SCRAM ENERGY BULLETIN

THE SCOTTISH CAMPAIGN TO RESIST THE ATOMIC ENACE, 2 AINSLIE PLACE, EDINBURGH. 031-225 7752

No. 4 February/March 1978 10p

COND MARCH THROUGH AYR

The Campaign Opposed to Nuclear Dumping (COND) organised a march and rally in Ayr on 21st January as part of the fight against proposals by the UK Atomic Energy Authority to carry out test drilling for nuclear waste disposal at Loch Doon in Ayrshire.

About 1500 people, mostly from Ayrshire, marched through the streets and attended a meeting addressed by Dr. Ali (Chairman of COND), Mr. George Younger (Conservative MP for Ayr), Mr. Jim Sillars (Scottish Labour Party MP for South Ayrshire) and Mr. George Thompson (SNP MP for Galloway).

Kyle and Carrick District Council is shortly to consider the UKAEA application to carry out test drilling. The mood of this demonstration made it abundantly clear that this application must be refused.

IN THIS ISSUE

AGR FOR TORNESS ?

After months of procrastination and barely concealed animosity, the government has finally authorised the construction of two Advanced Gas-cooled Reactors. One will be built in England while the other is intended for Torness. Despite the lobby in favour of the American Pressurised Water Reactor (PWR), no commitment has been made to this system although the use of PWRs has not been ruled out in the long term.

Perhaps the best thing that can be said for the AGR is that it is the best of a bad lot. In 1974 the government decided to adopt the Steam Generating Heavy Water Reactor (SGHWR). The SSEB was an enthusiastic supporter of this system. Having spent about £50 million on the SGHWR, it became obvious that this system was going to be by far the most expensive nuclear option.

Since then, the Department of Energy, the SSEB, the Central Electricity Generating Board, the Atomic Energy Authority and latterly the Cabinet, have been wrangling over the choice between the AGR and PWR.

The AGR has had enormous problems. One of the reactors at Hunterston 'B' is closed down due to a seawater leak and Dungeness 'B' is at least eight years behind schedule and will cost £193 million, twice the original estimate. However, in comparison, there are serious doubts about the safety of the PWR and these have not yet been properly examined. On balance, an expensive, unreliable but safer AGR system seems preferable.

(over...)

But it has become increasingly obvious that no new power stations, let alone nuclear ones, are required at present. Despite the accident at Hunterston, the SSEB has a 20% surplus capacity. In England the capacity will be further inereased by Drax 'B' and, when they finally come into operation, the AGRs at Hartlepool, Heysham and Dungeness.

We don't want it

It is time for the government and the nuclear industry to wake up to the fact that they are pursuing the wrong course. Mr. Millan, Secretary of State for Scotland, is expected not to call a second public inquiry over Torness, since he is in favour of a rapid start on construction. Much has changed since 1974 and no permission for an AGR yet exists. If we are to stop the country's nuclear programme, and Torness, it must be shown that there is a rising tide of public opposition to nuclear power.

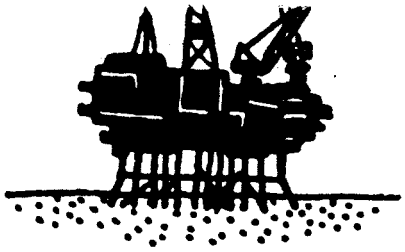
Two forthcoming events could serve to show the government that this public opposition exists - they must have massive support :-

On Sunday March 19th, Friends of the Earth are organising a march in London against the Windscale expansion plans (see elsewhere - SCRAM is organising transport) and on the weekend of May 6th and 7th, SCRAM is co-ordinating a mass march and rally at Torness. Arrangements for the rally are already fairly well advanced. The next issue of the Energy Bulletin in April will be a "Torness Special" containing all you will need to know about the background situation and about precise plans for the rally. In this issue we enclose a copy of the recently published leaflet, urging people to support us in fighting Torness.

We are asking you to support the event in whatever way you can. Could you organise transport from and publicity in your area? Could you help raise a portion of the £2,000 we need to make the rally a success and a milestone in the fight against the atomic menace? We look forward to hearing from you and to seeing you on May 6th & 7th.

SCRAM TO TORNESS

OIL



Friends of the Earth (Scotland) will shortly be joining the debate on how the oil revenues should be spent when it publishes, some time in February, its own suggestions.

The debate, so far, appears to have centred around the arguments in the Cabinet between Denis Healey, the Chancellor and Tony Benn, the Energy Minister.

Mr. Healey favours large cuts in income tax, in addition to those to which he is already committed and also favours allowing the sterling rate to rise on the strength of North Sea Oil, rather than because of our industrial performance. Both these measures are likely to encourage demand for imported goods and mean that our oil revenues will flow out of the country to pay for consumer goods. Also, because our experts will be more expensive our industrial production could be damaged irreparably.

Mr. Benn, on the other hand, favours spending North Sea Oil revenues on the development of alternative energy sources and the reduction of unemployment. This view is more in line with that of Friends of the Earth who would like to see the money spent on co-operative style, labour intensive industries using low impact technologies. They consider, moreover, that contingeney plans in the event of major oil spills are inadequate and also point to the fact that 45,000 jobs will have to be created in the Highlands just to keep the present population, including school-leavers, employed over the next 10 years at the height of the oil boom.

FoE also recommends that money is spent on the more obvious alternative energy and insulation programmes, along with a public transport infrastructure which is not dependent on oil.

In short, the choice is between lower income tax now and a declining economy later or using the revenues to invest in renewable energy sources and labour intensive industries which have a long-term future and low impact on the environment.

Alternative Energy

The Department of Political Economy at Aberdeen University are undertaking work for the Energy Technology Support Unit at Harwell on alternative energy futures.

The work has two stages, the first of which is concerned with describing alternative energy scenarios of readily classifiable types. This part of the programme is nearly complete. The second part will consist of "reducing" the scenarios to perhaps three or four types of scenario which can be thought of as representing the divergent views of the many "non-nuclear" or "limited nuclear" interest groups. These final scenarios will then be evaluated for their social and economic implications.

Conventional and pro-nuclear scenarios are being constructed at Harwell in association with nuclear interest groups. The Aberdeen work is confined to scenarios which either repudiate reliance on "monolithic" energy technology (including coal, oil, gas, nuclear etc) entirely, or which have fairly significant roles for the so-called "alternative" sources such as wind, wave and solar. In some scenarios, coal continues to play a significant role in the next 50 years. In others, it exists only as something to fall back on if alternative renewable technologies fail to produce as much as is hoped for.

The Aberdeen team works closely with the groups concerned. In the main, these are Friends of the Earth, the Conservation Society, the National Centre for Alternative Technology and individual scenarios produced by Peter Chapman (Open University) and Gerald Leach (IIED, London). This does not imply that other views have not been solicited and heard. Indeed, while the Aberdeen team are unsure of its reception south of the border, they have a Scottish scenario produced by Andrew MacKillop of Hull College of Education and who is closely associated with The Ecologist magazine.

The aim throughout has been to put the scenarios in a form that permit their ready comparison, no easy task with differences existing about even which units to measure energy in ("useful" energy, for example, is a complex concept when applied outside the domestic sector).

Nonetheless, comparability has generally been obtained and energy sources and the demand for them to the year 2025 have generally been quantified. Major difficulties exist on the costing side. One collection of estimates exists in the Watt Committee on Energy, Report No.2 (1977), but these exclude running costs and are already subject to some qualification. Further, while one may make reasoned guesses at the resource costs of alternative energy sources, their social costs are an unknown.

Wave power can interfere with ocean use. Windmills can be noisy. Solar power and district heating have implications for the density and alignment of housing. Equally, coal combustion has social costs in terms of air pollution and its effects on health, while the social costs of nuclear power are much debated from the safety and disposal point of view. Differences in views about what these social costs are, or could be, obviously explain the motivation behind many of the scenarios.

As work proceeds, it should be possible to report on further developments in the scenario exercise at a later date.

Professor D.W. Pearce
Department of Political Economy
Aberdeen University

district heating

'CHP/district heating as an energy route available to government to meet a significant part of the country's low-grade heat requirement is made more attractive by the opportunity it offers to avoid a large-scale commitment of the country to a nuclear energy programme. Choosing the correct technological route for nuclear development is already arousing fierce political activity, both domestically an internationally, and CHP/district heating is one of the available alternative methods which could assist Government in avoiding the necessity to take a nuclear decision until the technical and risk acceptability of nuclear choices are better evaluated. The benign character of CHP/district heating is not the least of the advantages which Government should consider in deciding energy policy for the U.K.'

The District Heating Association

Will it cost the Earth?

The Windscale Inquiry presents the first occasion on which a major policy decision involving complex technical issues as well as social ones, was debated in public. Whatever the outcome may be, the recommendations will at least have been influenced by the evidence presented by a wide range of different people - and will not have been left to the technocrats and planners alone to decide.

It is impossible in a short article to summarise the evidence, nor would I be capable of doing so. I give here just some of my own impressions and stress that others may see things differently; among 8000 or so pages of transcripts something can be found for everyone.

The applicants presented a clear case for the reprocessing plant : that it was essential as part of the fuel cycle, oxide fuel was now being produced and this could not be stored for much more than a decade or so and therefore something must be done with it. Reprocessing was the best way to prepare the material for disposal of the radioactive waste and the methods for ultimate disposal were nearly solved by glassifying the high-level waste and disposing of the glass blocks in geologically stable formations. The extracted plutonium would be needed, both for use in present thermal reactors (giving roughly 30% more energy from the original uranium) and in the fast breeder reactors, which promise some 50 or 60 times more energy. The danger of military proliferation already existed and would not be made any worse by building THORP; international agreements would be needed in any case.

Reprocessing should be confined to those countries which already have a nuclear capability. The danger of terrorism could be contained by suitable design and supervision of the reactors (which are considered safe against terrorists) and the re-processing plants and transport. To give up the benefits of nuclear energy because of the terrorist danger would effectively mean submission to the threat now; terrorism was a part of our society that requires a separate solution and is not confined to plutonium. The costs of THORP would be fully justified by the better fuel utilisation and substantial financial benefit would accrue from reprocessing foreign materials, especially Japanese.

The opposition covered a vast range of questions, some ethical ones : the acceptability of risk and doubts about what the risks actually are; styles of life leading to a sustainable society; the social dangers of the surveillance needed; the needs for energy, conservation and alternatives; the costs and doubtful reliability of the nuclear fuel cycle, the need for independent monitoring and safety controls, the existing extent of pollution and likely results of THORP; the inadequacy of the Non-Proliferation Treaty; the doubts about waste-disposal.

There were several submissions which criticised the growth of the centralised, large and potentially dangerous nuclear industry on ethical grounds. Many of these were heard with the respect they deserve, although of course there was usually much less than usual, or no, cross examination. A number went further, and demanded a complete change of life-style, often putting nuclear energy at the peak of a much criticised industrial society.

These views also, as the Flowers Commission said, deserve to be heard 'with mutual understanding'; but it was my impression and clearly others', that some were too exaggerated for this Inquiry. These basic issues would have been more welcome if presented as an underlying philosophy only and the many arguments of a more immediate nature then used against the applicants' case. Peter Chapman's attitude during his examination, that it is "foolish to invite social and economic problems on one's head" seems to me to be sane and effective.

Chapman presented a closely argued case that there is no impending energy gap in the sense of the shortage we suffered in 1973. With the increasing costs of energy the development of alternatives and the increasing use of better insulation, as well as the use of combined heat and electrical power stations, any supposed gap would close and only a small nuclear component might be needed: even the latter was to increase diversity rather than fill a shortfall. Thus, with a diverse mixture of sources he painted a very convincing scenario for the next 25 to 50 years, showing that the proposed reprocessing plant was unnecessary and a waste of the nation's resources. On the whole, his evidence stood up well to cross examination and Justice Parker thanked him for his helpful submission.

conservation was a much better bet than building any sort of extra power stations. The cheapest insulation installed in old or new dwellings would save a substantial amount of heat while more costly options could reduce the heat requirements of a house to one-eighth of the normal; even this would be cost-effective against nuclear electricity. The energy saved by conservation is half the cost of electricity and more employment would be created. Challenged that alternatives such as solar energy for heating were still being developed, it was pointed out that about a tenth of our heating requirements comes in through the windows anyway; it would not be difficult to desing all new dwellings from now on to bring this up to 30%.

The questions of waste disposal and the possible damage that extra radioactivity can do to life, is a much more complex issue. It became clear however that the Irish Sea is not good at diluting the effluent from Windscale, that given sufficient investment capital much less waste need be dispersed, especially of Krypton-85 gas, caesium-137 and plutonium and the higher actinides. Concentrations of caesium and plutonium in fish, mussels and silt were claimed to be higher than was expected from the known amounts of effluent from the works and higher than is allowed in some other countries. Strong cases were made for better independent monitoring and evaluation of this dispersed radioactivity.

The evidence which to my mind overrides all others in opposition to any form of reprocessing that yields plutonium, is the danger of military proliferation. While a reactor working efficiently for electrical production does not produce good weapons-grade plutonium, because the 239 isotope is contaminated with too much plutonium-240, evidence which startled the Inquiry showed that the USA had actually exploded a bomb made with such plutonium. Further, the reactor need only be switched to working at lower efficiency (a common happening!) to get a higher grade of plutonium for weapons. Quite a small reprocessing plant, established for peaceful purposes, could be used to purify plutonium for weapons. The rest of the bomb could be constructed separately, the device need not be tested since the technology is now well established and published. So a country could be a potential nuclear power without anyone else knowing and put their bomb to use at only a few hours' notice. The peaceful uses of nuclear power therefore cannot be separated from the military ones.

WHO SAYS THAT RABBITS ARE THE ONLY SAFE FAST BREEDERS?

I am a biologist, involved in research and teaching in a scientific discipline which demands many different ways of thinking, of evaluating facts or 'half-facts' with a sober judgement, making shrewd guesses and trying to produce a clear picture of a complex and subtle part of nature about which we know very little. Opposing or incompatible 'facts' are quite usual. With that background I found the evidence produced at Windscale overwhelmingly against any further investment in nuclear technology. Like many others, I have again questioned why I am opposed to nuclear power at this stage: partly it is an emotional instinct (as I believe Bertrand Russel said "It is just not the way to live") related to the scale of the enterprise, its apparent denial of living in harmony with our planet. Issues like this were brought up at the Inquiry but were not the crucial evidence. The submissions on conservation, waste disposal, proliferation and others, showed more strongly than ever before that THORP and other such developments are not the best things for this country to do next.

If consent for THORP is given (even with various restrictions) then this could in my view only be the result of the combined momentum of the nuclear industry, the preservation of existing jobs and expertise and the feeling that a large energy producing industry is the only way forward. All the other evidence invites us to pause.

Professor Ulrich E. Loening, BA DPhil
Department of Zoology and
Centre for Human Ecology,
University of Edinburgh.

WINDSCALE DEMO - 19 MARCH

Mr. Peter Shore (Secretary of State for the Environment) is now considering Mr. Justice Parker's recommendations concerning British Nuclear Fuel's proposals to build a reprocessing plant at Windscale. This is our chance to show that we want this application rejected.

Friends of the Earth has arranged a mass demonstration in London on Sunday 19th March. SCRAM will be organising transport to Newcastle where we will join a train hired by various FoE groups in the North of England. We need to know soon how many people would like to come. For further details contact SCRAM.

Leo Abse MP (Labour) has now tabled the following Early Day Motion (No 115):
'That this House calls upon the Secretary of State for the Environment to publish the Inspector's Report on the Windscale Inquiry so that the issues may be debated in the House before any Ministerial decision is taken.'

Please try and get as many MPs as possible to sign this motion as quickly as possible in order to show Peter Shore how strong the support for this further step towards open government is.

EUROPEAN ANTI-NUCLEAR CAMPAIGN

Resistance to nuclear power programmes is developing all over Europe. Links between active anti-nuclear groups are very necessary because the plans for the expansion of nuclear industries are made on a trans-European basis.

The EEC report on the goals of the Community's energy policy until 1985 states : "It is necessary that the nuclear programme goes ahead without delay. A delay not only risks the acceleration of oil consumption but makes the situation very difficult in the long run....
"The EEC must foresee, use and put In motion all possible financial means so that no deadlock occurs in the investment sector."
A useful instrument in this aim is the European Investment Bank which "does not have any profit-making motives. It has the essential role of financing the investments which contribute to the balanced and continuing development of the Common Market."

According to the EIB, nuclear power is a necessity for Europe. So, between 1958 and 1976, 598.6 million units of currency were spent on nuclear installations (24.2% of total loans and the EIB is supposed to help develop all backward regions of the EEC). 18 million units, or 0.8% of the budget, was spent on environmental protection.

The EIB has, extraordinarily enough, satisfied all demands for money for nuclear installations. It is prepared to adapt to an increase in demands by creating new Euratom loans. URENCO for Almelo (Holland), BNFL for the extension of Windscale (UK) and the EDF for Superphoenix (France) have already expressed an interest in such loans. When a Euratom loan and an EIB loan are agreed, the EEC assistance to these projects can reach 40-50% of the cost.

from "Le Sauvage"
(French ecological paper), December '77

Young protestor at Ayr rally

(photo by Richard Tyler)

An Alternative Energy Strategy for the U.K.

a review of the booklet recently published by the Centre for Alternative Technology.

The business of producing future 'scenarios' has become quite fashionable. None could be called sublime, but some, particularly those prepared by the Department of Energy, could well be described as ridiculous.

The point in question is the political (or 'public') debate on the development of nuclear power, which, in the final analysis, must revolve around our future need for energy and the ability of existing and 'novel' energy sources to supply this need.

The C.A.T. booklet opens with an outline of these contentious factors, then goes on to develop a U.K. energy strategy which, by the target date of 2025, would have no nuclear power component. This last point is worth noting, since only one other report appears to exist which details a completely non-nuclear future (i.e. the Energy 2000 group's submission to the Windscale Public Inquiry). The Sixth Report of the Royal Commission on Environmental Pollution and Dr. Chapman's evidence at Windscale do not outline a completely non-nuclear future, but do point to the feasibility of such.

The 'alternative' energy supplies described in detail are: solar, wind, wave, tidal, hydro, geothermal, bio-fuels and heat pumps. In each instance there is a brief review of the current state of development, a mention of various problems and an estimate of the potential annual energy available. The cost comparisons included are quite enlightening. The problems of matching the energy sources to the demand are explained then, finally, comes the integrated strategy.

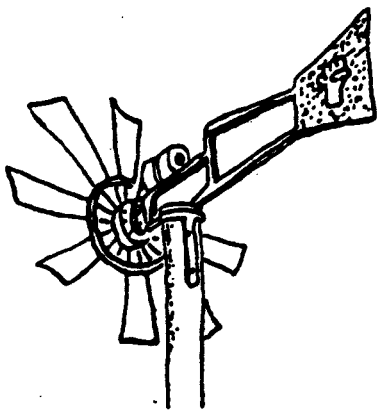
The authors adopt an interesting approach to energy conservation. Their strategy for 2025, without assuming any conservation, would provide the same useful energy as we consume today. They then outline the tremendous potential of various conservation methods (now acknowledged by all but our Atomic Energy Authority) which, they say: "could counteract any tendency toward growth in useful energy consumption." In other words, we would be using the same amount of energy but making it go much further.

There is a strong awareness throughout the booklet of the implications of energy strategy for employment and trade - one can't help feeling that Britain is about to be left behind other countries in developing the relevant industries. However, the chapter entitled 'Economic and Employment Implications' could have been better thought out - the relation between energy use and economic performance is by no means clear-cut (as an examination of international figures will show.)

One other minor criticism is that, although coal is given pride of place, no direct mention is made of the new technologies now available for reducing the hazards of coal - its mining and burning.

These things apart, the report is comprehensive, up-to-date and well presented. The seven co-authors are amply qualified for a study such as this. The conclusions are blunt and very relevant and a list of source documents is appended. It is not quite bedside reading but, by using rationalised units throughout and slipping in timely explanations, the authors have produced a booklet which should prove extremely helpful for anyone questioning the need for nuclear power.

The booklet is available (price 60p) from: CENTRE FOR ALTERNATIVE TECHNOLOGY, Machynlleth, Powys, Wales.



EDINBURGH'S ALTERNATIVE BOOKSHOP

"You can get your anti-nuclear and A.T. literature from FIRST OF MAY BOOKSHOP at 45 Niddry Street, Edinburgh 1, open 12-6 weekdays and 10-5 Saturdays. (tel: 031-557 1348.)"

Sir Jean

It sounds as if the French Electricity Board (EDF) has the same capacity for clear thinking as the SSEB :

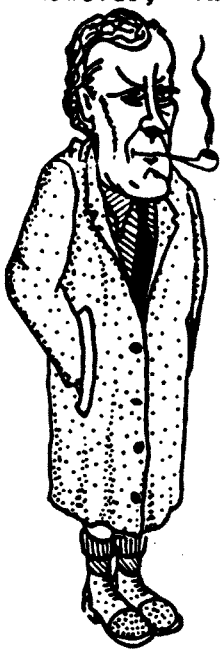
'Whether we like it or not, we are all entering a world where we understand less and less about large industrial installations, where things appear to be beyond our intelligence. Well, we have to accept it....'

M. Robin
Administrator, EDF

Tony

IN HIS RAINCOAT JUSTIFIES THE GREAT NUCLEAR DEBATE

"The Politician" and "The People" play out the roles of the sexist man and wife. "The Politician", though unloved, is at least honoured and obeyed but depends for food and clothing on the fickle will of "The People". On nuclear questions, however, "The Politician" is unfaithful to "The People", deserting them for seductive Experts. What then are the frustrated People to do?



Let them have a good Mass Debate. It may be politically sterile but see if they don't enjoy it....

Radioactive Burrows

12 million tons of coal is the equivalent of the energy generated by nuclear power stations in the UK in 1974 (evidence by the Department of Energy to the Royal Commission on Environmental Pollution, July 1975, p. 5).

Consumption of uranium oxide for the civil power programme from 1st April 1975 to 31st March 1976 was 2300 tons (Mr. Benn, in answer to a question in Parliament, 24th June 1976). This contains about 2000 tons of uranium metal.

But how much ore must be mined to produce this quantity? Low grade ores, such as those mined at Ranstad in Sweden, or occurring at Yesnaby in Orkney, contain about 300 parts per million, i.e. 300 tons in 1 million tons of ore, thus 2000 tons in over 6 million tons of ore. But the fraction which can be extracted is likely to be less than half - 47% was achieved at Ranstad ('Processing of Low Grade Uranium Ores', International Atomic Energy Agency, Vienna, 1967). At that rate, to get 2000 tons of uranium one would have to mine (you've guessed it?) over 12 million tons of low grade ore.

Little Black Rabbit

The views expressed in this Bulletin are not necessarily those of SCRAM. Comments and contributions are therefore always welcomed!

All correspondence should be sent to:

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