



## **Nuclear is dirty energy. It leaves an everlasting radioactive legacy.**

All nuclear reactors create radioactive poisons as unwanted byproducts. We've made lots of them at the Point Lepreau nuclear plant on the Bay of Fundy west of Saint John.

The two "small" nuclear reactors proposed for New Brunswick will produce more of the same as well as new kinds of radioactive poisons.

Radioactivity from nuclear reactors and their waste must be securely contained because it is highly dangerous to all living things.

Exposing a living cell to radioactive material can alter its DNA. Chronic exposure can eventually cause cancers and other harmful health effects, including genetic damage that can affect offspring.

Any release of radioactivity at Point Lepreau can harm living things nearby including in the Bay of Fundy.

### **Used nuclear fuel**

The deadliest and most concentrated form of nuclear waste is used (irradiated) nuclear reactor fuel. It must be safely stored for

hundreds of thousands of years (essentially forever).

However, no secure long-term storage facility for spent fuel has been approved for use anywhere on the planet.

NB Power is planning to move the Point Lepreau deadly waste in future to a permanent storage facility on Indigenous territory in Ontario. The Indigenous communities in Ontario don't want it. We must consider permanent storage at Point Lepreau.

### **"Recycling" used CANDU fuel**

At Point Lepreau, irradiated nuclear fuel from the CANDU nuclear reactor is sealed in temporary storage silos. The new "small" nuclear reactor projects plan to open these storage silos. They will remove and dissolve the solid fuel bundles at high temperatures.

Their plan is to access the plutonium and a few other materials inside and make new fuel for the "small" reactors.

More than 95 percent of the dissolved fuel will be rejected as unusable radioactive waste.



## Coalition for Responsible Energy Development in New Brunswick

[www.crednb.ca](http://www.crednb.ca) | [info@crednb.ca](mailto:info@crednb.ca) | PO Box 4561 | Rothesay, New Brunswick | Canada | E2E 5X3

In Canada, this has never been done before on a commercial scale, and never with irradiated CANDU fuel. It raises many safety and security concerns

Some of the most contaminated sites on Earth are the result of large-scale reprocessing of irradiated nuclear fuel to extract plutonium.

### **Facts about plutonium**

Plutonium, a human-made material created during the nuclear reaction, is the primary explosive material in nuclear weapons.

It is also extraordinarily toxic when inhaled.

Reprocessing makes plutonium more accessible to terrorists for further use in “dirty” bombs (“radiological dispersal devices”) or improvised nuclear weapons.

There would be increased security at Pont Lepreau for the “small” nuclear reactors.

### **New types of used fuel created**

The “small” nuclear reactors will create new types of used fuel.

Smaller in volume, but much more radioactive by weight than the Point Lepreau

spent fuel, it will also need to be kept out of the environment of living things for hundreds of thousands of years.

### **Radioactive building materials**

When “small” reactors reach end of life, radioactive steel, concrete, and contaminated equipment will remain radioactive for thousands of years. These dangerous materials cannot be safely recycled.

The radioactive waste from dismantling the “small” reactors will be New Brunswick’s responsibility. Our future generations will be paying for the secure storage and maintenance of this waste for thousands of years into the future.

### **Conclusion**

The only guaranteed long-term solution to the problem of deadly radioactive waste is to stop making it. Moving existing waste to a safe and secure location at Point Lepreau requires planning, but let’s not make the problem worse by producing even more.

We must not fund new nuclear reactors. Instead, we should invest in cheap, clean, safe alternatives that can be quickly deployed to move New Brunswick to a green energy future.