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SCRAM ENERGY BULLETIN

NUCLEAR POWER? NO THANKS

THE SCOTTISH CAMPAIGN TO RESIST THE ATOMIC MENACE, 2A AINSLIE PLACE, EDINBURGH 3. (031-225 7752)

No. 11 April/May 1979 15p

HARRISBURG

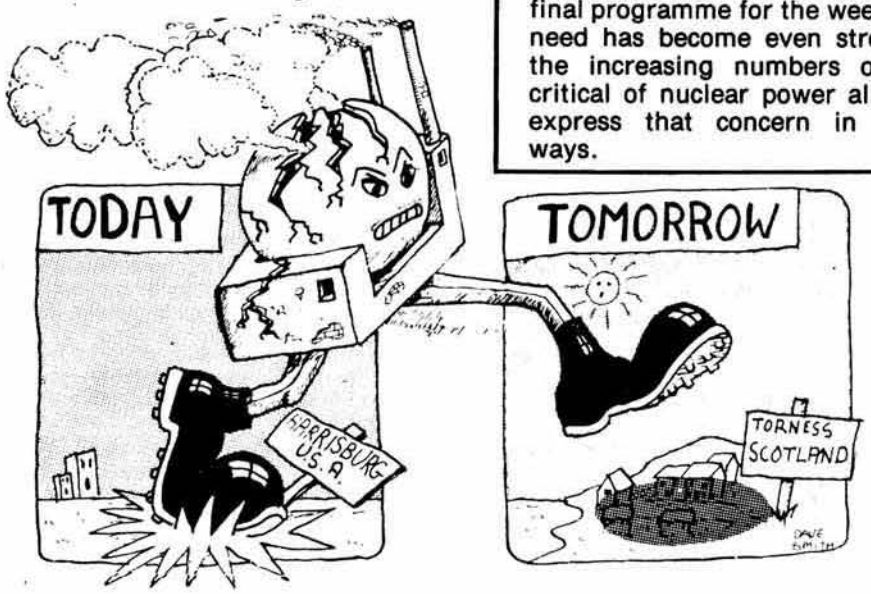
U S REACTOR ACCIDENT

On 28th March the "most serious accident ever to occur at a civilian nuclear power station" took place at the Three-Mile Island nuclear plant near Harrisburg in Pennsylvania, USA. At the time of writing the full details of what occurred are not yet available—indeed the authorities have released little and wildly conflicting information— but it is clear that a very serious incident occurred.

It seems that two core cooling systems of the reactor failed simultaneously, and an emergency valve was stuck open, allowing radioactive liquid to escape. In addition, **an operator at the plant shut off the emergency cooling system.** This allowed the fuel rods to overheat and crack and radioactive gases have escaped into the surrounding area.

The level of radioactivity around the plant was claimed by the local electricity board not to be dangerous; but pregnant women and young children have been evacuated from within a five mile radius of the plant. All livestock is being kept and fed indoors. Furthermore, radioactivity levels four times normal have been recorded 200 miles away.

Continued on Page 10



SATURDAY 5 MAY

The Torness Gathering is taking shape...and the pace quickens. Up and down the country Torness Alliance groups are publicising the event locally. They are inviting concerned people to come for the weekend to register their opposition to Britain's next proposed nuclear power station.

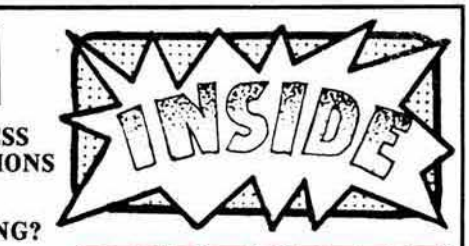
Right from the start it has been seen as an event in which everyone can participate. While drawing up the final programme for the weekend this need has become even stronger for the increasing numbers of people critical of nuclear power all want to express that concern in different ways.

MASS RALLY ON SATURDAY

So the weekend is structured in two parts. People will arrive on the Friday evening/Saturday morning for the mass rally all day Saturday. Here emphasis is placed on an invitation to the local people from the region. There will be displays and exhibitions all day and from noon a focal event with folk music and speakers starting discussions on the different hazards of the nuclear fuel cycle. David Brower of FoE International will speak about the recent accident at Harrisburg. These short introductions will be expanded in a series of discussion workshops focussing on maybe uranium mining, radiation hazards, Reactor (Un) safety and waste dumping. These will continue through the afternoon and maybe, along with ideas for the future campaign, spill into Sunday. On Saturday evening there will be small informal ceilidhs around camp fires, listening to acoustic instruments (bring your own!).

PREPARATIONS IN GROUPS

Sunday will be taken up with briefing and preparations for the proposed nonviolent direct action at the end of the weekend. Using the Torness Handbook, groups of 10 to 15 will continue working together, building up trust, exchanging medical skills, legal knowledge and discussing the most appropriate action to take. There will be as many ways as groups and this will continue to be the strength of the Alliance—for individually we may be weak, but given time, TOGETHER WE WILL STOP TORNESS.



GOOD NEWS

US REPORT DENIES NEED FOR HUGE RISE IN ENERGY

US President's Council on Environmental Quality has stated that the United States could maintain healthy economic growth and, at the same time, cut annual increases in energy consumption to almost zero.

The council's report, "The Good News About Energy", contradicts most predictions of US energy needs through the year 2000.

"Revised and more realistic estimates now indicate that with a moderate effort to improve energy productivity, our energy consumption in the year 2000 need not exceed current use by more than about 25%, and that with a determined effort it need not increase by more than about 10 to 15%", the report said.

Forecasts have generally called for doubling US energy consumption by the century's end.

The usual view is based on simple projections of past trends requiring 3 to 4% growth in energy consumption each year to achieve a similar level of growth in the nation's economy.

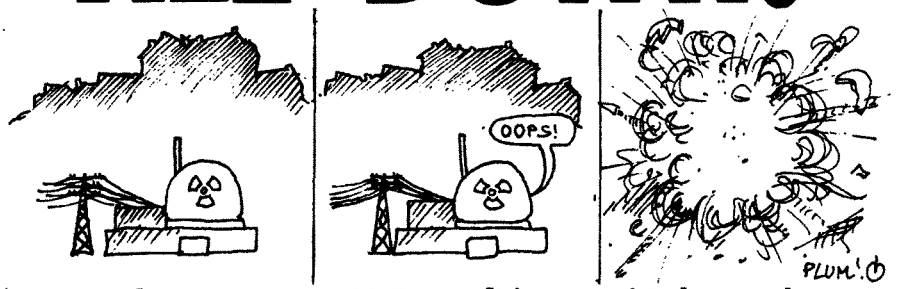
But the council, citing a number of other recent studies to support its argument, said that similar levels of economic growth can be obtained with increases in energy consumption as low as 0.5% a year if the nation makes a real attempt to practice conservation.

Gus Speth, a member of the council, said conservation measures required to achieve the goals are possible with existing technology.

"Our study indicates that attractive investments which increase the productivity of energy would allow the US economy to operate on 30 to 40% less energy", he said.

Instead of the presently projected 500 new coal or nuclear power plants needed by the year 2000, the nation would require only the 150 new plants already ordered or under construction. The report concluded that the proposed changes would **not** cause "a back-to-the-caves reduction in amenities".

CLOSE THEM ALL DOWN!



As we were due to go to press with this issue the bottom dropped out [well almost] of U.S. confidence in reactor 'safety'; but more, Americans lost all confidence in the completely conflicting statements being put out by the different authorities.

On this side of the Atlantic we have been treated to almost crass statements from the UKAEA that "such an accident could not happen here because our British reactors are cooled by gas - not water." This chauvinistic tone was taken up by Mr Benn in his ministerial TV statement - British is best. Ours just IS safer and you better believe it. The same programme cited Hinkley 'B' as one of the successful 2nd generation nuclear stations! Readers may remember that this reactor suffered a double circuit loss of cooling fault in 1977 and cooling was only restored hours later using fire hoses.

Our position will always be clear: so long as we rely on nuclear power with ALL its attendant hazards no one will be spared the threat which has recently hung over the people of Pennsylvania.

As for any particular attributes of the British AGR, all reactors, indeed the whole nuclear industry depends upon both machines and their operators being practically infallible. This is clearly just not possible. This aspect alone, ignoring all the other enormous implications, nuclear power is completely unacceptable.

It is appropriate here to clear up any misunderstanding caused by some very selective and twisted reporting of a SCRAM member's views on radioactive waste dumping recently reported in the Scotsman. The waste problem is one of the nuclear industry's own making and one they have consistently swept under the carpet. We are therefore right behind campaigns such as BAND in Lochaber, SCRAM S.W. in Dumfries, COND in Ayrshire and the groups fighting the threat to the Cheviots when they totally oppose any test-drilling proposals. Right from the early days the nuclear industry has used back door methods, relying on the lack of knowledge of the people threatened by their proposals. People now see that once the industry gets a foot in the door nothing will stop them. The Orkney Islands Council has recognised test drilling as the thin end of an ugly wedge, and with the full support of Orcadians moved to outlaw uranium mining entirely from the islands.

The whole nuclear programme is one which has been foisted on the public with no informed discussion and certainly no public consent. The problems arising from it cannot possibly be solved in the context of an expanding nuclear programme. Only when they stop creating the waste will reasoned discussion be possible. Until then we remain resolutely opposed to all further developments whether in Scotland or elsewhere.

Insulate don't Generate

A recent report from the Scottish Laboratory of the Building Research Establishment(1) provides some useful information on the cost/benefits of improving thermal insulation on electrically heated local authority houses. Long term comparison of the electricity consumption of two groups of similar houses in Central Scotland, one group with 25 mm roof insulation and unfilled cavity walls, the other with 125 mm roof insulation and filled cavity walls, showed that the houses with the higher standard of insulation consumed, on average, 20% less electricity and were about **15% warmer.**

If it is assumed that the cost of upgrading the thermal insulation is about £250 per house, a reasonable estimate according to a recent WHICH? report, then it is possible to calculate the capital cost per average kW saved. This comes out at £830/kW. The comparative capital cost for building extra generating capacity at Torness, based on an estimated capital cost of £750 million to provide an average delivered output of 510 MW, is £1,620/kW.

Thus on the basis of capital cost alone, conservation is a much better investment of public money than generation. When the relative running costs, risks, environmental impact and employment are taken into account, then the case for conservation becomes overwhelming.

References

(1) B. R. Anderson, Field Studies on the effect of increased thermal insulation in some electrically heated houses. The Heating and Ventilating Engineer, November 1978.

(2) Performance fitures for Hunterston station 1977-78. SSEB Annual Report.

THE HAZARDS OF LOW-LEVEL RADIATION

By Dr Robert Blackith of Trinity College, Dublin.

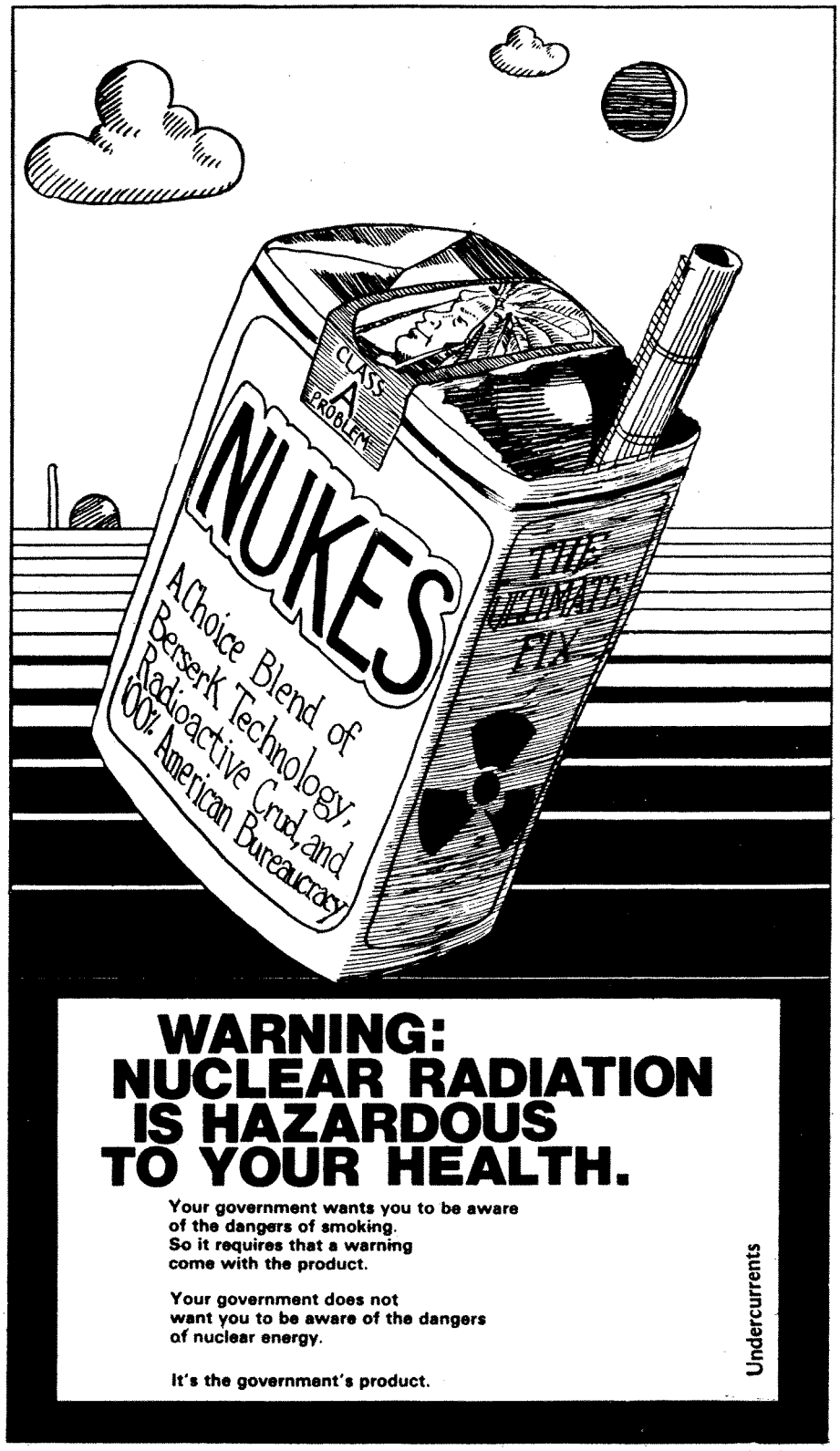
'The cancer risk from exposure to ionizing radiation is much greater than was thought to be the case some years ago.' This statement was published recently by Professor Karl Morgan, a former Chairman of the International Commission on Radiological Protection, the body which sets permitted limits of exposure to which most countries adhere. Public opinion has focussed on the acute radiation sickness from exposure to major nuclear accidents; but the insidious and slowly acting exposure to radiation from nuclear plants and their effluents is, in my judgement, a far more immediate threat.

Until a few years ago, most scientists believed that below about 5 to 10 rems exposure (the **rem**, or roentgen equivalent **man**, measures the effective exposure to which the body is subjected) radiation was more or less harmless. Over the years, the largest annual dose permitted for radiation workers was reduced from 70 rem in 1925, 50 rem in 1934, 15 rem in 1950 to the current level of 5 rem. Now, it is widely accepted that, as far as we can judge, the risk of cancer is proportional to the dose received down to the lowest levels we can measure. To quote Prof. Morgan again, 'Most of us recognise that the risk of inducing cancer at low doses of radiation is far greater than we once thought it to be.'

SAFE ?

When these matters are raised with pro-nuclear spokesmen, it has been common for them to say that discharges from nuclear power plants are only likely to give a dose of, say, 5 to 10 milli-rems to anyone outside the plant, compared with the 50 - 150 milli-rems which people receive from the natural background, that is from outer space in the form of cosmic rays, and from radioactive substances in the rocks, and to varying extents from fall-out from weapons tests. This argument sounds convincing, because if 100 millirems is harmless, 10 millirems must be trivial. However, background radiation is not harmless, it probably causes roughly ten cases of cancer every year for each million people at risk. Indeed, a figure nearly triple that is not out of the question.

What perhaps matters more is that calculations averaged over the whole population assume that everyone has the same susceptibility. Unfortunately, that is far from the truth. We know from the work of Dr. Irwin Bross and his colleagues at the Roswell Park Memorial Institute of New York State, that children who have been irradiated whilst in the mother's womb are from 3 to 4 times more likely to die of leukaemia (blood cancer). Children who have a medical history of allergic diseases such as asthma, hives etc. have a 40 to 50% increase in leukaemia rates. But those who were irradiated in the womb **and** have an allergic condition are 50 times more likely to develop leukaemia, and their risk of some other diseases is also greater than normal.



LEUKAEMIA

Results such as these help to explain the paradox that leukaemia rates among children under 15 years appear to be showing up around some nuclear reactors at levels most unlikely to arise if the simple 'averaging' was justified. The West German Parliament has heard evidence, also reported by a child health specialist Dr Hermann Kater of Hameln, that child leukaemia rates within 80 Km. of the Lingen reactor near Niedersachsen are six times greater than either the rates locally before the reactor came

on stream, or the current rates for W. Germany as a whole. Similarly, surveys round the Big Rock Point reactor on Lake Michigan, U.S.A., suggest that the child leukaemia rate is four times greater than int he rest of the State of Michigan. However, it must be emphasised that surveys of this kind, and the interpretation of the data they produce, are much more difficult than they appear to be at first sight, and caution is required in these cases. It is a curious coincidence that both the reactors just mentioned are of the Boiling Water type, and have been used as test-beds for experiments with mixed-oxide fuel rods, in which a few rods containing Plutonium oxide as well as Uranium oxide were introduced into the core. At Lingen 15 of the 8924 rods were modified in this way. So far, we do not know if this has any bearing on the child cancer rates in the vicinity, but many reactors operate abnormally from time to time, sometimes for a high proportion of the time, and discharges during these periods are apt to be very much higher than those from normal working.

Quite apart from cancer risks, radiation produces a generalised aging effect which, until recently, was not well studied. Now, Dr Rosalie Bertell, a Gray Nun of the Sacred Heart, has shown that, approximately, exposures of 1 rem shorten life by 1 year. This relationship is particularly important for the workers in nuclear plant. By 1975, for instance, 952 workers in U.K. fuel reprocessing (mainly at Windscale) received from 1.5 to 5 rems, the maximum permitted, and 36 received more than 5 rem. If Dr Bertell's analyses can be applied here, these figures represent a lot of years of life lost. There is the greatest difficulty in obtaining compensation for cancers induced by radiation because of the long time lag between irradiation and the onset of cancer. Compension for life shortening has, so far as I know, never been secured. It may seem simple to resolve these problems by reducing the maximum permitted levels of radiation exposure to workers in the industry, but as Professor Morgan states 'Were we to reduce the present maximum permissible exposure by a factor of ten, I seriously doubt that many of our present nuclear power plants could continue in operation.' Whenever you hear of the jobs that a nuclear power plant will create, it might be worth meditating on what work in such a plant may entail.

There is a natural temptation, in such a difficult field, to trust the expert who, in the nature of things, is likely to be pro-nuclear. If he were not, he would presumably have been tempted to get out. But even impartial experts are no better than the data they possess, and there are many unknowns. Last year, in the medical journal 'The Lancet', Dr Najarian and Professor Colton showed that radiation workers in a shipyard repairing nuclear submarines in the U.S.A. had a higher leukaemia rate than workers in the same yard who did not work with radiation. Their paper contains the assertion 'Little work has been done on people occupationally exposed to chronic, low levels of radiation and to radioactive materials'. Such a statement, made a quarter of a century after the nuclear industry began, speaks volumes.

MISLEADING

Emilio Varanini, Energy Commissioner for the State of California, has said in evidence to a Congressional Committee 'The public has a growing sense that those entrusted with ensuring its safety have so far failed in that trust'. I have recently been sent an advertisement inserted in a women's magazine by Electricité de France, the French nationalised industry. This advertisement, four pages long, contains statements on radiation hazards by one of their engineers that betray a terrifying lack of knowledge. It is hard to believe that so disgraceful an advertisement could have been accidentally inserted by one of the largest electro-nuclear organisations in the world. Whether accidental or not, the statements it contains must call into question the value of official assurance about the safety of the nuclear industry, particularly as the journal in which it appeared, called 'Les Heures Claires', has readership unlikely to be in a position to judge the technical issues at stake. Electricité de France has already been accused by the Finance Commission of the French Parliament of misleading advertisements and of conduct infringing article I of the French Finance Law which, as the Commission comments, is an abuse which should be ended and punished.

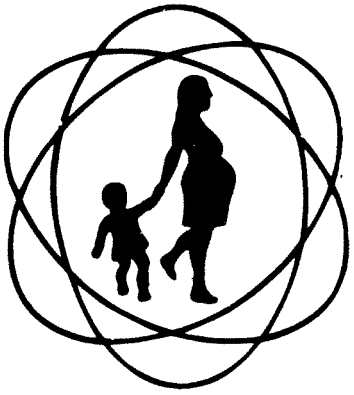
The evaluation of radiation hazards is an immensely complicated task in itself; if, world-wide, we are to lose confidence in the value of official assurances the prospects are grim. A letter from eight organisations in the U.S.A., including the Oil, Chemical and Atomic Workers Union, to the U.S. Department of Energy, complains that official steps taken to withdraw funds from some of the leading research workers in the field of radiation health hazards was 'part of a well-defined pattern of harassment and intimidation of scientists who do not agree with the position of promoters of radiation technologies that there are no adverse effects associated with exposures to low-level ionizing radiation.' A major part of the dose of radiation received by the public comes from the excessive use of medical X-rays; opposition to such excessive use, if successful, would cost the American medical profession a good deal of money, and there is hostility by part of the medical profession to any attempt to demonstrate the harmfulness of low-level radiation. For years, the work of Dr Alice Stewart in Britain on the harm done by X-rays to the unborn child was hotly contested, though now recognised as essentially correct. Now, her work on cancer rates among workers at the Hanford nuclear reprocessing plant in Washington State is subject to the same opposition.

DISCREPANCY

When nuclear spokesmen declare that radiation near a power plant is only, say, 10 millirems, this figure is usually obtained from Geiger Counter readings which do not normally pick up alpha-particles. Professor Sadao Ichikawa, of Kyoto University, has planted the spiderwort, **Tradescantia**, near a Japanese reactor at Hamaoka and found that mutation of the stamen cells reveals 300 millirems instead of the 5-10 millirems; he suggests that alpha-particle emitters might account for the discrepancy. Possibly this is another factor to explain the discrepancy between the child leukaemia rates at Lingen and Big Rock Point and the rates to be expected from the official figures for radioactivity round nuclear power plants.

When a possibility that neutrons were leaking from reactors in the U.S.A. was raised early last year, the official reaction was to deny explicitly that there was any risk to workers in the plants. The regulatory body then discovered that one of its own staff had raised the alarm, so it commissioned a research programme to discover what risk obtains, if in this case there is any. This incident is revealing, the assurances to the public came before the investigation upon which they should have been founded. An industry which behaves in this way is forfeiting the right to public confidence, and ensuring public contempt.

Dr Robert Blackith



STOP THE NUCLEAR PROGRAMME

GORLEBEN
Testdrilling begun

Background—The State Prepares

Gorleben, an isolated rural district in N. Germany has been chosen as the site for reprocessing and long-term storage of radio-active wastes. Its importance for the German atomic industry cannot be underestimated—for they plan to combine both a Windscale and a nuclear waste dump—solve all their problems in one go!

Exploratory work has started, and once again the safety of the construction work and the testdrilling seems more important than the safety of reactors and reprocessing etc. These testdrillings will quite easily find their way into the Guinness Book of Records. They will be the most expensive ones ever undertaken. To drill an 8 inch hole 40,000 square yards of woodland will be cut. That wood is to be used to build a 5 foot barrier, which is followed by a double 10 foot iron fence (known as the Atomic power station fence) in front of which there will be a ditch, some space, a barbed wire fence (7 feet) with microphones, some space filled with ground alarm devices, and the same double barbed wire fence with microphones to monitor any movement, and in front of that there will be police. Helicopters will be used to supply the site with all necessities. (All this from an internal document of the industry.)

Only recently it was leaked to the public that the Lower Saxony Government and police have already cleared about 80 cells in prisons near Gorleben. About 5000 police will be ready to move in within hours to support those stations permanently in the area to "protect" the site. Thus prospective protesters are already branded criminals even before any plans have been decided on the question of what action is to be taken against the test-drilling and the following construction work. This is what the strong German state calls a de-motionalised dialogue with the citizen. The German anti-nuclear movement has answered to these preparations by the state. There can be no dialogue on these terms—it is not we who are the criminals, but the atomic state. Not we who prepare for a civil war, but the strong state. More than 400 million DM (!!) will be spent on related projects of the reprocessing plant. Almost 100 million have been put aside for prospective damages in connection with demonstrations. It is planned to involve 5000 Police and Borderguards three times every year in manouevres at the site, apart from the permanent police force of 1600 near the site.

In the light of this demonstration of power on behalf of the atomic state the German anti-nuclear movement has the difficult task of organising the resistance. After the experience in Grohnde and especially Kalkar for a lot of protesters the concept of mass action at the site, a mass demonstration with interwoven direct action seems to be ruled out. Instead a lot of people opt for decentralised action, and/or mass action in the capitals Bonn and Hanover. In particular, the group that is based in Gorleben itself is opposed to mass-action at the site. This does, of course, make such action almost impossible. It will take some time until the German movement agrees on their tactics. Whatever action will be agreed, it will probably coincide with the demonstration in Torness. Solidarity and strength is needed by all of us against that monster atomic state which is already well developed in West Germany. It is said: **"Gorleben is everywhere"**. Together we will stop it!

Farmers respond

"Come peacefully—bring flowers along!" This is the slogan that mobilised for a mass demonstration in Hanover that the farmers of the Gorleben area have called. At the end of March they are heading with their tractors on a four day trip towards the capital of Lower Saxony. They decided on this action because the president of Lower Saxony refused to see them in Gorleben and respect the people's opposition to the proposed reprocessing plant there. "Herr Albrecht, we are coming!", they announce.

Minister Albrecht's first answer was a brief visit to the farmers' assembly in Lüchodannenberg, the town next to Gorleben. He entered smiling, convinced that a nice speech would once again calm down the anger of the protesting farmers who had just presented the DWK (the equivalent of the SSEB) with a huge heap of manure. This time, however, he could not answer the critical questions put to him by the farmers. He was just smiling and trying to find nice phrases to—in his own words—"comfort" the farmers who—as he told the press the following day—had been disturbed by outside protesters and the Burgerinitiativen. He is now sending government officials to visit every house and "convince" the people individually of their good. Hopefully these government spies will be thrown out of the houses. The farmers who took part in that assembly agreed that the minister "had talked a lot, but had said nothing". They have learnt a lesson for the future and know what to think about the government's "dialogue" with the citizen that has, once again, proved to be a facade. The farmers themselves are now refusing to take part in that game. Their final decision came when they heard that cells had been reserved in the nearby towns for possible anti-nuclear protesters.

More scientists' 'talk shows'

The demonstration coincides with a "public hearing" in Hanover which was initiated by 25 scientists critical of the Gorleben proposals. However it has now been taken over by a government team headed by Herr Weizäcker—a man who proved his independence by praising the infamous **Rasmussen Report**, which was recently abandoned by the US NRC. So all the nice multi-coloured pamphlets based on the report had to be destroyed.

Critical scientists from the SAIU project at Bremen University agreed to participate in these "independent" hearings if there was:

1. Full publication of all "Safety Reports" and evacuation plans.
2. No test drilling before or during the hearing.
3. Full public access to the hearing.
4. Full rights for scientists to publish all gathered material.

No such luck—test-drilling began at 4 a.m. on 14th March and of the 250 seats in the public gallery only 7 are reserved for members of the public including just 2 for local farmers.

In addition an extremely critical report on the Safety of Gorleben Salt Mine prepared by Professor Hermann of Gottingen University was sent to Minister Albrecht. His response was:

> "I have received this report but I can't say I have read it. That I do not want. . . . It is not my job to deal with certain professors especially as this is a project where a lot of money is involved."

So once again the "talk shows" of the united atomic front, with their highly paid scientific advisors are seen to be a waste of time—with the results being always the same: Nuclear power is safe—and this we know too well—dead safe.

Postscript

There were 2,000 Farmers who came to the Hannover demonstration and, along with 80,000 others, they formed a six mile long procession through the city. Because of the farmers' presence the police kept a very low profile and the march was a buoyant positive one with street theatre, music and singing, the first mass demonstration since the ugly confrontations last year where the State acted with unprecedented savagery.

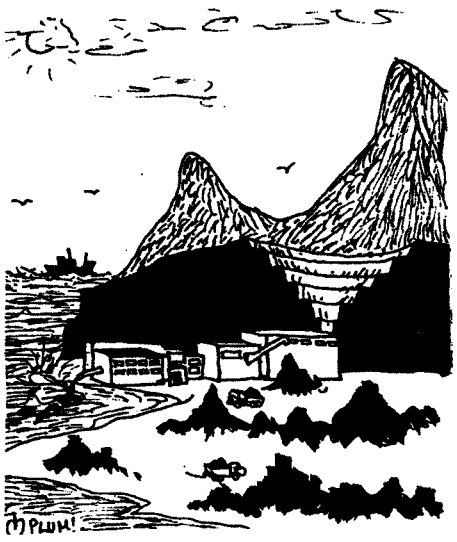
ORKNEY-ANY drilling opposed

On Wednesday 21st March one thousand Orcadians marched silently through Kirkwall to the Council buildings. Their silent protest was against the SSEB's persistent attempts to "maintain an option" on uranium mining and exploration in the Orkneys. Here in Edinburgh, despite a raging blizzard, a number of us maintained a silent vigil in support of the Orcadians outside New St. Andrews House. We are printing here in full the fact-sheet distributed that day:

The Orkney Islands Council have submitted for approval their draft Structure Plan to the Secretary of State for Scotland. This Plan, which is an overall policy statement for the local area for the next 25 years, contains the significant and controversial clause forbidding the prospecting, mining and extraction of uranium, the fuel for nuclear power stations, in Orkney. The South of Scotland Electricity Board have formally appealed to the Secretary of State against the OIC's decision, as a result of which an "Examination in Public" opens today, Wednesday March 21st, in Kirkwall to look at the reasons why the OIC have adopted such a policy in their Structure Plan.

UNDERHAND TACTICS

The formal statement in the Structure Plan follows the OIC's unanimous rejection of an application from the SSEB for permission to begin a 7 month programme of uranium prospecting back in February 1977. At that time the councillors strongly attacked the proposals both on environmental, health and safety grounds, and on the grounds that the SSEB had used "underhand tactics" in gaining extraction rights. In 1976 SSEB agents visited 40 farmers living in the "uranium corridor" just north of Stromness, and persuaded them to sign a document which gave the SSEB the right to test-drill on their land, in return for £11.50. What most of the farmers did not realise, and what was not explained to them, was that they had also given the SSEB the right to mine uranium on their land if it was "in the national interest" to do so, and that this was binding for 7 years. When the farmers became aware of this, most of them angrily returned their cheques, only to be told that they could not simply go back on a "legal" document like that. These cheques have either still not been cashed, or been donated to the "No Uranium" Campaign. This was when the OIC stepped in and, under massive local pressure, threw out the SSEB, "legal" documents and all.



THE HAZARDS OF URANIUM MINING

Why are the people of Orkney so bitterly opposed to uranium mining on their islands? They have many good reasons. Here are just a few:

1. Pollution from uranium mining and extraction is immense: deadly radioactive substances such as radon gas would escape into the atmosphere; toxic metals, such as arsenic, cadmium, radium and mercury, would be released into the ground and ground-water, as well as the chemical agents used in the extracting process. This severe radioactive and toxic pollution would continue for centuries, in the case of some substances for millenia, after the mine had closed.

During the working life of the mine, which could be anything from 12 years upwards, there would be round the clock noise and dust, some of it highly radioactive, and a constant procession of heavy lorries and shipping.

2. A unique and outstanding landscape would be destroyed. The 5 mile by half a mile "uranium corridor" runs close to Stromness, the islands' beautiful second town, through one and near another site of special scientific interest, and near a rural conservation area. Hills would literally disappear, and lakes of radioactive slime would remain.

3. It would cause serious, probably permanent damage to the key local industries of farming, fishing and tourism, with no long-term stable employment offered in return. And anyone working at the mine would run an exceptionally high risk of contracting cancer. Already many underground uranium workers in North America are either dead or dying of cancer.

ONLY THE BEGINNING

The mining of uranium is only the beginning of a process, every stage of which is fraught with hazards equally great and unacceptable, ending in perhaps the greatest of all—radioactive waste from nuclear power stations. It is not for Orkney to have to justify its highly sane refusal to allow uranium prospecting (simply the thin end of the wedge); rather it is up to the Government, the nuclear industry, and the EEC energy commissioners to justify their continued insanity of blind commitment to an energy system which creates more problems than it solves, while so many sound alternatives await funds hitherto swallowed by the nuclear giant.

we are here to express two things:

firstly, our solidarity with the people of Orkney in their fight to preserve their environment, their heritage and their health. And secondly, our deep concern over the entire nuclear power programme, of which uranium mining is only the beginning.

If you would like more information on uranium in Orkney, please contact either Marjorie Linklater, chairperson of the Orkney Heritage Society's "No Uranium" Campaign, 20 Main Street, Kirkwall or, for more general enquiries, SCRAM in Edinburgh.

ORKNEY HERITAGE SOCIETY

"NO URANIUM" CAMPAIGN

Uranium mining and export continues to be the most controversial issue in Australia.

Despite increasingly repressive legislation, this last year has seen numerous spontaneous demos including one last March when 25,000 took part in a Stop Uranium Action Day in cities across the country. The trade unions and the labor movement seem to play a much greater role than in this country and many unions have specific anti-mining and anti-nuclear policies. So there was some concern worldwide when Don Dunstan, Labor Premier of South Australia arrived early this spring in Europe on a "fact-finding" tour.

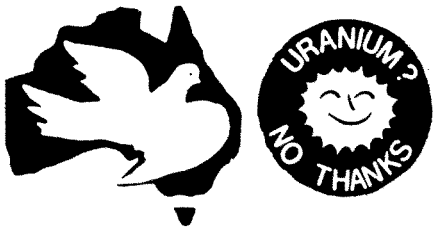
His visit was the result of heavy pressures from multi-national corporations wishing to mine and refine uranium in Australia and from individuals within the Australian Labor Movement anxious to change the general opposition to uranium mining.

OVER-SUPPLY OF URANIUM

However, before leaving London, Premier Dunstan told pressmen that he had learnt nothing from recent UK experiences in re-processing and safe-storage of uranium fuels and nuclear wastes that could alter the policy-positions of the Australian Labor Party federally or the labor governments in three of the States. He noted that: "While sales of reactors had fallen markedly, mining companies around the world were planning operations which could result in a considerable over-supply of enriched uranium in the 1980's". On his return to South Australia, where he made reports on similar findings in other countries of Western Europe, one of the multi-national corporations, planning to open uranium refining and other activities in a A$1.5 billion plant, announced cancellation of its plans and transfer to another State. In that State, anti-nuclearists are now considering a new organisation to prevent it becoming "nuclear" in any way. The slogan of a "nuclear free state" has been raised.

ABORIGINES DEFRAUDED

Australian public opinion has been stirred greatly by a series of events. The fraudulent voting process whereby some of the Aboriginal tribal councils were said to have voted in favour of uranium mining on their reserves; the visit of the DGB delegation and its pre-occupation with uranium and nuclear questions; the fact-finding tour by Premier Dunstan, which was kept secret until his departure (for this he had sound reasons it seems) the campaign of pressure from multi-national corporations for the right to open uranium mining and uranium-enrichment plants and forecasts of building a number of reactors; the last such project being



Australia cont'd

abandoned in 1968 in the face of immediate public opposition; the pressure from other multi-national corporations on the anti-labor Federal Government to defy the trade union and Labor Party bans on any part of the nuclear-cycle.

A special federal unions' conference (25 unions directly involved in any future uranium mining and treatment) was called to discuss the issues now arising. The voting to re-affirm their stand against uranium mining, etc., was carried by 16 to 9. Outside of the 25 unions, however, there are many unions which are even stronger opponents of nuclearisation.

KEEP IT IN THE GROUND

Noting that the Federal Government had given the go-ahead for corporations to start uranium mining on three fields—there are 30 workers near one site now and once the rainy-season in the North Queensland-Northern Territory lifts the corporations believe they will have 300 on site—some of the unions decided to meet, State-by-State, to plan their programmes of direct action to restrict and, if possible, halt any mining of uranium. In one State, they have decided on a new campaign to take the issues to the general public once again and to step-up the debates and actions in the workshops, offices, transport and communication depots, etc. A very vigorous campaign would be dependent on the actions of the transport workers in Queensland, who commenced the anti-uranium cartage bans in 1966 when these were followed by lock-outs and strikes right round Australia. The Australian Transport Workers' Union in the State has now issued a new book on why and how the campaign should be stepped up through direct action. The urban and country environmental protection and anti-nuclear movements will be responding again to these initiatives within the formations of the Labor Movement.

Contact: M.A.U.M., 277 Brunswick Street, Fitzroy 3065, Australia

Windscale Leaks...

Investigations into a leaking nuclear waste silo at Windscale nuclear plant were halted last month. The silo has been pouring radioactive water into the ground for the last **two years.**

Nuclear experts have still not found the source of the leak and now they say it could be too dangerous to go on looking.

Scientists are afraid that workers would suffer too much radiation exposure if they carried on a detailed probe for the source.

So the work has been stopped while the Government's Health and Safety Executive tries to find ways of plugging the mysterious leak.

The sealed off silo—B38—is part of the block in which there was a dangerous build up of Hydrogen gas last November. The exact cause of that incident is still not known either, but it stopped re-processing of spent fuel for a month and could have caused a fire or explosion.

The leak in the nearby silo was detected in 1976. And now it has to be kept topped up with water to prevent any fire hazard. It is assumed that the leak is in a crack in the silo floor, but this is of re-inforced concrete several feet thick and about 20 feet underground.

Meanwhile, the silo is said to be spilling out enough contaminated water to fill a large domestic tank every day. It is used to store the discarded metal jackets of radioactive spent fuel in water.

And, according to the experts, there would be a fire risk if the jackets were exposed above water for too long. The only short term answer is to keep replacing the leaked water in order to dilute the radio activity.

However, the company says;-
"There is no hazard to workers on the plant or to the public outside."

Same old story, eh?

German efficiency!

West Germany's reactors are almost as disastrous as our—of 16 reactors in the country only five are running at full capacity, three at reduced capacity while eight are closed down. They can manage an output of only 4804 mw compared to their rated capacity of 9561 mw. Our german friends in the BBU ask "why go on?"

Bremen Blues

A propaganda show of the German atomic industry had to be cancelled in Bremen recently (22-2-79). The talk was to be on the subject of "Nuclear Desupply Park at Gorleben". The German atomic industry has always been careful to choose nice-sounding terms for its dangerous endeavours (they speak of nuclear rather than atomic, as atomic associates with the dangerous atomic bomb etc.). Unfortunately this event had to be cancelled: Protesters had announced that they would turn up in numbers to visit this propaganda meeting. Wisely, the Bremen police advised calling the meeting off. This should happen more often!—Also, protesters should really go in masses to these meetings. First, this means less people can be conned by this kind of propaganda, and secondly, there are always ways to make the meeting a more interesting one!

TORNESS:

PROPOSED NUCLEAR POWER STATION

In February this year the SSEB publicity machine churned out a nasty little lime-green leaflet called: TORNESS AND NUCLEAR POWER: YOUR QUESTIONS ANSWERED.

The questions were good enough but the carefully phrased half-truths and misinformation in their answers appalled many. We had many requests that we make a reply and a kind donation towards printing costs. Last month we published a really nice blue leaflet: TORNESS AND NUCLEAR POWER: SSEB ANSWERS QUESTIONED. This was the work of many and we thank all for their constructive comments and criticism. It is available from us in Edinburgh for any who wish to use it to send to their MPs, wave at Councillors or just convince those doubting friends. We will send 'em free if you wish but would appreciate a donation of about 2p each if sent by post in bulk.

This printed below is another parallel text which Nancy and Pete worked on.

Questions?

Q. Where is Torness and what is the nuclear power station going to look like?

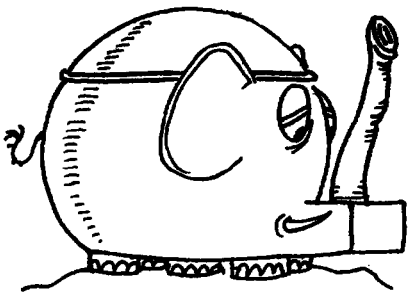
A. Torness Point lies five miles to the south of Dunbar (25 miles from Edinburgh) on the Firth of Forth. It is an area of scientific interest on a rocky coastline of outstanding scenic beauty. Over 150 acres of prime agricultural land will be lost directly to the power station. The 220 feet high reactor hall and the 166 feet pylons will destroy the character of the area and threaten tourism. One pylon line will go westward to Dalkeith, the other will go south to Eccles. There is evidence(1) that living within a few hundred yards of pylons may cause fatigue, headaches, depression and nausea in addition to effects on the central nervous system and white blood cells.

Q. How much will Torness cost—and who will pay?

A. The latest estimate of the cost of the station is £742 million and this, on past performance, can be expected to rise substantially. Hinkley B for example, a station of similar design to Torness, cost 33% more than was estimated. If Torness goes ahead each of Scotland's two million electricity consumers would in effect be contributing on average at least £375 towards the cost of the power station.

Q. Is Torness necessary?

A. The South of Scotland Electricity Board (SSEB) suffers from an enormous surplus of electricity. Maximum demand for electricity during the last year was 4400 megawatts (mw) whilst the SSEB has a total capacity of 7572 mw. Even this understates the true crisis of overcapacity: Inverkip III will add 660 mw to output capacity this year making capacity 8232 mw. Even with a generous margin as an insurance policy this still allows the SSEB to meet foreseeable growth in demand without further power stations.



~unnecessary

Q. Why is electricity surplus so high at present?

A. Forecasting electricity demand is a difficult task which the SSEB do very badly indeed. In 1974 the SSEB said that electricity demand would grow by an average of about 6% per year. Over the last five years growth in electricity demand has averaged about 1% per year. As a result of these errors there is a huge surplus of electricity and the Scottish consumers paying more for their electricity than they should.

Q. Surely electricity demand will increase in the future?

A. The traditional markets for electricity are showing signs of saturation(2) particularly the domestic sector which accounts for nearly half of the SSEB's total sales of electricity. This is why the electricity boards are spending thousands of pounds of your money to try and persuade you to "Think Electric" (Thinking electric is fine, it's paying for it that hurts!)

Thirty per cent of the energy presently used by industry could be saved by introducing energy conserving technologies which are known and possible.(3)

Q. Should we spend the £742 million plus that Torness would cost on Energy Conservation measures?

A. On every count, including employment, it is now better to invest in saving energy than generating it.(4) The study by the International Institute for Environment and Development (IIED)(5) suggests that energy consumption could be almost exactly the same in the year 2000 as it is today using only energy conserving technologies already available. Moreover, the IIED study assumes that wealth will increase, houses will be warmer, and more people will own more consumer goods.

Q. Could you give me a practical example of energy conservation?

A. Salford Council have just completed a new council house which will cost just £30 a year to heat. Compare that to a conventional council house which costs £200 a year to heat. The saving has been achieved by extra insulation coupled with a heat recovery system and heat pump. The extra capital cost of the house was a few hundred pounds. The house is not an experimental house, it could be built by other councils tomorrow.

Q. What are the alternatives to nuclear power?

A. Because of energy conservation we do not need alternative energy sources for at least 50 years. While wind, wave and sun power are being developed we should improve the efficiency of our coal fired stations. District Heating schemes use the waste heat from existing power stations to heat peoples homes thereby doubling the power station's efficiency. District Heating is very common in Europe particularly in Denmark where over half the homes are heated by district heating.

Q. What about radioactivity escaping from a nuclear power station. Isn't it dangerous to live near one?

A. Nuclear Power Stations continually emit small quantities of radiation. It used to be thought that because we are exposed to naturally occuring radiation the radiation from nuclear power stations would have no effect. Recent research suggests that this is not so. A group of German scientists recently discovered that the rate

of child mortality near nuclear power stations is significantly higher than in the rest of the country (cf. Hamburger Morgenpost 25th October 1978). Dr Karl Morgan, former chairman of the International Commission on Radiological Protection, believes that "there is no safe level of radiation exposure and there is no dose of radiation so low that the risk of a malignancy is zero."

~leukemia

Q. How dangerous is it to work inside a nuclear power station?

A. Workers in the industry are exposed to hazards whose implications have yet to be fully appreciated. Many diseases may not become apparent until 30 to 40 years after initial exposure to small amounts of radiation. A study of over 1600 workers(6) at Hanford nuclear submarine base (nuclear submarines are powered by a small nuclear power station) indicates that the cancer death rate was more than twice the national average and that the death rate from leukaemia was four times the national average. Safeguards against exposure to radiation were better at the submarine plant than in a commercial nuclear power station. At Windscale the General and Municipal Workers Union have won £30,000 compensation for two widows whose husbands' deaths were allegedly caused by radiation exposure on the job.

~hazardous

Q. What you have said applies to normal operations. What about an accident at a nuclear power station?

A. A nuclear power station cannot explode like an atomic bomb. The worst possible accident would occur if all the nuclear power station's cooling systems broke down leading to a fuel melt down. If the reactor shell was breached enormous amounts of radioactivity would be released causing either 10,000(7) casualties or 100,000 deaths(8) or 3000 deaths + 45,000 cancer deaths(9) depending upon which report you believe. The chances of such an accident occuring are exceedingly remote but in 1975 at Browns Ferry nuclear power station in Alabama a fire knocked out five emergency "safety" systems, disaster was averted by a jury-rigged cooling system. The cause—a candle carelessly handled by an electrician. In 1978 the Hinkley "B" power station lost both cooling systems. Disaster was averted by cooling the reactor using fire hoses. Accidents do happen.

Q. What will happen to the Nuclear fuel after it is used in the Torness reactor?

A. It will be transported to the reprocessing factory at Windscale in Cumbria. Here it is separated into: (1) Plutonium—fuel for Dounreay Fast Reactor and the raw material for nuclear bombs, (2) Uranium—fuel for thermal reactors, (3) Radioactive Wastes—both "high" and "low" level.

Q. What happens to the nuclear waste?

A. The low level waste is pumped into the Irish Sea. As a result, the Irish Sea is now the most radioactive sea in the world.

"You think oil is bad? Have you tried plutonium"

There is no known safe method of disposing of the high level waste which will remain dangerously radioactive for up to 1 million years. Radioactive waste is currently stored in tanks which have to be constantly cooled and stirred. These tanks have corroded quickly and some have had to be renewed already; this is obviously just a temporary solution. The Atomic Energy Authority (AEA) eventually hope to Glassify the waste and bury it—they have chosen the Galloway Hills as a possible area. In Galloway, the District Council, Trade Unions and local people have united to refuse the AEA permission to dump nuclear waste.

~waste dumps

Q. I have heard a lot of worrying stories about Windscale.

A. There are a lot. There was a big leak of radioactivity from Windscale in 1976 which was covered up by top officials at British Nuclear Fuel Ltd. In 1957 there was a fire at Windscale which led to enormous releases of radioactivity. Thousands of gallons of milk were poured away. A Blow Back in 1973 closed down oxide fuel processing indefinitely and contaminated 35 workers. As a result all oxide used fuel is having to be stored under water at Windscale. A build up of hydrogen in the tanks closed Windscale for months in 1978 due to the "explosion risk". Dr Karl Morgan believes that the standard radiation levels at Windscale are **200 times too high.**

The list goes on . . .

Q. Could terrorists make a nuclear bomb with radioactive fuel from a nuclear power station?

A. Used fuel from a nuclear power station contains plutonium which is extracted at the Windscale reprocessing plant. Approximately 5-10 tons of plutonium are stored at Windscale. You only need about 14 lbs of plutonium for a nuclear bomb. Plutonium is used as fuel for fast breeder reactor power stations. Britain has only one fast reactor at present, at Dounreay, but the UKAEA want to build a whole network of fast reactors. To operate such a network it would be necessary to transport large quantities of plutonium around the country. This reactor grade plutonium, if stolen by terrorists, could be used to build a crude but effective nuclear bomb. The information and materials to build such a bomb are widely available. To protect this plutonium, the AEA already employ a nuclear police force of 500 who have the right to carry arms at all times, and engage in hot pursuit of suspects.

Q. Isn't nuclear power a cheaper way to produce electricity?

A. Nuclear power stations cost about twice as much as equivalent coal- or oil-fired stations. The Nuclear Industry claims that nuclear stations are cheaper to run. However the industry consistently refuses to release the figures necessary for an independent costing of nuclear power. Industry figures leaked to the Electrical Review (3:2:78)—a reputable pro-nuclear journal state that nuclear power is a more expensive way to generate electricity than coal or oil fired stations.

what you can do

Q. Torness nuclear power station sounds like a grave threat to the country. What can I do to stop it?

A. (1) Insulate your home. Local authority grants are available to help you with the cost. A well insulated home saves you money and reduces electricity demand.

(2) Don't use electricity for space or water heating. You waste your money and the country's resources.

(3) Find out more and talk to your friends about the danger of nuclear power.

(4) Write to your MP and councillors telling them your views.

(5) Join your local anti-nuclear group. If there isn't one form one!

(6) We have an exhibition, a film and a slide show on the dangers of nuclear power. Could you help us to show them anywhere?

(7) Subscribe to our Energy Bulletin which includes anti-nuclear books and badges on a mail order list.

(9) Fill in a standing order form and help us financially.

References

(1) New Statesman, 17 November 1978.
(2) A critique of the Electricity Industry: Energy Research Group.
(3) Energy Paper No. 32. Department of Energy.
(4) United States Council on Economic Priorities.
(5) A Low Energy Strategy for the UK, Gerald Leach 1978.
(6) Report on Portsmouth New Hampshire Naval Shipyard by Or Najarian, March 1978.
(7) Royal Commission on nuclear power and the environment, 1976.
(8) PERG.
(9) AEC Rosmussen Report 1975.

We have printed a SCRAM leaflet:

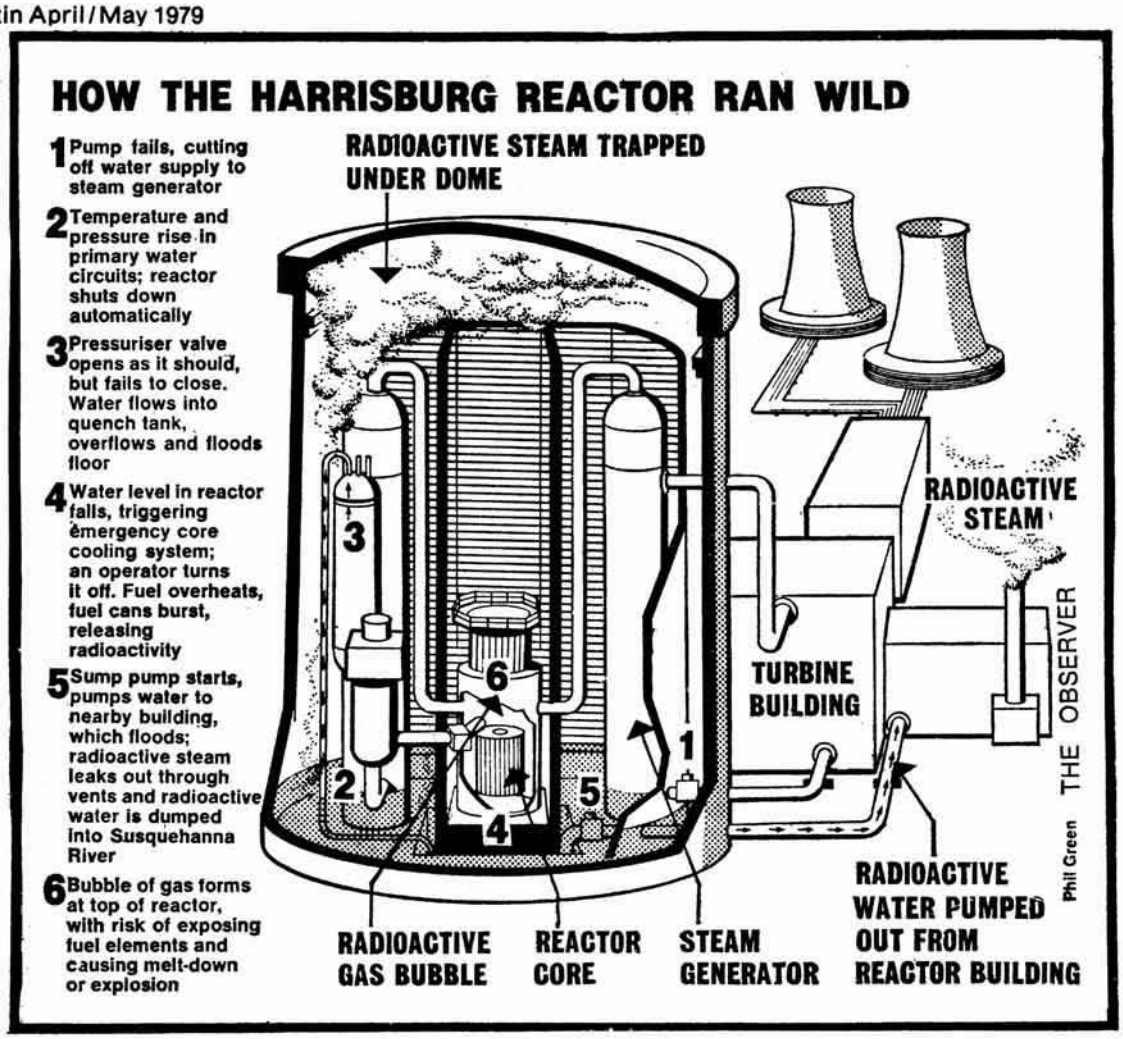
WHAT'S WRONG WITH NUCLEAR POWER?

which can be used as a general info leaflet. It contains the Torness Declaration. Send for them to us in Edinburgh with a donation of about 2 pence each.

SCRAM NUCLEAR POWER? NO THANKS

Scottish Campaign to Resist the Atomic Menace, 2A Ainslie Place, Edinburgh. 031-225-7752.

Harrisburg Accident ~continued



It appears that the risk of a core meltdown has now been averted, though the reactor remains in a dangerous condition. A 'bubble' of radioactive gases has formed within the core preventing its cooling down. The problem is to ensure that the core does cool down without releasing more radioactive material—already, when workers tried to remove contaminated water from the plant more radioactive gases were released; and radioactive water has been released into the Susquehanna River which surrounds the plant. There are fears that it will be severely contaminated.

The accident at Three-Mile Island appears to have been a consequence of mechanical failure and human error—a combination of events which clearly should not have occurred.

UNDERSTATEMENT?

"We are in a situation that is not a situation we have ever been in before."—**Mr Dudley Thompson** of the US Nuclear Regulatory Commission, 3rd April 1979.

Footnotes: Hinkley 'B' AGR suffered a double loss of cooling fault in 1977. See Peter Taylor's article on p.8 of last SCRAM Energy Bulletin.

IS ANYTHING FAILSAFE?

SCRAM has again urgently appealed to Bruce Millan to call a halt to initial site work at Torness saying:-

"This is an accident they said could not happen. If Torness were built a similar threat will hang over the people of East Lothian for, contrary to the bland assurances of the nuclear industry here, a similar accident could happen to the British designed Advanced Gas-cooled Reactor as planned for Torness.

Any reactor-type requires failsafe cooling to prevent a possible melt-down of the fuel rods. Clearly nothing is failsafe and accidents will happen."

DUNBAR'S RESPONSE

The Dunbar Torness Alliance Group set up a stall in Dunbar High Street on Saturday 31 March, and discussed with many of the local people the possible consequences of a similar accident at Torness. Because of the widespread concern shown they decided to call for non-violent direct action early on the Monday morning at the Torness site where major earthmoving has started. They appealed to workers to down tools on the project stressing that our fight is not with the workers. We want people to have decent jobs doing socially useful things—not working to put people of the region at risk.

...and if it happened at Fessenheim?

THE FESSENHEIM EMERGENCY PLANS

Fessenheim lies in Alsace, on the banks of the Rhine where it forms the border between France and Germany, and is about halfway between Mulhouse and Freiburg. In March 1977 a Pressurised Water Reactor (the same type as in Harrisburg, Penn.) went into operation there. Since September 1976 local citizens groups had been demanding the publication of the emergency plans which the operators and local authorities had drawn up in the case of a serious accident at the plant. This they refused to do, knowing full well that their bland assurances regarding the safety of nuclear energy would look very pale indeed in the light of detailed Emergency Plans for a 'maximum credible accident'. When the reactors went critical in March '77, and the Emergency Plans were still not forthcoming, two thirds of this controversial document were removed from an unlocked filing cabinet at the Regional Council offices. Details were press released by two local anti-nuclear groups (GAF & AKU) in Freiburg on 11th March '77, and shortly afterwards were published in the form of a booklet entitled 'Catastrophe Protection Plan for the Fessenheim Nuclear Power Station - published with commentary'. These plans are woefully inadequate, and it is no wonder that the authorities were so reluctant to publicise them, as they constitute a fundamental disregard for human safety and life, and are a profound insult to the local communities. Their main purpose appears to be to avoid panic at all costs, achieving this mainly by lies and half-truths. Here are just some of the glaring deficiencies of the Fessenheim Emergency Plans:

The basic radiation levels which determine whether an alert is to be given or not are based on completely out of date studies, ignoring the research of the previous 4 years, which confirm the suspicions that these levels are set far too high, and that there is no such thing as a 'safe level of radiation'. In the Plans is the following statement:

"Should an emergency occur in which these standard dose levels are exceeded ....there are three possible courses of immediate action to be considered:

a] the populace can be called upon to remain at home, keep doors and windows shut, and to resort to rooms which offer the greatest possible shelter, e.g. the cellar. This provides a shield against external gamma-radiation [in proportion to the thickness of the walls] and a reduction in the amount of radioactive substances inhaled [depending on the ventilation of the room].

b] Furthermore, the effect of radioactive iodine on the thyroid can be reduced by taking iodine tablets.

c] A particularly effective measure is to evacuate the endangered areas as this can be carried out in time."

The Commentary has this to say about the above:

CERTAIN DEATH SENTENCE

"Let us examine these three possibilities closely:

a) The people in the area over which the radioactive cloud passes barricade themselves in their cellars and wait; the radiation level rises according to how well the rooms they are in are cut off from the outside air. However, the moment the cloud has passed, radiation will be greater indoors than out; i.e. the windows would then have to be opened again, and the room aired. However, those affected would have no way of determining when this had happened. So then they will be sitting in heavily contaminated rooms waiting for help. According to the Freiburg radiologise Dr Herbst this would be a "certain death sentence."

b) The taking of iodine tablets saturates the thyroid so that it cannot absorb the radioactive iodine-131 which would be released in the event of an accident. However, a few pages later the authorities themselves admit that -

"prompt taking of iodine tablets... will reduce the effect of radiation by a maximum of 1 per cent....ideally the tablets should be taken ½ - 1 hr before the influx of radioactive iodine. Once absorbed by the thyroid, radioactive iodine cannot be significantly displaced."

This means that for the tablets to provide realistic protection (within the 1 per cent limit) they must be taken at the time of the accident. Although it is obvious that this measure is as good as totally ineffective, the Plans state on p.366.

"The distribution of stable iodine is recommended as an alternative or as a supplementary measure to the evacuation of all persons exposed to the risk of inhaling radioactive iodine... In this way emergency plans will be simplified in that the necessity to evacuate will be reduced, or at least there will be an extension of the time in which the evacuation can be organised."

This simplification and extension unfortunately exist only in the imagination of the authorities.

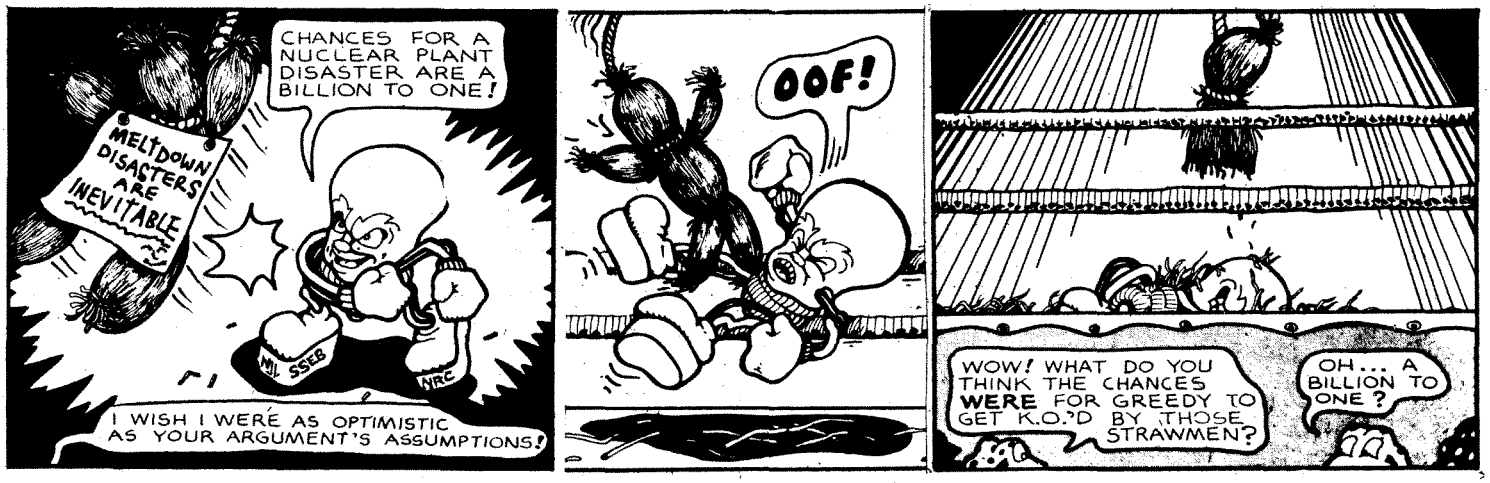
So this leaves c) - evacuation. This is the only effective protection against the consequences of a reactor accident - provided that **all** people affected are evacuated **in time.**

According to the most recently accepted international recommendations, the dose limit necessitating evacuation is 25 rem for urban areas, 10 rem for rural areas (Rasmussen Report). The limits laid down in the Emergency Plans are 4 to 10 times over these....Since the Rasmussen Report lays down limits necessitating evacuation which are considerably lower than those of the Emergency Plans, it also stipulates a larger evacuation area.

COMPROMISE

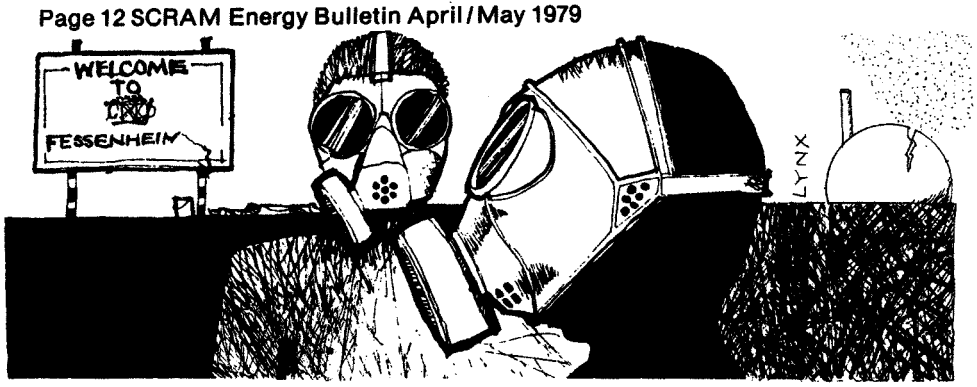
The authorities have thus made a compromise between the risks to which the population will be exposed, and the so-called 'social costs', which repairing the damage will incur. Since the cost of the damage caused by a nuclear accident is very high, the risks which we are expected to accept will also be very high. It is on this basis that the Rasmussen Report arrives at dose values differing from town to country. It is considerably more difficult evacuating a town than it is a rural area - and therefore it is considerably dearer.

Even if this inhuman logic is accepted, the question remains as to whether evacuation would be at all possible. According to Rasmussen the number of immediate deaths and direct casualties would double if half of the people affect-



from ***ALL-ATOMIC COMICS*** *by Leonard Rifas*

HEY, EVERYBODY! HELP KNOCK OUT GREEDY KILLERWATT'S PLANS TO NUCLIFY OUR ENERGY SYSTEM! LET'S UNITE AND GIVE HIM A **REAL** SPARRING PARTNER HE CAN'T IGNORE! BETTER **ACTIVE** NOW THAN **RADIOACTIVE** LATER!



Fessenheim 'plans'

ed are not evacuated within 2 hours of the accident. For Freiburg this means that 2 hrs. after the accident 90,000 people will have had to be removed from the danger area. According to the provisions of the Emergency Plans this is to be carried out by private cars - an utter impossibility.

Since the authorities are also undoubtedly aware of this fact, they intend cordoning off the heavily contaminated areas, along with the inhabitants, with the utterly false promise of 'decontamination'. This magic word creates the impression that radioactive contamination can be removed simply by showering and destroying clothing. This would affect only the surface radiation, leaving untouched the far more pernicious radiation that has already entered the body, and which cannot be removed. Also it would greatly increase the radioactivity in the Rhine (already contaminated by the original accident), into which all drainage water flows, and which supplies drinking water for c.8 million people further downstream. Showering or no showering, it must be reckoned that all those people within 15 km. of the reactor will die from an acute radiation syndrome.

CONCLUSION: SHUT-DOWN THE REACTOR

In their conclusion to the commentary the authors write:

"No Emergency Plans can prevent a disaster from occurring. We are not making any suggestions on how to improve the present plans. We demand the immediate shut-down of the reactor. This is the only real protection there can be."

And how likely is a nuclear disaster at Fessenheim?

The British Atomic Energy Authority (UKAEA) has reckoned that there is a 1 in 20,000 chance of a catstrophic bursting of the reactor vessel. In the German National Lottery the chances of getting 6 'hits' out of 49 are 1 in 13,9090,000. That means that the chance of a serious accident at **one** reactor per year is 700 times more probable than winning in the Lottery.

The chances of 2 jumbo jets crashing in mid-air were once in several million years - yet it happened on March 27th 1977 on Teneriff.

And the Harrisburg accident 'could never happen'.....

For a complete translation of the Fessenheim Emergency Plans booklet, please contact SCRAM in Edinburgh.

! DISTRICT HEATING WORKS !

At a conference held recently in Glasgow, sponsored by the Royal Danish Embassy and the University of Strathclyde, speakers from Danish firms concerned with district heating [group heating from a single source] and combined heat and power [co-generation of electricity with district heating] spoke about the success of these techniques of energy supply in Denmark.

Electricity generation by conventional methods is at best about 30% efficient—the remainder of the energy from the fuel is lost as waste heat to the atmosphere. By using a proportion of the heat produced for district heating, an efficiency of up to 85% can be attained—though only about 20% of the primary energy is converted to electricity. This need not matter, however, because about 50% of electricity demand is used for space and hot water heating.

DANES: WARM AND EFFICIENT

Overall district heating and CHP can make substantial energy savings, and in Denmark, a country with virtually no fossil fuels and no nuclear programme, this is imperative. Thus 40% of Danish homes are now heated by district heating —a proportion of this coming from combined heat and power plants.

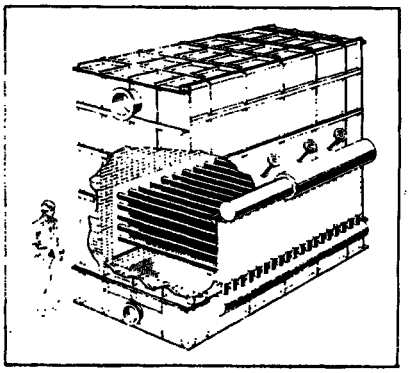
Much of the conference was devoted to the technical aspects of the installation of district heating—since the methods of heat distribution in Denmark differ from those used in the very few British district heating schemes, this provided a useful comparison. There is extensive use of domestic and commercial refuse as a fuel and Copenhagen's district heating system is served by just two large plants burning the city's rubbish.

However, in overall terms, the difference in attitudes between Danish and British thinking is significant—in Denmark combined heat and power schemes are generally set up by non-profit making co-operatives supplying large districts; and by local authorities—thus avoiding the stranglehold on initiative created by the electricity supply industry in the United Kingdom.

Full sets of conference papers are available for consultation at the SCRAM office.

fluidized bed energy technology

Le charbon sur coussin d'air



This description of a developing coal-burning technology is taken from a French paper—they find British coal technology very innovative. In fact they can't understand why we are going for nuclear now, when we seem to have developed so much in an alternative direction. In France the nuclear maniacs dominate in all government energy policy-making, and coal hasn't got a chance. Which is why they had so many blackouts this winter—a one track policy leaves a country very vulnerable.

FLUIDISED BED COMBUSTION

Imagine a box with a porous bottom covered with sand. Pressurized air is injected from below, making the sand float. That creates the fluidised bed, which combines properties of liquids and solids. The fuel is introduced into this mass and is lit. The reaction keeps itself going and the temperature stabilises itself easily. There are lots of advantages—so many that you begin to wonder where the catch is!

Compared with current coal-firing methods, the combustion temperature is relatively low (around 1000°C) which makes it very economical. It does not produce too many nitrous oxides and it doesn't cause the mineral substances present to fuse and solidify. These mineral elements stay suspended, and help the burning with the heat they retain.

New fuel introduced into the fluidised bed burns straight away (it does not cool the process down), and the excess ash automatically floats to the top of the bed. Even if the coal is damp, even if it only makes up 1% of the bed, it burns. The mineral matter which is heated by the process also helps because it comes in contact with the air and the water pipes which carry away the heat to produce steam, electricity, etc. Because of this direct contact the efficiency of the conversion is high. If chalk is added to the bed, it holds the sulphur in the ash, and stops air pollution.

The fuel is cheap because mixed qualities can be used. The whole method is multi-purpose, it burns anything, it's clean, it's not a nuisance, and it burns our abundant resource —coal.

Why are we going for nuclear?

(One of the main reasons why the US forges ahead while we delay on fluidised bed combustion is because they have much stricter pollution control standards—compared to our "tall stack-spread-it-further" solution (?) to the acid rain problem.)

It would be quite easy to be frustrated, as a member of Friends of the Earth, when thinking about how to prevent the construction of the Torness nuclear power station. FoE is opposed to the spread of nuclear power, yet, due to a basic principle of always acting within the law is unable to be publicly identified with non-violent direct action that has already taken place and is going to be repeated at the end of the weekend gathering in May. To many people this implies a lack of support for the anti-nuclear campaign and it is important that this notion is dispelled before the gathering.

FRIENDLY SUPPORT

As an environmental pressure group working at local and national level FoE are committed to many campaigns including one for a more sensible, safer energy strategy for the UK. This has been overshadowed recently by the strength of the anti-nuclear campaign and FoE appeared to be conspicuous by their lack of activity. The publication of "Torness—Keep It Green" in March is the result of many months of hard work very much in the fashion best suited to the Poland Street style—a hard facts, straight argument, approach. This contribution to the anti-Torness campaign is immense and it is now up to FoE groups throughout the country to make the most of this boost from FoE Ltd and proceed to develop a comprehensive safe energy campaign. This must present to the public the wide range of alternatives that exist to the continuing nuclear programme and avoid being seen as a purely negative effort. FoE (Birmingham's) "Energy" broadsheet* is a superb example of what can be done to answer those who criticise all environmentalists of being simply anti-nuke and pro-a-return to the Dark Ages.

Whilst actively encouraging and demanding energy conservation and development of alternative energy sources may seem tame and irrelevant, compared to direct action on site, it is vital to the cause for which we are all fighting that the two aspects of the campaign are seen as being complimentary.

Peter White, FoE Edinburgh

* Copies of this broadsheet are being sent free to all our subscribers. If you want your own send two 7p stamps to FoE Brum, 54 Allison Street, Birmingham 5. We recommend it!

SCRAMbling Around

SCRAM SW flourishes and will doubtless soon be campaigning against an appeal by the UKAEA against Kyle and Carrick DC's refusal of planning permission to test drill near Mullwarcher. Their latest Bulletin contains many quotes from Professor Ringwood of Australia's book "Safe Disposal of High Level Reactor Wastes: A New Strategy"—where he slams the UKAEA proposals—believing of course that his are better. The people of Dumfries and Galloway don't trust 'em either. Keep in touch with Mrs Dorothy Paulin, Drumrash, Parton, Castle Douglas, Dumfriesshire.

SCRAM Dalkeith started off this February when we leafletted the SSEB "Pylons" exhibition here, and mounted a counter-display. These generated a good response from people we talked to in the street, but the number who have subsequently become involved has been disappointing. We do have active members in the local schools and pupils at Lasswade High School recently held a debate on Torness.

Forthcoming events include a survey of local awareness of the Torness issue, a public meeting on 18th April, and a fund-raising Jumble Sale.

Meetings are at 8 p.m. every other Wednesday at 35 Muirpark, Eskbank, Dalkeith, Edinburgh 22. (031-663 3327) **Chris & Linda McKinnell.**

Glasgow Energy Group's diverse arms announce two options for May travel:

Weekend coaches—depart George Square, Glasgow, 7 p.m. Friday returns Monday evening. Only £2.50 from Helen or Drew Jones, FoE, 108 Beith Street, Glasgow (041-334 7030).

Day Trippers for Saturday only phone Anne Gammack, Con Soc (041-959 4154) or Ian Davison, CND (041-942 1099).

The Energy Group have circulated all their local District Councils with a detailed questionnaire on the Home Insulation Scheme. There are some interesting replies and it has been a good way to bring pressure to bear.

On the streets (outside the SSEB showrooms of course) the group have been explaining a few of the April's Fools jokes (?) the SSEB are playing on the consumer.

EYEMOUTH & DISTRICT NUCLEAR CONCERN

After a successful first public meeting and exhibition which was followed by a dance, a small group has started in Eyemouth, the fishing port 10 miles south of Torness Point. They will campaign to oppose the construction of Torness, and as a first task will lobby candidates in the forthcoming election, giving them more information on nuclear power. Contact: Mrs Wilson, 29 Hurker Crescent, Eyemouth.

The **SCRAM NE** inaugural public meeting was in December and attracted over a hundred people from all areas of the North East.

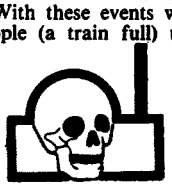
We have since divided into five groups covering: Press and Publicity, Trade Unions, Research, Torness and Finance/Fund Raising. We also prepared delegations for two important public meetings on **waste dumping** in the North East.

At the first of these meetings in Aboyne, Dr Ellis from the UKAEA in Harlow was the only speaker. A few well placed questions kept the crowd uncertain. The chairman, a local councillor, did not help by shutting us up quickly if anyone raised their voice or spoke out of turn!

The following night in Strathdon was totally different. The small hotel lounge was crammed with local farmers, landowners and the laird. Dr Ellis also had opposition in the form of SCRAM's Mrs Dorothy Paulin from Galloway. There were points when Dr Ellis even lost his temper at the all-out opposition of Strathdon. On one occasion after stating that a fifth of all the electricity Strathdon used was from Nuclear Power Stations he was abruptly struck dumb with the reply that Strathdon has its own independent Hydro supply not from the National Grid.

We now meet on the last Tuesday of every month. SCRAM day April 21st? with stalls, exhibitions, theatre, debate etc. We will have a float at the Student Charities Carnival. With these events we hope to attract 300/400 people (a train full) to Torness in May.

Contact: Andrew Llanwarne,
77 Carnegie Court,
Hillhead,
Aberdeen
0224-40241 Ext 6521



Andy and Ben from Milton Keynes FoE will be cycling up to Torness on a tandem—taking about a week. Any offers of support, publicity and places to stay to 19 Spencer Street, Milton Keynes (0908-314615).

small ads

SITUATIONS VACANT

DOMESTIC ASSISTANT required for serving tea in the London headquarters of the United Kingdom Atomic Energy Authority, near Piccadilly Circus. Applicants must be British subjects and have lived in this country for at least ten years. 5 day week of 30 hours (9.30-4.30). Wage £37.20 pw., luncheon vouchers and 18 days paid holiday pa. Age 21-54 years.—Call or telephone Mr P. Heal, 11 Charles II St, London SW1. Tel: 930 5454, Ext. 348.

SCOTTISH C.N.D.

We believe that nuclear weapons are the most urgent problem facing humanity, and there is a very close connection between nuclear weapons and nuclear power stations, etc. We have not been able to stop people turning nuclear energy into nuclear weapons. So the spread of nuclear energy is very likely to spread the weapons too. If you want more information about CND contact Ian Davison, 420 Sauchiehall Street, Glasgow G2.

PUBLICATIONS DISTRIBUTION

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031-557 0133.**

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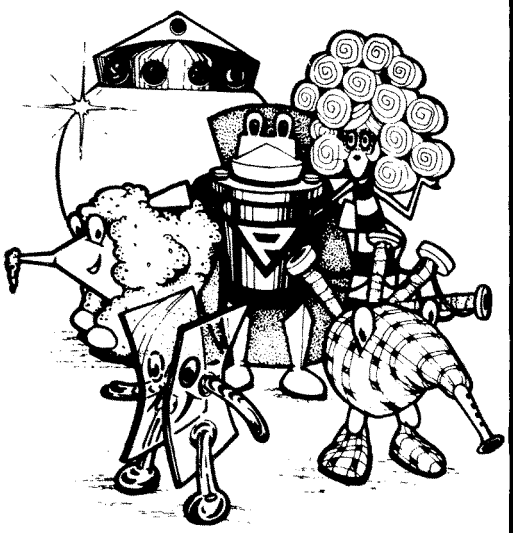
REVIEWS

Captain Pluggitt rules, O.K.!

Captain Pluggit and his Combat Crew (Lofty Lil, Phil McCavity *et al*) and their arch enemies Wilful Waster, Dora Jar and Ivor Leak



Captain Pluggit and his Combat Crew are taking the energy conservation message to Cheshire schoolchildren. Four comic strips have been produced so far — and there is a Pluggit board game on sale: **Cheshire County Council.**

TORNESS – KEEP IT GREEN

Energy Paper No. 1.

This is the first of a new series of Energy Papers by *Friends of the Earth.* It describes the case against the plans to build an AGR reactor at Torness in Scotland. The book examines the costs of the development, the local impact, the reliability of AGRs and their safety. It also describes the action, both legal and illegal, of the groups opposing Torness.

RETHINK ELECTRIC

Energy Paper No. 2.

This lucid pamphlet examines the reasons for the overcapacity in the electricity supply industry and the costs to customers of this excessive capacity. It explains why the situation will get considerably worse if more superfluous power stations are built.

DIRECT ACTION KIT AGAINST NUCLEAR POWER

By

The Nonviolent Action Resources Group

128 Bethanl Green Road, London E2

70p inc. p & P

This folder has been compiled from many sources showing the long history of direct action as a tool for change. There are articles on nonviolence, on why we oppose nuclear power, on how others have imaginatively and creatively worked out new strategies. Most importantly there are some examples given of short programmes for groups of a dozen or so to use when they first come together. Limited edition. Send off for one for your group now.

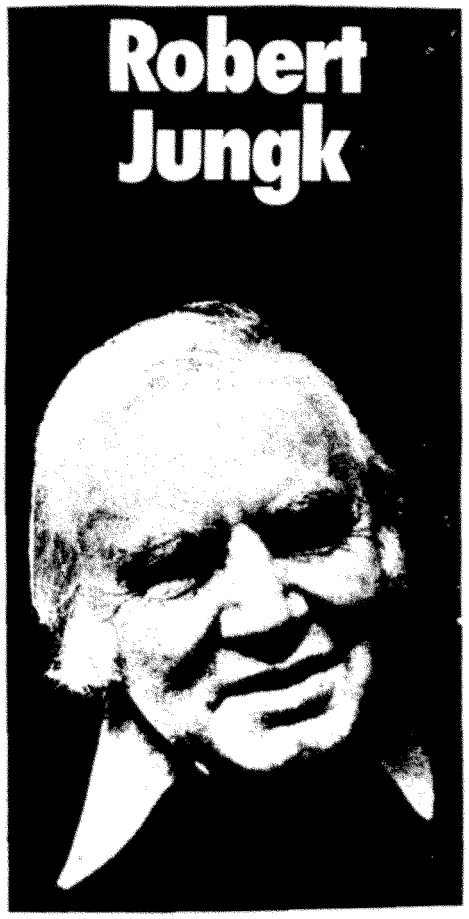
TORNESS HANDBOOK

By the Torness Alliance Handbook Group

available from SCRAM.

25p inc. P & P, 10 for £2 inc. p & p

This is the essential document for this May's Torness Gathering. It is intended primarily for members of those groups who will be taking direct action at the end of the weekend. It clarifies why we shall do this, giving the nonviolent guidelines for this action which have been worked out over these last months. It complements NARG's Direct Action Kit, being more specifically for Torness. There are maps, lists of local contacts, what to bring (could be dreadful weather) and how to form and work together in an "affinity group".



THE NUCLEAR STATE
By Robert Jungk
[John Calder £5.95/£2.95]

A book about the dangers of nuclear power, which was second best seller in Germany this year, must be worth a read I thought. However, I found the first section of the book disappointing: long on emotive words like "catastrophe" and "grim horror" but short on reasoned argument. I could imagine the 'white heat of technology' people reading it with their lips curled in a sneer. Much more meaty in information is the next section dealing with shambles of the reprocessing plant at Cap La Hague on the Brittany coast of France: leaking radiation like a sieve, subject to constant break-downs, the workers right to strike seriously eroded whilst the local populations' worries are fobbed off with bland assurances. From a private conversation with someone who has visited it, I gather that Windscale reprocessing plant is in a similar state but publication of that is, of course, prevented by the Official Secrets Act.

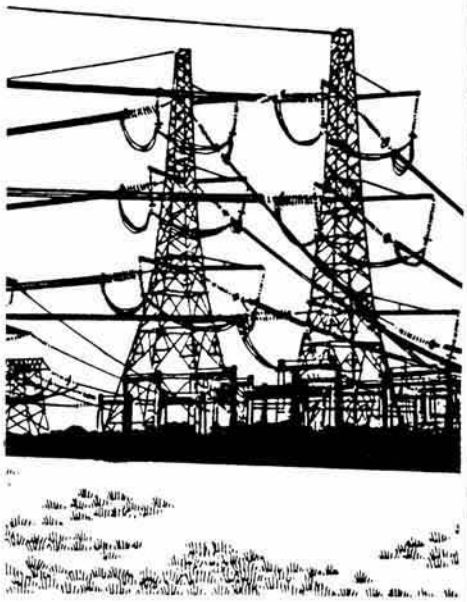
NUCLEAR MILITARISATION

The section on the problems of proliferation is dealt with in a piecemeal and anecdotal fashion but has plenty to bring a cold sweat to those who care about the long-term future of planet earth. For example the German involvement in providing reprocessing facilities to South Africa (secretly) and to Brazil (openly) may well be more than "commercialism and be damned to the consequences". Jungk gives good evidence to suggest that it is part of a process by which Germany builds up a military nuclear capability at the instigation of extreme right-wingers such as Josef Strauss, the Atomic and Defence Minister. I for one had not realised how much Germany had been prominent in emasculating the nuclear proliferation treaty by reducing the inspection facilities, nor how much neo-fascist and businessinterests are interlinked (as they were, God help us!, in the 1930's).

PLUTONIUM SMUGGLING?

When it comes to the dirty tricks brigade there are plenty of incidents to show that Watergate was comparatively only mild. Karen Silkwood was, as the Daily Express headlined it, 'The First Nuclear Murder', driven off the road and killed, probably not because she had evidence against the nuclear plant she worked in, but because she had uncovered a plutonium smuggling ring with a route probably to Israel.

Jungk says that his book is about the political dimension of nuclear power, not the technical and economic which have been stressed so far. As such I thought that the level of analysis was piecemeal, and without an overall theory, apart from linking support for nuclear power with totalitarian aspirations. At £2.95 it may be expensive but its well worth a read. It shifts the emphasis away from considerations of safety and cost towards the key question of the kind of world nukes are leading us towards.



TORNESS PYLONS

The Electricity Board recently published the route of the 400 Kilovolt pylons running west from Torness to Dalkeith. The SSEB mounted their usual glossy "public participation" exhibitions along the route which were picketed by members of the Dunbar Torness Alliance Group and SCRAM. To counter their deceptive propaganda—e.g. the only picture of a pylon was taken from 500 feet up looking down on to a warm autumnal landscape!—we distributed a broadsheet with reprints of recent reports of the health hazards of living near high voltage lines.

FARMERS SAY "NO"

The SSEB has been visiting landowners and farmers in the line of their proposed route. Since then all 29 farmers on the line from Torness to West Byres near Dalkeith have written to the Board and Bruce Millan, expressing their unanimous and complete rejection of the proposed lines. We await developments.

SCRAM ENERGY BULLETIN CREDITS

This bulletin has been produced bi-monthly since November 1977. We have always relied on and enjoyed receiving short articles, anecdotes and cartoons.

This next issue might focus on some of the **positive alternatives** to nuclear power being in time for International Sun Day on 23rd June. We therefore welcome any contributions on the general theme of 'alternatives'.

Next copy date 21 May.

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We are always keen to **exchange** newsletters or bulletins with other campaigns both nationally and internationally.

APPEAL

As bankers to the May Gathering we have opened a new account. Please make all your big cheques, and small ones out to **SCRAM - TORNESS ALLIANCE A/C.** We have received some very generous donations from a few individuals but the Alliance will rely heavily on financial support from **all** our friends and supporters to cover the costs of staging the May Event.

We here make an urgent appeal to everyone to send all you can afford to us at Ainslie Place. YOU provide the life blood - without it we cannot survive, let alone develop.

WHO IS SCRAM?

The Scottish Campaign to Resist the Atomic Menace (SCRAM) was established at a meeting at Torness Point in East Lothian in November 1975. 'SCRAM' in nuclear jargon means to shut a reactor down in emergency. Our aims are:

1. **To inform the public of the present and proposed nuclear developments, and their social, political and environmental consequences.**
2. **To oppose by all nonviolent means the further development of nuclear power in Scotland and elsewhere.**
3. **To press for a long term energy strategy based on conservation and the use of renewable resources.**

SCRAM is a member of the Torness Alliance and works closely with many other organisations. We have organised several nuclear site occupations and other national protests. We have held public meetings, given talks, film shows and so on to establish links with all sectors of the community.
SCRAM is strictly non-party political. We are funded solely by donations and sales of literature. We desperately need a regular income and ask all our friends and supporters to fill in the Bankers Order Form. It's painless (the Manager does it for you) and £1 a month from 200 friends would give us £2,400 a year; £5 a month from 100 would give us £6,000 a year.

HELP SCRAM FIGHT FOR A SAFE AND SANE ENERGY FUTURE!

SUPPORT SCRAM!

SCRAM SUPPORTERS' DONATIONS BANKERS ORDER FORM

(Send this part to your bank)

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.....

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Address.....

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I have sent a standing order to my bank which will give SCRAM £.....every.....(frequency) starting on.....and finishing on.....(or when I cancel it). I would/would not like part of it to pay for my sub to the Energy Bulletin.
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I wish to subscribe to the Energy Bulletin for 6 issues (1 year at the moment) starting with No...

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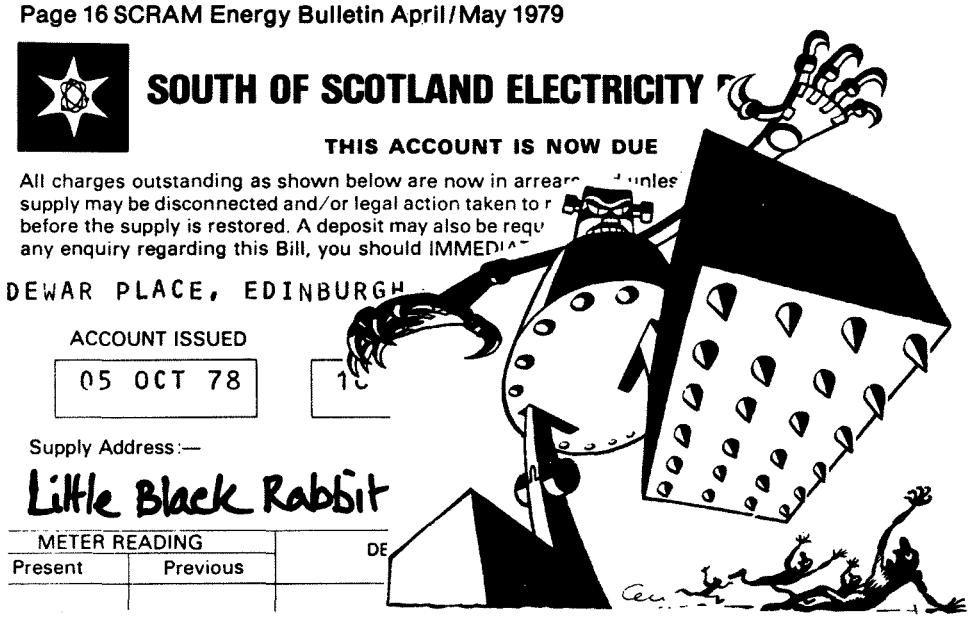
We suggest £2 for ordinary sub; £3 for overseas; £6 for institutions. Minimum £1 sub. Any extra donations will be used solely for campaign work.



Domestic Charges up

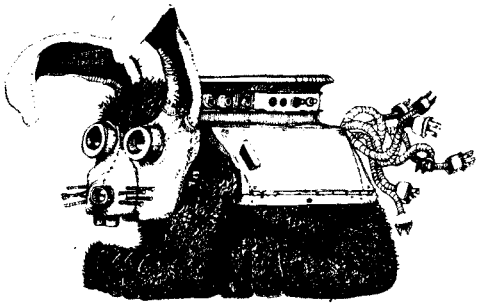
The South of Scotland Electricity Board have announced increases of 9½% in the cost of electricity. The proportional increase is **larger for domestic than industrial users** and this is what the Board says is part of a long-term process of 'correcting an imbalance' in tariffs.

THEY CHARGE US MORE TO RISK OUR LIVES

In fact The Board has an embarrassing surplus of capacity which will be made even worse this year when the new station at Inverkip comes on stream and The North of Scotland Hydro Board stops importing so much power when their station at Peterhead starts up. The SSEB will then have a generating capacity about three times as high as peak winter load. In justifying the building of the nuclear power station at Torness the chairman of the Board has said that industrial demand for electricity will increase rapidly. But demand is very much influenced by price so the Board is trying to make its prophesy come true by **subsidising industry at the expense of the private consumer.** The nuclear reactor accident at Harrisburg in USA is a reminder that nuclear power can get out of hand. The public are therefore being charged extra to justify spending £750m plus on a plant that is not needed which will risk their health and their lives.

An Obstacle?

Little Black Rabbit has been busy these last weeks. Spent some time burrowing around the perimeter of a certain site hardly a carrot-top's throw from Dunbar. Really he can't see what all the fuss is about the unmentionable obstacle. It looks very fine and fierce on the front page of last issue, but when you get close to the ground, as he does, it's really a bit lacking. He recommends a simple shovel and pick for a 5 minute job. A ladder would be pretty easy too—there's going to be workshops of all sorts practical as well as theoretical to make the necessaries on the Saturday afternoon.



Little Black Rabbit

For your Diary

21/22 April: Final T.A. May Planning Meeting in Edinburgh. Contact SCRAM.
28/30 April: Navajo and other American Indians will protest uranium mining under Mt Taylor - one of their four sacred mountains.
4 May: Groups arrive at Barns Ness, Nr. Torness.
7.30 p.m. Counter Act followed by a bop at Haddington Corn Exchange.
5 May: TORNESS GATHERING. Mass Rally all day with live music, alternative technologies, theatre, stalls, food, workshop discussions on the nuclear fuel cycle and the alternatives. Small 'Ceilidhs' round camp fires at night.
6 May: Gathering continues at White Sands. People prepare in groups of 10-15 to take part in a re-occupation of the site at the end of the weekend. Full briefings will be given but please study the Torness Handbook beforehand. Available from SCRAM - order now.
7 May: Occupation continues . . . .
2 June: CND March to Faslane against Polaris. Contact CND (01-242 0362).
2/3 June: Europe-wide demos against all nuclear programmes.
23 June: International "Sun Day"
14/15 July: Action at Capenhurst uranium enrichment plant in Cheshire. Contact Stop Urenco Alliance, 6 Endsleigh Street, London WC1.

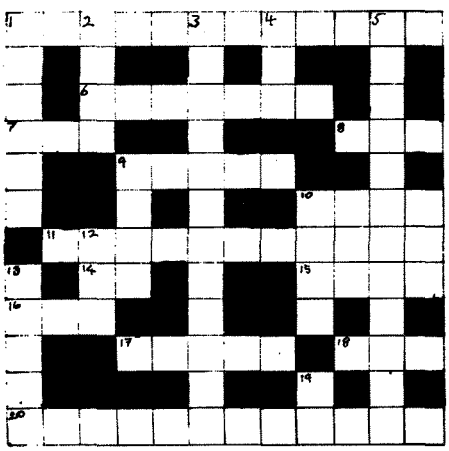
Consumer Campaign

For readers in Scotland a friend in the SSEB Sales passes on this note for **campaigning consumers** who do not want to be cut off when they send their nuclear portion to Bruce Millan or Alex Eadie or Roy Berridge. If you have not moved recently you cannot be cut off if your "debt" is less than £10.

Say your bill is £30 - if you pay £22 or any figure to bring it down below **£10** you can't be cut off.

Also if red account is brought down to below £10 it comes on to blue account. Magic eh?!

Most important always is to write to the Chairman of your Electricity Board saying **why** you are withholding part of your bill and why you are opposed to Nuclear Power. Use SCRAM's new leaflet for ammunition.



ALISON'S CROSSWORD

Across

1. Open condition National Unions are preceding in SSEB's future hope for this country. (7, 5)
6. Ineffective way of protesting. (7)
7. Compulsion of an SSEB PR! (3)
8. Campaign has semophore sign . . . (3)
9. . . . or crams up these rods in reactor. (5)
10. Used to guard the waste plutonium it's made from. (4)
11. This agreement between groups began last May.(8)
14. Shortened means of encouraging windmills, solar panels, etc. (2)
15. Experiment to try out new 10 Across. (4)
16. I promise to cry out after victory. (3)
17. Sort of veils half-times of wastes. (5)
18. What half a couple of dice might do when living near a nuclear power station. (3)
20. Planned site for AGR in Scotland. (7, 5)

Down

1. Centres of groups or atoms. (6)
2. The heart of the reactor. (4)
3. The others' choice of 14 Across freaks. (12)
4. Only successful fusion reactor. (12)
5. An errand across the lines that bring you electricity. (12)
9. Bury waste in these negotiations. (4)
10. Radiation in Greek alphabet. (4)
12. A system of rules. (3)
13. Where people get together in, even, Torness. (5)
19. Negative reply on mix-up. (2)

Dreamed up in Dunbar.

First five correct solutions to SCRAM win you an Energy Bulletin Subscription for a friend for one year! Hurry.