SCRAM

ENERGY BULLETIN

NUCLEAR POWER? NO THANKS

No 31

40p

Argentina and the Bomb

Brussels END Conference

Nuclear Free Scotland, a campaigner's manual. 50p + 20p p&p from SCRAM.

Dear Friends,

As mentioned in Energy Bulletin No. 30, SCRAM has now moved to new offices. We have been spending most of the last couple of months organising and renovating. The Library is still a bit of a mess, but it is slowly getting back to "normal" with shelving at last erected.

The Smiling Sun Shop moved into 11 Forth Street in mid-July, and the mail order will be dealt with from here from now on. A new enthusiasm seems to have been generated by the new environment and we are feeling refreshed for continued campaigning after the set-backs of recent months.

We must yet again thank all those who have kindly donated cash and goods to help us get back on our feet after the fire. The list is far longer than could ever be printed, so please accept a big "thank you" from all at SCRAM and the anti-nuclear movement as a whole.

Peace March Scotland will arrive in Edinburgh on 21st August. On August 22nd there will be a Campaigners' Conference in Edinburgh for the Nuclear Free Scotland Campaign. It is to be co-sponsored by SCRAM, Scottish CND, FoE Scotland, Glasgow END and the Scottish Council for Civil Liberties.

As part of the Nuclear Free Scotland campaign, SCRAM has published a campaigners' manual with Glasgow END and Scottish CND. A meeting was held in Glasgow in June to launch the manual and discuss campaigning tactics up to the Conference, and after that, into the Hard Rock "Civil Defence" exercise and beyond.

To increase awareness of nuclear/peace issues during the Edinburgh Festival, an ad hoc group has been formed calling itself "Festival for Peace". The group is organising venues for other groups to show videos, films, exhibitions, street theatre etc., and will be co-ordinating peace activities from mid-August to mid-September to coincide with the Edinburgh International Festival.

Cover Photograph

This issue's cover shows Jim Thorburn who died recently. In 1978 he ploughed land taken over by the South of Scotland Electricity Board to build Torness, the nuclear power station under construction 30 miles east of Edinburgh. This was one of his many contributions to the fight to stop Torness.

His death reminds us of why we are opposed to Torness and all other nuclear power stations. Our opposition is for essentially human reasons, reasons to do with life and our future.

The fight against Torness seems to have been forgotten. This is perhaps understandable, considering the growth in the movement against nuclear weapons, and considering the forthcoming public inquiry into the proposed Pressurised Water Reactor at Sizewell. But we who live near Torness continue to care deeply that it is still being built, and will not stop our opposition and protest.

We hope that while remembering Jim Thorburn we will also remember Torness. The following obituary is by Deirdre Armstrong.

Jim Thorburn

Everyone who has been involved in opposing Torness over the past years will be very saddened at the death of Jim Thorburn, who lived with his wife, Mamie, next to the Torness site, at Thorntonloch.

Although half the land he farmed was taken from him to build Torness, it was not that which fired him to take part in the anti-nuclear campaign. He was very concerned at the danger the nuclear industry was creating for future generations in the form of nuclear waste.

He loved the land he worked, and was a very kind and dependable man. He gave a great deal of practical help to the campaign. Jim and other local people organised a 30 mile tractor demonstration to the Highland Show in Edinburgh in June '78. 35 tractors slowed traffic all the way from the site to Edinburgh in a strong display of opposition to Torness.

The occupiers of the site received support from him, and right up until his death, he offered help, even during his illness. His generosity and his down to earth manner will be sorely missed. He died of cancer on June '82.

Anyone wishing to donate towards a present for his wife, please contact SCRAM.

SCRAM ENERGY BULLETIN

CONTENTS & CREDITS

The bi-line **'WISE'** on many of our news stories stands for **'World Information Service on Energy'**. This is an international news network serving movement publications and activists.

WISE publishes a monthly magazine, a Stop Uranium Newsletter and a fortnightly News Communique — which we use for these stories.

WISE is partly funded by a one penny royalty on all Smiling Sun badges and stickers sold, but they also invite your support. Send £1 for sample copies to:-

WISE Oxford, 34 Cowley Rd., Oxford. [0865 725354].

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

SCRAM, 11 Forth St, Edinburgh 1

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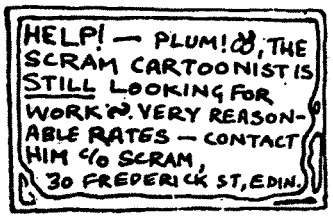
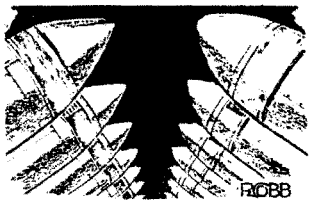


Nuclear Proliferation in Latin America



Anti-nuclear campaigns have rightly focussed on the nuclear arms race in our own country — opposing new systems like Trident and Cruise. Increasing the nuclear arsenal of one country is called "vertical proliferation".

But there are other ways in which nuclear weapons are spreading throughout the world. These generally involve "civil" nuclear technologies and are known as "horizontal proliferation". The Falklands war drew world attention to Argentina and Brazil, who are rapidly developing nuclear weapons capability through their civil nuclear programmes.

Before the Falklands crisis, Argentina was the Latin American country with the most worrying nuclear ambitions. It has about 30,000 tonnes of indigenous uranium. It is the only country on the continent with a commercial nuclear reactor in operation — Atucha 1, supplied by West Germany. Two further reactors, supplied by Canada and by West Germany, are due for completion respectively in 1983 and 1987.

These 3 reactors will produce substantial amounts of plutonium, one of the raw materials of nuclear weapons. It has been estimated that Atucha 1 has already produced enough plutonium for well over 30 Nagasaki-type bombs.

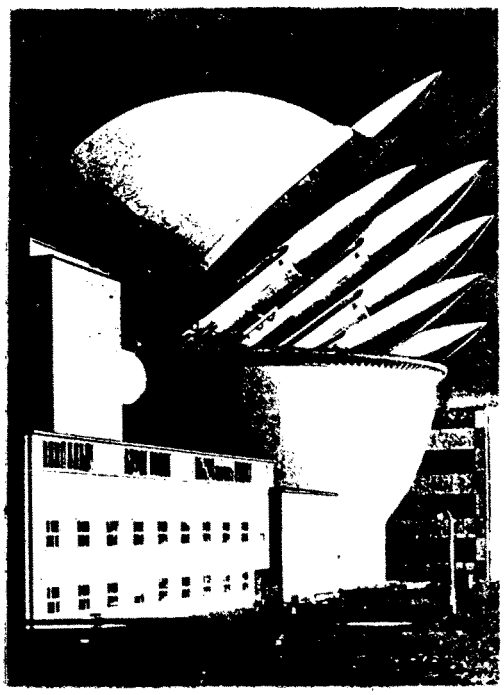
However, before this plutonium can be used in bombs, it has to be separated in a reprocessing plant. Argentina is building such a plant at Ezeiza near Buenos Aires airport. It is due for completion this year or next year.

Argentina claims that it plans to use the plutonium extracted as a fuel for its ordinary reactors — an option that has not proved viable anywhere else in the world. There are suspicions that Argentina is being less than honest about its intentions. It was reported last December that "intelligence sources in the US" believed Argentina would produce its first atomic bomb by the end of 1982, and was already testing a potential delivery system.

Plutonium Sales

More recently a controversial BBC **Newsnight** programme suggested that the Ezeiza reprocessing plant would produce enough plutonium for about 10 bombs a year. Alarmingly, the head of the Argentina atomic project, Admiral Carlos Castro Madero, made it clear that he would be prepared to sell plutonium to other countries, thereby opening the door to further nuclear proliferation.

On several occasions in the past, Argentina has acknowledged its ability to construct an atomic bomb, but simultaneously insisted that it has not taken the political decision to do so. Many arms control experts, especially in America, fear that Argentina's humiliation over the Falklands could increase the likelihood of a decision by the ruling junta to go nuclear.



In such an event it is likely that Brazil, in competition with Argentina for economic dominance in Latin America, would follow suit. In 1975 Brazil signed the world's most comprehensive nuclear deal with West Germany, enabling it to buy a complete nuclear fuel cycle. The deal involves the prospecting, mining and processing of Brazil's uranium ores, known to exceed 23,000 tonnes, an enrichment plant, up to 8 massive 1300 megawatt reactors, and a reprocessing plant.

Because of severe economic and technical difficulties the programme has fallen behind schedule. Despite delays however, there is little doubt that the deal will give Brazil the ability to develop nuclear weapons, either using highly enriched uranium from the enrichment plant, or plutonium extracted from the reprocessing plant.

The deal also allows the re-export by Brazil of the militarily useful enrichment and reprocessing technologies. As well as planning nuclear co-operation with Chile and Colombia, in 1980 Brazil signed a 10-year agreement with Iraq, whereby Brazil assists Iraq with uranium production and trains Iraqi technicians in Brazil. Iraq, of course, is another nation in a highly volatile part of the world thought to be near acquiring nuclear weapons — a fear that last year prompted the Israeli bombing of Iraq's Osirak reactor.

Fears over the intentions of Brazil and Argentina are heightened by the fact that neither country has even signed the Nuclear Non-Proliferation Treaty, the main international attempt to control the spread of nuclear weapons. Both countries assert their right to develop what they call "peaceful nuclear explosions", allegedly for use in the widening of canels or digging of mines. This is in spite of a growing international recognition that cost and radioactive contamination problems inevitably associated with "peaceful" blasts outweigh any supposed benefits.

Argentina and Brazil are amongst the few countries which have refused to accept the conditions of the Tlatelolco Treaty which aims to make Latin America a nuclear-weapons-free zone.

Chile Next?

If Argentina and Brazil were to acquire the bomb, it is likely that Chile, which is in the midst of a fierce (and somewhat familiar) dispute with Argentina over the possession of 3 small islands, could be next in line.

Britain's possession of nuclear weapons, and the political and military influence that appears to accompany them, legitimises the desire of other countries to acquire nuclear weapons. This means that we have to accept some blame for nuclear proliferation. By the apparently simple act of retaking the Falkland Islands, Britain could have directly increased the risk of the nuclear militarisation of Latin America. When our ancestors come to judge the wisdom of the Falklands war — if we have any ancestors — they may consider that such a risk was not worth running.

Rob Edwards, co-author of Fuelling the Nuclear Arms Race, published by Pluto Press, available from SCRAM.

News

What Safeguards?

The International Atomic Energy Agency (IAEA) have stated that they were "not in a position to perform adequate verification" that no diversion of safeguarded nuclear material had taken place at two nuclear power plants in India and Pakistan. This is the first time that the agency has been in such an embarrassing posture.

Pakistan has not signed the Nuclear Non-Proliferation Treaty, and their fuel elements are not fabricated under safeguards.

The U.S. is trying to prevent anyone from providing Pakistan with any nuclear assistance until they accept "full scope safeguards" on their nuclear facilities. But Pakistan has already invited tenders for an 850-900 MW nuclear plant, and whilst major suppliers seem to be complying with America's demands, small licensees might well prove more willing to supply Pakistan.

Nucleonics Week, 17.6.82

Rights...or wrongs in West Germany?

Politics often seem greener on the other side of the national fence. Safe energy campaigners have long drawn comfort from events like the cancellation of the Austrian reactor at Zwentendorf in 1979, and the British Columbia moratorium on uranium mining.

Objectors' rights in West Germany have often been envied. Court action blocked the station at Whyl in 1977, and at the Gorleben hearings, shortly after our own Windscale travesty, the Government of Lower Saxony invited a wide panel of pro, anti and neutral experts to study the proposed reprocessing development. In the result, Gorleben was turned down (but for how long?)

Are the good times now over in Germany? Changes to the licensing laws are to be presented to Parliament. They will have the effect of curtailing the rights of objection, and reducing the scope for review by the courts.

Up to now the situation was enshrined in a decision of the Constitutional Court. In February 1980 it pronounced that — as part of the fundamental right to life and freedom from physical harm — citizens have a basic right to be informed of alterations of design and construction of nuclear facilities, unless the changes were deemed to be of no interest to third parties. The new regulations provide the opposite: the licensing authority need only publish information on alterations if there would be "adverse consequences or danger" to third parties. An example given of such a change would be the increase of a reactor's thermal capacity — i.e. fundamental.

The old law was widely evaded. Major alterations were put down as "repairs" and not revealed officially. For example, at the severely delayed Fast Breeder Reactor at Kalkar, 2mm of rust were removed from the pressure vessel, taking it below the minimum thickness of 40mm.

The significance of these restrictions is in the change of mood, and the increased clout of the pro-nuclear lobby. The German objector still retains rights to information on alterations denied to the British public... but industry and Government are undoubtedly clamping down.

A further example of the new mood of the pro-lobby is a recent statement by the Prime Minister of Lower Saxony, Ernst Albrecht. He proposes excluding nuclear developments, once licensed, from any overview by the courts — will they no longer have to operate within the law, if no-one has a right to complain? He further proposes that for the purposes of law, temporary storage of used fuel rods at power stations should count as a "final solution" to the waste problem. This avoids objections that no waste disposal plans are included as part of new nuclear projects. And particularly interesting to the British reader after long campaigns against test drilling, he stated that test drill bore holes in Lower Saxony should be 7.5 metres wide, i.e. not only wide enough for test drilling, but also for possible waste disposal in the future.

On that front, at least, our grass — undisturbed by drilling — is greener.

Hugh Brayne

"Der Spiegel". 1.3.82

Precarious Pylons

Iron Workers in Vireux, France, have taken responsibility for the blowing up of a pylon which carries high tension power lines from the Chooz nuclear plant. The workers recognise that once Units 2 and 3 are constructed there will be no reason to keep the iron works open. They have been especially angered by the Electricite De France who proposed that they should try to find work in the new nuclear plants. The workers are determined to prevent the building of the proposed units.

On March 31st '82, a bomb attack was made on another high tension line pylon. The pylon at Bazoches-le Hautes (150 km SW of Paris) was seriously damaged, but the 22,000 V line remained intact. St. Laurent-des-Eaux which has 4 nuclear power units (one working!) is 45 km away. Nobody has claimed responsibility for the attack.

Meanwhile, on April 2nd, in Paris, a group of French citizens groups met with scientific and legal advisors and formed a national coalition to oppose high voltage power lines.

Their aims are to research and disseminate information on the effects of these power lines, and to obtain better legal protection for people and property in the vicinity of the lines.

Contact: Comite National de defence - lignes TNT, 4 Rue de Pressoir, 50250 La Haye de Puits, France.

WISE June '82

Uranium Scandal

Boys of fifteen and sixteen are being irradiated in the French dominated mines of Niger... there is virtually no protection from radon gas inhalation... the workforce, drawn almost exclusively from Touareg nomads, remain ignorant of the effects of mining... radiation health controls and monitoring are non-existent...

These are just some of the facts brought back by a British television producer who, along with a Panorama camera team became the first outsiders to visit Arlit, in northern Niger.

Often the nomads stay no more than a week — take their wages and leave. In some cases they leave after a day. There is no radiation dose counting, and "any form of health follow-up is unthinkable".

Arlit was the first uranium mine in Niger and is still the second largest. Nigerien uranium is not only crucial to France's aggressive nuclear power programme, but also to its weapons programme. It is of extreme importance to Libya, which receives several hundred tons of uranium from Niger. The uranium is also exported elsewhere, with horrific stories about spillages and water supplies being contaminated.

For more information contact CIMRA, 192 Liverpool Rd., London. CIMRA, PARTIZANS and WISE will shortly publish a book by Roger Moody about uranium mining called **The Gulliver File.** It will be available from CIMRA and WISE.

South African Deals

Two American firms played a key part in South Africa's acquiring almost 100 tons of enriched uranium. This contradicts the US government's policy of opposing such deals because of South Africa's refusal to sign the nuclear non-proliferation treaty.

The two firms, Edlow International of Washington DC, and SWUCO Inc. of Rockville, acted as "brokers" between South Africa and uranium suppliers and enrichers in Switzerland, Belgium and France. The uranium is now in France being made into fuel rods for South Africa's first nuclear plant, at Koeberg.

To complicate the story, it is suggested that either China or Canada supplied the uranium. Seemingly South Africa had to do this global "shop around" when the contracted supplier, the USA, held up the proposed shipments of uranium because South Africa refused to sign the nuclear non-proliferation treaty. Naturally some Americans are vexed that a US firm could have contributed to defeating the non-proliferation policies of its own government.

Circular movements

To complete the circle, South Africa has arranged to sell 3,000 pounds of the uranium it is buying through Edlow to the United States, who will enrich it and sell it to Japan. This transaction will be carried out by Mitsubishi International Corp. who have an import licence to the US for South African Yellowcake. The licence runs from January '82 to December '84 for a grand total of 1.3 million kilograms of uranium.

France

Electricité de France have submitted two possible sites for a nuclear power station in the lower Loire Valley to replace Le Pellerin, which has been withdrawn following objections from the local population.

The two sites, Nantes and Rohars, are on opposite sides of the Loire River, west of Nantes. The government is expected to seek the opinion of the regional council of the Pays de la Loire, as it did last year for Le Pellerin. Construction would not begin at either site until at least 1985 or '86.

Nucleonics Week, 17.6.82

Italy

In Italy, the regions of Piedmont and Lombardy had to meet a government deadline to designate two sites each for nuclear power stations. But the local governments in all four places remain opposed to hosting nuclear plants. Massive local opposition is anticipated if the government goes ahead.

A third region, Puglia, is also meant to forward some sites, but local politics are a bit unsettled at the moment. It seems though, that local opposition is even stronger in Puglia. The Regional Government had previously been reluctant to comply until they got firm assurances of financial compensation from the Italian Government.

Nucleonics Week, 17.6.82

Photo: Derry CND

Derry CND erected this billboard in London on June 7th. It was at the junction of Cromwell Rd. and Earls Court Rd. for the month of June. The rental of this space alone cost them £350 Like us, Derry CND recently suffered a "burning of office" attack. Contact them at 6 Shipquay St., Derry, BT48 6DN.

Waste Dumping

The Japanese, encouraged by the US' plans to resume nuclear waste dumping at sea, look set to do likewise. The pacific site chosen for American high level waste dumping is the same site chosen by the Japanese to dump their low level waste. America halted ocean dumping in 1970, allegedly for economic reasons.

Contact: Friends of the Earth, 1-51-8 Yoyogi, Shibuya-ku, Tokyo 151.

WISE June '82

Accidents...

The Nuclear Regulatory Commission has just released a commissioned study which sharply reassesses the risks of a serious accident at nuclear plants in the USA.

The study concluded that the risks of an accident was one in a thousand years of reactor operation. The country acquires a thousand years of reactor operation every 10 to 20 years, according to estimates. Previous reports, notably the Rasmussen report, have put the chances at about one in 20,000 years of operation.

The Commission's study analysed 19,400 mishaps between 1969-1979. It picked out 169 for detailed review, and found that 52 were "significant", i.e. potential contributors to a core melt down.

Accidents studied by the commission typically involved: loss of feed-water, loss of reactor coolant, breaks in the main stream line, and more...

It has been claimed however that enough changes have been made in nuclear reactor operations since the Three-Mile Island accident, to have significantly reduced the chances of a serious accident!

Financial Times, 7.7.82

Around the World

● Jan. 29: 119 litres of acid were leaked into Port Hope Harbour by Eldorado Nuclear Ltd. The acid is used to refine uranium.

● Feb. 9: a 7 kilogram per hour leak of heavy water was discovered coming from a cracked pressure tube in Unit 2 of the Bruce A nuclear plant in Canada. Embrittlement has been suggested as a possible cause, but this has been strongly denied by Ontario Hydro, who claims that CANDU s are immune to imbrittlement. They blame the installation techniques.

WISE June '82/UTANG (Canada)

● March 20: Fessenheim 1 (900 MW PWR) was shut down after an unidentified object was found to be moving around in the primary cooling circuit. This turned out to be a bolt, and it has done a lot of damage to the reactor.

IONIX May '82

● April 23: 2 lorries carrying radioactive material collided at Guecelard, west of Paris. One container sprung a small leak.

WISE June '82/WISE Briéc

● April 29: Marcoule France. The Phénix prototype of the Super Phénix fast breeder was shut down when a hydrogen leak was discovered in the steam generator. The next day, while the reactor was still shut down, due to a leak in the second sodium circuit, sodium came into contact with air and began to burn. It is not known how long the reactor will be shut down. Since its start in 1973 it has had a chain of accidents.

WISE June '82

● During reloading recently, split bolts were found in the core grid of Sweden's Forsmark-2. The State Power Board say that at least 700 bolts in the grid construction will be replaced during the present maintenance period. Forsmark-2 will be off for up to two months extra as a result of the problem.

Nucleonics Week, 10.6.82

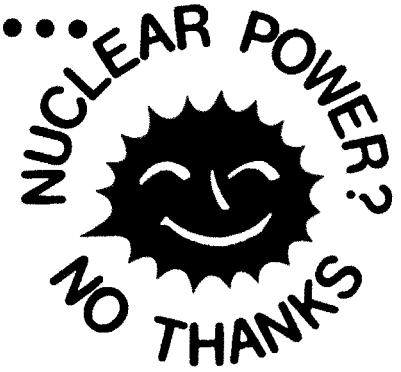
● New York State: steam generator tube pitting will keep Indian Point 3 shut down until this Autumn at least. 2,800 tubes need corrective action. While corrosion is suspected as the cause of the pitting, the precise phenomenon is still unknown.

Nucleonics Week, 24.6.92

HANG PRONGed ?

or

PRONG HANGed...



There have been many articles in the last few years from both pro and anti-nuclear groups in the Highlands giving their respective views for and against the development of nuclear energy in general, and the siting of the commercial fast reactor (CDFR) at Dounreay in particular. The sequence of claim and counter claim may well have led more to confusion than to clarification of the issues.

In an attempt to remedy this, Bob Anderson on behalf of the Caithness Pro Nuclear Group (PRONG), and Peter Mutton of the Inverness Highland Anti-Nuclear Group (HANG), have come together to produce an article which identifies some of the areas on which both sides agree. The precise extent of agreement is indicated in bold, and this is interlaced with views from both sides.

A major discussion point has been the relevance of the Dounreay site to the Caithness unemployment problems, and it is agreed that **Dounreay has brought benefits to Caithness in the same way as many other large scale industries might have done, although it is accepted that a range of industries would have provided a broader base to the economy.**

The same benefits and drawbacks would apply if CDFR were also to be built at Dounreay. The impact of such developments would be similar on any rural community.

PRONG believe that the employment benefits arising from such industries outweigh the disadvantage of economic dependence. This is felt to be particularly true in Caithness because of the area's previous dependence on agriculture and fishing industries in which employment opportunities have greatly declined and for which alternatives have not been found.

HANG disagree, feeling that the development of a range of small scale industries would give greater long term employment prospects to the area.

We acknowledge that there is a lot of public concern about the release of radioactivity from nuclear power stations but we agree that, because of trace elements in coal, radioactive release also occurs from coal fired power stations. The public are exposed to a wide range of cancer-causing agents released from coal and other industries.

HANG believe that such comparisons are rather misleading as they are for normal operational conditions, and the amount of radioactivity that might be released in a serious reactor accident is felt to be a far more important consideration.

On the other hand PRONG emphasise that radioactivity is not unique in its ability to cause cancer and the extent to which it has been released to the environment, routinely and in severe accidents, has not been excessive, though PRONG support all reasonable steps to reduce levels even further.

Both sides agree that government, through the Nuclear Installations Inspectorate [NII], lays down higher safety standards for the nuclear industry than for most other industries.

HANG feel that these higher safety standards merely reflect the greater risks involved in the nuclear industry, and argue that you can't defend nuclear energy by pointing out the dangers in other industries.

PRONG, however, identify the NII standards for the nuclear industry as an added safeguard, making it safer than most other industries, and given that there is an element of risk in any human activity, feel that the advantages outweigh the risks.

Nuclear waste disposal has become a matter for much public concern but it is agreed that research may produce a long term solution which is generally acceptable.

PRONG note that this research is proceeding with more thoroughness than is evident in many other areas of industrial waste disposal, and this research should be encouraged, but HANG believe that as a solution has not yet been found, further high-level waste should not continue to be produced.

It is accepted that a "peaceful" nuclear energy programme could be used as a cover for nuclear weapons production, on the other hand, rejecting a civil nuclear energy programme does not give a guarantee against the production of nuclear weapons.

PRONG feel that the control of weapons proliferation is now, and is likely to remain, a question for political agreement.

HANG disagree, pointing out that international controls have already failed as witnessed by the weapons capability of India and, probably Pakistan, Israel and South Africa. HANG are therefore opposed to the further development and expansion of nuclear technology.

So much for the problems, but is nuclear energy really needed? Discussions on the need for nuclear energy start with the agreed observation that **there is now competition for conven-**

tional fuels and in the future this competition will increase. Conservation could make a significant contribution to reducing energy needs in the future though it is not the sole answer, indeed there is not a one and only best energy source.

Instead, a balanced mix will be needed to benefit from the advantages of each option and to minimise the various disadvantages. To avoid distorting the composition of this energy mix the price of any component source should not be kept artificially low and, in considering the price, we should bear in mind not just the direct financial cost but also the environmental impact of that source, using these guidelines.

The way forward is to assess possible options [nuclear, fossil, wave, wind and solar power] and to choose the mix which is economically and environmentally most acceptable.

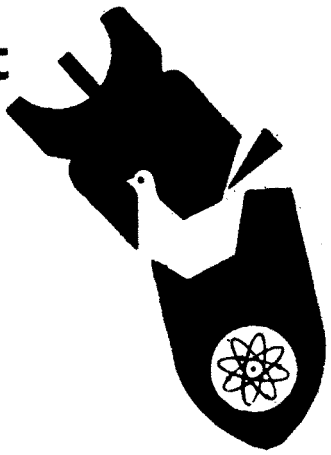
HANG feel that nuclear energy has had the last 25 years to be assessed, and has been found to be far from ideal. They believe that now is the time to adopt a rigorous programme of developing and assessing the other options available whilst at the same time placing much more emphasis on conservation.

PRONG feel that on environmental and economic grounds nuclear energy does have a role to play in both present and future energy programmes. They believe that, to ensure this, the Government should pursue the CDFR project.

This is not meant to be taken as a balanced article about the pros and cons of nuclear energy. It is simply intended to identify some common ground. In this large and important subject there were many issues where no agreement was reached, but one which was agreed was that **before you decide whether you are for or against nuclear energy, study both sides of the story.**

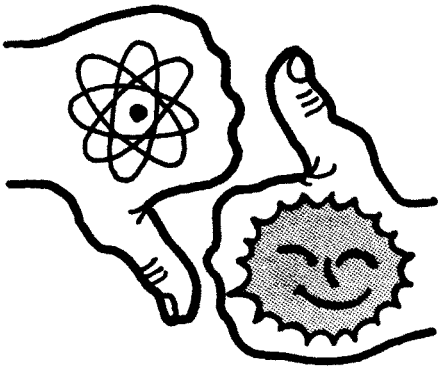
We would be interested to hear readers' views and in particular if there is any significant interest in any of the issues we have not covered, we could explore the common ground there.

SCRAM's Comment



At a first glance it may appear incredible that such diverse organisations as the pro-nuclear group PRONG and the Inverness Highlands Anti-Nuclear Group HANG can agree on anything, as outlined in their article opposite. But on a closer look, it is apparent that the actual degree of overlap is very small. This is despite many months of work seeking common ground. Every word has been carefully considered.

The article has also been submitted to the pro-nuclear group "A Power for Good" for publication in their newsletter. At HANG's and PRONG's request we have published their article unedited to ensure that both the Energy Bulletin and the pro-nuclear newsletter carry the same version, with no change of emphasis.

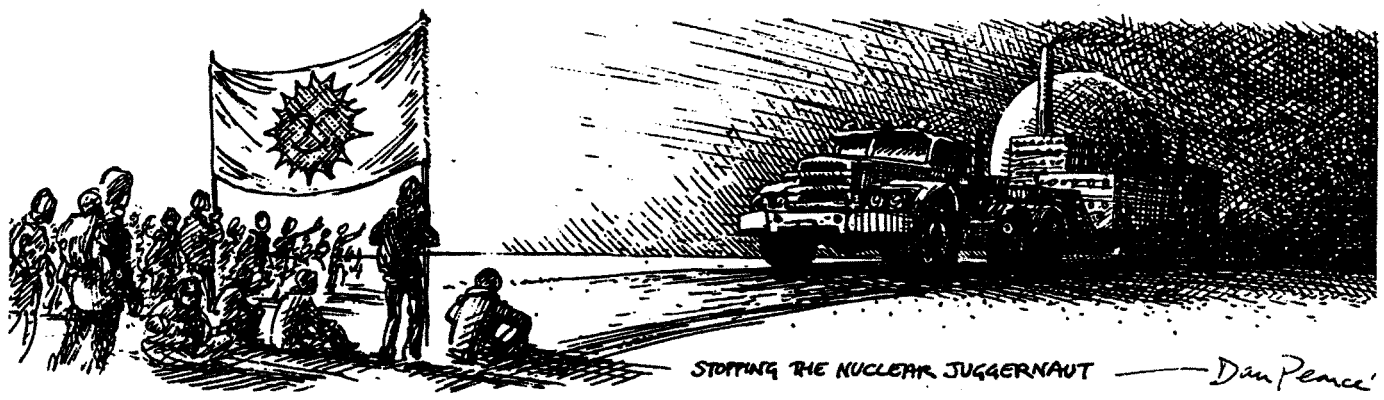


If nothing else, this article shows the naivity of the pro-nuclear argument. Can they honestly believe that nuclear proliferation can be controlled by political agreement? Time and time again the inadequacies of the International Atomic Energy Agency and the non-proliferation treaty have been exploited by those countries wishing to build their own nuclear arsenals. And why shouldn't they? None of the nuclear weapons states have shown any intention to disarm.

PRONG are also great believers in the theory that everything will work out OK in the end. It is of course acceptable to produce more and more nuclear waste because a solution will be found to the waste disposal problem, maybe not next year, and maybe not for another fifty years — but an answer will be found! The nuclear industry is safer than most other industries because of the Nuclear Installations Inspectorate (NII). Never mind that the NII is grossly understaffed, the safety standards are laid down, so the nuclear industry must be safe.

PRONG point out that in routine operations of a nuclear power station, and even as the result of accidents, the release of radioactivity has not been excessive. However, they miss the point that uranium mining and reprocessing are the major polluting links in the nuclear fuel chain.

As HANG and PRONG point out, this article is not a balanced discussion of the pros and cons of nuclear energy. Such an article would be impossible to write. Why do we have nuclear power? Not because it is an environmentally and economically acceptable source of energy. It isn't. Instead there are two important political reasons. Firstly to ensure an easily available source of nuclear weapons material. Secondly to ensure state control of electricity generation, so that the "miners cannot hold the country to ransom".



STOPPING THE NUCLEAR JUGGERNAUT — Dan Pearce

Big Deal

At the end of June, final agreement was reached between the Northern Land Council, the traditional aboriginal owners of the Jabiluka uranium deposit, and Pancontinental Mining, to allow the development to proceed.

In the agreement, the developers of Jabiluka pay the Northern Lands Council the following:

A$1 million following approval of the project by the Minister for Aboriginal Affairs;
A$1.2 million for each of the five years following the agreement, for the sale of at least 3000 tonnes of uranium yellowcake from the mine;
A$1.2 million a year for three years starting 12 months after approval of the mining agreement, and
A$3.4 million at the start of production of yellowcake at Jabiluka.

Under the royalty arrangements, the Northern Land Council is to receive 4.5 per cent of the revenue from the mine, plus A$ 500,000 per year for the first 10 years of operation of the mine, rising to 5 per cent from then on.

The agreement also requires Pancontinental to rehabilitate the land to its original state and provide for a monthly environmental report.

As well as the uranium in the deposit there is understood to be about 12,000 kg of gold.

The Australian 28.6.82
The Age 30.6.82
Australasian Express 6.7.82

Bomb Tests

Kwajalien

At a press conference on April 19th, Imada Kabua, one of the Kwajalein's three senators in the parliament of the Marshall Islands, announced that a referendum would be held on August 13th to decide whether the US will be allowed to continue using Kwajalein territory in the development of nuclear weapons.

He said, "We, as owners of the islands where these weapons are developed, cannot ignore their intended purpose... to deliver nuclear warheads for explosion over the lands of countries opposed to the US." He went on to say that though his people regarded the Americans as close friends, they also regard no other nation as enemies. He continued, "We are not naive. We know the owners of Kwajalein, who number only about 5000 people... cannot prevent a super power from developing nuclear weapons, but we can insure that our islands shall not be used for such a purpose."

He called on the US to declare a moratorium on any further weapons tests at Kwajalein until the referendum.

Letters of support should be sent to: Kwajalein Atoll Corporation, Box 5220, Ebeye, Marshall Islands, 96970.

Letters in support of the Kwajalein Atoll Corp. in its demand that the US stop testing missiles and allow the islanders to return to their home islands, to: Ambassador Fred Zeder, Office of Micronesian Status Negotiations, US State Dept., Washington DC., USA.

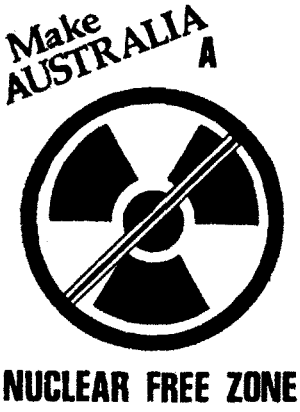
Australia

Tests were recently carried out to reassure the population of Capel, Western Australia, that no danger exists from the monazite tailings used as land fill in the area. The tests on milk, carried out at the Australian Radiation Laboratories in Melbourne, found no trace of the suspect uranium or thorium radioactive substances, but did find caesium 137, a fallout product resulting from nuclear weapons tests.

WISE June '82

Victorious ?

The Victorian Labour Government, elected in April after 27 years of Liberal rule, plans to make **Victoria a nuclear free state** with no uranium mining or use of nuclear power. They will close their ports to all ships which are nuclear powered or nuclear armed.



This move was backed by Mr. Burke, leader of the state opposition in Western Australia, and by the Federal Government's opposition leader, Bill Hayden (Labour Party). At the Labour Party Conference in July, a vote was taken to make this part of party policy, but the motion was narrowly defeated.

Mr. Hayden was eventually forced to back down and accept visits by nuclear armed warships. His present stand is opposition only to the stationing of foreign warships in Australia, the storage of nuclear weapons and the launching of operations involving nuclear weapons from Australia.

It is understood that an outright anti-nuclear position would jeopardise the ANZUS treaty, which is regarded as a key part of Australian foreign policy. This position would also hinder the chances of a Labour win if Prime Minister Frazer calls an election later this year.

Mr. Frazer's national government is expected to pass legislation allowing nuclear ships of countries allied with Australia to enter all Australian ports. They would effectively overrule any Victorian State Government vote to ban their entry.

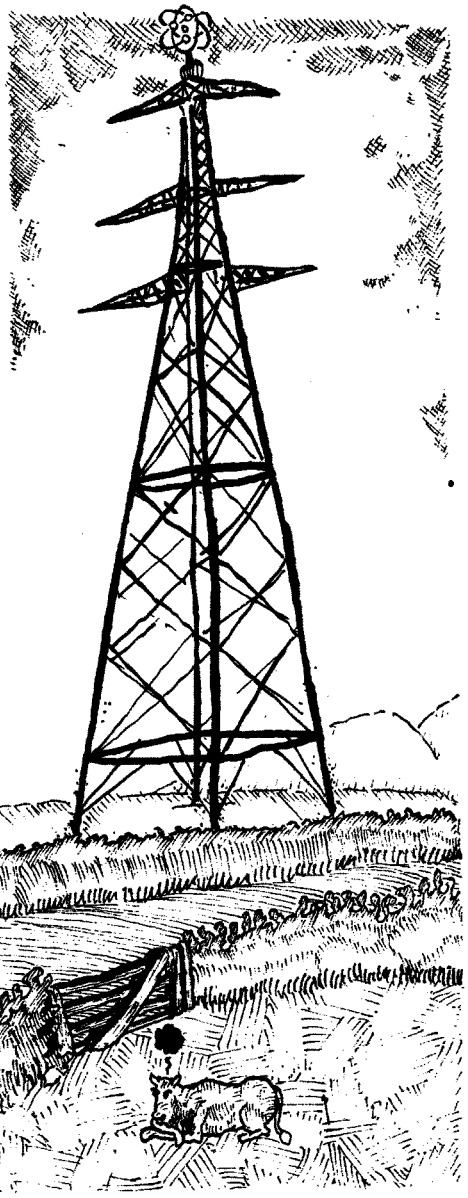
US, British and French warships have averaged a visit a week to Australian ports in the last 10 years according to Andrew Peacock, a Liberal backbencher in the Federal Parliament. He also said that the closure of ports to nuclear ships would provide valuable strategic information to potential enemies, in that nuclear armed ships would be identified.

And in June, Mr. Hayden also watered down his pledge to demand an Australian veto over American firing orders transmitted through the joint communications station at North West Cape. He accepted a proposal that Australian control over the base be exercised by diplomatic influence in Washington.

In Melbourne, police are mounting a round-the-clock guard over John Cain, the Victorian Premier. There have been numerous threats to his life, presumably because of the State Government's plans for a nuclear free zone!

From: The Australian June/July, The Age, Australasian Express, Financial Times and Guardian.

Pylon Perspectives



In April/May this year there was a public inquiry into the routes for the transmission lines from Torness, the nuclear power station under construction 30 miles east of Edinburgh. Many different groups, local authorities and individuals objected and presented evidence at the inquiry. SCRAM's message was simple — "No Torness - No Pylons". We objected to all the proposed routes, and presented evidence emphasising the over generating capacity of electricity in Scotland.
In this article, Chris Ballance, a local resident writes about his own impressions of the inquiry, and in the light of the forthcoming Sizewell inquiry, he questions the purpose and validity of public inquiries in general.

Public Inquiries are like public schools — designed for everyone except the public. And at a cost of at least £10,000 per week to stage, they represent some of the most expensive theatre outside London's West End.

The Inquiry in Haddington this April/May into the routes for the pylons was no exception. The futility of the whole system was underlined by the fact that the pylon inquiry lasted considerably longer than the 1974 inquiry which gave the go-ahead for the station to be built.

Future new power station inquiries should examine transmission routes in detail — for if there is no acceptable route, the power station site is unacceptable.

Here the South of Scotland Electricity Board (SSEB) could argue "we know none of the routes are acceptable — but you've got the power station, so you must accept the pylons. It's just a matter of choosing the least bad route." (They assured the 1974 inquiry, without discussion, that suitable routes were available). The inquiry remit was narrow, limited to the siting of the routes, which allowed the SSEB to make several remarks about the benefits of nukes which objectors were not allowed to question.

Routing Around

The Board's proposals are for one route running west to Dalkeith, near Edinburgh to supply the Central Belt, and one running south through Borders Region, presumably to sell Scotland's over-capacity to England, though this was not admitted. Every democratic body affected, from community councils to the local MP, John Home-Robertson, was objecting. Other objectors included a local silent order of monks (it's always good to have God on your side), and over 30 farmers who had all been threatened by the Board that if they objected they would lose their compensation rights — quite untrue.

But there was no prior collusion between objectors, and they all argued from different standpoints. East Lothian District Council proposed an alternative line through East Lothian, hidden in the dip-slope at the centre of the Lammermuir hills, avoiding the agricultural and tourist hillfoot area preferred by the Board. Borders Region advocated building both of these routes through Lothian, and nothing through Borders. Lothian Region argued that only one line was needed, and this should be the southerly line through the Borders. They drew on evidence for this from a firm of consultants who sometimes advise the SSEB itself.

Hilary Bacon from Dorset presented evidence centred on the health risks associated with high voltage transmission. These effects were reported in the SCRAM Energy Bulletin No. 14, and a future article will look at recent developments, so it suffices here to say that the SSEB at last accepted that the electro-magnetic fields induced by high voltages do have effects on life forms. Virtually all the research done by bodies outwith the industry suggests that these effects are adverse, not benign.

Rubber Stamp

Inquiries are held when the state is keen to push through a planning application which is too controversial to rubber-stamp. The state has formulated its nuclear policies — it wants expansion — and so it appoints one of its employees to judge between a state body — the SSEB, CEGB, or UKAEA — arguing the government line, and diverse part-time unpaid objectors. The result is inevitable.

If a nationalised body wants something, it must be in the "national interest", an undefined and hazy concept which can over-rule an infinite number of "local interests". So the Reporter (called an Inspector in England) will give the go-ahead, with a few minor amendations to show us the exercise was not a complete waste of money.

But the Report is purely advisory. The Secretary of State can, and often does, over-rule it, and this is where the real fight must be. I am convinced that the only way to win an inquiry over a nationalised body is to show that there are enough (or the right) people prepared to take politically embarrassing and illegal action, and then s/he will over-rule the verdict. This happened at Mullwharchar, where a whole community was prepared to engage in Civil War, and at the Vale of Belvoir when one Earl stated his intention to lie in front of the bulldozers (and the Press!).

Despite this, inquiries are worth fighting — if only to show the strength of the opposition — but we mustn't lose sight of these considerations — as FoE did at Windscale and may do at Sizewell.

I think two moments stand out in my notes from the Haddington inquiry. One, when the Board's Planning Advisor said that the pylons would encourage tourism, as tourists seeing them would realise they could enjoy their electricity when they reached Edinburgh. (Yes, honestly!). The other, a quotation from the Reporter: "(Nukes) have so far had a dismal history... (but)... it is a pious hope that when Torness is running it will run at full capacity".

It's good to get official confirmation that our nuclear policy is based not on science but on pious hopes. Let us all pray.

Peace-ing Together

Over 800 people from 25 countries attended the European Nuclear Disarmament convention in Brussels from 2-4 July. Some went as delegates, others in a personal capacity. Martin Gaba and Nic Januszewicz report.

Besides a series of speeches on the first day, the convention was structured so that all of the discussion and work was done in workshops. These were both "affinity" e.g. Medics, scientists, Trade Unionists, or by "interest" e.g. nuclear free zoning etc.

Some very positive directions and ideas came from the workshops. The whole encounter was one of inspiration and encouragement.

At the Nuclear Free Zone workshop, people felt that there should be a positive reappraisal of the term, to encompass every facet of the nuclear industry. Ideas and success stories were exchanged. A conference on Nuclear Free Zones will be held in the last week of July at the Peace Camp in Comiso, Sicily. This could form the basis for a Nuclear Free Europe manifesto.

The value of "twinning" towns and areas was asserted, and contacts set up between Germany, Britain and Sicily. They can provide us with strength and solidarity and are also very newsworthy. Local groups should perhaps get their local councillors to propose motions for the next United Towns Association, which will be in Madrid in November '82, and make disarmament and peace an issue there.

For more information on town twinning contact: Twin Town Organisation, Federation Mondiale des Villes, Jumelees-Cities-Unies, 2 Rue de Logelbach, 7J017 Paris, France.

Peace Camp

At the peace movement activists discussion, an urgent need was felt to consolidate the movement throughout Europe, and to raise public consciousness and support. Concrete proposals were to participate in the Comiso Peace Camp from July 20th to the end of August, to co-ordinate a series of demonstrations in the USA, Canada and Europe in '83, a war tax refusal action, and a 5 minute strike throughout Europe.

At the "Affinity" workshops, lots of significant steps were taken. The scientists formed a confederation of European scientists, an umbrella group to concentrate on the dissemination of information. Some Geneva scientists will co-ordinate a newsletter, and Scientists Against Nuclear Arms (SANA) have agreed to co-ordinate research efforts.

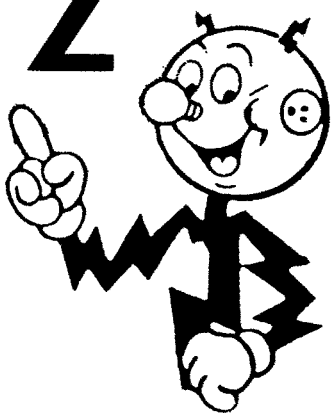
The Trade Union discussion stressed the need for better communication among trade unionists in the west, and between trade unionists East and West. Other priorities are the need for education on conversion in industry, and erradicating the myth that more arms production means more jobs.

The only criticism was that for such a special but short time allowance, a lot of the speeches and information could have been distributed in written form beforehand, leaving more time for discussion.

The next meeting will be in Berlin on May 7th-15th '83. We hope that there will be an exchange between it and a similar convention in East Berlin.

Contact Bertrand Russell Peace Foundation, Gamble St., Nottingham, Scottish END, 146 Holland St., Glasgow 2, or END 227 Seven Sisters Rd., London N4.

RTZ



AGM

In June, Rio Tinto Zinc (RTZ), the world's largest mining company, and Britain's 6th biggest multinational, had an uproarious Annual General Meeting. All over the world the company mine various minerals (including uranium), to the detriment of the environment, against the wishes of native peoples and in defiance of United Nations sanctions. About 60 dissident shareholders turned up to voice their discontent over the company's operations.

Breaking tradition with previous years, business resolutions and re-elections were brought forward to the beginning of the meeting. Several shareholders protested that decisions should not be made without an opportunity for questions. This was overruled by a show of hands, but later, shareholders called for a poll on the re-election of directors. This was to be held at the end of the meeting but subsequent events prevented this.

SWAPO Talks

A flood of questions ensued with Sir Anthony Tuke, the chairman, assuring shareholders that he would answer them all. There was a flood of questions on Namibia, where RTZ mines uranium in defiance of UN law. Tuke promised to have talks with SWAPO (South West Africa's People's Organisation). Other questions were asked on the Cerro Colorado mine in Panama (which Tuke said was unlikely to go ahead in the 1980's), on domestic issues, and on the environment.

In spite of Tuke's assurances that he would answer any questions, he closed questions when two Aborigines who had travelled from Australia to the AGM stood up to ask questions.

A stunned silence was followed by outraged cries and a surge to the front of the hall. Shareholders were roughly dragged from the hall by police and stewards. The Guardian commented that it is certainly an abuse of the system when a chairman autocratically deprives shareholders of their legal right to quiz their directors.

PARTIZANS (People Against RTZ and Subsidiaries) are taking out a writ against RTZ citing improper conducting of the AGM, illegal election of directors (no poll was taken), violation of minority shareholders and assault. They are taking on one of the most powerful and ruthless of British shareholder corporations. They will need all the help they can get — financial and otherwise. If you'd like to be involved, contact **PARTIZANS, 218 Liverpool Rd., London N1. 01-609-1852.**

Clare Simpson

Secret Incentive

A secret deal between Electricité de France and a local authority has been leaked to the French press causing considerable embarrassment.

A single 1,300 MW Pressurised Water Reactor is under construction at Golfech in the Pyrenees, but partly as a result of the angry demonstrations there, the local authority has been able to secure guarantees of employment, and an income for the local treasury. The authority will receive £900,000 per year while the reactor is under construction and £550,000 per year while it is operating. Other local authorities are now expected to demand "sweeteners", so the cost of nuclear power is bound to increase.

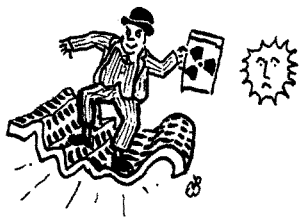
The Golfech area has already decided to spend their unexpected cash bonus on the development of alternative energy.

Investigation

The Government has set up a team of officials headed by Sir Derek Rainer, the Prime Minister's adviser on Whitehall, to investigate its energy conservation policy. The inquiry will examine the co-ordination of activities in different departments, not just the Department of Energy. £140 million was spent by the Government, last year, on energy conservation, but, of this, only £9 million was spent in the Department of Energy.

The Government has also nearly doubled the funds available to help voluntary organisations set up home insulation schemes.

Bon ACORD ?



The future of research into most forms of renewable energy is in serious doubt following a controversial Government review of spending. Nuclear energy research and development spending reached £220 million last year and is due to rise further this year. This is compared with last year's spending of £13.6 on renewables. In this article Rob Edwards examines the Government's aim to restrict spending on renewables still more - to £11 million, and describes how this decision was reached.

Wavepower was regarded in the early 1970's as one of the most attractive alternative energy sources. Now, according to the Government, it is "one of the less promising options" and only worthy of "limited" research. The future of Britain's seven major wave energy research projects has been thrown into jeopardy, much to the alarm of the researchers.

The Government also appears to have accepted advice that "no new work" should be started on solar power for either space or water heating. Studies on offshore wind energy are likely to continue at the minimum level necessary to keep open options for international co-operation and could be dropped "if necessary". No new work is likely to be started on onshore wind energy, and research into the gasification of plants will probably be abandoned.

Nuclear Domination

The Government is following the advice of the Advisory Council on Research and Development of Fuel and Power (ACORD), a body which is dominated by representatives from the major fuel industries, including the nuclear industry. It is chaired by the Department of Energy's chief scientist, Dr. Antony Challis.

In March, ACORD met in Sunningdale to discuss its views. For the first time, the managers of the five renewable energy sections at the Government's Energy Technology Support Unit at Harwell were excluded. The subsequent row over this snub appears to have contributed to the decision of the wavepower manager, Clive Grove-Palmer, to take premature retirement in April.

Six weeks after the Sunningdale meeting, the Department of Energy released a five-page "summary" of ACORD's advice. This "summary" was drawn up and published without actually consulting ACORD's members. Some members question its conclusions, and some have never seen its contents. The Department has, according to one of its former well-placed officials, used ACORD to legitimise its own decisions. "The Department advises ACORD what it wants ACORD to advise the Department" he said.

In spite of a muted official response, the Energy Technology Support Unit is deeply disappointed by the Government's decisions, especially as the Unit asked for more rather than less money for renewable energy. One senior official has been heard to remark that the cuts will only go ahead "over my dead body".

Government Spending on Alternative Energy

Department of Energy Research and Development Budget for Renewable Energy and Energy Utilisation

	£'000 (outturn prices)				
	1978/79	1979/80	1980/81	1981/82 (estimate)	1982/83 (forecast)
Wind	114	426	772	900	
Wave	1,768	2,936	3,316	3,900	
Geothermal	182	1,277	2,248	6,800	
Solar	132	1,118	789	500	
Tide	85	612	1,409	400	
Biomass	--	117	242	400	
Conservation	237	172	229	400	
Coal liquefaction and miscellaneous	28	312	480	300	
Totals	2,524	6,997	9,485	13,600	11,000 - 12,000
ETSU* Services	1,488	1,916	3,141	4,000	approx. 4,000

*Energy Technology Support Unit Harwell

Source: Department of Energy

Sizewell Inquiry

Members of ACORD and senior energy officials deny that they are in any way prejudiced in favour of nuclear energy and insist that the recommendations were made purely on technical and economic grounds. The former Department of Energy official, however, confirmed many observers' suspicions that the real reasons were political. "The Government is clearing the decks for the Sizewell nuclear reactor inquiry", he said. "There is no case in internal logic for cutting off the renewable programme now."

Meanwhile Friends of the Earth have urged that the amount spent on renewable sources should be doubled, describing existing spending as "woefully small". In a new report*, they point out that renewables could eventually meet all the UK's energy needs. British spending on research is far less than other countries like France — an illustration of the "strong bias" against renewables in the Department of Energy. They suggest that responsibility for renewables should be shifted from the UK Atomic Authority at Harwell to a newly-established Renewable Energy Agency, and that the secrecy that characterises the research programme should be eliminated.

There is a need to overhaul the administrative red tape which, according to one research, "seems designed to delay and demoralise". Dozens of specific recommendations for new research are made in an attempt to demolish the official argument that it is impossible to spend any more money.

* **Eclipse of the Sun? The Future of Renewable Energy in Britain,** available from FoE Trading, 11 Poland Street, London W1, for £1.95.

Appropriate Energy

Self-Help Hydro

SCRAM has consistently campaigned for decentralisation of industry. In the last issue of the Energy Bulletin [No. 30], an article by Richard Baker put the case for regionally based energy institutions, each with responsibility for one energy source. Now, in this article we show how local initiatives can contribute to the idea of saving money, and providing a realistic alternative to nuclear power by developing renewable energy technologies.

Laurieston Hall, situated in the beautiful Galloway hills — now mercifully saved from becoming a nuclear dumping site — houses what could loosely be called an alternative community. There are 18 adults and 8 children, together with an endless stream of visitors to the conferences they run.

After a long winter's work they are now putting the finishing touches to their own hydro-electricity scheme. A mere twinkle in the eyes of the Laurieston hydro group in 1972, it has suddenly become a reality. Not that hydro power is new to Laurieston. Before mains electricity came, a stream up the hill provided the head for an electric turbine. The new project makes good use of both the old weir and water pipe, which takes water to the now renovated turbine house.

Electricity Needs

The new hydro scheme should supply most of the community's electricity needs. It is also expected to provide extra heating to supplement the wood burning stoves and Raeburn. The old central heating radiator circuit is being resurrected to distribute the heat.

The water turbine, made by a firm in Cornwall, will give a peak output of around 15kw. Over a year it should save a large part of their £1150 electricity bill. A back-up supply will be necessary though, for periods when the stream is very low. This will probably come from the South of Scotland Electricity Board (SSEB). Despite the national energy savings that come from projects such as this, the SSEB remain lukewarm to this particular scheme. Their attitude is just that there is nothing they can do to stop it.

Big Saving

Once it is going, the system should pay for itself in 6-10 years, and thereafter — at least for the 25 years life expectancy of the plant — it should bring big savings.

Work on the project started last November but was delayed by the coldest winter for many years. This Spring, however, has seen good progress made, and at the time of writing they are only waiting for the turbine to be installed before trials begin. Even as you read this, the first electricity could be flowing — Laurieston Hall will be contributing to a reduced demand for centralised electricity. In this way, they will be saving money and making a positive contribution to the demise of nuclear power.

The Laurieston hydro scheme has relied on voluntary labour, which naturally helps keep costs down. They welcome visitors who wish to see the scheme in action and help with some restoration work along the pipe line, replanting trees, etc. Contact Richard (06445 275) at Laurieston Hall, Castle Douglas, Kirkcudbrightshire.

Renewable Energy Notes

Asian Hydro Power

Small hydro power sets, with capacities ranging from less than 100kw to 5,000kw already produce about 10 per cent of China's electricity. The country has 90,000 such stations with a total capacity of 6,000MW.

A New Delhi firm is now planning to import turbines and generators into India. The Chinese have offered to train Indian Technicians and engineers in China, so that imports can eventually be phased out and the equipment made in India. Hydro power may yet prove to be an answer to India's acute power shortage.

Phoenix in the Sun

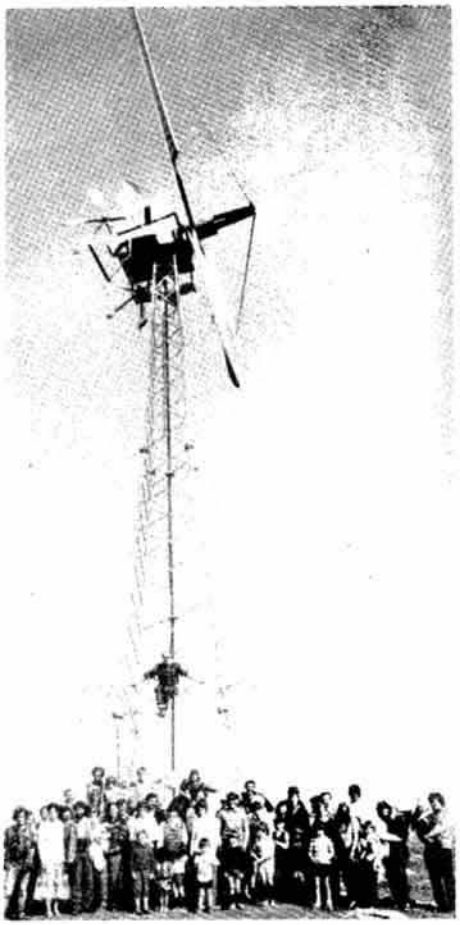
Economical electricity produced direct from the sun could soon be a possibility following the commissioning of the world's largest solar cell power station, in the desert near Phoenix, Arizona. The Arizona Public Service Company will operate it for two years to collect data. The station consists of some 22,000 cells mounted in 80 panels which automatically track the sun.

A.P.S. is also planning to convert one unit of its oil and gas-fired power station near Tuscon to run on solar energy produced by a mile-square reflector field. The project is still in the planning stages and depends on Federal aid, which is threatened by the Reagan administrations cuts.

Labour's Policy

Labour's Energy Policy, now in the process of formulation, is expected to propose spending £1,000 million on energy conservation over three years, and the refurbishing of old power stations, according to Alex Eadie, shadow spokesperson on Energy. He told the Parliamentary Liaison Group for Alternative Energy Strategies that he didn't think the next Labour Government would proceed with the Sizewell P.W.R. He called the Department of Energy's plans to reduce spending on the alternatives "vandalism".

Photo: Dave Wheeler



Fair Isle

Fair Isle, a small island between the Orkneys and Shetlands owned by the National Trust for Scotland, is the home of a new alternative energy initiative. For in June this year, Britain's first fully commercial aero-generator started operation on the island. The 55 kilowatt wind driven generator is now Fair Isle's main source of electricity.

The 69 islanders previously had to rely on a restricted electricity supply from increasingly expensive diesel generators. They now have a 24 hour supply distributed by 5 miles of buried cable. The diesel generators provide a back-up supply for those few occasions when there is insufficient wind.

The aero-generator has 7.5 metre blades mounted on a 15 metre tower. It was installed by NEI Clarke Chapman of Gateshead. The £140,000 estimated cost is being met by the Shetlands Islands Council, the Highlands and Islands Development Board and the EEC. The North of Scotland Hydro-Electric Board who have advised on the project will be monitoring its performance.

To take full advantage of the wind energy, surplus electricity will be used to heat water, and for storage heaters. An electrical milk float, donated to the islanders by Edinburgh Dairies Ltd., will also make good use of the surplus electricity to provide cheap transport for the islanders. The glass fibre bodied milk float can travel for 20 miles on one charge, and carry up to one tonne in weight.

Windmills

Christopher Dawson works as a boat builder in a place with no mains electricity. So he has made a 500W windmill which supplies his workshop. In this article he describes how his system works, and gives some ideas if you want to try something similar for yourself...

What can you run from a small wind or water mill producing only a few hundred watts of electricity? How can you store the power?

Storage

The answers to these questions are closely connected. The best sort of storage for domestic use is lead/acid cells, in other words batteries. Batteries store only Direct Current (DC) which flows only in one direction, and usually they only store a low voltage, like 12 or 24 volts. Mains supplies in this country are Alternating Current (AC) which surges to and fro at 50 cycles per second, and at the higher voltage of 240V.

For these reasons, in small systems the electricity is produced and stored as low voltage DC. I run a fairly mechanised woodworking workshop from a 500 Watt windmill of local design and manufacture. In the winter I use about 5 Kilowatt Hours, or Units, of electricity per week.

Calm spells rarely last longer than a fortnight so I need at least 10 Units of storage. Car batteries store about half a Unit but 20 car batteries would be expensive. Fortunately the G.P.O. maintain heavy glass-cased storage cells in every telephone exchange and sell them in quite good condition for the scrap lead price. I have half a ton of these which cost £50 two years ago.

What can we run from this suppy? Lights, sounds and motors. Heaters are not on because they use too much power.

Lights: Bulbs from cars (12V) or buses and lorries (24V) or fluorescents from boat or caravan sources.

Sounds: Car radios and tape machines are 12V DC but most transistorised equipment is low voltage DC and can be easily adapted.

Motors: DC motors are hard to obtain but fortunately dynamos work well as motors. Alternators are useless. Bus and lorry dynamos are the best. Small motors can be found in car heaters, electric radiator fans, wipers. Starter motors are not suitable except for wild and heroic applications. Electric drills, expensive but very good quality, can be obtained from Tartan Manufacturing Co. Ltd., Wooburn Green, High Wycombe, Buck., in 12 and 24V DC.

With a suitable motor you can run a washing machine, a power wringer, a band saw, a grindstone, a lathe, a butter churn. These have all been done here. Other possibilites are freezers, potters wheels, printing presses. It is possible though more involved, to run DC voltages up to say 110V by switching up batteries from parallel to series. In this way I run two 3 Kilowatt motors in my workshop.

If you want to try this sort of system for yourself then good luck. Make friends with your local scrap dealer. I will answer technical enquiries as best I can if you include a stamped addressed envelope.

C.W. Dawson, Scoraig, Dundonnell, W. Ross

Germany

The West German Ministry of Research and Technology is sponsoring the construction of a 3MW windmill on the country's North Sea coast. It will be known as Growian 1, and will cost £18.8 million to build. Construction has already started and is expected to be completed by November. Growian's annual output is expected to be 12GWh, but the project will only be properly assessed after a two year test period.

Meanwhile the Ministry has nearly doubled its support for energy research, the main emphasis being on techniques of coal processing and energy conservation. The Ministry recently produced a report, which estimated that 25 per cent of all domestic heat could be delivered by district heating, some three times the present installed capacity.

An END in View

Disarming Europe: Mary Kaldor & Dan Smith, Merlin Press, £3.95 + 60p.

This is a collection of papers presented at the END Research Conference in May '81. It is split into two sections — "Arming Europe" and "Disarming Europe".

The first section's papers, by Dan Smith, Mary Kaldor, Bill Arkin and others, are "analytic" studies of defence. They give detailed accounts of the current disposition of forces and defence policies in Europe. The authors argue that these do not contribute to peace in Europe, but they do not go on to examine alternatives in detail. These papers are useful but contribute little new to the growing body of literature on defence.

On the other hand "Disarming Europe" discusses how to **change** the current situation. The authors are unfamiliar in Britain, and there is one contribution from Eastern Europe.

Two papers, "For a Nordic Nuclear-Weapon-Free-Zone" and "Western European Neutralism", take European defence policy as their theme. They argue that Europe should move away from its current deterrence policy to one which establishes a non-aligned group of European states. The first discusses this in the context of Scandinavia, and the second looks at policy options for the rest of Europe.

Perhaps the most interesting papers are those which examine "alternative" defence policies at the technological level ("Alternative Defence Policies and Modern Weapon Technology" by Ben Dankbaar) and in terms of strategy ("Nuclear Disarmament: Non-Nuclear Defence" by Anders Boserup). Boserup analyses current ideas of deterrence and finds them seriously flawed. Increasing "defensive" capacity (e.g. battlefield nukes) also increases offensive capacity, so adding a twist to the arms spiral. He acknowledges the difficulty of separating offensive from defensive in discussing weaponry, but insists that without this there can be no coherent defence policy based on armaments. He points to Dankbaar's papers as evidence that such a split is possible.

Of all the papers, Dankbaar's is the most disturbing. He examines establishment research into "alternative" defence, focussing on "area defence", i.e. the defence of a region by a large number of small, dispersed units using modern precision munitions. In many of the sources quoted, this is seen as a viable alternative to current methods, but also as an alternative to conventional forces while maintaining a nuclear arsenal as backup.

Boserup's analysis of deterrence demonstrates the folly of these suggestions, but Dankbaar's points out the possible pitfalls in proposing alternative policies. If these seem practical, they may well be incorporated into the policy they were planned to replace.

Stewart Anderson
Technical Authors Group [Scotland]

Telly-Vision

Brack Report [book], Arrow, £1.50 + 20p.

The Brack Report, a recent 10 part television serial, was the story of a disillusioned nuclear scientist, fed-up with the secrecy surrounding the nuclear industry.

Paul Brack leaves the UK Atomic Energy Authority and enters the big-business world of Harold Harlem, an ex-oil tycoon who has turned his attention to the development and exploitation of renewable energy sources.

The first episode centres on an accident at a nuclear power station. The scenes inside the plant were so realistic that the Central Electricity Generating Board (CEGB) have since filed a complaint against Thames T.V. for portraying CEGB personnel in bad light. In the following episodes, Brack becomes interested in various alternative energy sources, while in the final episode he becomes the leading opponent in a Public Inquiry into a proposed nuclear power station. The grande finale is when Brack is led from the Inquiry by two policemen following the disclosure of information about laser enrichment, in breach of official secrets.

The Brack Report started well. However it rapidly deteriorated under a proliferation of technical jargon. It was a strange mixture of a BBC 2 documentary and a soap opera (Dallas?). The two did not gel. It did not make good television and it is hard to believe that many would have stuck with the serial. Possibly alternative energy is an unpalatable topic for a serial, but it is unfortunate that Thames T.V. failed to make the most of this excellent opportunity to inform the public of the important issues surrounding the energy debate. A book of the serial (available from SCRAM mail order £1.50 + 35p p&p) is reputedly much more interesting.

Claire Holman

Not for Children

Children of Hiroshima: Edited Dr. A. Osada, Taylor, Francis, £4.95 + 50p.

This is the first complete English translation of a collection of over 100 essays written in 1951 by school students who were living in Hiroshima at the time of the atom bomb was used against them. They relate their own experiences of that event: the awful physical and pyschological suffering which increased rather than lessened as time went by; the shock of immediate and complete devastation (and the farce of 'civil defence' in such a situation); the loss of families, neighbours, whole classes of schoolfriends.

These accounts are all the more moving as the reader begins to appreciate how difficult it was for the writers to bring themselves to think and write about these events in such a vivid and honest way. In this country, we find it hard to imagine the suffering of nuclear war. These essays are an effective reminder, and a plea for an end to conflict — they should be read as widely as possible. It may be a depressing way to spend a fiver but we all need a reminder now and again.

Stewart Milne

Blinkered Atoms

Nuclear Energy Pack, UKAEA £15 + VAT, available from UKAEA.

Even those readers who are familiar with the public relations output of the UK Atomic Energy Authority will be struck by the extravagance of their latest production — a Nuclear Energy Teaching Resources Pack.

Although ostensibly presenting a scrupulous and factual introduction to the world of the atom, this elaborate pack offers only a partial and imcomplete view of the subject.

It consists of a set of four glossy little brochures on Energy from Atoms, Ionising radiation, Nuclear Reactors, and Uses of Isotopes, together with supporting wallcharts and filmstrips. The format follows that of the study pack Nuclear Energy Questions published by the Information Service on Energy (ISE) last year. But covering as it does, only a third of the ground, it omits vast areas of concern — paradoxically those doubts which have generated the widespread interest in the subject remain unanswered. This is the art of manipulation by the selective presentation of facts for which the nuclear industry is rightly famous.

There's no doubt Einstein, whose famous equation $E=MC^2$ is cited, would turn in his grave were he to see this uncritical puff for the nuclear industry. He, like a number of other scientists, came to understand the complex ethical and moral questions surrounding nuclear energy and nuclear weapons of mass destruction. A special booklet covering these topics will be added to the forthcoming second edition of ISE Nuclear Energy Questions pack along with two new wall charts.

So for a narrow and superficially attractive teaching aid, the UKAEA's pack will be useful. But any responsible teacher will want to set the subject in context and this is where ISE's Nuclear Energy Questions schools pack wins out. Its second edition will be published soon and available from SCRAM Mail Order (£4.95 + 65p p&p).

Those books marked with postage in brackets are available from **SCRAM 11 Forth St, Edinburgh**

Mail Order

Faslane

On June 12th, a peace camp was set up at Faslane on the west of Scotland. Steve Heap writes:

People came from as far away as Ullapool and London to join locals in setting up a peace camp, the first of many, we hope, in Scotland. Representatives of Scottish CND, END, the Fellowship of Reconciliation, a minister of Bonhill Parish Church, and someone from the Salvation Army helped to launch the event.

Within an hour, Ministry of Defence police had told us that we were on their land, and that we had until mid afternoon to move (to get outa town!). While we were discussing what we should do, the MoD police returned and offered us another site. After seeing it, we decided that it was actually a better site. So we moved.

Since we've been here, we've enjoyed amazingly good relations with the local people, the police and the workers.

We picked Faslane as it is one of the two government proposed sites for the new Trident submarines (the other is Coulport), marking the embarkation into "First Strike" preparedness.

Filming Tour

Red Star Cinema have just finished a filming tour of most of these sites. The film and video will be available for hire to other groups. Red Star Cinema also have a video and booklet, The Lothian War Plan, available from them or SCRAM, which shows all the relevant installations in and around Lothian.

You are invited to join the peace camp, even for a very short visit, but please bring your own tent. Do send messages of support or donations to: Faslane Peace Camp, Below St. Andrew's School, Shandon, Nr. Helensburgh, Dumbartonshire, or follow the signs to Faslane base on the Helensburgh/Garelochhead Road.

International Day

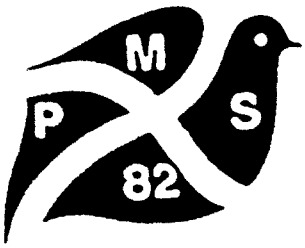
On August 8th (Sunday), there will be an international day at the camp. People from Japan, America, Russia, Germany and others will be coming, united in the Peace movement. There will be bookstalls, exhibitions, etc. Please come (and bring a flag).

As you read this, Peace March Scotland '82 will have walked half-way around Scotland. It left Inverness on July 23rd. The itinerary from now on is: Dundee for Hiroshima day August 6th; Perth August 8th; Stirling August 11th; Glasgow August 15th; East Kilbride August 16th; Edinburgh August 20th and 21st. And supporters will have the opportunity to come to the Nuclear Free Scotland Campaigners Conference on Sunday August 22nd in Edinburgh. Details of the conference are enclosed with this Bulletin.

The aims of the Peace March are to inform and activate the people of Scotland against nuclear weapons, recruiting the active support of people not previously involved in any campaign, to create an international focus on the position of Scotland as a nuclear arsenal, and to promote the idea of Scotland becoming a nuclear weapons-free zone, as part of a Nuclear Free Europe. The aims are intentionally broad so as to unite as many people and groups as possible.

PM' '82 has been organised under the auspices of the Scottish Convention for Peace and Disarmament. It has representatives from trade unions, churches, local authorities, peace, CND and anti-nuclear groups.

The march publicity doesn't mention the bond between civil nuclear technology and nuclear weapons. This is probably because a number of people still refuse to see the interdependence. We hope that in good time people will open their eyes to the reality. Of course this has not stopped the full support of those who do see the links, but are willing to work wholeheartedly for the marchers' aims.



Peace March Scotland

There will be major festivities in all the towns that the march passes through. At this end of the country the main events will be in Glasgow, East Kilbride, Bathgate and Edinburgh.

The march will arrive on Friday August 20th in West Edinburgh. There will be a welcoming ceremony and evening entertainments. On Saturday August 21st, a march has been organised from Sighthill to the Meadows. This will pass through very busy shopping areas and along Princes Street. Buses have been booked to bring people to the start of the march in Sighthill, but you are encouraged to join in anywhere along the route.

Speakers for the Rally and Festival in the Meadows will include Petra Kelly (we hope), Gavin Strang, Isabel Lindsey, Annajoy David, Alan Milburn and Mo O'Toole. There will be lots of kids events, music of all sorts, theatre, exhibitions, etc.

For those who survive (!!) there will be a campaigners' conference the following day on how to make Scotland nuclear free. Please note that there are some changes to the enclosed list of workshops:

1. There will be no workshop on the medical consequences.
2. Mo O'Toole and Alan Milburn will be coordinating the workshop on conversion.

Do come. There will be food. And if you need your children cared for, let us know. If you can come, please send back the registration form as soon as possible.

For more information on Peace March Scotland contact PMS '82, 313 Byers Rd., Glasgow. Tel: 041-334-2720 (they can give you your region's contact). PMS Edinburgh, contact Berni Graham, 22 Panmure Pl., Edinburgh, EH3 9JJ. Tel: 031-228-1386.

For more information on the conference contact SCRAM, 11 Forth St., Edinburgh EH1 3LE. Tel: 557-4283/4, or Scottish CND, 420 Sauchiehall St., Glasgow. Tel: 041-331-2878, or Glasgow END, 146 Holland St., Glasgow. Tel: 041-332-5960.

Dorothy Paulin

We would like to pay tribute to Dorothy Paulin who died recently. She was a tireless worker for SCRAM South-West, organising opposition to nuclear waste dumping. She was one of the original SCRAM committee members.

As a farmer she was also active in the soil association. We extend our sincere sympathies to her friends and relatives. She will be sadly missed by all who knew her.

Classified

Re-fillable Aerosol Cans - non-polluting spray for paint, thin oils etc. Includes hand pump for pressurising air. £1 each plus 25p p&p for any number.

Harrow Friends of the Earth, 7 Parkthorne Drive, Harrow, Mldx.

Capital and Class, the journal of the Conference of Socialist Economists, is a lively and thoughtful journal of Marxist theory and socialist practice. Issue No. 16, Spring 1982, contains an important article by Martin Spence, "Nuclear Capital". This takes the nuclear industry as a case study in modern capitalist development — and spells out the implications for socialists, trade unionists, and those opposed to nuclear power.

Available now from **First of May Bookshop**, 43 Candlemaker Row, Edinburgh, or **SCRAM Mail Order**. £2 (+ 25p p&p). Also articles on sex and class, Socialist economic strategy, the Brandt Report, and many other topics.

Gas-masks. Get yours before the holocaust. £2 incl. postage. **SANE, 11 Forth St., Edinburgh.**

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Leafing through the Guardian of 16 July 1982, Little Black Rabbit was impressed by a letter on the recent government decision in principle to export plutonium to the USA, allegedly for use in its fast reactor programme. The letter points out that the USA is not short of such plutonium — but **is** in need of weapons grade material. The writers conclude that "We have no evidence that the previous export of civil plutonium from the UK to the US was used for anything other than weapons, and we see no prospect that the proposed export... would be used for anything other than weapons."

Little Black Rabbit was even more impressed when she noticed that one of the writers was Dr Ross Hesketh, because she happens to know that he has already been disciplined by his employers for using their headed stationery when he wrote to **The Times** on this subject on 30 October 1981. She also knows that, nothing daunted, he went on to extend and deepen his criticisms of plutonium exports in an article in **Science and Public Policy** in April 1982.

Clearly, this is a subject about which Dr Hesketh feels passionately. It is also one on which he is in a position to be well-informed, because his employers are the CEGB and he is a Senior Manager at their Berkeley Laboratories. Little Black Rabbit would like to congratulate Dr Hesketh on his refusal to leave this subject alone, and assure him that he has her support and the support of all activists concerned about the menacing links between nuclear power and nuclear weapons.

Little Black Rabbit
xo

Help the Alliance...

The East Anglian Alliance Against Nuclear Power are appealing for help. Their funds are at an all time low. At this crucial stage in the Sizewell campaign, they desperately need money. Please send donations. Standing order forms available from their office: EAAANP, 2 St. Helens St., Ipswich.

SIZEWELL REACTIONS

This is a special broadsheet, giving background to the proposed PWR at Sizewell. It is to be the pilot issue for a proposed newspaper during the Inquiry next January. It was to have been included as an insert to this Bulletin, but it has been held over because this Bulletin is being printed before the second Sizewell Pre-Inquiry meeting on 26-27th July.

However we are very keen that you should get this broadsheet, so we will send a free copy to any SCRAM Energy Bulletin Subscriber who requests one.

The broadsheet will be available early August — cover price 10p. Bulk copies — £1 per 10; £7.50 per 100; £50 per 1000 (incl. postage).

UKAEA

Walter Marshall, recently knighted, has been appointed head of CEGB — the Central Electricity Generating Board. He thus becomes responsible for electricity supplies in England and Wales. A former Government Chief Scientist he has been deputy and then Chairman of the Atomic Energy Authority. He has been in the forefront of the nuclear establishment's push to build a Pressurised Water Reactor in Britain and as such is a classic Thatcherite appointment — bullish and unyielding.

He will use every trick in the book along with the full weight of the CEGB's considerable financial resources to push through the Sizewell 'B' PWR.

What we want to know is where his commitment to the energy-saving option of Combined Heat and Power stations is? In the late 70's he chaired a special Department of Energy Study which urged immediate action on CHP and in 1980 wrote, in a letter to the Guardian:

> "We return then to the absolute need for energy conservation. That is why I have advocated strongly that we pursue the option of combined heat and power for district heating in this country and elsewhere. It is the largest single energy conservation step we could take. It could double the contribution of both coal and nuclear fired power stations to our overall energy needs. In the long-term I believe it would be economic. Energy conservation in industry is also extremely important..."

His new job will give an opportunity to cease the platitudes and get down to action on some CHP schemes on the ground. We'll be waiting.

Events

Aug. 6: Peace March Scotland in Dundee (see pg. 15)
Aug. 6-13: Laurieston Hall Peace Week, contact Patrick, Laurieston Hall, Castle Douglas, Kirkcudbrightshire, Tel: 06445-275.
Aug. 7: Hiroshima/Nagasaki Rally — Carlisle City Centre, Details 0228-76643.
Aug. 8: International Day at Faslane Peace Camp (see pg. 15)
Aug. 8: Peace March Scotland in Perth.
Aug. 11: PMS in Stirling.
Aug. 15: PMS in Glasgow.
Aug. 16: PMS in East Kilbride.
Aug. 20-21: PMS in Edinburgh.
Aug. 22: Nuclear Free Scotland Conference Edinburgh. Contact SCRAM.
Sept. 5-17: London to Sizewell. March for a Safe Future.
Sept. 24-26: Briefing for peace activists, Lancaster Univ. Registration £10, or £5 unwaged. Forms from Paul Smoker, Richardson Institute, Lancaster University.

LETTER

Dear SCRAM,

Should the anti-nuclear movement appear at the Sizewell Inquiry?

What are we trying to do? To stop nuclear power. So we want to stop Sizewell and its ilk. But will appearing at the Public Inquiry help to do so? Or are we being set up to take a fall, either by charging at an open door or a brick wall?

There are two things we want to get across. One is that the nuclear industry is a failure in its own terms. It is very bad for money. And it is getting worse, or maybe its carcass is just so full of maggots now, that they are starting to crawl out all over the place. This is something that the system understands, and we should help them to remember it.

But the main thing is that we don't accept their terms. Even if it was cheap, even if there was no chance of a big accident, we would still be against a nuclear power station. Because it is the first stage of a bomb factory. Because we have no idea what to do with its effluent. Because if we are trying to keep people warm, making electricity is a stupid way to do it. For a host of reasons. Maybe not even reasons. Maybe feelings, because that is what it comes down to in the end. Some people, thankfully few, like the idea of nuclear weapons. They are beyond argument. We don't, not even if they are the cheapest way to kill a million people in the shortest possible time.

Back to Sizewell. Within the Inquiry, we can show that the disappointed hopes of the nuclear industry have now become lies. And we should do so. Maybe we can use the Inquiry as an occasion for showing how we feel — remember how successful the Women's Peace Camp on Greenham Common has been. But we will never get our feelings into the eventual report, and it would be stupid to try.

Colin Hastie