

# The Ecologist Digest

## Nuclear Power

**Report disputes fixing of safe radiation levels,** Anthony Tucker, *The Guardian*, 26th January 1984  
The exposure of the public to natural radiation should not be used to justify exposure from other sources, such as nuclear waste disposal, says a report published by the National Radiological Protection Board.

Cutting directly across the argument of the former chairman of the radioactive waste management committee, Sir Denys Wilkinson, the report says that natural radiation levels must not be used to determine an appropriate permitted level of dose from other sources.

Sir Denys, who has retired from the management committee, consistently said that public radiation exposures from nuclear waste should be regarded as acceptable if they fell within the variations of natural background radiation. The NRPB reports says that natural background levels should be used only to give perspective.

"The existence of one source does not provide a basis for the justification of a different source. Natural radiation doses or their variations cannot be used to justify doses from waste disposal."

The new chairman of the committee, Professor Paul Matthews, said that he had not seen the NRPB report and that it was too early to make any useful comment. The NRPB appeared to have 'adopted' an ideal interpretation of the international recommendations," he said.

The report makes it clear that natural radiation should not be exempt from the international system of dose limitation, even though it is excluded from the numerical limits that are imposed internationally for other sources.

It is the first report in Britain to make comprehensive estimates of public exposure from all forms of natural radiation, including the decay products of radon (a radioactive gas produced by radium in the soil) which in some parts of the country accumulates in houses and other buildings to produce significant radiation doses in the lungs of occupants.

According to the survey, the range of natural exposures for individuals in Britain is from 100 millirems a year to 10 rems a year—which is twice the

maximum permitted industrial exposure. People living in radon-rich houses receive doses to the lung which are directly comparable with those of some uranium miners, among whom an increased incidence of lung cancer has been detected.

The report says, however, that carrying out a worth-while study of the general population in an attempt to detect variations in cancer incidence in relation to variations in natural radiation, is extremely difficult. The latent period for cancer of the lung can be 30 or 40 years and "even a study of people living in houses covering a wide range of concentrations of radon would have to be very large and very extended in time to offer any chance of positive results," the report says.

It argues that other factors, such as smoking—whether active or passive—or exposure to chemicals would confound the results. Nevertheless, it says firmly that there may well be good reasons to apply international regulations to houses and other buildings to bring in control measures which limit public exposure to radon.

**Dublin demands Sellafield action,** Ian Black, *The Guardian*, 18th February 1984

Discharge operations at the British Nuclear Fuels Ltd plant at Sellafield in Cumbria should be discontinued as soon as practicable, according to the Irish deputy prime minister, Mr Dick Spring.

Mr Spring, who is also Ireland's energy minister, told Mr Patrick Jenkin, the Environment Secretary, that Dublin wanted further research into radiological hazards in the Irish Sea.

Mr Spring wanted Britain to "undertake to immediately inform the Irish authorities of any unplanned discharges that take place." He told a press conference: "It's vital that we have access to the information at the earliest possible opportunity."

Mr Jenkin, according to a statement issued after the meeting with Mr Spring explained that British policy was one of "full disclosure of all facts concerning discharges and the implementation of a programme of continued reduction in the level of discharges as well as a tightening of standards to as low a level as possible."

Mr Spring said that while there was no evidence of adverse effects on Irish people, his government was concerned at the Sellafield incident and with "the possible long-term consequences of over 25 years of radioactive waste disposal into the Irish Sea."

He urged the Government to consider the disposal of further low level radioactive waste on land and said that Ireland would be taking that position at the next meeting of the London Dumping Convention (LDC).

Britain has temporarily suspended dumping pending the completion of a scientific study to be carried out within the context of the LDC.

The Irish Times said that the radioactivity of seaweed in Dublin Bay is now up to 100 times the level measure in Galway Bay, although it is still only about one-tenth of the level found in seaweed on the Cumbrian coast.

**Radioactive leak record 'rigged'**, Roger Ratcliffe, *The Sunday Times*, 19th February 1984

An entry in an official logbook at the Sellafield atomic fuels reprocessing plant was altered to conceal the extent of last November's discharge of radioactive waste into the Irish Sea, according to reports being investigated by police.

This disclosure comes in the wake of two government reports criticising British Nuclear Fuels Ltd for bad management at Sellafield. Several miles of beaches were closed when contaminated material was washed ashore after effluent discharges. It has emerged that eight members of the public were found to have received doses of radioactive material ruthenium.

The works, which processes spent nuclear fuel rods, was closed for annual maintenance and tanks were being washed out with a solvent. But this decomposed solvent—or 'crud'—was wrongly sent to the disposal tanks for release through a pipeline stretching one mile out to sea from the plant.

BNFL initially estimated that 500 curies of beta activity (a measure of radioactivity) had been flushed out to sea and believed that a further 4,500 curies were diverted to a storage tank. The company is permitted to discharge up to 15,000 curies of this type of radiation over three months. However, the discharge of a third of this amount in one go breaches the principle that discharges should be kept "as low as reasonably achievable".

It is now being alleged that the log was altered to show that only a small proportion of this crud went into the sea. In fact, a report issued in early February by the environment department's radio-chemical inspectorate said that all but 'a fraction' of the total amount of curies appeared to have been discharged into the sea. The report mentioned 'inexplicit entries' in the log. Deletions had also been made in instructions for the maintenance operation.

Criticism of BNFL increased because of its apparently conflicting statements about the discharge. First, it waited a week before announcing the discharge had occurred—and Greenpeace had already found out—and then it said there had been no breach of the limits for discharges. Although technically this was true, it belied the fact that there had been a significant error in operations.

The company also neglected to tell its local liaison committee—a group of councils and residents—about the discharge, even though the committee met two days before BNFL's announcement.

Then, the MP for Workington, Dale Campbell-Savours, asked the government in January whether anyone had been contaminated as a result of the leak. The answer was 'no'. But now the Radio-Chemical Inspectorate's report has shown that eight people were found to have traces of ruthenium in their bodies.

**Sellafield denies new leak after tar finds**, Michael Morris, *The Guardian*, 2nd March 1984

Examination of radioactive waste being washed up on the beaches around the Sellafield nuclear site in Cumbria has revealed a type not found in surveys conducted after the leak in November. British Nuclear Fuels Ltd which operates the Sellafield plant, denied a suggestion of a further leak.

The National Radiological Protection Board said that the initial drop in the amount of contaminated material being found had not been sustained after the survey was completed on 13 February.

A new tar-like substance found on beaches contains spots of radioactivity.

The NRPB report says that if no solution is found within the next month or so the possibility of an exercise to clean up the beaches should be considered.

The report shows that although the frequency of finding contaminated material, including some pieces of seaweed and string on the shore, could have been expected to diminish since November, this has not happened. After the initial drop, contaminated material continued to be found on the beaches and on the estuaries and salt marshes.

But the plant operators, British Nuclear Fuels Limited, emphasised that in the weeks since the report was completed the frequency of finding contaminated material has decreased.

Mr Jenkin, the Environment Secretary, told the Commons that in the last week of the board's survey which ran from 5 December to 13 February, pieces of bitumen were found but the radiation dose rate from the material was smaller than from other items found since November. He had been informed that since February 13, the frequency of the discoveries of bitumen had also declined.

The report suggests three possible causes for the contamination: other releases from BNFL installations; contaminated material already on the beach being uncovered by the action of tides; and contaminated material already in the sea being brought to the shoreline in certain weather conditions.

Mr Jenkin said the BNFL had identified the possible source of the bitumen as one of the sea pipe lines which was used just before the bitumen was discovered. At the request of his department, tests were being carried out on this pipeline.

The report concludes that the only circumstances of concern are those involving the chance of prolonged handling by people of contaminated debris.

Greenpeace called on trade unions within the industry, MPs and the public to demand that all further discharges from plant should cease pending a full independent inquiry.

**Nuclear 'laundry' tally**, *The Guardian*, 6th March 1984

Sellafield nuclear reprocessing plant dealt with 321 tonnes of imported spent uranium fuel, from seven different countries last year, according to the Junior Energy Minister, Mr Giles Shaw.

Uranium came from Japan, Italy, Sweden, Switzerland, Spain, West Germany and the Netherlands, Mr Shaw told the Labour energy spokesman, Mr Stan Orme, in a written reply.



Mr Orme had asked the minister how much 'nuclear waste' had been imported for reprocessing since 1979 and what were the countries of origin.

In his answer, Mr Shaw stressed that spent irradiated nuclear fuel is reprocessed at Sellafield rather than 'nuclear waste'.

Mr Shaw added that British Nuclear Fuel contracts for reprocessing include "options providing for the return to customers of radioactive wastes arising from reprocessing."

In 1979, 207 tonnes of imported uranium were dealt with at Sellafield. This figure rose to 322 tonnes in 1982 before falling by 1 tonne to last year's figure.

### **Reservoir eats foundations of Russian industrial complex, *New Scientist*, 26th January 1984**

The engineering heart of the Soviet Union's nuclear power programme at Atommash, along with the neighbouring town of Volgogradsk, which houses 100,000 people, is being undermined by water from a huge reservoir that towers over the town. The entire complex may have to be dismantled and moved.

Atommash is a unique industrial complex, built between 1972 and 1980 for the production of equipment and blocks for reactors and nuclear power stations. Problems at the complex were highlighted in July 1983, when the Politburo publicly mentioned serious errors and mistakes in the construction of industrial plants in Volgogradsk.

The Atommash plant and the town of Volgogradsk, which was built to serve the plant, had been constructed in the wrong place—in the shadow of a large dam and hydroelectric power station on the River Don. The water level of the Tsimlyanskoye Sea behind the dam is well above the level of the town. This is dangerous in itself. But there is worse.

In 1983, the heavy foundations of the Atommash plant began to give way. Walls collapsed and serious accidents stopped the plant's operations.

The Tsimlyanskoye Sea appears to have caused the water table in the region round the dam to rise.

Exploratory boreholes, made before the construction of Atommash began in 1972 to check on underground water, were drilled too far apart to show up the underground cavities and holes that were filling up with water from the lake. So the land was declared safe and construction went ahead.

The problems with Atommash have caused Soviet engineers to look more closely at many of their hydroelectric dams and the plants built close by them. It appears that the foundations of the Volgogradsk dam itself are not deep enough to reach waterproof geological formations and that a number of dams across the Volga have similar problems.

### **Sizewell inquiry official attacks safety watchdog, Roger Milne, *The Guardian*, 3rd March 1984.**

The Nuclear Installations Inspectorate was strongly criticised by Sir Frank Layfield, QC, the inspector in charge of the Sizewell B public inquiry, for failing to tell the hearing in full about reservations on the safety of the proposed pressurised water reactor.

His annoyance stems from the fact that the inquiry has only just learned from the NII that it has

rejected more than a dozen key design details of Britain's First American-style PWR which the Central Electricity Generating Board plans to build on the Suffolk coast.

Since the hearing began 15 months ago, the inspector has frequently expressed his concern at delays in resolving safety issues between the NII and the CEGB.

The inspector complained this time that at the regular reviews of the safety case, the hearing had been told only about the timing of discussions between the NII and the board. Sir Frank said: "It appears from the answers that what we were told was incomplete. In particular, there has been no indication given to the inquiry when particular items were reported that what had occurred was a rejection of CEGB submissions by the NII.

"I had hoped that the reports made to us would not fail to contain anything that the inquiry ought properly to be told."

Afterwards a CEGB spokesman commented: "Throughout, we have done all that we can to update the inquiry on the latest position. We have made submissions to the NII, and in some cases the NII has responded by saying it requires further information in order to be satisfied."

"We do not regard this as tantamount to rejection—merely that at present the NII is not satisfied."

### **CEGB to order £12m parts for Sizewell, David Fairhall and Roger Milne, *The Guardian*, 4th February 1984**

The Central Electricity Generating Board has been given government clearance to order key nuclear components for the Sizewell B pressurised water power station in Suffolk at least 18 months before planning permission for the controversial £1,200 million project can be granted and with the public inquiry still in progress.

The board argues that unless it can order the £12 million components—mainly steel forgings for the reactor pressure vessel to be built by the French firm Framatome—the project will incur expensive delays if and when it goes ahead.

But one of the objectors, Mr John Valentine, representing the local Stop Sizewell B Association, described the board's move as an insult to them and the planning inspector, Sir Frank Layfield, QC. It demonstrated that the result of the inquiry "is and always has been a foregone conclusion".

Mr William Cannell, directing opposition for the environmental pressure group Friends of the Earth, said he found it almost incredible that the CEGB "should be willing to invest in major components of the pressure vessel before the inquiry has had a chance to subject the design to any scrutiny whatever."

The ordered forgings are made of especially high grade steel which must be elaborately cured and tested. The board's case for ordering them early will be that the cost of delaying the power station's construction by two years—which is what waiting for the Government's approval would mean—would be more than £100 million.

This figure is made up of interest charges, non-productive work during the interval, reorganising contracts, and the national savings to the taxpayer of cheaper nuclear generated electricity.

However, this last item, which represents a substantial proportion of the total, is likely to be challenged by objectors.

## **Risks '10 times higher than claimed', *The Guardian*, 18th February 1984**

Sizewell B is 10 times more dangerous than the Central Electricity Generating Board admits, according to a German safety expert.

Mr Lothar Hahn, giving evidence for the Friends of the Earth to the inquiry at the Snape Maltings, said the board's safety assessment was inadequate and unrealistic.

He argued that its analysis of the risk rested on optimistic assumptions about the likelihood of accidents and not on design changes which had improved the safety of the station.

Mr Hahn, who is heading a team of experts reviewing nuclear reactor safety on behalf of the West German Government, told the hearing that safety studies had been carried out on similar reactors to Sizewell B. These put the risks at least 10 times higher than shown in the CEBG's assessment.

He said the board should have based its safety assessment more on the operating experience of nuclear reactors than on optimistic assumptions on how the plant would work in the future.

## **Commons office attacks nuclear project delays, Richard Norton-Taylor, *The Guardian*, 23rd February 1984**

A stinging report on the way the Atomic Energy Authority has conducted its fast breeder nuclear reactor programme—which costs about £100 million a year and has suffered serious faults and delays—was released yesterday by the Commons' National Audit Office.

Sir Gordon Downey, the Comptroller and Auditor General, who is head of the office which acts as Parliament's financial watchdog, refers in his report to leaks in evaporator welds in the prototype fast-breeder reactor at Dounreay, Highland, in the past few years.

The delivery of spare parts to cope with other problems is at least four years overdue, he says.

The AEA estimated early in 1975 that the Dounreay reactor would be operating at full power by the summer of that year, but it is not expected to do so until this summer. Although the AEA originally said that a commercial fast reactor would start in 1977—11 years after construction of Dounreay started—work on the reactor is likely to be delayed by at least nine years, the report says.

In addition the state of the economy made it unlikely for fast reactors to be needed for commercial use until early next century.

"Against this background," Sir Gordon says, "it is clear that in real terms the total cost of developing the prototype reactor to the stage where the whole system can be operated continuously and reliably at

full power, is greatly in excess of that envisaged in 1975."

Sir Gordon sharply criticises the lack of financial control and procedures within the AEA. He also says that it is 'questionable' whether the Department of Energy's examination of the AEA's requests for funds could have included a soundly-based scrutiny of programme expenditure.

"It appeared to me that through the absence of costed technical plans the monitoring arrangements lacked formal procedures to facilitate progress against expenditure," he adds.

*National Audit Office, Report by the Comptroller and Auditor General, Development of Nuclear Power, Stationery Office, £3.60.*

## **Nato can win without the bomb, Jon Connell, *The Sunday Times*, 5th February 1984**

A group of military experts is urging the west to make radical changes in the way it defends itself. The group, which includes the recently retired permanent secretary of the Ministry of Defence, Sir Frank Cooper, believes that Nato could soon be in a position to halt a Warsaw Pact attack on western Europe without using nuclear weapons or significantly increasing its defence spending.

Its main conclusion is that by exploiting new technology properly, the Nato alliance should be able to achieve "a non-nuclear and thus far more credible defence". One result of this would be that the arsenal of several thousand battlefield nuclear weapons, currently deployed on the central front in Europe, could be removed.

The proposals are made in a booklet entitled *Diminishing the Nuclear Threat*.

The booklet is an indictment of current Nato strategy. It says the notion of defending western Europe by "controlled step-by-step escalation"—starting with conventional weapons and moving gradually up the scale from battlefield to strategic nuclear weapons—is 'impractical nonsense' and could not be achieved in a war which would be "unpredictable and largely uncontrollable and chaotic".

The experts argue that new technology can ease the problems. Essentially, this is because modern surveillance could enable the west to identify targets quickly and modern missiles could make it possible to strike much deeper and more accurately—particularly at Warsaw Pact airfields. The committee booklet suggests that relatively cheap missiles are becoming much more important than highly expensive 'weapons platforms' such as tanks, aircraft and ships. The modern precision guided missile, therefore, could help the west to offset Soviet strength which lies in the sheer number of its ground forces and in "its massive array of platforms".

The committee has some damning things to say about Nato's current readiness to fight a war in Europe. "Supplies of basic ammunition, vehicle stocks and spares," it says, "are dangerously low". Although Nato countries are supposed to possess war stock which could last for 28 days, "at current expectations of attrition, in some vital respects they have about seven days".



The report is likely to be used by those, such as General Bernard Rogers, the supreme allied commander in Europe, who are also keen on the possibilities of new technology. But it will come under fire from those who believe that new technology is over-rated.

The experts themselves stress that technology can be no panacea. They are less than enthusiastic about the prospect of an arms race in space. Any attempt to develop a means of shooting down incoming nuclear missiles, they say, would be based on 'fantasy' and would be 'militarily unnecessary, diplomatically dangerous and economically ruinous'.

**ICI switch to nuclear opposition**, James Erlichman, *The Guardian*, 6th March 1984

The Government's plans to dump nuclear waste in a disused mine at Billingham on Teesside were dealt a severe blow when ICI, the owner of the mine, refused to cooperate any further with the controversial proposal.

ICI's tough stance, which was forced upon the company by the depth of local opposition, means that the Government will have to resort to compulsory purchase and commandeer the mine before the nuclear waste can be dumped.

The company, which is the largest employer on Teesside, now openly oppose the scheme if a public inquiry is called. Officials from the Nuclear Industry Radioactive Waste Executive (NIREX), who are trying to prove the mine is safe in advance of an inquiry, will be refused permission to inspect the mine by ICI.

ICI made no attempt to conceal that it had been swayed by the intense local protest mounted by Band, Billingham Against the Nuclear Dump.

A spokesman for Nirex, which was formed by the Government in 1982 to identify nuclear waste sites, admitted that ICI's opposition greatly reduced the chances that nuclear waste would be dumped under Billingham.

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## Chemicals, Drugs and Pollution

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**Industrial lobby 'keeps chemical sites secret'**, Richard Norton-Taylor, *The Guardian*, 26th January 1984

The locations of about 2,000 sites handling dangerous chemicals are kept secret by the Health and Safety Executive because of pressure from private industry, according to a report published by the 1984 Freedom of Information Campaign.

Internal papers show that factory inspectors have been told that the list must not be disclosed, it claims.

The Confederation of British Industry is said to have blocked a recent attempt by the Health and Safety Executive to persuade the Government to name the sites under a new EEC directive requiring local authorities to provide information to people liable to be affected by an accident. As a result, only 250 sites will be made public.

The 15,000-word report by Mr Maurice Frankel and Mr Des Wilson of the environment group, Friends of the Earth, criticises the attitude of central and local government toward environmental pollution.

Government agencies have consistently ignored recommendations from the Royal Commission on Environmental Pollution for greater accountability and more openness.

The report says that the industrial air pollution inspectorate is prohibited by law from revealing details of effluent released by factories, and local authorities have not used their powers given in the 1974 Control of Pollution Act to disclose air pollution.

The Ministry of Agriculture's advisory committee on pesticides refuses to disclose information about the hazards of products cleared for use, even though the information is often available in the United States. Companies frequently argue, the report says, that secrecy is essential to protect the public from 'scare stories' which over-simplify high technical matters.

It says that fines imposed on companies for breaking health and safety regulations rarely amount to more than £100 and gives examples of local government officials being disciplined for legally giving information to the public.

*Protecting the Polluter, Secrets File No. 2, 1984, Freedom of Information Campaign, 2 Northdown Street, London N1, price £1.*

**Farmers grossly overuse pesticides, report claims**, John Young, *The Times*, 24th February 1984

Pesticides to control insects, weeds, and plant diseases are grossly overused, and are not subject to adequate legal safeguards according to a report prepared by Friends of the Earth for a campaigning group called the Pesticides Action Network, which is supported by Oxfam, and the Soil Association. It describes the pesticides safety precautions scheme (PSPS), which is administered by the Ministry of Agriculture under guidance from an independent panel of scientists, as a toothless watchdog.

The report points out that there are no legal limits on the application of pesticides. Vegetables, for example, may receive up to 46 sprays in a season, yet residues in food-stuffs, which constitute a potential health hazard, are not properly monitored.

It adds that even when chemicals are declared unsafe under the safety scheme, there is nothing to stop farmers using them. Most farmers have no training in pesticide use or safety.

The report calls for statutory controls to give legal force to the present voluntary arrangements; a system for monitoring the health effects of pesticides; and greater disclosure of information on potential hazards.

It also wants a ban on the sale of pesticide that has not been cleared by the ministry as effective; a ministry-sponsored programme to reduce pesticide use to the minimum; maximum legal limits of levels of residues in foodstuffs; and regular surveys of the health of farmers and farmworkers.

**Pollution fight bogged down**, Paul Keel and Martin Wainwright, *The Guardian*, 23rd February 1984

Greater public control over the nuclear waste industry and increased access to information on industrial pollution have been urged by the Royal Commission on Environmental Pollution.

In a report, *Tackling Pollution—Experience and Prospects*, the commission also urged that high priority be given to research into the causes and effects of acid rain. But within hours of its publication the report, the commission's tenth since its creation in 1970, was criticised by Friends of the Earth for being "too cautious, out of date and likely to be ignored like many of its predecessors".

The commission is critical of the Government's failure to respond to some of its previous reports, notably one in 1976 which called for a central pollution inspectorate, another in 1979 on agricultural pollution and a third in 1981 on oil pollution of the sea.

"Royal Commissions, like any other advisory bodies, must accept the fact that not all of their recommendations will be implemented," it says. "However, it is reasonable for them to expect that their reports will be dealt with as expeditiously as the complexity of the subject matter permits.

The report suggests that people from outside the nuclear industry be added to the board of the Nuclear Industry Radioactive Waste Executive. It also points out that no government advisory committee takes responsibility for the transport of nuclear waste and urges that this gap be filled.

The commission is irritated by the slow implementation of the 1974 Control of Pollution Act and makes a tart reference to the Opposition spokesman at the time, Mrs Margaret Thatcher. Her claim in Parliament in 1974 that the Act was likely to have "a greater and more lasting effect on the quality of life in many parts of Britain than most other measures" has still to be properly tested, it says. Twenty out of 26 sections on water pollution had yet to be implemented.

The commission reaffirms its long-standing hostility to official and commercial secrecy on pollution and argues that the authorities or businesses concerned must prove the need for keeping data private. "Secrecy fuels fear," it says. "A guiding principle behind all legislative and administrative control relating to environmental pollution should be a presumption in favour of unrestricted access for the public to information which the pollution control authorities receive by virtue of their statutory powers."

The commission concludes with an appeal for greater government awareness of the damage caused by pollution.

"Control of environmental pollution is not an optional extra; it is a fundamental component of national economic and social policy," it says.

*Tenth report of the Royal Commission on Environmental Pollution. Tackling Pollution—Experience and Prospects HMSO £10.75.*

**Britain is urged to reduce pollution**, Donald Fields, *The Guardian*, 2nd March 1984

The Nordic countries—Denmark, Finland, Iceland, Norway and Sweden—have appealed to the British Government to reduce the amount of sulphurous substances discharged into the atmosphere by 30 per cent in the next 10 years. This is similar to the target they have already agreed with West Germany, France and the Soviet Union.

Sweden estimates that one-tenth of its annual sulphur fall-out of 400,000 tonnes from foreign sources originates in Britain. Last month, a report showed that one out of 10 trees in southernmost Sweden had been damaged by acidification and other factors.

A Danish move against the dumping of radioactive waste at sea has drawn strong support from fellow Scandinavians. Studies show that 85 per cent of radioactive calcium found in all fish landed in Denmark originates from the Sellafield nuclear power plant.

**Salt in Soviet ecological wounds**, Zhores Medvedev, *New Scientist*, 26th January 1984

A little-noticed pollution incident in the Soviet Union, close to the border with Poland, could be turning into the worst ecological disaster in the country's history. More than 500 kilometres of the River Dniester in Western Ukraine were poisoned in September, following the collapse of an earth dam holding concentrated salt wastes from a fertiliser plant at Stebnik. All life along the river has been killed and cattle and birds that have drunk the water have also died.

The Stebnik plant, which is eight kilometres from the town of Droboych, produces potassium fertilisers. It processes large deposits of potassium salts, found close to the plant. The wastes from the process are dumped into the reservoir, where the salt concentration was 250 grams per litre at the time of the accident.

When the dam collapsed, 4.5 million cubic metres of this heavily concentrated salt solution poured 25 kilometres down to the River Dniester.

Because the salt solution was very heavy, it did not mix with the river water, but sank to the bottom and began to move slowly down the river bed, killing all water plants and fish in its path. The salt moved 500 km downstream until it reached the Novo-Dniester dam. Here the salt solution has accumulated, on the bottom of the reservoir, behind the dam.



The dam stopped the polluted water from reaching the large towns of Kishinev and Odessa. But engineers were still faced with more than a million cubic metres of salt on the reservoir bed. They are now pumping the brine up from the bottom of the dam, so that it becomes diluted with the upper layers of water.

This slightly salted water then pours over the dam and on towards the Black Sea.

The decision to store the wastes in an artificial lake held back by a primitive earth dam was clearly wrong.

The lake was affected by a high local water table, and concentrated sulphates are known to destroy soil structures. So the dam was bound to collapse, sooner or later.

Concentrated sulphates are extremely poisonous. They destroy all algae, and most biological systems in freshwater rivers. The damage caused to the Dniester will remain for many years to come.

And more than one million tonnes of sulphates will eventually be deposited in the Black Sea.

Nobody is clear exactly what the eventual consequences for the Black Sea, which must be the final resting place for the salt, will be.

#### **Demise of Europe's largest lake, *New Scientist*, 26th January 1984**

Lake Ladoga, the largest lake in Europe, is being poisoned by industrial waste, according to a recent article in the weekly newspaper *Literaturnaya Gazeta*. The author, Valentin Krasnogorov, catalogues what appears to be bureaucratic ineptitude and buckpassing as the cause.

The pollution source is a large pulp and cellulose mill built close to the town of Priozhorsk on the shores of Lake Ladoga, near Leningrad. The mill has no pollution-control equipment.

In 1965, the government ruled that the plant should stop emitting its effluent direct into Ladoga. Instead it should be discharged into a smaller neighbouring lake first, where some of the suspended matter in the effluent would be deposited.

This was a temporary measure that became permanent. The intermediate reservoir is now dead. Its bottom is covered by a sticky black resin; the plants on its shores and islands are dying; the air above it is foul; and its polluted waters now pour straight into Lake Ladoga, which is being slowly poisoned in its turn.

Krasnogorov comments that "the ministry made promises, signed guarantees, gave orders—in other words, as befits a paper ministry, it was wildly active on paper". However, no steps to actually build such cleaning facilities have yet emerged. A court of the paper production ministry discussed the matter and reprimanded the factory directors—but still no action.

Meanwhile, other sources of pollution have joined the pulp mill on Lake Ladoga. There are chemical and aluminium factories and electrical power stations, which produce thousands of cubic metres of effluent daily—only five per cent of which, according to Krasnogorov, is cleaned before emission. The lake's fish are dying and the accumulation of phosphorous salts has produced spots of flowering algae on the surface.

#### **BMA warns doctors on 'danger', Andrew Veitch, *The Guardian*, 18th February 1984**

Ministers and officials at the Department of Health are considering invoking their powers under the Medicines Act to prohibit the sale of drugs withdrawn because of their dangers.

Doctors were warned by the British Medical Association's under-secretary, Dr Frank Wells, that they might face legal action if they prescribe withdrawn drugs and patients suffer serious side-effects.

This followed the disclosure of a private survey by a market research firm which suggested that at the end of last year and in January doctors were writing around 1,000 prescriptions a month for withdrawn drugs.

The drugs are the anti-arthritic Osmosin, withdrawn by Merck in September after being linked with 15 deaths; another anti-arthritic, Flosint, withdrawn by Farmitalia Carlo Erba in December after reports of seven deaths; the painkiller Zomax withdrawn by Ortho-Cilag last March after three patients died; and the anti-depressant Zelmid withdrawn by Astra in September after four deaths.

Farmitalia Carlo Erba was told to withdraw Flosint on December 13. The Pharmaceutical Society found several chemists still holding stocks on February 17.

The firm's UK managing director, Dr Paul Marcus, told *The Guardian*: "I am very surprised. We wrote to every retail pharmacy, we telexed all the retailers, and we are confident we have got back the large majority of the stock."

Dr Bill Currie, medical director of Merck, which makes Osmosin, said: "I find it amazing. The drug was withdrawn worldwide. Supplies were frozen at the wholesalers and we've written to all retailers."

Dr Wells said the BMA would advise doctors not to prescribe withdrawn drugs. "If doctors do prescribe them we would strongly advise them to consult their defence body because if they prescribe something that has been withdrawn and a major side-effect arises, the patient has every right to take some action."

#### **Aspartame controversy, Andrew Veitch, *The Guardian* 13th February 1984**

Professor Paul Turner, head of the Government committee which approved the controversial artificial sweetener aspartame, has an indirect link with its manufacturer, G D Searle.

Synthelabo, Searle's major partner in Europe, is behind the funding of Professor Turner's research at St Bartholomew's Hospital in London.

Professor Turner told *The Guardian*: "The Department of Health and Social Security are aware of any commercial relationships I have, including my relationship with Synthelabo and the Charterhouse Unit. These were declared several years ago."

His research is funded by a charity called the Synthelabo Foundation, which receives its money from a limited company called the Charterhouse Clinical Research Unit. The share capital for that company was provided by Lers, a subsidiary of Synthelabo.

Studies have shown that aspartame would seriously damage some children.

**Clarke bans sale of arthritis drugs**, Andrew Veitch, *The Guardian*, 7th March 1984  
Pain-killers made from phenylbutazone are to be banned from general use, the Health Minister, Mr Kenneth Clarke, has announced.

But drugs consisting of its derivative, oxyphenbutazone, which the Committee on Safety of Medicines said should be banned because they were even more dangerous, will stay on the market at least until the manufacturers have decided whether to appeal against the CSM recommendation.

Together the drugs were given to up to 500,000 arthritis patients in 1982 and have been associated with 1,500 deaths in Britain since they were marketed more than 20 years ago.

Mr Clarke announced that the manufacturers, mainly Ciba Geigy, had agreed to the CSM recommendation that phenylbutazone should be used only by hospital doctors to treat patients suffering from arthritis of the spine. The brand names are Butazone, Butazolidin and Butacote.

"All stocks of these products are to be withdrawn from retail pharmacies. Discussions are taking place with companies on the timing of the withdrawal in order to ensure that doctors and patients are enabled to change to alternative courses of treatment in an orderly way," the minister said in a Commons reply.

But oxyphenbutazone, sold by Ciba-Geigy under the brand names Tanderil and Tandacote, will stay on the market for the time being. The CSM told the minister in private that the licences for these drugs should be revoked.

**Cancer linked to beer consumption**, Christine Russell, *The Guardian*, 9th March 1984

Regular beer drinking may increase the chances of developing rectal cancer, while drinking wine and whisky may contribute to lung cancer, according to a US Federal study.

The increased risk showed up at relatively low levels of alcohol consumption, but one of the researchers, Dr Earl Pollack, said that the new findings were still consistent with the Health and Human Services Department's recommendation to drink "only in moderation" to prevent cancer.

The report by researchers from the National Cancer Institute and the Kuakini Medical Centre in Honolulu adds to earlier findings that have repeatedly linked alcohol consumption with cancers of the mouth, throat, larynx and oesophagus.

Dr Pollack said that the "strongest finding" was that the men who consumed 500 or more ounces of beer a month had a three times greater chance of contracting cancer of the rectum. This ranged from about 1.5 to eight cans of beer a day, with an average of 3.5. This risk, however, did not show up among wine and whisky drinkers.

"More surprising", Dr Pollack said, "was a significantly higher risk of lung cancer for those who consumed at least 50 ounces of whisky or wine a month. Their risk was more than twice as great as those who did not drink."

Dr Pollack was reluctant to give drinking advice to the public. "There is certainly nothing wrong with

saying, if you're going to drink, drink moderately. That's about as far as I would go," he said. He considers one or two drinks a day to be moderate.

**Inducement censure for US drug firm**, James Erlichman, *The Guardian*, 25th February 1984

Syntex, the US drug company best known for its contraceptives, has been censured for offering inducements to British doctors and their wives.

The rebuke has been made by the Association of the British Pharmaceutical Industry whose code of practice committee governs the ethics of drug company promotions and advertising. Three other drug firms, Abbott Laboratories, Smith Kline & French, and Schering Chemicals, are also censured in the committee's fourth report which is circulated privately to chief executives within the UK drugs industry.

Syntex said that it 'deeply regretted' the incident and had taken steps to ensure it would not be repeated.

The complaint against Syntex was lodged by a general practitioner. He and his three partners received a letter from a Syntex salesman offering to take them and their wives to dinner or to the theatre. Alternatively the salesman offered to make a donation to the doctors' surgery for books or equipment.

The ABPI confirmed yesterday that the salesman had failed to maintain the 'ethical conduct' required by the code because the letter had breached clauses which prohibited the offer of gifts, financial inducements and hospitality for the purposes of sales promotion.

Abbott Laboratories was also censured because it invited wives as well as doctors to attend a meeting and dinner at an Edinburgh hotel.

Smith Kline & French and Schering Chemicals, were censured for making exaggerated or misleading claims about their drugs in promotional material sent to doctors.

**'Chemicals that have never been tested'**, *New Scientist*, 8th March 1984

Of the tens of thousands of chemicals in everyday use in the developed countries, only a handful have been thoroughly tested for their toxicity, according to a new report by America's National Research Council. The council, which advises the US government, spent four years looking at a random sample of the 50,000 or more common chemicals, pesticides, drugs and cosmetics on sale in the US. It found that there was sufficient data on toxicity to make full evaluations of the health hazards for only 10 per cent of the pesticides and 18 per cent of the drugs in use. There is no data at all for 38 per cent of pesticides and 25 per cent of drug ingredients. Knowledge about other chemicals that are not ingested or worn is even more scarce, says the report. Almost nothing could be found on the dangers from 80 per cent of these chemicals. The quality of the tests carried out on chemicals also varies widely, the report says. Most tests are carried out by the companies that market the products. Tests of chronic effects and damage to genetic and reproductive systems were most variable.