

## PNFA FACT SHEET

### MEDICAL HAZARDS OF RADIOACTIVE WASTE

- When 100 tons of uranium fuel is fissioned in a nuclear power plant it becomes one billion times more radioactive than the original uranium, and more than 200 new radioactive elements are made. These elements are radioactive waste.

The following describes only four of these 200 to give you an idea of their toxicity...

- Iodine 131, which was released at nuclear accidents at Sellafield in Britain, Chernobyl in the Ukraine and Three Mile Island in the US, is radioactive for only six weeks and it concentrates in leafy vegetables and milk after being absorbed from the soil. When it enters the human body via the gut or the lung, it migrates to the thyroid gland in the neck, where it irradiates cells, which can later become malignant, inducing thyroid cancer. In areas near Chernobyl, over 8200 people have already had their thyroids removed for thyroid cancer, a situation never before recorded in medical history. People can't live without their thyroid gland and require thyroid replacement hormones every day. Many of these people will go on to die of cancer.
- Strontium 90 lasts for 600 years. As a calcium mimicker, it concentrates in cow and goat milk. It accumulates in the human breast during lactation, and in bone, where it can later induce breast cancer, bone cancer and leukemia.
- Cesium 137, which also lasts for 600 years, concentrates in the food chain, particularly meat. On entering the human body, it locates in muscle, where it can induce a malignant muscle cancer called a sarcoma. There are over 300 sheep farms in Wales whose lambs are still so contaminated with cesium 137 from the Chernobyl accident thousands of kilometres away that they cannot be sold as meat. In fact 40% of the European land mass is still contaminated with radioactive elements from Chernobyl causing much of the food grown there to be radioactive.
- Plutonium 239, one of the most dangerous elements known to humans, is so toxic that one-millionth of a gram is carcinogenic. More than 200kg is made annually in each standard 1000-megawatt nuclear power plant. Plutonium is handled like iron in the body, and is therefore stored in the liver, where it causes liver cancer, and in the bone, where it can induce bone cancer and blood malignancies.

On inhalation it causes lung cancer. It also crosses the placenta, where, like the drug thalidomide, it can cause severe congenital deformities. Plutonium has a predisposition for the testicle, where it can cause testicular cancer and induce

genetic diseases in future generations. Plutonium lasts for 500,000 years, living on to induce cancer and genetic diseases in future generations of plants, animals and humans.

Plutonium is also the fuel for nuclear weapons -- only 5kg is necessary to make a bomb and each reactor makes more than 200kg per year. Therefore any country with a nuclear power plant can theoretically manufacture 40 bombs a year. As we export our uranium to China, India and Indonesia as the Prime Minister wishes, we are actively promoting proliferation of nuclear weapons.

- The elements in nuclear waste will leave a toxic legacy, causing epidemics of cancer, leukemia and genetic disease in all future generations. The breast milk will become radioactive as the waste leaks into the food chain and many children will develop cancer as well as being born deformed or with genetic diseases.