Nuclear installations not the cause of cancer?

- Risks similar at rejected and chosen sites
- Unidentified risk factor may be involved

Washington

RESEARCH published in Britain last week shows that the mortality rate from leukaemia and Hodgkin's disease in young people is higher not only near existing UK nuclear power stations but also near places being considered as future power station sites. This further tips the balance of the evidence away from the theory that radioactive discharges are behind the increases.

Epidemiological research in Britain, the world leader in studies of the health effects of nuclear installations, has so far been inconclusive in attempts to prove or disprove a link between radioactive discharges and an increase in the incidence of leukaemia and Hodgkin's disease in young people living nearby.

After examining the evidence last year, the Committee on Medical Aspects of Radiation in the Environment, an independent commission, concluded that some unidentified feature of Britain's nuclear reprocessing plants at Sellafield in Cumbria and Dounreay in Scotland was the most likely cause of the increased incidence of leukaemia, but could not attribute the increase to radioactivity in the area because the measured levels were so low.

Leo Kinlen of the Cancer Research Campaign's epidemiology unit at the University of Edinburgh later found evidence to support the theory that the increased leukaemia incidences might result from viral infections. His theory proposes that a rapid influx of population in the vicinity of a nuclear installation, usually located in an isolated area, brings an infection to which the indigenous population has not evolved resistance.

In an attempt to decide whether the increased cancers are caused by radiation from nuclear installations or by some other contingent feature, Paula Cook-Mozaffari, Sarah Darby and Richard Doll of the Imperial Cancer Research Fund Laboratories in Oxford compared mortality data from areas near two Central Electricity Generation Board (CEGB) nuclear power stations and six other sites being considered by the CEGB for the construction of power stations. They reported in *The Lancet* last week that the increased risk of mortality due to leukaemia and Hodgkin's disease in young people was "strikingly similar" in both groups.

Although they declined to suggest any reason for the increased mortality, they

suggested that these areas might share "important unrecognised risk factors" other than environmental radiation pollution. But they also point out that there had been no sudden population influx in the potential sites, which argued against the viral infection theory.

Evidence is now mounting, says Darby, against the theory that radioactive discharges are responsible for the increased cancer risk, although at Sellafield, home to one of Britain's two nuclear reprocessing plants, the discharges and the increased cancer risk are much higher and

the issue is still open. At Dounreay in Scotland, the site of Britain's other reprocessing plant, the reported increased leukaemia incidence is also significantly higher than in the areas in this study.

Kinlen says the new results are consistent with the theory that in isolated coastal areas, which would be suitable sites for nuclear installations, the pattern of human interaction is different from that in the average large inland town and could explain the increased risk for certain types of cancer. He adds that "it is possible, if not probable" that the new results are recording the same effect he saw on a smaller scale and predicts that a similar result would be found in any rural coastal area, regardless of whether it was a potential site for a nuclear power station.

Christine McGourty

Cancer near potential sites of nuclear installations, by P. Cook-Mozaffari, S. Darby & R. Doll, *Lancet* II, 1145-1147 (1989).

NUCLEAR POWER

Privatization spells end of a nuclear dream

Washington

THE future of the nuclear industry in Britain is in doubt after last week's announcement by the government that it was abandoning plans to build three new PWRs (pressurized water reactors). The reversal of the plans to expand the nuclear industry is an about-face by the Conservative government under Prime Minister Margaret Thatcher, a staunch advocate of nuclear

power, but was inevitable given the government's determination to privatize the electricity industry and the refusal of the soon-to-be-privatized local electricity boards to carry through the £7,000 million PWR programme and face the huge costs of nuclear waste disposal and of de-commissioning old power stations.

Strong opposition to nuclear power forced a long and controversial public inquiry into the safety and design of Britain's first PWR at Sizewell in Suffolk. The plans were approved 18 months ago and construction is under way. The subsequent inquiry into a second PWR, at Hinkley Point C in Somerset, has been running for more than six months and was drawing to a close, but will now be abandoned along with plans for another two PWRs at Sizewell C, and Wylfa B in Wales.

Opponents of nuclear power scored a major victory during this inquiry when the

Central Electricity Generating Board, which has always promoted the low costs of nuclear power, was forced to disclose figures showing that its coal-fired power stations are cheaper.

In an attempt to ensure that nuclear power was not neglected after privatization, the government had stipulated that by the year 2000, 20 per cent of the electricity demand must be met by non-fossil

Former director of the UK Atomic Energy Authority, Lord Marshall may not be the man to run a coal-fired CEGB.

fuel sources to maintain fuel diversity. A new private company, National Power, was to be responsible for nuclear power generation. But its chairman-designate, Lord Marshall, is confidently expected to resign; and now the 10 existing Magnox reactors and 7 AGRs (advanced gas-cooled reactors) will be retained in a new publicly owned company.

Christine McGourty