

# The Ecologist Digest

## Nuclear Power: Bombs, Accidents, and the Arms Race

**Legacy of the atom bomb is put to the test,** Peter Gwynne, *New Scientist*, September 23rd 1982.

Between 1951 and 1963, the US government detonated more than 100 atom bombs above ground in its remote test site in the Nevada desert. The explosions ended with the signing of the test ban treaty, but their effects have lingered on. In September in Salt Lake City, a trial began on charges by 1192 residents and former residents of the area around the site that atom bomb tests had exposed them and their families to dangerous levels of radiation. The group is asking for medical expenses and damages from the government which, the plaintiffs claim, was negligent in failing to institute appropriate safety measures to protect locals from the effects of the bomb blasts. Although the federal government knew of the hazards of radiation from the bombs, claimed attorneys for the plaintiffs, it did too little, too late to protect residents from the area around the test site. Any increases in cases of cancer and other illnesses among those residents, countered an assistant US attorney on behalf of the government, did not stem from the bombs' radiation. Epidemiological data suggest people living in the area around the test site, which includes parts of the states of Arizona, Nevada and Utah, did run an above average risk of developing cancer. A study by Joseph Lyon of the University of Utah, published in 1979, concluded that children who grew up in Southern Utah during the 1950s were twice as likely to die from leukaemia as were children in other parts of the US. The focus of the trial will be on the link—or the lack of it—between the cancer deaths and the bomb tests. A Congressional study concluded that the fallout was "more likely than not" responsible for the health problems of residents in the sparsely-populated region, and a House of Representatives subcommittee argued that the government disregarded and suppressed evidence of the link while the tests continued. The government's supposed suppression of evidence that the tests were harmful to people downwind of them represents another key to the case. According to lawyer Ralph Hunsaker, the government realised the health hazards of the radiation, but only instituted "crude" means of monitoring the fallout downwind of the tests, as an "after-thought". The trial opens at a time when the

locals' attention has refocused on a similar case involving claims for damage to animals as a result of the atom bomb tests. In 1956, Federal Judge Sherman Christensen dismissed, for lack of evidence, charges by a group of Utah sheep farmers that about 4000 animals in their flocks died as a direct result of exposure to fallout. In August however, the same judge reopened the case, saying that the government had covered up data relevant to the case and had "perpetuated a fraud on the court".

**MoD bows to evidence on A-test veterans,** David Leigh and Paul Lashmar, *The Observer*, January 16th 1983.

New evidence has emerged that claims made by the Ministry of Defence about the effects of exposure to radiation by men involved in British nuclear tests in the 1950s, may be incorrect. The Ministry has announced that it intends to carry out a survey of the mortality rates of 2,000 servicemen involved in the tests—30 years after they began in Australia. The Defence Ministry has also admitted that, despite its claim that there is no evidence that anyone has suffered ill-effects, a war service pension was awarded last year to a widow, Mrs Marjorie Stephens, whose husband died of leukaemia 20 years after service on Christmas Island. The pension was awarded by the Department of Health after an appeal tribunal in Cardiff heard that neither the RAF nor officials in charge of safety monitoring at Aldermaston, could say what Flt-Sgt Stephens's duties had been on Christmas Island, or what had happened to his radiation records. He had spent 11 months 'mopping up' after the tests. The Defence Ministry says it does not accept the tribunal's medical findings. Officials told Mrs Stephens that their own medical advisers did not accept any link between exposure to radiation and her husband's death. It is conceded by the Ministry that ships used in the first A-bomb test at Monte Bello in 1952 were found to be contaminated by radiation when they returned to England. More than 1,000 sailors, engineers and marines sailed to the tests in three tank-landing ships, Zeebrugge, Narvik and Tracker, and an aircraft carrier, Campania, all of which were contaminated. Officials also admit that a small landing craft which entered the contaminated lagoon was found to be contaminated when it arrived back in Britain, as was equipment used for a sampling laboratory on board Zeebrugge. But they say there is 'no record' of radioactive waste seeping from drums on to the deck. Sailors on the Zeebrugge have described how some of the drums broke open

and the contents splashed them; how they slept on deck in the contaminated landing-craft for several weeks; and how makeshift protective suits and gas-masks were unsuitable for use in the tropics. The ministry told *The Observer* that it would agree to release service medical records to the doctor of any ex-serviceman who asked for them; and it is prepared to release a 'summary' of individual radiation records, where they exist, to servicemen or their families. It is known that in the 1950s, scientists worked to less stringent safety limits for radiation. Soldiers could be exposed to 15 rems a year, later reduced to 5 rem in 1956. Dr Alice Stewart, an expert in cancer statistics at Birmingham University has traced more than 12 cases of deaths from leukaemia and blood cancer in servicemen who were at the H-bomb test series at Christmas Island. She says conservative estimates of the expected number of leukaemia cases in the relevant group—young men under 25 at the time—should result in only 10 cases in all—and only a fraction of the 6,000 in the group have so far been traced.

the booklet. It warns against drinking any milk or water within 20 kilometres of a nuclear emergency and says potassium iodate tablets may be issued to counter the effects of any radioactive iodine breathed in or eaten and to reduce the risk of cancer.

### All-clear after radiation leaks, Paul Brown, *The Guardian*, December 8th 1982.

Two radioactive leaks occurred at the Harwell Research Station in Oxfordshire when "highly active and extremely dangerous" spent uranium fuel rods were being removed from a nuclear reactor on the site. Ten people in the area were immediately evacuated and some were found to have minor contamination below the permitted safety level. Scientists wearing special protective clothing found radiation levels only slightly above normal and declared the area safe. A spokesman explained that both releases were very small. The total radioactivity leaked was 14 per cent of the permitted daily release allowed under the station's licence.

### Plutonium reactor project shelved, Jonathan Davis, *The Times*, November 30th 1982.

The Government has deferred indefinitely plans to build a £2,000m commercial nuclear plant based on the controversial fast breeder reactor, which is fuelled by plutonium rather than uranium. The Government has decided against the most extreme option of shutting down the United Kingdom Atomic Energy Authority's operations at Dounreay, which would have threatened the jobs of the 2,300 scientists and staff working there. But it has decided that there is no economic case for pressing ahead now with a full-scale fast breeder reactor, which was the next logical step if the programme was to maintain its past momentum. Instead the atomic energy authority has been asked to draw up a new development plan which will take account of the fact that a commercial fast breeder will not be built for several years. The low price and relative abundance of uranium supplies on the world market, however, have undermined much of the fast breeder's economic and strategic advantage over conventional uranium-fuelled reactors in the last three years. This is one factor behind Government's decision. The Government has also been concerned at the level of public expenditure it would incur if it pressed ahead with a full-scale plant. Forecasts of future electricity demand have also been sharply downgraded.

**Nuclear accident guide includes evacuation plan, Angela Singer, *The Guardian*, December 7th 1982.**

A radiation leak after an accident at one of Britain's nuclear power stations might require evacuation of all homes up to three kilometres downwind of the station, according to contingency plans published by the Health and Safety Executive. An accident could release gaseous isotopes, such as krypton or xenon, into the wind and those not evacuated should stay inside and close all windows and doors, advises

### £11.5m fault at Sizewell, Gareth Parry, *The Guardian*, November 24th 1982.

The shut-down of part of a faulty nuclear reactor at Sizewell power station, in Suffolk, since June 1981 has been costing £16,500 a day, the Central Electricity Generating Board has confirmed. If the gas-cooled Magnox is returned to full use, as hoped, in July 1983 the total fuel bill for replacement power sources will amount to around £11.5 million. Details of the costly break-down emerged at a meeting of Sizewell's local liaison committee which meets each year to answer comments and complaints from organisations and members of the public, and hear CEBG reports of over-hauls. Nothing was publicly known about the huge losses until November 23rd. The CEBG said there was no danger to the public resulting from the breakdown. A spokesman said that Sizewell's Reactor Two—one of a pair of the 16-year-old "first generation" Magnox reactors—was taken out of commission for its biennial overhaul in June 1981. The duct, which is part of the gas pressure circuit taking the carbon dioxide gas carrying heat from the reactor to one of four boilers had a suspect weld. The fault was found in a place which was particularly difficult to get at. The CEBG said that to have had the complete reactor two out of service would have cost £66,000 a day in replacement power from coal-fired stations. The weld was difficult to inspect, even with the latest examination equipment, so it was decided to put the reactor back after its overhaul and seal off one of the four circuits to the boilers. Reactor two has consequently been operating on three-quarter load ever since.

### Canadian missile plant bombed, John Best, *The Times*, October 16th 1982.

A factory just outside Toronto which produces guidance systems for the American Tomahawk

cruise missile was severely damaged by a bomb explosion. Eight people, including three policemen, were injured in the blast, at least one of them seriously. The plant belonging to Litton Systems Canada Ltd, a subsidiary of the Californian firm Litton Industries, has been the scene of frequent anti-nuclear demonstrations. Police, however, could not draw any immediate, direct connection between the demonstrations and the explosion.

**Rebels bomb South Africa A-plant**, Ray Kennedy, *The Times*, December 20th, 1982.

At least four explosions ripped through a nuclear power station at Koeberg, outside Capetown. The best explosion is reported to have damaged one of the two reactors which is loaded with nuclear fuel rods but is not yet operational. The outlawed African National Congress (ANC) claimed responsibility. The Koeberg plant, South Africa's first nuclear power station and sited only 10 miles from the centre of Cape Town, is due to begin supplying electricity toward the middle of 1983. It is being built at a cost of more than £1,000m by a French consortium, Framatome, which is one-third owned by the French Government, and is equipped with two 1,000 megawatt pressurized water reactors. Loading of the number one reactor with nuclear fuel rods began in June 1982.

**Nuclear fuel leak in ship is denied**, *The Times*, October 1st 1982.

British Nuclear Fuels has denied claims of a radiation leak in ship carrying spent nuclear fuel for reprocessing at Windscale, Cumbria. The Barrow Action Group, an anti-nuclear organization, claims the radiation leaked on board the Pacific Fisher in the Panama Canal while she was sailing from Japan. It is claimed that the information came from the crew members after the 3,000 ton vessel docked on August 30. British Nuclear Fuels said routine checks at Barrow showed there had been no leak of radiation in any of the cargo holds and there had been no incident on board ship. The action group says that on August 3 at 7.40 am the high radiation reading alarm sounded in the Master's cabin. Miss Jean Emery, secretary of the group said: "On investigation it was found that an unusually high reading was being given off in number four hold. At approximately 9 am the forward hold was sealed off from officers and crew with the exception of the master, the chief engineer and the refrigeration engineer. Samples were taken of the cooling water off the particular flask in this hold and the results sent directly to Fishers in Barrow." Miss Emery said the forward section of the ship was out of bounds for three days and no explanation was given.

**NIOSH backs down on Portsmouth Study**, Barbara Culliton, *Science*, November 5th 1982.

The National Institute for Occupational Safety and Health (NIOSH) has withdrawn its proposal for a cytogenetic study of nuclear workers at the U.S.

Navy's shipyard in Portsmouth, New Hampshire. A highly critical review of the NIOSH protocol by a committee of the National Academy of Sciences (NAS) apparently quashed any possibility that the Navy would agree to let NIOSH study the Portsmouth workers (*Science*, 29 October, p. 454). In a letter to Vice Admiral E. B. Fowler, Philip J. Landrigan of NIOSH said, "We still sincerely believe the conduct of the proposed study would have generated occupational health data important to the (Portsmouth) workers, and other workers in similar occupations. However, since (the NAS) position clearly would not convince you that we should proceed... we will therefore not pursue this effort..." From the start, the Navy has opposed the study. Despite the NAS committee's view that the proposed study of the effects of low-level radiation on chromosomes and sperm would not be scientifically or medically useful, NIOSH holds to its opinion that the workers should be evaluated and informed of the results. "... (1)f it is to be assumed that low dose radiation causes chromosomal breakage (the NAS agrees that it does) workers need to be informed about the potential for genetic damage, although the significance of this damage is unknown," Landrigan wrote.

**Nuclear White Elephant costs taxpayers**, *Natural Life News*, 23.

Most Canadian taxpayers don't realize they are contributing to the cost of running a Quebec nuclear power plant that hasn't produced electricity for more than four years. First opened in 1971, the Gentilly-1 plant has, since 1979, been licensed to operate only at zero power due to technological problems. Hydro-Quebec continues to employ a staff of two hundred workers whose salaries are paid by Atomic Energy of Canada Ltd., the plant's owner. The reactor is not the CANDU-type that is operating in other parts of Canada. Gentilly-1 produces steam within the reactor through a boiling water process, rather than producing steam within generators away from the reactor as in the CANDU. A problem originated from steam collecting near fuel bundles which accelerated the atomic reaction and caused energy production surges. Another problem has resulted from equipment corrosion by the St. Lawrence's polluted river water.

**Legal threat to new reactor**, David Nicholson-Lord, *The Times*, October 29th 1982.

Anti-nuclear protesters are mounting a legal challenge to the start up of Britain's latest reactor. It is thought that the case, involving the trouble-prone advanced gas-cooled reactor at Hartlepool, Cleveland, will be the first direct court action against the nuclear power programme. Lawyers representing Friends of the Earth groups in Cleveland and Hartlepool are seeking details from the Nuclear Installations Inspectorate of the reactor's protection from gas blasts at neighbouring petro-chemical works. The groups are aiming for an injunction which would halt the operation of the reactor until

blast shields are installed. A report from the Political Ecology Research Group has alleged inconsistencies, secrecy and breach of international guidelines in the reactor's siting and describes it as "the best opportunity yet . . . to delay and expose the operations of the nuclear industry". Applying so-called "screening distance values", as cited by the International Atomic Energy Agency, Hartlepool, Billingham, Middlesbrough and Redcar are inside the reactor's hazard zone, the report says. A Phillips petrol plant is less than a mile away and ICI and Monsanto works another half a mile distant. In early October a toxic cloud was released when a pipe burst at the ICI works at Billingham, emitting an explosion which could be heard several miles away. The CEBG said no special provision against gas clouds had been built at Hartlepool because of the "extreme unlikelihood" of its occurrence. "Even in the worst eventuality, the integrity of the nuclear reactor would be assured", it added.

### "Civilian" Nuclear Myth Explodes, Mark Evanoff, Not Man Apart, November 1982.

"There is no technical demarcation between the military and civilian reactor and there never was one. What has persisted over the decades is just the misconception that such a linkage does not exist." This admission, in an August 1981 document, was not intended to alert people to the danger of weapons proliferation from nuclear reactors and the implications of exporting them to other countries. Rather, it is being used to develop support to increase US plutonium production for use in the new generation of nuclear weapons including Pershing cruise, Trident II, and the MX. The report offers three options for plutonium production. One plan would take the old plutonium reactors at the Hanford and Savannah River nuclear sites out of mothballs. Planners do not expect local residents to oppose this proposal, because it would bring economic growth, to the communities. This economic boost or "Halo Effect," is expected to "offset any qualms about radiation exposure risk . . . after all, people in these communities are accustomed to defense reactors," the report continues. A second plan would build modern plutonium reactors that could also be used commercially. Advanced reactors could be demonstrated "with the federal government (i.e. taxpayers) assuming much of the 'front end' development cost that is now hard to cover by risk capital." The third plan would use plutonium extracted from spent fuel from commercial reactors for weapons, "thereby saving US commercial nuclear power generation from extinction by breaking the reprocessing impasse." The militarization of commercial nuclear power could create a public relations problem for the nuclear utilities who have always tried to separate the commercial and military applications of nuclear power. Fred Davis, of the Government Affairs office of the Edison Electric Institute, an organization of investor-owned utilities, said his group "does not

advocate the Defence Department using our waste to make bombs, but if it is a national emergency, and the President directs it, we won't stand in the way."

### 'Nuclear free farmers' sound their warning, James Mildren, The Western Morning News, December 28th 1982.

A Group of farmers from the Moretonhampstead area has set up an organisation which aims to inform the public of the consequences of a nuclear disaster as it might affect the countryside. Known as Farmers for a Nuclear Free Future, it comprises landowners who feel they have a duty to tell the public that in the event of a major nuclear blast, it would be impossible to protect the countryside, farms, crops, livestock and wildlife. One of the organisers, Mr. Brendan Butler of Moretonhampstead, said that although they approached the NFU and the Agricultural and Development Advisory Service for information, little appeared available for the effects in the countryside of a nuclear holocaust. Dr. Lawson a consultant to the group told a meeting that in the event of a nuclear disaster, all intensive livestock units would be wiped out, and most stock would die in areas affected by blast, heat or fall out. If any cows were to survive, their milk would be useless, and farmers would risk their own lives in looking after their animals. Stored crops, if well covered, would be relatively safe, but growing crops would be vulnerable. Insects, said Dr. Lawson, are fairly resistant to radiation. This could result in plagues of crop-eating insects, as well as the spread of disease. After a limited nuclear war, it should be possible to carry on a primitive agriculture which needs no machinery other than hand tools, no fertilizer and no pesticides—providing there are no serious plagues. If there was an all-out war, said Dr. Lawson the ozone layer which protects the earth from ultra violet radiation, would be ruptured. "Unless we, and all our stock, stayed under cover during daylight hours, our skins would burn and we would be blinded," he said. "and plants would also be seriously affected."

### Taxpayer Bailout Plan for WPPSS Fiasco, Jim Harding, Not Man Apart, November 1982.

At the invitation of Washington Public Power Supply System (WPPSS), Shearson/American Express has put together a financing package for restructuring repayment on \$2.5 billion in bonds for two cancelled Northwest power plants. In the proposed Shearson/American Express scheme, the Federal Financing Bank would provide a federally guaranteed loan of \$1.5 billion to the Bonneville Power Administration (BPA) at a 7 per cent rate (well below the cost of its money). Bonneville, in turn, would buy \$1.5 billion in otherwise unsaleable new 7 per cent WPPSS bonds. WPPSS, then, would invest the \$1.5 billion from the bond sale in high yielding government securities (at

11 per cent) that get the federal government its money in the first place. WPPSS gets to use the difference between the 7 per cent cost of the money from the Federal bank and the 11 per cent paid by the federal government to borrow money. This subsidy would pay off the original interest on units 4 and 5 of the nuclear project. Interest on the WPPSS bonds is expected to total \$4.75 billion by the time the principal is fully paid back, so that the total cost of the WPPSS errors is about \$7 billion, according to Shearson/American Express. The investment bank owns about \$190 million in WPPSS bonds, \$100 million in bonds on units 1, 2, and 3, and \$90 million on units 4 and 5. Repayment of the \$4.8 billion in accumulated interest must begin in March 1983, with the bond principal not beginning to come due until 1989. Meanwhile, all the participating 88 utilities in the project must raise their rates to begin the interest repayment process, a prospect that threatens to bankrupt a number of Washington municipal utilities.

**NRC warns sixteen plants could burst in Accidents, Not Man Apart, November 1982.**

The staff of the Nuclear Regulatory Commission has released a preliminary report on the danger of a calamitous rupture of a pressure vessel in an operating nuclear power plant, concluding that

some sixteen nuclear units in operation today may require significant modifications to prevent such an accident before their normal lifetimes are over. The NRC staff argues, however, that none of the sixteen plants will reach dangerous operating conditions during the next four years. Reactor pressure vessels are 8-10 inch thick steel vessels that house a plant's uranium core. During normal operation, the internal temperature of a vessel is 550 degrees Fahrenheit. In a loss-of-coolant accident that requires emergency water injection, the vessel is doused with 50-90 degree Fahrenheit water, subjecting it to thermal shock. As the steel in a pressure vessel is subjected to radiation it becomes more and more brittle, and likely to break in such a thermal shock. In highly embrittled vessels, the NRC staff has estimated that a prompt temperature drop of 270-300 degrees Fahrenheit could cause uncontrollable cracking. The result would be disastrous, because no plant emergency system can gradually cool a core that has lost its pressure vessel. A meltdown would undoubtedly result. According to the NRC staff, some sixteen plants may become so embrittled during their lifetime that they could not survive "normal" emergency shutdowns. A recent Oak Ridge National Laboratory report to the NRC found that 85 "over-cooling" or thermal shock accidents occurred between 1963 and 1981, or an average of nearly five per year. Of this sum, 24 were found able to cause vessel wall cracking.

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## **Chemicals, Drugs, Health and Pollution**

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**The town that died of dioxin poisoning, Joyce Egginton, *The Observer*, January 16th 1983.**

After the discovery that 2,500 Missouri residents have spent the past 10 years being exposed to dangerous levels of dioxin, a state-wide search is being conducted to find other neighbourhoods where hundreds more people may be at serious risk. The contamination stems from a widely-followed practice in the early 1970s of mixing chemical waste with used oil and spreading this liquid on dirt and gravel roads as a means of dust control. The first community to feel serious effects of the contamination is Times Beach, a few miles outside the city of St Louis. Built on a bank of the Meramac River, it is a shanty town of working class dwellings which should never have been erected at all—it floods after heavy rain. Twice a decade residents of Times Beach have to bail out their homes, but last December's 12 in. rainfall created the worst flood the area has known. The townspeople were evacuated for several days. Just as they were preparing to return they were told the federal Centre for Disease Control had discovered that in the early 1970s all their roads had been sprayed with dioxin-laced oil, that they had probably

been breathing the dust and tracking it into their homes, that the flood had increased the risk of contamination, and that their evacuation should be permanent. Despite warnings, about 30 families have trickled back to Times Beach. Others who returned to their battered homes to salvage what they could were incensed by the sight of federal and state clean-up teams wearing 'moon-suits' and gas masks while they themselves had no protection. Tests taken just before the flood showed dioxin levels of 130 parts per billion in some of the Times Beach soil samples, whereas the highest level considered safe by the Centre for Disease Control is only one part per billion.

**Drug for epileptics linked to spina bifida, Andrew Veitch, *The Guardian*, November 13th 1982.**

A drug given to 80,000 epileptics in the UK, including several hundred pregnant women, could cause spina bifida in unborn children. It is highly likely, according to a report in the Lancet, that women give Epilim in the first three months of pregnancy stand a 1 per cent chance of giving birth to a baby with spina

bifida. The 1 per cent incidence is similar to the risk of a woman who has had a baby with spina bifida giving birth to a second child with the same defect. In such cases, doctors offer to check the foetus and, if the test is positive, offer to perform an abortion. The warning came from eight directors of the international organisation which monitors birth defects. They stressed that their figures were preliminary. None of the epileptic mothers in Northern Ireland who had given birth to babies with spina bifida had taken Epilim, however, the numbers in France alone were sufficient to suggest a strong relation between valproic acid (Epilim) and spina bifida. Epilim is the first-choice drug in the UK for controlling epilepsy. The distributors admitted yesterday that there had been reports of problems and that these had been sent to the Department of Health, but they declined to say how many there had been. The distributors suggested that the Lancet figures were wrong and reflected regional variations in the incidence of spina bifida rather than an association between the defect and their drug. The firm's data sheet, on which most GPs base their prescribing, warns that Epilim should only be given to women of child-bearing age in severe cases or in those resistant to other treatment, and that doctors should weigh the benefits of child-bearing age in severe that like other anti-epileptics, it causes defects in the offspring of animals. There is no mention of any reports of danger to human babies.

### VA gives in on Agent Orange, *Environment*, November 1982.

Responding to congressional pressure, the Veterans Administration has asked the Centers for Disease Control (CDC)—an agency of Health and Human Services—to take over a study of Agent Orange. Agent Orange is a herbicide used during the Vietnam War that is suspected of causing cancer, birth defects, and other illnesses. Just prior to the VA's announcement, 101 congressmen had signed a letter to VA chief Robert Nimmo requesting the agency to relinquish control of the study to a non-Va panel because it had lost credibility with Vietnam veterans. The congressional Office of Technology Assessment had charged that the Va had unnecessarily delayed the study, ordered by Congress in 1979, and the General Accounting Office was about to release a report attacking the VA's program for finding and screening veterans with symptoms potentially related to the herbicide. While Nimmo said he believed the VA had "proceeded reasonably", he said it had become increasingly apparent that "a broad consensus has developed that supports the belief that it would be in the best interest of veterans to have a non-VA scientific body conduct the Agent Orange study." If the study proves a link between exposure to Agent Orange and health defects, it could cost the government millions of dollars in compensation to disabled veterans. Approximately 95,000 veterans have requested screening for problems potentially related to Agent Orange.

### California bans toxic dumps, *Environment*, November 11th 1982.

The state of California has proposed regulations banning the land disposal of highly toxic wastes—a practice that has left California with at least 70 major dumping sites that need cleaning up. If the program goes into effect, it will be the most stringent in the nation. The regulations would phase out the landfilling of toxic chemicals—including cyanides, toxic metals, strong acids, PCBs, halogenated organic compounds such as the pesticides DDT, DBCP, and Kepone, and other wastes currently classified by the state as "extremely hazardous"—as the technology for disposing of them through other methods is phased in.

### Agent White linked to cancer, *Environment (Spectrum)*, July/August 1982.

Agent White, a defoliant used for six years in Vietnam, is suspected of causing cancer deaths in western North Carolina. The Army halted use of the herbicide in Vietnam when scientists warned that a chemical in the defoliant—picloram—could cause long-term, permanent ecological damage if it entered surface or subsurface waters. Currently, Dow Chemical markets the herbicide in the United States under the name Tordon. Timber companies, the Tennessee Valley Authority, and the U.S. Forest Service have used picloram in Cherokee County, N.C., since 1965. By 1979, cancer deaths had risen about 90 percent in Cherokee County compared with 1973 figures. Dr. Melvin Reuber, the former director of the Experimental Pathology Laboratory of Frederick Cancer Research Center (in Frederick, Md) said, "There's no doubt in my mind that picloram is a carcinogen." Officials of Dow Chemical say, "We feel it's safe." Scientists are planning to examine records of cancer deaths in Cherokee and Macon counties to see whether the increase, in fact, might have been caused by Tordon, and they will take soil and water samples to determine whether picloram has seeped into well water.

### 450 prepare court claims on drug effects, Andrew Veitch, *The Guardian*, November 24th 1982.

At least 450 people who claim to have suffered side effects, or who claim that relatives died after taking the anti-arthritis drug Oren, which has now been withdrawn, have threatened court-actions against the makers. The Oren Action Committee, which is coordinating the claims, against Lilly, the makers, said yesterday that the oldest claimant was a 95-year-old grandmother and the youngest a 26-year-old man. The committee, which is being advised by Mr Roger Panone, the Law Society council member who advised the thalidomide victims, asked Lilly to set up a no-fault compensation scheme. However, Lilly's solicitors have told the committee that the firm denies that Oren "was responsible for the ill-effects which have been attributed to it, and that they were at fault in any way in, or about, the deve-

lopment of the drug." Opren was introduced two years ago and given to 500,000 patients before being suspended by the Department of Health in August, after reports that 61 people had died and more than 3,000 had suffered side-effects. Lilly, and their British subsidiary, Dista, subsequently withdrew the drug. Lilly employees in the United States face prosecution for allegedly failing to tell the Food and Drug Administration about the reports of deaths in the UK before the drug was licensed for use in the US.

**Polluters 'escaping with small fines'**, Hugh Clayton, *The Times*, October 13th 1982.

The Government's pollution inspectors have complained that legal authorities were failing to trap traders who made large profits from the illegal burning of discarded industrial cable, which gives off poisonous acidic gases and black smoke. The Alkali and Clean Air Inspectorate (ACAI) said in its annual report that last year fines imposed for illegal cable-burning were "derisory by comparison with the profits to be made". Fifteen of the 17 prosecutions made by inspectors last year were for illegal cable-burning, which carries a maximum fine of £1,000. All of the cases succeeded but the fines and costs in all of them totalled only £2,000. The inspectorate wants magistrates to impose larger fines and local environmental health officers to have full responsibility for enforcement, rather than the Director of Public Prosecutions or one of the 37 inspectors. Dr Leslie Reed, chief inspector of the ACAI, said of the cable-burning: "Magistrates often do not take a very severe view of it".

**Britain is odd-man-out on 2,4,5-T**, Judy Redfearn, *Nature*, July 22nd 1982.

The European Commission is urging the Community's member states to take greater precautions to ensure that herbicides containing 2,4,5-trichlorophenoxyacetic acid (2,4,5-T) do not contaminate food. In a surprising move, the Commission is recommending that the Council of Ministers adopt a directive forbidding the use of 2,4,5-T on cereals and woodlands when fruits and mushrooms are in season and in weedkillers for domestic use. The Commission is also recommending that the maximum permitted level of the toxic contaminant 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) be reduced immediately to 0.01 mg per kg of 2,4,5-T and later to 0.005 mg per kg when a method of control at such a low level is available. The Commission's move may embarrass the British government, even though Britain, together with Belgium and West Germany, already operates the 0.01 mg per kg limit for TCDD in 2,4,5-T. The British Ministry of Agriculture has repeatedly given 2,4,5-T a clean bill of health provided that it is used as recommended. The Commission's decision to move on the side of caution is the result of a review conducted in 1980 by its scientific committee for pesticides. Although that

review found no evidence of direct harm from the proper use of herbicides containing 2,4,5-T, it nevertheless recommended lowering the level of TCDD in 2,4,5-T and greater precautions to minimize 2,4,5-T in food. Whether the Commission's recommendations become binding on EEC member states will depend on how they are greeted by the Council of Ministers. Whatever the outcome, however, Italy, the Netherlands, Denmark and West Germany will be unaffected. They have already banned use of the chemical as a herbicide.

**Ban on Depo-Provera is contested**, *New Scientist*, 11th November 1982.

The preliminary public hearing into the banned injectable contraceptive Depo-Provera opened this week to confusion over the powers of the appeal panel hearing the case. The problem has arisen because this is the first time that the licensing authority which allows drugs onto the market has rejected the advice of its safety watchdog, the Committee on Safety of Medicines. In April the committee advised that Depo-Provera should get a licence for long-term use as a contraceptive. But the licensing authority said that it should remain restricted to no more than three months at a time. Now no one seems sure whether the panel hearing the appeal can advise the licensing authority to change its decision or must merely produce a report on the evidence and leave the authority to make up its own mind. Upjohn, the American company which manufactures Depo-Provera, has produced written evidence in support of the safety of its drug and plans to call 15 expert witnesses next April when the hearing reconvenes. When health minister Kenneth Clarke announced the decision not to extend the license of Depo-Provera he expressed concern about the possible abuse of the drug, since it might be given to mentally handicapped or socially-disadvantaged women without their consent. Upjohn plans to contest this by calling psychiatrists and ethics experts to describe the difficulties of giving any drug to such women. "Even if it is only small groups of women who need Depo-Provera the drug should not be denied to them", said Christopher Bathurst, QC, on behalf of Upjohn. "And if a few doctors do use the drug in the wrong way we should be taking action against them and not the drug. You don't ban cars just because there are a few dangerous drivers—you prosecute the bad drivers", he added.

**Carpet mites can kill**, Oliver Gillie, *The Sunday Times*, November 28th 1982.

The house mites that lurk in everyone's fitted carpets, soft furnishings and bedding are believed to carry an infection that causes a newly discovered disease affecting young children. And children are most at risk when fitted carpets are shampooed—because the mites become suspended in the air in tiny droplets of detergent, which are breathed into the lungs. The illness, discovered in Japan, has been named Kawasaki disease. It is

common in Britain, though exact figures are not available. Out of 100 children who go to hospital with the disease, two or three die. Symptoms may include: a fever, lasting more than five days, which does not respond to drugs; a sore mouth and tongue; skin rash; swollen hands and feet which eventually peel; and often, swollen glands in the neck. In the worst cases the arteries of the heart are affected. Doctors know that the victims have been exposed to infection from mites because their blood usually contains an antibody to mites, produced by the body's immune system. Detailed studies have found that the antibody is made in response to minute bacteria living within the mites—and it is these bacteria, known as Rickettsiae, that appear to be the cause of the disease. They have also been found in the skin and blood of some child patients. Researchers who investigated an outbreak of the disease in Colorado earlier this year found that 70 per cent of the children suffering from it had been exposed to carpet shampoo. Nearly all the children had walked or crawled on the carpets within two hours of the application of shampoo and many had been present while the shampooing took place. Dr Mike Dillon, consultant paediatrician at Great Ormond Street Hospital for Sick Children, London, says: "The disease may not always be severe. We may be just seeing the tip of the iceberg in hospital. A feverish illness, with soreness of the mouth and a rash, may be diagnosed and treated as a virus disease by the GP."

#### **Bankruptcy protects the rich,** Deborah Shapley, *Nature*, October 28th 1982.

The question of liability for the long-term latent occupational diseases of workers has been further muddied by the gigantic Manville Corporation, a mining and manufacturing company that is a pillar of US industry, which has filed for bankruptcy to protect itself from claims from asbestos workers, which the company says, could total as much as \$2,000 million. Manville's action was an extraordinary use of the US bankruptcy courts; companies normally file for bankruptcy when their debts have become intolerable in order to prevent outright liquidation. In those circumstances, the court takes charge of settling a corporation's debts, freezing creditors' claims and other lawsuits and dividends paid to shareholders, while a re-organization plan is being agreed. But Manville is a relatively healthy corporation, although it reported a loss for the first half of 1982 of \$32 million. Its executives believe that the effect of filing for bankruptcy will be, ironically, to make the company still healthier. Manville, which is the largest US producer of asbestos products used in building, insulation, brake lining, ship-building and underground pipes, has 16,500 claims outstanding against it. Its decision to file for bankruptcy was prompted by a study indicating that another 32,000 claims might yet be made, with an average settlement cost of \$40,000. The asbestos industry in general faces a tidal wave of claims, because there are an estimated nine million people in the United

States who have worked in an asbestos-related industry and who might claim damages on account of the risk of developing mesothelioma or asbestosis, maybe many years later. The law so far has not ruled in favour of the asbestos industry. A lawsuit decided by the Supreme Court of the state of New Jersey ruled out as a possible defence a company's ignorance of possible adverse health effects at the time its workers were exposed to asbestos. By filing for bankruptcy, the corporation can put off paying existing creditors until the courts decide what should be done. In the meantime, no new claims can be filed. In reorganizing itself, the Johns-Manville Corporation assigned to the new Manville Corporation only those assets associated with asbestos, thus shielding 74 per cent of its total assets from future litigation. It has even argued that claims against the Johns-Manville Corporation are not valid because that corporation no longer exists.

#### **'Death by Opron'**, Andrew Veitch, *The Guardian*, December 1st 1982.

Opron, the banned arthritis drug, was responsible for the death of a 78-year-old widow, a coroner has decided. While doctors have linked the drug with 61 deaths, it is thought to be only the second time that Opron has been implicated at an inquest. Mrs Helen McFarlane, of Mayberry Drive, Edinburgh, died of hepato-renal failure due to Opron poisoning, East Cleveland coroner, Mr Olof Bjorkeroth, decided. Lilly has denied that Opron was responsible for the 61 deaths, or the 3,000 reported cases of adverse reactions. It withdrew the drug after the Department of Health suspended its licence. The Cleveland verdict came after South Teesside's consultant pathologist, Mr Eric Potts, had told the inquest that the tissue samples examined by a Glasgow specialist who was collecting data on the drug confirmed beyond reasonable doubt that Opron was responsible for the victim's renal failure.

#### **Ulcer risk with Slow-K**, Oliver Gillie, *The Sunday Times*, October 3rd 1982.

A drug taken by millions of people in Britain who suffer from high blood pressure has been found to cause worrying side-effects. The drug is called Slow-K and is made by the Swiss company, Ciba-Geigy. Research in the United States has now shown that the drug can damage the stomach, gullet and bowels. Slow-K is often prescribed for patients who have to take diuretics (water tablets). It restores the loss of potassium in the body caused by the water tablets, and consists of potassium in a wax base which slowly melts in the bowels to release the potassium. Investigations by Dr Gilbert MacMahon of Tulane University, New Orleans, showed that seven out of 12 healthy volunteers who took Slow-K for a week developed injuries visible when the oesophagus (gullet) and stomach were viewed through a special tube.