

The Ecologist Digest

Nuclear Power

Radiation data exposed, by Anthony Tucker, *The Guardian*, November 28th 1983.

There is no scientific basis to the Home Office estimates of nuclear war casualties and of the levels of radiation to which members of the emergency services could safely be exposed after a nuclear attack or accident, according to independent experts. Senior doctors and radiation physicists, who met Home Office advisers privately at the Medical Research Council said the calculations on which civil defence planning has been based were done "in half an hour on the back of an envelope in 1955." The Home Office has claimed that its radiation criteria was approved by the Medical Research Council. But, after the meeting, Professor Laszlo Rajtha, former director of the Holt Radium Institute in Manchester and chairman of the 1977 MRC committee on radiation hazards, said that the Home Office criteria were "meaningless and useless." The meeting discussed two important aspects of radiation; how much exposure is expected to kill half of those exposed to it (the LD-50), and how much continued exposure in the highly radioactive post-attack phase can people withstand? In its present calculations, which produce casualty estimates much lower than those estimated by the US or the USSR, the Home Office assumes an LD-50 of 400 rads to the bone marrow. But at the meeting it was shown that, in the enormous range of circumstances which could occur after an attack, it is impossible to arrive at a figure which has any meaning. In addition, the Home Office figure applies to healthy young men, and not to infants nor to the elderly. Yet, on the basis of the 1955 calculation, the Home Office has constructed a formula for the permitted exposure of emergency service personnel which assumes that after an initial exposure of 150 rads over two days, humans can "repair" bone marrow damage at a rate equivalent to 10 rads exposure per day. In an emergency people would be allowed to receive 10 rads a day for 100 days, a combined total of 1,150 rads. In his assessment, Professor Rajtha said that the Home Office formula is "no more than an academic exercise and has no practical value. The Home Office, is known to

be preparing to raise its permitted radiation doses still further. It is now considering the implications of the MRC meeting.

Fallout on Bikini atoll for century, by Harold Jackson, *The Guardian*, November 29th 1983.

Bikini Atoll, where the United States carried out many of its biggest postwar nuclear tests, will remain contaminated with high-level radiation for 100 years unless most of its soil is replaced. A team of American scientists has estimated the cost of such a cleanup at \$10 million for each of the 1,100 exiled islanders. The Bikini Atoll Rehabilitation Committee, in an interim report to the US Department of the Interior, commented that the islanders could return to their homes immediately—provided they ate no home-grown food until the late 21st century. The alternative to an entirely imported diet is that the American Government should pay to replace all the contaminated topsoil on the 1,200 acre island to a depth of about 18 inches. The team said that the fish in the lagoon and in the surrounding ocean are now safe to eat, but that the coconuts, which are a staple diet of the Bikinian diet, are still badly contaminated with Caesium-137 and likely to remain so. It said that the wells on the atoll contain drinkable water, but the Bikinians are likely to receive this assurance with some scepticism.

Badly planned reactor plant is said to set back Soviet Nuclear Programme, by Dusko Doder, *International Herald Tribune*, November 30th 1983

The nuclear power industry in the Soviet Union has suffered a major setback as a result of faulty planning and erroneous geological surveys that have led to severe problems in the construction of the country's largest reactor manufacturing plant, according to well-informed sources. The \$4-billion project is located at the edge of a huge man-made lake in southern Russia. The sources said that unexpected land erosion damaged the foundations of the plant, which is partly operational. The completion of the plant known as Atomash is now in doubt, the sources said. Upon completion, Atomash was to become the main Soviet producer of nuclear reactors with a capacity of eight 1,000-megawatt units annually. According to the sources, the authorities have been considering alternatives for the continued construction of the giant plant to get the nuclear power programme back on track. There are no indications that a solution has been found. One idea to salvage the project, the sources said, is to permanently freeze the ground under the plant to prevent further erosion. The original miscalculation made by planners and not

corrected by geologists was to locate the plant at Volgodonsk, at the edge of a huge artificial lake. The 1,042-square-mile (2,700-square-kilometre) lake was completed in 1955 to feed the hydroelectric plant near Tsimlyansk. The construction of Atomash has been under way for nearly 10 years. The delay of Atomash construction or the possible scaling down of the project would have an impact not only on Moscow's plans to increase the proportion of its energy generated by nuclear plants—now about 7 per cent—but also on those various Soviet bloc countries to which the plant was to have supplied atomic reactors.

Marrow cancer check, by Barbara Crossley and Joan Smith, *The Sunday Times*, November 20th 1984.

Doctors have discovered an unexpectedly high incidence of bone-marrow cancer around the town of Fleetwood in Lancashire. They are sending their findings to Sir Douglas Black, the medical scientist who is investigating allegations that the Windscale nuclear plant may have caused cancer in villages in Cumbria. One of the doctors involved in the study, Dr Nicholas Howorth, of Blackpool Victoria Hospital, wants an investigation into whether the cases could be linked to the Windscale fire in 1957. Myeloma, the form of cancer which appears to have happened at double the expected rate around Fleetwood since 1979, takes between 15 and 25 years to develop. It was revealed earlier this year that polonium 210, a highly carcinogenic substance, had escaped in the fire. Howorth said that the kind of radiation emitted by polonium had been linked with myeloma. Howorth and his colleague at Blackpool Victoria Hospital, Dr Neil Flanagan, have looked at the incidence of myeloma in the Wyre area, which includes Fleetwood, since 1979. The highest published rate for myeloma suggested they would find 19 or 20 cases in the area at the most. Instead, they discovered 39.

Damages reinstated in Silkwood case, *International Herald Tribune*, January 12th 1984.

The Supreme Court has reinstated a \$10-million award won by Karen Silkwood's children against Kerr-McGee Corp. The justices, by a 5-4 vote, reversed a decision that had thrown out an Oklahoma jury's award to Silkwood's estate as an impermissible conflict with federal regulation of the nuclear industry. The Supreme Court said that there was no impermissible conflict between the state and federal laws. The decision, however, leaves Kerr-McGee free to challenge the amount of the award in lower courts. Silkwood, a 28-year-old laboratory analyst at Kerr-McGee's Cimarron plutonium plant near Crescent, Oklahoma, died in an automobile accident while on her way to meet with a reporter for *The New York Times*. Days before, she had been contaminated by radiation. Silkwood, reportedly wanted to make public evidence of missing plutonium and falsified safety records. The Silkwood case has

become a symbol for critics of the US nuclear power industry. Her family sued in 1976, alleging negligence by Kerr-McGee and seeking damages for injuries Silkwood suffered, primarily fear and anxiety, during the nine days from her contamination to her death. A trial jury in Oklahoma said Kerr-McGee should pay Silkwood's three children \$500,000 in actual damages and \$10 million in punitive damages. The jury also awarded \$5,000 for Silkwood's contaminated belongings that had to be destroyed. The 10th US Circuit Court of Appeals had overturned the punitive damage award after ruling that the federal government's exclusive regulation of radiation hazards pre-empted a punitive damage award based on state law. By a narrow majority the Supreme Court said the appeals court was wrong. The court also disagreed with the Reagan administration, which had entered the Silkwood case to argue that awarding punitive damages conflicted with federal laws that impose civil fines for nuclear safety violations.

Extract from *The Guardian Diary*, December 12th 1983

As the public inquiry into the Sizewell B nuclear reactor lumbers to its first anniversary, Sir Walter Marshall, the chairman of the Central Electricity Generating Board, has explained what it's all about. Quoted in the American magazine *Forbes*, he says: "I expect to get approval in about a year's time. By that time the British public will be bored to tears by nuclear power. That, of course, is the purpose of having a public enquiry."

British Nuclear Fuels

Fire link to birth defects, Andrew Veitch, November 11th 1983.

Radiation from the Windscale fire in 1957 may have been partly to blame for a sudden increase in the number of Down's syndrome babies born on the east coast of Ireland, according to a recent report.

Six Down's babies have been born to mothers who were teenagers together in a school in Dundalk when fallout from the fire—Britain's worst nuclear accident—reached the Irish coast. The babies, two boys and four girls, were born between 1963 and 1972.

The number of affected children was far too high to be the result of chance alone, says the report, published in the *British Medical Journal*. There has been an increase in deaths from leukaemia and cancer in the same area.

Professor Irene Hillary, of University College, Dublin, and Dr Patricia Sheehan, a consultant neurologist at a Dublin child development clinic, say that blood tests failed to show german measles infec-

tions or any other diseases. The mothers were not old, did not have any chromosomal abnormalities and since then all have had normal children.

The only common factor was that they were at school together and there was an outbreak of an illness similar to influenza at the school in October 1957, the same month as the Windscale fire.

"Irish meteorological reports are consistent with radioactive fallout having reached Ireland at a time of heavy rainfall in the Dundalk area," the doctors write.

"What happened to these young women when they were teenagers in school together? We are left with the nagging doubt that possible exposure to radiation associated with some infection had an adverse influence." It might have damaged chromosome 21 in the six babies.

Atom leak kept quiet, Paul Keel, *The Guardian*, November 30th 1983.

An unreported leak of radioactive waste at the British Nuclear Fuels factory at Springfields, Lancashire, more than three years ago should have been disclosed by the company, argues Mr Tony Benn, the former energy secretary.

Although the leak was thought serious enough by BNF to require the immediate removal of tons of soil from a nearby farm, it was not revealed to ministers and failed to appear in official reports.

The leak, it is reported in the November 30th edition of *Time Out* occurred in May, 1980 from the waste pipeline which carries water contaminated with uranium and other radioactive elements from Springfields to the Ribble Estuary. According to *Time Out*, a rubber-sealed hatch through which the pipe had been cleaned was not properly replaced, and when discharge resumed the surrounding field was flooded with toxic material.

The farmer concerned, Mr Robert Chamley, recalled that when the leak occurred employees from Springfields, wearing protective clothing, removed soil to a depth of 18 inches. It was then taken to the solid radioactive waste dump at Drigg, near Wind-scale.

New soil was put into the field at BNF's expense, and the year after the leak the company made an ex-gratia payment of £50 each for ten of Mr Chamley's sheep which had died in mysterious circumstances. BNF stressed, however, that it was not admitting liability for the deaths.

The decision not to report the leak was made by the Health and Safety Executive, because, a spokesman said, the incident did not meet with the criteria laid down by the Department of Energy.

Scottish radiation fears, *The Guardian*, December 1st 1983.

Opposition MPs have questioned the Scottish Secretary, Mr George Younger, over the possible pollution of Scottish coastal waters by discharges from the Sellafield (formerly Windscale) nuclear power complex in Cumbria.

Mr George Foulkes stressed there was anxiety among people in western Scotland over the "pos-

ible link between the increased level of radioactivity in the coastal water on the west coast and the apparent increases in the level of leukaemia."

Mr Donald Stewart accused the minister of complacency, stressing that radioactivity levels were 30 per cent higher than a few years ago. "There is a good deal of alarm."

Mr Younger replied: "I have assured the House that we take these matters extremely serious and are watching the position very carefully, literally all the time. But it does no service to anyone to suggest that there are dangers to people which may give people needless alarm when all the facts are quite to the contrary."

Public warned of 'radioactive beaches', Richard Norton-Taylor and Paul Brown, *The Guardian*, December 12th 1983.

The Department of the Environment has warned the public not to use 25 miles of beach near the Sellafield nuclear plant in Cumbria. Debris now has radioactivity levels more than 1,000 times the normal level in some places.

Meanwhile, the Ministry of Agriculture, which is mainly responsible for fish monitoring, is refusing to release a full report, with comparative figures and Geiger counter measurements on a new investigation undertaken by its inspectors in the area.

More debris has been discovered by scientists from the two departments after a leak of radioactive waste was found last month on a 200-yard stretch of coastline close to the plant.

British Nuclear Fuels Ltd said it had taken urgent action to prevent further radioactive contamination of the beaches.

The company said it was confident that discharges of radioactivity into the sea from Sellafield were within authorised limits.

"However, it deeply regrets that this discharge of radioactivity was associated with a discharge of solvent and 'crud' which prevented normal dispersion in the sea taking place and led to the beach contamination."

The first indications that contamination is now much more widespread than originally acknowledged came in a statement from the Department of the Environment. It said that further debris, including seaweed, pieces of plastic, string and herbage had been found with "higher than normal" levels of radioactivity on the beaches between St Ives and Eskmeals.

A spokesman later said that the level of contamination was higher than the scale reported last month—that is between 100 and 1,000, the level normal for the region.

Though it claimed that the risk of contamination to the public was extremely small, the department nevertheless told people to avoid what it described as "unnecessary use of the beaches" and to refrain from handling any material washed up by the sea.

The Ministry of Agriculture, in answer to a parliamentary question about the leak, stated that the range of measurements taken by scientists in the middle of last month was "consistent with the level of radioactivity that would have been expected prior to the incident."

It acknowledged that some samples of mussels were found with significantly higher levels of radioactivity than usual, though it said that even on the most pessimistic assumption the resulting doses to the most exposed members of the public would not approach the limits recommended by the International Commission of Radiological Protection.

However, it is understood that the ministry's full report contains more details about radioactive contamination of fish and solid waste than those it agreed to release to the Commons yesterday.

Mr Peter Wilkinson, a director of the environment group Greenpeace said: "It is outrageous that in dealing with people's lives, the Government, to save its own face and to justify its appalling inactivity has not issued full details of contamination on the Cumbrian coast. One shudders to think how many accidents have happened in the past and gone unreported."

Sellafield faces prosecution over leaks, *New Scientist*, December 15th 1983.

Government action to prosecute British Nuclear Fuels over the discharge of radioactive waste into the Irish Sea looks increasingly likely.

Environment ministers have been studying a damning analysis of what went wrong last month at the beleaguered nuclear reprocessing plant at Sellafield, formerly Windscale, which forced the closure of 40 kilometres of Cumbrian beaches. An investigation by the Nuclear Installations Inspectorate (NII), the government's safety watchdog, is highly critical of BNFL's management of the incident.

The NII's report claims the accident, could have been avoided. It led to a radioactive slick of solvent used to clean out a tank being washed ashore after being discharged from BNFL's controversial pipeline. The company faces prosecution if the government decides, as a result of an investigation by the Department of the Environment, that BNFL's operations have constituted a health hazard and exceeded the effluent radioactivity it is permitted to release under existing authorisations.

BNFL's problems stem from routine washing-out operations in building B205, where uranium and plutonium are separated from irradiated spent fuel. Solvent material, used in the extraction process and normally recovered for future use, was accidentally transferred to the sea tanks, together with a small amount of insoluble particulate matter, as part of a total consignment of 4400 curies of activity.

BNFL says that the levels of radiation around the pipework are now back to normal. Pipework has been drained to make sure that no remaining trapped solvent can be inadvertently discharged into the sea.

The company has halted the movement of free solvent to the effluent treatment plant, and it is altering procedures for emptying the sea tanks. Liquid will now be held for longer periods before discharge.

Sellafield cancer claims settled, Paul Keel, *The Guardian*, January 4th 1983.

Six workers at the Sellafield nuclear plant in Cumbria have received compensation in out of court settlements from British Nuclear Fuels after contrac-

ting either cancer or leukaemia, the Government has disclosed.

A letter from Mr William Waldegrave, a junior Environment Minister, to Mr Brian Sedgemore, the Labour MP for Hackney South and Shoreditch, admits the payments but stresses that in no case had liability been admitted by BNFL, which took over the plant—then known as Windscale—in 1971.

Nine claims, two leukaemias and seven other cancers, have been made by Sellafield workers since 1971 but no claims have been made by members of the public.

Mr Waldegrave wrote: "According to studies by BNFL, there is not a detectably greater incidence of cancers in workers at Sellafield than in the general population. However, as good employers, NFL consider that they cannot ignore the possibility of small numbers of cases where an individual's employment with the company may have been a factor in his contracting a cancer."

"Because it is not possible to distinguish between a cancer which may have been induced by occupational exposure and one arising from natural causes, each individual case is a matter for expert opinion based on the balance of probability."

Mr Sedgemore accused the Government of a clumsy attempt to cover up the effects of radiation and the failure of the plant to provide adequate safeguards for the workers there.

"By admitting that on the balance of probability six people have contracted either leukaemia or cancers as a result of radiation from the plant the Government is admitting that on the balance of probability the plant is not safe," he said.

He also accused the Government of seeking to avoid the publicity which would accompany a court case by making the out of court settlements. "In the light of the known risks the Government should now consult the workforce and the public about the future of the plant," he said.

20,000 cancer checks on Windscale men, Joan Smith, *The Sunday Times*, January 8th 1984.

Records of 20,000 nuclear workers going back to the late Forties are being examined to find out which of them has died from cancer and whether their deaths can be linked to radiation.

The huge and complex operation is being carried out under a compensation scheme set up by unions and British Nuclear Fuels.

The 20,000 is made up of all those who have worked in areas where safeguards against radiation must be taken. The search will involve tracing the relatives of men who may have died as long ago as 30 years or more.

The first payment under the scheme was made last month. Dependents of a Windscale worker, a member of the engineering union who died in 1965, received £21,645. Unions involved in the scheme believe as many as 80 payments may eventually be made to families of former workers at the company's plants.

The company says it has so far found 110 cancer deaths among its workforce, over a period of 35 years, which need further investigation.

The scheme was set up just over a year ago after six claims for compensation by the general and municipal workers' union had been settled out of court. The payments ranged from £8,000 to the family of a worker who died from a brain tumour to compensation of £67,000 to the dependants of a man whose death was caused by leukaemia.

Although the union had succeeded in getting these out-of-court settlements, its convenors at Windscale were unhappy about the length of time the cases had taken—between three and six years.

As part of the last settlement, the union persuaded the company to agree to a voluntary scheme designed to be faster and more generous than the courts could provide. It was agreed in November 1982. A copy of the scheme, obtained by *The Sunday Times*, points out that diseases which can be caused by radiation also occur naturally and it is difficult to distinguish between them.

But, the agreement says, it is accepted that "in a proportion of such cases occurring amongst radiation workers there could be a possibility that the disease was contracted as a result of occupational exposure to radiation".

Its retrospective nature means that the death certificate of every radiation worker ever employed by the company will be examined and if cancer is involved, the company will make a preliminary report. It is up to the union to consult families and prepare a full report. Difficult cases will be considered by a panel of experts.

Greenpeace may defy Sellafield pipeline ban, by John Witherow, *The Times*, January 14th 1984.

The environmental group Greenpeace could interfere again with the discharge of radioactive waste into the Irish Sea, despite a permanent ban on doing so imposed by the High Court yesterday.

British Nuclear Fuels Ltd was granted an injunction to prevent Greenpeace trying to block the pipeline, which carries 2.2 million gallons of diluted nuclear waste a day from the former Windscale processing plant at Sellafield, Cumbria.

But Mr Bryn Jones, a Greenpeace director, said: "We have given no undertaking not to block the pipeline and we could at the end of the day risk another fine and take direct action against the pipe".

Mr Justice Smout, who imposed the injunction, said that the group was entitled to test water, silt and seaweed near the pipeline and protest peacefully.

At a separate High Court hearing, a £50,000 fine imposed on Greenpeace last month for breach of an earlier injunction against obstruction of the pipeline was reduced to £36,000, although the group was ordered to pay BNF's costs, which could total £4,000.

Mr Jones said: "Greenpeace will continue its fight until they stop discharging this disgusting muck into the water. Of course, in the light of the injunction we will have to think about how to continue our fight. But if we do not protect our seas, who else will?"

Cumbrian police, meanwhile, continued investigating radioactive leaks in November, which contaminated 25 miles of beach near the plant, although the Director of Public Prosecutions gave no indica-

tion that BNFL would face prosecution under the Radioactive Substances Act.

Sellafield slick risk, Paul Brown, *The Guardian*, January 14th 1984

Patches of radioactive contamination with readings up to 1,000 times normal are still being found on 25 miles of West Cumbrian beach near the Sellafield pipeline outlet.

The beach was closed after the plant released a radioactive oil slick into the sea.

The warning to avoid the beach may be modified to advise people not to pick up items on the shore.

A Ministry of Agriculture marine biologist said the radioactivity increase in fish life was in mussels near the pipeline. He claimed it was unlikely that anyone had received a radioactivity dose even approaching international safety limits because of the discharges.

Chemicals, Drugs and Pollution

Company switch led to drug ban, Andrew Veitch, *The Guardian*, December 17th 1983.

The arthritis drug Flosint was banned because the manufacturers changed their minds and refused to withdraw it, despite reports that patients were dying at the rate of almost one every two months, it has been disclosed.

Details of the severity of patients' reactions to the drug, and of the confusion surrounding the company's change of mind, emerged in a Commons answer by Mr Clarke.

On December 1, just over 14 months after the drug was launched, Farmitalia gave to the Department of Health, as it was legally obliged to do, the results of its own post-marketing study. According to Mr Clarke, these tended to confirm "the nature and incidence of serious adverse reactions reported to the CSM."

By December 6, the CSM had received reports from doctors that seven arthritis patients had died, and 210 had suffered side effects.

A relatively small number of patients had been given Flosint (an estimated 75,000). The figures thus suggested "a high incidence of possible fatal and serious reactions," said Mr Clarke.

On December 9, Farmitalia representatives told officials at the Department of Health's medicines division that they intended to withdraw the drug immediately.

But four days later, when health officials asked what was being done, Farmitalia replied that they had decided not to proceed with the voluntary withdrawal. The drug was banned that afternoon.

Farmitalia's medical information manager, Mrs Jackie Powell, said: "Initially, we were of the opinion

that we would withdraw in the UK. But voluntary withdrawal in the UK would have meant that we would have to withdraw the drug in other countries. Experience in other countries over six years with 4.5 million patients does not agree with UK experience." No deaths had been reported from the other countries, and the drug's licence had not been suspended in West Germany, the Irish Republic, Italy, or Spain.

She added: "When we first started discussions with the Department of Health we did not have full international data. We discovered this later." The UK reports of side-effects had not been confirmed. She refused to give details of adverse reactions reported to the company, or to say whether they would attempt to reintroduce the product.

Flosint consists of *indoprofen*, a substance related to the tried and tested *ibuprofen* and considered equally effective in the relief of arthritic pain. Like the withdrawn drugs Opren, Zomax, and Osmosin, it is a non-steroidal anti-inflammatory drug.

Group of drugs likely to be banned, Andrew Veitch, *The Guardian*, December 30th 1983.

A range of pain-killing drugs being taken by up to 500,000 patients in Britain, are likely to be banned or withdrawn within the next three months following an investigation by the Committee on Safety of Medicines. Confidential figures in the possession of the committee associate the drugs with at least 1,500 deaths in the UK since they were marketed here more than 20 years ago.

Made by Ciba-Geigy, the drugs are based on phenylbutazone and its derivative oxyphenbutazone. Brand names are Butazolidin, Tanderil, Tandacote, Butacote and Butazolidin Alka.

More than a third of the victims have died from the blood disorders, aplastic anaemia (failure of red cell production) and agranulocytosis (lack of blood cells like leukocytes).

According to internal memoirs leaked from Ciba-Geigy headquarters in Basle, other deaths were due to gastrointestinal bleeding, destruction of platelets in the blood, perforated ulcers, and leukaemia.

A Ciba-Geigy spokesman, Mr Jan Krieger, said in Basle yesterday that the company would contest any effort to remove the drugs from the market. They had been supplied to 180 million patients worldwide—Butazolidin for 31 years, and Tanderil for 23 years. "We have had casualties, put at about 1,200, but we do not know whether the drugs were the direct reason for the deaths."

Doctors were first warned of the hazards of phenylbutazone ("Bute") in 1965, but alternative anti-inflammatory drugs were not then available.

Officially, 700 deaths were reported in the UK between 1964 and 1982 but specialists are convinced that this represents only the tip of an iceberg. Latest CSM confidential data indicates that at a conservative estimate 1,500 patients have died after taking the drug.

Concern in the US and Europe was aroused earlier this month by the leaking of two Ciba-Geigy memos. One lists 1,182 deaths attributed to Butazolidin and Tanderil worldwide, 37.8 per cent due to the two blood disorders aplastic anaemia and agranulocytosis.

The other shows that the company's experts are worried about the drugs. "Although isolated reports of blood dyscrasias (diseases), GI (gastrointestinal) bleeding, hepato—and nephrotoxicity have been reported with almost all NSAID (non-steroidal anti-inflammatory drugs), the number of single case reports of major, serious . . . unwanted events published on Butazolidin and Tanderil are higher than those for the other drugs."

Asbestos workers shun safety rules, says report, Martin Wainwright, *The Guardian*, November 10th 1983.

Detailed criticisms of working practices in the asbestos industry are made in a report published by the Health and Safety Commission.

In spite of relentless publicity about the dangers of the material, many workers were found by a team of researchers to show scant regard for precautions.

Protective clothing was not worn by some workers, and not worn properly or cleaned at regular intervals by others.

Respirators were misused in many factories and were not giving protection to their users, particularly process workers.

Regular inspections of ventilating plant were not universal and good fixed vacuum-cleaning systems were rare.

The report says that unsatisfactory systems of work were common throughout the industry and some factories were clearly taking short cuts to save workers' efforts or increase take-home pay.

It goes on: "Supervision should be improved and workers should cooperate to eliminate unauthorised bad practices. Employers should give more attention to their duties under the Health and Safety at Work Act."

The report was produced by a working party set up by the commission in August 1982 to look for measures to control exposure to asbestos dust.

It was chaired by Mr Stephen Grant, senior director of the Health and Safety Executive in Scotland, and comprised three executives from the asbestos industry, two trade unionists, an academic, and a local government health officer.

Lead fear after BL 'fallout', *The Guardian*, January 12th 1984.

Vegetables taken from gardens around British Leyland's Cowley, Oxford works contain a high lead concentration according to tests carried out by an analyst for Oxford city council after local people had complained of "fall-out" from the plant's paint spraying.

The analyst says that consumption of the vegetables over a period of two years would not be harmful.

Some of the samples taken exceeded the limit set by the Lead in Food Regulations 1979 by three times.

Acid waters are to be investigated, Conrad Voss Bark, *The Times*, January 14th 1984.

The Welsh Water Authority have set aside £100,000 to investigate what one official called "the frightening problem" of increasingly acid rivers and lakes which is causing widespread fish deaths. A report to

the Atlantic Salmon Trust says: "Many upland streams and lakes in afforested areas can no longer support natural fish populations."

Dr Alun Gee, Welsh Water's senior fishery scientist, says that Llyn Berwyn, near Gregaron, which was a fine trout fishery some 10 to 15 years ago, is now fishless. The trout that have died in Berwyn and other lakes and upland streams must number many thousands. The trouble affects those parts of Wales where there is hard bedrock, poor soil and big coniferous plantations. Dr. Gee said: "It is really not so much a problem of acid rain, because the rain there is not particularly acid compared with Sweden and Germany, but we get a lot of rain and it is therefore cumulative in its effects. "Areas like Dyfed and Gwynedd which have a poor geology, are susceptible to dry and occult/fog, mist and cloud/depositions of sulphur which are filtered from the air by coniferous forests. These plantations also increase the production of acids as a result of increased soil aeration due to drainage. This acid then leaches out aluminium from the soil into the streams and lakes, and that in itself can be lethal, possibly more of a problem than the acidity of the water itself. Fish stocks at the top of the Tywi are now non-existent," Dr. Gee said. "Salmon and sea trout as well as trout are no longer there. We also suspect that at certain times of the year the acidity and the aluminium content of other rivers become so critical that fish in them are wiped out, too."

Contaminated peanut consignment all sold, Paul Keel, *The Guardian*, January 3rd 1984.

Most of the 30-ton consignment of Brazilian peanuts from which a contaminated sample was found in a Warwickshire shop in December have been sold over the counter, it was stated by the company which imported them.

The batch, imported three years ago, was passed as fit for human consumption when it arrived in the country. But a week before Christmas, trading standards officers from Warwickshire County Council discovered the contaminated sample at a shop in Leamington Spa.

It was found to have been affected by a dangerous mould, aflatoxin, a highly active carcinogen which can cause cancer of the liver.

But although they were advised of the discovery, officials from the Department of Health and the Ministry of Agriculture decided against issuing any general public warning. They were advised that consumers would have to eat unusually large quantities before they would be at risk.

Under a voluntary agreement between these government departments and importers of peanuts, a permissible level of aflatoxin in peanuts of 30 parts per billion was set two years ago. When the Brazilian consignment was imported in June 1981, the level was 50 parts per billion.

Mr John Brown, an organic chemist at Oxford University, advised anyone who thought they had some of the peanuts to dispose of them. Although the risk to consumers was not great, he considered that the health officials had behaved "irresponsibly" in sug-

gesting that it was safe to eat small quantities of nuts affected by aflatoxin.

Waterborne diseases still rife in Third World, Debora MacKenzie, *New Scientist*, December 15th 1983.

Improvements in water and sanitation are doing little to reduce the number of people who die in the Third World from diseases carried by water.

This emerged at a meeting in Rome this month at which representatives of six United Nations agencies decided on more money and "major changes in method" to the world Water and Sanitation Decade.

The World Health Organisation says that diseases associated with dirty water kill 50,000 people every day. Efforts have focused on providing rural areas with wells and latrines and homes in towns with taps and sewers.

But Ken Gibbs of the UN children's organisation UNICEF, in a study of activities for the decade in Bangladesh, reports that "we have no evidence to support the contention that (good water alone) will reduce mortality from diarrhoea caused by waterborne pathogens". The disease kills more than 2 per cent of Bangladesh children below the age of five.

Bangladesh has been one of the most enthusiastic supporters of the decade, so far digging more than 500,000 simple wells and 200,000 latrines. But this rush to install equipment has caused problems because engineers have ignored social factors, from people's hygienic habits to the availability of maintenance.

So engineers have had to learn new habits. Arthur Brown, chairman of the water and sanitation decade's steering committee, said "the most important breakthrough in the programme so far" has been the new "humility" of scientists and engineers who have become more willing to deal with small-scale, cheap technology.

But one Indian water engineer, Ujjayant Chakravorty, claims that the decade is wasting most of the funds it spends on its projects because the UN's officials do not work on a small scale, only with ministries or centralised research stations.

Mismanagement at high levels can actually increase the incidence of waterborne diseases. Chakravorty cites examples of the Indian government authorising the building of inflow pipes months before the accompanying drains were ready. The resulting puddles spread malaria and diarrhoea.

Chakravorty says engineers should have more incentive to work at the level of village or neighbourhood rather than on a national scale. But, he said, the UN has only once met local groups involved with water and sanitation.

Wildlife and Conservation

Adventures in the skin trade, Anastasia Tonfexis, *Time*, December 6th 1983.

Despite more than a decade of get-tough policies by half the nations of the world, illegal trafficking in

wild animals and wildlife products is flourishing. According to experts at the World Wildlife Fund, the total annual world trade of live animals, ivory, skins and finished items such as shoes and handbags currently runs between \$2 billion and \$5 billion. The fund contends that up to a third of the animals, skins, ivory and finished products are of illegal origin.

The cargoes, bound for the cages of collectors and the windows of luxury shops, are various and the methods of concealment ingenious. Some examples:

At the border near San Diego, Customs officials nabbed smugglers trying to sneak in wild parrots from Mexico that had been stuffed inside hollow watermelons.

In Blaine, Wash., two suspects were arrested when they attempted to cross the Canadian border with four gyrfalcons hidden in the wheel well of their car trunk.

Threatened species are supposedly protected by the Convention on International Trade in Endangered Species of Wild Fauna and Flora, known as the CITES treaty. The pact, which took effect in 1975, is the world's most comprehensive conservation treaty, with 81 signatories.

Conservationists agree that the laws are adequate but complain that enforcement is poor. The U.S.'s 6,400 Customs agents, who try to prevent drug trafficking, currency violations and the export of high technology to the Soviet Union, assign low priority to the wildlife trade. "Regulation is often left to the Fish and Wildlife Service, which has an inspection force of 35. That is hardly adequate even to do spot checks on U.S. wildlife imports, which last year included 123 million tropical fish, 5 million live animals, 5 million furs, 958,000 leather skins and 943,000 reptile skins.

Threat to Birdlife, Letter to *The Guardian* from Ian Prestt, Director, Royal Society for the Protection of Birds, January 17th 1984.

Evidence published by the Countryside Commission and confirmed by MAFF's own statistics reveals that in the uplands of Britain we are losing rough pasture and heather moor at an increasing rate—in the "Less Favoured Areas" of South West England for example, the area of freehold rough grazing has declined by approximately 50 per cent since 1946, and here, as elsewhere in Britain, the rate of loss is accelerating.

These statistics are behind the declines of upland wildlife species, such as the golden plover and merlin, unable to survive on the "improved land," which Agriculture Departments encourage through a panoply of support measures designed to intensify agricultural production.

Despite small changes to the grant system in lowland England, aid from the Ministry to the Regional Water Authorities will continue to encourage new arterial land drainage schemes, threatening the final demise of our once attractive riverine flood-meadows.

In addition, individual farmers will still receive 50

per cent grants to aid the further loss of these important areas. Land drainage in the lowlands of England and Wales has reduced the total remaining population of breeding snipe to around 2,000 pairs, and seems set to exterminate them outside of a handful of protected areas.

Even sites of special scientific interest have not been sacrosanct. MAFF, along with others interested in development, almost invariably expect conservation interests to compromise, with the inevitable decrease in the importance to wildlife of the land involved.

For example, MAFF is actively challenging a moratorium imposed by the Lincolnshire County Council to delay for a period of five years the reclamation of salt-marsh on the Wash, while scientific assessment establishes whether reclamation is damaging the area's international importance for birds.

The central responsibility lies with MAFF, whose cosmetic changes to the capital grant system provide no solution to the real problem, which is that some of its policies have outlived their time.

Conservationists continue to try to cooperate and take a reasonable stance, but in the face of further losses of important wildlife areas they begin to despair. What is desperately needed is a coordinated policy to restore the balance between all rural interests.

Forestry Commission policy under attack, Paul Keel, *The Guardian*, December 22nd 1983.

The Forestry Commission is participating in the steady destruction of Britain's ancient woodland, according to a report published by BANC, the British Association of Nature Conservation.

The report, *The Future of Forestry*, asserts that the level of removal of ancient woodland has reached unprecedented peacetime levels. It states that in some counties more than 60 per cent has been removed since the war, with a high proportion having gone in the past 15 years.

"This woodland is either replaced with conifers or plantation broadleaf trees of very low conservation and amenity value, or grubbed up for agriculture. Much of this removal has been carried out directly by the Forestry Commission or under its supervision," BANC states.

The report says that despite the recommendations of a House of Lords select committee and the conservation organisations, the Forestry Commission has not committed itself to providing any protection to the small area of ancient woodland still extant.

"Indeed, its latest census makes no distinction between ancient semi-natural and recent plantation, a distinction comparable to that between a mediaeval church and modern supermarket."

BANC calls for the cessation of ancient woodland removal and no further conifer planting of woodlands owned by the Forestry Commission.

Instead, consideration should be given to establishing plantations on land which at present gives an economic return only through artificial farm price support.