Four Massachusetts state senators and six state representatives -- Sens. Viriato deMacedo, Julian Cyr, John Keenan and Patrick O’Connor along with Reps. William Crocker, Josh Cutler, Dylan Fernandes, Sarah Peake, Kathleen LaNatra and Tim Whelan -- issued a statement in support of Healey and the Baker administration challenging the NRC and its fast-track license transfer to Holtec.⁴⁴

US Senator Edward Markey also weighed in, saying the NRC “is abdicating any responsibility for protecting public health and safety with its rushed and uninformed license transfer for the Pilgrim nuclear power plant. The opaque process that disregarded local resident and state input reflects the Commission’s choice to prioritize industry timelines over due diligence and transparency. Holtec’s math on how it will pay for decommissioning does not add up. Holtec’s unwillingness to even negotiate an agreement with local stakeholders – the ones who will be living next door to nuclear waste for years to come – is unacceptable. I have repeatedly called on Holtec to be a good neighbor and for the Commission to be a good regulator, but those calls of concern were ignored.”⁴⁵

Lack of Financial Assurance

Being privately held, Holtec’s finances remain undisclosed,⁴⁶ and some of its subsidiary and liability structures are mysterious.⁴⁷ “[Little] is known about Holtec’s decommissioning venture Comprehensive Decommissioning International, which is co-owned with SNC-Lavalin, a large Canadian engineering firm,” according to *The North Jersey Record*. “The company is secretive about its finances, refusing to disclose basic information about its revenue, assets or ability to handle contingencies.”⁴⁸

As such, it’s unknown whether Holtec has the financial depth or accountability to take responsibility for decommissioning and nuclear waste stewardship if decommissioning trust funds and other public moneys prove insufficient.

“If a plant’s decommissioning trust fund goes broke before the site is clean, utilities in states with regulated electricity markets can seek money from ratepayers to make up the deficit, according to the Nuclear Energy Institute,” *USA Today* reports. “If the trust fund goes broke in a deregulated state, taxpayers may be on the hook to cover additional cleanup costs, experts say.”⁴⁹ (In the Northeast, all states except Vermont are “deregulated” as far as electricity generation is concerned. This includes New York.⁵⁰)

⁴³ <https://www.wamc.org/post/nrc-reviewing-application-transfer-indian-point-decommissioning>

⁴⁴ “Regulators approve nuclear transfer over governor, AG protests” by Colin A. Young, STATE HOUSE NEWS SERVICE, August 23, 2019. <https://www.masslive.com/news/2019/08/regulators-approve-nuclear-transfer-over-governor-ag-protests.html>

⁴⁵ *ibid.*

⁴⁶ *Rockland/Westchester Journal News, op. cit.*

⁴⁷ <https://miningawareness.wordpress.com/2019/07/06/another-cyprus-mystery-company-related-to-holtec-international-nuclear-jupiterics-ltd/>

⁴⁸ “Investors see huge profits from old nuclear plants, but it could cost taxpayers” by Chris Maag, North Jersey Record, June 19, 2019. <https://www.lohud.com/story/news/watchdog/2019/06/19/nuclear-plant-decommissioning-holtec-other-firms-see-profit/1456809001/>

⁴⁹ “We investigated what nuclear plant shutdowns mean for your wallet and your safety. Here’s what we found.” *USA Today*, June 19, 2019. <https://www.lohud.com/story/news/investigations/2019/06/19/nuclear-plant-decommissioning-findings-usa-today-network/1372318001/>

⁵⁰ <https://www.electricchoice.com/map-deregulated-energy-markets/>

“The financial and attendant safety, health, and environmental risks associated with the [license transfer to Holtec] are further increased by the corporate structure of the proposed transferee and new site operators,” the Massachusetts Attorney General’s lawsuit challenging the transfer of Pilgrim’s license to Holtec argued. “Holtec Decommissioning International and Holtec Pilgrim, the proposed licensee and new site operator, respectively, are both structured as Limited Liability Companies (“LLCs”). . . This raises a significant risk that the owner and operator could at some point have liabilities that outstrip their assets and could therefore choose to file for bankruptcy before site decontamination and restoration are complete.... Nor can anyone necessarily assume that Holtec can obtain additional funds from a parent company because, as the NRC has said previously, a “parent company is not an NRC licensee” and the “NRC does not have the authority to require a parent company to pay for the decommissioning expenses of its subsidiary-licensee, except to the extent the parent may voluntarily provide” a parent company guarantee.”⁵¹

Even if the parent companies gave such a guarantee to CDI for the cost of Indian Point decommissioning, it’s not clear that they would have the funds to back it up. Although SNC-Lavalin’s stock price rose, lifting off 14-year lows, when it settled the Libyan bribery charges in December 2019, it remains on shaky ground financially, and has junk security status. Standard & Poors and DBRS downgraded it in 2019 to the lowest tier of investment grade: BBB-.⁵² In 2019 it reported a quarterly loss of \$2.1 billion, cut its quarterly dividend twice and lost half its market capitalization.⁵³

Unsafe Canisters, Incompetent Spent Fuel Management, Coverups, and Lies

Holtec’s activities in related fields outside of decommissioning proper point up additional concerns for how it will approach decommissioning at Indian Point. Those activities have also drawn strong opposition from state and local officials and citizens’ groups.

At the San Onofre Nuclear Generating Station (SONGS) in southern California, Holtec is contracted with owner Southern California Edison to transfer spent fuel into dry storage, just above a popular surfing beach, inches above the water table, 100 feet above current sea level, located in an earthquake and tsunami zone. Holtec makes the dry-storage canisters for the project, which are welded shut and designed for interim storage, not approved for shipment off site. It has been revealed they are getting scratched and gouged in the loading process. Edison says the scratches are inconsequential, but watchdog groups say they accelerate corrosion in the moist salt air and could lead to early failure.⁵⁴

In 2014 Holtec’s CEO Kris Singh said publicly he didn’t believe it was practical to repair the canisters if they were damaged.⁵⁵ Theoretically, damaged canisters could be unloaded and reloaded in a robotically operated dry transfer facility or “hot cell.” Hot cells are expensive and there are no plans to build one at SONGS. Asked about reloading damaged canisters at a meeting of the San Onofre Citizen Engagement Panel, an Edison executive said it was possible to do, but had never been done yet, and would require research. He also cast doubt on the safety or feasibility of attempting it inside a fuel pool. That leaves no clear provision for dealing with a damaged canister at SONGS.

Yet Holtec canisters are not immune to damage and safety problems. Around the time of the TVA scandal, Holtec was the subject of scathing safety reviews by Oscar Shirani, a U.S. quality assurance engineer who was later terminated for suspected whistleblowing. Shirani was the lead QA inspector on a national Holtec Users Group (HUG) QA inspection, which consisted of an inspector from each of a dozen different nuclear utility companies. They all signed onto Shirani’s concerns.⁵⁶ A federal Nuclear Regulatory Commission specialist in

⁵¹ <https://www.law.nyu.edu/sites/default/files/19-02.20%20-%20NRC%20Petition%20to%20Intervene.pdf>

⁵² <https://business.financialpost.com/news/fp-street/snc-lavalin-cut-to-junk-on-heightened-credit-risk-profile>

⁵³ <https://www.theglobeandmail.com/canada/article-evening-update-ottawa-responds-to-drug-shortage-fears-snc-lavalin/>

⁵⁴ <https://nonukesca.net/halting-holtec-a-challenge-for-nuclear-safety-advocates/>

⁵⁵ https://www.youtube.com/watch?time_continue=1&v=euaFZt0YPi4

⁵⁶ <http://www.beyondnuclear.org/centralized-storage/2017/4/5/summary-of-oscar-shiranis-allegations-of-quality-assurance-v.html>

nuclear cask safety, Dr. Ross Landsman, said at the time, "As far as I am concerned, Holtec has no quality assurance. This is the same kind of thinking that led to the NASA Space Shuttle disaster."⁵⁷

Shirani and Landsman were both offered lucrative jobs at Holtec by Krishna Singh himself, where they could determine their own salaries, in the multiple hundreds of thousands of dollars per year. But it was understood that to accept them, they would have to be silent about the QA violations. They both refused Singh's offer. Shirani was terminated by Exelon for blowing the whistle on safety concerns, and evidently black-listed from the nuclear power industry. It wasn't until the end of his life he was able to get a job in the industry, and even then only in France.⁵⁸

In February 2018 SONGS workers were preparing a Holtec canister for loading when they discovered a loose, stainless-steel bolt inside, about four inches long. An investigation revealed that Holtec had altered the canister design without permission from the NRC,⁵⁹ adding pins to the canister bottoms to facilitate the flow of cooling. Holtec considered the change too minor to require NRC scrutiny. The NRC disagreed and called the unauthorized changes "safety significant." "Holtec's design review process for the change did not adequately consider all potential impacts that could adversely affect the safety-related functions," the NRC said. Nevertheless, the NRC declined to fine Holtec, and let the unauthorized changes stand.⁶⁰

In August 2018, a whistleblower revealed a near miss at SONGS as a 50-ton Holtec canister was being loaded into an 18-foot concrete silo. Holtec's Hi-Storm UMAX system canisters at SONGS are thicker than the ones workers practiced loading. Thicker canisters mean a tighter fit and less room going into the silos. One of the 50-ton canisters got stuck on a shield ring near the top of the vault. Workers didn't realize the slings supporting the canister's massive weight went slack, and it hung there unsupported for close to an hour, in danger of dropping.

Holtec and Southern California Edison failed to report the incident for several days. It was finally revealed by a whistleblower, OSHA inspector David Fritch, who spoke out at a SONGS Community Engagement Panel meeting. "There were gross errors by two individual operators, and the rigger, which are inexplicable. So what we have is a canister that almost fell 18 feet. Bad day. Bad. And we haven't heard about it, and that's not right," Fritch said. "Public Safety should be first. I've been around nuclear for many years. It's not behind that gate."⁶¹

"What scared me is that we would not have been told about the incident unless a whistleblower had come out in public hearing to tell the world that he couldn't stand by [silent]," said Rear Admiral Len Hering (USN-Ret.), who as the Southwest regional commander was responsible for the nuclear safety of naval operations, and is fiercely critical of Holtec's and the NRC's actions at SONGS. "If it were not for him, we would not have been made aware that this situation had occurred. Since that time I focused my attention on learning more [about safety issues at SONGS] and what I've uncovered is, to be honest, astounding. I have come to realize that the most hazardous material on the face of the earth was in fact being handled like any other commercial waste

⁵⁷ <https://theenergymix.com/2019/03/10/hot-garbage-grifters-snc-lavalins-plan-to-turn-nuclear-waste-into-long-term-gold/>

⁵⁸ Information from Kevin Kamps of Beyond Nuclear. His public comments on Holtec's job offer amounting to bribery are posted at <https://miningawareness.wordpress.com/2018/07/29/holtec-nuclear-waste-cans-kris-singh-apparent-bribery-and-allegation-of-bribery/> Here's an excerpt: "Shirani also confided in me that at one point, during his distress at Exelon, the CEO of Holtec International, Chris Singh – who still serves in that capacity, by the way – attempted to bribe him into silence. Singh approached Shirani, and offered to hire him. He told Shirani that he could write his own paycheck. All Shirani had to do was name the six-figure salary he wanted, and Shirani was hired. The quid pro quo, of course, was that Shirani remain silent about Holtec's QA violations. Shirani, a man of absolute integrity, declined the attempted bribe." From FC1119 public comment opposing Exelon takeover of Pepco, re: Exelon's abuse of whistleblowers," December 7, 2015. <http://static1.1.sqspcdn.com/static/f/356082/26721045/1449520345260/12+6+15+DC+PSC+comment+re+Shirani.pdf>

⁵⁹ "Moving nuclear waste at San Onofre sparks war of words between contractor, community panel," by Teri Sforza, *Orange County Register*, May 15, 2019 <https://www.ocregister.com/2019/05/15/moving-nuclear-waste-at-san-onofre-sparks-war-of-words-between-contractor-community-panel-spar-over/>

⁶⁰ "At San Onofre, NRC rejects fine against Holtec for changing design of nuclear waste canisters without permission" by Teri Sforza, *Orange County Register*, April 29, 2019 <https://www.ocregister.com/2019/04/29/nrc-decides-holtec-does-not-deserve-fines-for-canister-violations-at-san-onofre/>

⁶¹ <https://www.kpbs.org/news/2018/aug/10/san-onofre-community-panel-discusses-transportatio/>

product. I have found that basic safety requirements have been waived or contorted in favor of expediency and cost.”⁶²

“The big lesson is, we need to be more intrusive over all our contractors and we will be more intrusive,” said Ron Pontes, Southern California Edison’s environmental decommissioning strategies manager. “This is nuclear and industrial safety. We lost sight of that a little bit in this process. We didn’t demand that rigor out of our contractors.”⁶³ The NRC fined Edison \$116,000 for the incident, then after a brief investigation, allowed loading to resume. But critics say the dangers have not been resolved.

There are new reasons to fear that the safety lesson has not been learned. Most recently, in late January 2020, Southern California Edison announced that Holtec would begin tearing down buildings at SONGS, including the spent fuel pool buildings, even while the spent fuel is still in the pools. Holtec and Southern California Edison anticipate seven months of overlap during which dismantling of the buildings will be underway and the transfer of the spent fuel to dry storage canisters will not be completed.⁶⁴ That creates a hazardous condition and raises unnecessary risks of a spent fuel accident, incurred to speed up the timeline for dismantlement.

Dismissing and Denigrating Citizen Oversight and Concerns

Mishandling of SONGS’ spent fuel has sparked intense community concern and criticism. The SONGS Community Engagement Panel chair and two of its members wrote a memo to Edison, with a copy to Holtec, expressing their “increasing concern about a key variable in the process: Holtec” and its role in the cascade of recent problems.

“Such events—in effect, unforced errors—are not acceptable,” the CEP members wrote. “Along the way, [Holtec’s] most senior management has been tone-deaf in how it deals with the public.” The memo went on to complain that “the corporate governance of Holtec is opaque, with some pretty significant warning signs,” including lack of relevant experience among Holtec’s board members, and spreading itself too thin.

“The new business lines for Holtec are REALLY different from the traditional engineering business,” the memo argued. “Taking over licenses here in the USA—as Holtec is doing by purchasing the Oyster Creek plant, for example—is much more management intensive and requires skill sets that are completely different from the core engineering business. Moreover, these tasks come with a lot of community and regulatory exposure—areas where Holtec has not excelled in the past... The company is investing in a small modular reactor (SMR), along with dozens of other firms—yet another business that will draw management attention and capital. And the list goes on.”⁶⁵

This drew a vitriolic personal response from Holtec CEO Kris Singh, making clear the disdain he had for the Citizen Engagement Panel and its concerns: “Our nuclear program is the envy of the world, your cheap shots notwithstanding. We note that you have held a string of CEP meetings without Holtec’s participation, where the antinuclear activists have repeatedly filled the air with irresponsible attacks on our company. Your memo is very much in the tradition of irresponsible claptrap that dominates your CEP meetings. An inflammatory memo unsupported by facts is little more than a hatchet job.”⁶⁶

⁶² Adm. Hering’s remarks at a Congressional briefing on May 13, 2019, broadcast on C-SPAN <https://www.c-span.org/video/?460643-1/nuclear-power-oversight>

⁶³ “Edison makes changes at San Onofre, ready to resume loading nuclear waste” by Teri Sforza, *Orange County Register*, March 18, 2019. <https://www.ocregister.com/2019/03/18/edison-makes-changes-at-san-onofre-ready-to-resume-loading-nuclear-waste/>

⁶⁴ “SoCal Edison to Begin Dismantling SONGS in Late February” by Shawn Reymundo, *San Clemente Times*, January 30, 2020. <https://www.sanclementetimes.com/socal-edison-to-begin-dismantling-songs-in-late-february/>

⁶⁵ “Moving nuclear waste at San Onofre sparks war of words between contractor, community panel,” by Teri Sforza, *Orange County Register*, May 15, 2019. <https://www.ocregister.com/2019/05/15/moving-nuclear-waste-at-san-onofre-sparks-war-of-words-between-contractor-community-panel-spar-over/> and <https://columbusfreepress.com/article/dark-dawning-age-nuclear-waste-begins>

⁶⁶ <https://scng-dash.digitalfirstmedia.com/wp-content/uploads/2019/05/Holtect-Letter-to-David-Victor.pdf>

Perverse Incentives and Misrepresentations Surrounding Holtec's Side Businesses

Another of Holtec's new business lines that has drawn strong opposition is Consolidated Interim Storage (CIS) of high-level radioactive waste at a facility it owns in southeast New Mexico and is in the process of getting NRC licenses for, named HI-STOR CISF. Located on a 1,000-acre property outside Carlsbad and Hobbs and near the Eddy-Lea county line, it would hold up to 120,000 metric tons of spent nuclear fuel about 40 feet underground in large steel casks. The Eddy-Lea Energy Alliance (ELEA), a joint venture with numerous local organizations, owns the surface rights, the New Mexico State Land Office owns the mineral estate beneath the surface.

The HI-STOR CISF site is located in the oil- and gas-rich Permian Basin. The International Atomic Energy Agency (IAEA) has warned against co-locating high-level radioactive waste storage or disposal facilities in areas also hosting fossil fuel extraction, as too high-risk. For example, certain fracking activities can induce significant artificial earthquakes, that can damage CISFs.

Up to 2,500 oil, gas and mineral wells or sites are operated in the area by 54 businesses within a 10-mile radius of the site, says New Mexico State Land Commissioner Stephanie Garcia Richard, who opposes the CIS project, citing "serious safety concerns." "We are talking about storing over 120,000 metric tons of nuclear waste in an extremely active oil field without a clear picture of the potential hazards of that combination." She questioned any contention that hydraulic fracturing can occur safely beneath a nuclear storage site, or that the waste can be safely transported through New Mexico.⁶⁷

According to Garcia Richard, Holtec "falsely" stated it secured agreements with nearby oil and gas operators to restrict extraction operations near the proposed site and assured the NRC that oil and gas drilling would only occur at depths greater than 5,000 feet. But Garcia Richard said no such agreements exist for the mineral estate owned by the Land Office, except for one with Intrepid Mining that had yet to be approved. She accused Holtec of making misleading statements on the matter in submissions to the NRC including its environmental reports. "I understand that we need to find a storage solution," she said, "but not in the middle of an active oil field, not from a company that is misrepresenting facts and unwilling to answer questions, not on our state trust lands."⁶⁸

In addition to citizens' groups, active opponents of Holtec's HI-STOR CISF project include New Mexico's Governor Michelle Lujan Grisham. In a letter she wrote to the NRC and DoE, she argued it would be "economic malpractice" to open such a site in an oil-rich region that's also home to agricultural operations, that the project poses significant risk to New Mexico's environment and economy, and that transporting the spent fuel could place a financial burden on both the state and local communities. "Transporting material of this nature requires both well-maintained infrastructure and highly specialized emergency response equipment and personnel that can respond to an incident at the facility or on transit routes," she said in her letter. "The state of New Mexico cannot be expected to support these activities."⁶⁹

Recently in the licensing procedure for HI-STOR CISF, NRC's Atomic Safety Licensing Board dismissed all 50 objections brought by intervenors, including the contention that U.S. law clearly prohibits nuclear waste being moved to interim facilities before a permanent storage site has been identified.⁷⁰ With the way cleared for licensing the New Mexico facility, Holtec now says construction could start in 2021, it could be ready to accept spent fuel shipments beginning in 2023.⁷¹

⁶⁷ "New Mexico State Land Office: Holtec mislead federal government on nuclear waste site near Carlsbad" by Adrian C. Hedden, *Carlsbad Current-Argus*, June 20, 2019 <https://www.abqjournal.com/1330808/new-mexico-state-land-office-holtec-mislead-federal-government-on-nuclear-waste-site-near-carlsbad.html>

⁶⁸ *ibid.*

⁶⁹ "Gov. slams planned nuclear waste storage site," by Dan Boyd, *Albuquerque Journal*, June 7, 2019 <https://www.abqjournal.com/1325681/gov-lujan-grisham-against-planned-nm-nuclear-storage-facility.html>

⁷⁰ <https://nukewatch.org/2019/05/08/6369/>

⁷¹ "Holtec clears hurdle for proposed nuclear-waste storage facility" by Jim Walsh, *Cherry Hill Courier-Post*, May 9, 2019. <https://www.courierpostonline.com/story/news/2019/05/09/holtec-lea-county-new-mexico-storage-site-uranium-nuclear-waste/1155441001/>

If that happens, it would give Holtec an additional economic incentive to seek to ship spent fuel from the US reactors it is acquiring to its HI-STOR CISF facility as fast as it can, perhaps as soon as 2023. Nuclear plant operators keep spent fuel in fuel pools for at least five years, and 10 years is the industry norm, according to the Nuclear Regulatory Commission. That allows time for the rods to cool radioactive isotopes to decay before fuel assemblies are moved. But Holtec asserts it can move spent fuel out of fuel pools and into dry storage in as little as *two* years. Regulators, activists and others question whether the accelerated timetable is safe.⁷² Spent fuel transport offsite is fraught with unsolved problems and safety dilemmas, both for the reactor communities and the thousands of communities along the transport routes.

There's some question whether Holtec's investment in its other sideline, small modular reactors, could affect its plans for Indian Point, Oyster Creek, and Pilgrim. At the ribbon-cutting ceremony for its Krishna P. Singh Technology Campus in Camden, NJ last year, Singh declared it to be Ground Zero for the renaissance of nuclear energy and heavy manufacturing in America. "We will build nuclear reactors here, and they will sail from the port of Camden to hundreds of places around the world."⁷³ According to *Power* magazine, "Entergy officials had said they were not interested in redevelopment of the Indian Point site, but Holtec officials said they may revisit that decision."⁷⁴ Holtec's plan to build SMRs in Camden "has led some to speculate whether Holtec is looking to put the reactors into use at the nuclear power plants it plans to purchase" [i.e., Indian Point, Oyster Creek and Pilgrim] according to *The Journal News*. "For now, though, the reactors are being marketed overseas." Holtec plans to build its first SMR for Ukraine.⁷⁵

Looming Indian Point Decommissioning Dangers Previewed in Holtec's PSDAR

Although Holtec has not yet acquired Indian Point's licenses, it recently filed a Post Shutdown Activities Report (PSDAR)⁷⁶ describing its plans, and projected costs and schedule, for decommissioning the plant. It currently plans to store spent fuel on site until 2061, making the quality assurance problems with its dry storage casks a critical concern for Indian Point. The timetable is preliminary and subject to change.

The PSDAR also envisions shipping the large radioactive components of Indian Point via barge down the Hudson, subject to a Waste Management Plan that hasn't been written yet: "The waste transportation process will be fully defined in the WMP to include the number of shipments, the disposal facilities and applicable requirements. HDI may elect to ship large plant components by barge." Barge shipments from Indian Point would raise critical concerns over risks of terrorist attacks at or near New York City, contamination of the Hudson, overburdening infrastructure for loading and unloading the barges, and the lack of contingency plans to deal with accidents or attacks. "We've seen barges sinking in rivers and if a barge sinks with some serious radioactive material on it we've got a major problem," said Richard Webster, legal director of Riverkeeper.⁷⁷

Other aspects of Holtec's PSDAR are based on the assumption that Holtec will receive a slate of regulatory exemptions, many of which it has not applied for yet.

⁷² "Speedy reactor cleanups may carry both risks and rewards" by Bob Salsberg, Associated Press, May 21, 2019 <https://www.apnews.com/651923b9359b4d64a807aa677999dc03>

⁷³ https://www.indiawest.com/news/global_indian/indian-american-entrepreneur-opens-camden-facility-offers-fast-track-mini/article_b3a3d540-ad56-11e7-822d-4331c45b3a26.html

⁷⁴ <https://www.powermag.com/holtec-adds-indian-point-nuclear-plant-to-decommissioning-portfolio/>

⁷⁵ "Dismantling nuclear plants is a gold mine for some, but at what risk to you?" by Thomas C. Zambito, *Rockland/Westchester Journal News*, June 19, 2017.

<https://www.lohud.com/story/news/investigations/2019/06/19/nuclear-plant-decommissioning-is-a-gold-mine-for-some-but-at-what-risk/1269407001/>

⁷⁶ <http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId=%7B34A2B4E0-F9CE-40E3-A0C5-2A6102626557%7D>

⁷⁷ "Barges to take Indian Point's radioactive waste down the Hudson? Company considers it" by Thomas C. Zambito, *Rockland/Westchester Journal News*, January 6, 2020.

<https://www.lohud.com/story/news/local/indian-point/2020/01/06/holtec-weighing-barges-remove-contaminated-parts-indian-point/2803570001/>

One exemption it has applied for, and expects to receive, is a license modification to increase worker radiation exposure, which would permit using its cranes to load spent fuel into dry storage canisters. At issue is the weight of the spent fuel transfer cask which takes spent fuel from fuel pool to dry cask. The transfer cask has a water-filled jacket, which provides a protective radiation shield around the spent fuel, reducing the amount of radiation escaping. But the water makes it too heavy for Holtec's cranes, so they are proposing to move the casks without the protective layer of water, which will significantly increase workers' radiation exposure. Holtec has therefore requested a safety exemption to raise allowable radiation exposure for workers to 3500 millirems per hour, well above industry norms.

Holtec's PSDAR for Indian Point states that "During demolition, above-ground structures will be removed to a nominal depth of three (3) feet below the surrounding grade level." But soil contamination and groundwater contamination go much deeper than that. For comparison, at the Yankee Rowe decommissioned nuclear plant in Massachusetts, a similar "derubblization" approach was used that scraped off the top few feet of topsoil, but the contamination of soil and groundwater went down 300 feet. Radioactive and toxic contamination of the soil and water was left behind after decommissioning, and Rowe has the fourth highest cancer rates in Massachusetts. In addition to the soil, at Indian Point, there is also proven radioactive contamination of Indian Point's groundwater, not only with tritium, but also with one of the most lethal isotopes, Strontium-90. The radioactive waste is also leaking into the Hudson River.⁷⁸

"A plume of radiologically-contaminated ground water associated with the IP1 and IP2 spent fuel pools was discovered in 2005, fully investigated and subject to an ongoing Long-Term Monitoring Program (LTMP)," Holtec's PSDAR notes. "The primary contaminants in the plume are tritium and strontium-90. The selected remedy is Monitored Natural Attenuation (MNA) being addressed under the oversight of the NRC. NRC has concluded that the LTMP has been effectively implemented and conforms to regulatory requirements that protect public health and safety and the environment (SEIS, Vol.5; Reference 16). HDI will continue the LTMP, including provisions of the program intended to detect inadvertent releases that may affect ground water, until the objectives of the selected MNA remedy are achieved." In other words, Holtec has no intention to remediate groundwater contamination at Indian Point, only to monitor it. Groundwater contamination would therefore remain a threat to the public and the environment long after Holtec is gone.

The PSDAR asserts there is adequate money in the decommissioning trust fund (DTF), including for spent fuel management. But since site characterization will only take place after Indian Point shuts down, there is currently no site characterization, no adequate assessment of the contamination, and therefore no way to know how much decommissioning will cost. Nor is there any information or assurance about Holtec's own capitalization and its ability to make up shortfalls in the DTF, or any clear mechanism to avoid Holtec's subsidiary HDI from going bankrupt and leaving municipalities and states to absorb the costs and risks if the DTF runs out. Since the decommissioning timeline at Indian Point has gone from Holtec's original estimate of seven or eight years to 15 years, spent fuel management costs will be incurred for twice as long, eating up more of the trust fund, possibly as much as a third of it.

Why Holtec's Application for License Transfer Should Be Rejected

When nuclear plants were sold off to private, for-profit owners under utility deregulation, the fundamental social contract meant that companies which profited from operating the plants would also retain liability and be responsible for securing the waste after the plants closed. Changing laws and regulations designed to accommodate new decommissioning companies like Holtec now risk bending that basic deal past the breaking point. Lax oversight, coupled with the company's control over the ratepayer-financed decommissioning trust fund and complex subsidiary structure limiting its liability, threaten to foist more of the risks and costs onto reactor communities and the state.

It's the Nuclear Regulatory Commission and (under certain conditions) the Department of Energy that have jurisdiction over nuclear plant safety and spent fuel, not state or local governments. But New York has some authority over decisions that impact its economy, and it has a basic responsibility to protect its citizens and environment. What ultimately happens to the waste, the site, the workers and the surrounding communities, including the New York metropolitan area where 20 million people live and work within 50 miles of Indian

⁷⁸ https://www.eesi.org/files/Nuclear_Plant_Decommissioning-Background.pdf

Point, has important consequences for the economy as well as for public health and safety and the environment.

Holtec and SNC-Lavalin, CDI's parent companies, have a long track record of corruption, bribery and fraud. They have raised the ire and opposition of public officials across the US, Canada, and overseas. Holtec lacks experience and relevant performance data, never having completed decommissioning of a nuclear plant before. The experience it has in spent fuel management is not positive, involving inferior, damaged canisters, near misses with spent fuel accidents, unnecessarily risky approaches, hiring unqualified low-wage, low-skilled workers, dismissing and denigrating public oversight and citizen concern, and lack of transparency. Holtec's lack of financial transparency or assurance, its presumable undercapitalization and leveraging of public money, its reliance on NRC regulatory exemptions and lax oversight, and its complicated subsidiary structure all serve to minimize its liability and maximize its profits at the expense of the public.

State officials share many of these concerns. "To anyone looking at this from a common-sense perspective, [Holtec is] not incentivized to do a thorough job, they're incentivized to maximize profit," a state government official recently told Gothamist/WNYC.⁷⁹

Given its subsidiary structure, side businesses in consolidated interim storage and small modular reactors, and its dependence on leveraging the ratepayer-financed decommissioning trust fund and other public money for its capital and profit, Holtec is also subject to strong, perverse incentives for self-dealing, dangerous transport of nuclear waste to its CIS facilities, shoddy and risky decommissioning work, and leaving the public to shoulder ongoing risks and costs of inadequate cleanup and spent fuel management.

This makes Holtec an unacceptable choice to be the Indian Point licensee. It contradicts the claim that Holtec and its affiliated companies will be trustworthy partners with New York and the communities around Indian Point in serving the public interest. In fact, it strongly suggests the opposite – that they will be adversaries, serving their own interest to the detriment of the public's.

These are compelling reasons why Holtec and its partners and subsidiaries should be disqualified from holding Indian Point's licenses. On financial, technical and ethical grounds, Holtec has demonstrated clearly it is not qualified to be the licensee.

It's not as if there are no other, better candidates. More qualified companies more worthy of trust to undertake something as consequential as the decommissioning of Indian Point do exist. There are decommissioning companies that have not been officially accused or convicted or sanctioned or barred from doing business with public entities for bribery, corruption, improperly seeking subsidies, as Holtec and SNC-Lavalin have. There are decommissioning companies that have not shown contempt for citizen advisory bodies and lied to public officials, as Holtec and SNC-Lavalin have.

Some decommissioning companies actually have gained a measure of public trust and achieved positive working relationships with state and local officials. The Vermont Public Utilities Commission had jurisdiction over the transfer of Vermont Yankee's license to NorthStar, and approved it, citing "financial assurances," "oversight by Vermont agencies during cleanup," and "support for the deal by the public, the state, and regional bodies." Supporters included the nuclear watchdog group the New England Coalition.⁸⁰

Holtec neither has nor deserves such support. It is possible to find companies qualified to decommission Indian Point which could be viable, accountable partners with New York and New Yorkers, but only if the license transfer approval process is meaningful, and not a rubber stamp. It's imperative that the process reject Holtec's application for Indian Point's licenses, and clear the way for more qualified candidates to apply to become the licensee.

⁷⁹ "Is The Company Poised To Dismantle Indian Point Too Radioactive?" by Fred Mogul, WNYC/Gothamist, January 15, 2020. <https://gothamist.com/news/company-poised-dismantle-indian-point-radioactive>

⁸⁰ "Vermont Yankee Transfer Approved, NorthStar Will Decommission Plant" by John Dillon, Vermont Public Radio, December 6, 2018. <https://www.vpr.org/post/vermont-yankee-transfer-approved-northstar-will-decommission-plant#stream/0>

Admiral Len Hering on Holtec, Wash, DC (May 13, 2019)

(Transcription of Statement)

ENVIRONMENTAL AND ENERGY STUDY INSTITUTE (EESI): “Decommissioning: A New Era in the U.S. Nuclear Power Industry; a Critical Need for Congressional Oversight,” Environmental and Energy Study Institute (EESI) Congressional Briefing, cosponsored by Beyond Nuclear, Hudson River Sloop Clearwater, Natural Resources Defense Council, Nuclear Energy Information Service, Nuclear Information and Resource Service, Riverkeeper, et al, Rayburn House Office Building, Washington, DC, U.S., May 13, 2019. <https://www.c-span.org/video/?460643-1/nuclear-power-oversight>.

REAR ADMIRAL LEN HERING (Ret)

Rear Adm. Leendert Hering (Ret), Advisory Board Member, Center for Climate & Security

Thanks for the opportunity to talk today. I am here, I'm a proud surface warrior and a former nuclear weapons handling and nuclear weapons safety and nuclear weapons security officer. I am not a nuclear engineer. I have spent my years working in a world where safety and risk are always in the forefront of everything that I have done. Working in dangerous environments requires that everyone involved is properly trained, exercised and prepared, both to conduct the operation in accordance with properly approved and tested rules and regulations and be prepared to react to conditions when those regulations fail to produce the desired outcome. In other words, respond to a disaster. I have learned to examine risk and inspect what you expect. I have learned that training and adherence to the rules is paramount to both safety and success. I have also learned that when you violate or alter safety conditions, you seriously place your people and yourself at risk.

Throughout my career, I have found that rules and regulations are written for a purpose; in my business, primarily because somebody had lost their lives.

But the more I looked into this self-regulated system of oversight, I found that condition that I just mentioned not to be adhered to. Almost not at all. Modifying and altering safety conditions that were clearly established to define safety conditions seem to be waived or exempted without significant review or testing to ensure the risk factor that originally was required the rule to be put in place was, in fact, compromised by its change.

In August of last year, SONGS had a near miss (SONGS is San Onofre Nuclear Generation facility) {*San Onofre Nuclear Generating Station*} had a near miss when a 54 ton container nearly fell 18 feet into its concrete holding facility. While that in itself should scare you, and it should, that is not what scared me.

What scared me is that we would not have been told about the incident unless a whistleblower had come out in public hearing to tell the world that he couldn't stand by and not hear what had happened in that public hearing. If it were not for him, we would not have been made aware that this situation had occurred. And I am convinced that in this self-regulated process, that it would have been kept to a mere minimum at best.

Since that time I have focused my attention on learning more. And what I have uncovered is, to be honest, astounding.

I have come to realize that the handling of the most hazardous material known on the face of the Earth was, in fact, being handled like any other commercial waste product. I have found that basic safety requirements have been waived or *contorted* in favor of expediency and cost. I have found that regulations that are meant to provide the necessary safeguards for the material are often lessened or waived to provide shortcuts for solution.

Many that I have reviewed have been issued without a thorough study or an open discussion amongst experts and engineers. I have witnessed numerous exchanges of credible experts in the field of oceanography, seismic geology, physics, metallurgy, chemistry, nuclear engineering, and many more,

have their concerns be blatantly disregarded or ignored by the regulatory commission and those in the process. I have seen a total disregard for peer review and a concise scientific research when there is a difference of opinion amongst the experts involved. Perceptions of difference are not included as part of the process.

The trust and confidence of the community and the experts within it have been eroded by the smug and unprofessional manner in which the safety and scientific concerns of those involved have been addressed.

NRC Regulatory Regulation Title X Part 72 are – or should I say *were* –deliberately drafted to make sure this highly dangerous material was handled in the most secure and safe manner possible. However, over the course of the last few decades, regulations have been weakened, allowing for exceptions that are simply and clearly *not* in the best interest of our safety.

Besides the siting issue, and I won't get into that (San Onofre is actually in a bay referred to by early settlers as "Earthquake Bay," 100 yards from the 5 {*Interstate-5*} and 100 feet from today's oceanfront), probably the most egregious relaxation in my review is that provided by the thin wall container system and the loading process chosen to house the material for some, if not all, of an indeterminable timeframe.

Of the 10 clear requirements established under Title X, the thin wall container *only* provides a surety of 1. And the system used to transport and load those containers into their storage has extremely high likelihood of scratching, denting, or gouging the wall of that container, which, from a metallurgical perspective, provides for the opportunity for severe corrosion problems, which ultimately result in a potential breach of that container; a situation that the NRC themselves have acknowledged but failed to detect on its approval. As a matter of fact, a former engineer revealed that, had known this potential existed, they would have never approved it. What that tells me, is they have put into place a system for the movement of a 54 ton container that they had not tested, evaluated, or, in fact, seen. These thin wall containers have no internal monitoring and no capability to be currently offloaded or transported – a *specific* requirement of Title X. The only way to determine if there is failure is when the external monitors in the concrete cask detect a radiation problem. The problem here is that those sensors are in environments which are naturally ventilated.

How is that possibly safe?

Today, regardless of this fact, there are nearly 2500 of these canisters buried throughout the United States. I have uncovered countless instances where concerns have gone unanswered or, worse, ignored. Hearings to address local problems are often held outside of the region and comments by the public are limited to 3 minutes. And the comments or questions are preselected by the {*NRC*} staff, not by the individuals in presence. These issues are extremely complex. They deserve more than a 3 minute opportunity. And they deserve better review.

Blatant violations of procedures have been uncovered, yet little to no action has been taken.

While findings reveal wrongdoing, the violator is permitted to continue operations without real serious consequences. Recently the NRC handed down a \$116,000 fine that was *considered* a flagrant violation. While it was the first in a long string of gotchas, for those of you who are watching the fine, I can tell you that \$116,000 is nothing more than symbolic. This was levied on a company that made more than \$3 billion on ratepayers' monies.

About a month ago there was a hearing held in Congress questioning the FAA about its oversight of Boeing and potential collusion therein. While this situation may sound less than acceptable, I would contend that the situation at the NRC is *twice as bad*. I have often referred to it as being in court where a 5-time DUI individual is telling the judge that he will never do it again. "Trust me." And the judge is *stupid* enough to believe him.

In the world I come from, teams are made up of individuals who, first, received specific training and equipment, the procedure's there to operate, and the safety for a role that they are about to play in the hands of other members of the team. Once they prove themselves proficient, they are considered

qualified to then join the team, with similarly trained individuals, who are then given the opportunity to train and learn as a team. Extensive exercise scenarios are conducted, and each member learns what the other member must do in order to provide a safe environment. Once that level is reached, they undergo an extensive testing and evaluation period to prove that they are certified to conduct operations without fear of placing themselves or others at risk.

That is what you might have expected, or expect, of the Nuclear Regulatory Commission in moving a 54 ton container of highly radioactive material. Well, guess again.

While regulations imply that that *should* have happened, what I found is it be far from the truth. I couldn't believe it. As a matter of fact it was revealed to me that the operator of the lift equipment the day the incident took place was chosen to perform the duties not because of his expertise in the handling equipment, but because his rad {*radiation*} count was the lowest of the team. I have even found out that the OSHA inspectors who were on site were not nuclear certified, that they were simply industrial engineers. These people have never trained before, exercised with dummy equipment, or passed any significant training requirement that provides them the safety requirements to handle nuclear material. They were, for all practical purposes, hired off the street. Worse, they had never drilled together or received *any* training on what to do should there have *been* an accident. The list goes on and I only have another minute.

There is a bigger concern, and it is of a point, and that is, for 9 years, in the last part of my career, I was a General Court Martial authority as a Regional Commander. After close examination of the conditions of both oversight provided by the regulatory authority and the documented repeat offenses found, if asked by my seniors, I would be forced to conclude that I had lost all trust and confidence in their ability to remain in command. I would recommend a complete investigation be conducted. I would recommend a cessation of all operations and a relief of the chain of command responsible for the disregard and blatant changing of standards and safety conditions and operating procedures.

I hate to say this, but it's time for the Congress to address the problem and accept there is no walking away from a nuclear accident. Failure to address the concerns for a national solution that involves our nuclear waste problem is critical.

Today we are creating waste sites that, should something happen, it will leave portions of this country uninhabitable for, not if hundreds, but *tens of thousands* of years.

And if the worst should happen, that there be an explosion – and I'm not saying there would or could or would, but the risk is always there – maybe tens of thousands or hundreds of thousands could lose their lives.

The Congress needs to retake control and make sure these regulations are adhered to and that the oversight of Congress to change or approve any modifications thereunto is done so *only* with their approval. The oath of office demands it of them. We The People, especially those I represent in Southern California, have lost faith and confidence when it comes to how SONGS and the Nuclear Regulatory Commission is upholding the standards that we expect to be applied when our safety is considered.

Thank you.

NRC Inspector General Report Findings

Concerns Pertaining to Gas Transmission Lines at the Indian Point Nuclear Power Plant (Case No. 16-024)

Basis and Scope: The Office of the Inspector General (OIG), U.S. Nuclear Regulatory Commission (NRC), initiated this event inquiry in response to concerns, communicated to OIG, from a citizen stakeholder [Paul Blanch, a nuclear engineer from CT who has been challenging the NRC analysis for seven years] pertaining to NRC's oversight of a 42-inch natural gas pipeline that was, at the time, proposed to traverse Indian Point Energy Center (IPEC) property. This pipeline, now in operation, was part of the Algonquin Incremental Market (AIM) Project, which proposed to replace certain portions of the existing pipeline and install new pipeline in the northeast United States. NRC's role was to support the Federal Energy Regulatory Commission's (FERC) decision to approve or disapprove the project by providing information to the FERC on the impacts of the AIM Project on IPEC. NRC's findings were documented in its Third-Quarter Integrated Inspection Report issued to Entergy, IPEC's license holder, on November 7, 2014.

In a publicly available Title 10 of the *Code of Federal Regulations* Section 2.206 (10 CFR) petition, dated October 15, 2014, and a letter to NRC dated July 27, 2015, the stakeholder questioned the adequacy and completeness of the licensee's (Entergy) site hazards analysis and NRC's independent and follow-up analyses prepared to determine the safety impact on IPEC plant components due to the potential rupture of the proposed high pressure 42-inch gas pipeline. The stakeholder also questioned whether:

- (1) NRC misled FERC and the public by claiming to FERC that there was no additional risk associated with the proposed 42-inch gas pipeline, thereby putting at risk 20 million people near IPEC;**
- (2) NRC was aware of material false statements made by Entergy to NRC with respect to the 42-inch gas pipeline;**
- (3) NRC violated its procedures and regulations when analyzing the potential safety impacts from the 42-inch gas pipeline; and**
- (4) NRC is allowing IPEC to operate in an unanalyzed condition.**

OIG's event inquiry examined NRC's inspection report and underlying analysis used to determine that Entergy appropriately concluded the 42-inch gas pipeline would not introduce significant risk to safety-related systems, structures, and components; and systems, structures, and components important-to-safety at IPEC. On March 3, 2015, FERC issued an order formally approving the AIM Project. On January 7, 2017, the pipeline went into use. As part of this event inquiry, OIG also examined NRC's response to the stakeholder's concerns over the 42-inch gas pipeline.

Findings

Finding 1: While FERC's approval of the AIM Project pipeline relied in part on NRC's assessment of Entergy's site hazards analysis and NRC's independent analysis of the impact of a potential rupture of the portion of the pipeline that traversed IPEC property, OIG found:

- (1) NRC's independent analysis was incorrectly portrayed in FERC's approval document as significantly more conservative than it actually was;**
- (2) NRC's inspection report contained inaccuracies suggesting additional analysis had been conducted, when this was not the case; and**
- (3) NRC's underlying independent analysis was conducted using a computer program that the National Oceanic and Atmospheric Administration (NOAA), which developed the program, said it was not designed for.**

Moreover, the majority of NRC's independent analysis described the impact of a potential rupture on an above ground point on IPEC property that NRC believed presented the most credible risk due to its exposure; however, ultimately the as-built 42-inch pipeline does not come above ground anywhere on IPEC property but does traverse the IPEC property.

OIG also found that NRC decision-makers had differing understandings of the assumptions and factors driving the analysis conducted by an NRC Physical Scientist, who NRC considered a subject matter expert and who was responsible for conducting, documenting, and communicating his results. **While the Physical Scientist attributed his analysis assumptions to OIG as engineering judgment, he did not have a basis for it and did not document a basis or a methodology in his report.** When OIG briefed NRC managers on the issues OIG identified in the Physical Scientist's analysis, one noted that because the Physical Scientist conducted multiple calculations with increasing credit for pipeline enhancements, it appeared to **be backwards engineering to get a desired result.** An NRC senior manager said the Physical Scientist's use of credit for enhanced piping was inappropriate in part because the pipeline enhancements were not intended to mitigate the impact of a blast, but rather to reduce the chances of a rupture in the first place. Several NRC senior managers said that based on issues identified in this event inquiry pertaining to the Physical Scientist's analysis, it may be prudent to redo the analysis.

Finding 2: OIG found that through the stakeholder's 2.206 petition and associated concerns – which were relevant and on point – NRC was presented an opportunity to reevaluate and confirm work previously conducted that supported the agency's conclusion that Entergy's hazards analysis was reliable. **However, NRC failed to thoroughly reexamine the underlying premises of its analyses and did not accurately communicate its analytical work performed.**

First, in response to the stakeholder's assertion that it would take longer than 3 minutes for the pipeline operators in Houston, Texas, to close the valves, thereby stopping the flow of gas, **NRC misrepresented the assumptions used in the follow-up bounding analysis that was conducted to assess the impact of 60 minutes of gas released.** While NRC's response to the stakeholder described having conducted an assessment that assumed an infinite source of natural gas with the pipeline valves open for an hour,

OIG's investigation found that NRC assessed only 1 minute of gas released. Moreover, NRC never confirmed the validity of the licensee's assumption that the valves could be closed in 3 minutes. OIG contacted the pipeline operator who estimated it would take at least 6 minutes after detection of a leak to close the valves. While the Physical Scientist told OIG he used 1 minute of gas released in his calculations, NRC managers had inconsistent understandings of the amount of mass the Physical Scientist used.

Second, in response to the stakeholder's question of whether NRC performed a validation and verification of NOAA's computer program to ascertain its adequacy for this purpose, NRC stated there was no need for NRC to perform a validation and verification of the computer program. However, **OIG contacted NOAA, which confirmed the program is not designed for this purpose.**

Third, NRC's response to the stakeholder stated that NRC used the methodology and equations of Regulatory Guide 1.91, NRC's guidance for evaluating postulated explosions near nuclear power plants, "without deviation"; however, **OIG found that NRC used a draft regulatory guide in lieu of the final, approved version (which had been issued approximately 2 years prior) and deviated from the approved version in a manner that was less conservative and had an impact on the analysis outcome.**

Fourth, the stakeholder asked whether NRC had any quality assurance requirements/procedures for conducting safety related calculations. **NRC responded that they do not perform safety related calculations and do not have a quality assurance program for these calculations,** but they said a peer review by a qualified NRC engineer was performed on NRC's independent analysis and follow-up analysis. **OIG's investigation revealed that the assigned engineer, who felt there were more qualified people in NRC to do this, performed a limited review that focused mainly on the licensee's hazards analysis and not NRC's analyses.**

An NRC senior manager conveyed to OIG that NRC decision makers rely on accurate information from the staff to support decisions and communicate accurately to stakeholders and, in this case, another Federal agency. **However, NRC managers confirmed they do not have a quality assurance process or a formal peer review process to review this type of assessment.**