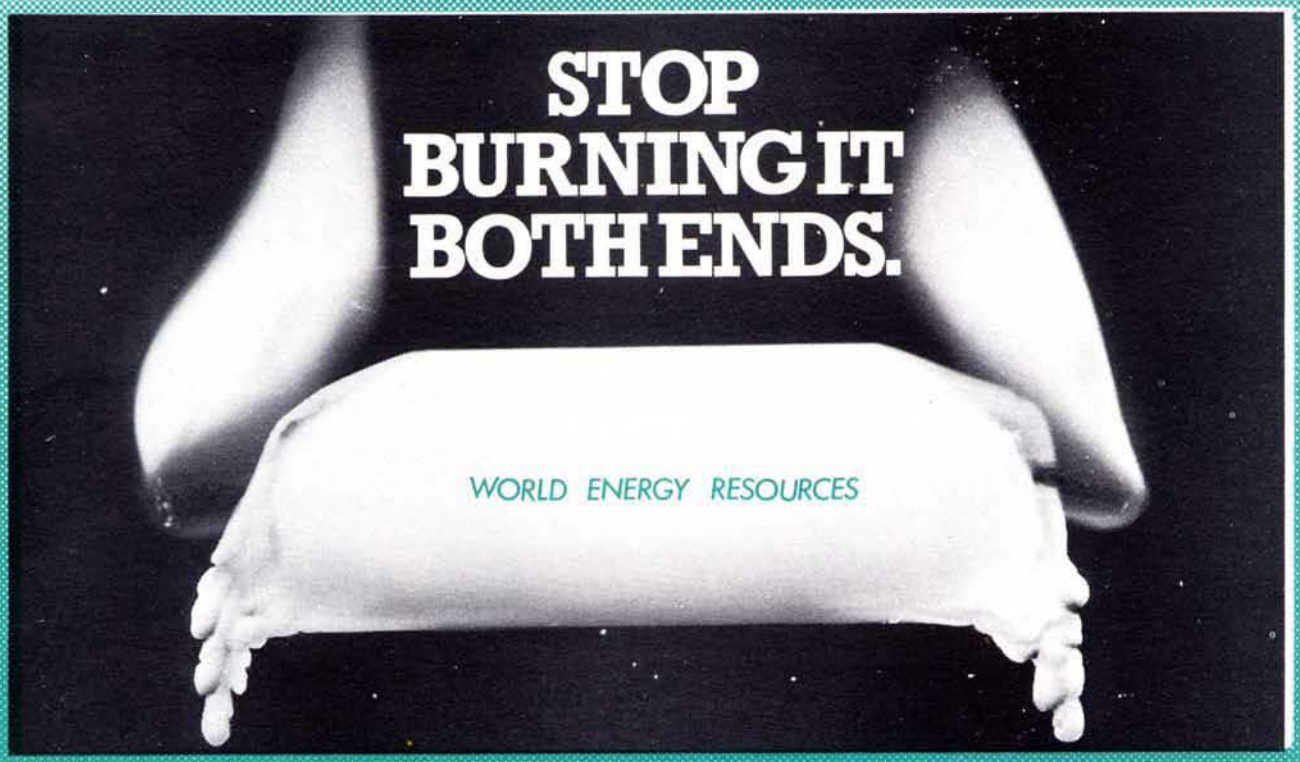
SCRAM ENERGY BULLETIN

NUCLEAR POWER? NO THANKS

ISSN 0140-7340 No.18 June/July 1980 20p



Non-Nuclear Alternatives Now

WITH SPECIAL FEATURES ON

Whole City Heating
The Future of Coal
Energy Conservation

Torness Page

Jobs for the boys

A cartel of only two civil engineering firms is shaping up to carry off the lucrative main civil contracts for Torness, East Lothian, and the Heysham B advanced gas-cooled reactor power station earmarked for the Lancashire coast.

If work on the 1300MW AGR stations does continue as planned by the Tories, the main civil contract at Torness - worth around £200M - will probably be let towards the end of the summer.

The two firms, Sir Robert McAlpine for Torness, and Taylor Woodrow for Heysham B, stand to win their contracts not by competitive tendering - as is normal for large civil engineering projects - but by direct negotiation with the electricity boards, SSEB and the CEGB.

In this way Torness also becomes a handy vehicle for patronage from Westminster, a cynical method of transferring huge sums of money from the central exchequer into the coffers of construction firms with political views well to the Right of centre.

A recent article in the authoritative weekly magazine New Civil Engineer, published by the Institution of Civil Engineers, alleges that McAlpine and Taylor Woodrow are being handed a too large slice of the nuclear industry cake. The implication is that the job-starved contractors excluded from the cartel would tender much more competitive prices for the work.

According to the New Civil Engineer article, McAlpine and Taylor Woodrow are members of the Nuclear Power Company, which exists to supply nuclear power stations to the electricity boards through a subsidiary, British Nuclear Associates.

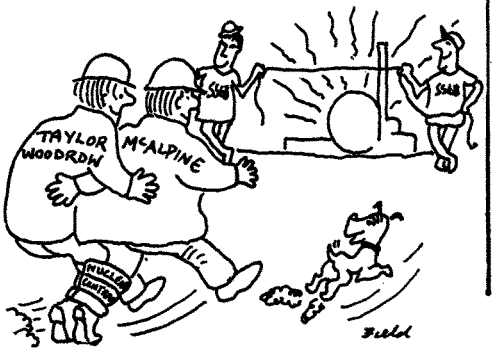
Following a series of reorganisations of the nuclear industry, McAlpine and Taylor Woodrow have reached the top of the heap as the only two contractors in the UK with up to date knowledge of the design and construction of prestressed concrete pressure vessels, pcpvs.

These vital pcpvs enclose the nuclear reactor and are the only boundary between the reactor cooling gas and the atmosphere in an AGR station.

Objections from within the construction industry apparently focus on the extent of the Torness 'nuclear island' package presently being negotiated between the SSEB and Sir Robert McAlpine. McAlpine are already on site, carrying out the site preparation and sea wall construction contract.

The article continues by claiming that even if the objectors are excluded from building the specialised pressure vessels - and some could build them, given the opportunity - there is no reason why a broad spread of contractors should not be offered work directly on turbine hall foundations and superstructure, site roads and drainage, and other non nuclear work.

The conclusion is that it would be much simpler, and more certain, to establish the fair price by laying the work open to competitive tender.



Close your eyes and count to...

The cost of building Torness has been increased by another 40%. Latest estimates put its price at £1.4 billion as against £1000 million quoted last summer. The cost has now almost doubled over the original estimate of £750 million. The current figure includes £200 million for interest charges, which have been calculated for an optimistic 6 year construction period.

The Edinburgh branch of the SNP held a raffle outside the main SSEB showrooms to guess the final cost of the reactor. Guesses ranged from £12 million to £15 billion, but the winner will have to wait a long time for his or her bottle of whisky.

SAFETY STUDY

The proposed AGR reactor at Torness could suffer from faults leading to a Harrisburg type accident. This is the finding of a report produced by the Oxford based Political Ecology Research Group . The result of PERG's research has prompted Torness Community Concern, who commissioned the study, to take out an injunction against the SSEB.

On the advice of Queen's Counsel, however, the injunction will have to wait until the nuclear station is about to go into operation, for under the present legal system there is no case to answer until the station is opened.

Peter Taylor, one of the report's authors, said that he now understood why the government has been so reluctant to release safety reports on what it claims is a very safe reactor design. "The AGR has a number of potential fault sequences which could lead to a Harrisburg type melt-down. Whether or not such an accident happens will depend upon a constellation of factors known as the human element and the recent operating experience of the AGRs gives cause for concern that the proclaimed standards can be met".

'Falsifying Records' Claim

He claimed that the Nuclear Safety Inspectorate know of at least three instances where one or other of these factors came close to causing a major accident. He said, "We have an official but as yet unpublished report of instances of falsifying records of work supposedly done on nuclear installations".

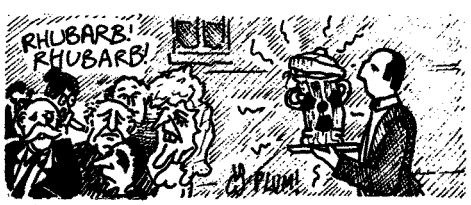
66% Of Scotland Evacuated

PERG used the Atomic Energy Authority's own computer models to simulate the consequences of an accident at Torness. They show that an AGR at Torness would have the potential to cause "economic and social catastrophe of immense proportions". Given an easterly wind, a release of radioactive gases and volatile elements from the reactor core would leave a corridor of land and buildings across the country contaminated by Caesium 137. The authorities would be faced with the colossal task of evacuating two thirds of the population of Scotland. Severe contamination might persist in some areas for more than 100 years.

Open Debate Called For

Peter Taylor stressed that the aim of the report was to bring the whole question of nuclear safety into public debate. The SSEB are obviously taking the PERG report seriously. Their head of nuclear safety, Noel Tweedy, attended the launch meeting at Dunbar and spent his time copiously taking notes. His reply may well come when the SSEB issues its own safety report. They plan to make public a summary of their analysis made for the Nuclear Inspectorate, but it is unlikely that they will provide enough technical detail for critical scientists to question their assumptions.

The report should be of great interest also to the Lothian and Borders Regions Joint Committee on Torness, who have established a sub-committee to examine safety issues. Chaired by Norman Hall, they have already met with the NII but have not as yet invited PERG to put their side of the story. PERG will shortly be presenting this evidence on the AGR as well as studies of the PWR to the Commons Select Committee on Energy.



Copies of the Safety Report and/or summary can be obtained from Torness Community Concern, Bourhouse, Dunbar Full study [60pps] £5 +50p postage, summary [5pps] 50p + 12p postage. Discount for more than 4 copies of either.

News Round-Up

Another near miss

A serious fire occurred at the waste reprocessing plant at Cap La Hague, near Cherbourg, on the morning of April 15th. A major catastrophe was averted only by luck; at the time the fire broke out, the plant was loading plutonium, and normal production was therefore not taking place. Had the fire occurred minutes later, all or part of the 30 kilogrammes of plutonium could have reached criticality and exploded.

The fire, in the transformer system, led to a complete loss of electricity in the plant. Normal electricity supplies were destroyed in the fire, and Emergency electricity supplies, which used the same lines, did not work.

The Cap la Hague reprocessing plant

Cap La Hague Reprocessing Plant

Electricity is essential for the pumps which circulate cooling water non-stop around the high-level waste tanks. Without coolant, the liquid waste begins to boil in the heat it creates, and workers have said it would only take 3 hours for the liquid to evaporate, spreading the waste through the atmosphere, and creating the possibility of an explosion like that at Kyshtym in the USSR. This catastrophe has wiped several villages off the most recent official map of the area.

'Impossible' Accident

The accident at La Hague which safety inspectors had said was 'impossible' was predicted as a possibility in a CDFT Trade Union book, ignored by the management.

One worker commented 'it is quite incredible that the main and emergency supplies should have been designed to use the same input lines. Even a half-baked journalist could have done better.'

The plant was blacked out for half an hour, while the authorities combed Cherbourg for generating equipment. During that time, all computer controls and the central instrument board ceased to function, the alarms could not be rung, and the electric gate releases would not function to make it possible to evacuate workers. The only part of the plant to retain its supply was the perimeter security fence.

The story has been stifled by the French nuclear industry; local residents seem to have discovered part of the story from an article printed first in the Manchester Guardian. The residents, distrustful of official whitewashes, are buying their own radiation monitoring equipment.

In the lead up to the recent accident at Cap la Hague the plant was only operating at half its capacity due to unspecified 'PROBLEMS'.

The high activity oxide workshop is only managing to achieve a theoretical through-put equivalent to 200 tons of fuel p.a. instead of the expected annual through-put of 400 tons. **Only 113 tons of spent fuel have been reprocessed during the last three years.**

Cogema, the state owned firm who operate the plant, have now ceased issuing figures on the amount of fuel it receives and how much it reprocesses. However, the French business fortnightly 'L'Expansion' recently claimed that a fourth "swimming pool" was being constructed to cope with fuel awaiting reprocessing.

The plant was supposed to handle 600 tons of spent fuel a year by 1985, from the French reactors alone, and Cogema is also due to reprocess 5000 tons of spent fuel for foreign customers. The recent fire must make Cap la Hague's already poor record even worse and contribute further to the uncertainty surrounding the viability of oxide reprocessing.

Dounreay deaths

Claims about the harmful effects of small doses of radiation have been substantiated by cancer statistics for the workforce at Dounreay. Workers there run a higher risk of dying of leukaemia than other Scottish workers.

In a letter to Inverness Friends of the Earth, the public relations Officer at Dounreay admitted that 6 workers had died of leukaemia in the period of 1958-1978. He continued 'this is less than would be expected statistically over this period'.

These figures were sent to Dr. Robert Blackith of Trinity College, Dublin, who has analysed statistics from several areas surrounding nuclear facilities. His analysis conflicts with that of Dounreay: 6 worker deaths in 20 years is too high.

Dr. Blackith found this figure to be some 7 times higher than what one would expect in the Scottish male workforce - only 0.88 deaths would be expected. The local population around Dounreay has a very high incidence of leukaemia (10.2 deaths per 100,000 people) but even when this is taken into account, there is still a significant excess of leukaemia deaths in the workforce above expected numbers.

Reaction from Dounreay to this analysis was predictable. The 'Sunday Mail' phoned up the Director, Cliff Blumfield, who claimed that Dr. Blackith had his figures wrong, but who found it difficult to say 'until I have studied his findings'. He continued, 'the six who died from leukaemia were either in our employ at the time or retired pensioners of ours'.

It is surprising that they live long enough to collect their pension.

Spring at Torness

On May 3rd, two hundred people from a coalition of groups, calling themselves "The Torness Public Parks Department", camped in a nearby field at Torness.

The aim of the demonstration was to occupy the site in order "to indicate the total opposition of those taking part, to the construction of a nuclear power station at Torness, and to reclaim this once beautiful piece of Scottish coast for the use of all". The demonstration was called on the basis of "total non-violence to all people".

Security at the site was very tight, and the demonstrators were certainly outnumbered by the Police. In all 27 people were arrested attempting to get on to the site. (Photos p.6)

The following weekend around 500 people demonstrated at the site. This was the launching of a campaign by Students Against Nuclear Energy.

The demonstrators were quite clear that they would have liked to occupy the site, but again the Police were present in very large numbers, and the demonstration passed off quite peacefully. Five people, attempting to get on to the site were arrested.

The following Wednesday, May 14th, nine people were due to appear in court on charges of breaching the peace. They were members of the Severnside Alliance who built a scaffolding structure at the main gates at Torness last October. (See Bulletin No.15).

SCRAM and Haddington P.A.T. organised a picket of the Haddington Court. In the event only one of the defendants was tried. Mr. Peter Evans pleaded not guilty to the charge of breach of the peace on the grounds that nuclear power is itself a breach of the peace. However, he was found guilty and fined £15.

The court will resume the hearing on July 9th.

Donations to the October Action Defence Fund, 18 Bishop Rd., Bristol.

IRELAND

Harrassment by workers and farmers have now forced the two companies prospecting for uranium in Donegal to abandon operations.

Residents' reactions to the proposals have changed rapidly over the last two years. 'When we started to learn about uranium our attitude changed completely', said Dr. Dermot Campbell, an active member of the campaign. He had initially been one of those who bought shares in the operation during the companies' first fanfare of publicity.

At one point a smear campaign was launched against the campaign's committee, and its chairman in particular, with the widespread distribution of unsigned leaflets.

Donegal Democrat 25.4.80]

VICTORY!

The Irish government have decided to postpone for two years their plans for a first nuclear power station, at Carnsore Point, Co. Wexford. Recent statements by the new Prime Minister and Energy Minister confirmed that the government now accepts that the plant is unnecessary. The anti-nuclear movement will now concentrate on uranium mining and waste dumping, though another rally will be held at Carnsore in August.

The government is reported to have been worried by the anti-nuclear stance found by canvasses in a recent by-election in Cork.

DON'T WASTE WALES!

Waste boreholing surveys started in Merioneth, Wales, at the beginning of May. The geologist carrying out the above-ground survey - who is commuting into the area - was detected by the local anti-nuclear network within hours of starting work.

The Vice President of the Farmers' Union of Wales has called on farmers to resist the surveys, to refuse access to the geologist, and to prosecute him if he is found trespassing.

Prospecting is being done on Forestry Commission land at present, and a group of 40 people (mainly farmers) occupied the Forestry Commission's offices in Aberystwyth on May 6th, in a very well planned operation. They have demanded that the Commission justifies its involvement with the surveys. Watch this space for developments.

CHINA

Chairman Hua Guofeng has said that China has decided not to start a nuclear power programme. Despite the recent emergence of a nuclear lobby, China has decided that nuclear power cannot be justified on economic grounds.

[*Financial Times 10.4.80*]

BRITTANY

The people of Le Pellerin, near Nantes in Brittany are following the lead taken by the people of nearby Plogoff, and strongly resisting plans for a nuclear power station. A defence committee has been set up for the 12 people so far who are facing court charges.

[*WISE*]

EH?

France has said it plans to build two new 1,500 MW Fast Breeder Reactors every three years up to the year 2000.

[*Times 8.5.80*]

WASTE TRANSPORT

Greenpeace Ltd., has been fined £500, and its three UK directors £100 each, for organising a demonstration to delay a shipment of Japanese nuclear waste into Barrow docks.

But attempts by the British Transport Docks Board, who had brought the case, to have the three imprisoned failed. Mr. Justice Pain commented 'That they are honourable people I accept. I do not think prison is the place for people like them'. But he found them guilty of disobeying a High Court injunction, granted in January, restraining from interfering with the navigation of waste ships at Barrow.

In the March demonstration against the 'Pacific Fisher' waste ship, 4 dinghies were launched from the Greenpeace 'Rainbow Warrior' ship, and sailed repeatedly across her path. One dinghy was crushed, though no-one was injured.

Info. from/Money to; Greenpeace Ltd., PO Box 371, Community Sports Centre, Colombo St., London SE1.

GORLEBEN

2000 women took part in a two day Easter gathering at Gorleben, W. Germany. Workshops over the two days discussed a wide range of topics - from the psychological effects of nuclear power to the position of women in the church.

On May 3/4 5000 people occupied the site and built a village in which 500 people are now staying.

After large protests there last year, plans to build a reprocessing plant were dropped. But drillings have now been started in preparation for storage of high-level radioactive waste. An application to construct an above ground waste store was made on April 8th.

[*WISE*]

LONDON

15,000 people attended the Friends of the Earth rally in London on March 29th, making it the largest anti-nuclear rally in Britain so far. Demonstrations were also held in the US and Canada that day, the anniversary of the Harrisburg accident. 12;000 people demonstrated in Harrisburg, and there were over 40 other actions in 20 states.

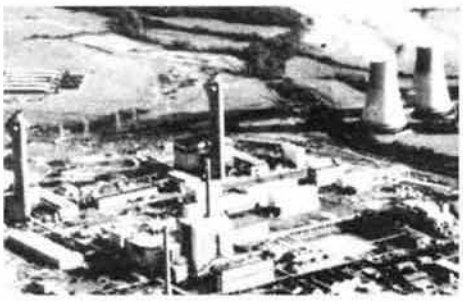
Three days earlier 4,000 school students with their parents and teachers held a demonstration in Freiburg, calling for the closure of the French reactor at Fessenheim, only 25 miles away.

[*WISE*]

NO FRIEND OF FOE

Friends of the Earth Ltd., are to sue the SSEB for their advertisement series 'Nuclear Power is a Friend of the Earth'. FoE's case is that the advert implies that they support the pro-nuclear views of the electricity industry.

EXPENSIVE



BNFL's bill for compensation claims at their Windscale works in Cumbria is rapidly increasing. So far they have paid out £126,000 in four out of court settlements. Another four claims are being processed. Aldermaston Atomic Weapons Establishment has three deaths currently being investigated for compensation claims.

[*New Statesman 18.4.80*]

BACKGROUND RADIATION

A recent survey on the island of Oland in Sweden has shown that lung cancer mortality is three times higher in people living on the Western part of the island near a geological formation containing uranium, and where many buildings are built with local 'blue concrete' which gives off small emissions of radon gas.

The report adds weight to the growing body of evidence that no radiation dose - even background radiation - is safe.

[*WISE 29.4.80*]

A Netherlands research centre has finally officially admitted that the deaths of three children were probably caused by carelessly disposed radioactive material. This follows a T.V. investigation of the incident. The waste had been buried on the site of the research centre, which the children used as a playground.

[*WISE 29.4.80*]

IN PARLIAMENT

NUCLEAR POWER, NO NEED!

Roy Berridge, SSEB chairman, has told the Commons Select Committee on Energy that there is no need for Torness. Speaking on May 19th, he announced that power for Torness would not be needed for **at least** six years after its theoretical completion date of 1986. If it is switched on, it will mean that some oil-fired power-stations would have to be closed down - including Inverkip station, whose third generating set was only opened in September 1979.

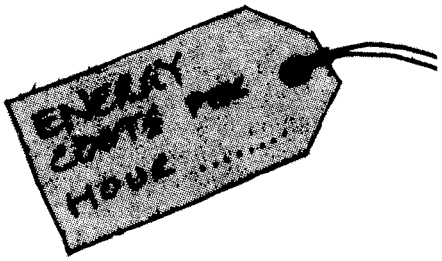
He admitted that this is because of their huge overcapacity, caused by mistakes in demand calculations over the past few years.

In a press statement, SCRAM called it 'lunacy' to consider closing new stations down, throwing away investments of millions of pounds.

Energy Efficient Labelling

An EEC scheme involving labelling the energy efficiency of household appliances (the running costs of fridge freezers in 1977 varied from £14 to £62) could save £40 million a year in the UK. After deduction of labelling costs of £16 million a year, savings of £10 million in the first year should rise to £40 million a year after 4 years.

The government intends to put energy labelling proposals before Parliament "in the near future".



International SOLAR NEWS

Brazil & Energy Self-Sufficiency

Against a background of growth in urban population, energy-intensive industry and the number of cars, with correspondingly increased dependence on oil imports, Brazil is aiming to become energy self-sufficient by 1990. This will be achieved by expanding production of sugar cane for conversion to alcohol, and making more use of Brazil's large hydro-electric potential. This should eliminate the need for an extensive nuclear programme; Brazil agreed to buy 8 reactors from Germany, but the deal is behind schedule and may be curtailed in the near future.

But José Goldemberg, a Brazilian energy researcher, has pointed out some major drawbacks in the programme. Although rural employment will be created, and urban pollution reduced by using alcohol with its lower engine emissions, sugar cane displaces prime agricultural land in predominantly poor rural areas and large-scale alcohol production requires an industrial infrastructure with attendant environment problems. The hydroelectric expansion is only in conventional large plants (over 10 MW); mini-hydro systems would be more appropriate for small villages in the Amazon Valley.

The government are experimenting with alcohol produced from trees and cassava grown on marginal land; but Brazil's programme, whilst containing elements of soft-path technology, retains most features of a centralised energy supply.

Sun Village

Foundations have been laid for the world's first solar village, in Northern Algeria. The village is being built from scratch, and if successful will provide all its industrial and domestic energy from solar power and other renewable energy sources. The village will rehouse 1,500 people and should be completed at the end of 1982.

Each house is being equipped with a solar collector as it is built, and separate groups of collectors will be built to produce energy for industry and agriculture.

From the outset, people intending to live in the new village have been consulted at the planning stage and in building design.

Later stages of the project will involve training villagers to get the best out of the new technologies, and to encourage them to develop renewable energy techniques of their own.

[*Guardian 24.4.80*]

Solar Film

A solar film is available which, on application to windows, reduces heat loss through infra-red radiation by up to 40%. It also cuts down solar heat by around 75%, and so has a cooling effect in summer.

New Developments in Alternative Technology

Getting Into Hot Water

Britain's first attempt to use energy from hot water deep in the earth's crust has been a success, according to John Moore, junior Energy Minister.

The £1.8 million well, near Southampton, found hot water at 5,500 feet. It is expected that water will come to the surface at a temperature of 65-67°C. There will be sufficient to heat about 1000 homes for several decades. Further wells of similar potential could be drilled into the same reservoir.

[*Scotsman 25.4.80*]

Happy Tomatoes

A fluidised bed coal fired heating system developed by the NCB for the Co-op's tomato crop glasshouses near Hereford, has reduced fuel bills by one-third. Costs have been reduced in 1978/79 from £60-70,000 to around £40,000.

£10,000 is to be invested in Denmark to allow the municipal sewage treatment plant at Vordingborg to produce its own electricity from methane. One generator has been in operation for a year, with such success that a further two are to be bought. Each generator should eventually generate 100,000 KW of electricity per year.

[*WISE 8.4.80*]

view of Torness- May 3rd action.

"how do we get out without being arrested?"

even more international news

BLACK BLACK HILLS

Serious radioactive contamination has been found in the water of Pine Ridge Indian reservation, south-east of the Black Hills of Dakota, USA, the site of extensive uranium mining operations.

Within the reservation, 38% of reported pregnancies have resulted in spontaneous miscarriages. Up to 70% of the babies who were born over a period in 1979 suffer breathing complications as a result of underdeveloped lungs and/or jaundice. Deformed children have also been born.

Women of All Red Nations are calling for a state of emergency to be declared, and for the immediate delivery of safe water to the area.

An "anti-nuclear Survival Fair" is to be held in the Black Hills this summer; see Diary.

[WISE April]

ARKANSAS

The failure of a seal on a coolant pump at a nuclear plant in Arkansas has flooded the reactor building with an estimated 42,000 gallons of radioactive water. The company's vice-president called the accident 'serious'.

[Guardian 12.5.80]

"It reads 'Screw You'."

TMI

Deaths of babies under the age of one, more than doubled (from 14 to 31) within a ten mile radius of Three Mile Island in the six months after the accident there, according to figures published by Dr. Gordon MacLeod, Secretary of Health for Pennsylvania at the time of the accident.

[Scotsman n.d.]

STRIKING OCCUPATION

Europe's first strike and worker's occupation of a nuclear power station ended last month when more than 300 employees returned to their jobs at the Tihange plant in Belgium.

The strike was over a union initiative to introduce a scheme to enable staff to retire one year earlier on full pension for every five years they had worked at the plant; suggested due to the stress involved in the work.

The utility, Intercom, suspended two union delegates, whom they held responsible for the action, on the grounds of 'serious misconduct'. For a time the plant was run by Intercom executives but eventually it was shut down for 12 days. The strike spread to Doel where another 300 workers came out in sympathy.

The unions involved effectively had their right to withdraw their labour challenged because of the risks involved with unattended reactors. The outcome of the strike was that talks are being held between unions, utilities, and the Belgian Government to prepare a set of regulations covering industrial action at nuclear plants. According to Nuclear Engineering International 'There will be an agreed procedure for stopping plants in the event of industrial action'. It seems to indicate the unions will have to give written notice in triplicate three months before taking strike action.

(Nuclear Engineering International April 1980)

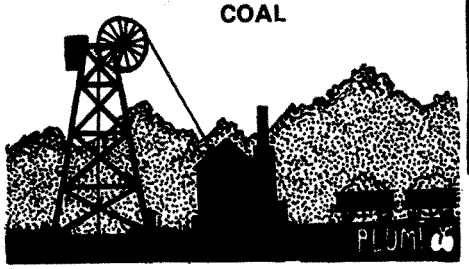
BLUEPRINT FOR A SAFE, SANE & SECURE ENERGY FUTURE

SCRAM Energy Bulletin No.17 examined the potential of renewable energy sources to meet a substantial proportion of our energy needs when fossil fuels begin to run out.

But SCRAM - and the international anti-nuclear movement - says that with more efficient use of fossil fuels, nuclear power could be phased out now.

These four pages look at the means by which this can be done.

COAL

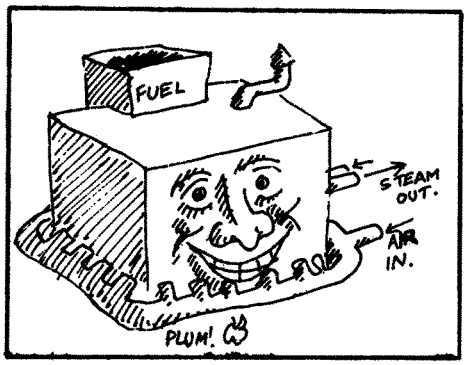


It is accepted that coal will remain the backbone of Britain's energy production for the foreseeable future. The National Coal Board estimates that at the present rate of production our coal reserves will last at least 350 years.

Safety in coal mines can - and must - be improved by government investment which recognises the importance of the role of coal. But the dangers of coal mining, however great, are nowhere near the dangers faced by uranium miners abroad; in one group of 100 Navajo miners who are being monitored, 70% have cancer, or have already died of it, and it is now expected that all 100 will die of it.

Arthur Scargill, President of the Yorkshire Area NUM, writes on the future of the coal industry on p.9 of this issue.

FLUIDISED BEDS



The introduction of the fluidised bed technique for burning coal has increased its efficiency as a fuel by 10% and dramatically reduced pollution levels.

In fluidised bed combustion, the fire rests not on a grate, but on a bed of hot sand, made fluid by blowing air up through it. Crushed limestone is added to the coal, and this captures 95% of the poisonous sulphur fumes. A similar proportion of soot and dust produced is gathered by cyclone collectors, and the technology exists for reducing emissions to almost zero.

The technique can be used with very low grade coal, and is also suitable for domestic or industrial rubbish.

OVERCAPACITY

At present the Scottish electricity boards can provide 63% more power than has ever been needed even on the coldest day of winter. The figure will reach 86% when the 1320 MW station at Peterhead comes on stream at the end of 1980.

The CEGB's overcapacity is not so embarrassing, but is sufficient for them to be trying to build a cross-channel link to sell electricity to France (who threw most of her eggs so conclusively into the nuclear basket a while ago that she now faces widespread electricity shortages).

The SSEB claims it requires 25% of its overcapacity in case of breakdowns. But the rest of the overcapacity means that at any given time almost one-third of our power stations are totally unnecessary. So there is plenty of room for growth in demand before new power stations are needed. The SSEB now admit that it will be **at least** 6 years after its completion date before Torness is needed.

GROWTH

Electricity demand forecasts, on which nuclear expansion has been justified, all carry one basic flaw; the assumption that electricity demand rises as economic growth occurs.

Gerald Leach's comprehensive study, 'A Low Energy Strategy for the U.K.' shows that although that was the case during the 20 or so years of cheap fuel up to 1973, it has not generally been the case, and the link is certainly not a necessary one. Since 1973 demand has stayed fairly constant while growth has continued. Leach's study demonstrates 'how the UK could have 50 years of prosperous material growth and yet use less primary energy than it does today.'

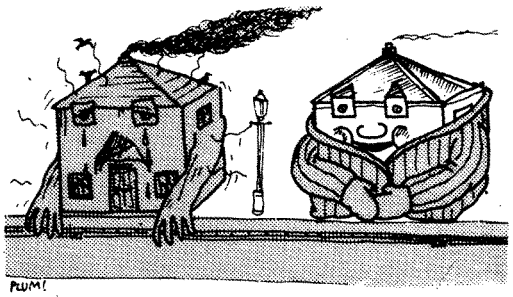
In particular, for electricity, Leach comments "after examining each specific use for electricity, sector by sector, and allowing for the introduction of more efficient technologies, we find that electricity consumption could well remain more or less static'.

This can be achieved by pricing policies making it more advantageous to invest in energy saving equipment, (with allowances made for the old and the poor); other incentives for buying more efficient equipment; a whole-hearted 'Save It' campaign; and by changing fuel use, so that fuels are reserved for their most efficient end-use.

Leach has authoritatively refuted the view that demand rates are linked exclusively to industrial growth rates, and argues that they can be effectively controlled by government policy. The government has yet to understand this.

CONSERVATION

Some 40% of all the primary energy we use (that includes transport etc) goes to heat buildings (space heating) and water. Britain uses more energy per capita for this than the colder Scandinavian countries.



Progressive legislation in energy conservation is sadly lacking in Scotland both at the Scottish Office and local government level. The impact of radical conservation measures on energy consumption has been grossly underestimated, with the result that the need for additional generating capacity has been grossly overestimated.

Energy Paper No.40, the report of the Advisory Council on Energy Conservation found 'Buildings present excellent opportunities for energy saving without adverse effects on standards of living or on economic growth. The technology is available now, and institutional and legal mechanisms such as Building Regulations exist for implementing technical and social solutions.' And the report, issued at the end of 1979, says 'a vigorous publicity campaign should be sustained by the government'. (contd.over)

Energy conservation for Davis, a city in Northern California, was a serious business in the late sixties and early seventies while other cities were mortgaging their future for a nuclear power plant. In the last seven years 7,000 new people have taken up residence in Davis, yet electrical use has dropped by 18%, natural gas by 37%. Simple actions have helped achieve this, but actions requiring political courage. Most of them hinge around building codes. You cannot sell your house in Davis unless it has a low flow shower head. Your hot water heater must be blanketed. Your ceiling and walls must be insulated. Utilities help with low interest financing if needed.

SCRAM's Guide to the alternatives to nuclear power NOW

But the current government is trying to dismantle the already inadequate programme. Over the last year it has abolished grants enabling industry to invest in more efficient equipment, grants to councils to insulate their housing, and has halved the minute loft insulation programme.

Vast savings are possible in the average home. Dr. Robert Blackith of Trinity College, Dublin, reports a winter fuel bill for his well-insulated house of £6 a month, while his neighbour in a similar house pays £85.

It is not just politically and ecologically commendable, but also financially sensible to check your insulation.

Your hot water tank should have **at least** 3" thickness of lagging round it (more will generally give even better heat conservation). Installing this should pay for itself within a few weeks. The loft should have **a greater** amount.

Plastic or metal strips can be fixed to doors and windows to prevent draughts. In a city, double glazing insulates not only against the cold, but also traffic noise.

A sheet of cooking foil on the wall behind a radiator will reflect heat back into the room, rather than let it be absorbed into the wall. A shelf a few inches above the radiator will deflect hot air into the room (particularly important if the radiator is positioned under a window).

If you can make any of these improvements, send off for the Department of Energy's leaflet 'Make the most of your Heating' free from P.O. Box 702, London SW20 8SZ, which tells you how to conserve in these ways.

INDUSTRY

Large energy savings can also be made in industry - government estimates show that some industries could save over half the energy they use by installing more efficient equipment.

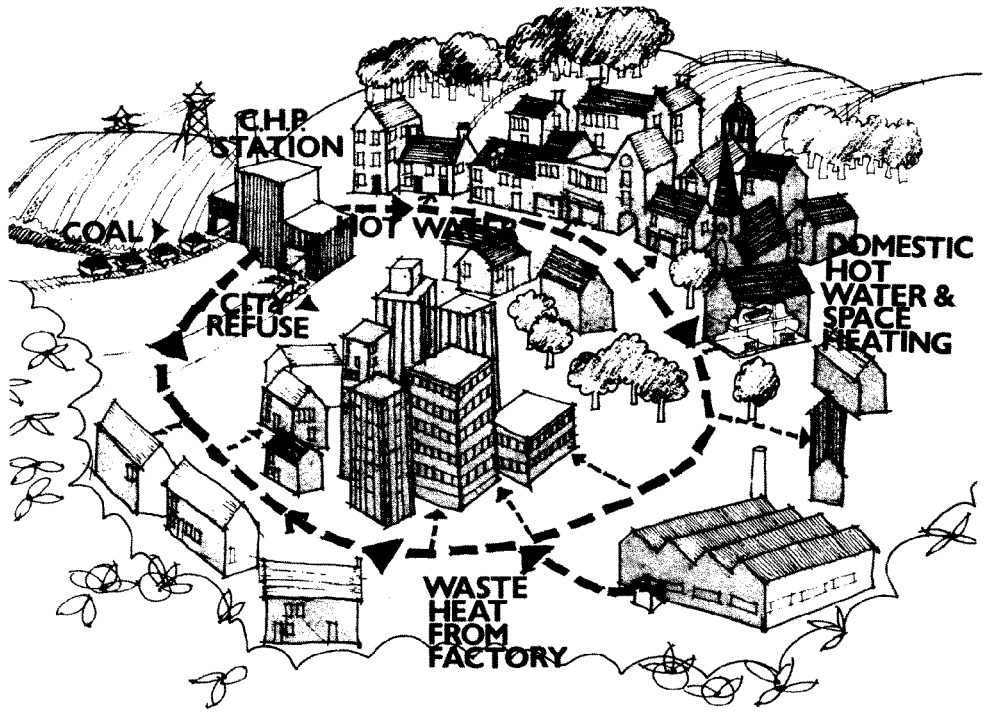
Some savings are occurring naturally as conservation becomes a profitable business (the Economist magazine reported in February that conservation manufacturers now offer the best investment potential on the energy scene), but much more needs to be done.

Workers' Educational Association branches have run conservation courses, and the Open University now has a 'Energy in the Home' course. The Royal Institution of British Architects (RIBA) is providing energy conservation courses for 3,000 mid career architects.

But this government is still travelling doggedly down the hard path, with the energy supply companies competing with each other to create unnecessary demand, to justify the construction of large centralised plants to keep an outdated nuclear construction lame duck hobbling along. The short-term beneficiaries are the nuclear lobby; the losers are our health, our resources and our environment.

The Oregon Bottle Bill which in 1971 imposed a fee on all beer and soft drink bottles and cans was not just a litter campaign, it was a massive energy campaign. The reuse of bottles by use of a standard beer bottle for most companies, the recycling of non-standard bottles (mainly imports) and the recycling of aluminium cans has saved an enormous amount of energy and created many more jobs than it lost. It also set off a general public awareness of conservation in the State, added to by a ban in 1974 on display lighting and by the State allowing gas and electric utility companies only to advertise conservation measures, thus eliminating the David Wilkie, Moira Anderson type of gadget-use promotion. The 1977 and 1979 Legislatures have also required gas and electric utility companies to provide 'conservation' estimates to householders. These lay out measures that should be taken such as insulation, double glazing etc., which will conserve energy usage. If existing use is above a defined level the company is then obligated to provide an interest free loan to make the improvements. The loan is repayable when the house is sold.

WARMTH from WASTE



It is a basic law of physics that any process converting heat to mechanical energy will **always** be less than 100% efficient.

A conventional power station burns fuel to heat water to raise steam. The steam drives turbines and is then cooled to recirculate. The coolant water throws its heat into the sea, or into the atmosphere through cooling towers, causing thermal pollution.

A Combined Heat and Power station raises the temperature of this rejected heat, and then uses it to provide District Heating - hot water pumped through an insulated mains pipe to radiators, hot water taps, etc., to an area in the neighbourhood of the power station.

Modern power stations achieve maximum generating efficiency (about 37%), which slightly lowers the temperature of the waste heat, to 25°C. This low temperature heat is not sufficient for space heating, which requires a water temperature of around 80-120°C.

Various methods can be used to extract hotter water. Generally they involve reducing generating efficiency to around 30%, but twice as much heat energy as electrical energy is generated as well, and the efficiency of usable energy produced for fuel consumed increases to over 80%.

The equivalent of 80 million tons of coal per annum is discharged as waste heat from power stations.

Saving most of this could contribute 8% of our annual energy needs. (The nuclear programme at present contributes just under 4%.

Energy Paper 35, the Marshall Report (chaired by Walter Marshall, head of the UK AEA), called for 'One or more lead (full-scale) city schemes (to) to be started as soon as practicable.' Local councils have statutory powers to provide heat, and schemes are being investigated for Newcastle, London, Edinburgh and Glasgow.

The government's Energy Paper 20 estimated that heat produced in this way would cost half as much as that from a conventional boiler, and much less than electricity. The District Heating Association have calculated that in the longer term the heat could cost as little as 1/6th of that from a gas-fired domestic boiler, and a 1/12th of that from electric systems. This cheap heat could be readily available for all.

District Heating is well established in Europe. Denmark has 460 schemes, W. Germany 500. Sweden produces about 20% of its space and water heating from waste heat. Britain, with a handfull of mainly very small schemes, produces less than 1%. And the schemes that have been installed here have not all worked smoothly - as Howard Clark reports on page10. (Two of the lucky houses supplied by District Heating are 10 and 11 Downing St....)

EMPLOYMENT

Numerous medium scale power stations would be retained, modified and constructed, preserving and creating work for plant operatives, and turbine manufacturers, etc. Work will also be created for plumbers, heating engineers

and maintenance workers, amongst others, in the construction of distribution networks.

Vasteras in Sweden is one of several cities which gets all its heating from heat which would otherwise be thrown away. It has a population of 100,000, a low population density and a short cold winter. (District Heating gives best performances in large, densely populated towns with an equable climate - and these criteria are well met in Britain).

Every building is district heated from a small new CHP station running at an efficiency of 86%. Radiators, convectors, air conditioning and hot water taps are all connected to the heat mains. So there is no need for boilers, flues, fuel stores, etc. This reduces building costs and provides more usable space. The noise and inconvenience of some heating systems have been eliminated.

In addition to this high temperature heat (a constant 90°C maximum), low grade heat is so cheap and plentiful that it is diverted from the return mains under roads, pavements, shopping precincts and football grounds to keep them free from ice. (Yes, honestly!)

Because of the high thermal efficiency, and the lack of domestic boilers, fires etc., the city is remarkably clean. Sulphur dioxide pollution is almost negligible.

Since the scheme's inception, it has saved the city several million pounds in fuel imports.

The Centre for Alternative Industrial TechnologicalSystems (CAITS) study found that a scheme connecting a quarter of suitable buildings would provide 470,000 person years of work up to 2010, at a fraction of the cost per person year of the nuclear option.

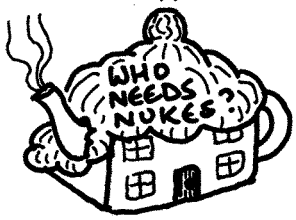
Although these figures have been disputed, it seems obvious that a scheme based on many small generating stations will be more labour intensive than one depending on a small number of very large stations; particularly when CHP is coupled with an intensive insulation and conservation programme.

It will also scatter the labour more evenly, and concentrate it in towns, where the labour force lives. There would be no need for massive long-term labour camps for the construction workers.

ADVANTAGES

So the advantages of CHP and District Heating are;

- More efficient use of fuel consumed
- Cheap heating
- Creation of energy from domestic and industrial waste
- A significant reduction in pollution, using fluidised bed combustion
- Creation of extra jobs
- Some space saving in buildings
- Large supplies of almost free low temperature heat which can be used for horticulture or other applications.



FUTURE FOR THE COAL INDUSTRY

The recent declaration by Mrs Thatcher that Britain is to produce fifty per cent of her electricity from nuclear power is causing concern in society as a whole and in the coal mining industry in particular.

In the light of that declaration we need to examine what energy is available and ask if it is possible to produce Britain's energy demand in the 21st century without resorting to nuclear power.

In this article Arthur Scargill, President of the Yorkshire area NUM argues that we should be exploiting our vast coal reserves instead of relying on the nuclear gamble.

When the Plan for Coal was published in 1974, it projected 135 million tonnes a year output by 1985. This year deep mined output was 109 million tonnes, an increase over the 105.2 million tonnes last year. These figures are for the Coal Board's fiscal year ending March 1980.

In the same period, productivity showed an increase and stood at 2.27 tonnes per man compared with 2.24 tonnes last year.

However, unless there are positive steps taken to expand the coal industry and to stop pit closures, our energy situation will get worse and the coal industry will continue to be run down.

The coal industry was systematically destroyed by successive Labour and Conservative Governments following nationalisation in 1947. Policies were adopted which had the effect of placing Britain's dependence upon foreign oil (over which we had no control) at the expense of indigenous coal and miners' jobs.

At the time of nationalisation, we had 958 producing collieries in Britain. By the end of March 1979, we had witnessed the astonishing closure of 735 pits.

At the same time, manpower, which stood at 703,000 in 1947, was down to below 240,000 at the end of March 1979.

"It is nonsense to talk about energy shortages when we can close pits in this way."

This systematic butchery of the mining industry has destroyed mining communities, destroyed jobs, completely decimated ancillary industries, and left us with a legacy which will be difficult to overcome.

Following the 1972 Miners' Strike, 66 pits have been closed and in the past year alone eight collieries have ceased production. The closure of eight collieries has resulted in a loss of 2 million tonnes, and it is nonsense to talk about energy shortages when we can close pits at this rate.

'MURDER OF THE INDUSTRY'

The Conservative Government is now talking in terms of a new financial structure for the industry with substantial increases in pensions, redundancy benefits - as much as £15,000 per man - provided that a massive pit closure programme is once again undertaken.

If the Tories and the Coal Board are allowed to go ahead with the 1980's "Murder of the Industry", we shall see as many as 15 pits per year closed and thousands of jobs lost. This would be taking place at a time when Britain and the world is crying out for energy.

Nothing could be more irresponsible and when the union declare that they will take strike action rather than see Walton Colliery in Yorkshire or Deep Duffryn Colliery in South Wales closed, they are simply facing up to the economic, social and political facts of life, by declaring their determination to defend the industry, the jobs of their members, and, above all, preserve coal's share of the energy market between now and the 21st century.

COMMITMENT NEEDED

What is required is a commitment on the part of the Government, to develop and expand the coal industry and enable it to produce 200 million tons of coal by the year 2000.

To do this we require an undertaking that no more pits will be closed (unless exhausted) and alongside this, a massive investment programme.

There is no reason why 30 new pits could not be planned and in operation within the next six or seven years. The reserves of coal in Yorkshire alone are more than sufficient to open between 5 and 10 new pits in the Selby/York area and a similar number in the Thorne/Goole area, stretching away to the east.

There are vast reserves of top quality coal in the Midlands and many new pits could be developed in Scotland, Northumberland, Durham and South Wales.

However, a programme of expansion, along the lines indicated, and a commitment not to close any pits, is not enough. We need an undertaking that the Government will provide a guaranteed market for the coal produced. It is absolute nonsense to have a plan for the future production of coal, without having a plan for the market which must use it.

I feel it essential that the Government should instruct the C.E.G.B. to burn up to one hundred million tonnes of British coal per annum. This would save millions of pounds on our balance of payments - by stopping the importation of middle east oil. It also means that we should not have to develop such a highly questionable and dangerous source of energy as nuclear power.

Looking even further into the future, it is reasonable to suggest that we shall be producing much of our petrol and oil from coal and many hundreds of other products will be produced from coal. The export market is available to us but only if we recognise the economic facts of life. It is no good trying to compete with coal industries in Poland, who subsidise their coal to the tune of £25 per tonne, unless our Government is prepared to help.

In a world where energy is becoming an extremely precious commodity, we cannot afford not to take decisions in line with those indicated.

We must not accept the Thatcher philosophy on nuclear power. To commit Britain to a vast nuclear programme is to sow the seeds of nuclear destruction!

We live on an island built on coal and with one thousand years of coal reserves, on current output levels, beneath our feet. It represents economic stupidity not to take the decisions in line with these proposals.

TOO MUCH ENERGY... NOT ENOUGH HEAT

Alistair Grimes is Chairperson of the Scottish Fuel Poverty Action Forum.

When Jimmy Milne, General Secretary of the STUC, opened the recent 'Atoms for Energy' exhibition in Glasgow, he attacked those who were in favour of economic growth but against nuclear power. He went on to argue that Scottish pensioners were going cold because of a 'lack of energy' and that it would be somehow hypocritical to bemoan their fate and at the same time resist the development of the nuclear programme that could create that energy. It is difficult to imagine a more confused position!

It is quite absurd to suggest that there is a 'lack of energy' in Scotland at the moment. The two Scottish Boards can supply over 11,000 MW to meet a maximum demand of around 6,000 MW. Given that the absurdly optimistic forecasts of demand have now been abandoned, it is clear that this emabrrasing over-capacity will continue for some years and may increase in the short term. The SSEB are apparently so confused that they are now placing 'low confidence' in their forecasting techniques.

What people **do** lack is the money to pay for the fuel they need to use. Pensioners, and others, go cold because they are poor and live in housing that is badly insulated and has inefficient heating systems that are expensive to operate. They also go cold because the SSEB has the cheerful habit of disconnecting large numbers of them every year, not for the amount of money it saves, but **pour encourager les autres**. The lack of energy in Scottish homes has much to do with personal finance, not the number of power stations.

Rather, it **does** have something to do with power stations, but in exactly the opposite way to that understood by Mr. Milne. One of the reasons that electricity is so expensive is that part of its cost has to take into account the capital outlay on all those power stations, the interest on the money borrowed to build them and so on. Last year the increased interest charges were almost as high as the increase in the SSEB's wage bill. Torness, whether needed or not, will add £1,000 to the bills of every consumer in the SSEB area, which is scarcely the way to ensure that people can afford to heat their houses properly.

A more sensible strategy for the cold and poor is undoubtedly one of conservation. Sensible because it enables people to gain more comfort from less electricity and because by keeping down expenditure on new power stations it will help to keep down the cost of electricity itself.

Torness will not **cause** economic growth, and there could hardly be a more disastrous state of affairs than an even bigger over-capacity than at present, all of which will be paid for in the form of higher electricity prices. And what effect will those higher prices have on those who are least able to afford the fuel they are using? Which somehow brings us back to Jimmy Milne and his pensioners.

DISTRICT HEATING PROBLEMS

The SCRAM exhibition and pamphlet on Coal, Conservation and Combined Heat and Power presents useful information in a very lively way. But its completely uncritical advocacy of district heating schemes will arouse the suspicion of some tenants' associations and community groups. I don't know anything but good of the Danish schemes, but in Britain many tenants' associations have campaigned to get their district heating scrapped - most recently in Eastwood near Nottingham.

British district heating systems have often been noisy, either from the sound of water in the pipes or from the pump's vibrations. When the underground pipes feeding water to the houses fail, the whole system is shut down while roads, pavements or gardens are dug up to repair them. Leaks of steam from these pipes have also killed off garden plants.

Then there are problems associated with paying for the heat. Sometimes a flat rate is added to the rent, regardless of how much is used. The effect of this is for people to open windows rather than turn down the heat, and it all gets very expensive.

One notorious metering system (by Clorius Ltd.) gives such erratic readings that some pensioners have been afraid to switch their heating on. In other systems, individual tenants have no control over temperature, except on or off.

This doesn't mean that district heating isn't a good idea, just that many people will be put off by some British experiences of it. SCRAM and other anti-nuclear groups must take this into account. For me, it implies that district heating should be installed with the fullest possible consultation with tenants and residents' groups, preferably under 'community control'.

Howard Clark.

ARMOURED TRAINS

In the same week that British Rail announced that armed police might soon accompany certain trains carrying nuclear waste, Dr. Leonard Solon, director of the Bureau for Radiation in New York's health department, criticised such transportation through London and other densely populated areas as 'inexcusable'.

The BR move must be seen as a direct consequence of public concern over safety. Spent fuel from Bradwell in Essex, Dungeness in Kent and Sizewell in Suffolk can spend several hours at London junctions such as Willesden and Stratford East.

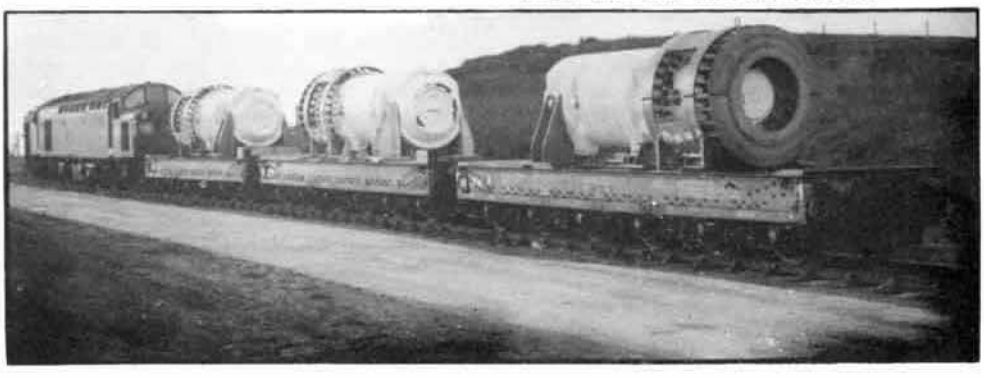
The police would be recruited from the Transport Force rather than civil constabularies or the UKAEA police, 600 of whom are licensed to carry arms and to engage in 'hot pursuit'. At present railway police have no arms training, yet BR average one nuclear movement a day.

Instructions in the working manual issued to rail staff show that in the event of an incident, nuclear consignments, understood to contain plutonium, such as those from defence establishments and especially nuclear submarine bases, must always be treated as a full-scale emergency, while flasks from Magnox stations are awarded 'incident' status only. Immediately after the event a basic checklist would be carried out by either the driver or the guard of the train.

A paragraph reads: 'If there is any evidence of a crack in the flask everyone must be kept at least 50 yards (45 metres) away on the windward side, and out of the area directly in front of the crack. Persons may be permitted access for essential rescue work provided they take care to avoid being directly in front of the crack.' British Rail staff have pointed to the difficulty in searching for a radioactive leak on a dark night.

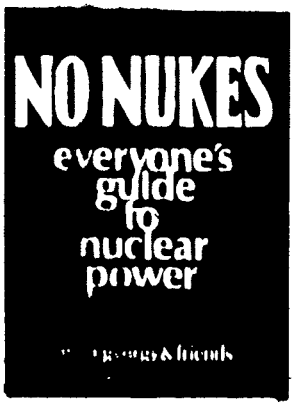
If a crack is found, railway staff are instructed to contact the nearest nuclear base, although this might be several miles, and hours, away. In the event of a breakdown, even with no apparent damage to the flask, repair teams working less than 5 feet from the train would not be allowed to stay longer than 1 hr.

As an adjunct to his criticism, Dr. Solon contends that spilling just 1% of a flask's contents in a heavily populated area would cause thousands of deaths and injuries and many thousands of pounds worth of damage to property. Dungeness waste passes through Earls Court, where, some allege, an accident could make Buckingham Palace uninhabitable. Simulated crashes on quarter scale model flasks up to an impact of 30 mph are clearly inadequate when the West Coast line has 100 mph trains.



BOOK REVIEWS

Everyone's Guide



'No Nukes - Everyone's Guide to Nuclear Power', Anna Gyorgy and Friends. South End Press [Boston, Mas] - 478 pages - price £5.90 post paid [from SCRAM] paperback.

I think it was "and friends" on the spine which persuaded me to open this rather daunting, but attractive tome (1¼" thick). I'm glad I did, because to me it is undoubtedly the greatest leap forward in popular source books for several years.

Not everyone relates well to the 2 or 3 existing 'primers' on nuclear power - the reason becomes immediately obvious on flicking through this one. **No Nukes** is quite simply 'humanised' - well laid out text, clear diagrams, dozens of photographs and a tasteful selection of sketches and cartoons. The style is personalised also, with many attributed quotes (e.g. "Nuke 'em back to the Stone Age" - General LeMay's advice to President Johnson), which makes easy reading. Combine these features with a disciplined treatment of the essential facts (no less than 743 references) and 'Everyone's Guide' really does materialise.

In contrast to most of its competitors, 'No Nukes' covers the whole nuclear power scene, its military and commercial background, through the fuel cycle, health hazards and nuclear waste, to alternative energy strategies. And, for those who already know all that, there are 150 odd pages devoted to the anti-nuclear movement itself, with photographs, contact addresses, maps and graphics from all over the world - "In case of a nuclear accident kiss your children goodybye" originated from... where? There is a Dictionary in which "SCRAM" appears, and an Index in which "S.C.R.A.M." appears.

The only shortcoming of the work is that the case-histories and figures quoted by way of explanation relate almost entirely to the United States, and there are slight inaccuracies in the British scene. But since most people's initial difficulty is in 'understanding', and the basic principles are the same everywhere, this does not significantly decrease the value of this excellent book.

THE BIG RISK

'The Big Risk' by Michael Flood, Friends of the Earth. Available from SCRAM 95p + 10p P&P.

Friends of the Earth have been particular in the past not to adopt a political bias and consequently have been cautious to develop a political strategy as a basis for any of their campaigns. 'The Big Risk' by Mike Flood, signifies a shift in this thinking, coinciding as it does with the launching of a five-year campaign against nuclear power, seeking to provide an emphasis on public arousal and education culminating in making nuclear power the key issue in the 1984 election. "We've got to mobilise public opinion to such an extent that no government committed to nuclear power can get elected in 1984", Flood said recently. "That is a very clear target".

The success of the book must be measured in how far it is likely to initiate this brief, for its 32 pages contain straightforward stuff for already seasoned campaigners. It is divided into three parts listing major dangers of going nuclear; accidents, the risk to health, the manufacture of plutonium and the curtailment of civil liberties.

Section One gives brief analyses of Magnox, AGR and PWR reactor types, major accident statistics since 1957, concluding that accident probability, despite what the industry says, is impossible to calculate. If anything can go wrong it will.

The pages detailing the risks to health concentrate on Windscale, the proliferation of nuclear waste, the dilemma of what to do with it and the proposed Windscale expansion plans for the next two decades.

Part Three outlines the hazards of the Fast Breeder Reactor, the plutonium society, the threat to civil liberties and the renewable alternatives which, as far as Flood is concerned, mean solar power, "the only technology which could solve Britain's long-term energy problems."

But the most important question about the book is whether it will reach the grass roots aimed for by FoE, for the group's distribution presently relies on mail-order and radical bookshops in the larger towns and cities. The sort of reader likely to utilise these avenues really has little use for what is essentially a basic primer - bits of information laid between large black-and-white photographs, quotes and bold, almost tabloid type headings - as all the information in the book will already be on his/her bookshelf. 'The Big Risk' is a book designed to do a particular job - to reach as wide a public as possible. Until FoE can bring books such as this onto the railway bookstall and into the local booksellers side by side with other paperbacks, the book will have failed and the grass roots remain unaroused.

'LIMITED' BENEFITS

The Socio-Economic Effects of Power Stations on their localities.
PSI Project, Dept. of Town Planning, Oxford Poly., Headington, Oxford. £4.50 inc. P&P.

This report was commissioned by the C.E.G.B. who are worried that the EEC might force Britain to use Environmental Impact Assessments to evaluate the impact of large developments. Much work has been done on the effect of large developments on the physical environment, but little has been done on the socio-economic effects.

Unfortunately this report only deals with operational power stations (Drax and Sizewell), and consequently does not attempt to study the effect of a large construction workforce. For further information on this, the report points you to the Gwynedd County Council Reports "The Impact of a Power Station on Gwynedd". (Parts 1 &2, 76 & 78).

Even so, the conclusions of this report are not exactly the ones which the CEGB would have liked. The CEGB's main argument for siting power stations in rural areas has been effectively demolished by this report, which shows that new power stations provide only limited financial benefits. At both Sizewell and Drax almost 60% of the workforce was from outside a 10 mile zone around the stations.

There was no evidence that either power station has significantly reduced unemployment, and any multiplier effects which may have occurred in the local economies were minimal. The purchasing policy of the CEGB disfavours small local suppliers. The power stations may also have contributed to local wage inflation and labour shortages in particular skills. In the case of Sizewell, the restrictions on development around the nuclear station, may well have curtailed possible developments.

All in all the power stations don't seem to have brought any great benefits to their respective areas, as the CEGB claim. But it is the construction phase of a power station which causes most damage to an area, and if, as happened in Gwynedd, migrant workers tend to stay behind after construction is completed, there can only be a rise in unemployment.

The PSI project is now working on some much more interesting areas like Druridge Bay, Heysham, Hinkley Point and Dungeness. These reports should be out in May 1981. Watch the Energy Bulletin for details.

RADICAL SHIFT

The 1st of May bookshop has moved to 43, Candlemaker Row (a few yards from the east end of the Grassmarket). The new shop is bigger, brighter, and more seditious than ever. It is expanding its range of anti-nuke/environmental books.
1st of May, 43 Candlemaker Row
Edinburgh 1 Tel. 031 225 2612

Nuclear Power & Public Policy

The Social and ethical problems of Fission Technology by KS. Shrader-Frechette [published bv Reidel]. Paper $10.50.

Although about the situation in the United States, this book has many useful philosophical methods of analysing public policy which are relevant to nuclear power programmes elsewhere. One shouldn't be too put off by the title, the book is quite readable, although slightly repetitive. It deals with the ethical and moral nature of decisions which have been made by the U.S. government in order to keep the nuclear power industry going.

The main thrust of the book deals with the Price-Anderson Act which limits the liability of nuclear station operators in the event of an accident. Power companies refused initially to invest in such a dangerous technology, so the government enacted the Price-Anderson Act, mainly to secure a supply of Plutonium for its bombs. The power companies have since forced the government to extend this temporary Act. To the authoress the very existence of this act is an admission that nuclear power is unsafe. The government are basically forced to insure nuclear plants, because no insurance company would touch them.

Another ethical question is whether or not the Government should allow the power companies to release low-level radiation into the environment. "Low-level" radiation is, after all, merely a term used for radio-isotopes which are released at a certain time in the waste management process, and it doesn't necessarily imply that it is associated with a low risk. The authoress asks if it is ethical to allow the population to be unequally exposed to radiation. It is unconstitutional and incompatible with the principal of equal rights, and the population hasn't exactly been asked if it approves. Is it ethical to expose children to the same level of radiation as adults when they are more susceptible. Also, in defiance of the constitution, the Federal Government have the exclusive right to fix radiation standards and deny States the power to fix stricter standards.

"Current regulation of low-level radiation symbolises the extent to which our culture has exchanged the ethic of equal justice... for one of utility."

The book also tells a shocking story of shoddy stewardship of nuclear waste. The dangers associated with nuclear waste have not been voluntarily accepted, and the risks are not well understood. The storage of radioactive waste is done in total absence of any cost-benefit analysis and is obviously ethically questionable. As if this were not enough, the book goes on to give several instances of ground water becoming contaminated by plutonium or other long-lived isotopes.

"Fortunately, however, there are many Americans who are convinced that the legality of public policy is not synonymous with its morality."

I would be interested to see if anyone will follow Shrader-Frechette's train of thought and write a book about the way nuclear power makes a nonsense of ethically sound public policy in Britain.

SOUTH AFRICA & NUCLEAR POWER

A Seminar on South Africa's nuclear capability, and Britain's involvement in the build-up of nuclear expertise and hard-ware on the Subcontinent, will be held on 21st June in Edinburgh. It has been organised jointly by the Anti-Apartheid Group, Edinburgh, and C.N D. Edinburgh.

Speaking at the Seminar, to be introduced by Robin Cook, M.P., will be Dan Smith, author of a recent Anti-Apartheid publication, **South Africa's Nuclear Capability**, and Alun Roberts of CANUC (Campaign Against the Namibian Uranium Contract), author of **The Rossing File** published earlier this year (both available from SCRAM Mail Order). It is also hoped to show the film **'Follow the Yellowcake Road'**, first shown in March on Granada's World In Action. Both the Rossing File and the film deal with the British-Namibian Uranium connection.

RIO TINTO STINK

Britain gets about 50% of its uranium supplies from the Namibian Rossing mine, run by the British-based multinational Rio Tinto Zinc. Namibia is illegally occupied by South Africa, which maintains a massive military presence there and enforces Apartheid. The United Nations have decreed that no minerals are to be mined or exported from Namibia until South Africa has withdrawn from the country and free elections have been held. So Britain is directly violating international law.

Alun Roberts will be tracing how Britain managed to get itself so involved in such a politically and morally fraught situation, and how successive Labour Governments since the early seventies have refused to cancel the contract despite the strong opposition of the Labour Party itself. He will also be looking at the various tortuous routes which all this illegal uranium takes into Britain and Europe, and about some surprises in store for uranium dealers later this year.

The point of departure for Dan Smith's talk is the circumstantial evidence gathered last September that South Africa exploded a nuclear device over the South Atlantic. Thanks to massive help in both expertise and hardware from countries such as Britain, USA, West Germany and France, South Africa now has a well developed nuclear capability.

It has abundant uranium, supplying, along with Namibia, around 17% of the West's present uranium needs. During the '50's, 27 mines and 17 mills were set up, mainly by Britain and the USA, when their own nuclear programmes were in full swing and hungry for cheap uranium.. West Germany has helped build a uranium enrichment plant, which opened at Valindaba near Johannesburg in 1975.

ONE HIROSHIMA A YEAR

It is estimated that South Africa can at present produce enough uranium necessary to build a single Hiroshima-sized bomb each year. So by now it could have produced enough material for 4 such bombs, or 12 relatively small ones. This is of course assuming, somewhat rashly, that South Africa has not obtained any weapons-grade uranium or plutonium by theft or other secret means. The enrichment plant at Valindaba is being expanded to produce 4 or 6 times more weapons-grade uranium than at present. The new plant will start operating in 1981/2.

Plutonium is another fissile material, created in a nuclear reactor and separated out from the spent fuel at a reprocessing plant. South Africa has two small research reactors (at Pelindaba beside Valindaba), and is building a large PWR nuclear power station with two reactors near Capetown. The construction is mainly being carried out by a French consortium. It is not known for certain whether South Africa has its own reprocessing plant - if it has, it would be another source for weapons-grade material.

NAE PROBLEM

Actually making the nuclear weapons present no problems to anyone with a degree in nuclear physics. And France has ensured that South Africa can deliver any nuclear devices it may have with the Mirage Jets it sold to them a few years ago.

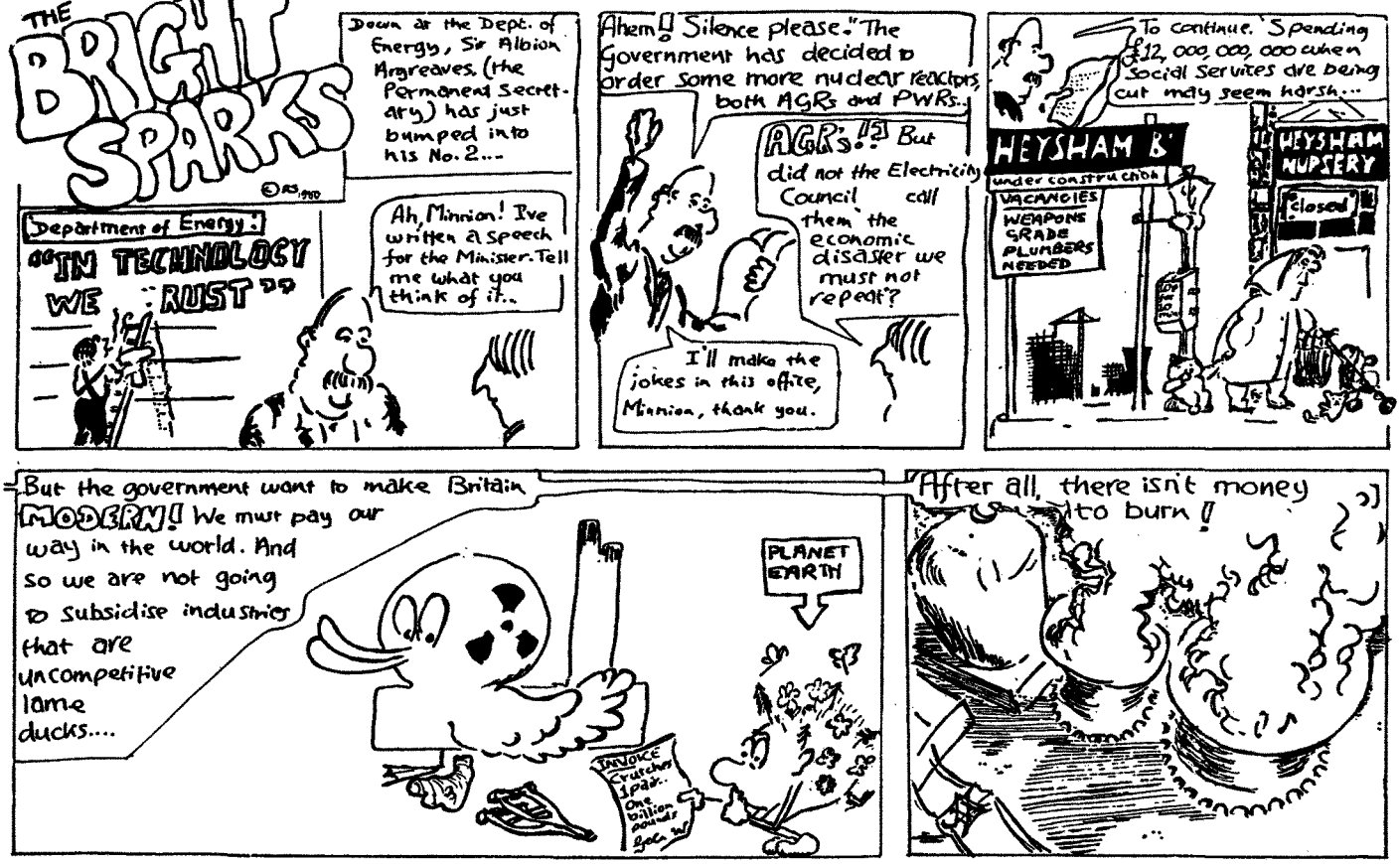
The build-up of South Africa's nuclear capability has been supported at every turn by Western governments, and there is also the probability that NATO is involved. It is yet another sad tale of Western collaboration on a massive scale with the violently oppressive South African regime. However, the implications of this collaboration are even more horrific than the economic involvement normally indulged in by the West. Southern Africa is political dynamite. Britain and the other Western powers have seen to it that the explosion, which is almost inevitable now, could well be nuclear.

The Seminar is on Saturday 21st June at the Netherbow, High St., Edinburgh, 10.30 till 4.00 p.m. Registration £1 or 50p for students, claimants and O.A.P.'s. Contact: Dave Jardine, 39 Temple Park Crescent, Edinburgh 11, Tel: (031-) 229-1065.

Also worth reading on the subject is a report on the United Nations Seminar, held in London on February 1979, entitled Nuclear Collaboration with South Africa, price 50p and The Nuclear Axis by Z. Cervenka and B. Rogers, published by Julian Friedman, 1978.

Disco/Social after seminar, evening of Saturday 21st June, also at Napier Union, 8 p.m. till late; proceeds to go to S.W.A.P.O. - South West African People's Organisation (Namibian Liberation Movement).

introducing...



Mail Order Changes

THIS MONTHS NEW TITLES:

Community Heating Projects [SERA 1980] - An outline of the benefits of Combined Heat and Power. (30p + 10p)

Trade Unions and Nuclear Power - an international survey (DALTON 1980). Trade Unions all over the world are beginning to see nuclear power as a threat to the environment and world peace. This book surveys world-wide trade-union opinion. (50p + 10p).

Energy Comics No.1 (Rifas 1980) - Another lively comic from Rifas (of all atomic comix) including his mini-comic Hard vs Soft. (45p & 15p).

Workers Power Not Nuclear Power - The Socialist Workers Party view, includes a disturbing story about a lagger working at Winfrith. (50p & 10p).

Radiation: Your Health At Risk (Radiation & Health Information Service 1980). Facts about radiation and the nuclear industry. (50p & 20p).

What Working People Should Know About The Dangers Of Nuclear Power (Halstead 1980). An old Vietnam campaigner writes about the Nuclear fuel Cycle, T.M.I. and what Unions should know about Nuclear Power. (50p & 20p).

The Big Risk (Flood 1980) Recommended publication by FoE Ltd., which covers most of the issues in the nuclear debate from types to the test bore drilling programme. (95p & 20p).

Cold As Charity - Fuel poverty in Scotland Today (Grimes 1980). An alarming story of dampness, disconnections and hypothermia. It is obvious that people increasingly find electricity too expensive. (1.20 & 20p).

The Rossing File (CANUC 1980). The inside story of Britain's secret contract for Namibian Uranium. Half of Britain's uranium supplies are illegal. The people of Namibia are paying to keep our supplies cheap. The chief culprits in this story are the old enemies RTZ and successive British governments over the last decade. (60p & 20p).

Protest and Survive (Thompson 1980). Parody of the government publication "Protect and Survive". Gives a rather disturbing picture of the effect of nuclear war. (45p & 20p).

Alternative Technology And The Politics Of Technical Change (Dickson 1974). David Dickson analyses our attitudes to technology, puts them in an historical perspective and examines the political implications. He concludes that we need to adopt fresh attitudes to technology. (£1.25 & 25p).

Fuel's Paradise - Energy Options for Britain. (Chapman 1975). This classic book has now been re-published. Chapman explores the range of Energy Options open to us. He looks at three possible future energy options; "Business as Usual", "The Technical Fix" and "Low Growth". A highly recommended book. (£1.60 & 25p).

No Nukes - everyone's guide to nuclear power (Anna Gyorgy & Friends 1979). A definite survey of the nuclear issue, ranging from descriptions of the inner workings of a nuclear power station to the rise of the movement against them, to a survey of alternatives. With contributions from all over the world. This book is commonly known as the anti-nukers bible. (£4.95 & 93p).

National Centre for Alternative Technology Publications. (Handy folders containing information sheets on Alternative Technology):

DIY Plans: plans for various types of Windmills and solar water heaters. (£2 & 25p).

General A.T: Factsheets on Solar, Water, Wood, Methane, Wind and Wave Power and other types of A.T. (£1.50 & 25p).

Site Technical: Technical notes on the displays at the centre and addresses of suppliers. (75p & 20p).

Renewable Energy - the plain facts leaflet (centre pages of last Bulletin). Why nuclear power isn't necessary. (5p each, 30p for 10 + 10p postage).

NOT AVAILABLE THIS MONTH

Nuclear Power No Thanks (Cambridge FoE)

Nuclear Disaster (CIS Report)
Nuclear Madness (Helen Caldicott)
Radiation: Side Effect of Nuclear Power (SCRAM)
Killer Watts (Elliot) The Leveller Magazine
Plumbat Affair (Davenport)
Leaflets; - not available this month:-

Nuclear Power; problems to be debated in the labour movement.

NAG

The number of people witholding the nuclear portion of their electricity bill is getting larger every quarter.

That's not the only thing that's going up - since the beginning of the year the nuclear portion in the SSEB area has also risen - from about 10% toabout 20%. This is because the reactor at Hunterston, out of action for over 2 years due to a seawater leak, is back on stream.

June will see the opening of the NAG Consumer Campaign Trust. This Trust is being set up to receive the witheld portion of electricity bills. The money will be held for the SSEB until such time as they show themselves responsible to manage it, i.e. till they stop using nuclear power to generate electricity, and start to consider seriously the many safe, sane alternatives already available.

The Consumer Campaign is also a statement against the total lack of choice which exists in electricity supply. The SSEB have a complete monopoly in this, so whether we like it or not we have to consume nuclear generated electricity. So, if you don't like it, start saying so by joining the Campaign! (more details from issue 16 of the SCRAM Energy Bulletin (Feb/March '80); or write to Simon Taylor, 55 Eyre Place, Edinburgh; or phone 031-557-2175).

Some of those involved in setting up the Trust were: Robin Cook M.P., Rev. Gordon Strachan (Church of Scotland), Lady Catherine Oldfield and Paul Baker of Scottish Education and Action for Development. And the Trustees themselves are: Rev. Andrew Ross, Dean of the Faculty of Divinity at Edinburgh University, Rob Edwards of SHELTER, a founder member of SCRAM, Willie Black of the Edinburgh Trades Council and John Aikenhead, Headmaster of Kilquhanity School, Galloway, amongst others.

Details of how to pay into the Trust will be published, in the next SCRAM Energy Bulletin, and remember, send your reduced bill direct to Roy Berridge at SSEB Headquarters, Cathcart House, Glasgow, explaining why he's not getting what he was expecting.

SCRAM

SCRAM Edinburgh consists of a small group of campaign workers supported by a wider group. All important decisions are taken at our weekly open meetings on Monday evenings. We try to work in ways which don't rely on 'Leaders' and we aim to share and exchange skills inside and outside the group. We work with a wide range of anti-nuclear and safe energy groups throughout Britain. Recently, after a series of regional meetings of Scottish groups, we have been asked to take on a liaison role serving the Scottish groups, meantime.

MEMBERSHIP

This Spring we have decided to invite supporters to **join** SCRAM Edinburgh. This is a move we have put off for years because of the extra work it means for a very pressed office group. But so many people have asked to 'join' that we have finally capitulated.

There is an extra reason — we urgently need a regular income to finance our campaign work. We literally survive on a shoe-string, with campaign workers only getting their expenses for an exhausting full-time job. Our tasks multiply every day, yet obviously we need to do more.

So help us now and **JOIN SCRAM** (Edinburgh). This can be in addition to, or instead of taking a magazine subscription. An ordinary membership fee costs £2 minimum, for which you receive an introduction to the campaign and a bi-annual member's newsletter and review.

To become a supporting member, send us £5 and you will receive a sub-subscription to the SCRAM Energy Bulletin as well.

Alternatively, £3 will buy you a sub to the Bulletin. Please use the form on this page.

We must stress that these are minimum subs. If you are able to give more, please do. Best of all for us if you use the **Bankers Order** form on the leaflet. You can use it just to pay your sub, but many generous friends give more. Some give £5 a month, some 50p a month. This helps reduce the office work immensely and lets us plan ahead more confidently.

JOIN SCRAM EDINBURGH NOW!

GROUPS NEWS

Concern

A group called 'Nuclear Concern' has recently been formed in the South Wales Valleys. Based at Merthyr Tydfil. 'Nuclear Concern' has already been fighting the nuclear threat.

Contact: Mr. Leslie Thomas, 18 Brynhytyd Villas, Troedyrhiw, Merthyr Tydfil, mid Glamorgan. Tel: Ynysowen 690419.

ANTI-PWR CAMPAIGN MEETING

The East Anglian Alliance Against Nuclear Power will be holding a day meeting for representatives from all regions to discuss all aspects of the anti-PWR campaign.

The meeting is planned for Saturday, 27th September, probably in Cambridge. For more details contact: Jennifer Armstrong, The Old Post Office, Higham, Colchester. Tel: Higham 241.

DALKEITH

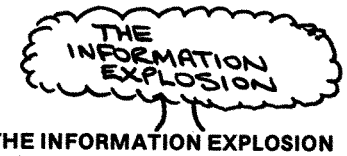
Dear Friends,

We just can't believe that there are no more than a handful of people in Dalkeith who feel strongly enough about nuclear power to want to do something about it. SCRAM Dalkeith desperately needs people who are willing and able to put some ideas and energy into the group. We're not asking you to sit down in the street. We're not even asking you to sacrifice every minute of spare time. We all have some kind of useful talent or skill, so if you want to help PLEASE get in touch. You might even have fun!

In an effort to raise interest we have planned a meeting on **Wednesday, 25th June,** at 7.30 p.m. in the Woodburn Community Centre, Dalkeith.

SCRAM Dalkeith, 35 Muirpark, Eskbank.

The Second National Women Against Nuclear Power Conference is on Saturday 28th - 29th June, in Nottingham. Please register before 21st June so we know how many to feed, creche and put up. Make cheques out to Jola Scicinska and send to Rose, 92 Shrubland Rd., London E8 4NH. (Phone: 01-471-5711 to book a seat on the minibus from London).



THE INFORMATION EXPLOSION

If you've ever felt the need to pick someone's brains, or conversely if you've gained some knowledge/skill which should be shared, then a 'Briefing Note' could be the answer! A Briefing Note sets out the facts, without the frills, enabling information to spread faster. We have a sheet called 'The Nuclear Information Explosion' with hints on preparing a Briefing Note, also a list of SCRAM Briefing Notes - send S.A.E. to SCRAM Edinburgh. Briefing Notes from elsewhere are most welcome.

NUCLEAR WASTE - THE LATEST RUMBLINGS

There is a certain stillness in the air after the Mullwharchar nuclear waste drilling Inquiry - the first of many? This calm is deceptive, for not only is the Scottish Office hard at work, dressing up the Inquiry result, but SCRAM Edinburgh is also wading through its own tape recording of the Inquiry, in order to produce a digestible information package. This is coming together quite well, and will include a cassette tape of selected snippets from the Inquiry.

To break the hush meantime, we have stencilled a Briefing Note which summarises the documents and points which emerged as important at the Inquiry, plus a few other useful references. Details of where to obtain further information are included, plus a list of all the preferred drilling sites. Write to SCRAM Edinburgh, asking for 'Nuclear Waste Update 17/5/80', enclosing 20p in stamps.

Trade Unionists

The ANC Trade Union Group (Edinburgh) has been formed to fight the nuclear weapons and nuclear energy programmes. If you are a Trade Union member, then join with us to fight, organise, educate.

Contact: W. Black, 115/13 Pennywell Rd., Edinburgh 4.

SUBSCRIBE

SCRAM SUPPORTERS BANKERS ORDER FORM

Please use block capitals and return this form to SCRAM, 2a Ainslie Place, Edinburgh 3.

To The Manager,

(Bank):.....

Address:.....

.....

Account No:.....

Please pay on .....(1st payment) to the Royal Bank of Scotland, Princes St. West Branch, 118 Princes St., Edinburgh 2 4BU. (83-36-00), the sum of ..... for credit to the account of SCRAM, no. 265066, and make similar payments ..... (state frequency) up to ..... or until cancelled.

Signed:.....

Date:.....

Name:.....

Address:.....

.....

I would/would not like part of this to pay for my sub to **SCRAM**

SUBSCRIBE

I want to subscribe to **SCRAM** for a year (6 issues), starting with No.....
I want to become a member of SCRAM. I enclose £2.
I want to become a supporting member of SCRAM. I enclose £5.

Name:.....

Address:.....

.....

I enclose a Bankers Order/cheque/postal order/international money order for .....
(Subscription rates; ordinary £3, overseas £4, institutions £6, unwaged £2).

Please return to SCRAM, 2a Ainslie Place, Edinburgh 3.

Little Black Rabbit

Governor Nelson Rockefeller in 1963, on opening the reprocessing plant at West Valley, N.Y:-

"We are launching a unique operation here today which I regard with pride as a symbol of the imagination and foresight which will make a major contribution towards transforming the economy of the entire state.'

In 1976, when the plant had to close down, he said:-

"Obviously that is not the answer, and there is no question that we have got a new problem: what do you do with the stuff?"

Latest information indicates that the Loch Etive area of Argyll is being actively considered for the future dumping of nuclear waste.

The irony of this is that Glen Etive is one of the few glens in Scotland which has no electricity - and it just so happens that the electricity board has recently offered the people of Glen Etive electricity. (What a coincidence, after 50 years of not bothering about supplying them!) But the people have told the power people that they're quite happy with their gas and tilley lamps and their own generators, thanks very much.

How long would your Torness-powered toaster take to pop out a cancer?

Three minutes, according to Walter Marshall of the UK Atomic Energy Authority. The April issue of the UK AEA's glossy house journal, 'Atom', gives the rate of plutonium production in different kinds of reactors: for advanced gas cooled reactors like Torness it's 173 kilograms per 1000 MW operating over a year. As it only takes one millionth of a gram of plutonium to cause a lung cancer if someone inhales it, that means that an AGR produces one dose of cancer every 182 seconds for every kilowatt of power coming out of it. For PWRs, it only takes 117 seconds, and for the early British Magnox reactors only 51 seconds (unsurprising, since they were originally built to make plutonium for the British atom-bomb industry).

These figures are for plutonium - 239 only - perhaps Walter can tell us next issue how long it'll take your toaster to cause a bone cancer from Strontium-90 or a thyroid cancer from Iodine-131?

For your Diary

June 4th - Big SCRAM Edinburgh Meeting about Torness. Cannonball House, Edinburgh.
June 7th - Lothian Groups Meeting; 2 - 5 p.m.
Braehead, West Road Haddington.
June 8th - Mullwharchar Gathering. Meet 10 a.m. at Loch Doon Castle.
June 14th-15th - Anti-Nuclear Campaign A.G.M. in Birmingham.
June 21st - Joint CND/Anti-Apartheid Seminar on South Africa's Nuclear Capability, Netherbow, Edinburgh. Followed by social.
June 28th - Women against Nukes Conference in Nottingham. International gathering at La Hague, Normandy. Contact Comité Centre le Pollution Atomique de La Hague, BP156, 50104 Chersbourg.
June 30th - SCRAM Edinburgh A.G.M., Ainslie Place, 7 p.m.
July 9th - Bristol 9 Trial (part 2), Haddington, E. Lothian.
July 12th - Scottish Groups Meeting, Edinburgh.
July 18th - Start of Black Hills Gathering, USA.

Published by the **Scottish Campaign to Resist The Atomic Menace [SCRAM]**, 2a Ainslie Place, Edinburgh 3 (031-225-7752).

Printed by Aberdeen People's Press, 163 King Street, Aberdeen. (0224)-29669).

Typesetting by SCP, 30 Grindlay Street, Edinburgh 3. (031-229-3353).
Distribution: Full Time Distribution, 27 Clerkenwell Close, London EC1 (01-251-4976).
Edinburgh-Glasgow distribution by S & NBC, 47 Niddry Street, Edinburgh 1. (031-557-0133)