Nuclear waste leak warning from scientist

Safety: *Radioactivity disposal agency report admits underground storage is not foolproof in long term*

JASON ALLARDYCE

A LEADING Scottish geologist claims a report by the radioactive waste disposal agency Nirex proves a planned underground waste repository could leak radioactive materials in less than 40 years.

Using data provided by the agency, Dr Stuart Haszeldine, a senior lecturer at Glasgow University, alleges the risk of death from the leakage in Cumbria would exceed the Government's safety limit by up to eight times.

His comments come days after the Environment Secretary, John Gummer, received recommendations from a planning inquiry into Nirex proposals for a rock laboratory.

Nirex plans to open a rock laboratory which would explore whether a site near Sellafield was geologically suitable for nuclear waste disposal.

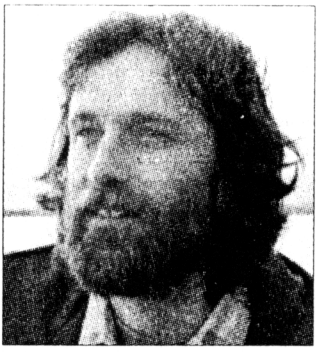
The site is close to the Lake District National Park, a popular visitor attraction, and Dr Haszeldine claims leaked radioactive iodine, not visible to the naked eye, could be breathed in, causing thyroid cancer.

There have been reports of increased incidences of thyroid cancer in children affected by atmospheric fallout of radioactive iodine downwind of the Chernobyl plant.

The Nirex report, which examined the possibility of leaks of radioactivity, was written in early 1994, Dr Haszeldine said.

He claimed it only became public after Friends of the Earth asked for it to be made available to the planning inquiry which ended in February.

He added that it had taken several months to complete a scientific assessment of the report which is more than 200 pages long.



Dr Stuart Haszeldine: "Cancer will increase"

The lecturer, who was cited as a witness for Greenpeace during the inquiry, says the leak of radioactive iodine and chlorine would rise up along tunnels and shafts which Nirex plans to excavate as the first part of its planned radioactive waste repository.

As well as causing dangerous gases, he claimed that escaped materials might enter future public water supplies.

"The leak of radioactive waters simulated in the report occurs along fractures," he said. "These will be produced by the construction methods for tunnelling to be employed by Nirex. This involves blasting the rock with explosives."

Dr Haszeldine said such construction methods went against the recommendations of expert scientists in relation to a similar rock laboratory project in Sweden. He added that in July the Government watchdog, the Radioactive Waste Management Advisory Committee, also warned that these access shafts could form a main route for radionuclides to escape from a dump at this site.

David Smythe, a professor of geophysics at Glasgow University, said the gravitational pull of the moon, which causes the ocean tides, also caused the Earth to move up and down.

"In Britain, the size of this motion is about two feet. Over time, this motion will inevitably work open the old cracks around the access shaft which Nirex will claim to have sealed," he said.

He claimed that the radioactive waste would heat the rock to about 80C and produce additional cracks. The generation of gas, possibly at substantial pressures, in the repository is another unsolved problem.

"The combination of these effects means it is probably impossible to seal up the shafts with any known technology."

Nirex said its report was examined thoroughly at the public inquiry and claimed Dr Haszeldine and Prof Smythe had only picked out "the worst case from 20 models" on sealing the shafts contained in the report.

An agency spokesman said: "If Nirex cannot show that a repository will be safe then the company will not be allowed to build it, so if dangerous levels of radioactivity could travel through half a mile of rock in 20 years Nirex could not proceed.

"If Haszeldine or Smythe read the evidence they would see that the waste canisters would last 1,000 years and possibly up to 10,000 years."

He added: "Nirex does not yet have all the answers; that is why we want to build a rock laboratory."