Opposition to "Nuclear gambling" at Pickering

Shawn-Patrick Stensil, Theresa McClenaghan, Anna Tilman, Gordon Edwards, Chris Rouse, Frank Greening, and Michel Duguay have all filed interventions for a CNSC hearing on May 7 2014.

May 5, 2014

Background. On May 7, 2014, Ontario Power Generation (OPG) and senior staff members at the Canadian Nuclear Safety Commission (CNSC) will seek permission to push the operation of the Pickering nuclear power plant five years or more past its designed lifetime of 30 years at 80% capacity — equivalent to 210,000 hours at full power. *New Brunswick Power Nuclear*, Hydro-Québec and the CNSC have always previously decided, based on safety considerations, not to operate CANDU reactors beyond the 210,000-hour design limit. We are opposed to OPG's request because in our view it is not acceptable to gamble with a potential nuclear disaster.

http://ccnr.org/Thierry_Vandal.pdf

Shawn-Patrick Stensil, spokesman for Greenpeace, filed a paper entitled "*An Inconvenient truth: Pickering Exceeds Safety Limits*". Last year Stensil and other interveners convinced the CNSC Commissioners to suspend consideration of OPG's request unless a convincing safety case can be presented at the May 7 Hearing. One year later, Stensil argues that OPG is still unable to satisfy basic safety criteria and strongly underestimates the probability of a severe nuclear accident that would release large amounts of radioactive elements into the environment. He urges the Commissioners to act in a precautionary manner by not allowing these six reactors to operate beyond the 210,000 hours that had been previously established as a safety limit.

http://ccnr.org/Gamble_Stensil.pdf

Theresa McClenaghan, representing the *Canadian Environmental Law Association* (CELA), filed her May 2013 paper titled "*Emergency Planning at the Pickering Nuclear generating Station*". She argues that previous experience with the Chernobyl and Fukushima nuclear catastrophes shows that wide-ranging measures must be taken by municipalities and by the Province of Ontario in order to protect the health of citizens in case of a severe nuclear accident releasing large quantities of radioactive elements. Both OPG and the CNSC now acknowledge that such accidents could take place. CELA argues that the combined population of Pickering and neighboring cities, including Toronto, is so huge that a large-scale evacuation could not be carried out quickly enough to ensure adequate protection of men, women and children. Theresa McClenaghan states: "*CELA recommends to the CNSC that it deny its operating licence to operate the Pickering reactors beyond their design life unless and until serious, capable, detailed offsite emergency planning for catastrophic accidents is finally in place*."

http://ccnr.org/Gamble_McClenaghan.pdf

Anna Tilman, representing the *International Institute of Concern for Public Health* (IICPH), in a paper reviewed by Dr. Gordon Albright, documents several technical problems of the CANDU reactors that could initiate a severe nuclear accident if the 210 000 hour limit is exceeded. Corrosion problems plague the many kilometers of pipes needed to cool the reactors. IICPH points out that OPG's probabilistic risk assessment (PRA) calculations are of dubious validity because of the large uncertainties associated with corrosion. The paper concludes: "*Ignoring the potential risks of a major accident is contrary to the precautionary principle, which requires a project to err on the side of caution, especially where there is a large degree of uncertainty, or the risk of very great harm. To risk the mass destruction of people, property, and the natural environment that a serious accident at Pickering would cause, is completely unacceptable*."

http://ccnr.org/Gamble_Tilman.pdf

Opposition to "Nuclear gambling" at Pickering (conclusion)

Dr. Gordon Edwards of the *Canadian Coalition for Nuclear Responsibility* (CCNR) warns the Great Lakes could be seriously contaminated by a Pickering nuclear accident, given the problems with enormous volumes of radioactive water leaking from Fukushima. He cites Hydro-Québec President Thierry Vandal's 2013 testimony in Québec's National Assembly: "*I would no more operate Gentilly-2 beyond 210,000 hours than I would climb onto an airplane that does not have its permits and that does not meet the standards. So, it is out of question for us to put anyone – i.e. us, the workers, the public, or the company – in a situation of risk in the nuclear domain. So this deadline of 210,000 hours, this is a hard deadline."* Dr. Edwards remarks that at public hearings CNSC senior staff always seems to support the licensee, never asking them hard questions: "*It almost seems like a tag-team effort – whatever one party says, the other party promptly reinforces."* Edwards also deplores the fact that the CNSC disregards constructive suggestions aimed at reducing the nuclear risk by Dr. Sunil Nijhawan and Dr. Frank Greening, nuclear reactor specialists with over 20 years of experience in the nuclear safety field.

http://ccnr.org/Gamble_Edwards.pdf

Dr. Frank Greening, senior research scientist retired from OPG, explained in his submission that OPG has used fault-tree software to carry out its "Probabilistic Risk Assessments (PRAs)", but has failed to disclose the methodology used to estimate the numerical inputs, to validate the computer programs and to quantify the many large uncertainties in the analysis. Moreover OPG did not disclose its new PRAs (obtained with post-Fukushima enhancements) until 29-30 April, seven days after the deadline for public intervention, and seven days before the May 7 public hearing. This is clearly unacceptable to anyone outside OPG who wishes to provide input into an informed decision on the continued operation of Pickering NGS – and this evidently includes the Commissioners themselves – thereby undermining the rationale for holding Public Hearings.

http://ccnr.org/Gamble_Greening.pdf

Chris Rouse, representing *New Clear Free Solutions*, is an Engineering Technologist with a keen eye for details. He argues that the PRA methodology used by OPG and accepted by CNSC Staff is not following best practice, or even the guidance documents referenced in OPG's licence. He says OPG is dodging its responsibility for making a number of important safety improvements, such as installing a filtered vent – as other Canadian reactors have done – capable of filtering out 99% of the radioactivity in the event of a severe accident. As Rouse notes, Canada has an international obligation under the UN Convention on Nuclear Safety to either make improvements or shut the reactors down when safety limits are not met. Rouse highlights safety culture issues within CNSC and OPG similar to the institutional deficiencies that led to the Fukushima disaster.

http://ccnr.org/Gamble_Rouse.pdf

Dr. Michel Duguay holds a PhD in nuclear physics from Yale University and is a professor in the Department of electrical and computer engineering at Laval University. Duguay argues that OPG and CNSC staff are not in full compliance with Article 9 of the *Nuclear Safety and Control Act* (NSCA) of 1997. On 1 August 2013, in a letter to Honorable Joe Oliver, Duguay and 15 cosigners argued that the annual probability of a severe accident in the greater Toronto area is 100 times larger than the probability of a frequent flyer dying in a commercial airline flight. This situation does not comply with article 9(a) of the Act. Moreover article 9(b) is not complied with because OPG and CNSC do not inform the public in an objective scientific manner about the uncertainties that accompany their calculations of reactor accident probabilities. Duguay points out that OPG & CNSC do not have all the necessary information. For example, many of the hundreds of high-pressure "feeder pipes" have not been inspected, although it is known that corrosion could cause them to rupture, triggering a nuclear emergency. Neither OPG nor CSNC can give scientific information on those non-inspected feeder pipes because they do not have it.

http://ccnr.org/Gamble_Duguay.pdf