SCRAM

The Anti Nuclear & Safe Energy Journal

NUCLEAR POWER? NO THANKS

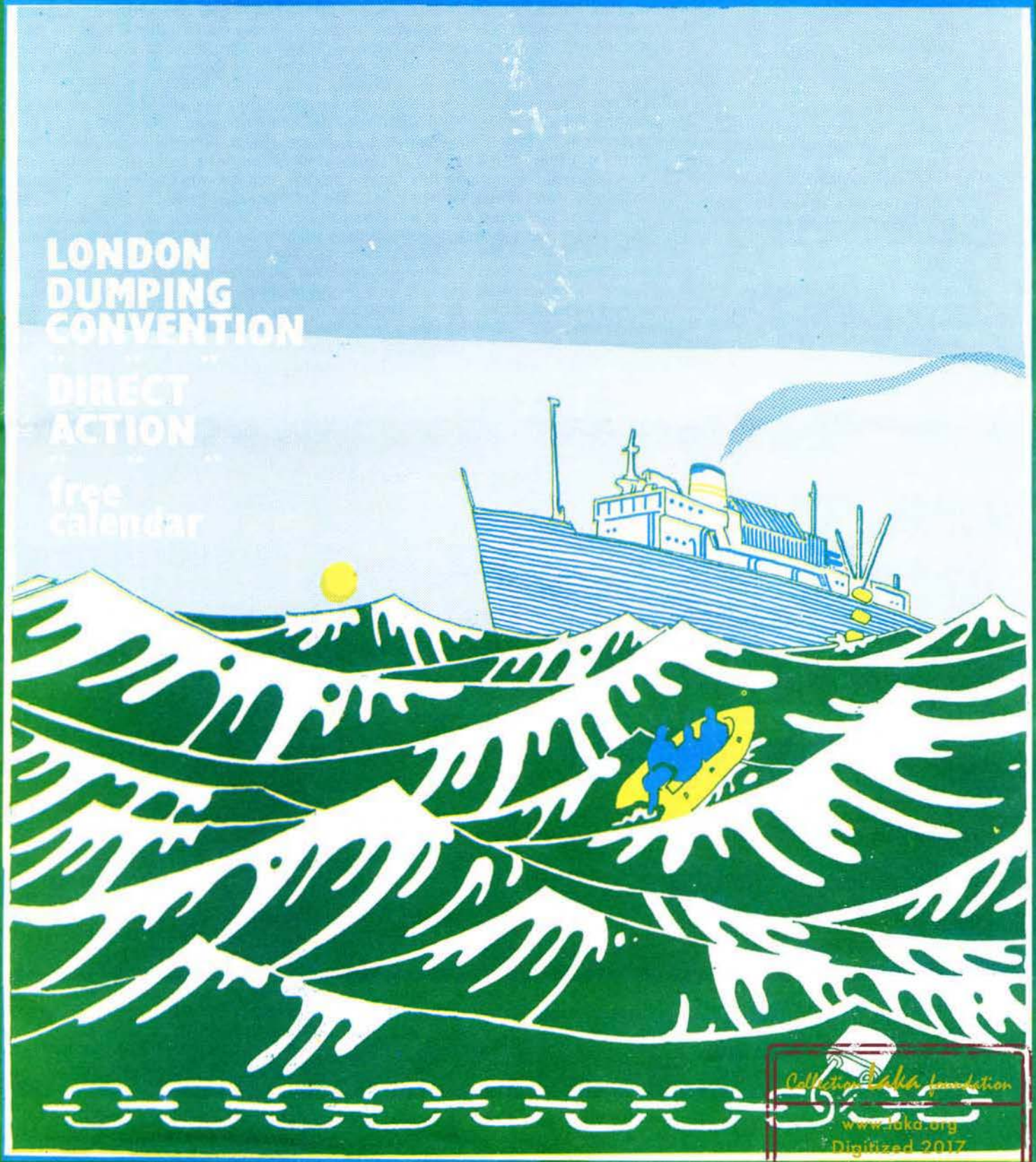
No 34

40p

LONDON DUMPING CONVENTION

DIRECT ACTION

free calendar



STOP TORNESS

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This magazine is produced for the Anti-Nuclear, Safe Energy and Disarmament movements in Britain by the Scottish Campaign to Resist the Atomic Menace.

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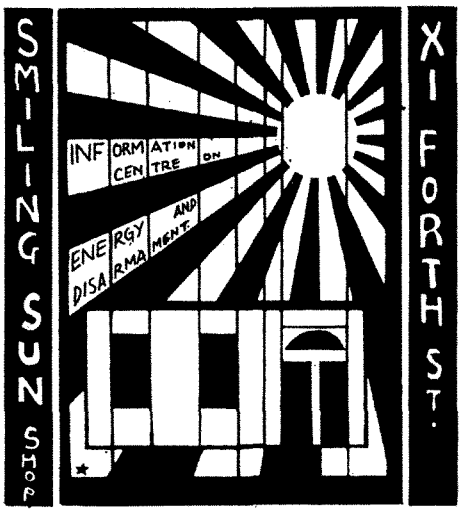


Comment.

Tuesday, January 11th, saw the opening of the Sizewell 'B' Public Inquiry. Direct actions, in sympathy with the massive tide of objection and concern, were staged in many different parts of the country. In addition to the large picket mounted in Sizewell village, where an atmosphere reminiscent of a circus was generated, some SCRAM workers made their presence well and truly felt at Torness [see report inside] by shackling themselves to the gates as the early morning shifts changed. Media coverage was encouragingly varied — and sympathetic towards our cause in most cases. The battle lines have been drawn up in no uncertain terms.

Earlier this month, it was revealed that Britain's first nuclear-powered submarine "Dreadnought" will be yanked up the North Sea and berthed "for several years" at Rosyth Naval Dockyard where — minus its irradiated fuel [to be removed at Chatham], it will be allowed, like a gift from Darth Vader himself, to exude its radioactive filth over all and sundry. We firmly believe that the MoD simply haven't a clue concerning just what to do with the [another!] PWR; indeed evidence abounds which suggests that they are waiting sycophantically for the Americans to lower their obsolete specimens into a watery grave in the Atlantic or Pacific. Being guided by precedent may, in some cases, be commendable but this from a variety of standpoints is folly of a truly frightening order. The inescapable moral of this lunatic story is that nobody knows how to de-commission a nuclear reactor whether of the submarine or power station breed; thus we regard this issue as yet another twist in the waste-dumping saga. How can the Government seriously contemplate permitting the birth of another monster at Sizewell when they obviously cannot safely cope with the remnants of Dreadnought after 20 years' active service? For sheer perversity, the latest 'brainwave' — to preserve the hull as a museum piece for causal visitors to tour! — would be hard to beat. By the same token, they might just as well have considered towing HMS Sheffield back from the South Atlantic to enable the public to search for nuclear depthcharges, or the bodies of the servicemen who laid down their lives so that the Thatcher Government might endure beyond the approaching election.

While acknowledging that we have been preoccupied with matters PWR, we applaud the increasing Peace Camp activities and the resulting publicity; indeed, as we go to press, we read reports of another 'over the fence' demonstration at Faslane.

Clearly, it's going to be quite a year.....

Namedropping.

Regular readers and subscribers to this magazine will have noticed that the name has been changed — from the SCRAM Energy Bulletin, to simply SCRAM. We have not entered into this change without due consideration of the implications and many late nights and cups of coffee!

We feel that the campaign is no longer as narrow as it used to be and SCRAM must expand to service the expanding campaign. It can be argued that the world 'Energy' in our old title could have put off some potential readers, whereas the word 'SCRAM' is better known and is even recognised as meaning 'against all things nuclear'. With 1983 being the 'make or break' year we feel that the information and resources we can offer should not be directed at a 'minority' audience. The magazine will be relaunched under its new title with the hope of gaining wider publicity for the anti-nuclear campaigns.

One dump or two?

The USA, Germany, Japan, France the UK, Holland, Belgium and Switzerland will be among those countries looking most keenly at what happens at the 7th Consultative Meeting of the London Dumping Convention [LDC] in February this year. For if by any stroke of good fortune the proposed amendment to the schedule of the Convention is passed by the required ⅔ majority, the dumping of radioactive waste at sea will be outlawed and the future management of such waste will become a political issue of the highest priority in these countries in the years to come and could seriously inhibit the development of nuclear power programmes, especially in those countries which have a small land mass and an aggressive domestic nuclear power policy.

The history of this campaing to oppose "radwaste" dumping at sea is a particularly short one in terms of European input. In 1978, a supporter of Greenpeace tipped the wink that the m.v. 'Gem' was loading in Sharpness. A camera team from the group's London headquarters was despatched to the small south-west coast port at the mouth of the Severn. The Greenpeace team shot stills and movie film of the loading and were about to pack up their gear when an MoD lorry arrived with two 7 tonne yellow containers. 'Spent fuel rods from nuclear-sub reactors' said Gem skipper McKay, when asked what they contained. 'Ion-exchange resins', countered the UKAEA after a week of 'investigations" into the true content of the drums. 'Like dumping a consignment of luminous-dial wristwatches'. Of course.

During that first year, Greenpeace had time to do little more than cursory research into the issue but it was enough to show that the dumping operation had little to justify it in terms of science, even less in the way of morality. It lives up to neither the letter nor the spirit of the LDC which requires a monitoring and surveillance programme to be carried out and asks contracting members to view sea-dumping as the least desirable option, to be used only after land-storage has been investigated and discounted on environmental and economic grounds. The UK claims that such an investigation has been carried out — not that anyone can see the results of the work. It's commercially confidential. (Don't want any subversives getting their hands on the plans for a warehouse, naturally enough.)

As 1979's dump-time came round, local opposition in the South West had increased. The 'Gem' and the Sharpness Docks were screened by Police. Our Dutch and Belgian colleagues began to focus attention or their countries' radwaste dumping. The first blockades were carried out. Film of the direct action against the Gem was shown by ITN as the UKAEA resorted to the use of firehoses to repel protestors. A 'statement of concern', signed by 53 MP's, scientists and professors from many countries reinforced the growing opposition to the use of the oceans as private rubbish bins by the UK, Holland, Belgium and Switzerland.

1980 was perhaps the year in which the campaign gained its most momentum. Ironically, it was the year when direct confrontation at sea was made impossible by the impounding of the Rainbow Warrior at El Ferrol in Spain for her "illegal" anti-whaling escapades. The attention given to the Rainbow Warrior was used as a platform from which to argue that due to the ship's enforced detention, the UK could pollute Spanish fishing grounds with impunity. 'El Pais' ran long articles on the dumping issue.

In 1981, several reports on the issue were produced. The OECD's NEA produced 'An Investigation into the Continued Suitability of the NE Atlantic Dumpsite'. It was a report so full of holes, it begged a response which was forthcoming from Prof. Jackson Davis of the University of California. The entire philosophy of 'dump, dilute and disperse' based on the MAFF Shepherd model was questioned. The Dutch authorities were weakening. The Dutch office of Greenpeace assumed overall control of the campaign and began to orchestrate the attack on the LDC. Greenpeace applied for observer status at the 1981 Consultative Meeting and were granted it after a day and half's debate at IMCO's London headquarters. A series of resolutions and discussion papers were circulated by the Greenpeace deputation during the 1981 LDC, all of which were by necessity "unofficial" but all of which called for an end to radwaste dumping. Some measure of support, greater than expected, was expressed.

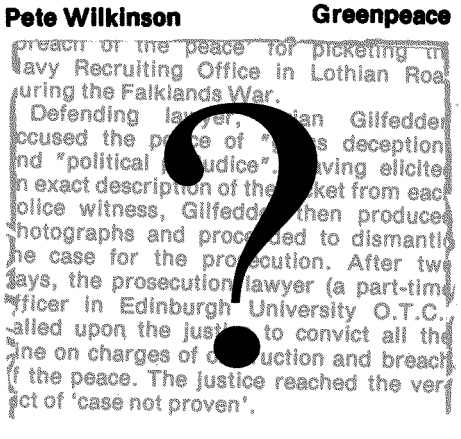
The presence of a representative from the Republic of Kiribati at the 1981 meeting showed delegates that the radwaste dumping issue was not purely of concern to Europeans. Opposition in the Pacific to Japanese plans to dump 100,000 curies of radioactivity a year in the Marianas Trench was reaching new heights. The LDC, for the first time in its short life, had a fight on its hands. A strategy of campaigning, hatched by Greenpeace in Holland some 18 months ago, was bearing fruit.

During 1982, documents criticising the 'de minimus' criteria, investigating circumstantial evidence on deep-sea currents, exposing the inadequacies of monitoring and surveillance programmes and drawing on US empirical evidence which totally undermines the dispersal philosophy upon which the dumping operation is based, coupled with a concerted programme of uncompromising direct action against every single dump-ship, have heightened the profile of the campaign to the point where the LDC will be asked in February 1983 to outlaw sea dumping. The successful passage of the resolution is far from certain. Everything depends on opposing countries being able to withstand pressure from the dumpers. A great deal depends on the ratification of the LDC by a range of nations who are potentially affected by present and future dumping plans.

What happens between February 14th and 19th in London will be of great importance to them and it is not beyond the realms of possibility that these countries with active help from the UK and Holland will attempt to stymie the resolution moved by Kiribati and Naru. They may ask for the radwaste agenda item to be tabled for a discussion later in the year. The possibility of some procedural move to get around the resolution should not be discounted.

On paper, however, there is no doubt that to have managed to bring this issue into the full glare of publicity to the point where it is now subject to a vote by contracting members of the LDC is no mean achievement. The momentum so far created must be continued. All the work which has been done in Spain, Eire, Belgium, Holland, the UK and in the Pacific has its acid test in February. At the 1982 LDC meeting, a decision could be made which would do more to disrupt the long-term development of the nuclear power programme in the time it takes to vote than could be done at umpteen Sizewell B inquiries. To continue the pressure, Greenpeace is organising a peaceful, responsible gathering on the opening day of the LDC. Please come. If the vote goes through, we can all drink to a cleaner, safer future. If it fails, we'll all be there to plan the next steps in the campaign.

Pete Wilkinson **Greenpeace**



news...

Phillipines Energy future

Due to the soaring oil prices following the 1973 Middle East War, the Philipines implemented a comprehensive energy programme with the intention of being as self reliant for energy as possible by 1987.

With government support coal production rose from 39,000 tons in 1973 to 360,000 tons in 1981. It is hoped that by 1987 output will be 4 million tons and coal will provide about 16% of the country's energy needs.

Due to its location in the Pacific volcanic zone the Philipines has large untapped terrestrial heat resources. At present 550 MW of generating capacity is provided by geothermal power plants making the Philipines second in the world in this form of energy production.

The country is also rich in hydroelectric resources and its hydropower generating capacity has risen to 4.2 million kW in 1981 from 2.8 million kW in 1978. By 1987 a further 12.4% increase is envisaged thus providing 20% of the Philippines electricity.

The Philippines has around 2,000 hrs of sunshine per year and with strong winds and the large amount of tropical vegetation. This means that a vast energy potential is waiting to be tapped. In addition large amounts of ethyl alcohol and coconut oil are produced by the country, and it is hoped some can be converted to gasohol.

Unfortunately, the Philippines have joined the nuclear power party; a 620 MW nuclear power station is due to be commissioned in late 1984 if everything goes to schedule!

With these measures and an energy-saving campaign, begun in 1975, it is envisaged that 41% of the country's energy needs will be 'home grown' by 1987.

Beijing Review, 22 Nov. 1982

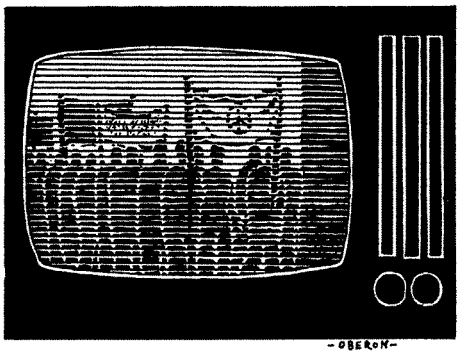
PMS – the video

Last summer the Peace March wound its way from Inverness to Edinburgh, aiming to inform and activate the people of Scotland in the cause of Peace. In order to promote the aim after the march has run its course, Austerity Productions is producing a video on the event.

The video is structured around the march itself. More importantly however, as the march progresses, the participants develop a number of themes which are personal responses to the nuclear issue: apathy, fear, anger and action. Good music, bizarre montages, and the marchers themselves provide the entertainment. We hope that the video will appeal to a varied audience: from hard-core activists to those who are still sitting on the fence.

The first showing of the video will be at the Edinburgh Filmhouse, on the 26th February at 2 p.m. as part of the all-day Edinburgh Filmakers event. The official premiere however, will be at the Pleasance Theatre on Friday, March 4th. The video will be shown at 8, 9 and 10 p.m. In addition, we're gonna throw a party in the Pleasance Bar, with a disco and hopefully a band. Admission is yet to be determined but it won't be much! Hope to see you there.

Jess Christman



In other words, if the Seal Sands works had been there in the first place, the CEGB would have been forbidden to build the power station in its present form.

The chemical explosion at Flixborough damaged 768 houses in Scunthorpe, nearly three miles away. What would happen to Hartlepool nuclear power station were something similar to occur at Seal Sands? When we tried to find out, this is what we discovered.

* There is no detailed technical information available on the safety of the Advanced Gas Reactor.
* People in the nuclear industry who have such knowledge are bound by the Official Secrets Act to keep it to themselves.
* They meet questions about safety with an air of paternalistic arrogance. They are thankful for the concern shown, but tell us not to worry as all possibilities have been adequately accounted for.

We suspect that the power station no longer complies with the terms of the Site Licence that the NII granted. So we had a lawyer write to the NII to find out what those terms were, and to remind them that they still had the power to impose further conditions if necessary. Their reply was evasive. So we wrote again, insisting that they revoke the Site Licence unless the CEGB complies totally with its conditions and recommendations.

We are now preparing to take the NII to court, to force them to perform their statutory duty. We think it will cost about £10,000 to do so. We would be grateful for any help, however small, towards defraying the cost.

Contact MOPSS care of Kevin Daws, 10 Scanbeck Drive, Marske-by-the-sea, Cleveland. (Phone 0642-277697).

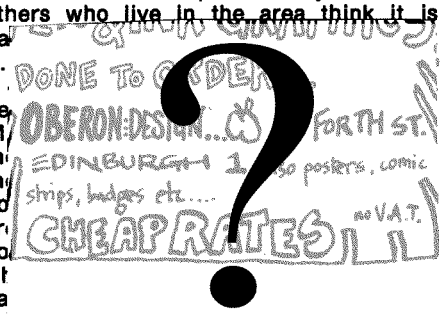
PS

Since the above was written, a number of FOE groups, the ANC, and PERG have got together to prepare a case. They are aiming to get an injunction to prevent the power station from working until blast shields are installed.

Hartlepool.. new hazards fear.

The CEGB are building a similar nuclear power station to Torness near Hartlepool.

Kevin Daws explains why he and others who live in the area think it is da
it.



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to

group to Make Our Power Station Safe. The official body which ought to be doing our job is the NII — the Nuclear Installations Inspectorate. We gather from one of the CEGB's confidential Development Reviews that the NII share our concern:

"The NII has expressed strong concern about potential hazards from the adjoining petro-chemical industry which has been introduced into the area following the initial granting of a nuclear site licence for the A station. It is unlikely that a second station would be licenced without additional protection against gas cloud explosion and any such work could lead to pressure for retrofitting of equivalent protection for Hartlepool A."

Things they don't tell you..

The CEGB and SSEB have been sending 270 tonnes of uranium to the USSR for enrichment since 1975. It provides 7% of the Board's contracted supply.

news

Adios Iguapé.

Sr. Carlos Atila, a senior Brazilian spokesman, has confirmed that Brazil is suspending work indefinitely on two nuclear power stations, Iguapé 1 and 2. These stations, which were to be sited in the state of Sao Paulo, were part of a £5,000 million programme placed with Kraftwerk Union of West Germany. Work by Kraftwerk was to begin later this year after site preparation.

Of the eight Kraftwerk stations, planned in 1975, four options were never taken up. Two, Angra 2 and 3, are located on the coast south ofRio de Janeiro, with work continuing on them. The other two are Iquapé 1 and 2 which were initially options and were later converted to firm orders.

The first nuclear power station in Brazil, Angra 1, a Westinghouse design, is at present producing electricity but not at full capacity.

Brazil is facing a slowing of growth in demand for electricity and current demand is so low that work has been slowed on the Itaipú hydroelectric scheme. (See report this issue.) Sr. Carlos Atila is reported as attributing the decision to halt work to Brazil's present poor economic situation, with foreign debts amounting to $89,000 million.

F.T. 11th January 1983

Dutch to ditch it.?

A recent leak of 30 cubic metres of radioactive cooling water from a nuclear reactor at Borssele in South West Holland could help put the lid on the coffin of Dutch atomic energy generation. A report, on the future of Dutch nuclear energy, by Brede Maatsch-appelijike Discussie, and sponsored by the Dutch government, is at present being finalised and is due out before January.

It is believed that the majority of the Dutch electorate are against atomic energy; as they are against nuclear weapons, and that only well orchestrated industrial and trade union support could lead to a fresh nuclear programme.

The Netherlands have, at present, two nuclear power reactors, one at Dodewaard, near Arnhem and Borssele. Three more were to be built but a massive public outcry lead the government to abandon plans and to commission a full-scale inquiry. A separate investigation is also underway into the present reactors fate and thus the recent Bossele leak will assist with a positive conclusion to this report.

It is also known that 90% of government funding of Neratoom, beyond 1986 has been suspended. Neratoom is the Dutch national nuclear research and investment consortium.

The Netherlands have also virtually pulled out of development of the Kalkar fast-breeder reactor which they were collaborating on with West Germany and Belgium.

F.T. 5th January 1983

White Paper pasted by TCPA

A penetrating criticism of the Government's White Paper on Radioactive Waste Management has been issued by the Town and Country Planning Association. In a statement sent to the Secretary of State for the Environment, the TCPA says that it "has produced this response to the Government White Paper because it believes that the public should be involved in the formulation of nuclear waste management policies, and that those policies should have full regard to the need to ensure public safety and protect the natura environment, both now and in the long term future. It considers the White Paper to be deficient in both respects."

The statement points out that although the White Paper says "there must be proper scope for public discussion", it does not say how, where or when that public discussion will take place and, in the view of the TCPA, "the Government seems more concerned to stifle than to stimulate public discussion".

The TCPA also points out that there has been no systematic monitoring of the effects of disposing of nuclear waste at sea in spite of a sharp increase in radioactivity levels partly arising from the increased dumping of intermediate as well as low level waste, and they are also severely critical of the Government's intention of "leaving the decision on disposal (of high-level waste) to a future generation". It is not enough for the present generation simply to "formulate the options", as the White Paper recommends. ".... the morally correct course" says the TCPA, "is to avoid creating more waste until we are sure that an option exists which is practical, safe and publicly acceptable. No such option has yet been demonstrated".

Commenting on the White Paper, TCPA Director, David Hall, said "the Government is trying to brush all the difficult technical, political and social issues under the carpet. In particular it is an outrageously immoral cop-out to leave the decision on how to dispose of high-level waste to future generations."

MX Deaths.

The investigation into the death of four people after the November test firing of an MX missile from the testing centre in Tullahoma, Tenn, has discovered that 12 pounds of excess solid fuel lead to a ruptured fuel tank. Although this is only a small proportion of the 60,000 pounds of fuel in the second-stage booster, this excess was enough to rupture the fuel tank and then spill cut onto the floor of the test chamber.

The cheese like compound was ignited by a spark and exploded ten days later when workmen entered the silo to clean it up.

Newsweek, 17 January 1983

Laser separation

In a recent article of Newsweek it was suggested that Laser's could be used in separating isotopes to produce nuclear fuel. At present nuclear fuel is made by enriching uranium through the expensive process of gas diffusion. At the Lawrence Livermore Lab in California a project aimed at perfecting a less-expensive process is being conducted using a copper laser tuned with a Mercurochrome coloured dye that can emit light at precise frequencies.

Newsweek, 10 January 1983

The fall of the House of Westing?

Three months ago Westinghouse put its reactor factory at Blount Island, Florida on the auction block. The factory is 4/5 complete, and the asking price $75 million. Which is a bargain considering that the company has spent $125 million on the physical plant alone. Another sign that Westinghouse is on the rocks unless it pulls out of the Sizewell deal?

New Scientist, 13 January 1983.

POLICE NOT PROVEN

On January 13th and 14th, nine people were tried in Edinburgh on a charge of 'breach of the peace' for picketing the Navy Recruiting Office in Lothian Road during the Falklands War.

Defending lawyer, Brian Gilfedder, accused the police of "gross deception" and "political prejudice". Having elicited an exact description of the picket from each police witness, Gilfedder then produced photographs and proceeded to dismantle the case for the prosecution. After two days, the prosecution lawyer (a part-time officer in Edinburgh University O.T.C.) called upon the justice to convict all the nine on charges of obstruction and breach of the peace. The justice reached the verdict of 'case not proven'.

Why don't you switch off your TV and DO something less boring .....

Because we are all human and therefore don't always think before we act, I feel it is essential to prepare for any planned mass direct action. We take all actions as individuals but the support of a group can be very valuable. We usually do nonviolence training in small groups known as "affinity groups".

One principle behind training is to come and see the "opposition" as people with feelings and fears. Perhaps we can understand motives better if we can understand the people behind them first. The most common techniques for achieving this end are role play and strategy games.

Role play involves "acting out" a specific situation. It is not about acting — nobody is looking for Oscar-worthy performances — but about learning. We can learn how being in a particular situation makes us feel, and test out different strategies which we are planning to use.

Strategy games are usually more about mental preparation. We are divided into small relevant groups and given a situation to act upon. We plan moves, find out what the other groups have done, and plan another move. Real insight can be gained into how situations arise and we can identify possible areas of conflict. Both of these techniques can be used to prepare us for potentially difficult situations.

Examples:

Role Play: A group of demonstrators decide to occupy a building (choose your favourite target!). The group is divided into demonstrators; officials; police; observers. Set a time limit (10 mins?). Give the groups a few minutes to decide tactics, assess the roleplay and redo it if it seems appropriate.

Strategy Game: A local factory has been given a contract to build parts for 'cruise'. Set a time limit (45 mins?) and divide into groups. Possible groups: Anti-nuclear people, factory workers, Ministry of Defence, press, local people, police, councillors. One person or group can act as a messenger between the groups and decide which actions work as planned and which go wrong. Assess each separate group in terms of credibility, effectiveness and strengths. Who had the harder tasks? How could the anti-nuclear group have been more effective?

Trust energising games: Lots of kid games are good — Dragons, leapfrog, human sculptures; 'Manual for Action' has loads of ideas.

Booklist:

Manual for Action: Martin Jelfs.
Resources manual for a living revolution: Coover, Deacon, Esser, Moore. (May be out of print.)

Being in a group of people we know can induce a feeling of security and trust. It is much easier to sit in front of a bulldozer if you trust the person next to you not to move than if they are a totally unknown quantity. Similarly, the group can take care of its members, perhaps helping to diffuse tensions and control tempers. Very often, it is difficult to find one person willing to play a more passive role for the sake of the group. This person is essential — they should keep a list of names and phone numbers in case of arrest and make sure everyone is OK after the action. Trust games are used within groups as a short cut to getting to know the other members. This way, we can learn a lot about one another very quickly.

I feel that the best way to form an affinity group is on a local level. Members of a local anti-nuclear group could get together and work through some training sessions. Somebody with experience of groups could come along to lead the first session, or the group could use one of the training manuals (booklist at end).

One suggestion would be to put an advert in a local shop to find like-minded people. It is always easier to get people interested in a group when there is a specific action to work towards. A notice alongside posters advertising a demo can be a good idea.

A group of trainers has been formed, contact them at: SCRAM: [illegible]

PHOTO: NIC JANUSZEWICZ

Once more unto the breach

nonviolence in action

The only time I've ever felt we could stop the Bomb was at Greenham Common on December 12th and 13th. I think 30,000 women felt the same way that day. For once, we were not powerless objects in the control of the militarist psychology that dominates our society. **WE** were in control, asserting or values of peace and life on earth. We knew from the example of a small bunch of women who had endured for 16 months through rain and snow, through action and imprisonment, that we were not powerless. We knew that we too must take responsibility for our own lives, wrenching them away from the power of the military and giving them positive values for the survival of our planet.

We have not won but we **are** winning. We are winning because we are developing our own strength. We came away feeling that collective stength and resolving to use it again. For this purpose, it is important that we look to the methods of organisation that were employed at Greenham Common and learn from them. The best form of support we can» offer is to emulate these actions and to spread resistance to the nuclear threat throughout Britain.

We worked from the base of "affinity groups". Affinity groups are basically a core of friends who knew and can support each other. For this reason, it is best that these groups come together before actions. This eliminates fear and isolation and decentralises decision making. Because groups came together in this way, it resulted in a more successful and effective demonstration of strength and unity. Each of us belonged to a group which was self-sufficient physically and emotionally.

At each gate or gap, groups blockaded; each group consisted of several sections, all equally essential. There were those who looked after the group with food and drink, those who were prepared to be arrested, those who observed with paper, pen and camera what happened throughout the day and any arrests made, and those who communicated with groups at other gates with CB radios.

So we were not alone. Each had her own part to play. Decisions could be made at each gate — we were in small groups and therefore not intimidated by the size of the meeting. Decisions could then be relayed via CB to other groups. Decision making was decentralised and hierarchies refused to develop. Only a few functions were centralised: one gate had creche, information, press and refreshments tents. .The decisions on action, however, were made by each and every one of us. This made us all more aware of our own power to act that any march along any street could ever do.

We must take our protest back to our localities and other protests must start. The best way is to start a group with friends and to look into every aspect of whatever action you plan to take. Discuss ideas and tactics for action but don't forget to discuss each other's hopes and fears about it, too. Role-play situations — it's a tremendous aid to guaging your own reactions and to gaining and insight into how the "other side" will see it. Play different roles within the group — support, action and observers. Rotate the roles. Make sure everybody feels happy with the role they take. Be practical, look at the site, prepare legal briefings etc. Above all, spend time together getting to know each other.

"We don't have to re-invent the wheel. There's a lot of experience around; read about it, learn it".* The books listed pass on the experiences of preparing for action.

*Keeping the Peace, Ed. Lynne Jones, Women's Press, 1983, £3.60.
Introduction to Non-violent action, DAWN, 30p.
"Hell No, we won't glow", Sheryll Crown, Housemans, 45p.
The Torness Alliance Handbook, SCRAM, 30p.

All these books are available from the Smiling Sun Shop.

STOP Torness!!

On the 11th January 1983, the workers on the early morning shift at Torness nuclear power station found themselves locked ouf of the site. 10 members of SCRAM had chained themselves to the three closed gates, intent on staying there until Donald Miller, Chairman of the South of Scotland Electricity Board, gave them the assurance that no pressurised-water reactors (PWRs) would be built at Torness. In the event, the four people on the main gate were cut free by oxy-acetelene torches after half-an-hour. By this time a mile-long queue of workers traffic had built up in both directions, blocking traffic on the A1.

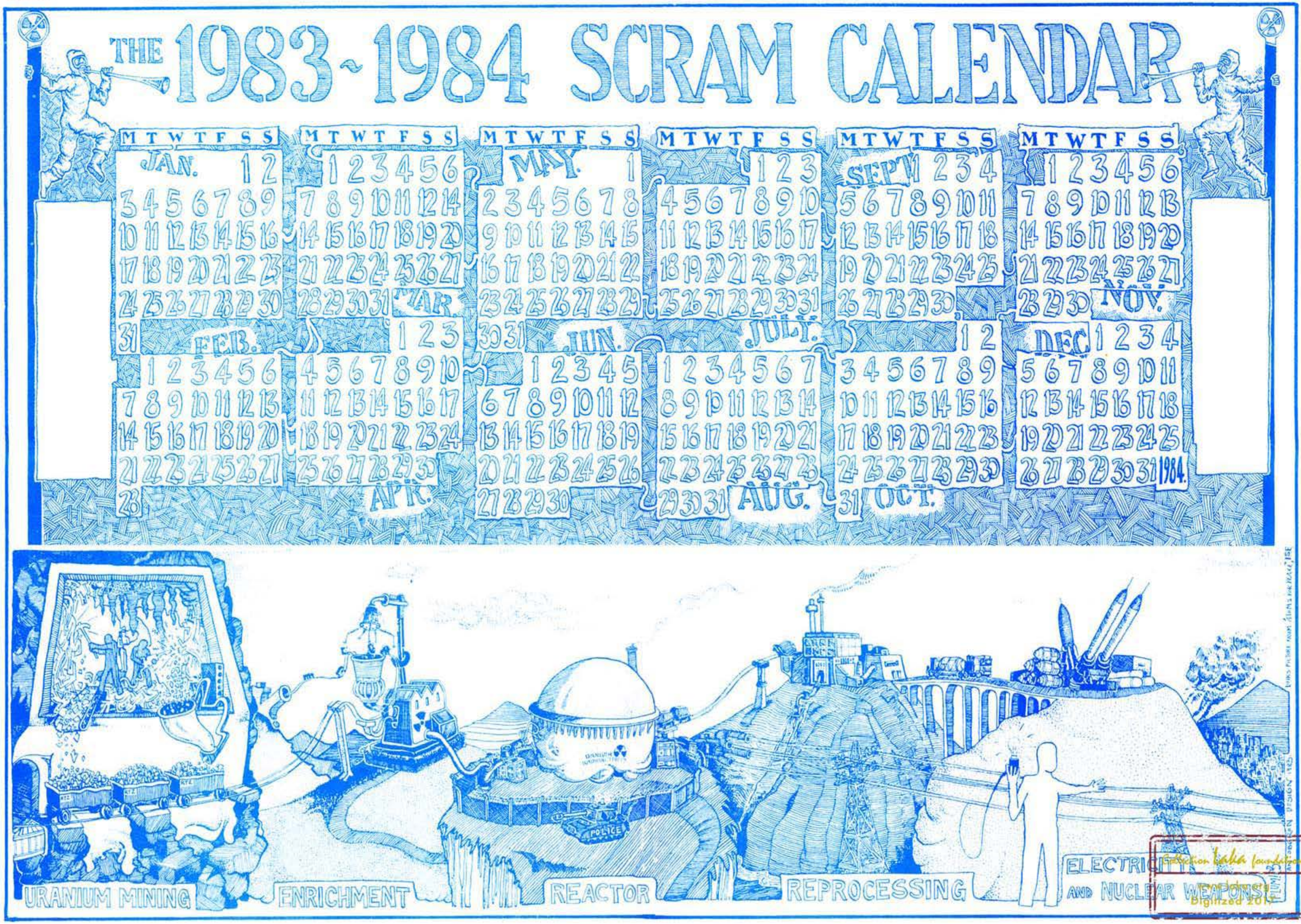
The action was timed to coincide with the opening day of the Public Inquiry into a PWR at Sizewell in Suffolk. In 1979 the Conservative government stated its intention to build a further 10 nuclear reactors of the PWR type. The SSEB has already been granted permission to build three more reactors at Torness, which could conceivably be PWRs, given the government's intention.

We view any nuclear programme as being inherently unsafe, uneconomic and totally unnecessary. On experience of the Torness Inquiry in 1974 and the Windscale Inquiry in 1977 leads us to see similar Inquiries as being a sham. We feel that the outcome of the Sizewell Inquiry is a foregone conclusion. Britain will get a PWR at Sizewell B, unless effective direct action is taken to stop it. Tony Benn, former Secretary of State at the Department of Energy, has said that the nuclear industry is the most powerful lobby he has ever come across. The CEGB will have spent £100m by the end of the Inquiry, or 10% of the final proejcted cost of the first PWR.

Our action at Torness gained a lot of favourable publicity in the Scottish media. It was covered on television, radio and in most daily papers. It was planned for over a month, and we held a training session to prepare ourselves for the day. Altogether 20 people were involved.No one was arrested. Anyone could do it. Let's hope more things happen like it!!

WE WILL NOT BE SILENCED; OUR VOICES WILL GROW AND IN TAKING RESPONSIBILITY FOR OUR OWN LIVES WE WILL OUTLIVE THOSE WHO NOW TAKE RESPONSIBILITY FOR OUR DESTRUCTION.

SCRAM Feb/Mar 83



Don't work for DESTRUCTION.

It has been estimated that there are over 600,000 scientists in the world today working to produce military goods. A vast store of knowledge, skills and experience is being squandered on weapons of destruction. For what purpose? To line the pockets of the rich controllers of industry and state; to protect their interests and property; to maintain the status quo with all the existing patterns of heirarchy and forms of domination; with all its exploitation of humans and nature. This is fundamentally immoral.

Science is being perverted by the demands of the military-industrial complex. The pioneering work of the founder of nuclear physics, Albert Einstein, was diverted into the manufacture of the most terrifying and destructive weapon of all time — the thermo-nuclear bomb.

Today, the descendants of Einstein continue to work under the legacy of the Manhattan Project. Thousands of scientists are employed in the military-industrial complex to research, develop and produce nuclear and other weapons of mass destruction. The institutes of higher education play as important a part as industry in continuing this process. Science students are subject to single-minded indoctrination, which only a few escape. They are turned into fodder for industry. Careers are built up as the threat of an impending nuclear and ecological disaster escalates.

We call all this into question. We know that there are alternatives to working for destruction. Our money could be better spent and our talents put to more needed uses. More jobs and socially useful products could be created by diverting money away from the military.

The initiative in this direction has already been taken. Workers' combines in many sectors of the military industry — such as aerospace and naval engineering — have produced detailed plan to convert their jobs. These initaitves need wider support. In particular they require the involvement of scientists to research, design and lobby for socially useful goods.

The anti-recruitment campaign — currently being advanced by Scottish Student CND and Student Against Nuclear Energy (Scotland) — aims to disrupt the flow of graduates into the military-industrial complex. Without the knowledge and skills of science and engineering graduates in particular, the nuclear menace will wither away. To achieve this we aim to present to students the moral and economic arguments against working for destruction. We hope to persuade them not to work for companies like GEC-Marconi, Ferranti, Vickers, RTZ, nor for state institutions like the Ministry of Defence and British Nuclear Fuels Ltd., who are all intimately connected in weaving our nuclear future.

We spread information about these corporations through talks, workshops, film, video, leaflets and articles in newspapers. We hope that people will act appropriately: either to refuse to work in the nuclear machine and/or disrupt the selection interview process, particularly during the annual recruiting milk-round when the companies visit college campuses. At the same time we aim to demonstrate that alternatives do exist. A good way to do this is to organise an Alternative Careers Day.

So far we have printed a company profile on the General Electric Company who make turbine generators for nuclear reactors both on land and in nuclear powered submarines, as well as being intimately involved in Britain's nuclear weapons programme (cost: 15p + p&p). We have also printed a leaflet for mass distribution on BNFL. We have also produced briefing documents on BNFL, Marconi Space and Defence Systems Ltd., British Aerospace, and how to organise Alternative Careers Days. These are all availale for 10p each. We are building up files on the corporations involved in producing nuclear materials and weapons systems, and we plan to produce further company profiles. Currently we are working on Plessey and Ferranti. In addition, we have a broadsheet/poster called "CLEAN CAREER" (10p), plus a set of anti-recruitment stickers (20p a sheet). All these can be ordered from us at 11 Forth Street, Edinburgh. Tel. 031-557-4284. Please direct all queries to the same address.

Ready for war...

Preparing for war is a priority in today's society. The arms industry is the single largest industry in the UK employing directly and indirectly over one and a half million. War preparedness, today's official defence strategy, is the second largest item of public expenditure; only social security costs more. In the forthcoming financial year this government intends to spend nearly £16,000m on defence, £3,000m more than on education and £1,000m more than health. Defence will account for more than 14% of the public purse compared to 12% three years ago. This trend is likely to continue. Not only is the government committed to an annual 3% real increase for NATO but also to the aftermath of its South Atlantic war. The Falklands garrison alone will cost £400m a year.

Defence research and development will take up £2,000m of next year's budget. Some of this will trickle into higher education and private industry — especially on electronics research — the rest will be consumed by the MoD's own 30 odd establishments. Ranging from the Met Office to the Atomic Weapons Research Establishment at Aldermaston over 35,000 scientists and technologists are engaged in improving the performance of weaponry, designing new warheads and, in general, precipitating the next spiral of the arms race. One such establishment is the Royal Military College near Swindon which is the closest in the UK to a military university. It offers both undergraduate and postgraduate degrees in guided weapons and gun systems. Run jointly by academic and military staff it is an ideal military college: academic sounding departments are headed by professors; military ones by army officers called military directors. At the apex are two posts the Dean an academic and the Commandant a high ranking Army officer.

Military equipment will consume over £7,000m of next year's budget, predominantly supplied by the growing UK arms industry. Companies enjoying MoD patronage of over £100m a year include British Aerospace, British Shipbuilders, Ferranti, General Electric Company, and Plessey. Their success may well depend on their share of the defence budget Marconi-Elliot (part of GEC) is almost entirely dependent. Over 50% of Ferranti Scotland's sales are to the MoD. Others depend more on overseas sales: British Aerospace sells over 50% of its wares abroad. All these companies have one thing in common: increased profits due to increased defence sales.

The physical landmarks of militarism can be seen in and around Edinburgh: Barracks and Training Camps such as Redford Barracks, Milton Bridge Training Camp and the Castle; Dreghorn Rifle Range, Territorial Army buildings dispersed throughout the city, in East Claremont Street, Gilmore Place, Forrest Road and McDonald Street for instance; Naval Establishments such as HMS Claverhouse at Granton Square and the Royal Naval Dockyard at Rosyth; the RA at Turnhouse; Careers Information Offices for the services in Hanover Street, Lothian Road and Rutland Square; Arms manufacturers including Ethicon, ICL, Marconi-Elliot, Hewlett-Packard and not forgetting Ferranti which also houses a main office of the MoD's procurement executive in Ferry Road. Edinburgh colleges are involved in defence research especially at Edinburgh University's Wolfson Institute. Then there are government departments: Scottish Home and Health and Scottish Information in the centre and Agriculture and Fisheries further afield.

Nuclear Japan

In 1982 for the first time nuclear power supplied more electricity in Japan than hydro-power, both in the region of 17%. Now Japan, which already has the second largest nuclear power programme in the world with 24 plants and a generating capacity of 17 GW, is pressing ahead with a rapid expansion of the programme, aiming for 53 GW by 1990 and 90 GW by the year 2000.

The chances of the Japanese nuclear industry achieving such a phenomenal acceleration are extremely remote, but there is no mistaking the determination with which MITI (the Ministry of Industry and Technology) and Japanese multi-nations like Mitsubishi, Toshiba and Hitachi will pursue their nuclear ambitions — both for Japan and for other countries in the region. This resolve can only be strengthened by the coming to power of the new Prime Minister, Yasushiro Nakasone, who as a minister was the most enthusiastic advocate of Japanese nuclear development.

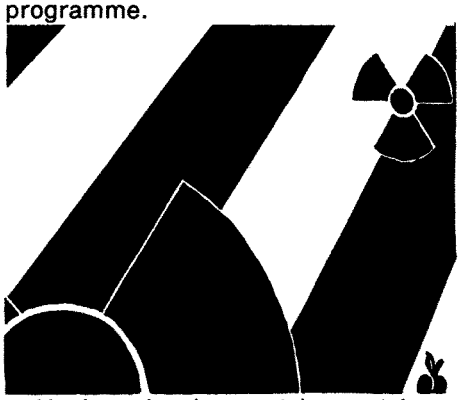
Since Britain supplied Japan with its first nuclear power station, Japan has relied on US technology for the enriched uranium fuel and the reactor core and on contracts with France and Britain for reprocessing spent fuel. Most of its reactors are light water reactors (either PWRs or BWRs — Boiling Water Reactors), with just the one Magnox, a heavy water reactor (though the CANDU design was rejected as not adequately earthquake-proof) and a 100 MW Fast Breeder. A second and larger Fast Breeder was rubber-stamped by a public inquiry last year but before moving onto a fast breeder programme, the intention is to recycle plutonium in light-water reactors.

Heavily dependent on oil in 1973, Japan is relying alomost exclusively on nuclear power to offset this dependence on imported energy, though in view of its meagre uranium resources, this involves mining in Australia where some Japanese companies are prospecting. Japan's resources of geothermal energy are largely neglected and, although solar water heating for houses is common and hydro-power is a major source of electricity, the renewable resources of energy are very much a poor relation despite numerous promising technical developments.

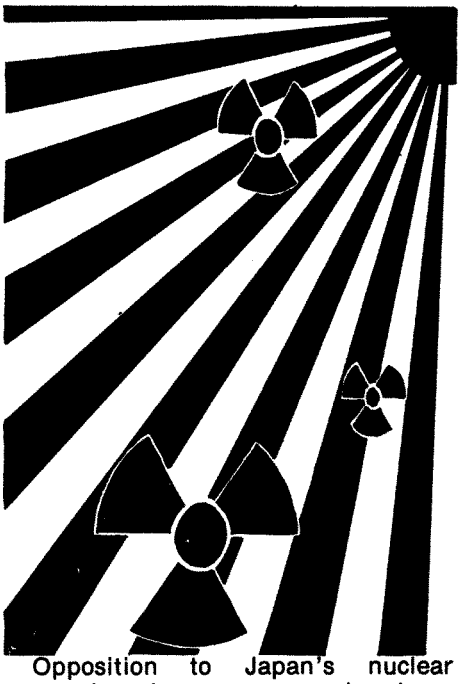
In the future, not only is Japan bidding for greater nuclear independence but it sees a role for itself in ushering its neighbours down the electro-nuclear path. Its vision of a "Pacific Basin Atomic Energy Community" sees Japan exporting nuclear power plants by 1985 and developing its own fuel services, proceeding from its existing experimental uranium enrichment and fuel reprocessing plants to full-scale fuel centres — "nuclear exports complete with toilet service".

Nuclear electricity is a singularly inappropriate form of energy for predominantly peasant countries but, allied to the creation of industrial zones where Japanese-based multinations can exploit cheap labour, it has an important strategic role in consolidating Japan's economic domination of the Pacific.

Japan's "civil" nuclear programme has, of course, effectively established a nuclear weapons option for Japan. Already its troops are trained to handle nuclear materials, some of its weapons are "dual-capable" and its advanced space programme could produce suitable "delivery systems". A report on the technical capability to make nuclear weapons was made public in 1981. Written around 1968 and possibly commissioned by Nakasone shortly before he became Minister of Defence, this found that plutonium from the British-supplied Tokai Mura Magnox reactor would be suitable in quality and sufficient in quantity for a Japanese nuclear weapons programme.

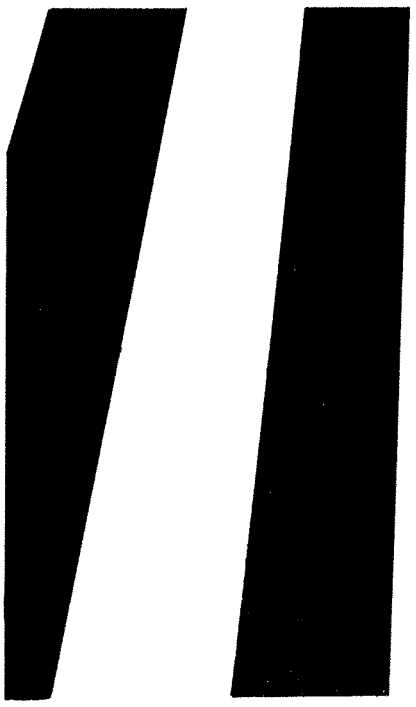


Nuclear development has not been without resistance, mishaps and problems — including widely publicised radiation leaks. Although the Japanese "nuclear allergy" is greatly exaggerated by most Western observers, citizens' groups have succeeded in delaying some proposed developments. Public inquiries — which are even more blatant charades than here — have been boycotted and disrupted, and attempts have been made to block the transport of spent fuel — most recently from Hamaoka at on November 26 when 2,000 people sat down to block its departure for reprocessing at La Hague. Japan's only nuclear-powered ship, the Mutsu was harried by demonstrating fishing boats even before leaks were discovered during its first test on the high seas back in 1974. Since then the Government has sought in vain to find a city willing to give the ship a home, a task made more difficult in 1980 when repair work began and further defects were discovered.



Opposition to Japan's nuclear waste dumping programme has been international. Contrary to the famous Daily Mirror headline, the Pacific — not Britain — is to become Japan's nuclear dustbin. At the moment Japan proposes to dump half of its accumulated low-level nuclear waste — that is half a total of 410,000 55-gallon steel drums — in the Pacific. If the monitoring of this yields satisfactory results, then perhaps it will move on to dumping high-level nuclear waste at sea — including the waste returned from reprocessing at Windscale. Japan is also considering depositing this "death ash" in the areas of the Marshall Islands already contaminated by nuclear bomb tests. The Pacific islands most likely to be affected are firm in their opposition to such schemes. This has become one of the main focuses of the nuclear-free Pacific movement as a whole, successfully stalling Japanese dumping plans so far.

Howard Clark



appropriate technology...

Hydro Brasilia.

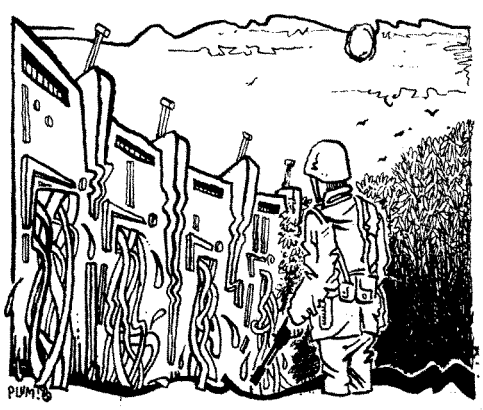
The world's largest hydro-electric power station will begin generating in March when the first of the 18 700MW turbines is commissioned. The dam is situated on the Parana River - the Brazil/Paraguay border and represents a major technical achievement by the two countries. The name of the complex is Itaipu; a Guarani Indian word meaning "rocks that sing", very appropriate judging by the row the project has caused.

The statistics of the scheme are indeed impressive: the dam is 7km long and 190m high, 11 million cubic metres of concrete were used, the lake is 200km long, the planned output is 12,600MW and the whole scheme will cost $14 billion.

During construction some 20,000 animals and 40,000 people were displaced. A massive 'ark' operation was initiated to resettle representatives of the 70 animal and 252 bird species of the area and 3 million spiders will be captured for a Sao Paulo laboratory. The people are not receiving the same luxury treatment! 500 people were evicted from their homes in Paraguay because the land was required for "military security" around the dam. The Paraguay military bought the land cheap and sold it to Brazilians for 5 times the price, as a result the Brazilians own 30% of Paraguay's farmland. 27 families of the Ava-Guarani Indians have now received the right to be called Indians and 50 acres of land (compared with the 3,700 acres they used to own); but only after a long court battle.

Guaira falls, the world's largest waterfall (by volume) has been covered by the lake and this, together with an enormous loss of forest cover, has prompted environmentalists to claim that the lake will rapidly silt-up due to erosion of the banks of the upper Parana. They are also worried about the possibility of earthquakes due to weight of water on the underlying basalt rock.

The political consequences of the scheme are considerable. Being downstream of the dam, Argentina is uneasy about the construction. Brazil and Argentina have never been the friendliest of neighbours and newspaper reports that the opening of the gates would flood north-east Argentina spurred Argentina to withdraw her ambassador.



Another dam, at Corpus in Argentina, could have significantly reduced Itaipu's output (a higher tail-water level decreases the head through which the water falls). Agreement was eventually reached!

'Alternative energy' or not, similar objections have been raised about Itaipu as about Torness and Sizewell:

1) Need - a forecast of 11-12% annual increase in energy consumption in Brazil for the 1980's has become an actual increase of 3.5% p.a.
2) Overcapacity - when the dam is fully commissioned, Brazil will have 20-30% more electrical power than they can use. Paraguay's needs could be served by one 70MW turbine.
3) Centralisation - several small dams would have less environmental impact and create less technological hassles that Itaipu. Brazil and Paraguay each operate their grids on different frequencies.

A combination of these factors forced Brazil's Minister of Mines and Energy to announce "Plan 2000": a number of hydro schemes and 8 nuclear power stations are to be delayed and the rate of commissioning of Itaipu's generators will be reduced from 4 to 3 per year. Brazil's so-called "militant posture" has been explained by opposition politicians as merely an excuse for Brazil to exert control in a strategic border area. With the promise of 'democracy' returning to Argentina in the future, it is certain that Itaipu will carry on 'singing' for some time yet!

What a bore!

A heat pump taking energy from a bore hole at the headquarters of Sinclair Research in Cambridge is thought to be the first of its type in the U.K.

The system uses the bore hole water as a heat source for a heat machine to heat nine zones of the building.

Incorporated into the system is a 35m3 thermal storage vessel which enables the heat machine to generate heat at a constant temperature level running on off-peak electricity through the night.

Early investigation into an existing on-site bore hole revealed, that although the water temperature, 12°C, was consistant all year round the flow from the 100mm diameter well was insufficient. Another bore hole was sunk and is used as the main heat source with the original bore hole as recharge.

In extreme weather conditions the ground water will give a more constant higher source temperature than the surrounding air and the heat machine will be working at full output to raise the temperature of the thermal storage vessel. Once this temperature reaches 60°C the heat machine shuts off.

Energy Manager.

CEGB Windmill plugged in.

Britain's first wind turbine to generate electricity for the national grid has come on line in South Wales. The 200KW turbine built for the CEGB is 80ft high, and cost £650,000 to build. It will generate about 380,000KW yearly — enough to power a small village — and is the forerunner of a larger 4MW wind turbine the CEGB plans to order next year. If this lives up to expectations, the CEGB will consider building a cluster of 10 turbines of similar size to come on stream by 1990. Meanwhile the North of Scotland Hydro Board are building a 300KW turbine, due to start up in June. It will be the first all-British wind turbine supplying power to a grid.

FT. 17 Nov. 1982.

Engineering Disarmament.

The latest professional group to organise in opposition to the arms race is the Civil Engineers for Nuclear Disarmament met for the first time in Edinburgh in November.

CEND was formed in response to a letter in the 'New Civil Engineer' when 75 engineers from all over Britain, initially expressed a wish to organise such a group.

The declared objectives are:

(1) To campaign for the prevention of nuclear war by the dismantling of all nuclear weapons, in recognition of the high probability that survivors of the profession would be incapable of recreating an acceptable technical environment and civil infrastructure following a full scale nuclear war.

(2) To promote the Charter of the Institution of Civil Engineers, in recognition of the fact that most of humanity lacks many of the basic amenities which civil engineers provide by vocation and that the resources for these amenities could be made available by the diversion of a very small proportion of global arms race spending.

(3) To collate and propogate on request specialist information and reports of a technical nature commenting on:

(i) The effectiveness or futility of the various types of nuclear shelter for the resistance of blast and radioactive fallout.

(ii) The probable effects of a nuclear exchange on the environment, the civil infrastructure and the nature of future civilisation.

Membership to the group is open to all people working in the civil engineering field. Applications for membership should be sought from.. Mark Hutcheson, 8 Leslie Pl., Edinburgh. 031 343 1830. or.. Dave Phillips, 228 Wilton St., Glasgow. 041 946 6192.

Sunny side up.

A major new book 'Solar Prospects' should brighten up the beginning of a new year. Coming as it does at the start of the Sizewell Inquiry, it is a timely reminder that there is a safer saner future available. The debate about nuclear power is a costly diversion. In this article Duncan Laxen takes a look at the solar prospects.

Mike Flood has always been enthusiastic about renewable energy and this enthusiasm has been effectively transfered to 'Solar Prospects'. He spent the last two years as Energy Consultant with Friends of the Earth working on the book. The result is a comprehensive testament to the potential role for renewable energy in Britain and elsewhere in the world.

The first part of 'Solar Prospects' is a look at how energy is used and supplied in Britain today. It is emphasised that two thirds of delivered energy is used to supply heat and a quarter is needed as liquid fuels for transport, whilst only 9% is required specifically as electricity. These requirements for different 'qualities' of energy must be borne in mind when considering the different renewable energy sources.

It is also emphasised that conservation - including Combined Heat and Power schemes - must come before renewable energy. In the words of Mike Flood "To plan for more energy supply capacity before improving the fuel efficiency of the existing system is to squander scarce national resources".

This same message is carried across into the section on solar energy. "The first priority in **any** building, before money is invested in modifying its heating system, is a heat-tight structure."

Having dispensed this sensible advice the book is free to concentrate on the many developments in the renewable energy field. These range from the exciting, such as the Saskatchewan Conservation House, to the more mundane, such as sewage digesters producing methane gas. They also range from the high technology answers, such as solar furnaces using mirrors to focus the sun on boilers to produce temperatures in excess of 3000°C, all the way to the humble solar panel.

The simpler less glamourous technologies are often found to provide the best answers. For instance, passive solar design could make a significant contribution to the heat requirements of a home. As the book reminds us "The rudiments of passive solar design were developed by the Ancient Greeks and Romans". "It is now being rediscovered by architects and refined to suit the requirements of twentieth century living."

The Saskatchewan Conservation House in Canada, completed in 1977, derives 84% of its space heat from passive solar and free heat gains (heat given out by people, cookers etc.). The rest of the space heat and hot water comes from 18 square metres of efficient vacuum tube solar collectors which charge a water heat store.

"Pig slurry, rotting vegetables, municipal refuse, and a host of other unsavoury organic wastes and residues — collectively known as 'biomass' —" represent another important energy source. Biomass can be used to produce both heat and liquid fuels, which together account for over 90% of our energy requirements. Development is not without its problems, for instance, the competition between land used to raise energy crops and that required for food crops. (After Christmas merriment, I wonder where vast acres of vinyards fit in to the equation!). On the other hand the use of wastes can reduce disposal problems. There are already 360 refuse-fired energy systems in operation, but only a few exist in Britain.

THE SASKATCHEWAN CONSERVATION HOUSE.

- The original flat plate solar collector was patented in 1891.
- Today there are over 4 million solar water heaters in use - but only about 20,000 in the UK.
- Doubling the wind speed increases the power available from the wind by eightfold.
- In Denmark the government offers 30% subsidies to anyone wishing to install a small wind turbine.
- Biomass, notably wood and animal dung, is the major source of fuel in most Third World countries.
- By the 19th century there were over 20,000 water wheels in operation in England alone.
- Hydro-electricity in 1979/80 was less than half the cost of electricity from coal-fired plant.
- The most practical way to harness wave energy is to convert it into electrical energy.
- Flywheels could be used in the same way as batteries, for storing surplus output from small generators or hydro-plant.
- Over the period 1975-1981 government expenditure on renewables was £30-35 million (1980 prices), whilst over the same period some £475 million was spent on fast breeder reactor technology.
- Soft energy paths are routes to renewable energy futures. A key feature of the soft path is the diversity of technologies and the distribution of technical risk.

Our future electricity needs can be supplied by wind, waves and the tides. Wind systems are particularly attractive in this country. The large Severn Barrage tidal scheme, on the other hand, is not favoured by Mike Flood, as expenditure on the scale required "is likely to preclude a wide range of other more deserving energy investments". However, "Investment in one or a number of small tidal projects has considerable merit".

The storage of heat and electricity is important for both renewable sources of energy and conventional fuel systems. Fortunately a wide range of techniques exist, ranging from rock stores for low temperature heat storage, to small 'super flywheels' which store mechanical or electrical energy. Methods for short term storage are well understood and widely used. Active research and development is in progress to establish systems suitable for long term storage.

That 'the energy is there' and 'the techniques exist to use it are readily available' are amply demonstrated in this detailed survey. How to ensure the renewables are developed, especially in this country, obsessed as it is with nuclear electricity as our 'saviour', is not quite as evident. The third section of the book is devoted to this problem.

Mike Flood sees the setting up of 3 new institutions — an 'Energy Conservation Agency', a 'National Heat Board' and a 'Renewable Energy Authority' — as going some way to redressing the balance. In addition to national institutions, a diverse range of regional and local bodies will play an important role. Finally, he concludes "Financial incentives could play a decisive role in making renewable energy systems commercially competitive."

Mike Flood finishes by noting that "Despite the major contribution which renewable energy sources can make in the UK they have never received priority in official energy policy." "Likewise energy conservation receives little more than lip service." His excellent book, lavishly illustrated and clearly argued, should however help stimulate the political climate for a more serious approach to the renewables. It is a must for the bookshelves (or coffee table!) for anyone seriously interested in a future without the need for nuclear power. The solar prospects are good.

Solar Prospects - The Potential for Renewable Energy, by M. Flood, Wildwood House, in association with Friends of the Earth, 1983. £6.95.

also just published,

ENERGY EFFICIENT FUTURES: Opening the Solar Option.

By David Olivier, Hugh Miall, Francis Nectoux and Mark Opperman, Foreword by Sir Kelvin Spencer.

This report presents a detailed study of how the UK could begin to move towards a renewable energy system stretching fossil fuels and phasing out nuclear power.

Four scenarios are developed for the period 1976-2025, and the report shows that there are no major technical or economic barriers to an energy efficient future, and explores some of the ways in which it could be brought about.

Available in January from **Earth Resources Research**, 258 Pentonville Road., London N1.

reviews...

ROYAL SWEDISH ACADEMY OF SCIENCES/PERGAMON PRESS VOLUME XI NUMBER 2-3 1982

AMBIO

A JOURNAL OF THE HUMAN ENVIRONMENT

Ambio is a bimonthly scientific journal on the environment published by the Swedish Academy of Sciences. Vol XI, Nos 2-3 is a special double issue on the medical and environmental effects of nuclear war. It was undertaken two years ago because "the impact of a nuclear war would be far more devastating to the biosphere than any other threat that is likely to appear in our time" and in the belief that "a realistic assessment of the possible human and ecological consequences of a nuclear war may help to deter such a catastrophe". It contains a series of articles by eminent scientists in different academic fields.

Peace campaigners often illustrate the nature of nuclear war by visualising the effects of war using all the nuclear weapons in the arsenals of the superpowers. Civil defence planners may favour a "limited" exchange of nuclear weapons confined to a preselected "theatre".

Ambio choose to demonstrate that even the consequences of a nuclear war which falls far short of all-out nuclear exchange would be unthinkable. So they envisage a war breaking out in August 1985 which involves somewhat less than half the nuclear capability of either side.

The authors of Ambio do not consider that it would be possible to "limit" a nuclear war, but the consequences of a "limited" nuclear war in East and West Germany are outlined in the final article to demonstrate that even these consequences would be unacceptable.

The articles are written from the scientific point of view, but even as a non-scientist, I understood enough to be left with an overwhelming impression of the bleakness of nuclear aftermath — a few survivors hopelessly struggling with fatal disease and famine in a poisoned and lifeless environment from which the last flicker of civilisation had been extinguished for ever. Above all, it is the impression of the intolerable and protracted human suffering that is most difficult to bear.

I hope that this edition of Ambio will be read by those who work on nuclear weapons and who make the decisions to deploy them. Scientists and doctors have done much recently to give credibility to the peace movement. But many people still argue that the only way to deter the ultimate catastrophe is to build and deploy more and more deadly weapons of mass destruction.

We live in an age of "experts". They are the ones who are listened to. Perhaps it is now the turn of the "experts" in history, psychology and the social sciences to lend their voice to give credence to arguments for nuclear disarmament and alternative defence, and of "experts" in ethics and theology to point out the immorality of the nuclear arms race.

You cannot preach a nuclear "crusade" against atheism and totalitarianism. If you do, you have exchanged the Christian God of Love and Compassion for the blind God of Fear, and embraced the dubious ethic — favoured by totalitarianism — that somehow "the ends can justify the means". Surely **No** end could justify such means — is the message behind publications like this edition of Ambio.

Olwen Renshaw

Nuclear War: The Aftermath

"THE NUCLEAR FIX". A Guide to Nuclear Activities in the Third World, by Thijis de la Court, Deborah Pick & Daniel-Nordquist, published by WISE [World Information Service on Energy] 1982. Price £4.50.

"WORLD ENERGY SURVEY" by Ruth Leger Sivard, second edition published under the auspices of The Rockerfeller Foundation 1981. Price £2.95.

"ENERGY AND DEVELOPMENT IN THE THIRD WORLD", a Socialist Appraisal, by Jane Buchanan et al, Energy group of SERA [Socialist Environment & Resources Association]; printed by Community Press, London. Price 50p.

"Now when we go **back** to using nuclear power, we are creating something that nature tried to destroy to make life possible", Rickover 1982.

It took millions of years for the earth to develop an environment with a balance of energy in which it was possible for organisms to live. The existence of human beings is very recent and their 'success' has led them to change many things which affect the delicate balance of balances in the evolving world.

"The nuclear system hinges on collaboration, unconscious perhaps, of the governing elite". Despite 'independence' in some third world countries the ruling classes continue to maintain the old system of economic dependence, aided by the prosperous nations. For example the funding by the US Import-Export bank of nuclear production in developing countries which substitutes flagging domestic demand and perpetuates 'foreign debt'.

"The Nuclear Fix" shows how nuclear activities abuse the Third World at every turn, and how ineffectual and biased toward the super powers the many treaties concocted to control the nuclear game are. The aim of the book is to act as a catalyst, to move people to find out more about this third world FIX which keeps the nuclear industry alive. In buying this excellent book you will also be supporting/saving an information service that provides essential fuel and international communication for the anti-nuclear movement.

A well presented compilation of statistics can be found in the 'World Energy Survey' by R. Sivard. It tackles the important task of increasing public awareness, through the individual's understanding of the basic problems and options of world energy.

Another highly relevant book is that of 'Energy and Development in the Third World' by J. Buchana et al. This is a devastatingly clear analysis of how corrupt and damaging the development of energy sources for Western Technology continues to be in the Third World, and how inappropriate this 'progress' is to the basic needs of every individual.

All three of these books are available from SMILING SUN BOOKSHOP

Jean Welstead

Keeping the Peace. Ed. Lynne Jones. Women's Press 1983.

This is one of the most important books for the peace movement yet. Over the past few years we have seen a growing number of women becoming active in the peace movement. Women's strength is providing a direction and resolution for the peace movement. Yet, there are many barriers to women's involvement in politics, so why are women getting involved in the peace movement today?

This book shows that there is no single reason. We got involved, because, like everybody else, it threatens our lives. But we are involved because as feminists we see nuclear war as the logical pinnacle of a male society with its roots in violence. Others feel compelled to act because of their traditional roles as mothers and their fears for their children. Others organise autonomously for fairly pragmatic reasons; having seen their own sex's lack of involvement, they have sought ways to involve them.

The one thing that we all have in common is that we are all taking action. We are putting aside our traditional role as observers in the political spectrum, in the realisation that this issue is too important for us to stand back. Many of us find it easier and more supportive to do so in the company of women who share our fears, apprehensions and hopes.

This book covers the different aspects of women's involvement in the peace movement. Each chapter is written by different women's peace groups, with differing perspectives, actions and reasons for organising as women. They come from Japan, America, Germany and the Netherlands and from all over Britain. Each tells the story of their actions step by step — we learn the rudiments of actions, from lobbying Parliament to blockading military bases. They also share how women work together, take decisions and are strengthened and changed through their involvement.

It has always been one of our strengths to work without hierarchies and so to share our experiences and knowledge with one another. This book does this well — it is a practical guide to action for women. It will explain our reasons to those who do not understand why women organise autonomously. To those who already understand and who do so, it will re-affirm our beliefs, and show us how to go further. Above all, this book shows that women cannot be categorised; our strength is our diversity. We will learn from each other and go forward in action. Whether you want to act or to find out why others do so.

groups...

SCRAM Marching for PEACE — 1983

Since being founded in 1975 at Torness, SCRAM has campaigned actively as a direct action orientated group against many aspects of the nuclear fuel chain; Mullwharchar, Torness, Plutonium Nitrate transport from Dounreay and more recently the proposed PWR at Sizewell. SCRAM have also been promoting alternative sources of energy and energy conservation.

At present SCRAM is working more with the Nuclear-Free Zones campaign and with the peace movement in general. Since SCRAM moved into larger offices, it has continued to acquire more contacts and is now rapidly becoming a resource centre for anti-nuclear and peace groups in Edinburgh & Scotland. SCRAM's library is growing all the time and we receive many enquiries about information from all sorts of people.

Indeed, SCRAM has come a long way as far as information and resources are concerned but there have not been any real positive actions to actually stop anything since the Torness pylons enquiry in April of last year. Many 'affinity' groups use SCRAM's resources to help with their own actions and SCRAM should be doing it's utmost to help groups like YCND and other peace groups.

A group of SCRAM workers carried out an action on January 11th at Torness to draw attention to the Sizewell inquiry (see news page). The action is only the first of what is hoped to be a long chain of events in a similar method to stop Torness. We received very good media coverage: 4 dailies, 4 radio channels and 2 TV channels. Many phone calls of support and offers of help followed the action.

Subscriptions and this bulletin will not stop the nuclear machine! SCRAM needs people, ideas and enthusiasm if it's going to get anywhere.

So what do we do now? It's your campaign, you should be suggesting ideas to us and helping. With more people committed to the anti-nuclear movement the results would be fairly obvious. More people must be made aware of nuclear power, it s links with nuclear weapons and the threat which constantly hangs over us all.

Both the office and the shop always need volunteers to become actively or not actively involved as the case may be.

People could organise pickets, sit-ins, public meetings, workshops, leafleting, the list is endless. it's just up to you.

Last summer the Scottish Peace March wound its way from Inverness to Edinburgh, aiming to inform and activate the people of Scotland in the cause of peace. The success of the march may be attributed, not only to the publicity it received as it ran its course but also to a number of peace initiatives which resulted from it and are with us today.

A total of four peace groups started up as a result of the march. Three of these are siutated in towns where the marchers stopped for the evening. The news that hungry peace marchers would be coming to stay the night stirred previously inactive people to action.

Take the members of Arbroath CND for example. A few months prior to the start of the march three Arbroath residents drove to Dundee to hear Maggie Sale, the Convenor of the march, ask for help in organising the march. According to Christina Le May, "Maggie was so charismatic. She made you want to go out and do something. So we went home, organised a meeting to which 60 people attended and began preparing for the arrival of the Peace March."

The reception that Arbroath CND gave the peace march began the night before the march arrived in Arbroath. While the marchers were tucked away in their sleepingbags a few members of Arbroath CND stole holy socks and dirty knickers. The next evening the marchers were overcome with laughter when the culprits handed back the darned socks and freshly pressed knickers. The rest of the evening was spent in good hands, with excellent food, a lovely outdoor concert and a torch-lit procession through the town to commemorate Nagasaki Day.

At the end of the march Maggie spoke of her hope that the Peace March, by providing people with a chance to do something for peace, would encourage them to feel their own power and go out and do something more. Groups like Arbroath CND and the Moray Peace Group have brought a smile to Maggie. The members of Arbroath CND watch peace videos, discuss issues and plan future actions at their weekly meetings. Recently 14 Arbroath women hopped on to a mini-bus to travel to the "embrace the base" protest at Greenham Common.

The Moray Peace Group is playing an important supporting role to the fledgling Lossiemouth Peace Camp (home of a squadron of nuclear capable Buccaneer aircraft and a store of nuclear weapons). Peter McDonald, the head steward on the march, set up the camp. He and others on the march, while not denying the role of more traditional means of campaigning, feel that the time for action has come.

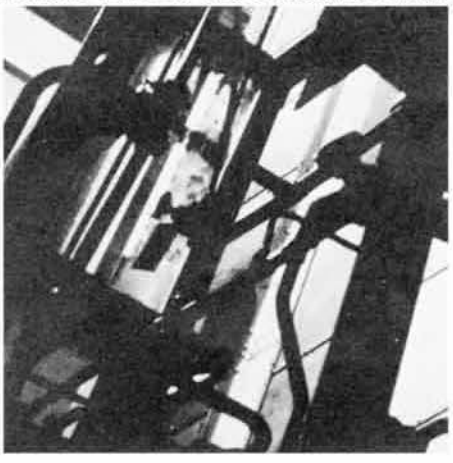
In this sense, many on the march felt as if it ended in a vacuum, if not in a downpour. As the march approached Edinburgh, its numbers swelled to 3,000 as the grey clouds overhead swelled with rain. No sooner had the marchers arrived in the meadows for the final rally than the clouds unzipped and released their not-so-silver linings. Another rally passed with the usual speech making and band playing. The sodden marchers trod away from the anti-climax feeling as if something more than good weather was missing.

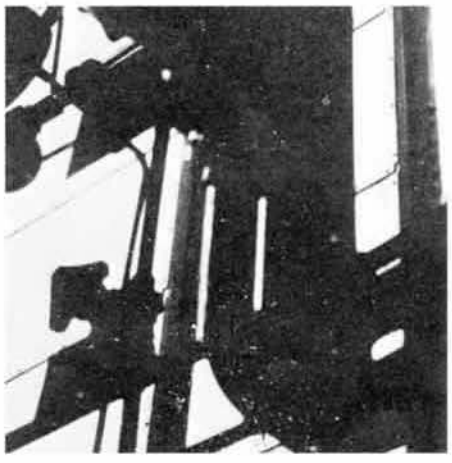
This summer another march is planned which may provide the action which was missing on last year's march. After taking part in the Scottish Peace March the chanting, drumming Buddhist monks from Milton Keynes asked British CND to organise a march from Faslane to Greenham Common. British CND agreed, and the march is planned to arrive at Greenham Common on AUGUST 6th. Although the starting date from Faslane has yet to be finalised, it is likely to be late in May.

Both the starting and ending points of this march are two focal points for the growing campaign of direct action. By its very nature Peace March 1983 has the potential to link marching and action between now, and the beginning of the march there is plenty of time to ensure that it is packed with sponsored marchers and that the actions are well attended and organised. It's up to us to prepare now for what may be one of the major initiatives of the summer.

For more information contact: Duncan Rees at British CND, 11 Goodwin St., London N4. Tel. 01-263-0977.

A NUCLEAR POWER STATION — FROM THE COVER OF 'ATOM'





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DIARY

February

8th	Public Meeting on Namibian uranium, Netherbow 7.30 p.m.
9th	Pacific Islands speaker on Nuclear Pollution, Edinburgh.
13th	SANE National conference, London.
14/19th	Greenham Common women's trial at Newbury, Picket. + London Dumping Convention.
16th	SSCND Arms link-up demo, Glasgow.
26/27th	Sizewell groups meeting, London.

March

?	Possible Faslane action.
4th	PMS Video + Bands, Pleasance, Edinburgh.
6th	Womens' Day of Action - Faslane.
23-25th	READING, UK. Fifth BWEA Wind Energy Conference. Contact: Dr. Peter Musgrove, Engineering Dept., Reading University, Reading. RG6 2AY
29-30th	NEWCASTLE UPON TYNE, UK. Rural Power Sources. Contact: The Administrator, UK-ISES, 19 Albemarle St., London. W1X 3HA.

April

3rd	Easter events!

May

7th	YCND Festival, London

Contact SCRAM for further details of these events.

classified ....

Lancaster University Appropriate Technology Week
Monday, February 28 - Sunday, March 6th. Bookstalls, Exhibitions, Films, Debates, Disco. etc.

CROFTING HOLIDAYS
Vegetarians catered for; simple homely accommodation; wide variety of friendly animals; grand walking country; pets welcome; also has camping space.
SAE for details: Cynthia McArthur, Drumnagowan, Glen Fincastle, Pitlochry, Perthshire. Tel. Pitlochry 3175.

On her way to visit relatives in Dunbar over the festive season, Little Black Rabbit witnessed a remarkable occurrence. The train stopped at Drem and everyone was told to leave the train. Some important-looking men then got on and emerged, gingerly carrying a large parcel wrapped in brown paper. They set the parcel on the ground, and after a few moments there was an explosion. After the smoke cleared, the contents of the parcel began to rain down gently onto the platform. Little Black Rabbit picked up a piece inquisitively and saw with surprise that it was part of the December issue of the SCRAM Energy Bulletin.

She discovered from one of the important-looking men that the parcel had been left on the rain and after suspicions were aroused, the Bomb Squad had been detailed to dispose of it in their customary fashion. Little Black Rabbit was left to ponder this, and she wondered if the season of goodwill would ever be extended to the humble magazine.

Little Black Rabbit xo