

Secretariat,
c/o Louise Levert, Tribunal Officer,
Canadian Nuclear Safety Commission
Ottawa, ON, K1P 5S9

November 22, 2010

Supplementary comments to CMD 10-H19.9 re: Ref. 2010-H-09

To the Chair and Members of the Commission:

we appreciate the opportunity to file written comments on staff's 10-H19.D on behalf of the directors and members of the Bruce Peninsula Environment Group Inc.

However CMD10-H19D raises more questions and concerns to have us to re-confirm our urgent request to refer Bruce Power's transport licence application to an Environmental Assessment Panel Review under the Canadian Environmental Assessment Act (CEAA).

We reviewed staff's supplementary document with all its Annexes and Appendixes. We were appalled to read in Frank Saunder's letter (August 6, 2010 NK21-CORR-00531-08099) to Mr. S. Faille a quote

"As you know, the topic of shipping the Steam Generators from Bruce A to Sweden for recycling of the clean materials continues to be plagued by inaccurate and alarmist rhetoric such that Bruce Power believes this is creating undue concern in the general public."

And he carries on defending their expertise in assessing the risk of the proposed shipping plan. It is another example of Bruce Power's arrogance denying the existence of highly regarded independent nuclear experts like the IJC Nuclear Task Force, the National Academy of Sciences, the European Committee on Radiation Risk and many others. With several incidences over the years of falling short of safe practices at their plant, like for instance the exposure of about 200 workers to Alpha Radiation and the near fatal drop of a 40 ton load from a poorly maintained crane, does not install confidence in their proposals, especially this one before the Commission.

So we question all the assurances of no risk or 'no unreasonable risk' as the assessments are all based on assumptions and calculations.

Under 2.0 Environmental Impact staff claims to have conducted a 'rigorous review' of the 'consequences of potential accidents and malfunctions...'

‘and assumed that the rare events would occur in vulnerable locations along the St. Lawrence Seaway.’ There are a considerable number of hazardous points in the route that shipment needs to take like, the Main Channel between Georgian Bay and Lake Huron (lots of ship wrecks at Fathom Five!), the St. Clair River, the Detroit River, the Welland Canal and the Thousand Islands Narrows before the ship enters the St. Lawrence Seaway! Staff also preferred to analyze the ‘potential impacts’ on drinking water supplies in the St. Lawrence Seaway. How about Owen Sound Harbour, Walpole Island, Detroit, Welland and vicinity?? It is ridiculous to focus on the Seaway only!

The conclusion by staff ‘that the risks posed by accidents and malfunctions is not expected to have impacts on the environment or to people that rely on the environment for their drinking water, can surely be called Wishful Thinking, as it is based on assumptions and unsupported calculations(Pg.3).

Re: 3.0 EVALUATION OF THE PROPOSED SHIPMENT WITH RESPECT TO THE IAEA COVEYANCE LIMIT - Trying to make the case that all the requirements under IAEA’s TS-R-1 Regulations for Special Arrangements are met, staff lists 4 groups. Under D- Estimation of Nuclear Substances inside the steam generators, we again point to the fact that those estimates were not verifiable as ingress to the contents would be difficult.

In a similar slight of hand on page 7 staff asserts ‘ in the case of the steam generators, there is no MEASURABLE (emphasis added) external contamination’. Further down in the second last paragraph we read: ‘In the case of the steam generators, there are no external surface contaminations;..’ Just one of the several examples where staff in their evaluations tailor their findings to their expectations (again on page 8, second paragraph), and contradict themselves – no measurable doesn’t mean none at all!

Matter of fact, under 3.3 on page 9 it is stated that Cobalt-60 was detected in the scan on four steam generators. It also states on page 10: In their submission, Bruce Power limited the listing of isotopes with longer half-lives that have significant radiological impact based on their A2 value (emphasis added).

Under this reasoning, long lived isotopes of uranium which have unlimited A2 values are not listed, Bruce Power, however, indicated, when asked by CNSC staff that they had omitted the value of Pu-241 in the listing due to a transcription error. Nonetheless, when included in the table, the correction does not significantly alter the conclusions that the steam generators meet the SCO-1 classification’.(empasis added) A fine way to doctor the results to

the Expected outcome! There is even an attempt by staff to criticize and correct IAEA regulations when they say “ In Table V of the IAEA regulations, the heading of the second column can give rise to confusion as it refers to ‘inland waterway’ rather than ‘inland water craft’. This is believed to be an error, possibly caused by truncation of the column’s heading.” Great way to make the foot fit the shoe!

Under 4.0 EMERGENCY MEASURES

listing assessment of Response actions and recovery actions we were looking for the assessment of the Grey-Bruce-Owen Sound Hospital’s capability and certification to accept and treat large numbers of radiation victims that we had asked for in our Sept. 28 submission, but nothing has been provided. Those 16 shipments are slated to go one at a time at a speed of 15 – 20 km per hour at least 6 kilometres along heavily populated city streets. That begs the question why those same steam generators being moved from the refurbishment site to the OPG waste storage site could move only at 2 kilometres per hour. Isn’t safety completely compromised in this case as well? No emergency can be excluded, especially if these shipments would be permitted during wintry weather and road conditions. It is surprising that no scenario for such an accident has been included in the emergency measures assessment. If in an upset one or more of the welds would give way, not only would hundreds of pedestrians be showered with alpha particles, but also commercial activity of the city of Owen Sound would be halted, and considerable ongoing stigma attached to the Scenic City as a result.

In Appendix A we read: “There is a high level of uncertainty in model predictions for Owen Sound [harbour] due to the lack of site-specific data (Ref.9)”. Despite this the risks of any health effects of an accident are extremely low, according to staff’s assessment, and “more sophisticated calculations for all possible accidents in Owen Sound would not provide further clarity for possible impacts.” This contorted logic continues with staff stating that “a credible accident at the loading dock” would “likely” cause no threat to Owen Sound’s drinking water supply but “more extreme but improbable scenarios could nevertheless result in short-or long-term contamination of the drinking water supply of the municipality.” There is no explanation on what staff means by a ‘credible’ or an ‘improbable’ accident scenario, but it apparently makes all the difference in the effects.

If this is an example of the rigor of the environmental review that was conducted by CNSC staff under the Nuclear Safety and Control Act, then the

Commission should admit its lack of thoroughness and order a proper EA under the Canadian Environmental Assessment Act!

Under 6.0 INTERNATIONAL PRACTICE RELATING TO SHIPMENT OF STEAM GENERATORS.

Staff tries to make the case of the German steam generators being classified as Surface Contaminated Object SCO-II compared to Bruce's SCO-I because of greater quantity of contamination contained in their light water reactor operation compared to CANDU type heavy water reactors(HWR). It is well proven that HWRs produce more than 60 times of Tritium and more than 40 times of Carbon-14, to make up for any other isotopes contained in LWR steam generators.

In the following paragraph staff contends that the shielding added to the German steam generators is to contain the gamma emitting radionuclides such as Cobalt-60 giving rise to higher radiation fields on the surface of the steam generators – didn't staff earlier in their evaluation report the Cobalt-60 radiation scan findings on Bruce's steam generators? Is the German Cobalt-60 different and more dangerous than Bruce Power's? If German/European regulations make it mandatory that this gamma radiation be contained through additional shielding (as is shown in their slides in Appendix G) then it must be mandatory in Canada in complying with IAEA regulations! Another indication downplaying the risks from transporting these radioactive monsters!

In Appendix C: Packaging and Transport under IAEA Regulations we find the admission that ‘..[the steam generators] current welded closed state which makes it difficult to confirm that the requirements for SCO-I are met at all locations.. [and that] their total activity when transported together exceeds the conveyance limits for SCO.’

We certainly expect the Commission to address this admission that under the IAEA regulations the requirements for this transport are not met!

Compare that to the precautionary principle shown in slides from the German presentation under ‘Assessment of applicable requirements and derivation of compensatory measures’ where we find the following regarding Steam generator:

- a) Compliance with SCO-II contamination limits for the inner heat exchanger tubes could not be proven free of doubt
- b) IP-2 package integrity level could not be demonstrated for certain drop positions

and then under Technical compensatory measures:

- specific fixation, tie-down and handling conditions to ensure that such drop positions could not occur during transport

Use of additional shielding as part of the package to comply with dose rate thresholds and to decrease individual doses to persons. (emphasis added).

Since Bruce Power and staff have admitted that they can't (or won't) estimate the Values of nuclear substances inside the steam generators (see our page 2) the calculations to set these packages as SCO-I are rather suspect and manipulated especially with the added long-lived isotopes of uranium! It shows that German authorities resolutely act on the side of the highest conservative values and caution!

CNSC staff and Bruce Power are confirming now that no one knows exactly how much radioactivity is in the 16 steam generators, or how it is configured. That is because Bruce Power sealed the generators without doing a precise measurement, obviously intending to follow its original plan and bury the sealed containers on-site. It is unacceptable that this admission is only happening now, well after the initial application and hearing! According to Appendix C, Bruce Power is unable to comply with SCO-I regulations that require contamination within certain limits. It adds, tellingly: "Opening of the welded closures to confirm the contamination levels could allow the release of the contaminants. It will involve additional exposure to workers and contaminate additional materials. There are 4200 tubes per steam generator and each tube is about 15 metres long or about 63 km of tubing in total. the number of samples to reliably guarantee that the SCO-I regulations are not exceeded anywhere would be large. Given that, it is impractical to require extensive sampling, if the activity can be adequately estimated using other methods."

In other words, CNSC staff is accepting a less than thorough estimate of activity limits and risk factors, based on what it deems to be the undue financial cost and bother to the applicant. We will not take that for granted. Staff also admit that "although direct sampling of more tubes would give a more accurate and precise determination, the values presented should be accurate within +/- 30%." But they give no details on how this error margin has been determined, rendering questionable their assumption that the shipment is safe. They also excuse a sloppy error committed by Bruce Power - and noted by several intervenors - the absence of an isotope of plutonium from the radioactive substances in the steam generators listed in CMD10-H19. Staff say only that "Bruce Power, however, indicated, when asked by CNSC staff, that they had omitted the value of Pu-241 in the listing due to a transcription error. Nonetheless, when included in the table, the correction

does not significantly alter the conclusions that the steam generators meet the SCO-I classifications.”

To say that a 40% error in maximum activity is insignificant cannot possibly stand up to public scrutiny!

On page 22 Appendix C : Packaging and Transport, another failure to stick to the highest quality of preparation is portrayed:

Staff concedes that the welds on the steam generators were barely above the minimum ksi tensile strength of the SA516 Grade 70 shell material per ASME Section II. “Therefore, it would appear that based upon a comparison of the weld thicknesses versus the nominal 5.4 cm shell thickness, the seal fillet welds are the weakest part of the shell boundary of the SGs prepared for transport.” (emphasis added).

Not much there to bring confidence in safe transport assertions under any accident scenarios!

Matter of fact in Attachment B: Crushing Strength of Bruce A Steam Generator Shell we find more ‘comforting’ news.

Assessing if the shell would remain intact if submersed in the St. Lawrence Seaway staff goes through some fancy calculations only to come up with the result: “It cannot be determined based upon these calculations that the cover plates and their seal welds would remain intact.” (emphasis added).

That is our consistent contention that the ‘robust’ hull being portrait as safe packaging has those weak points which, if they give way, will spread most of the lethal contents into the environment may it be water or air.

In the Memo from Richard Tennant to Luc Sigouin (Annex B) under 10-H19.D Appendix D: Emergency measures, we find under Annex A on page 5 an evaluation of Bruce Power’s Emergency Response Plan for the road as well as the marine shipment.

In the last paragraph we are puzzled by the statement: “The shipboard emergency plan gives guidance that is to be followed in emergencies situations that could potentially arise on the vessel for Irradiated Nuclear Fuel (INF) Cargo.””Also the steam generators are considered INF cargo, (emphasis added), the INF plan is being used which is a more restrictive plan.

We have always assumed that these steam generators, having been in operation for over 20 years, are Irradiated Nuclear waste cargo contaminated with the resulting creation of nuclear fission products. This must be an admission by the staffer that there is more to the low-level designation than ‘meets the eye’.

Another reason why we question staff's assumptions is the determination that due to the designation of an INF vessel with enhanced seaworthiness for the transport the added safety margin that is approximately 10 times above any seagoing vessel would allow the shipment to safely exceed the 100 A2 limit applicable to SCO. They come up with the estimated 622 A2 value being well below the 1000 A2 based on the INF classification of the seaworthy vessel.

There is no rationale given for CNSC staff assigning Bruce Power's chosen vessel a safety margin of 10 above a conventional seagoing vessel. It seems to be an artificial value designed to make the math work out. Without giving a precise rationale the CNSC is leaving itself open to the accusation that its staff may be manipulating its criteria to endorse this proposal at all costs. At best it is an optimistic assumption. At worst it is an example of the sloppy work and bias of staff that many intervenors have referred to at the hearings.

In WMG's unnumbered Transportation and Emergency Response Plan we read under 6.3.6 (Transportation) "Vessel departs the Port of Owen Sound for Studsvik Sweden following route prescribed by the vessel operator." The vessel has been described as a sea-going vessel having the extra robustness of an INF 2 ship with enhanced damage stability (page 8, CMD10-H19.D). In the chart shown by Bruce Power at the Sept. 28/29 hearing the transportation route led from the Canadian waters all the way up to the north of the Shetland Islands passing into the North Sea, an immense detour, instead of traversing the English Channel. We questioned the reason in light of this 'perfectly safe' shipment, sending a request for explanation through the Secretariat to the staff, receiving only a non-specific answer. A follow-up question for specifics remained unanswered to this day. The proposed route would take the ship in more northerly waters of the Atlantic and even with the extra robustness and enhanced damage stability we can only remind the Commission of the fate of the 'unsinkable' Titanic!

A significant lapse of awareness can be attributed to Bruce Power when they state upon questioning by the CNSC about the shipment traversing U.S. waters "The Department of Transportation was consulted and the advice given was that as the waters were jointly regulated then Canadian approval was deemed adequate for the U.S. No further notifications were required." We hope the Commission is not going to take Bruce Power's word for this. That opinion certainly is not shared by seven U.S. senators who have written to the CNSC with their concerns and have also written to the PHMSA to request a critical review. Their letter, dated Oct.1, 2010, says: "We urge you

to comply with both the letter and the spirit of the law and reject any proposal that does not protect the Great Lakes or comply with U.S. and international standards.”

Bruce Power apparently did also not deem it necessary to consult with First Nation Assemblies as was stated by those intervenors at the hearing. This was confirmed in their notes produced in answer to questions from staff. In several legal decisions the Crown has asserted that “the government is required to bear the burden of justifying any legislation which has some negative effect on any Aboriginal right protected under section 35(1).” According to the CNSC web site the policy is to ensure ‘that all its licensing decisions under the NSCA and Environmental Assessment decisions under the CEAA uphold the honour of the Crown and consider Aboriginal peoples’ potential or established Aboriginal or treaty rights pursuant to section 35.’ Also on the web site we find the statement ‘While licence applicants and existing licensees of nuclear projects do not bear the Crown’s legal obligation to consult Aboriginal peoples under section 35 of The Constitution Act, 1982, as proponents of a project that will need to be regulated by CNSC, their role to engage Aboriginal peoples is important to the efficacy of the Commission’s decision-making.’ At the September 28/29 hearings First Nations intervenors claimed their treaty rights would be directly and adversely affected by the shipment of radioactive steam generators through the Great Lakes and Rivers. Due to the failure to consult with First Nations at the beginning of the proposed project by Bruce Power and by CNSC staff to accept the application for a licence and review it without considering even to inform First Nations it is clear that the CNSC contravened its own policies and must start with a new Environmental Assessment under the CEAA ,unless it wants to risk potential legal intervention to its decision-making.

While the Commissioners were admitting that they needed more detailed information by calling for these supplementaries it must be stated that the process for public participation has been deeply flawed. The notice period was curtailed for the September hearing, and key documents were not provided in a timely fashion, Important omissions from the list of radioactive materials in the generators, in fact, were only sent out on the day before the hearings. We are now presented with a 249- page supplementary document containing highly technical information and giving us a mere 30 days to respond. The very act to allowing the applicant to have another chance to make its case shows a certain kind of favoritism. Many questions

raised by intervenors, including most of those put forward by the Great Lakes Mayor Initiative, remain unanswered. This is inadequate and runs contrary to the CNSC's obligation to provide the public with a fair opportunity to influence decision-making.

On page 4 of CMD10-H19.D staff finally admits that the Transportation of the Bruce steam generators is 'a different proposal entirely', separate from the Refurbishment Project.

This validates the fact that it is a work or project under the classification of Section 24(2) under the CEAA. The Act states that projects include operations which involve "constructing, operating, modifying, decommissioning, abandoning or disposing".

Under the CEAA, an Environmental Assessment is needed if a federal agency exercises a regulatory duty in relation to a project, such as issuing a permit or a licence that is included in the Law List Regulations. The Law List includes the Nuclear Safety and Control Act.

Section 24(2) states that an EA is required for the "issuance or amendment by the (CNS) Commission of a licence to carry out any of a wide range of activities relating to, among others, possessing, acquiring or processing a nuclear substance..."

This also seems to clearly require an EA before any decision on issuance of a licence for this shipment can be made.

The immense amount of public opposition and concern is also listed under that section as a trigger for an EA. The type of EA required here must be a full one with a public comment period on scoping and setting the Terms of Reference.

Public participation is an essential element of the environmental assessment process. The environmental "review" that was conducted under the NSCA, on the other hand, involved no public input. As the CNSC web site states: "CNSC's approach to public involvement in the EA process fully meets CEAA requirements. It is also consistent with our public consultation and risk management policies, and with the Commission's expectations for facilitating transparency and openness in decision-making. Public consultation objectives for CNSC's EA process include:

- encouraging early communication of information on a project;
- identifying public support or concerns regarding a project;
- promoting confidence in the credibility and quality of the EAs;
- integrating public knowledge into the decision-making process, and

- assisting the government to fulfill its duty to consult with aboriginal people.

It is up to the Commission to adhere to its policies and procedures and to take all these objectives into its deliberations.

We need to remind the Commission that, concerning the Bruce Power proposal and its application for the shipment of radioactive steam generators from its facility to Sweden via the Great Lakes, the St. Lawrence Seaway, the Northern Atlantic Ocean and the Baltic Sea has not shown due diligence towards its established objectives.

We urgently request that, considering the many unsolved questions and concerns, the inability to investigate the need as well as alternatives to the proposal and the myriad of risks from undertaking this unprecedented project, the Commission refer this application For A LICENCE TO TRANSPORT RADIOACTIVE WASTE to the Minister of the Environment for an Environmental Assessment by a Review Panel under Section 24(2) of the Canadian Environmental Assessment Act.

Thank you for the opportunity to make this supplementary submission on behalf of the members and directors of the Bruce Peninsula Environment Group Inc.

Siegfried (Ziggy) Kleinau,
Founder and Honorary member of BPEG.

P.S.: We are taking the liberty of attaching a copy of Comments on the Draft EA Bruce Power #1 and #2 Restart made by Citizens For Renewable Energy of which BPEG is a member.

S.(Z.) K.

