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Oral Presentation

Written submission from Pete Woolidge

In the Matter of the

BWXT Nuclear Energy Canada Inc., Toronto and Peterborough Facilities

Application for the renewal of the licence for Toronto and Peterborough facilities

Commission Public Hearing

March 2 to 6, 2020

Exposé oral

Mémoire de Pete Woolidge

À l'égard de

BWXT Nuclear Energy Canada Inc., installations de Toronto et Peterborough

Demande de renouvellement du permis pour les installations de Toronto et Peterborough

Audience publique de la Commission

Du 2 au 6 mars 2020

Canada

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January 27, 2020

Senior Tribunal Officer, Secretariat Canadian Nuclear Safety Commission
280 Slater Street, P.O. Box 1046, Station B Ottawa, Ontario K1P 5S9

Dear Sir or Madam:

RE: BWXT Licence Renewal Application to Request that they be permitted to conduct the process of pelleting.

This letter is to voice my opposition to the allowance of the operation of pelleting at the BWXT plant that is centrally located in Peterborough, Ontario. I believe that allowing such an operation would be highly irresponsible as it puts the entire city at unnecessary risk of catastrophic events. My concerns of security will be addressed in two categories: 1. BWXT's Safety History in the USA, and 2. Potential Sabotage of the Facility.

<u>BWXT's Safety History in the USA</u>

In an informative online site, wise-uranium.org, I found a list of nuclear activities and incidents in the industry in the United States that were addressed by the US Nuclear Regulatory Commission (NRC). From this list I found that from February, 2004 and March 2019 the NRC had identified 20 violations of criticality safety procedures and five safety violations at the BWXT Lynchburg nuclear fuel plant, one of which involved an "unplanned fire".[1]

Also, at the Lynchburg plant, there was an alert issued because of an accidental discharge of highly enriched uranium. "On July 15, 2009, company employees failed to declare the emergency for more than two hours.".[1]

Also, at the Lynchburg plant, the NRC cited BWXT for "inoperable criticality monitors" (April 6 through May 17, 2003). [1] Six detectors had failed.

It was Babcock and Wilson (B and W of BWXT) that was sued for design flaws of the failed Three Mile Island Power Plant.

The Potential for Sabotage at the Peterborough BWXT Facility

Since the attacks of 911 there has been a call for vigilance in the protection of our infrastructures but especially of our population. We must consider any nuclear facility to be a potential target for terrorists. These factories and plants need to be extremely well guarded and monitored.

A prime example of BWXT's incompetence was well demonstrated at the Y-12 facility at Oak Ridge, Tennessee on July 29, 2012 when three religious activists (one an 82 year old nun) managed to break into the center of the compound and spray paint their message of peace on the side of a warehouse containing enough uranium for thousands of weapons. They managed to penetrate the facility using bolt cutters and a flashlight cutting through 4 fences in all. It took a half an hour for them to get arrested after hammering on the building with a sledge hammer. This "was supposed to be the most tightly secured uranium processing and storage facility in the country.".[2]

At that time it was Babcock and Wilcox (BWXT) who were responsible for maintenance of security equipment at the Y-12 site. The trio had managed their feat because sensors and cameras had not been repaired.

Also, Babcock and Wilcox had reopted for a cheaper design for their Highly Enriched Uranium Materials Facility. This resulted in "a more vulnerable above ground building".[3]

Hydrogen gas is required in the pelleting process. The tank of hydrogen at BWXT in Toronto contains an immense amount of hydrogen which we know is very explosive. Hundreds of hydrogen incidents have occurred (including at BWXT Toronto in January, 2017) many of which have been devastating. Hanau, Frankfurt, Germany in 1991 had a major incident involving a hydrogen tank rupture. "The explosion resulted in severe damage within a radius of 1 km.".[4]

Uranium dioxide powder can be "pyrophoric or oxidize rapidly even at room temperatures when in very fine powder form".[5] A pyrophoric substance is one that

spontaneously ignites within five minutes of coming into contact with air. There had already been several occurrences of uranium oxide fires at licensed fuel-fabrication facilities when one was reported on February 21, 1992 by the United States Nuclear Regulatory Commission. It read: “The cause of the fire is believed to be the oxidation of the calciner drop powder consisting principally of uranium dioxide (UO2),”.[5] And later “In other incidents, dating back to 1977, several fires involving calciner discharge lines and at least one involving a hammermill hood have been reported. In all cases, the oxidizing uranium powder was believed to be the source of ignition, and combustible materials, such as transfer hoses and boots, provided the fuel.”.[5] Another incident demonstrating uranium powder’s ability to ignite occurred at the Y-12 facility in February of 2003 when a “small explosion breached its glovebox, allowing air to enter and ignite some loose uranium powder.”.[6] BWXT Y-12 was fined $82,500 for this.

Bearing in mind that flamable uranium dioxide powder and highly explosive hydrogen are used in the manufacturing of these pellets should it not be stored somewhere far from a residential neighborhood and public school? This process would provide an unnecessarily convenient dirty bomb to malevolent saboteurs.

In the words of investigative reporter and author, Eric Schlosser, “our ability to create dangerous things exceeds our ability to control them”.[7]

I am requesting that this licence renewal allowing pelleting in Peterborough not be allowed.

Sincerely,
Pete Woolidge

Bibliography

1. wise-uranium.org

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   How the next US nuclear accident could happen, by Hugh Gusterson, June 30, 2015

4. Safety Considerations on Hydrogen, Karl Verfondern, 2008

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   Uranium Oxide Fires at Fuel Cycle Facilities, February 21, 1992

6. Parson P (2004-06-11). BWXT Y-12 Fined for explosion, The Oak Ridger

7. The Guardian, Sat. 21 Sept., 2013 (Interview with Ed Pilkington)