Getting the historical context wrong: Comments on the submission from University of Western Ontario, IAAC Reference #75, registry reference number 88774.

Jaro Franta, 20 January 2026

Thanks to the Impact Assessment Agency of Canada and the Canadian Nuclear Safety Commission for inviting comments on the Initial Project Description for the Deep Geological Repository for Canada's Used Nuclear Fuel Project, proposed by the Nuclear Waste Management Organization (the NWMO), per Canadian Impact Assessment Registry reference number 88774.

In her submission to the IAAC, Dr. Erika Simpson, Professor of International Politics at the University of Western Ontario, leads off by writing that,

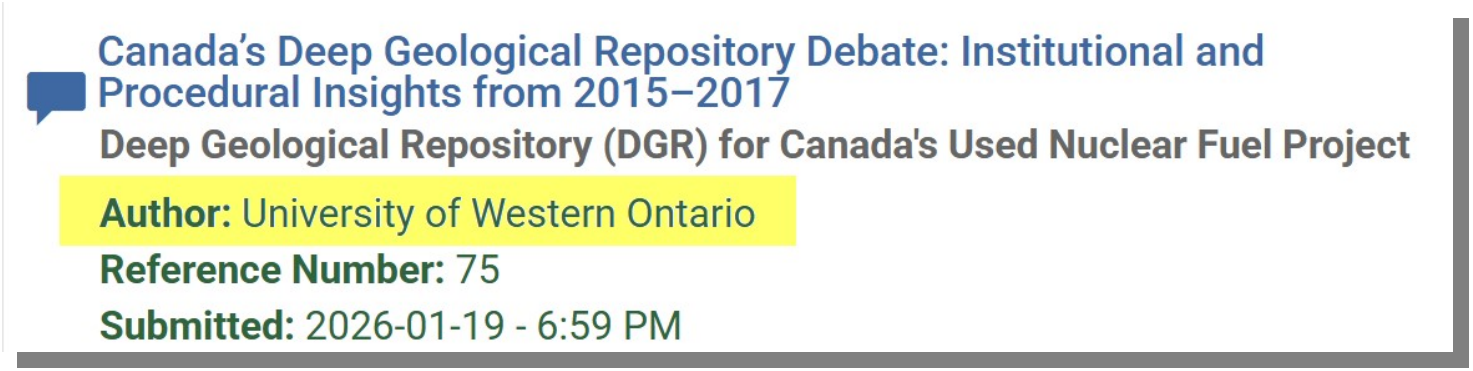
> *Examination of the processes associated with* ***earlier efforts to identify potential sites in Manitoba and Ontario*** *provides insight into the institutional, procedural, and public engagement challenges involved.*

Dr. Simpson then goes on to review a long list of "earlier efforts" and other nuclear-related events or issues, both in Canada and internationally.

NWMO document APM-REP-05000-0211-R000, "Plain Language Summary" mentions Whiteshell Laboratories, in Manitoba, where the URL – Underground Research Laboratory – was located, but NOT in the sense of a historical context ("insight") referencing the research which provided much of the technical data for the current DGR project:

There are no federal lands in close proximity to the Project. The Project is located inland with no related marine or port features. It is understood that the closest federal lands are the Whiteshell Laboratories, owned by Atomic Energy of Canada Limited and located approximately 286 km (cross country) from the Project near Pinawa, Manitoba.

Nevertheless, if the DGR project assessment by IAAC/CNSC and public understandings ("insight") are to proceed in a well-reasoned manner, then the numerous claims made by Dr. Simpson/University of Western Ontario need to be checked for accuracy. In other words, is the "insight" created by Dr. Simpson/University of Western Ontario worthy of consideration?



Deep Geological Repository Site Selection in Canada: Policy Lessons and Fifty Questions for NWMO Oversight

Dr. Erika Simpson Professor of International Politics University of Western Ontario

Canada's Deep Geological Repository Debate: Institutional and Procedural Insights from 2015–2017

Revisiting Canada's DGR Process: Key Lessons from Past Proposals and Their Relevance Today

A Deep Geological Repository (DGR) for the long-term management of spent nuclear fuel has been proposed in Canada on several occasions. Examination of the processes associated with earlier efforts to identify potential sites in Manitoba and Ontario provides insight into the institutional, procedural, and public engagement challenges involved. This portion of the testimony by Erika Simpson, an associate professor of international politics in the department of political science at the University of Western Ontario reflects on lessons learned from one phase of a specific proposal undertaken in 2015-17, as that phase remains directly relevant to the current stage of the process. The discussion is informed by long-standing familiarity with earlier initiatives in Pinawa, Manitoba; the Bruce Reactor site ("DGR 1"); and the Teeswater/Saugeen Ojibway Nation (SON) site ("DGR 2").

In the case of Dr. Simpson/University of Western Ontario's "insight" into the "earlier efforts" to identify "potential sites" for a DGR, is dubious at best.

In fact, neither was ever considered a "potential site" for a DGR, as seen in the excerpt from JGR Solid Earth – 2021 on the next page.

JGR Solid Earth

RESEARCH ARTICLE
10.1029/2020JB020998

Analysis of Crystalline Rock Permeability Versus Depth in a Canadian Precambrian Rock Setting

Andrew P. Snowdon[1], Stefano D. Normani[1], and Jonathan F. Sykes[1]

[1]Department of Civil and Environmental Engineering, University of Waterloo, Waterloo, ON, Canada

Key Points:

- Subsurface Precambrian rock with fractures is not well characterized
- Permeability data was compiled from decades of research by Atomic

2.2. AECL Research Program

AECL began a broad research program to identify multiple plutonic rock sites that were thought to be representative of plutons in Ontario (Brown et al., 1982b; Gale et al., 1981). They quickly narrowed the number of sites from the 1,365 originally identified to 55. However, most of these sites only had surface studies performed (e.g., airborne surveys, outcrop sampling, lineament mapping) with no drilling or subsurface investigations. Eventually, the initial proposed site list was reduced to fewer than 10 sites, which became Reasearch Areas, thought to be representative of the Canadian Shield plutons, and the main research program began. The plutons, mostly in Ontario, were each located in different structural subprovinces of the Canadian Shield to investigate the suitability of each rock formation (Whitaker et al., 1994). The end goal, however, was not to pick one of these research areas as a disposal site, but to investigate and develop site characterization techniques for subsurface conditions which would make characterizing a potential disposal site more accurate and help confirm the safety of a DGR (Minister of Energy, Mines and Resources Canada and the Ontario Energy Minister, 1981; Thomas & Dixon, 1989; Whitaker et al., 1994).

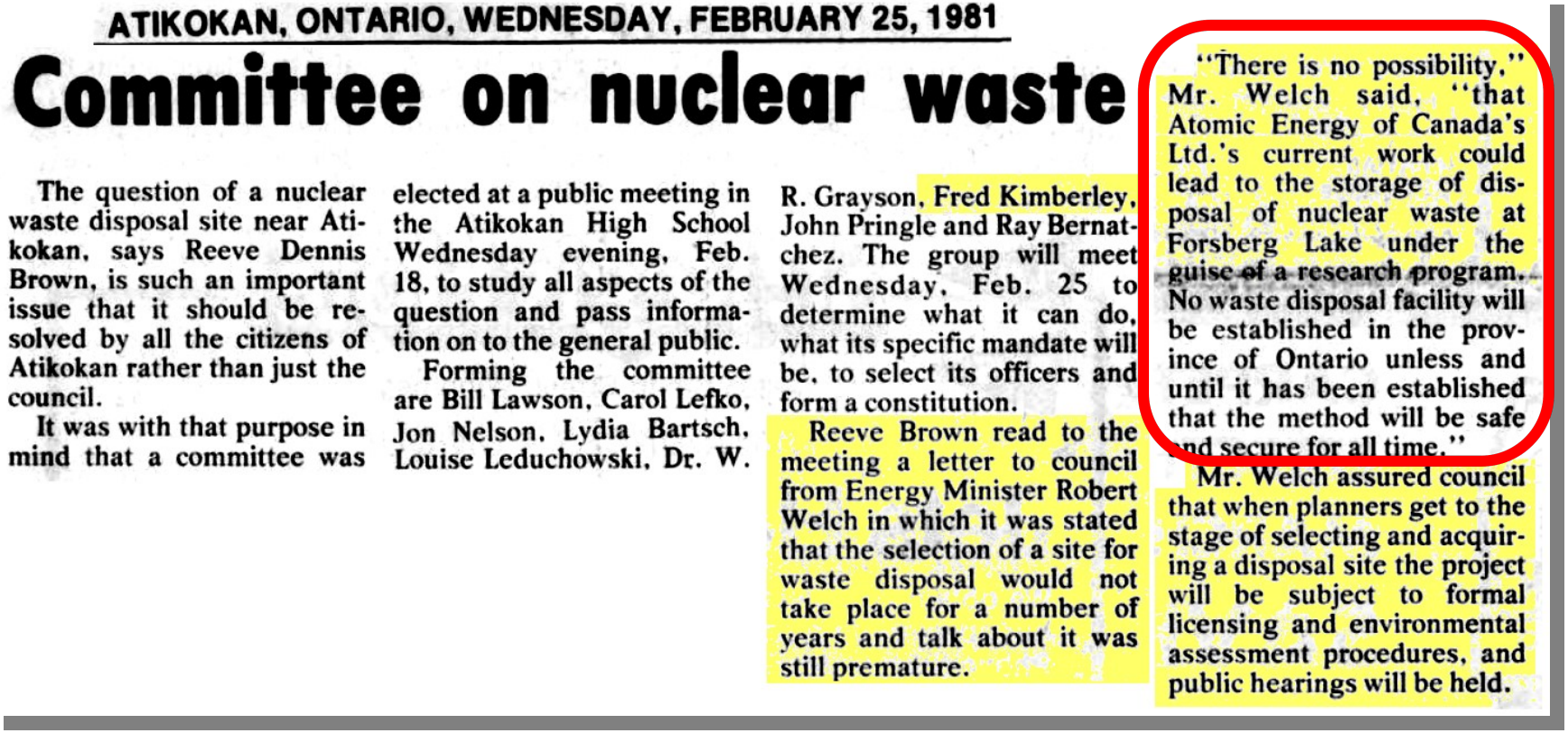
2.3.3. Atikokan

The Atikokan Research Area (RA-4) was located 15 km north of Atikokan, Ontario in Northwestern Ontario (Brown et al., 1980). It was located in the Superior province with the age of the pluton estimated at 2.65 Ga (Pearson, 1984). The pluton in this area, named the Eye-Dashwa Lakes pluton, is composed of biotite-hornblende granite (Whitaker et al., 1994). It intrudes into a tonalitic to granitic to amphibolitic gneiss (Dugal et al., 1981). Research began here in 1979 with surface based studies (Dugal et al., 1981; Stone, 1984). The goal of the research at Atikokan was to characterize a large crystalline rock area to a depth of 1 km in order to determine groundwater flow patterns (Pearson & Davison, 1985). In the 1980s, multiple boreholes were drilled and cores for eight deep boreholes were recovered (Gibb et al., 1988; Stone, 1984). Studies into

One of the “earlier efforts” referenced by Dr. Simpson/University of Western Ontario was geological research by AECL at the Eye-Dashwa pluton near Atikokan (Lake Forsberg).

It was made very clear, on several occasions, that this work was never intended to be part of a DGR siting process.

It must be assumed that this fact was easily verifiable by Dr. Simpson/University of Western Ontario, but they chose to make misleading claims instead.



ATIKOKAN, ONTARIO, WEDNESDAY, FEBRUARY 25, 1981

Committee on nuclear waste

The question of a nuclear waste disposal site near Atikokan, says Reeve Dennis Brown, is such an important issue that it should be resolved by all the citizens of Atikokan rather than just the council.

It was with that purpose in mind that a committee was elected at a public meeting in the Atikokan High School Wednesday evening, Feb. 18, to study all aspects of the question and pass information on to the general public.

Forming the committee are Bill Lawson, Carol Lefko, Jon Nelson, Lydia Bartsch, Louise Leduchowski, Dr. W. R. Grayson, Fred Kimberley, John Pringle and Ray Bernatchez. The group will meet Wednesday, Feb. 25 to determine what it can do, what its specific mandate will be, to select its officers and form a constitution.

Reeve Brown read to the meeting a letter to council from Energy Minister Robert Welch in which it was stated that the selection of a site for waste disposal would not take place for a number of years and talk about it was still premature.

“There is no possibility,” Mr. Welch said, “that Atomic Energy of Canada’s Ltd.’s current work could lead to the storage of disposal of nuclear waste at Forsberg Lake under the guise of a research program. No waste disposal facility will be established in the province of Ontario unless and until it has been established that the method will be safe and secure for all time.”

Mr. Welch assured council that when planners get to the stage of selecting and acquiring a disposal site the project will be subject to formal licensing and environmental assessment procedures, and public hearings will be held.

Up to council to call shots on drill program — AECL

Atikokan, Ontario, Wednesday, April 2, 1980

A representative of Atomic Energy of Canada Limited (AECL) told a public meeting here Thursday evening, March 27, that AECL would "feel bound to leave" if a new township council was opposed to continuation of a research program aimed at finding a disposal site for nuclear waste.

Alex Mayman, head of storage and waste disposal for AECL, told an audience of 25 persons that AECL, through its drilling program, is simply conducting research into the situation. Any actual selection of a site for nuclear waste disposal would be the responsibility of the three levels of government, federal, provincial and local.

Obviously those in the audience were hardened veterans to the game of question and answer with AECL representatives. Members of the AECL "panel" in addition to Mr. Mayman were Dr. Peter Brown, geologist, and Ray Pearson, hydrologist. All three were on the first-name basis with most members of the audience, both those obviously opposed to the AECL program and with those who might be prepared to accept the proposition.

High school principal Michael Lewis served as moderator for the three-hour program.

FIELDING QUESTIONS: AECL representatives field a wide assortment of questions at public meeting held at high school. L. to r., moderator michael Lewis, Ray Pearson, Peter Brown and Alex Mayman.

At least two or three members of the audience contended that work proposed by AECL should be subject to a plebiscite or referendum in Atikokan. Mr. Mayman took the view that township council represented the people and it had voted unanimously to request the drilling program. Those opposed to such a view insisted that specific subjects could emerge after an election on which the opinions of the residents as a whole should be sought.

Dr. Brown said that AECL would be returning this season to continue its drilling program in the Forsberg Lake area. He said AECL would continue mapping and making detailed studies of holes drilled last year. Mr. Pearson said hydrologists would be going back to the existing holes to see which one take on water.

Mr. Mayman said AECL is in consultation with Sweden, who are working with salt as a disposal place for nuclear waste, and have information from all over the world; "but without bragging, I think AECL is the best we have and 90 to 95 per cent of our program is based on hard rock, which there is an abundance of in Canada. With the right amount of care and attention, you can make any system work."

There was some concern expressed by members on who gave AECL the authority to put a waste disposal site in an area and again Mr. Mayman explained: "AECL will not say they have a waste disposal site until they have a confident conclusion, we are only the research body, the actual decision is made by the federal, provincial and municipal governments as to where the site goes."

"There is a lot of research to be done before a site can be determined feasible, but if you don't do the work you don't know."

Dr. Brown said they were coming off a year of research and they know what the fractures are like, but it will take more study. "It will take one-year to get a handle on what is going on and another to hammer home the fine points. There is no black and white in this story and it will take a number of years before we are finished on the whole."

Dr. Brown said there "were major fractures" in the holes drilled last year and they found two distinct water flows.

March 17, 1981 Winnipeg Free Press, p11

Nuke wastes

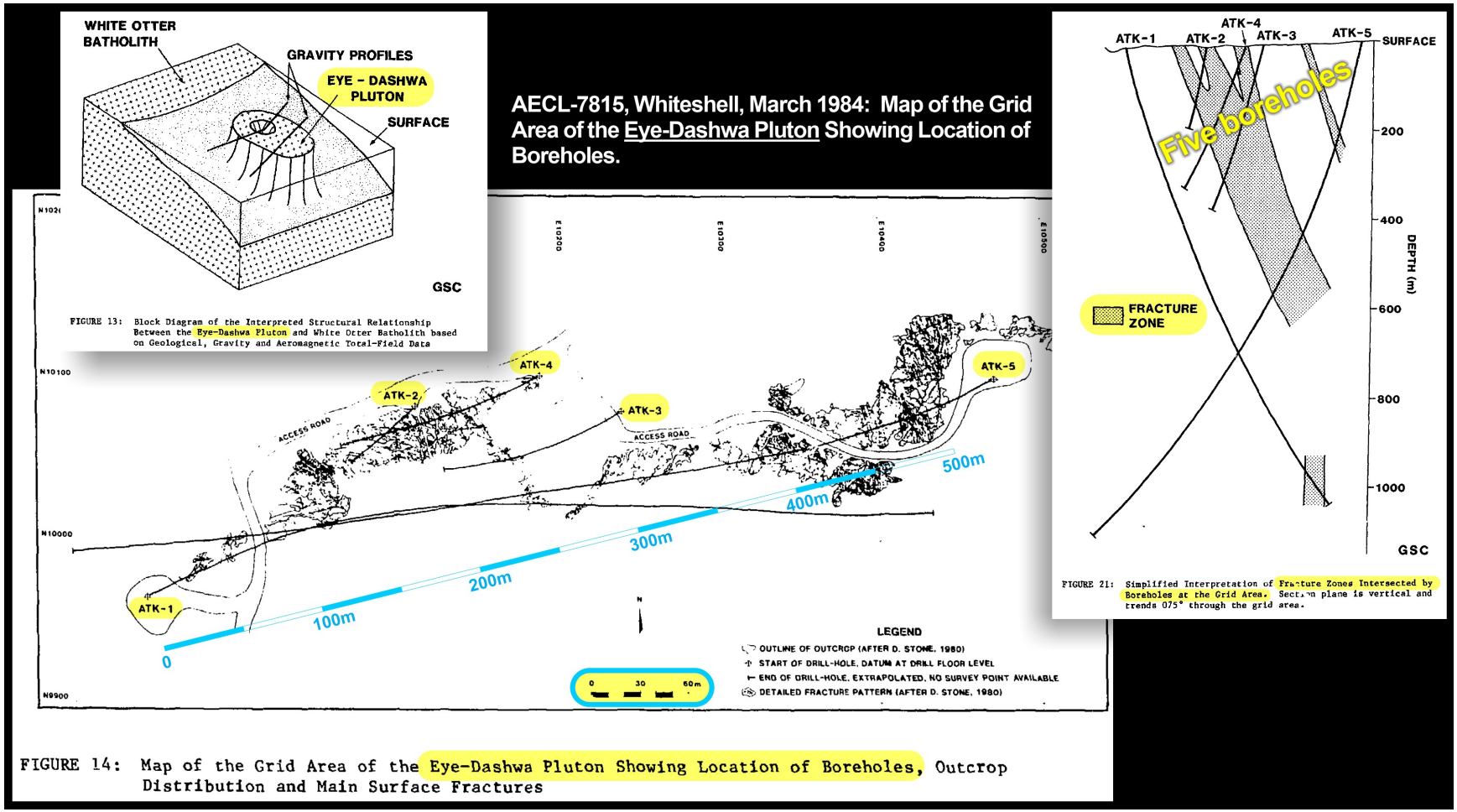
In response to Paul Sullivan's article *Nuke critics call in an ally* (*Free Press*, March 7), I would like to clarify a few points.

In a lengthy conversation with Paul Sullivan last summer concerning the danger of nuclear waste I explained to him that after 600 years nuclear fuel waste has very little penetrating gamma radiation left and could be handled safely, without harmful effects, unless somehow it is taken internally. I further explained that these wastes would then be no more dangerous than many naturally occurring uranium ore bodies which are found scattered in the Canadian Shield and buried under only a few feet of topsoil by mother nature. The nuclear waste however, if buried a kilometre deep in the solid rock, would be disposed of much more carefully than nature allowed for.

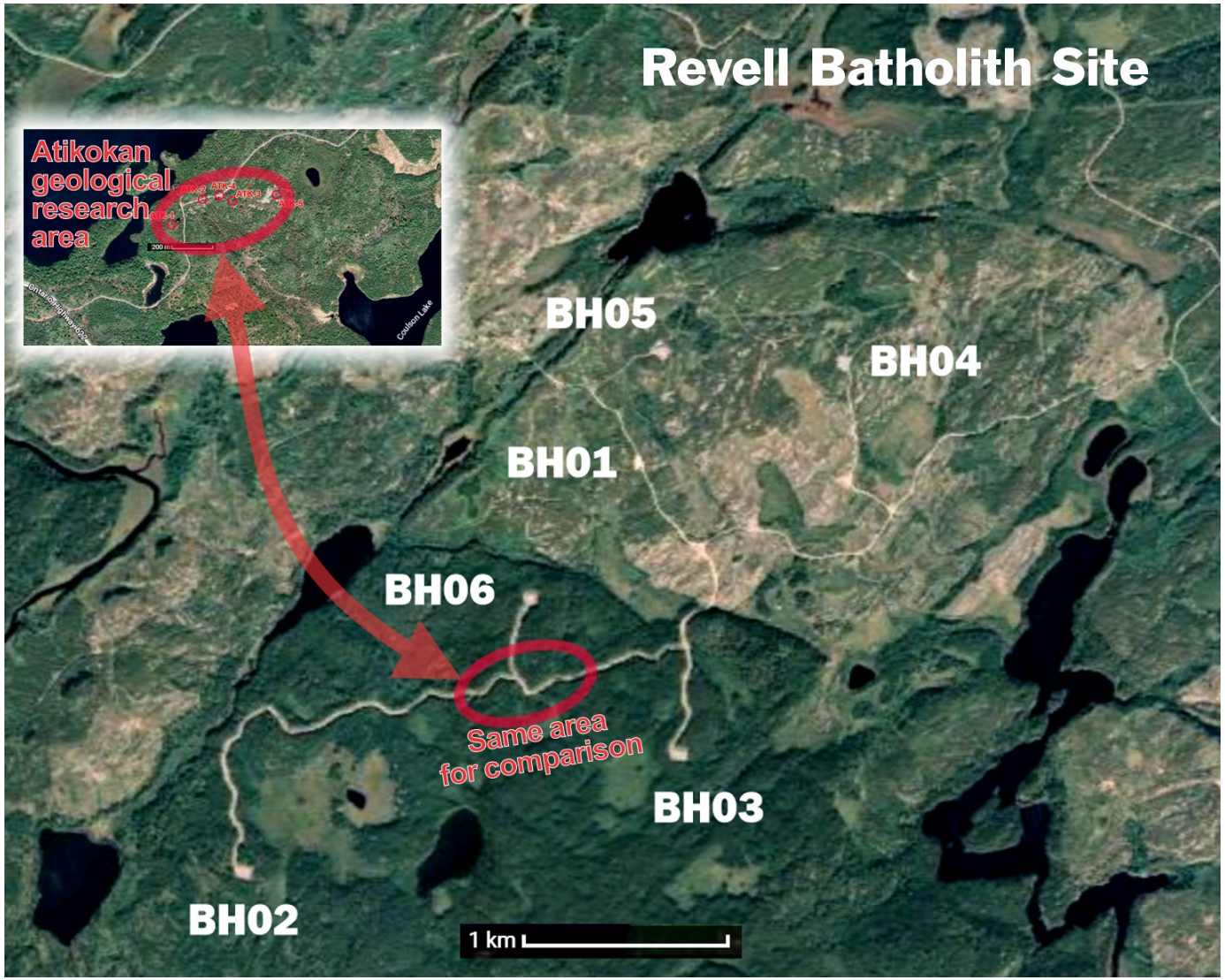
Even so, Atomic Energy of Canada Limited is not proposing to bury waste, not in northwestern Ontario, nor in the proposed underground research laboratory. Instead the fact remains that AECL is simply conducting a research program into the possible methods of disposing of waste. Any other interpretation of our program is unfounded speculation.

JOHN WRIGHT
Information Officer
Waste Management
Public Affairs
AECL
Pinawa, Man.

The fact that geological research by AECL at the Eye-Dashwa pluton near Atikokan (Lake Forsberg) was never intended as part of a DGR siting process is also evident from the technical scope, which involved borehole drilling through a fracture zone, specifically selected to investigate the hydrogeology of a site that is definitely NOT suitable for a DGR.



Similarly, the fact that geological research by AECL at the Eye-Dashwa pluton near Atikokan (Lake Forsberg) was never intended as part of a DGR siting process, is also evident from the overall scale of the drilling campaign, which was tiny compared to NWMO's search for suitable geology at the Revell Batholith: An actual DGR site search requires drilling over an area that is several kilometers across, as illustrated in the next image.



Next, we look at the claims by Dr. Simpson/University of Western Ontario regarding events in Japan and Germany.

Simpson's dramatization of the Asse mine in Germany is impressive, but **she fails to mention that it was NOT approved or licensed as a nuclear facility at its inception in 1967** (second image below). Only when problems of structural stability of the small salt dome (diapir) and influx of water began in 1988 was work there stopped. Only in 2008 was the Asse mine finally brought under nuclear regulation.

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Considering All the Possibilities

OPG's reporting did not consider whether roads and the Bruce site could be made invulnerable to military attack. (Soft targets are called soft for a reason – they're easy for terrorists and armed militants to threaten to strike, and nearly impossible for well-meaning businesses, individuals, and nations to defend). Moreover, no mention was made in their reports of other countries, like Japan and Germany that were encountering problems due to strong public opposition to transporting nuclear waste. For example, German television stations regularly transmitted disturbing scenes of protestors surrounding trains, and many Germans were incensed that the plan to use the Asse mine for radiological wastes backfired as it flooded and radiological wastes leaked into ground water systems.

Information About the
Research Mine Asse II

The Research Mine Asse II is located in the Asse ridge of hills close to the village Remlingen in the district Wolfenbüttel. Nuclear waste was deposited here in the 60s and 70s – for research purposes.
These experiments have been terminated, but the waste remains in the pit.

JUGEND für Europa
Deutsche Agentur für das EU-Programm JUGEND IN AKTION

Remlingen, 4th April 2007

Time Line

Campaign "Nuclear Heritage", Karl-Schmidt-Str. 4, D-39104 Magdeburg, Germany, http://nuclear-heritage.net/

- 1964/65 The extraction of rock salt ends and the salt mine is bought by the Helmholtz Zentrum München (HMGU) for research on nuclear repositories.
- since 1967 Trial deposition of 125 000 barrels containing low level radioactive waste and later of 1300 barrels of intermediate level radioactive waste.
- 1978 End of depositions in Asse II with the running out of approvals.
- 1979 Dipl.-Ing. Hans-Helge Jürgens warns that structural stability is not given and water could enter the mine.
- 1988 Influx of 12 000 liters of brine per day starts from the adjoining rock on the southern flank. The exact origin is unknown and the influx cannot be stopped.
- 1992 Approval that the mine can be backfilled with salt residues.
- 1995 The experiments with radioactive materials end and the backfilling with salt begins.
- 2002 Besides radionuclides and large amounts of toxic chemical substances, the inventory from the HMGU also contains 102 tons of uranium, 87 tons of thorium, 11.6 kg plutonium and radium with a total activity of 3.1E+15 Bq.
- since 2002 Concepts to flood the mine with a watery solution of magnesium-chloride ($MgCl_2$) are developed.
- since 2005 Backfilling of the exploration at greater depths below 775 m with Salt and a $MgCl_2$-solution.
- January 07 The HMGU submits a final operation plan for the “wet closure” to the state's mining office (LBEG).
- April 07 The mining office asks the HMGU to rework the final operation plan.
- April 23, 07 A lawsuit is filed demanding the use of nuclear legislation concerning ASSE II.
- Sep 4, 08 The federal ministry for research and the federal ministry for the environment announce a change of the operator of ASSE II. The Federal Office for Radiation Protection (BfS) will take over the repository on January 1, 2009, and from then on the facility will be treated according to nuclear legislation (while so far only mining legislation was applied).

Next, we look at the claims by Dr. Simpson/University of Western Ontario regarding events “in the Kincardine area”, where Ontario Power Generation (OPG) wanted to build a DGR for low and intermediate level radwaste, on their property at the Bruce site.

Simpson’s characterization in this instance neglects to mention that a poll by the Municipality of Kincardine showed support of the DGR project by a large majority: The results were presented to the impact assessment review panel in 2013, as shown in the second image below.

Again, it must be assumed that this fact was easily verifiable by Dr. Simpson/University of Western Ontario, but they chose to make misleading claims instead.

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few environmental associations, like the Huron-Grey-Bruce Citizen’s Committee on Nuclear Waste and the Sierra Club, were allotted tens of thousands of dollars to hurriedly report back about the OPG study by March 8. Due to a prior 2004 Hosting Agreement, local councils in the Kincardine area had already received hundreds of thousands of dollars in exchange for not opposing the proposal until the assessment period ended.

Oral intervention from Municipality of Kincardine

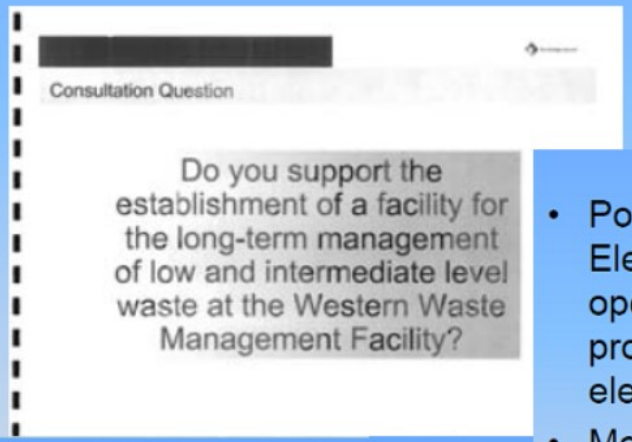
PMD 13-P1.165
2013-08-16

Strategic Counsel Poll


Presentation to the Municipality of Kincardine

Consultation Methodology and Response Rates

February 10, 2005


[redacted]

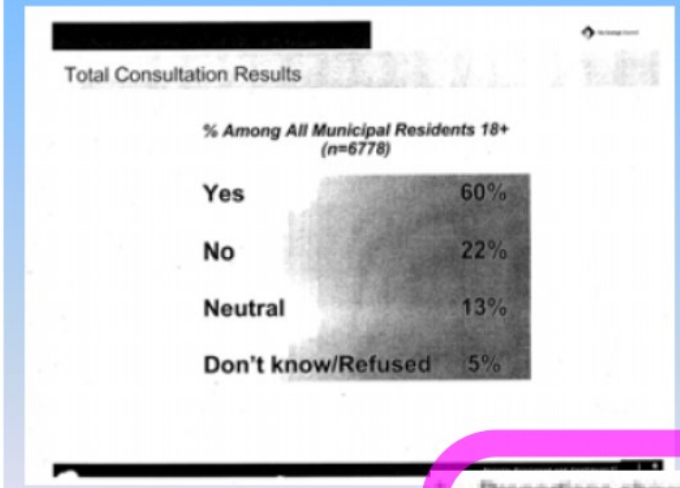
Consultation Question

Do you support the establishment of a facility for the long-term management of low and intermediate level waste at the Western Waste Management Facility?

- Political Leaders Elected Speaking openly in support of project during election campaigns
- Motions of support debated and passed in open public council sessions before press and televised

Poll Results

Tabulation A


[redacted]

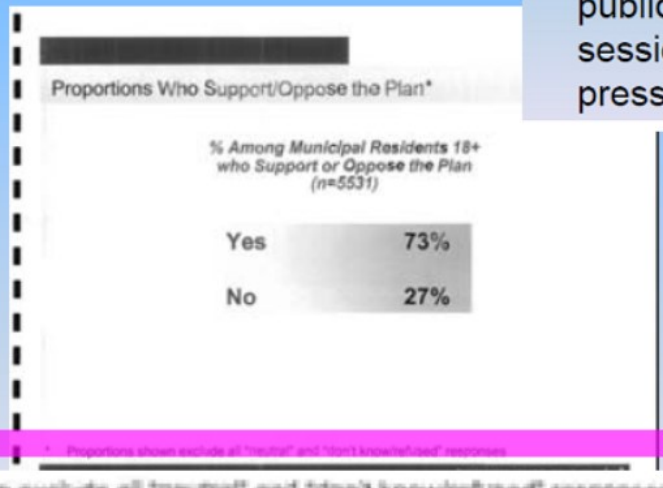
Total Consultation Results

% Among All Municipal Residents 18+ (n=6778)

Yes	60%
No	22%
Neutral	13%
Don't know/Refused	5%

[redacted]

Tabulation B


[redacted]

Proportions Who Support/Oppose the Plan*

% Among Municipal Residents 18+ who Support or Oppose the Plan (n=5531)

Yes	73%
No	27%

[redacted]

Proportions shown exclude all 'neutral' and 'don't know/refused' responses

"Proportions shown exclude all 'neutral' and 'don't know/refused' responses"

Next, we look at Dr. Simpson/University of Western Ontario conflating NWMO's DGR project with "*the dangerous possibility – highlighted by Fukushima in Japan*".

Trying to conflate operating nuclear power plants with decades-old used nuclear fuel storage is pathetic, but the earthquakes aspect perhaps bears revisiting.

The infamous 2011 Tohoku mega-earthquake and Tsunami, which caused devastation along the east coast of Japan, with 19,759 deaths and 2,553 people missing (none of that due to the Fukushima power plant), was a magnitude 9 earthquake: It released approximately one billion (1,000,000,000) times more energy than a magnitude 3 earthquake, the largest ever recorded in north-western Ontario.

Even so, the earthquake alone didn't damage the Fukushima plant, or the Onagawa nuclear plant farther north: As noted in the CNSC Staff Briefing slides included below, Fukushima shut down as expected in an earthquake, with loss of off-site power, and started up their on-site standby diesel generators.

The Fukushima plant was doomed by the 14-meter-high Tsunami wave: **If Dr. Simpson is worried about 14-meter-high Tsunami waves in Ontario, then her concerns would be better directed at cities like Toronto, Hamilton, Sarnia, etc., etc.**

Again, it must be assumed that this fact was easily verifiable by Dr. Simpson/University of Western Ontario, but they chose to make misleading claims instead.

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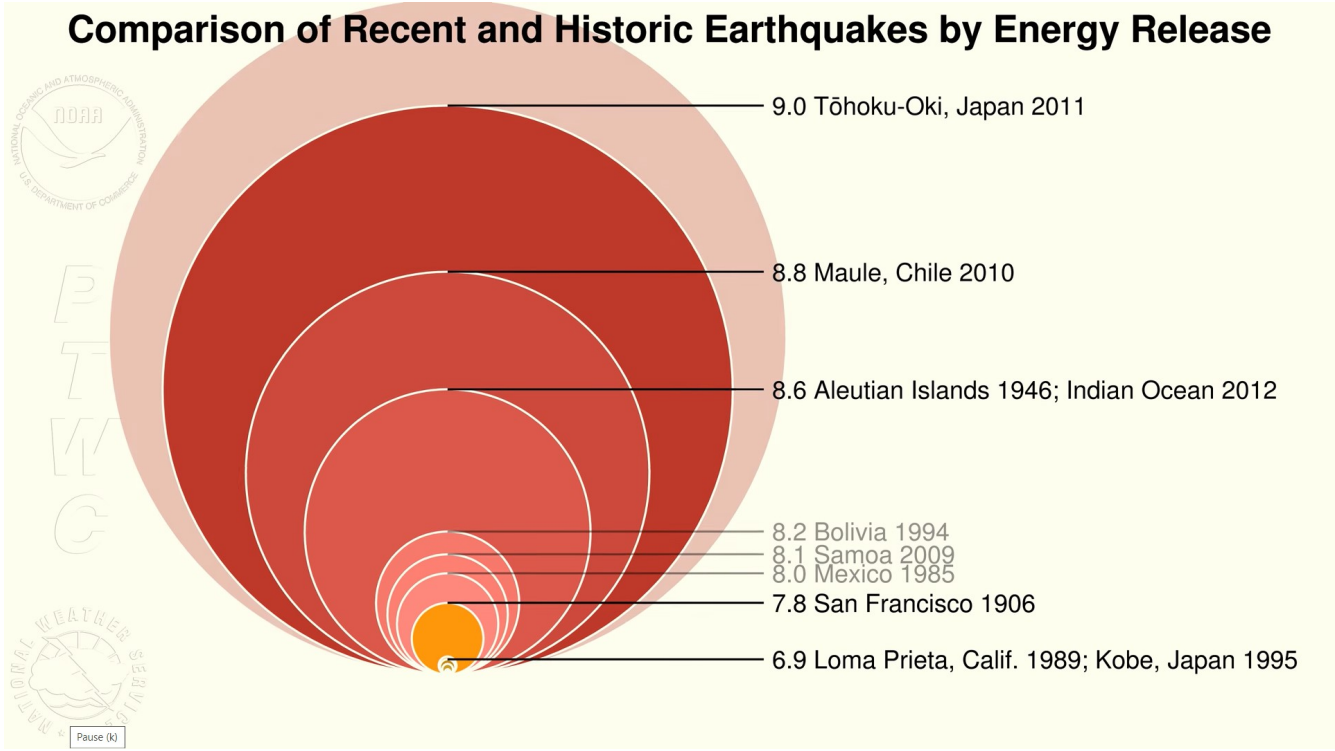
Safety Issues

What about accidents? There was little mention anywhere in OPG's original statements of the dangerous possibility – highlighted by Fukushima in Japan – that accidents caused by earthquakes, fires, hurricanes, or human error could limit access to its constructed underground chambers. The Japanese were using robots and drones



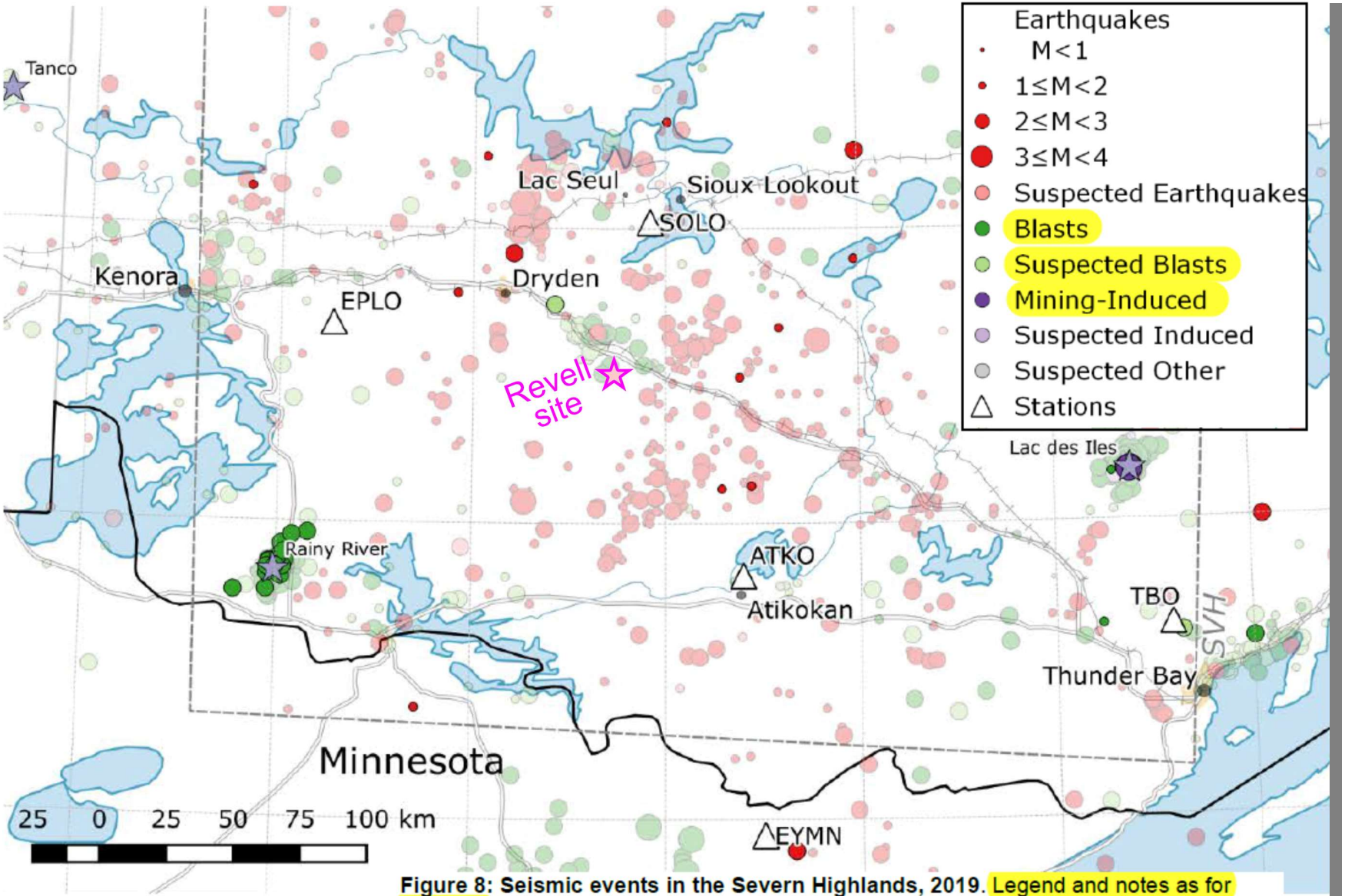
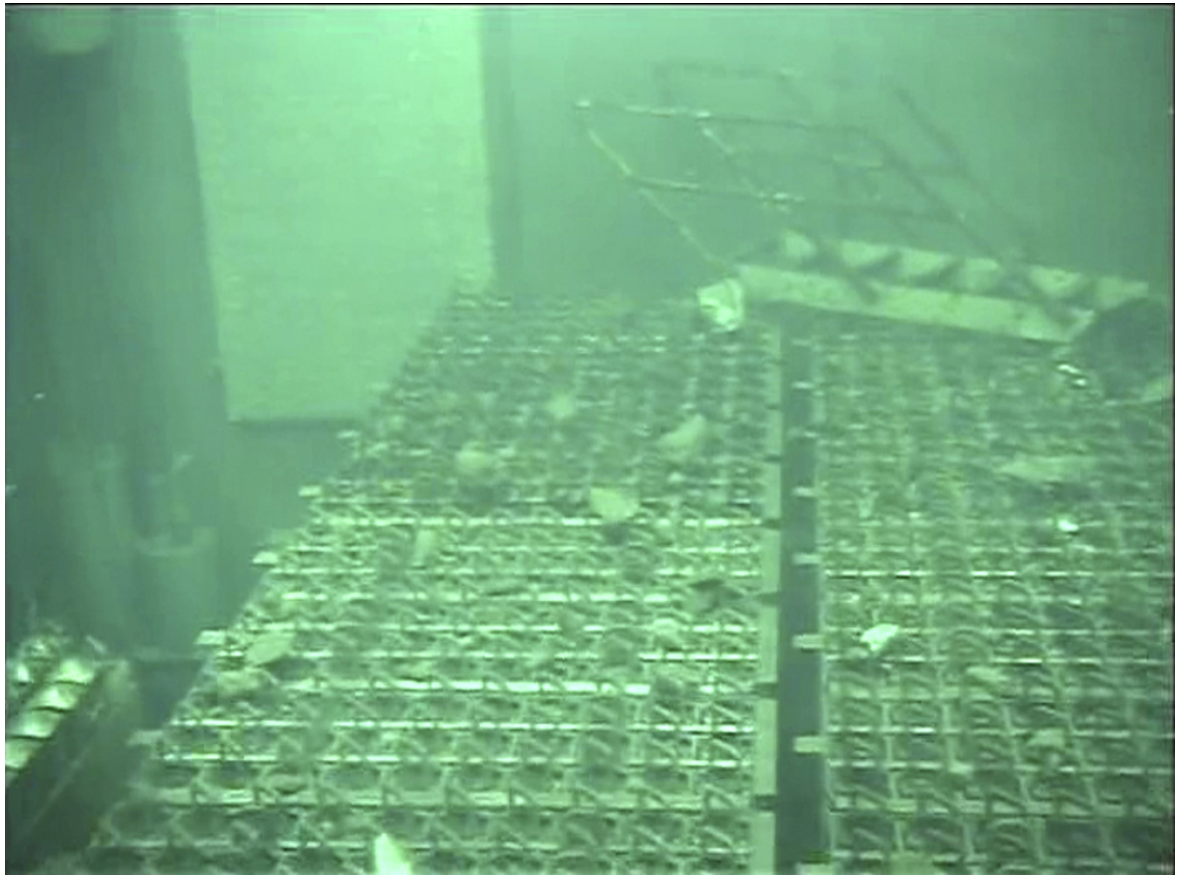


Figure 8: Seismic events in the Severn Highlands, 2019. Legend and notes as for Figure 6. In addition, producing mines from the Atlas of Canada (Lands and Minerals Sector; National Energy Board 2020) are shown as purple stars and seismic zones of the 2015 national seismic hazard model (Halchuk, et al. 2014) are outlined with dashed lines. Seismic zone abbreviations: SVH – Severn Highlands.

Incidentally, Dr. Simpson also failed to mention that used nuclear fuel in interim storage at the Fukushima and Onagawa plants – whether in pools or in dry storage – was NOT damaged, by either the earthquake or the tsunami, as seen in this photo:



Event Chronology – Initial Station Response

Note: Our understanding of this event will change. It is based on information received to date. The description is general and is not intended as an accurate chronology of events as they occurred.

- Nuclear reactors were shutdown automatically. Within seconds the control rods were inserted into core and nuclear chain reaction stopped
- Cooling systems were placed in operation to remove the residual heat. The residual heat load is about 3% of the heat load under normal operating conditions
- Earthquake resulted in the loss of offsite power (normal supply to plant)
- Emergency Diesel Generators started and powered station emergency cooling systems

Event Chronology – Initial Station Response

- One hour later, the station was struck by the tsunami. The tsunami was larger than what the plant was designed for. The tsunami took out all multiple sets of the backup Emergency Diesel generators
- Reactor operators were able to utilize emergency battery power to provide power for cooling the core for 8 hours
- Operators followed abnormal operating procedures and emergency operating procedures

By the way, let's not forget that many people took shelter at the Onagawa nuclear plant following the Tohoku earthquake:

Post-tsunami, some Japanese shelter in nuke plant

By JAY ALABASTER, Associated Press | 10:36 p.m. March 29, 2011

In this photo taken Friday, March 25, 2011, a man walks at the devastated city of Onagawa, Miyagi prefecture, northeastern Japan. As March 11 massive tsunami ravaged this Japanese fishing town, hundreds of residents fled for the safest place they knew: the local nuclear power plant. More than two weeks later, 240 remain, watching TV or playing ball games with their children next to three atomic reactors. It's a startling contrast to the troubled nuclear plant 75 miles (120 kilometers) southeast, where radiation leaks have forced an evacuation of nearby towns, terrifying the nation. (AP Photo/Vincent Yu) — *AP*

ONAGAWA, Japan — As a massive tsunami ravaged this Japanese fishing town, hundreds of residents fled for the safest place they knew: the local nuclear power plant.

More than two weeks later, 240 remain, watching TV or playing ball games with their children next to three atomic reactors. It's a startling contrast to the damaged nuclear plant 75 miles (120 kilometers) southeast, where radiation leaks have forced an evacuation of area residents and terrified the nation.

The town of Onagawa's embrace of its plant reflects the mindset in much of Japan, at least before the current crisis. Nuclear power was accepted as a trade-off: clean and reliable energy versus the tiny but real risk of catastrophe - one that now may be unfolding at the Fukushima Dai-ichi plant.

It's unclear how strongly the country will back nuclear energy in the future. But in Onagawa, as in much of the country, there may be few realistic alternatives.

"I'm very happy here, everyone is grateful to the power company," said Mitsuko Saito, 63, whose house was leveled in the tsunami. "It's very clean inside. We have electricity and nice toilets."

Those sheltering at the plant live in relative luxury compared to many other survivors. Most of Onagawa is still covered in a thick layer of dust. There is no running water or cell phone service, and only a few neighborhoods have electricity. Nearly 1,100 of the 10,000 residents are dead or missing, and 5,500 more have moved into schools and civic centers.

Within the nuclear plant, facilities are pristine, electricity flows directly from Japan's national grid, and evacuees can use its dedicated phone network to make calls.

"The general public isn't normally allowed inside, but in this case we felt it was the right thing to do," company spokesman Yoshitake Kanda said.

The plant has heavily guarded entrances and strict security checkpoints. Operator Tohoku Electric Power Co. barred reporters from the grounds. Many of the details for this article were gathered from employees and evacuees as they passed through the front gate.

After the tsunami hit, residents made their way to a company public relations center on high ground just outside the main nuclear complex. But that facility was damaged and had no water or power, so they were moved to a meeting room inside the complex - and eventually to the employee gym, where they now stay, near the reactors.

With coastal roads impassable, the company flew in water and food by helicopter from Sendai city, about 40 miles (60 kilometers) south. The gym, the size of two basketball courts, housed 360 people at its peak, about a third of the number crammed into other buildings of that size in the area.

"It's pretty spread out. People are just kind of lying around and relaxing," said Tatsuya Abe, 29, who is staying at the plant with his wife and 3-year-old daughter. "There are a lot of aftershocks, but it's safe."

The Onagawa plant was built to withstand bigger tsunamis - 30 feet (9 meters) - than Fukushima's 18 feet (5.4 meters). It had only light damage, including a fire near a turbine and some water that splashed out of a fuel rods pool. A jump in radioactivity was attributed to leaks from Fukushima.

A billboard posted by a protest group near the entrance road to the plant reads: "Eliminate Nuclear Power! Will it stop because of an accident, or because we stop it together?"

But resource-poor Japan will struggle to find alternatives to nuclear energy, which it relies on for 30 percent of its electricity.

"If we get too sensitive, it'll bring us down," said Masuo Takahashi, 84, from a nearby shelter in Onagawa. "So we just have to trust that there won't be an accident like Fukushima here."

The Associated Press

As for Japan's search for a national DGR site for disposal of high level radwaste, Dr. Simpson might have included this and similar stories – if she hadn't been driven by antinuclear ideology instead.

Mayor re-elected in village eyed for nuclear waste storage site

By TAKESHI SUZUKI/ Staff Writer

https://www.asahi.com/ajw/articles/14559851

February 28, 2022 at 19:12 JST

KAMOENAI, Hokkaido--The incumbent mayor here handily won re-election in the first mayoral race in 36 years, after he started the process to attract a facility to store highly radioactive nuclear waste.

Masayuki Takahashi, 71, swept to victory at the ballot box, winning his sixth term as mayor of the village of Kamoenai.

Twelve years after the Tohoku earthquake in Japan, there was another large earthquake, in a tectonically active zone in Turkey: Photos after the event showed the devastation, including railway tracks twisted like cooked spaghetti. Dr. Simpson might have noted that the tracks didn't break, and that similarly stressed NWMO used nuclear fuel containers don't break either, even when severely deformed by external forces. Of course she didn't.

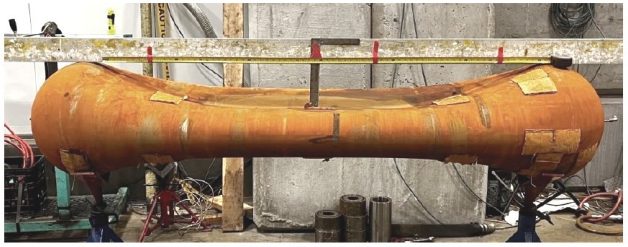
A Magn.7.8 earthquake releases about 16 million times the energy of anything seen in NWO (max. about Magn. 3). Note that the steel rails bent, but did not break. Similar can be expected of the Used Fuel Containers (UFCs), since they buckle under extreme stress, but do not crack.

Magn. 7.8 Kahramanmaraş earthquake, Turkey, 6 February 2023.

The earthquake had a maximum Mercalli intensity of XII (Extreme) around the epicenter and in Antakya.

SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
DAMAGE	None	None	None	Very light	Light	Moderate	Moderate/heavy	Heavy	Very heavy
PGA(%g)	<0.0066	0.0795	0.954	4.99	8.76	15.4	27	47.4	>83.2
PGV(cm/s)	<0.0028	0.0383	0.524	3.03	6.48	13.9	29.6	63.4	>136
INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+

Next, the UFC was pressurized beyond the design load and plastically buckled at a pressure of 63 MPa. The buckling test demonstrated the 40% design margin against plastic buckling. Finally, the UFC was further collapsed to the maximum degree, i.e., the cylindrical portion of the container was fully flattened until the end effect from the hemispherical heads prevented further propagation of the collapse. Another helium leak test was performed confirming the integrity of the containment boundary; no breach was detected. The UFC before the tests and the collapsed UFC after the tests are shown in Figure 4-10.



(b) Collapsed UFC After the Test

A DGR placement room subjected to shearing due to an extremely strong earthquake, like the one in Turkey, would cause the small UFCs to be displaced as indicated, similar to the railroad ties connecting the bent rails in the photo.

Finally, just as an observation regarding Dr. Simpson's submission to the IAAC: One would expect the University of Western Ontario to dissociate itself from the author, who misrepresents historical information and clearly lacks objectivity.

The university certainly should not be listed as the author.