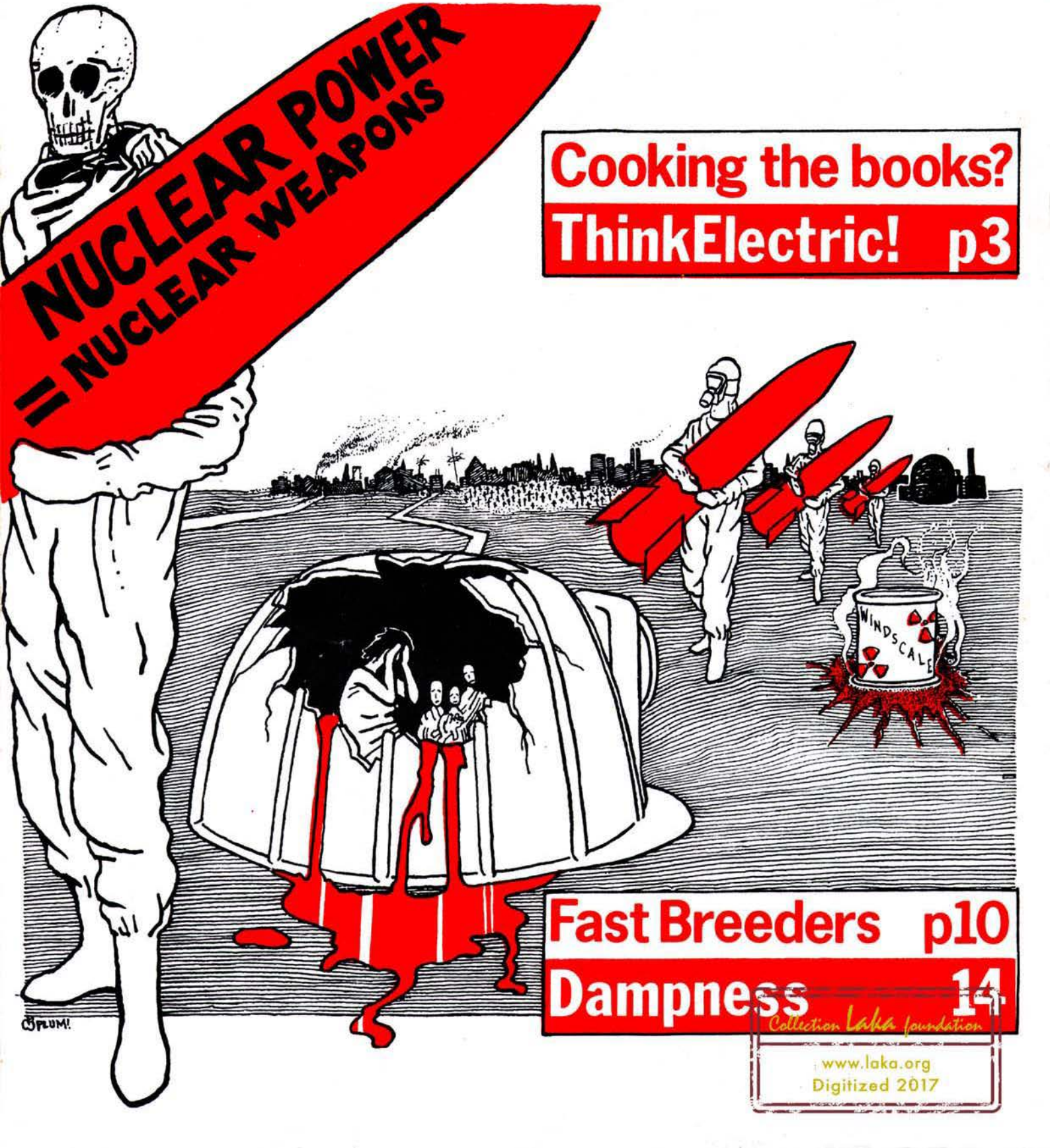
The Anti Nuclear & Safe Energy Journal

SCRAM

NUCLEAR POWER? NO THANKS

№43

60p



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This magazine is produced for the Anti-Nuclear, Safe Energy and Disarmament movements by the Scottish Campaign to Resist the Atomic Menace.
SCRAM, 11 Forth Street, Edinburgh EH1 3LE.
Typesetting at Edinburgh Unemployed Workers Centre, 12a Picardy Place, Edinburgh EH1 3JT.
Send contributions for inclusion, Deadline for next issue: 7th September 1984 (ish).

Comment

"I hope all goes well for you at SCRAM. I hear (and read) the excellent work you continue to produce. Your group really is an inspiration for others...".
Dr. Gari Donn, Oxford Research Group.

You cannot hope to bribe or twist thank God the British journalist
But seeing what the man will do unbribed, there's no occasion to.

Humbert Wolfe

Perhaps a slight overstatement which ignores the influence of owners and editors. However, the English Press did ignore our revelations on the USS Sam Rayburn, and David Fishlock continues his doglike devotion to the nuclear industry through the good offices of the Financial Times.

Not only was the Rayburn not covered by Fleet Street, but no attempt was made to ascertain the veracity of our allegations. England aside the story was widely reported; Sweden, Canada, Germany, USSR and the wire services.

Fishlock felt able to announce, (FT, 20.6.84) the comeback of the British Reactor. This was somewhat disengenuous since its demise was never revealed in his column. Fishlock enjoys nuclear industry freebees, free for him but paid for by the luckless consumer. March saw him at 'Power and the Media', a European Nuclear Society freebee supposedly to examine the practical aspects of conveying the case for nuclear power to lay persons via the media. Does not sound like a venue for impartial journalists; needless to say we did not receive an invite. Mr Fishlock's appearances at Sizewell are linked to the presentations of CEGB evidence, and big eats with Sir Wally are rumoured to figure large.

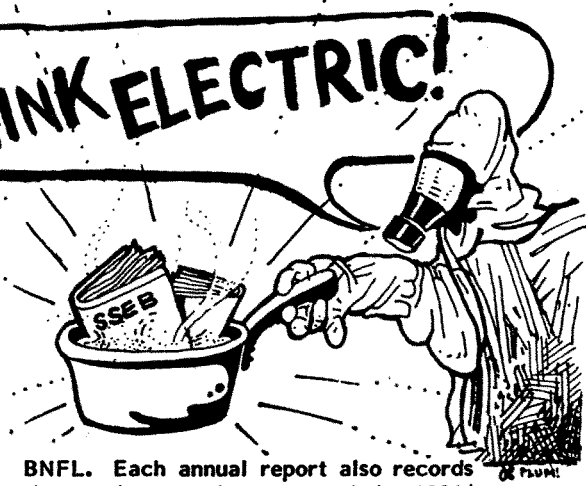
This issue includes the rise of Superphenix and the casual French attitude to plutonium diversion; the inadequacy of the provisions made for decommissioning and exploitation of the Scottish consumer who, we discover, is paying for the plutonium factory at Chapelcross, courtesy of the SSEB.

Also reported in brief, due to our publication dates, is our comment on the Black Report. The report supports the assertion that local leukaemia levels are way above average but avoids making the obvious logical leap. In all a document David Irving would be proud to have written; Mr Irving is the historian who asserts that there is no evidence linking Hitler with the extermination camps.

The relaunch of SCRAM is underway. Show this copy to your friends, libraries, councils etc.

One of our alternative panaceas, smallscale hydro, has come under attack from the landed gentry: "I think one objects to anything which could upset one's fishing". Need we say more?

Cooking the Books?



Over many years the South of Scotland Electricity Board has bought electricity from the British Nuclear Fuels plant at Chapelcross. This electricity is now the most expensive source used by the SSEB.

Given the SSEB's enormous surplus of generating capacity, about 90%, the use of Chapelcross is superfluous and financially suicidal. Chapelcross exists to generate plutonium, the military side of the notional civil/military divide, and the outrageous price paid by the SSEB for the by-product of the process, electricity, means the Scottish consumer is covertly funding the nuclear weapons programme.

The SSEB has bought electricity from Chapelcross since its commissioning and in annual reports the unit costs were listed along with those from nuclear, hydro and conventional plant. Starting in 1978/79 this practice ceased. It may be coincidental that that year saw a 50% price increase which left BNFL-generated electricity equivalent to thermally-generated power. By 1980/81 power from Chapelcross had become much more expensive than conventionally-generated electricity; a position still held today.

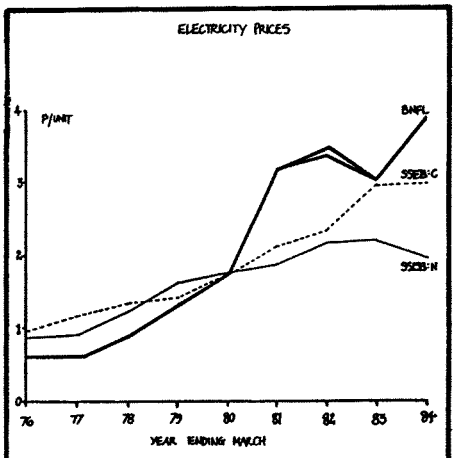
Chapelcross, a 4 x 60MW magnox station, is a military facility and plutonium generated there may be freely used in the UK weapons programme or exported. This was clarified in an answer to a Parliamentary Question posed by Alfred Morris, answered by Mr Pattie for the Government:

"Plutonium derived from the UK's military reactors (Chapelcross and Calder Hall) has been supplied to the US under the 1958 US/UK mutual defence agreement during the last thirteen years. The US has been free to put this material to such uses as it has decided".

In other words the military plutonium is not subject to the vague assurances given by the US Goverment in 1964 about the non-military use of civil plutonium. These are presently a bone of contention; it has been suggested that this civil plutonium has found its way into the weapons programme and the US will not give assurances as to the future use.

Although BNFL provides the military with plutonium and enriched uranium this is not apparent from the annual accounts. The 1982/83 annual report shows an income for 'Nuclear Fuel Services: Home' of £301.5 million, with nothing shown as income derived from the MoD or any other government department. £55m is listed separately as money derived from the sale of electricity to the SSEB and CEGB.

In theory income from Nuclear Fuel Services: Home should be the sum of monies from the SSEB, CEGB and the government, but the annual reports of the two generating boards, electricity aside, are not revealing. However the income derived by BNFL from electricity sales to the SSEB should more than cover the operation of Chapelcross, making military plutonium a bonus, for which noone appears to pay. The funding should work in reverse, the MoD pays for the plutonium and the generating boards obtain cheap electricity instead of the expensive product on offer.



BNFL Chapelcross.

SSEB:N Hunterston A & B.

SSEB:C coal, oil & gas turbine; they are not subdivided in SSEB Reports, which we deplore, and serve to make coal appear more expensive.

All figures from SSEB Annual Reports.

The North of Scotland Hydro Board buys electricity, 90% from UKAEA, at 1.1p/unit (1983/4).

The costs of nuclear power derive from construction, operation and decommissioning. The stations are expensive to build, cheap to run and expensive to decommission. This means that the construction and decommissioning costs have to be taken from operating revenue, with money going to pay for the construction (plus interest) and being set aside for future costs: decommissioning and long-term waste management. The generating boards use historic cost accounting, in part a trick to reduce the cost of capital intensive construction projects.

However, for an old plant like Chapelcross, which has exceeded its life expectancy, the construction and decommissioning costs should have already been met from income, making its present operation very cheap and therefore generating cheap electricity as a by-product. That this is not the case is indicative of bad management. Alternatively the absence of suitable provision for future anticipated costs is a mechanism for making nuclear power appear cheap.

It appears that the SSEB is making provision for the decommissioning of Chapelcross. This was reported in the 1981/82 annual accounts when £28.8m appears as a provision for BNFL. Each annual report also records the previous year's costs, and the 1981/82 report shows that in 1980/81 £14.7m was held for decommissioning BNFL plant, though the 1980/81 report shows no such sum; dubious accounting. Investigation reveals that the provisions made for eventual decommissioning of SSEB nuclear stations were mysteriously divided, with part going to BNFL. Subsequent years saw further provision for Chapelcross.

Being intrigued by the provision of SSEB funds for the decommissioning of plant belonging to a separate company the SSEB were approached:

"We could either have paid for the decommissioning by paying a higher unit price on consumption or being charged a lower price now and making provision for a share in future decommissioning costs. We have chosen the latter option", replied Tom James, SSEB Press Officer.

Fair enough, but it then follows that the real cost of electricity purchased from Chapelcross is the sum reported in the annual report for electricity purchased **plus** the price for decommissioning. Viewed this way the price of Chapelcross electricity is ludicrously high. With this in mind we approached the SSEB about the contract binding them to Chapelcross, wondering how a big brash body like the SSEB gets conned; these are "matters which fall within the ambit of commercial confidentiality". Translates as "no comment". However, undetered we put it again to the SSEB: "Contracts between two organisations both within the public sector cannot be realistically deemed secret, for commercial reasons, since there are no private competitors to keep such information from. That is, the publication of such material cannot cause commercial harm to either organisation". No reply.

In conclusion, the SSEB buys very expensive electricity from BNFL for which the Scottish consumer pays. There is no overwhelming commercial reason for the SSEB to do this, they have surplus capacity that would be cheaper to utilise, and as monopoly purchasers, they should be in a very strong negotiating position. All very devious, hidden behind spurious commercial secrecy. The CEGB also buys electricity from BNFL (Calder Hall) but much less as most of the output is used at Windscale.

What about a Freedom of Information Act?

Jeremy Adler

DeConMission

Jeremy Adler

Neither the Central Electricity Generating Board nor the South of Scotland Electricity Board has made adequate provision for the decommissioning of their nuclear power stations, and the existing plans do not involve the restoration of the site to its original use. This massive understating of real costs makes nukes appear cheaper, which in turn distorts planning of future generating plant.

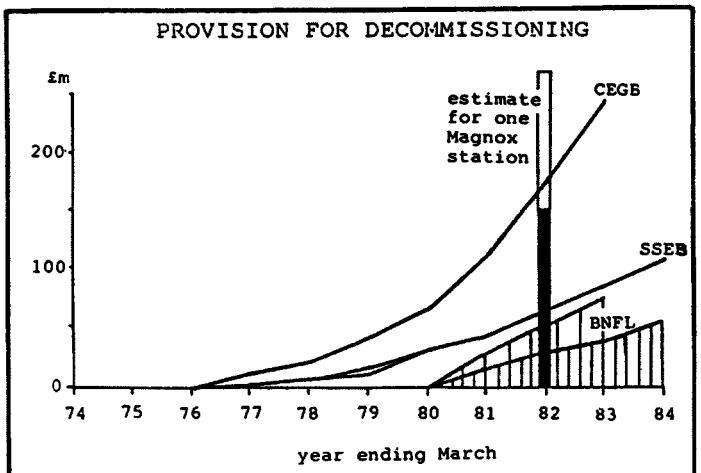
In Appendix 3 of the CEGB's 1981/82 annual report the estimated cost of decommissioning a Magnox station is given as £150-270 million with a rider, "difficult to make firm estimates for the long term costs". The generating boards also report life expectancies for generating plant, appearing as depreciation periods; the S
SEB assumes 20 years for a nuclear station whilst the CEGB opts for 25. These are, the reports indicate, conservative estimates, but it is reasonable to expect application of the same time-scale to both depreciation and provision of funds for decommissioning.

The SSEB operates two nuclear plants, Hunterston A, a Magnox station commissioned in 1964, and Hunsterston B, an AGR commissioned in 1976. In 1976/77 the SSEB started to make provision for decommissioning when £500,000 was set aside. This has been increased annually and £109m was available by 1983/84 (includes a donation of £7.7m from the North of Scotland Hydro Board). The annual reports show one very strange discrepancy in the year 1978/79: the sum available was either £13.55m or £10.5m depending on whether the annual report or the figures shown in the succeeding report are accepted; shoddy accounting, and interesting discrepancies are not uncommon.

Therefore, should Hunterston A require closure in 1984, when it is due for relicensing by the Nuclear Installations Inspectorate, the sum provided is clearly inadequate: £109m with between £150m and £270m required (1982 prices), assuming no provision for Hunterston B has been made. The SSEB hopes to continue to operate Hunterston A through to the 1990's which gives them an extra 6+ years to make adequate decommissioning provision. However, by 1990 Hunterston B will have been operating for 14 years (on and off) and, if provision is made over the operating life, a substantial sum should have been set aside for the second station.

We have no estimate of the costs of disposing of an AGR. The SSEB were approached, on the principle that if they were making provision for decommissioning this implied they had an estimate of costs and a plan, but as usual their reply was not worth opening. Given the relative size of AGR and Magnox stations, the likely costs of decommissioning an AGR will be greater.

The CEGB's position is worse, with Magnox stations commissioned in 1962 (2), 1965 (3), 1966 (1), 1967 (1) and 1971 (1). By 1982/83 £243m had been provided for these and subsequent AGR's: Hinkley B (1976), the remaining stations are not commissioned in any meaningful sense. Taking the Magnox stations alone the CEGB will, on their own estimation, require £1.2-2 billion which is between five and eight times the sum presently provided. The failure to provide suitable sums from revenue makes the nuclear stations cheaper to operate, but distorts the planning of future capacity and must inevitably lead to future tariff increases.



Data from CEGB and SSEB Annual Reports, not adjusted for inflation.
BNFL is split in two, the lower portion from SSEB and upper from CEGB.
In 1983/4 £1.2m was spent on BHFL plants.
SSEB 1979: two different sums in Annual Reports.
Estimated Magnox cost for CEGB 1981/2 Report.

Even worse, the plans do not call for the return of the nuclear site to its original use. Those outlined by the CEGB in 1981/82 cover the removal of the fuel, sealing of the reactor, dismantling of the external buildings after 10-15 years and, 100 years later, disposing of low activity waste by deep sea dumping. The intention is to reuse the site for further nuclear plant, presupposing a continuation of the nuclear programme. **The site cannot be returned to its original use.** In SSEB reports this is also depressingly clear: "No provision is made for the final clearance of nuclear power station sites which would release them for unconditional use". For non-nuclear stations no provisions need to be made, it is assumed that the proceeds from the disposal of the station will cover demolition costs; Malta bought the turbines from the disused Little Barford coal burning station (opened 1959) for about £1m, and Battersea is to become a leisure centre.

BNFL appear to have arranged for the SSEB and CEGB to pay for the decommissioning of their reactors, with £74m having been made available by the two generating boards by 1983 (see previous page). Between 1982/83 £1.2m of the SSEB's money was spent on decommissioning BNFL plant, what this covered is predictably not metioned. BNFL's own accounts show that by 1983 £65.8m was listed under decommissioning but it is unclear which plant this covers. There are the two military reactors (Chapelcross and Calder Hall), the Magnox reprocessing plant, and Capenhurst and Springfields; the sums involved seem to be of the wrong order of magnitude for such a major undertaking.

Ego Trip

"I am delighted to hear about the SCRAM Journal re-launch. Through SCRAM more and more people are realising what the nuclear risks are and committing themselves to opposing both nuclear weapons and nuclear energy".
Bruce Kent, CND General Secretary.

"I'm so impressed with the last SCRAM (42) I've got to subscribe. And the grahics get better & better..."
Kathy Challis, Peace News.

"Changes in the magazine seem worthwhile to me. A good way to hit back at the SSEB is to write on the back of every cheque Nuclear Power - No Thanks or some such wording; think of all the bank clerks, SSEB clerks etc who must see it. Perhaps you could recommend this to readers for helping to bring anti-nuclear people's feelings to a wider audience".
John Mitchell, Berwichshire.

"Congratulations on the new format of SCRAM"
Sir Kelvin Spencer, Devon.

"What a pleasure it is to receive your new revamped format of the SCRAM magazine. As one has come to expect of SCRAM material, its style is graphic and its content riveting. I am sure that its newer style and its wider distribution must only serve to enhance its already outstanding reputation. More power to your elbow and keep up the good work."
Frank Cook MP.

On Team

The South of Scotland Electricity Council, the electricity users watchdog, is usually a passive and aquiescent lap dog to the SSEB. However this years report makes startling reading. In April 1984 they rejected the board's 4.4% price increase because of their concern about the ongoing interest charges associated with Torness.

They presented their view to the Scottish Office that "to build Torness on the basis of economic advantage rather than need to meet demand appeared to reflect government commitment to serve the future of the nuclear industry". The Scottish Office Agreed !.

The council say that while 23 million consumers throughout the UK will receive electricty from Torness 2 million Scottish consumers will pay for the building costs. The Northern Council say that "Before Torness is commissioned the Scottish consumer could well be paying more per unit than their counterparts south of the boarder.

Clapped out subs will not now be dumped at sea, instead the reactor compartments will be removed and buried in low-level sites at government facilities in Washington and South Carolina. The submarine hulks, said to be non radioactive, will be sold for scrap or dumped at sea. Removal, transport and burial of the reactor compartments will be a major undertaking, both difficult and dangerous.

It was feared that the original plan could lead to radioactive material entering the marine food chain. In the States nine subs await disposal with about one hundred following in the next 30 years. In the UK one sub awaits disposal; at the moment HMS Dreadnought is lying at Rosyth and the Royal Navy has not made its intentions known.

Science, 29.6.84.

The 100kW research reactor at the UCLA is to close. We reported in SCRAM 42 the planned closure for the duration of the Olympics and that the relicensing hearing was going badly.

The Committee to Bridge the Gap, a local anti-nuclear group, spearheaded the opposition citing potential radiation hazards and lax security. This made the reactor liable to terrorist attack. Daniel Hirsch, president of the Committee, said "after five years we have won. Now I hope other universities will take the steps themselves". Hirsch is also lobbying for a switch from highly-enriched (bomb grade) uranium to low-enriched for university research reactors.

Science, 29.6.84.

Coup d'atom

The enormous French nuclear programme lurches on, 36 stations operating and 24 under construction. Over-capacity and a financial crisis loom large for Electricite de France (EdF), the state-owned untility running the show. Enpassant the civil and weapons programmes have merged (see **Le Plutonium Nouveau est arrive, page 10).**

The last of France's military reactors, G3 at Marcoule, has been closed, after cracks were discovered, leaving no 'dedicated' military plants. In addition the gas/graphite reactors that have also produced plutonium for the military are due for closure. However the French are not over-concerned with the niceties of the civil/military divide; they ignore them.

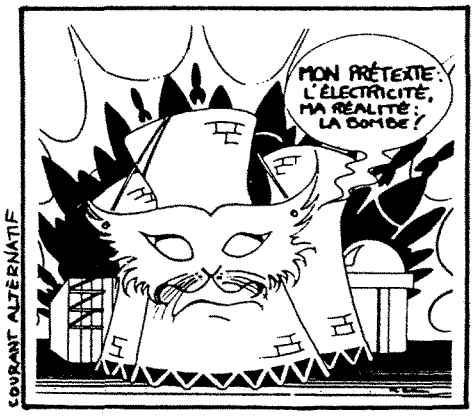
It is widely expected that Superphenix will be used to bridge the plutonium gap. A top French official said it was "absurd" to suggest that Superphenix is being built to supply the military:

*"But there is a **difference between saying that we are building Superphenix because we need plutonium and saying that plutonium could be used for the military.** The options for the future are open. Nothing obliges us to give Superphenix a military role but nothing prevents us either".*

Le Cours de Comptes, France's public accounts watchdog, described the **financial position of EdF as "very worrying"** with debts of £15.7 billion, making EdF one of the world's largest borrowers on the international capital market. To reduce its debts EdF sold part of its enriched uranium stockpile, adding to the world glut, and is frantically trying to sell equipment or electricity.

The current expansion programme will result in enormous overcapacity; the CFDT trades union estimates this will be the equivalent of 15 nuclear stations despite the premature phasing out of fossil fuel plants. Debt plus overcapacity fuels the desperate French drive to export electricity to Britain, Italy, the Channel Islands, Belgium, the Netherlands, West Germany, Switzerland; indeed anywhere they can sling a cable.

The deal with the Central Electricity Generating Board involves connecting the two national grids with undersea cables capable



of carrying 2000MW, due for completion by 1987. The project was intended to utilise the 2 hour difference in peak electrcity demand between France and the UK; allowing a more efficient use of plant, but with French nuclear stations expecting to be operating at only 55% of capacity in the 1990's the flow will be one way. The cables will carry the equivalent of two nuclear power stations and provide **a covert way for the CEGB to pursue the nuclear dream** and at a stroke render the grid more secure from the Miners' Union. Furthermore, the EdF believes that the CEGB could be interested in taking a stake in nuclear stations on the Channel coast.

The Channel Islands will, by August, have fallen into EdF's clutches when an undersea cable will connect Jersey to the French mainland. This will allow France's surplus nukes to provide half of the island's electricity needs.

STOP PRESS

Creusot Loire, the French engineering giant, has gone bust. The future of its 50% holding in Framatome, the nuclear power station builders, is questionable, leaving the French nuclear construction industry up the creek; paddleless. Framatome also lent Creusot Loire 1 billion Francs, which may well have vanished.

FT, 27.7.84

Discharge of Death

BNFL has taken a hammering. The Paris Commission, which includes the British Government, has demanded a reduction in discharges to zero, but with no target date. BNFL is resigned, Con Allday joked, "would not attempt to fight a rearguard action on behalf of rationality". Greenpeace have given them two years, until the end of 1986.

But for Greenpeace the vote would have isolated the UK; Pete Wilkinson congratulated the head of the UK delegation on the UK's last minute change of policy, but Mr McIntosh looked blank and was very surprised at the letter from the DoE minister William Waldegrave which said that the British delegation had been instructed to support the 'zero discharge resolution'. A banana skin just missed, courtesy of Greenpeace.

Sir Douglas Black established that there was a very high incidence of leukaemia around Windscale, but avoided linking this with radioactive discharges. This is a little perverse as the report recognises that radiation is the only established enviromental cause of leukaemia in children, but chief government scientists can feel the political wind.

Black, despite his scientific credentials, shows little appreciation of scientific methods. An investigation usually aims to disprove a link between events; it is impossible to prove that pink elephants don't inhabit the moon, all you can do is not find any. Similarly you can establish that Windscale does not cause cancer, if the local incidence was normal, but not the converse.

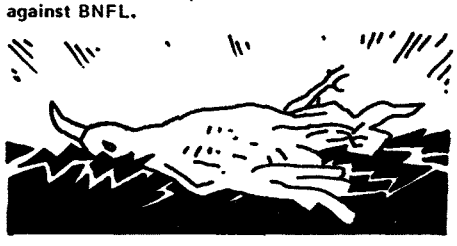
The report recommends further investigations into leukaemia. A substantial critique of the Black Report will appear in the next issue of SCRAM.

There has been a dramatic decline in breeding among six species of sea birds on the Ravenglass Estuary near Windscale. Mr Warburton, a warden at two reserves, argues that the presence of radionuclides from the plant should be a priority for investigation. Dr Baxter, of the Department of Chemistry in Glasgow, said that 95% of the waste lodges in the silt within two miles of the discharge pipe. Cause and effect?

BNFL is undeterred by the recent official criticisms. The Company has announced a £5 billion expansion programme. THis will involve the rebuilding of the Magnox reprocessing facility, building THORP for AGR fuel reprocessing and a vitrification plant. We have been informed that no reprocessed uranium from Windscale has ever been used to generate electricity, which means that the whole Windscale operation is military, except for the disposal of foreign waste which now comes from Japan, West Germany, Sweden, Spain and the Netherlands.

Leukaemia is not the only health risk around Windscale, the incidence of multiple myeloma has recently shot up. At the recent inquest into the death of Joseph Corrie his widow said he had become heavily contaminated during the 1957 Windscale fire; Windscale's senior medical officer said they had records of only one incidence of contamination in 1960, and that there had been four similar cases among the workforce which was comparable with the national average.

This is sadly not true, there were four cases between 1948 and 1980, but a further four cases since. This appears to be perjury, since the statement was made under oath. Mr Corrie's family are considering a claim against BNFL.



SHORTS

Like nuclear fallout humour is universal. This golden oldie surfaced in the Soviet Baltic Fleet:

"How do you tell a man is from the Northern Fleet?"

"Because he glows in the dark".

The Northern Fleet has most of the Soviet nuclear powered subs; by repute the reactors leak.

The Threat Inside the Soviet Military Machine; A. Cockburn (Hutchinson).

The US Navy has placed its first nuclear land-attack cruise missiles aboard unspecified subs. These missiles fit standard torpedo tubes and can therefore be unobtrusively fitted to all submarines. Their role is to attack the Soviet bases in the Kola Peninsula. The use of Holy Loch by cruise-carrying subs is very likely but will be hard to establish.

Glasgow Herald, 28.6.84.

US President Eisenhower in 1953 and 1959 was prepared to use nuclear weapons. By 1953 the UN push into North Korea had been thrown back and truce talks were underway but deadlocked; the Bomb would have been used against China.

The second occasion was the 'Berlin crisis': use would have followed the forced expulsion of western forces from the city.

Glasgow Herald, 8.6.84

Pakistan is able to enrich uranium. President Zia declared that "there was no alternative to nuclear power" (sounds familiar) but vowed that it would never be used for military purposes (the very thought!)

General Zia (same as President Zia) also made clear that he would not permit a return to parliamentary democracy, he favours Islamic democracy. A simple show of hands would disenfranchise part of the populace. Zia's Islamic Law tends to take only a criminal's hand into custody.

Scotsman, 11.7.84.

Sweden's territorial waters are frequently violated, some violations attract widespread publicity (like the Soviet subs of last year) and others are barely mentioned. After a recent incident involving 6 French warships an official report revealed that NATO was responsible for ¾ of the 30 violations of coastal waters and 25 of the 28 encroachments into Swedish airspace. 1983 was a normal year, according to the Swedish armed forces.

Guardian, 4.7.84.

Working in a nuclear power station is associated with increased leukaemia. Professor Robert Blackith, of Trinity College Dublin, found three deaths among the workforce of Sizewell A; the expected number would be less than one (0.3) from the 500 workforce.

Sizewell Inquiry.

30 Year Killer

New revelations, claims and counterclaims concerning the British nuclear tests in Australia from 1952-63 have pressurised the Australian Government to conduct an inquiry into the nature of the tests, safety measures for army personnel and what, if any, follow-up studies were carried out to record the dispersal of the fallout.

Disturbing reports from ex-service people are increasing as more veterans come forward to reveal their experiences. Ex-serviceman Terry Toon recalls a piercing scream during a test; it came from a bunker, "echoing right round the area". The bunker was one of several located nearer the blast, out of bounds to Mr Toon and his fellow troopers.

It is now claimed that human guinea pigs, people with mental disorders, were placed in these bunkers. One source said, "You couldn't see then but you could hear them. That unearthly babble mental patients make. After the second test you couldn't hear them any more".

Warrant Officer Cliff Stuart told of human tests before he died of cancer 18 months ago. He was responsible for the forward tests, and told his wife about the people who were put in the bunkers. She said he was greatly upset whenever he talked about it, saying "One day all this will come out".

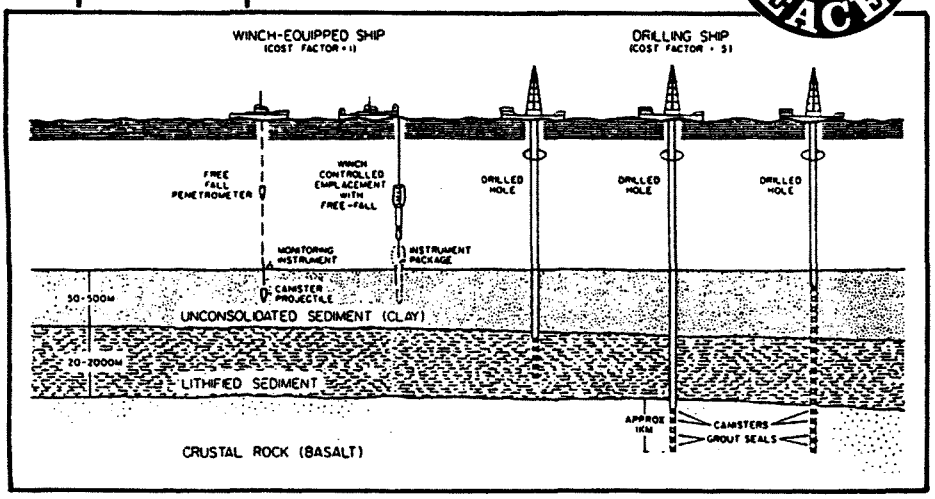
The Ministry of 'Defence' claims that no-one was stationed near the centre of the blast. From a 1953 Chief of Staffs memo it is clear that the army was eager to discover detailed effects of the explosions on equipment and men, "with and without various types of protection". Dummies instead of people were apparently used, however recently they have admitted that people were placed 1½ miles from the blast centre to give them "some experience of being close to a major explosion".

The UK has shown negligence on many counts, none more so than regarding the safety of the aboriginal people who used to live in the areas and want to go back. Great concern remains over where plutonium and other radioactive materials are buried, and where plutonium was released to simulate accidents involving storage and transportation! These tests have only recently been revealed as ever having happened.

Greg Crafter, the Australian Minister for Aboriginal Affairs, has claimed that aboriginals have collected radioactive debris, car and plane parts etc and sold them. These, and other astounding events, probably just the tip of the iceberg, will be researched and investigated to unravel the veil of secrecy the British Government has worn for 30 years. They have said they will co-operate in the Inquiry, but that remains to be seen; they may have to be pushed.

Sources: **The Guardian, 9.6.84** **Nature, vol 310, p90**
Nature, vol 309, p199 **The Guardian, 6.7.84** **The Times, 20.6.84**

Loophole Report



A report of the NEA (Nuclear Energy Agency, part of OECD) shows that plans for seabed disposal of high level nuclear waste are quietly advancing. A number of sites in the Atlantic and Pacific are under consideration and a variety of embedding techniques under investigation. There are two basic concepts: penetrator emplacement and drilled emplacement (see diagram).

The legal aspects of embedding are discussed and it is tentatively concluded that the London Dumping Convention and the Law of the Sea Convention do not preclude embedding. The LDC is circumvented because "at sea" refers to the final position of the wastes. The 1982 Convention on the Law of the Sea exists to "protect and preserve the marine enviroment" but it is argued that neither dumping nor pollution are totally prohibited but merely to be controlled and minimised "to the fullest extent possible"! However the report suggests that if embedding proves feasible it should be securely enshrined in International Law.

Seabed Disposal of High-Level Radioactive Waste. OECD, Paris 1984.

Nuclear State = Police State

A book about GCHQ has been banned by the Government. The publishers, Johnathan Hale, have been scared off by possible legal action should they publish and are vindictively trying to recoup a typist's bill from the unfortunate author, Jock Kane, an ex-GCHQ employee.

Jock Kane is in a worse position; no publisher, all his manuscripts seized by Special Branch and, as a final insult, he has been forbidden to speak to the Press, not only about the book's contents but even about his ban on speaking to the Press! We have been told to tell our readers that they are fortunate to live in a free country. You are not being watched: Official.

Note to Special Brach:- Jock Kane has not spoken to us about the book or his banning.

Trouble at t'reactor

DO YOU BELIEVE IN RE-INCARNATION? I WOULDN'T BE A BIT SURPRISED IF I CAME BACK AS A NUCLEAR REACTOR

GRAPHIC PLAGIARISED FROM 'IT'S ABOUT TIMES'.

Specially trained UKAEA firemen with breathing apparatus dealt with a sodium fire at Dounreay, the fast reactor site. Liquid sodium is used as the primary coolant. However in air it spontaneously combusts producing "very nasty fumes".

Daily Record, 12.6.84

The US facility at Oak Ridge has now lost a record breaking 1170lbs of enriched uranium, and no doubt will continue to excell in this dismal league table. The US Department of Energy still wheedle about material "stuck in pipes" or lost through faulty book-keeping. The US DoE maintains a top secret computer tape record of all losses; these have been damaged/erased. Richard Nixon's secretary would now seem to be working for the DoE...

WISE Washington.

Ova Spurn Faded Genes

Sperm donated by a worker at the Lawrence Livermore Laboratory (nuclear weapons development centre) has been rejected for use in artificial insemination. "Do you think our recipients are going to choose him when they have a choice of 25 other men that may work somewhere else and are just as good looking- and intelligent?", asked Robin Stuart, manager of the Sperm Bank of Northern California.

Eureka Times Standard, 22.5.84.

Good old human error stopped the second Heysham I AGR, started 1970 due 1976 but nowhere near full power. Two steel plates were apparently inadvertently left in the reactor - could happen to anyone. Once the plates have been removed they will try again.

Financial Times, 30.6.84.

The Philipine's first nuclear station (620MW) needs refinancing. The estimated cost was a trifling £846 million but the usual delays, cost overruns, additional safety features etc have brought this to a tidy £2.6 billion. President Marcos lives dangerously (some of his opponents don't live) and so will the reactor's neighbours: the site is 20km. from an earthquake belt and 16km from two dormant volcanoes.

Financial Times, 12.7.84.

Fire broke out at the blighted nuclear power station at Dungeness, damaging electrical equipment.

Guardian, 30.6.84.

U Turn

In November 1983 Australian Prime Minister Bob Hawke undermined his party's anti-nuclear policy by approving the development of the Roxby Downs uranium deposit. The decision opened a serious rift in the Australian Labour Party (ALP). Hawke's career has been marked by a series of skirmishes on uranium, originating when he was President of the Australian Council of Trade Unions (ACTU) which adopted an anti-mining policy in 1975.

Then Gough Whitlam (ALP) was PM and proposing a "buy back the farm" resources policy based on income from an expanding uranium mining industry, in which the Government had a corporate stake. In 1975 though, Australia had 20% of the Western World's high grade reserves; there were no operational mines. At the time a uranium cartel was operating to raise world prices and when the price was right Australia intended to grant export licences.

The Whitlam Government encountered resistance from the enviromental lobby; the proposed mines were in ecologically sensitive areas, and under protection from the International Migratory Birds Treaty. The local aboriginal communities strongly oppose the despoilation of their traditional land and sacred sites, also fearing exploitation of aboriginal women by white mining communities.

Faced with resistance, Whitlam set up a Public Inquiry; later the ALP was deposed in a very undemocratic manner and replaced by the conservative pro-nuclear Fraser regime. Malcolm Fraser sought to curtail the Uranium Enviromental Inquiry. However, protected by its status as a Royal Commission, the Inquiry drew attention to the "hazards, dangers and problems of, and associated with, the nuclear fuel cycle".

It avoided making a recommendation about mining, suggesting that the Australian Government should "seek to limit or restrict continued reliance on nuclear power" among the international community. Importantly it suggested that the issues were moral and ethical, requiring widespread public debate before a decision was made.

Some trade unions took strike action against the uranium mines. Extensive development had been undertaken in anticipation of approval. Intimidated by the Government/Courts, and lacking support from the ACTU executive, they were frustrated.

At the 1979 ACTU Congress these unions moved that the teeth be put into ACTU's anti-uranium policy. Bob Hawke, the then ACTU President, opposed this move and suffered the most stunning defeat of his careeer. Shortly afterwards he resigned, taking a safe ALP seat. His successor, Cliff Dolan, was strongly anti-nuclear and quickly established an ACTU public education campaign on uranium.

Meanwhile the ALP Government had digested the Inquiry report and appreciated public sentiment. In 1977 they commited a subsequent ALP government to repudiate all new uranium contracts and close the industry. The preamble to this new policy read:

"The ALP's approach to uranium policy is dominated by its concern that the economic, social, biological, genetic, enviromental and technical problems associated with the nuclear industry are unresolved and uranium is a source material leading to nuclear armaments proliferation, which poses the most serious threat to world peace yet experienced, and to Australian sovereignty".

Uranium emerged as a key issue in the 1980 elections. **"Uranium, Play it safe, Vote ALP".** However not all sections of the Party were anti-nuclear and the 1982 Conference became a battle ground. The pro-Hawke lobby argued that the ALP would never gain office with an inflexible uranium policy, echoing arguments forwarded by the Fraser Government; failure to meet existing contracts would undermine Australia's reputation as a trading partner.

They proposed changing the policy from one of immediate closure to one of phasing mining out. Their amendment retained the "no new mines" principle but there was an escape clause enabling an ALP government to "consider applications for the export of uranium, mined incidentally to the mining of other minerals". This was drafted for the Roxby Downs uranium/copper/gold deposit. This tacky amendment was narrowly adopted, 53 to 46.

In 1982 Hawke became leader and by March 1983 his charisma, combined with the Fraser Government unpopularity, carried the ALP to office. Pressure mounted to pursue the ALP's uranium policy but Hawke sidestepped, setting up a Policy Review Committee.

Meanwhile Hawke made his pro-uranium sentiments known, drawing angry criticisms from other Government members. Hawke proposed to approve the development of Roxby Downs and allow the Ranger company to sign two new short-term contracts. It was also proposed that the conservative Science and Technology Council conduct an inquiry into waste disposal and safeguards, to report to the 1984 Party Conference.

In November Hawke's inner cabinet agreed to this proposal which was narrowly endorsed by the Parliamentary Party. Hawke's demand for public support from the whole cabinet led to the resignation of the Left's unofficial leader, Stewart West. This created widespread dissatisfaction with Hawke's leadership style.

Cliff Dolan announced that the ACTU would meet to discuss ways of undermining the new uranium policy and there was a nonviolent blockade of Roxby. Another is planned for next August.

Hawke announced his intention to have the ALP's uranium policy scrapped at the July 1984 Party Conference: "You can't have a policy to phase out uranium mining and at the same time approve the largest uranium mine in the world", he commented. Backing from the corporate giants and the pro-nuclear media is expected but it will be a hard struggle.

Paul Marshall,
World Bike Ride for Peace.

"You can trust a politician as far as you can spit a kangaroo"

As expected PM Bob Hawke and a centre right coalition pushed through a pro-mining motion at the ALP's 1984 Conference. This opens the way for the signing of new contracts, for the Ranger and Nabarlek mines, and the development of the huge Roxby Downs complex; 1.2 million tonnes, worth A$625 million, estimated as 20% os the world's reserves.

Roxby is owned by BP Australia (49%) and the Western Mining Corporation (51%). Exports are to be restricted to signatories of the Non Proliferation Treaty, and France is specifically excluded until nuclear weapons testing in the South Pacific ceases.

Another live issue in Australia is industrial restructuring and the fostering of high technology. Exports are typically those of a Third World country, raw materials and agricultural products, measured in tonnes whilst those of its rivals are measured in grammes. Australia is near the bottom of the OECD's table of technology-based exports per capita, and the opening of Roxby will further exacerbate this problem.

Just before the Conference the Australian Science and Technology Council presented its report recommending, in addition to uranium mining, the development of an enrichment facility; there is no indication that this will be built. The Australian Government has stated the only potential threat to the country is Indonesia, although a nuclear deterrent is considered unnecessary.

The ALP Conference was interrupted by vociferous demonstrators, and the Coalition for a Nuclear Free Australia plans a blockade of the Roxby Downs site on the 19th August. Telegrams and letters of support should be sent to:

Coalition for a Nuclear Free Australia,
291 Morphett Street, Adelaide 5000.

Council of Peace

With the big CND demo this year being held in Barrow, to express opposition to Trident which will be built there, the following article has been written to show how the local authority responsible for the Trident base (Dunbarton District Council) plans to proceed. With the return of an increased Labour majority in May, despite smear campaigns, the Council is taking a stand of non co-operation with the MoD. Councillor Les Robertson, formerly of Faslane Peace Camp (and a veteran of demos, arrests and imprisonment) sets out the plans.

"This Council wishes to restate its total opposition to nuclear weapons in the UK and in particular in Dunbarton district. In this connection this Council restates its opposition to the Trident nuclear weapons system.
"This Council having considered the terms of the notice of the proposed development, in respect of the facility at the Clyde submarine base, does not find the terms of that notice acceptable and therefore requests the Ministry of Defence to submit separate notices of proposed development:
a) In respect of the Trident nuclear weapons facility;
b) In respect of development for extension of non-nuclear facilities.
"This Council requires the Ministry of Defence to state its position on this demand from the Council, within one month from today".

The first part of this motion was passed at a recent meeting of Dunbarton District Council (DDC) held in June to discuss the proposed nature of development at Faslane and Coulport. It is self-explanatory and reflects our electoral pledge given before the council elections in May.

There are several reasons why we have asked the MoD to submit separate notices for nuclear and non-nuclear facilities. There is a significant difference in the proposals put forward by the MoD in May and those submitted in 1980; the most glaring difference is that the new proposals seek to amalgamate the expansion of conventional weapons facilities at Faslane with the proposed Trident-associated development.

We have no doubt that this was deliberately employed by the MoD to make it more difficult for the local authority to reject these proposals. In short we believe that the Government has deliberately introduced the element of expansion of conventional facilities to confuse matters. The MoD are doubtless aware of local feelings about Trident and nuclear weapons; by merging the two proposals the Government hopes to avoid proposing Trident independently, fearing the response from DDC and local people.

In our view this is a cynical manoeuvre. It appears the Government is prepared to exploit the respect (misguided in my view) that many people hold for the Royal Navy in defending the country with conventional weapons, in effect the MoD hopes that because the proposal includes the expansion of non-nuclear facilities at they will defuse opposition to the Trident portion of the development.

The people of Dumbarton District, and the rest of the country, must see this for what it is and recognise the depths to which the Government will sink and the methods it will use to achieve its ends in the face of overwhelming opposition to Trident. We will be advertising, under the Town and Country Planning Act, asking the public to write to the Council about the proposed extension.

The MoD locally have a history of deceit; when the extension of Coulport was first proposed they assured the locals that any nuclear material (fuel and warheads) would not be transported by road, but would be brought in by sea. This was exposed when the people from Faslane Peace Camp photographed the warhead convoy as it travelled from Burghfield to Coulport **(see SCRAM 42).**

The contempt the locals have for the MoD was apparent when 11 Labour councillors were returned in May after standing on an anti-Trident ticket. My own ward, Bonhill East, has many base workers and despite the local press and opposition parties mounting a smear campaign, based around my connection with the Peace Camp, I actually increased the majority; indeed some of the base workers put 'Vote Robertson' stickers in their windows.

We are determined not to lose touch with the people who elected us and have set up a special committee to deal with peace issues. We will be co-opting people from the peace movement; Women for Peace, CND, SCRAM etc. While it is nice to see doves on the side of Council vans and peace symbols on the Town Hall, I feel this is not enough. The Council has no statutory powers over the MoD, therefore the role of the Council will be to show leadership and show that it is people who have the power to stop the nuclear arms race. This will eventually mean witholding all facilities from the MoD, ie water, electricity, road repairs etc. This is a long way off, but with public pressure mounting and as the arrival of Trident draws nearer it is something that must be considered.

The expansion of Coulport, the missile handling facility, will require the whole Coulport Peninsula. The MoD has been steadily acquiring this area and tenants have only annual leases. The expansion of Faslane/Coulport will create no new local jobs; the 500 new civilian jobs will be for specialists, recruited outside Dunbartonshire.

The new dry dock for the Trident subs will be gigantic and a blot on the horizon; sixteen stories high and longer than a football field, unlikely to fit the local scenery.

[redacted]

Privatisation of work undertaken at Rosyth Naval Dockyard is to proceed, with 30% of the yard's £130m turnover going to industrial contractors. This falls short of the privatisation plans put forward by Peter Leven, on of Heckle Missiletine's political advisors. The future of the yard's nuclear operations is unclear. A ten year £200m investment programme in the yard's nuclear facilities is considered necessary to cope with the expanding hunter-killer fleet, polaris refits and future Trident boats.

Scotsman, FT, 12.7.84

[redacted]

'Turn the Tide' - 30 days of Protest against Trident. Mass demos on the 1st and 30th at Faslane Peace Camp. In between these dates we invite groups or individuals to come up and do their own thing. Contact Faslane Peace Camp, below St Andrew's School, Shandon, nr Helensburgh, Dunbartonshire. Tel: Iain Macdonald, 0436 820719.

Faslane nuclear submarine base regularly discharges radioactive waste into Gareloch. This occurs without prior consultation with Dumbartonshire District Council or Strathclyde Regional Council. The waste is said to come from overflow water used in the firing up process of reactors in the base's nuclear powered subs. The Clyde River Purification Board are specifically excluded from examining this discharge, and Dr Murdoch Baxter who is undertaking a radioactive survey for Glasgow University said he had not been made aware of the discharges...

He added that "discharges from submarine bases is generally extremely small compared with Hunterston or Sellafield and we have not observed any high levels in Gareloch.....there is evidence of contamination in Holy Loch". However, the level of radioactivity from the base, Faslane, would be difficult to detect over the Windscale baseline.

This is supposed to be reassuring.

On Sunday 3rd June four birch saplings were planted outside the gates of the Torness nuclear power station site. The event was initiated by the crew of the Dutch sailing boat **Zonnewende** who had been at the Torness gathering in May 1979. The four people aboard the boat are all connected with the radio division of one of Holland's national broadcasting organisations, VARA.

The boat, crewed by Rob Bijnsdorp and Hein Elbrink (who were at Torness in '79 and thought up the idea), Jo Smit and Hugo van Krieken, arrived at Dunbar on Friday night after having visited Eyemouth to talk to local fishermen about radioactive pollution of the fishing grounds.

SCRAM met the crew on the Sunday morning and by 12 noon the skies had opened up with a vengeance. We all got soaked during the hour it took to plant the trees; a plaque was also erected. The wording on the plaque was inspired by a famous phrase of the German priest Martin Luther:

"If the world ends tomorrow, I will plant a tree today"

Hugo carried out taped interviews with some of the people helping, and also the security guard and site manager! We left the 3ft high trees and the 2ft high cross bearing the plaque and went to Dunbar to dry out. Hugo again conducted a radio interview with SCRAM members in a local pub; this time the subject was more general - the feelings of local people to Torness, and nuclear power in Scotland, and what is happening nuclear-wise in the UK.

Later in the week SCRAM learnt that the trees had been removed. A phone call to the site office produced the information that the trees had been removed on the Monday morning and replanted elsewhere; the whereabouts of the plaque were unknown. "Ask Head Office", we were told.

We eventually discovered that the trees had indeed been replanted; at a landscaping project which the Electricity Board was carrying out at the Musselburgh ash pans. The plaque had been deposited at Dunbar Police Station. A call to Dunbar assured us that the plaque was OK, and that the trees had been removed because they were a potential traffic hazard (they were only 3ft high)! The police sergeant admitted that the plaque was not a traffic hazard, but thought that planning permission may have been needed for its erection. After questioning, he also admitted that the Board "could have been embarassed" by its presence!

The first the East Lothian Planning Department (responsible for granting planning permission) heard about the event was reading it in the newspaper the following day. Mr Fullerton of the Planning Dept. pointed out that the verge where the trees were planted was "exempt from planning requirements"; no permission is required to erect a sign (or to remove one!). He did point out, however, that there was an agreement with the Electricity Board not to plant trees near the site as they would "enhance the scale of the building", the idea being not to show how big it is and hope it will disappear! Contact the Highways Department to find out if the trees constituted a traffic hazard, he suggested.

This we duly did. Mr Minty, at the Haddington office, told us that the SSEB did not contact them regards traffic hazard, but they did write to central office to ask for a check that the verge had been restored to its original appearance following the removal of the trees. They found the restitution work to be in order.

Anyone fancy a beautiful plaque which may be erected beside other trees planted to show the dangerous situation the world is getting into? Contact SCRAM.

Druridge Demo

A brisk breeze blows the flag on top of the cairn so that the words "Save Druridge Bay" are seen by cars approaching from the west. We wave our petition forms at drivers, hoping they'll stop. There are already over 8000 signatures, people opposed to the building of a PWR nuclear power station at Druridge Bay. It is one of the sites next in line after Sizewell B.

Off to the east of us, behind an imposing line of sand dunes, the breakers are roaring. The waves have always symbolised for me the power of nature to continually refresh and cleanse our shores. Now they are threatened to be the receivers of radioactive wastes which cannot be cleansed but only dispersed.

A car stops. The people inside know why we are here. They sign the petition, buy a couple of badges and ask us where the site is. We point across the fields at the drilling rigs. Six days a week they drill into the bedrock, unwanted by the farmer who owns the land; by the County Council and by the vast majority of Northumbrian people.

They drill through coal seams. They threaten the local mining community, who fear the same as happened in Cumbria: Windscale. The pits are closed, and the unemployed are presented with a nuclear industry which they will be forced to accept.

The miners are resolute in their opposition however. A few weeks ago, a colliery band led a march from the cairn to the site of the drilling rigs. Playing the miners theme song, "Stand Up For Druridge", 500 people, including local MP's, enviromentalists, miners, trades unionists etc, marched along the country lanes. We felt awed by the verdent beauty of the area, stunned by the threat to it, and determined to fight for it.

Several cars now stop together. We rush over, handing out petition forms and leaflets. One man wants more details, "How is the campaign going?" I explain that the Druridge Bay Campaign is an organisation of over 70 groups, uniting to co-ordinate opposition to the scheme. There is unanimous all-party opposition on the County Council, and support from the local Liberal and Labour MP's for Friends of the Earth's publicity ventures.

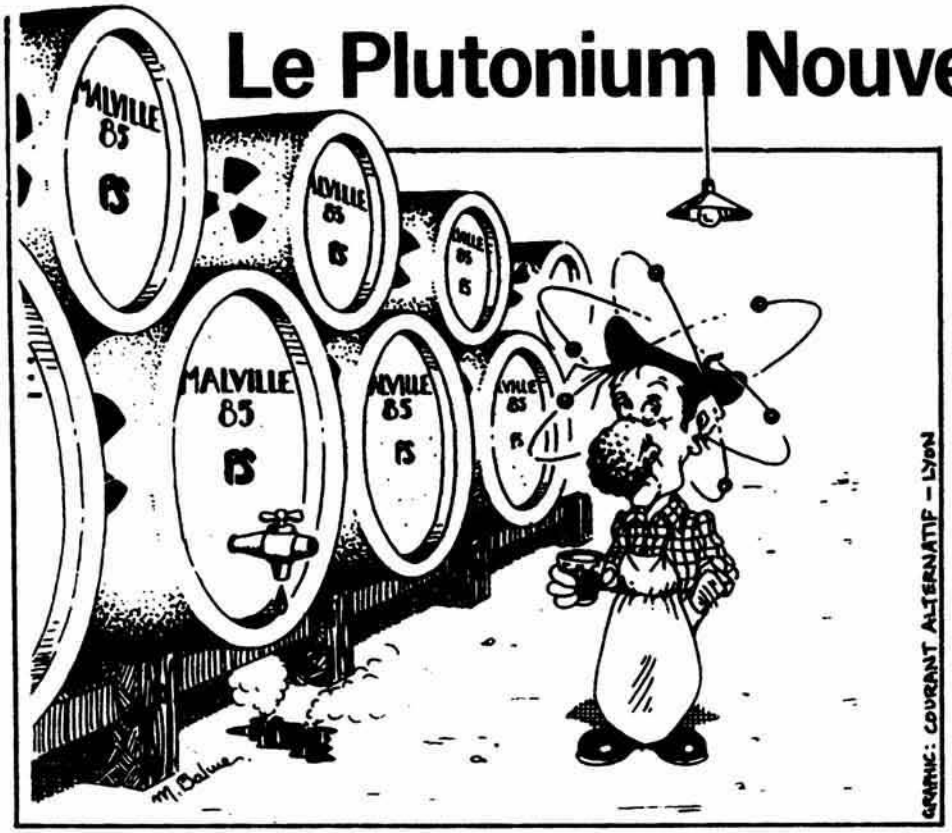
The Cheviot Hills can be seen on the skyline, twenty miles north west; a perfect spot to dump nuclear waste! They have not forgotten about it, although the proposal has been dropped for the time being.

The fence around the cairn needs maintenance, rubble requires clearing, and the sign needs repaired. If only we had more members, money, more resources! Bill drives up. He works at the local unemployed centre. We work out the necessary tools and wood required for the maintenance. Another worry off our minds.

Another car approaches, and a cluster of children climb the stile, and add stones to the cairn. Every stone symbolises one person's opposition to that power station. It is a symbol of people's opposition to impersonal forces. One of our signs sums it up: "Build a Cairn, not a Nuclear Power Station".

Bridget Gubbins, 2 Old Bakehouse Lane, Morpeth, Northumberland

Le Plutonium Nouveau est arrivé



August 4th and 5th sees the first demonstration at Malville since 1977. In a country where the peace movement is unusually weak, the protest is also directed against the incorporation of the Fast Breeder Reactor (Superphenix) into the French nuclear weapons industry. In the following article Jos Gallacher explains the military connection of FBR's and describes Britain's growing link with the French programme.

With the UK's own fast reactor programme stalled the Government has decided to keep the option open by promoting co-operation with other European countries - primarily France. The French programme, however, has a military as well as a civil function.

France has accumulated large stocks of civilian plutonium from its Pressurised Water Reactors (PWR's). This material is too low quality for the high precision miniaturised nuclear weapons which the French military desire. However when used as fuel in the core of a fast reactor it will breed high quality, weapons grade plutonium in the **blanket.** From a military point of view a fast reactor is a machine to convert civil plutonium into weapons grade plutonium.

France's prototype, Phenix, was built with assistance from military technicians and is closed to international inspections. This reactor is similar in size and design to the PFR at Dounreay.

Unlike the British nuclear industry the French are not coy about military purposes of their 'civil' activities. In 1978, General Thiry, an advisor to the Commissariat a l'Energie Atomique (CEA), boasted:

"France knows how to make nuclear weapons of all patterns and all powers. She will be able, rather cheaply, to make great quantities of them, as soon as the fast breeder reactors furnish her plenty of the plutonium needed...."(1)

With Superphenix due to begin production next year France is indeed planning to make "great quantities" of nuclear weapons **(see box).**

Electricite de France (EdF), the French electricity board, owns a majority stake in Superphenix. An EdF economist, L Lammers, stated in the company's house-journal **Energies** that current sources of plutonium are inadequate for the expansion of nuclear arms:

"A reinforcement is needed and it is ensured (after Phenix) by Superphenix, which will produce enough plutonium of the required quality to make about 60 bombs each year..Under these conditions, Superphenix becomes the technical basis of the French nuclear force".

At the end of last year, Georges Benedetti, a Socialist Deputy in the French Parliament declared:

"The choice of FBR's is without doubt the best option not only to assure independence in energy but also to assure national independence in its military applications".

The British Connection

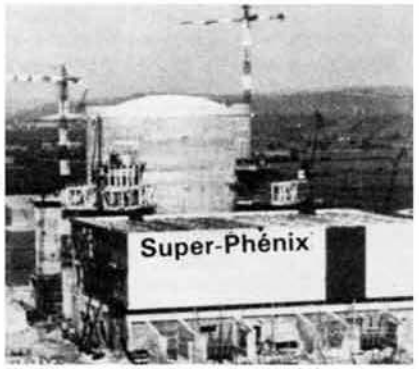
Superphenix is owned by an international company NERSA, which is in turn owned 51% by EdF, 33% by an Italian company and 16% by another international group SBK. The CEGB has a small stake in SBK - less than 2% - and so has an even smaller share in Superphenix.In future Anglo-French collaboration on FBR's will be much closer.

In the first few months of this year a series of international agreements were signed which will tie Britain into the European FBR programme (see opposite page). The Netherlands may sign later. The inter-governmental agreement was rapidly followed by agreements between companies and R&D agencies. In March, an R&D agreement was signed by the UK Atomic Energy Authority and the National Nuclear Corporation and their opposite numbers in the other four countries. At the same time British Nuclear Fuels Limited and the UKAEA signed agreements with their French equivalents, Cogema and the CEA, on fabrication and reprocessing of FBR fuel.

Perhaps the most important agreement was reached in February between the CEGB and EdF. Under the agreement each utility will take a stake of at least 15% in any FBR built by the other. Which, in effect means that the CEGB will be obliged to help finance Superphenix 2, which is expected to be ordered in 1986.

As a result, a British nationalised industry will be helping France to provide materials for the ambitious expansion in its nuclear arsenal in the 1990's.

Notes 1) Le Monde, 19 January 1978;
2) Energies, 23 April 1982.



The French Nuclear Armoury

Strategic:

At present France has 18 S3 missiles and 34 Mirage IV bombers which will be replaced by 100 SX mobile missiles.

At present France has 5 nuclear submarines carrying a total of 80 warheads. In the 1990's 6 submarines will carry a total of 546 warheads.

Tactical:

At present the French Air Force has 75 tactical bombers. They are to be replaced by up to 200 Mirage 200N. The Navy is also increasing the number of nuclear-capable Super Etendards.

France has also developed and tested the neutron bomb. In the long term very large numbers of these could be produced.

Source: Paul Rogers; **Guide to Nuclear Weapons 1984-85,** School of Peace Studies, Bradford University, 1984.

The future of fast reactor research at Dounreay in the north of Scotland remains uncertain. Recent announcements have not allayed the long-standing fears of the local residents and the imported scientific community. This article has been drawn from correspondence with Ance Karlsson and Pete Mutton of the Highland Anti-Nuclear Group (HANG).

Two ministerial statements made earlier this year have fuelled fears about the long-term future of fast reactor research at Dounreay. Peter Walker, the Energy Secretary, stated that, since commercial fast reactors are unlikely to be required before the early part of the next century, it is not appropriate to consider the exact timing of, or the site for, a Commercial Demonstration Fast Reactor (CDFR). Dounreay is presently the site for the Prototype Fast reactor (PFR) and the now-defunct Demonstration Fast Reactor (DFR). The UK Atomic Energy Authority runs the facility.

The other development was the "memorandum of understanding" signed on January 10th between the UK, France, West Germany, Italy and Belgium which "provides for the industry progressively to set up its own....agreements covering various aspects of the collaboration" on fast reactors. The Central Electricity Generating Board signed an agreement with Electricite de France on February 7th in which they set out principles for long-term co-operation.

In Caithness the local economy depends on Dounreay; no fast reactor, no jobs. What makes them believe that Dounreay is being run-down? Sir Kenneth Couzens, Permanent Secretary at the Department of Energy, when giving evidence to the all-party Public Accounts Committee, admitted that although a CDFR based on the Dounreay model is likely to be built, it is unlikely to be built in the UK. He also told MP's that "there is no date for a next stage" and the Government had considered cancelling the whole project in 1982 before deciding to join the European collaboration.

Peter Walker gave a rare insight into Government thinking when, in a Parliamentary Answer on February 22nd, he said: "It is intended that the agreements envisaged....will provide for the UKAEA fast reactor work, including work at Dounreay, to be fully integrated within the European programme. Details are still under discussion". A run-down?

It is no exageration to say that the future of nuclear power lies with the fast reactor. Fast reactors are capable of stretching uranium stocks up to 50 times more efficiently than thermal reactors. Without a fast reactor programme nuclear power has a limited future: there is insufficient uranium, and much is subject to political pressures, eg. Namibia and Australia.

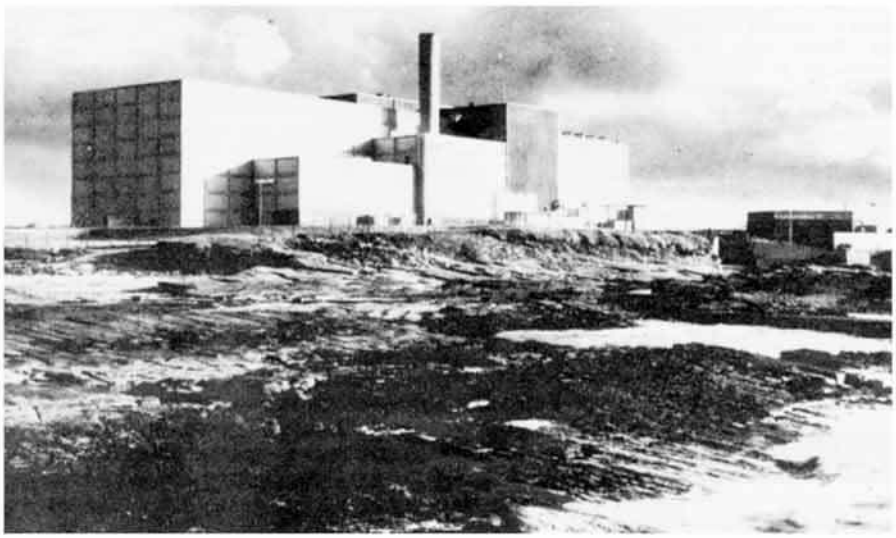
So why, considering its importance, is the Goverment abandoning Dounreay in favour of a joint European venture? Certainly not for technical reasons. The UKAEA feel they have demonstrated a fast reactor fuel cycle and in theory the technological viability of the CDFR; they don't want to spend the next 20 years proving them again. The Government give financial reasons for collaboration: "we can carry forward fast reactor technology while minimising costs" and the UK will be able to "maintain its position at the forefront of fast reactor development while at the same time reducing the cost to the exchequer".

This is clearly nonsense. If they really wanted the CDFR here then funding would be made available. Cancelling two thermal reactors could provide the money and would also reduce the embarrassing overcapacity (130% in Scotland should Torness come on stream, ensuring that Cockenzie and Longannet coal stations are not closed!). Dounreay was originally chosen for the fast reactor research because of its isolation - if anything went wrong there wouldn't be much to damage. There was never really any intention to use such a remote area for the commercial reactor, the transmission costs alone would be prohibitive.

Another aspect is the lack of financial control and procedures within the UKAEA. Sir Gordon Downey, the Comptroller and Auditor General (Parliament's financial watchdog) has been highly critical of the UKAEA and the Department of Energy for not preparing reports on the financial consequences arising from the delays in the fast reactor programme. The delays have been considerable: the PFR was estimated to be operating at full power by summer 1975, it is now expected this summer; the CDFR would be in operation by 1977, the last statement said "early next century".£2.4 billion (1983 prices) has been spent to date and a further £1.3bn will be required before a CDFR could be built.

So it would seem illogical to pursue the reasearch programme at Dounreay. There are however good reasons for its maintenance. Cutbacks are affecting local commerce and the local papers carry gloomy stories about the future. The Highlanders remember the closures of of the Invergordon aluminium smelter and the Corpach pulp mill, and they realise the implications should Dounreay close. It shows how dangerous it is for a region to rely on a single industry, eg. the demise of Cornish tin mining. Highland Regional Council still support the CDFR.

HANG has argued for years that the Regional Council should widen the local economic base. They have pressed for an alternative plan based on small-scale industry and renewable energy research - one socially useful contribution the scientists could offer - particularly suitable for this wind-swept site on the edge of a peat moor on the shores of the stormy Pentland Firth. In the north of Scotland there is now active interest in small run-of-the-river hydro schemes.

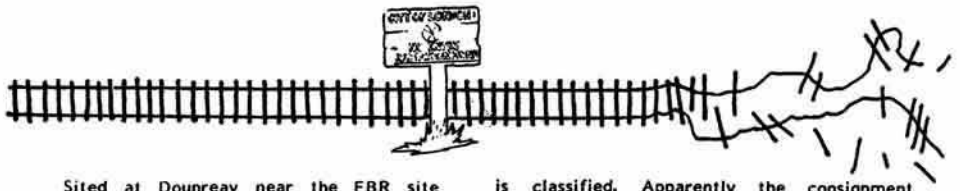


The Fast Reactor at Dounreay

Also slightly more controversially, for the anti-nuclear movement, Dounreay should be the last facility to close - we'll need somewhere to burn up all the plutonium and spent fuel from the discontinued nuclear weapons and energy programmes.

Finally, fast reactors establish the plutonium economy, with all the associated dangers: proliferation/erosion of civil liberties/police state. Gavin Strang MP asked Giles Shaw, energy minister, about guarantees that the collaboration "will not in any way aid the French nuclear weapons programme". This brought clause 5 out of the woodwork! It "explicitly states that the collaboration is directed towards the peaceful development of nuclear energy". The provision of UK equipment and matertials is "conditional on receipt of assurances from the French Government that (they will) be used only for peaceful purposes". Heseltine is fond of repeating that our nuclear "deterrent" is for peaceful purposes - surely the Force de Frappe must also be? France has not signed the Non Proliferation treaty.

Off the Rails



At the time that the Nuclear Free Zone resolutions were doing the rounds and demands for a public inquiry into waste transport were being made our group in Basildon, Essex decided toleaflet at Wichford, through which flasks pass from Bradwell.

While leafletting about the dangers of waste transport, I was arrested on BR property and subsequently fined £10 with £37 costs. This was Spring 1982.

Having sat through the waste transport evidence at Sizewell it became evident to me that my concern had done nothing more than make a hole in my pocket. No one pointed out that safety regulations are ignored, that standards are too low, and that if a sensible approach was taken shipments to Windscale would be unnecessary.

The final straw came when, bowing to pressure, the CEGB discovered problems with their flasks and "retired" some early. My blood began to boil; I had suffered at the hands of a faceless bureaucracy that didn't appreciate the situation. I was only doing my duty to alert people to the dangers involved in nuclear transportation when **representatives, duly elected, have acted with complacency and disregard for the welfare of those for whom they are entrusted to show concern.**

I boarded a train, refused to pay the £20 fare until I was repaid the monies owing to me, and was arrested by a very nice policeman. This was all very spontaneous and at the moment I am unsure of what might happen. My defence is that I have not attempted to avoid paying the fare, but I will be quite happy to, when I am reimbursed.

Wayne Jones

[redacted]

Sited at Dounreay near the FBR site is HMS Vulcan. Vulcan is the Naval Nuclear Propulsion Test Establishment (NNPTE) and is a special test station for the Navy run by Rolls Royce and Associates, a consortium whose shares are owned by Rolls Royce (43%) and Foster Wheeler, Vickers and Babcock & Wilcox. It was set up in 1959 by the MoD to develop a PWR for Britain's first nuclear submarine, HMS Dreadnought.

The present prototype reactor has been operational for 19 years and is due to be run down. Rumour has it that the steel structure for PWR2, currently being assembled at Barrow, is to be towed up to Vulcan on a barge up the west coast of Scotland next year. It is not expected to become operational until later in the decade.

Peter Blaker of the Defence Ministry gave an assurance in 1982 that Vulcan's work and the development of Trident are not related, and that the decision to install PWR2 in replacement for the present reactor, was taken quite independently from any decisions on Trident. However, it has just been confirmed, by the MoD at Whitehall, that PWR2 will "eventually be used as the propulsion system for both conventionally armed and Trident submarines".

Highland Anti Nuclear Group has been campaigning to publicise the existence of HMS Vulcan, specifically in connection with the transportation of irradiated materials by rail from Thurso to Windscale. The photo here was taken last October. The transports are accompanied by MoD security guards who were leaning out of the train photographing HANG.

Lengthy correspondence with Vulcan and the MoD produced little information: it is classified. Apparently the consignment, more than 89 feet in length, contains eating and sleeping accomodation for naval personnel and armed guards, and it may not exceed speeds of 35 mph. It is not allowed to stand nearer than 6 metres from staff rest rooms, shunters' cabins or other similar places; nor near wagons containing explosive gases, flammable liquids or other dangerous cargoes. The train must be kept away from station platforms or any point where mailbags, passengers' luggage or sensitised photographic material are likely to be placed.

The transports to and from Vulcan confirm (as if more confirmation was needed) that Britain's civil and military programmes are linked. Irradiated material from both sources is taken to one plant - Windscale. The presence of armed troops on our railways highlights some of the wider implications of a nuclear energy programme.

It is very important, in the light of the stepped-up campaign against Trident, for all groups to expose the work carried out at Vulcan, and the links with Trident.

Ance Karlsson

[redacted]

Despite a request from the GLC, the CEGB and BR still intend to move radioactive waste emanating from Sizewell B through London. Proposed alternatives would also violate nuclear free zones and, as Mr Singleton of BR added, if Mrs Thatcher stayed in power, some of the lightly used lines suggested might be closed anyway.

Sizewell Inquiry.

[redacted]

[redacted]

"Sir Walter openly acknowledged that this expensive crash test, spectacular though it was, was not concerned primarily as a scientific experiment". **Guardian, 18.7.84**

So did you prove it at last, old son? Prove what? Oh, no.
That was merely a dummy run, for the Media & Co.
Just for the show, old boy, just for the show.
Give the public a bit of fun; they've got to have a show.

We can chuck this flask over the side, to a thousand fathoms below,
Hope that it won't come up in the tide; hope the tides won't flow.
Just for the show, old boy, just for the show,
Whatever shennanigans you have to hide, get on with the show.

We can get pneumatic drills on it by the hour; QE2 can take it in tow,
We can fling it away off the Eiffel Tower; we can bury it deep in snow,
Just for the show, old boy, just for the show,
We're doing everything in our power, just so long as it makes a good show.

We can wrap it up in sodium and sand, for the vitrified piles must grow.
We can have photos taken of it, held in the hand; get some shot-putter to throw,
Just for the show, old boy, just for the show,
So long as no-one can understand what this glass will one day show.

Get fifty sappers with dynamite, standing all in a row,
Get technicians with buttons and lasers and light; get Prince William to have a go,
Just for the show, old boy, just for the show,
Then one day the times will be right; the state won't need a show.

When Windscale's a place you contract white blood and die off really slow,
Change its name to Sellafield and cordon off the mud, and hope the winds won't blow,
Just for the show, old boy, just for the show,
Then the tourist trade will fall with a thud; now that at least will show.

When even windsurfers are making the joke - "Come to Cumbria and glow",
Get a report from some high-up bloke - "Windscale's not the foe",
Just for the show, old boy, just for the show,
10 times more leukaemia no danger to you folk - that's what the figures show.

Keep on pumping in the Irish Sea, and don't let the punters know,
When Greenpeace touches your property, the Courts will take their dough,
Just for the show, old boy, just for the show,
And if there's a cock-up, don't tell me; it must go on, this show.

R M Bell.

Following the story in the last issue of SCRAM where we told of the nuclear warheads convoy between Burghfield and Coulport, the convoy has been seen again, this time in Edinburgh! It was spotted at 8.30am on Friday 27th July waiting at traffic lights in Fairmilehead in the south west of the city. It resembled the photo of the convoy we printed last issue. The District Coucil is investigating the allegations in order to confirm the siting. It may just be coincidence, but Edinburgh is due to declare itself a nuclear free zone soon.

The CEGB/BR extravaganza, an example of mid-July madness (?) has been performed. Nothing was proven either way; until detailed tests are carried out on the flask we won't know whether it was damaged, and they probably won't tell us anyway.

So £1.6m later and we're no better off, except for the first class train ride from Paddington and the free lunch (there is no such thing as a free lunch!). As a footnote we must mention Lady Marshall. She was wearing a blue two-piece suit on the train from Paddington, and the train crew felt it necessary to announce over the PA that Lady Marshall should not be asked for tea/coffee/soft drinks/toasties/etc, as she is not a BR stewardess, she just dressed like one!

All Gone Rong

Though the Sizewell B PWR proposal is catching most attention at present, we must not forget the 18 other power reactors operating or being built around the country. This article looks at the chequered history and some of the technical problems of Dungeness B on the Kent coast.

Dungeness B first supplied power to the grid over Easter 1983, 12 years later than originally planned. The CEGB candidly admit that this station (estimated final cost £1.2bn) is their biggest embarassment in the nuclear field - "a name the nuclear industry would really rather have forgotten", to quote an article in ATOM.

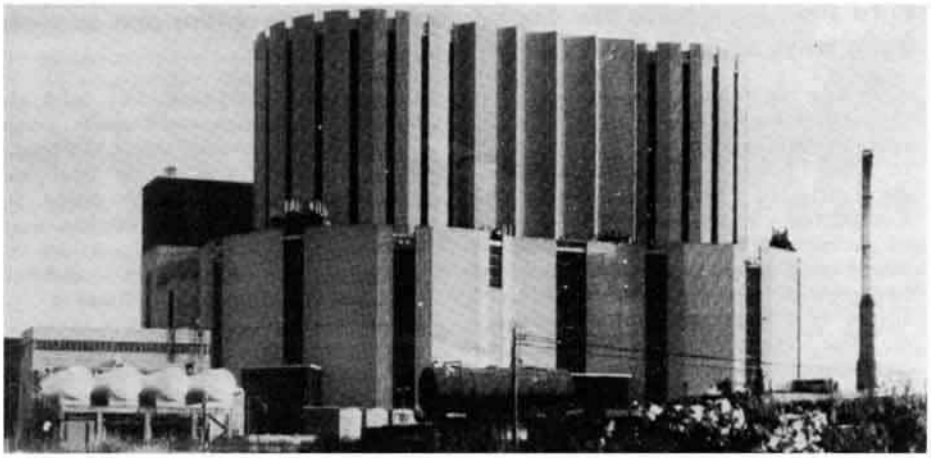
The prime contractor, Atomic Power Constructions Ltd. (APC), began construction of Dungeness B in January 1966. APC had put in an unrealistically low tender for the contract (£85m), principally in order to beat the American PWR which was then being considered. Not enough design work was done at the beginning; Dungeness B was to be a prototype for the Commercial Advanced Gas-cooled Reactor (CAGR), and was merely scaled up from the original small AGR at Windscale. When the various nuclear construction firms were "rationalised" into the National Nuclear Corporation, APC were left out in the cold. To save Dungeness B, the CEGB were forced to buy out APC, whose site management operations were eventually taken over by certain divisions of NNC.

So the management of Dungeness B's construction has been erratic to say the least, and this has been a principal factor in the construction delays. Labour relations throughout have been abysmal - graffiti inside the reactor core says "redundancies are inevitable - go in peace comrades" - and another major factor has been the need for design changes during construction, partly as a result of changing licensing requirements and partly because unforeseen problems have arisen during testing.

An AGR station is commissioned in three stages. The first is known as the hot engineering run, in which the coolant gas is brought up to operating temperature and pressure, but without fuel loaded. This stage took three years at Dungeness B, from 1978 to the end of 1981, because of the number and severity of design modifications needed.

The second stage is to insert the fuel. This changes the reactor's configuration, so the hot run must be performed again, and further problems due to the changed gas flow must be cleared. This stage lasted until December '82.

The final stage is still underway, and consists of raising power in small steps, checking performance at each point and demonstrating that it is safe to move to the next power level. Thus, although it was announced with much fanfare that Dungeness B had started up in April 1983, in fact it was then supplying only 80MW (its net design output is 1200MW).



The station has two identical reactors, numbered 21 and 22, and two 660MW generating sets. Throughout the rest of 1983 unit 21 was running in fits and starts in between modifications. By the beginning of 1984 the power was up to 370MW, slightly more than a quarter of full output. It is now shut down for more modifications. Unit 22 is "expected" to raise power at the end of 1984.

A major commissioning difficulty has been the insulation. The reactor core, boilers, and gas circulators are housed within a concrete pressure vessel (PV) which is faced with a stainless steel membrane to protect it from the hot gas (carbon dioxide at 650°C, 450psi) circulating inside it. Between the membrane and the concrete is a slab of thermal insulation material (A on the diagram), also made of stainless steel, to reduce the surface temperature of the concrete, which would otherwise crumble away. Piercing the top of the PV are 465 tubes which carry the individual fuel and control rods, and the insulation must seal perfectly round each tube. Anyone who has insulated a house will know that the worst parts are where the insulation stops - windows, doors, corners etc. In the Dungeness reactor it's the same problem but on a much more critical scale.

The boiler reheater outlet tube (B) has also given trouble. This is a remarkably finicky design whose actual heat distribution is not as predicted, so that part of the tube overheats. By dint of surgery on the outlet in situ (it is cast into the concrete), this has been partly alleviated, but the reactor still cannot be brought up to full power without further changes.

During the unfuelled run leaks were discovered in the gas seal between the core housing and the floor of the PV (C). This would have meant reaching temperature limits at gas temperatures much lower than expected in normal operation, and extensive modifications were needed.

Earlier on (starting in 1973 and lasting several years) a number of major problems with the gas circulators were found. The motors of these four monsters each take 11 Megawatts of power, and the units were suffering from excessive wear and vibration - which, at that power level, cannot be ignored.

All these faults, which have drastically affected Dungeness B's construction time, have occurred before the station was started up. Other problems have been discovered in operational AGRs, such as corrosion of the graphite moderator bricks, and faulty design of the fuelling machine which meant that AGRs could not safely be refuelled on-load as was originally intended.

But, given money, time and effort, faults can eventually be cured or circumvented. And the money, time and effort is being poured in: the CEGB and UKAEA between them maintain an army of technologists, each one working for years on a tiny area of specialisation: within the CEGB you can find a specialist on any topic in materials science, metallurgy, reactor physics, gas chemistry and any of a hundred and one other subjects you care to name.

Is all this effort worthwhile? In relation to a technology which, despite its environmental, social and economic costs, can still only supply a few per cent of an industrialised nation's energy needs, where is the sense in paying so many people to study so much detail? The answer, to be sure, is not to be found on Dungeness beach.

Tim Williams

Cold, Wet & Miserable

Dampness is not just a minor inconvenience, but a major social evil, according to the House of Commons Scottish Affairs Committee. Their report, published earlier this year, concluded that dampness in Scottish housing is disturbingly widespread, and probably worse than official figures suggest. In this article Pete Roche explains the background to the problem and suggests some ways of dealing with it.

The combination of energy-inefficient housing, inadequate heating systems and rising fuel prices leads to fuel poverty and condensation. An ultimate objective, says the Committee, must be the provision of well-insulated, with heating systems which can guarantee continuous low background heat in all rooms, and supply that heat at prices which those on low incomes can afford. The Committee made a series of recommendations including reform of heating allowances by the DHSS and improved insulation.

The Committee asked the Government to pay particular attention to the evidence submitted by Mr Thompson, the Depute Director of Housing in Edinburgh. Mr Thompson argues in favour of the introduction of Combined Heat and Power(CHP), but says that it would be easier to install in the peripheral housing estates of cities, rather than in the central areas as suggested by the Atkins report commissioned by the Government to look into CHP. CHP would then be able to to make a major contribution to alleviating the problems of fuel poverty and condensation. The Committee's main recommendation, of course, was that more money should be provided to combat dampness.

George Younger, the Secretary of State for Scotland, claimed, when replying to the Committee, that the worst of Scotland's damp housing could be eradicated within five years if local authorities gave the matter greater priority. His reply, which amounts to a blunt refusal to do anything about dampness, has infuriated housing authorities and tenants groups. Mr Younger contends that £143 million is all that is needed to deal with the problem, but local authorities suggest that £500£1000 million would be a more realistic sum.

In Edinburgh, for example, the District Council estimates that it will take them **80 years** to eliminate dampness unless the Government gives them more money. Edinburgh's new Labour Housing chairperson, Eleanor McLaughlin, says it is nonsense for Younger to suggest that Councils already have the necessary funds.

19,000 council houses in Edinburgh are affected by dampness; a third of the stock! An annual outlay of £10 million would be needed over the next five years if there was to be any hope of putting the situation right. But the present Government's restrictions mean that the District Council can allocate no more than £500,000 a year.

"George Younger cannot be serious", said Eleanor McLaughlin. "The idea is utterly absurd - as well he knows".

There are at least 160,000 council houses in Scotland suffering from some degree of condensation and a further 16,500 from rising or penetrating damp. Many of these houses are all-electric, and are consequently expensive to heat. By refusing to do anything about the problems, whilst pursuing a strongly pro-nuclear energy policy, the Government is condemning thousands of people to live with the misery of dampness for the foreseeable future.

If the Government was slightly more enthusiastic about CHP, we might see some light at the end of the tunnel. Instead the present administration would like to see "substantial private sector participation" to prepare prospectuses for only three, at the most, of the nine towns considered by Atkins. They are prepared to spend only £250,000 to meet half the cost of the prospectuses for each town. Meanwhile they appear hell bent on destroying the miners and charging ahead with the Sizewell B Pressurised Water Reactor.

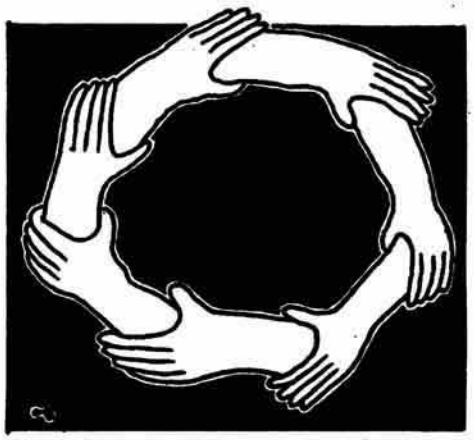
The campaign for CHP neatly links tenants' struggles for damp-free, warm homes with the miners' struggle against pit closures. Under the Tories all we can look forward to is more damp houses, more unemployment as a result of pit closures and an expanding nuclear programme. Alternatively we could change course now and start building CHP stations, and start bringing the insulation standards of our housing stock up to a reasonable level.

Several local authorities are heading for a confrontation with the Government next April, when arguments about rate-capping will come to a head. One of the issues at the forefront will be dampness, and the demand for damp-free and warm houses. With support from the NUM and tenants organisations (and enough money to tackle dampness) the campaign for CHP could reach such a fever pitch that the Tories will be unable to wriggle out of their commitments any longer.

Sources:

First Report from the Scottish Affairs Committee "Dampness in Housing", February 1984. HMSO 2061.
The Government's Reply to the Committee's First Report, May 1984. HMSO 419.
Edinburgh Evening News, 7.6.84; "Capitals Damp Prospects", Gregory Philip.

Popular Participation



SERA (the Socialist Enviroment and Resources Association) has produced several pamphlets which have been useful for the anti-nuclear movement, and they have been at the forefront of the Campaign for a Combined Heat and Power programme. The latest pamphlet, Council Action for a Socialist Economy, seems to specifically exclude any mention of energy, but its not difficult after reading it to see how much local authorities could do to promote an alternative energy strategy.

It is also not difficult to see how many of the arguments that we use against the electricity boards and centralised planning organisations, also apply to a whole range of other centralised organisations, from the Manpower Services Commission to the Alkali Inspectorate.

"We are very sceptical", say the authors, *"of the ability of traditional bureaucratic state planning carried out by experts to come up with proposals for products or patterns of production which meet social needs. Our experience of centralised planning in Britain has been a long series of disasters"*; an indictment of almost the whole British establishment

Nevertheless it certainly strikes a chord with people who have been battling with intransigent electricity boards for the past decade or so. Come to think of it, I'm not keen on most other centralised state organisations either. There's not much point in living in a nuclear-free zone, if every time we need to claim Supplementary Benefit our lives are going to be made a misery by 'Super Snoopers' from the DHSS, or by being forced to work on some awful YOP scheme. If you lose your job to a computer, what will you do when they come round to cut off your district heating?

So what sort of alternative does SERA offer?

"Any alternative to capitalism must....include an alternative means of generating new ideas and products which are essential for our economic revival as well as a means of transforming our economy to production for social needs. We cannot rely on centralised, secretive and professionalised planning to do this. From the hovercraft to wave power, the British State has shown itself unable to back promising ideas. Popular participation is therefore necessary both as a source of power to counter capitalism, and as a way of indentifying the needs of society".

Ideas, say SERA, come best from people who are in need of the products and services or from people who have the skills to meet those needs. The Lucas Aerospace Shop Stewards Combine Committee and local community initiatives in setting up workers co-ops show that it's not difficult to come up with ideas for meeting social needs.

If we assume that, at some point in the future central governmemt will attempt a selective reflation of the economy, through increased borrowing, then we have to make sure that they don't make a hash of it. Funds need to be directed to sectors which will provide employment and meet social needs. Electrification of the railways and an energy conservation programme are examples of areas where spending would be socially useful. SERA believes that it is equally important that new democratic channels are developed as a way of ensuring that resources are devoted to projects which aim to meet social needs rather than just expansion for the sake of it.

There is a widely held view, in anti-nuclear circles, that we don't want the electricity boards to get their grubby hands on CHP and renewables; we simply don't trust them! How will we know that they are not, in the words of the CEGB, just using it as an experiment, "to satisfy the Board that nuclear expansion is fully justified and to demonstrate that to other groups opposing nuclear expansion".

The answer lies in giving local authorities more power in the field of economic planning. Local government can, for example, set up more workers co-ops, says SERA, and I would add to that, that they should be given more responsibility for energy; both energy conservation and the setting up of district heating networks. At the same time local government needs to be re-orientated, so that it becomes more of a democratic expression of the community and less a local tier of central government.

Local government already has a small role in economic planning, which usually takes the form of direct or indirect assistance to private firms. But who wants rates money spent like this if all it is going to achieve is extra profits or more pollution? It is assumed that grants to private firms will create employment, but there is very little evidence that this happens. Why not, instead, support organisations whose aim is to serve social need rather than making profits?

I would recommend energy campaigners to read this pamphlet and discuss it. It's always useful to put campaigns in a wider context. It's an encouraging pamphlet, because it shows that decentralisation and democratic local control are issues which are being discussed. The current interest in local economic planning suggests that the arguments of socialist-environmentalists are not as far from central political debates as we are lead to believe.

This subject obviously requires a lot of discussion. How about sending your ideas, criticisms, suggestions (and orders!) to SCRAM?

PETE ROCHE

Council Action for a Socialist Economy; SERA. Available from the Smiling Sun Shop, 11 Forth Street, Edinburgh for: £1.20 + 20p p+p

Solar Sells!

ELECTRICAL REVIEW.

Solar power was used to charge camera batteries on a British expedition to Everest.

The UK's largest experimental solar power plant was inaugurated on 26th June this year. The project is funded by British Petroleum, the Department of Trade and Industry and the EEC's energy research and development programme. The site for the project is the Central Electricity Generating Board's Marchwood Engineering Laboratories near Southampton.

The 30kW plant, costing £900,000, was designed and built by BP Solar Systems, and the CEGB is evaluating the potential of the system and has co-operated fully in the development. The solar array comprises 960 1m x ½m panels, each containing 36 silicon solar cells of about 1W, series-connected in banks of 16. The panels can be adjusted to three different angles according to the season - 55°± 15°. At peak output each panel can generate 33W at 16V dc. This is fed, via an inverter, into the Marchwood distribution network, and has been supplying power to the CEGB since November last year (willing to use solar as long as they don't have to put much effort into it!)

Robert Malpas, managing director of BP claimed that the Marchwood project is an effective demonstration of the technical feasibility of solar electricity generation, although until "photovoltaic equipment drops dramatically in relative price it is unlikely to compete with most grid systems".

However Mr Malpas sees a useful application for the system. It can "meet low energy needs in remote locations hitherto lacking electric power". An important application of solar energy is for refrigeration supplies in developing countries, and BP is currently running field trials for vaccine storage refrigeration in Ghana and Nigeria, with others planned for Tanzania, Kenya and a few other countries. BP has just received an order to supply 5 solar refrigeration units to Nepal, following successful field trials as part of the World Health Organisation's Cold Chain programme for the control of disease in developing countries.

One of the principle aims of the BP project is to prove the feasibility of solar generation for remote unattended applications in severe enviroments. To this end telecommunications installations, cathodic protection of pipelines and structures and navigational aids are also being investigated.

The cost of a solar powered vaccine fridge is approximately £3,400, but after installation the running costs are, as one would expect, extremely low. The battery can store power for use during the night and is capable of keeping the system going for up to six sunless days; quite sufficient for tropical or equatorial use! According to the US Solar Energy Research Institute drastic price reductions are needed to make solar power plants competitive. SERI hope to reduce heliostat costs, up to half the price of the system, from $325/m² to $65/m².

BP has just signed a deal with a subsidiary of the US-owned Nortek, to provide technology for the development of cadmium-based thin-film photovoltaic cells. This is seen as a promising route towards cost reduction in the manufacturing of the cells.

Finally, one of the potentially exciting aspects of BP's work at Southampton is the plan to establish a solar energy project in a number of local schools. Although only a pilot scheme, BP hopes that it will develop into a national schools educational programme. Makes a change from all that pro-nuke propaganda that gets fed into schools! It seems that the oil companies are now looking for other energy fields to exploit now that the oil is running out and nukes seem doomed. Nevertheless, we must be watchful that they are not allowed to control these benign sources of power to the detriment of those who need it, and can least afford to pay through the nose for it whilst profits increase.

Electrical Review, 13/20 July '84

Upsetting one's fishing

Small-scale hydro, although gaining favour with the North of Scotland Hydro-Electric Board, has created a bitter row in the Highlands. As mentioned in SCRAM 36 two run-of-the-river hydro schemes have been proposed by the Board, on the rivers Grudie and Talladale in Wester Ross. The project has an expected output of about 10MW and will cost £10 million and take 60 people two years to complete. All that is now needed is approval from the Scottish Office, and that's where the problems begin.

Six schemes are being considered by the NSHEB, and they were expected to be unveiled in January last year. However, because of lengthy negotiations with the Government over financing, the plans were not announced until April. The Grudie-Talladale scheme is to be the first new hydro construction in 20 years. At the time the announcement was warmly received; little visual intrusion is expected, a first class road is nearby and the existing 33kV line will be capable of carrying the power without reinforcement.

When he announced the scheme Michael Joughin, the new Hydro Board Chair, stated that large dam-scale projects had not been ruled out although for the foreseeable future, for financial reasons, they were non-starters. Most of the big catchment areas in the Highlands have already been developed. It has been calculated that the proposed scheme could save £12m in 30 years and will save about 16,000 tonnes of coal and oil a year.

Highland Regional Council planning committee gave their go ahead in November. The Scottish Wild Land Group, in alliance with local land owners rejected the Board's claim that there would be minimal impact on the enviroment and objected to the proposals, urging the Secretary of State for Scotland, who must give his approval, to turn down the plans. Extensive lobbying netted Michael Forsyth, Tory MP for Stirling. Mr Forsyth accepted the Group's case that "there is absolutely no justification" for the project in view of surplus capacity in Scotland.

Several letters in the Scottish Press have cited overcapacity, and Torness in particular, as a reason for not going ahead with the project. Where were all these energy efficiency-minded people during the Torness Inquiry in 1974? It is often forgotten that the Hydro Board still has an option for a nuclear power station at Stakeness in Aberdeenshire, and that they built the Boddam oil-fired station at Peterhead (which has been converted to burn natural gas liquids until the Moss Morran chemical plant opens in 1986/7). These present proposals reflect a change of course for the NSHEB which must be applauded.

The local land owners are paranoid about their shootin' and fishin'; they believe that the Grudie-Talladale scheme will adversely affect the spawning grounds of the fish. Of course, conflicting reports have been produced: the Hydro Board's study claims that the fish will not be affected (and the rivers are not particularly important as spawing grounds); and the land owners report finds the opposite. But when it comes down to it it is just a case of 'conservation versus development', but this time the conservationists are being narrow-minded and pursuing an elitist vested interest: "I think one objects to anything which could upset one's fishing".

The sixty objections to the scheme (mostly from the afore-mentioned lobby) mean that George Younger, the Secretary of State, must give approval. The indication is that he will not give outright approval, but will either reject the plans or call a public inquiry. "Not another Sizewell", I hear you shout. Well maybe, but we can't lose this one; either we get a renewable scheme or we don't, the merits of an AGR instead are unlikely to be discussed! Anyway, the word is that an inquiry is on the cards.

Is this an isolated, Scottish argument, or does it have some bearing on the UK? Well, we think this is very important for the future of energy planning. A report published in May this year calls on Mr Younger to convene a far-reaching committee of inquiry into hydro generation in Scotland. The Federation of Civil Engineering Contractors commissioned the report which states that "hydro power is at present the cheapest form....of electricity generation. The major part of usable hydro potential is in (the North of Scotland) and substantial reserves remain to be exploited". Oil suffers the vagaries of price fluctuation, coal is beset by "fundamental industrial difficulties" (that's one way of looking at it!) and increasing demand for uranium is expected to push up prices by as much as ten times in the next 50 years.

This is the first major survey of hydro potential in the Highlands since the Mackenzie Committee reported in 1962. Mackenzie assessed the potential as 2069MW, present installed capacity is 1058MW, and a survey made last year claimed that there was 3100MW of potential. There is, therefore, about 2000MW of cheap, renewable energy potential available in the Highlands (and Wales and the North of England).

The fact that the report was prepared by Mr Manser, the FCEC economics advisor, does not detract from its importance. Civil engineers may have a vested interest in the construction of more hydro schemes, but they also work on nukes. The present recession in the building industry has hit civil engineering badly, as it has the electrcial engineering industry. The report sees hydro as a way out of the mess. The cost per Megawatt for hydro construction is greater than conventional thermal stations, but it is similar to nukes. The fuel costs on the other hand, are negligible and the pay back period is about 30 years. This is much cheaper than coal, nukes or other renewables at present (except maybe wind, but more work is required on that front to prove the technology). No, what the report says is that it is time for an intelligent energy policy to be developed in this country, not the present policy of no policy and let rip according to the whims of big money and 'defence' interests.

The Highlands are currently experiencing very high unemployment, particularly following the closures of the Invergordon aluminium smelter and the pulp mill at Corpach, and now the threat to jobs at Dounreay. An investment plan must be proposed for the area, including small hydro schemes and community businesses.

In his conclusion Mr Manser states "Hydro power generation offers major advantages over other forms of generation, as regards enviroment, fuel diversification, emloyment, export earnings and technological progress, together with substantial cost advantages...". In fact the report states that the closure of Invergordon was regrettable (it was one of the achievements of the 'regeneration of the Highlands policy') "particularly as this was on the grounds of increased cost which might not have occurred if low cost hydro power had been available" instead of the expensive nuclear product from the ill-fated Hunterston B AGR.

Steve Martin

A good blow

In SCRAM 38 we mentioned a new wind-power machine developed by Dr Gunther Wagner. The machines are to be mounted on ships off-shore and could utilise some of the surplus capacity of merchant vessels.

We have now heard that the prototype ship will be arriving at South Shields on the Tyne on about August 17th. The yard there is to carry out further tests before settling on final details of the big units.The Yard is expecting an order worth £7 million from New York to construct a floating wind farm.

The initial idea for the development was prompted by the SCRAM piece.

Double Dutch

The Dutch Government, having side-stepped cruise, are pushing for nuclear reactors. Ten years ago, with two plants in operation (60MW and 470MW) plans existed for 3x1000MW stations. However, appreciating the gravity of the issue, funds were set aside for a wide-spread, well-informed public debate. Today, as then, the people are opposed but despite this minor detail the government is to announce a 4x1000MW programme.

A 1.3m thick hard coal seam has been discovered in Holland. It is likely to be commercially exploitable and could undermine the Government's pro-nuclear stance.

The Green Movement in West Germany by Elim Papadakis (Croom Helm £15.95)

This is a useful book which collates material that is not available here to the non-German speaker about the different elements which make up the Green movement - anti-nuclear protestors, local self-help groups, which are called Citizens' Initiatives, urban activists and environmentalists. After occupations of nuclear sites and general anti-industrial protests, these groups came together and founded the Green party, which has had a lot of impact on West German politics. Papadakis has done a lot of research, and the book should have been as interesting as its subject. It is not, unfortunately, being a heavy plod, and far too expensive for its size.

Papadakis is not sympathetic to the Green movement which he sees as an aberration against the rational norms of a society - continuing economic growth, advancing technology and representative politics. The Greens' disbelief in such things he explains by tracing their pedigree: - by Alternative, out of Alienation,

with a whole line of anti-industrial forebears (Nietzsche, German Romantics, Expressionists). Those people's ideas may be in the air, but so are acid rain, lead, radiation, and carbon monoxide. In fact, these days the Greens are the true materialists. But Papadakis says little about the actual physical conditions of West Germany. He wants the irrational explanation. So he equates the communal, myth-making streak in the Greens with Fascism, though they are the last people to fall into militant nationalism or leader-worship. As for violence, which he blames on self-liberating philosophies, when he gives examples of its occurring, for instance at a reprocessing plant at Gorleben and the West Runway at Frankfurt, it seems to have come not so much from the protestors as the police, whom he does not accuse of having read up their Nietzsche. (The Green party itself is pledged to non-violence.)

What does inspire him is the possibility that technocratic structures may encompass ecology rather than vice-versa - "the technisation and monetarisation of ecological contexts," he calls it; that is, firms going after grants for sun-panels from the Ministry of Research and Technology. "The market economy can adapt and expand on the basis of new and alternative technologies, and thus invalidates one of the main arguments of ecologists like Bahro, namely that the capitalist system and modern science are not capable of solving existing problems by discovering new acres in which to expand." Papadakis is here being irrational himself, with this faith that science and expansion will cure what science and expansion have diseased. To believe that technological advances will sort out social and political problems is as unreasoning as to believe that mantra chanting and re-discovering the body will do the same.

There is no need for Papadakis to be a green-fingered ecologist before giving a fair account of the Greens, but he should have examined his own and West German's assumptions about the good society before laying into theirs. And he does give interesting bits of information, such as the nuclear industry offering a 100 million mark bribe to the local authorities in Gorleben, perhaps realising they had to offer immediate benefits instead of faith in a nuclear future. As the debate on ecology has now been picked up by the Left, it would be good if some publisher could put out a cheap and readable account of the Green party for English readers.

R.M. Bell

Vanquish War by General Etienne Copel. Lieu Commun

"France is my country and I really believe the present military policy can lead to a catastrophe. Her defence relies too much on nuclear power. The official policy refuses to admit that nuclear weapons are only a deterrent to nuclear weapons. It refuses to admit that nuclear weapons cannot stop a conventional attack, not even a chemical attack. France is not fully aware of her responsibilities. She is the only western nuclear power on the European continent, she is not aware that, if she does not change her policies and national defence, the President one day, is likely to face the alternative: nuclear weapons or capitulation. Destruction or submission".

General Etienne Copel (a top air force officer until 1984) wants to prevent annihilation, and war. He wants to "vanquish" war, as the escalation of nuclear weapons might bring about the destruction of the planet. For him, the first step to vanquish war is to vanquish **nuclear** war.

He believes that NATO should increase chemical weapons and be prepared for a chemical war - as the Russian troops are (100,000 soliders are specifically assigned to this task, and every unit is equipped for chemical war). A French President would not risk his cities to rescue one of the non-nuclear nations of Europe, or may not use nuclear weapons to counter a conventional Soviet attack because this would bring a massive retaliation which would destroy France. Capitulation would then be inevitable.

Copel claims that if France had more chemical weapons (the programme has been "abandoned"), an attack by the USSR would be less likely. He suggests that pointing chemical warheads at Russian cities would deter them. What would happen? He fears that "in order not to encourage a potential enemy, not to weaken 'deterrence', some people refuse to imagine that a French President might hestitate to destroy Moscow in the face of a Soviet non-nuclear attack against national security".

General Copel fears destruction, hence a new defence policy is necessary. He believes that the Russians are sincere when they say they will not start a nuclear war (USA, UK and France would retaliate massively). He thinks "the Communist world is shaken" by its youth and therefore may be dangerous; if the survival of European Communism is at stake, the Soviets may start a major war to oppose the threat from the West, not least from across the Atlantic.

Although he describes deterrence rather like a mutual annihilation pact, the General believes that there is some truth in it; it protects from nuclear attacks but not from all attacks. Hence defence against conventional and chemical warfare is just as necessary.

More controversially, Copel suggests that all citizens should play a part in the defence of their country; they should be given appropriate training and should take part in regular 'exercises'. He will tolerate conscientious objectors, they would no longer be jailed for refusing to do national service, but their tax burden will be multiplied by a factor of 1.4 until they are 50 to pay for the national defence of which they will play no part. Surely a nice incentive to encourage people to care about their nation's defence policy!

Copel is sorry that the neutron bomb has been abandoned, since he sees it as 'defensive'; neutron missiles throughout the country would stop the enemy's tanks, but they have been rejected because they would represent a devolution of nuclear arms control - not the official line at all!

The General makes his point about nuclear deterrence and the French "Frappe de Force" (which other generals have described as being rather inefficient). However, one must doubt that his emphasis on chemical weapons to diversify deterrence is the solution. There must be other methods than the neutron bomb to rid us of the threat of annihilation and the nuclear menace.

This book is quite courageous in its stand against nuclear defence, in a country like France, where nuclear policy is almost sacred. However, it is disappointing in its conclusions, as it would replace some weapons by others. Copel claims that nuclear war is avoidable. If it really is, why should war at all be inevitable? Copel does not really question war itself, as to him absolute pacifism would be an unrealistic attitude.

Gerard Fons

A few airforce generals had tried to convince their colleague, Etienne Copel not to publish his book **Vanquish War.** Why: the argument is insufficiently considered, they said the book was likely to give the reader the wrong idea of the 'profession' Among the censors were Generals Gueguen, Bret and Grenet who were the leaders of the air force, air defence and air forces military staff; hawks so to speak. General Copel did not listen to them and is annoyed to have been accused of dealing with nuclear issues without knowing about them. Indeed, he was one of the three pilots who dropped a bomb on Mururoa when France was still testing in the atmosphere. This experience cannot be mentioned to his critics, for it is a military secret. Dropping the bomb on the atoll does not necessarily prove that Copel is a big nuclear warhead, but at least once in his life he will have seen a blooming mushroom....

Le Canard Enchaine, 11.4.84.

Global Fission: the battle over nuclear power; Jim Falk. Oxford University Press, £7.50.
Nuclear Power: both sides; Michio Kaku & Jennifer Trainer (eds). Norton, $6.95.

Global Fission is just the book I did not know I was looking for and wish I'd found sooner. It not only has a cheerful cover, but also most of it is not about nuclear weapons. Falk takes the anti-nuclear reader through campaigns remembered and ones never heard of. Just the thing for those days when it feels like you are the only person still left campaigning against nuclear power.

The index includes SCRAM as well as Yugoslavia, where the people of Zadar successfully opposed the siting of a reactor in 1979; USSR where containment is considered unnecessary; Seabrook, Silkwood etc. (There are bibliographic notes in both books).

"If people are going to be confident about the long term direction of an energy programme they must feel confident they will agree with the social and technical judgements underlying it. There is no reason for such confidence when the critical decisions are made by a technical, political, or corporate elite behind a screen of semi-secrecy or abstruse and mystifying claims and language". Hear, hear!

Jim Falk is a theoretical physicist and enviromentalist who lectures in the social and political relations of modern technology at Wollongong University, Australia. Ask your local Labour-controlled public library to order this book now if you cannot afford to buy it.

In contrast to Global Fission's worldwide brief, Nuclear Power is mainly limited to the USA, and therefore the PWR. For example, spent fuel rods are stored at the reactor sites thus irradiating the surrounding area rather than being transported to one site as they are here. I had not realised

Fighting for Hope by Petra Kelly (Chatto & Windus, £2.95 + 30p p&p)

Last century the drive for profits and the advancement of technology - the industrial revolution - did more to change the world than any conscious struggle for human rights. In Britain, the most industrialised country, the new classes of manufacturing owners and workers demanded that their interests should be represented in politics. Both took up the word 'progress' - the inherent progress of technology and the willed progress of people gaining control over natural and social forces. Now technology, moving under its own momentum, has become a force which has to be brought under control, and the word 'progress' should be taken up by those with an interest - a concerned awareness - in cutting the machines down to human size. Many have got to that position by protesting against the most extreme form of technology - nuclear power - and its most destructive and most useless application - nuclear weapons. And fittingly, this movement has been strongest in West Germany, the model of industry and the front-line of the Cold War.

The Green party was founded at Offenbach in 1979 from various environmentalist groups and has since grown, with high points in March 1983, when it won twenty seven seats in the Bundestag and June 1984, when it won seven seats in the European Parliament. One of its founders, and its most famous member, is Petra Kelly, who has just put out her personal manifesto, **Fighting for Hope.** It is a perfectly sincere book; her anti-nuclear commitment was inspired by the death of her little sister from cancer after receiving radiation therapy. It is mostly speeches, a mixture of statistics and rallying-calls which no doubt inspire her audience. Her publishers cut down the manuscript by sixty per cent; they can't have distorted any coherent argument, as there is not even the start of one. It is a road of cul-de-sacs.

Kelly should have interesting things to say about what it is like being an MP for an 'anti-party party', how she gets a policy carried out on biological farming, say, on which she has sensible ideas. But she hasn't, for she's ideologically opposed to carrying out policies - a Green characteristic. This seems odd in a party which appears to break with the doctrinal squabbling of the Left out of power and its relentless pursuit of power in a coalition.

For an anti-nuclear fundamentalist, this seems like mucking about with opportunity. "We have no wish to use the power of money or the state to resolve conflicts in such a way that someone must always lose." But if their programme is uncompromising, there must be losers. Nuclear engineers can't all be hammered into wind-mill makers, and presumably they won't be allowed to carry off their skills to South Africa, South America, or the Middle East. You can't break the technological wheel with a butterfly. What does it matter if a reactor is privately owned, state owned, or a workers' co-operative? And though you want the electorate to stay politically interested, most people are interested only in spasms; they want things done, not caring much how. But the Greens fear being corrupted by power. They must save their souls, at the cost of losing the world.

As it happens, the Greens have gone into a ruling coalition with the Social Democrats in Hesse state parliament, but Kelly has lost her job as spokesperson when the executive posts were last rotated, for no-one is allowed to hold a post more than twice. The posts are now all filled with women, including eco-feminists who want to raise public awareness for a 'new less righteousness when it combines power with the need to industrialise. Ecology, you would think, does not ask ideological, but practical questions. Not - is this revisionist? or reformist? or Marxist-Leninist?, but - does this factory use up resources? energy? make worthwhile jobs? useful/beautiful things? pollute? — questions that are complex, but which should not lead to ideological rancour. But Kelly's ideology is that of powerlessness. She once said she did not want the Greens to get too big a share of the vote and the chance of power in a coalition, for "the work of parliament is to conduct hearings and committees of enquiry in public and to make them open to everyone. We aim to democratise parliament as much as possible, putting the issues, and the cost of solving them, squarely before the public." Parliament is a true talking shop; the "uncompromising programmatic objectives" she talks about must be carried out in whatever weakened form by the grass roots or not at all.

theory of women and ecology."

On this Kelly says:- "Woman must lead the efforts in education for peace awareness because only she, I feel, can go back to her womb, her roots, her natural rhythms, her inner search for harmony and peace, while men, most of them anyway, are continually bound to their power struggle, the exploitation of nature, and military ego-trips."

Most men, poor sods, are not having such an excitingly macho time as all that. This sort of drivel is reminiscent of the Suffragettes, who thought that Woman as Woman would bring about the gentle millennium with Her vote. The first Woman-filled election brought in a highly nationalistic government, grabbing reparations and wanting to hang the Kaiser.

As a policy, eco-feminism could mean that more women should be encouraged to get politically involved, and that they will be attracted by an anti-technological party, since they don't have the reverence towards scientific expertise that men have. That sounds fine, but Kelly would have us 'forge a bond with the Earth and the Moon, living with co-operation, gentleness, non-possessiveness and soft energies." Soft energies shouldn't necessitate soft heads; a lot of people, including men, who are not all thalidomide and reactor makers, would see the virtues she lists as needed for survival, without monitoring from the Moon.

In the UK ecological ideas are beginning to penetrate the other political parties, though there is precious little about them in their publications, right or left. Robin Cook tries to paint the Labour party green; Thatcher acknowledges an environmental vote by shuffling about on acid rain. Penetrating parties is the best Green hope we have here, since under our electoral system the Ecology party is unlikely to gain power.

That is depressing, for the anti-nuclear aspect will probably be the last to be taken up by the traditional parties. The West German Greens, and Petra Kelly are anti-nuclear in origin. Whatever deals they now make in Hesse, and perhaps in the Bundestag and Strasbourg, that anti-nuclear root should be the last thing they throw on the fire of political expediency.

R.M. Bell

the extent to which the US has delayed attempts to 'solve' the nuclear waste 'problem'. Perhaps it is the US Freedom of Information Act which allows this book to reveal that the Windscale Fire cloud of 1957 passed over London and on into Europe before dispersing.

The book consists of essays for or against nuclear power, so one can read every second essay if one only wishes to confirm one's prejudices! It is suitable for institutions where an overtly anti-nuclear book would not be bought. It is also good for classes in secondary and higher education who have to debate, write or discuss, for and against nuclear power, though a British version would be an improvement. It unfortunately does not have an index. Most of the essays provide a good introduction to the research and opinions of their authors which could be followed up in their other works.

Linda Hendry.

World Armaments and Disarmament 1984; SIPRI Yearbook, £28.
The Arms Race and Arms Control 1984; SIPRI, £4.50 (+50p p+p).

All you'd rather not know about the arms race.

The fifteenth SIPRI Yearbook is, like its forebears, substantial. Ideal for chasing up the niggling bits of information that you are almost certain are true but aren't quite sure, and can't find anywhere: how many British Sea King helicopters did Australia order in 1980? SIPRI says two, delivered in 1983.

The latest volume charts the failure of last year's arms negotiations, the worldwide expansion of the arms race, the contribution of arms sales to Third World debt, the development and deployment of new weapons and C³I (command, control, communication and intelligence), the militarisation of space, changing public attitudes, chemical and biological warfare, anti ballistic missile systems and the Honduras-Nicaragua conflict.

Last year there were 50 nuclear explosions, all underground: UK and China 1; France 7; USA 14 and USSR 27. However, 13 of the Soviets' 27 may have been for non-military purposes, possibly underground storage chambers for natural gas. The annual number of explosions now exceeds that preceeding the 1963 Partial Test Ban Treaty. In the same depressing vein, the USA has not ratified either the Threshold Test Ban Treaty or the Peaceful Nuclear Explosions Treaty.

Whilst the USA is proceeding with MX, Cruise, Pershing II, Trident C4 and D5 and Midgetman, the Soviet Union is developing new solid fuel missiles, a new ICBM, a new submarine-launched ballistic missile and air- and sea-launched cruise missiles. SIPRI predicts that the number of Soviet warheads will rise, equivalent to the expected US increase.

No First Use; F. Blackaby, J. Goldblat & S. Lodgaard (eds.). SIPRI, £4.95 (+40p p+p).

After a conventional war the winners discover white hats, apportion blame and administer justice; much later historians revise. A consenus about events, causes, intentions and national perspectives often proves elusive and non-committal phrases appear in books: the drift to war; war between....broke out. Clauswitz acknowledged that the difference between war and peace was only one of degree, and it follows that the transition has often been made unwittingly. However, the initiation of a nuclear war is generally seen to be breaking a well-defined and substantial threshold and in consequence is unlikely to occur inadvertently.

The declaratory doctrines of the five weapons holding states vary considerably: the Chinese forgo both use or threat of use against non-nuclear states and first use; the USSR offers a clear no first use and an additional commitment of no use against non-weapon states, except if they allow

The first Typhoon class submarine has completed sea trials and moved to the Kola peninsula, and a second has been launched. In the States the first two Ohio class Trident submarines are now on patrol, and a third was commissioned in June '83 and a fourth in February '84. They are equipped with the Trident C4 missile which has been retrofitted into twelve Lafayette class submarines. When Trident D5 is available (expected 1988) the Ohio class subs will have them retrofitted. In the air 64 B52G bombers have been equipped with 12 air-launched cruise missiles, 90 B-52H's will each carry 20 and the B-1 bomber is due to enter service in 1986. In 1984 the US is due to deploy more 450km anti ship and 2500km land attack cruise missiles on attack submarines and surface ships.

Overall the SIPRI Yearbooks are well worth acquiring for reference but are definately not bed-time reading; too heavy both intellectually and physically.

weapons to be based on their territory; France promises not to use nuclear arms against an avowedly non-nuclear state except following an act of aggression, in alliance with a weapons state, on France or an ally; the UK/USA offer non use against avowedly non-nuclear states except in case of attack in alliance with a weapons-holding state on the national territory, an ally or armed forces. Falling within the UK/USA position is a nuclear strike following a conventional attack on UK/USA armed forces outside national or allied territory.

The divergence of declaratory doctrines, especially the refusal of the USA, UK and France to give a clear no first use commitment, has proved very embarassing, particularly in the United Nations. However they argue that this policy actually preserves peace in Europe. First use, they say, is necessitated by the supposedly inferior strength of NATO's conventional forces. Opponents suggest that the use of nuclear weapons would inevitably escalate and the resulting destruction negate any perceived military/political advantage; the counter is that with a declared first use policy the USSR will seek to avoid any confrontation likely to lead to war and hence peace is preserved. However, Enoch Powell, not a contributor, argues that first use of nuclear weapons by the UK is incredible because the subsequent devastation exceeds any possible advantage gained by the use of nuclear weapons, therefore for the UK nuclear weapons can have no deterence value. This can be extended to all European countries.

The essays propose alterations in NATO force structure, discuss the political/military concept of firebreaks, espouse the advantage of delayed first use and examine coupling and decoupling of the USA to Western Europe.

A substantial Warsaw Pact conventional superiority is widely assumed, the rationale for the NATO first use doctrine. Though coincident with the publication of these essays was the admission by Dr. Luns, the retiring Secretary of NATO, that the superiority of the Warsaw Pact has been exaggerated: NATO divisions were revised upwards from 84 to 88 (still excludes France and Spain) and those of the Warsaw Pact revised downwards from 173 to 115. Dr. Luns added that "We try to tell the truth most of the time".

No First Use requires serious reading but is rewarding, the essays are provocative. An amusing game is trying to spot the inappropriate logical leaps. To my mind the best summary came from Cai Mengsun (China), in a generally light-weight essay: "Today the harsh reality is that the two superpowers vigorously pursue hegemony. While playing lip service to disarmament, both of them stop short of any positive action".

Jeremy Adler

July into August

22-5 Walk from Leeds to Barrow, to develop awareness of Trident in Yorkshire, and encourage personal contact with the people of Barrow. Further details: 22 The Nook, Crookesmore, Sheffield. Tel: 0274 480152.

25-4 Peace March from Prestwick airport to Chapelcross nuclear plant. Chapelcross will provide plutonium and tritium for Trident warheads. Details: Alan Conchar, 13 Cotton Street, Castle Douglas, Kirkudbrightshire. Tel: 0556 2030.

28-4 London to Barrow Cycle for Peace: taking in various nuclear weapons sites along the way. More cyclists still wanted. Contact: Paul/-Shane/Christine, 264 Friern Road, London SE22 0BB. Tel:01 693 2287.

August

1-31 Women's Summer Camp at US submarine tracking station, Brawdy, Pembs. Information: tel: Llangybi 487 or Pembroke 685186.

4-5 Malville Rally in France against fast breeder reactors (see SCRAM 42).

5-19 Youth CND Base Tour of 1984. Tel: 01 263 0977.

6-9 Hiroshima and Nagasaki days.

13-18 Roots of Peace Festival to mark the 50th birthday of the Peace Pledge Union. Exhibitions, stalls, films, food, creche, discussions and workshops. St Martin-in-theFields, Trafalgar Square, 11.30am-9pm (Friday close at 5pm). Details: Peace Pledge Union, tel: 01 387 5501.

19 Youth CND's Jobs not Bombs Carnival, Wormwood Scrubs Park, London. Tel:01 263 0977.

25 Green Gathering and Harvest Festival, Molesworth Air Base. Details: Harvest for the Hungry, Box 272, Peace News.

September

3 **Ex-services CND March.** Details: Bob Lawrence, 49 Grand Avenue, London N10 3BS. Tel:01 883 6654.

3-7 END/CND International Committee Summer School. Speakers include: Michael Clarke, Mary Kaldor and E P Thompson. Details: Fionna Wier, END (01 587 1563) or Tom Williams, CND (01 263 0977).

5-8 Neighbourhood Energy Action (NEA) Conference: Towards a Community Based National Energy Efficiency Programme, University of London Union. Focussing on the achievements of community energy projects and considering new initiatives. Bookings and enquiries: Katherine Bedford, NEA, 2/4 Bigg Market, NewcastIteupon-Tyne. Tel: 0632 615677 or617206.

14-17 National Gathering of Interhelp (despair & empowerment workshops), Unstone Grange, Sheffield. All-in cost, incl childcare & vegetarian food: £19 unwaged, £30 waged. Details: Mary Simister, West Port Cottage, New Galloway DG7 3RY. Tel: 06442 273 (by Sept 1st please).

15-22 Can't Play, Won't Play week of action on civil defence (CND).

21-23 Bradford Fellowship of Reconciliation Conference: Seeds of Hope the growth of non-violence. Details: FoR, 9 Combe Road, New Malden, Surrey.

22 **No Trident March,** Weybridge to Addlestone, Surrey. Will pass the local Plessey factory. Details: Howard Townson, Secretary, Elmbridge CND, The Firs, Sandy Lane, Cobham, Surrey.

22 **Dayschool on Conversion,** organised by Barrow Trades Council. Details: Les Gallagher, Secretary, Barrow Trades Council, 5 Tideway Drive, Walney Island, Barrow-inFurness, Cumbria.

October

20-27 CND week of action.

27 **Major CND Demonstration in Barrow** where Trident subs are planned to be built. Book your train or bus now. Details: CND, 11 Goodwin Street, London N4. Tel: 01 263 0977.

November

CND National Conference, Sheffield. Details: Duncan Rees, 11 Goodwin Street, London N4. Tel:01 263 0977.

"you are in arrears with your account. We've come to disconnect you".

Little Black Rabbit.

Little Black Rabbit was taking a shower one morning when the sound of breaking glass was heard. "Odd", thought LBR, "that isn't normal". Sneaking into the bedroom, voices were heard in the hall. LBR thought it wise to pick up a hammer then entered the hall, towel in one hand and hammer in t' other. The intruders looked perturbed; "Electricity Board", they asserted, proffering their identity cards, "you are in arrears with your account. We've come to disconnect you".

The Board employees were eventually convinced that the bill had been paid and left. LBR dressed quickly and drove to the nearest SSEB office, having first taken the precaution of 'wiring up for sound' and carrying a compact camera.

The woman assisstant at the office apologised about the misunderstanding. "I would like compensation", said Little Black Rabbit. "New double glazing, repainting of the woodwork and repairs to the three piece suite damaged in the entry". The assisstant did not seem to understand. The request was repeated. "We'll replace the window (single glazed) but that's all", she said.

This was all getting too much for our intrepid reporter. LBR explained, in words of one syllable, that the account in question had been paid, a significant time ago, and that forced entry had been occasioned without prior notice. The gist of the explanation was "Pay up or I'll sue". Surprisingly the assisstant didn't bat an eyelid, "If you take us to court we will produce documentation to prove you are in arrears with your account".

Little Black Rabbit was astounded at this arrogance, although not enough to lose track of the mission; out came the mini tape machine and part of the recording was played back to the assisstant. She went white and her mouth dropped; out came the compact camera, click! LBR's identification was also produced: "Contact me at this number before 4.00pm or I'll be working on the story".

Sure enough a phone call was received. The double glazing was replaced, the woodwork was repainted and £50 compensation was paid for damage to the suite. Very efficient the SSEB, after some 'persuasion'. But what about those consumers less fortunate?

PS: LBR misled about not printing the story, just so as it doesn't happen again, to anyone (be warned, our eyes are everywhere)!