Protection of children from the effects of an accident on a nuclear submarine

At least 500 children living in Eastern Europe have suffered from thyroid cancer because of the nuclear accident at the Chernobyl. There will continue to be more cases for another 30 years. Young children were found to be particularly sensitive to the effects of radiation and the cancers among children have been more aggressive than the cancers among adults.

At Chernobyl, radioactive iodine was released into the atmosphere. An accident on a nuclear submarine could also result in radioactive iodine being dispersed. The iodine is absorbed by the thyroid, which is a gland in the neck. This can lead to thyroid cancer. The younger a child is, the smaller his or her thyroid is likely to be and the more sensitive it is to radiation. An infant thyroid is ten times more sensitive to the effects of radiation than that of an adult.

It is possible to protect children and adults from exposure to radioactive iodine. This can be done by taking a tablet which contains iodine in another form, potassium iodate. The tablets are 98 % effective if taken an hour before exposure, 90% effective if taken at the time of exposure, but only 50 % effective if taken 3 or 4 hours after exposure. Several days after the Chernobyl accident millions of children in Eastern Europe were given these tablets, but it was too late. The sooner the tablets are taken after an accident the more effective they will be. If it takes several hours to distribute the tablets then more children will be exposed to radiation, and more will develop cancer.

So long as only the recommended dose is taken there is very little risk from side effects from these tablets. Severe effects were virtually undetected in the millions of cases of tablets issued to children in Eastern Europe following the Chernobyl accident.

With regard to the possibility of a nuclear accident on the Clyde, the Navy is holding the largest ever nuclear accident exercise at Faslane on 18 - 20 November. This will involve evacuating the submarine base, and planning on paper what measures might be required to protect the local population. The accident will not simulate the worst kind of accident which could happen, but only a limited release of radiation.

The Clyde Public Safety Scheme indicates how the Emergency Services should respond to a nuclear submarine accident. This includes some plans to protect people living within 2 km of Faslane itself and other berths where submarines are moored. But there are no specific plans to protect people living within 2 kms of where submarines regularly sail when they are going up and down the Clyde estuary. There is a strong argument that the safety scheme should be extended to include specific proposals to protect these areas - which include the whole of the Rosneath peninsula, Rhu, Helensburgh, Gourock, Greenock and Dunoon.

Health boards do hold stocks of the Potassium Iodate tablets and the current plan is that if there was an accident, then they would be distributed. But by then it would be too late. At a minimum these Potassium Iodate tablets should be distributed in advance to schools and nursery schools within this 2 km zone. There is also a case for wider distribution of these tablets to all households. The Navy's other nuclear submarine base is at Devonport in England. Here there has been widespread distribution of these tablets to schools and to many households around the submarine base. But none have been predistributed around Faslane.

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