

FUN NUCLEAR Q&A

Where was the first nuclear power plant in the U.S?

In December of 1957, **Shippingport, Pennsylvania** became the site of the first full-scale nuclear power plant in the U.S. The plant was able to generate 60 megawatts of electricity after reaching full power 21 days after going on-line.

What process does a nuclear reactor use to produce energy?

Fission. Fission involves using neutrons to "split" the nucleus of a heavy element, usually uranium, converting it to two or more lighter elements. In the process, a tiny amount of the element's mass is converted into energy. Fusion involves converting two hydrogen atoms into one of helium. Fusion produces a lot more energy than fission, but so far no one has found a way to control the process. Hydrogen bombs use fusion, but the atomic bombs dropped on Hiroshima and Nagasaki employed fission.

Some countries rely more upon nuclear power than others. Which country gets the highest percentage of its electricity from nuclear powered plants?

France. Although the United States produces more electricity from nuclear power than any other country, only about 20% of its electricity comes from nuclear plants. France, on the other hand, generates 78% of its electricity from nuclear power. Lithuania, Slovenia and Belgium use nuclear power to provide over half of their electrical production.

[Source: www.funtrivia.com]

SETTING THE RECORD STRAIGHT WITH NEW GENTILLY FILM DOCUMENTARY

The recently released documentary *Gentilly or Not To Be* may, regrettably, raise unfounded concerns about the safety record of Gentilly-2 nuclear power plant, and the nuclear industry in general. The film spreads many incorrect facts and interpretations that have little to do with reality. It would appear as though the producers of the film preferred to bury their own heads in the sand, rather than listening to competent public health authorities. To be clear, the Canadian Nuclear Safety Commission (CNSC) does not take a position on the commercial activities of Hydro-Québec and the energy policies of the province of Quebec.

However, as Canada's sole, independent nuclear regulator, the CNSC must set the record straight about some of the falsehoods being disseminated by the movie and its producers. Here are some examples of falsehoods presented:

Falsehood #1: There is an abnormal rate of childhood cancers near Gentilly-2.

Fact: The Regional Public Health Directorate for La Mauricie and Centre-du-Québec confirms cancer rates around Gentilly-2 are normal. The fluctuations recorded by the documentary filmmakers for the years 2000-04 are normal, temporary, and found in a relatively remote area away from the plant. In fact, such fluctuations are regularly observed in the population, and should not be interpreted blindly and recklessly.

Falsehood #2: A German study (KiKK) found that children living near nuclear power plants are at a higher risk of developing leukemia from radioactive releases.

Fact: The authors of the KiKK study and the German Commission on Radiological Protection have determined that the presence of clusters (or concentrations) of leukemia cases near some German nuclear power plants were not related to the radiation emitted by the facilities. In fact, some clusters are observed in different regions of Germany whether they have nuclear power plants or not. Other studies conducted in France, Britain and Switzerland found no relationship between how close someone lives to a nuclear power plant and the risk of leukemia.

Falsehood #3: All Canadian nuclear waste will be stored in Quebec.

Fact: None of the 21 communities that are currently part of the selection process underway for the establishment of a nuclear waste storage site in Canada is in Quebec. The CNSC would never license nuclear facility operators if their activities posed a health risk to the public, workers or the environment.

Falsehood #4: Living beside a nuclear facility increases the likelihood of birth defects and stillbirths, as proven by cases reported near Gentilly-2.

Fact: There is no evidence that exposure to radiation from nuclear facilities increases the risk of birth defect and stillbirths. Detailed health studies on survivors of the Hiroshima and Nagasaki nuclear bombings and people living near Chernobyl demonstrate that fact. Similarly, four studies conducted over many years on the population living around two large nuclear power stations in Ontario have provided no evidence of such effects. The cases reported in the movie cannot credibly be linked to the operations of Gentilly-2.

Falsehood #5: Women of childbearing age should not live near nuclear power plants, because of the dangers related to radioactive releases.

Fact: The minimal releases from nuclear power plants do not pose a danger to human health, including fetuses and young children. This has been demonstrated by many Canadian and international studies.

Falsehood #6: There are no safe levels of exposure to radiation.

Fact: There are no observable negative health effects below certain level of radiation exposure - about 100 millisieverts (mSv). Every year, Canadians are exposed on average to about 1.8 mSv from natural background radiation. This means that in one year, residents living in Trois-Rivières and Bécancour get 900 times more radiation from natural background than from the man-made radiation from Gentilly-2.

[Source: www.nuclearsafety.gc.ca]

BRUCE POWER'S UNIT 1 SENDS POWER TO GRID FOR FIRST TIME IN 15 YEARS

Bruce Power says it has successfully synchronized Unit 1 to Ontario's electricity grid, generating power from the unit for the first time in nearly 15 years.

With first synchronization now complete, Bruce Power says final planned commissioning activities will be carried out on Unit 1 including safety system shutdown testing. The utility says Unit 2 continues to be on track to return to operations in the fourth quarter. Plans to reconnect Unit 2 to the grid were delayed in May due to some damage to non-nuclear equipment at the site.

Bruce Power says when both Units are in operation, they'll produce enough electricity to power cities the size of Ottawa and London, Ont., combined. The return to service of Units 1 and 2 will bring the Bruce Power site back to its eight-unit capacity, doubling the number of operational units from 10 years ago when the company began a revitalization program.

[Source: www.canadianbusiness.com]

CANADA & UAE SIGN ADMIN ARRANGEMENT

The Canadian Nuclear Safety Commission and the Ministry of Foreign Affairs of the United Arab Emirates (UAE) have signed today an Administrative Arrangement pursuant to the Agreement Between the Government Of Canada and the Government Of United Arab Emirates for Cooperation in the Peaceful Uses of Nuclear Energy.

The Agreement and the Administrative Arrangement will allow Canadian companies to export nuclear items for peaceful uses, in accordance with Canada's nuclear non-proliferation policy.

The signing of this Arrangement between the Canadian Nuclear Safety Commission and the Ministry of Foreign Affairs of the UAE reflects the shared commitment by both organizations to work collaboratively to facilitate nuclear cooperation, while maintaining strong and effective non-proliferation standards.

[Source: www.nuclearsafety.gc.ca]

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