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PRIME MINISTER

29 October 1985

SELLAFIELD & NUCLEAR INDUSTRY

THE ENVIRONMENTAL LOBBY

The Energy brief deals with two of the likely environmental issues under "Points to Make" items 6 & 7. It refers to the Judges' recent praise of BNFL's management. We recommend you do not refer to this because these remarks were made in the context of criminal proceedings in which BNFL was found guilty on four counts, and admitted another charge brought under the Radioactive Substances Act, 1960 and Nuclear Installation Act, 1965 of polluting beaches of Cumbria, and failing to keep records.

Even though no-one was harmed by the discharges that were the subject matter of the case, it may be better merely to state our pride in some of our finest scientists in the world.

Secondly, the Energy brief states that Sir Douglas Black found no evidence of any general risk to health for children or adults living near the plant when compared to the rest of Cumbria. This note is useful but omits a number of worthwhile good points, and adds a point to avoid. We suggest you do not add that Sir Douglas gave a "qualified reassurance" because the explanation of the word "qualified" is complex and opens up more pitfalls.

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Instead, you might like to make some of the following good points that are not known adequately by the public.

(a) BNFL have steadily and dramatically reduced their discharges into the sea. This year, a £150 million project was announced that will bring discharges down further, so that in 1991 both alpha and beta discharges will be reduced to a few per cent of the peak (in 1973-74) and alpha discharges will be below one per cent of peak levels. (Graph on page 16 of BNFL General Briefing Notes - Flag 1.)

(b) The hazard from radiation must be given a sense of perspective and proportion. Radiation occurs in all living tissue, including man and is, of course, harnessed to save life in hospitals, being one of the main ways of fighting cancer. According to a new booklet based on UN figures (UNSCEAR), five sixths of radiation comes from natural sources, and only one sixth from medical sources, building materials and energy production. The average annual effective dose equivalent received by man from all sources of radiation is 2.421 millisieverts, of which only 0.001 millisieverts come from nuclear power. This is well illustrated by the diagram attached - Flag 2.

Current Nuclear Banana Skins

1. The Economist of 19 October, in an inaccurate and tendentious article, criticised Sellafield for causing

polluted sea bed material, now dredged up and used in the building of the new Barrow workshop for the Trident submarine. The answer to this, if raised, is that the National Radiological Protection Board - a highly reputable national body - has given the sludge a clean bill of health. (Article attached - Flag 3.) Moreover, during the building work at Barrow, the materials were routinely monitored for radioactivity. Since the article, the local council has done its own test and has been unable to detect radiation. It is probable the Economist was fed the information by an environmental pressure group, CORE (Cumbrians opposed to a radioactive environment).

2. The House of Commons Environment Committee (see Sunday Times piece - Flag 4) will say that reprocessing is no longer the most eonomical method of getting rid of spent nuclear fuel and is worsening Britain's serious waste disposal problem. Their comments relate to the Thorp Site. The answer is that Parliament decided on the development at Thorp. This cannot be re-opened.

Fundamental Environment Point for Background

Because the environment lobby has exerted pressure and because there is widely-spread misinformation, ICI changed its mind and refused to permit the use of their gypsum mine at Billingham, so losing us the best site for low and intermediate level nuclear waste disposal in Western Europe.

Because the Seaman's Union refused to allow dumping at sea of low and intermediate waste (a safe option) we have felt obliged to defer the decision on sea dumping. More research is now being done on the best practical option. So we have been boxed out of the best obvious option by environmental misunderstanding. While Sellafield is more concerned with high level nuclear waste, anything you can say to allay the fears of the public would be helpful. I suggest the following:

"While we understand people's fears, our nuclear energy programme is safe, and is getting safer."

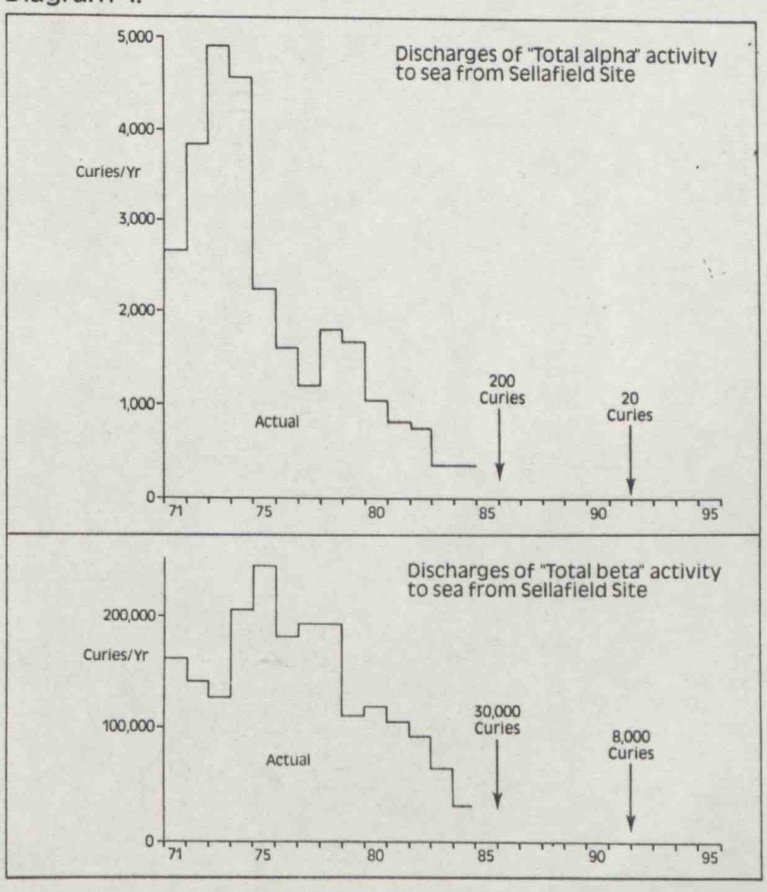
pp HARTLEY BOOTH

ENVIRONMENTAL IMPACT

Radioactive discharges from the sites to the environment are only permitted under authorisations issued jointly in England by the Ministry of Agriculture, Fisheries and Food and the Department of the Environment. These ministries initiate monitoring additional to that by BNFL to confirm that arrangements are satisfactory and consistent with ICRP recommendations.

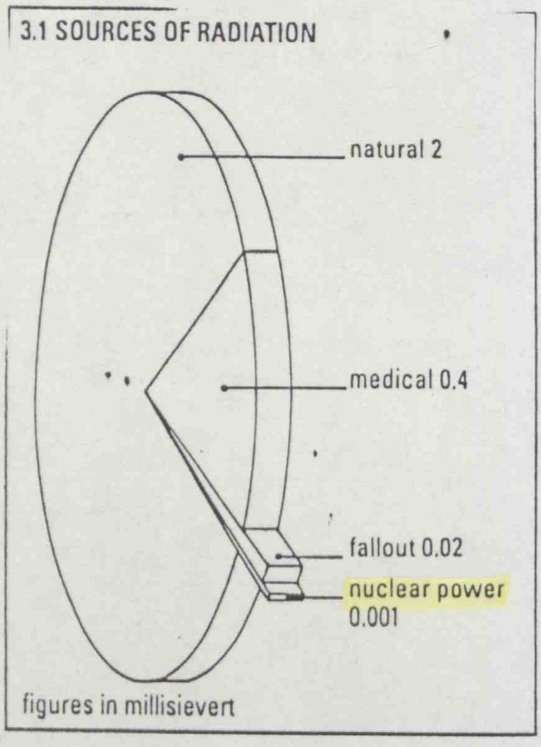
The levels of discharge to the environment are shown in the diagrams below. Alpha discharges, mainly plutonium, are now about one twelfth of the peak level and beta discharges, including caesium, are now about one seventh of the peak level. A £150 million project to reduce discharges still further was announced during 1985 so that by 1991 beta discharges will be reduced to a few per cent and alpha discharges to less than one per cent of peak levels.

Diagram 4.

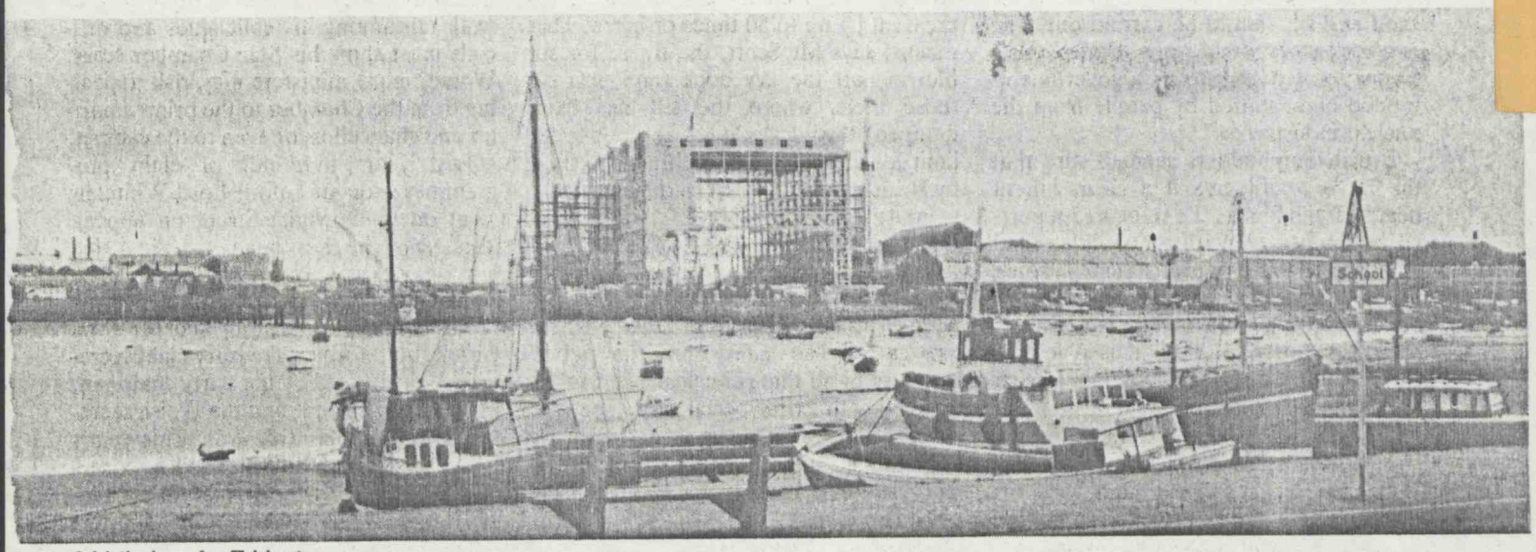


Publications
The Company publishes annual reports covering occupational safety, radioactive discharges and associated monitoring of the environment.

Mortality study
A study of mortality among BNFL workers and ex-employees is being carried out which covers a period of more than 30 years. The study has concentrated on experience at Sellafield and results so far indicate the cancer rate is slightly less than would be expected from national statistics with no significant difference between radiation and non-radiation workers.



Average annual effective dose equivalents from natural and man-made sources of radiation.



A birthplace for Trident

A Barrowload of radioactivity

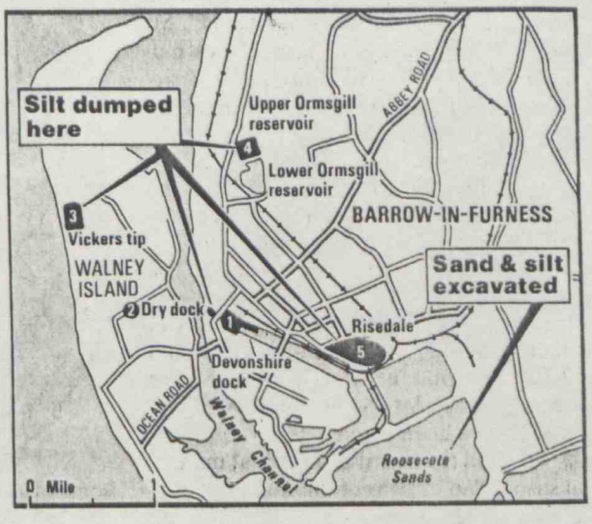
British Shipbuilders has dredged up 3m tonnes of sand and silt from the Irish Sea contaminated with radioactive waste and dumped some of it around the town of Barrow-in-Furness, Cumbria. The seabed muck has been contaminated with emissions from Sellafield (née Windscale), Britain's nuclear reprocessing plant situated 50 miles farther north. The sand and silt, which have been used in the building of a new workshop for the Trident submarine, contain ruthenium, caesium, americium and, of course, the dreaded plutonium. The government-owned British Shipbuilders says that the risks to the local population are slight. *The Economist* has evidence that British Shipbuilders is wrong. Some Barrovians could be exposed to plutonium levels that are twice the safety limits laid down by British Nuclear Fuels, which runs Sellafield.

British Shipbuilders' Barrow works was part of the publicly-quoted Vickers group before the yard was nationalised in 1977 and is still known as Vickers Shipbuilding and Engineering. The yard, which is on the government's short-list for (re-)privatisation, employs a quarter of the town's workforce. It has specialised in building nuclear-powered hunter/killer submarines since the first one, *HMS Dreadnought*, was launched in 1959. It built two of Britain's four Polaris submarines and will also construct four Trident submarines.

To handle Trident and other work on its books, the Barrow yard is building a £230m workshop, 115 feet high and covering 15,000 square metres. The workshop, resembling an oversize aircraft hangar, is being built on part of the yard's Devonshire dock. Before construction work could begin, the dock had to be filled in. The cheapest and quickest method was adopted: a mixture of seawater, sand and silt was sucked from the polluted shores around Barrow. As the seabed material was pumped in, the sand sank to the bottom of Devonshire dock (1 on the map), the surface silt was skimmed off and dumped nearby in an old dry, or graving, dock (2 on the map).

Although the Cumbrian coast and the Irish Sea are reckoned to be the worst radiation-polluted stretches of water anywhere in the world, the Barrow yard did not monitor the radioactivity of the sand and silt until the dock was nearly full—and then only at the insistence of the health and safety committee of the yard's trade unions. Even then, it simply ran a geiger-counter over the Devonshire dock area, which contained mainly sand, and proclaimed it safe. The trade unions in the yard were not convinced—and with good reason. When radioactive sand and silt are separated, the sediment is more radioactive than the sand, because radioactive particles cling to the surface of the contaminated material and, pound for pound, silt has a bigger surface area than sand. More surface area equals more radioactivity.

Curiously, for a yard that builds nuclear submarines, Barrow does not have the



facilities for testing for environmental protection from alpha radiation, only beta and gamma. The unions insisted that an independent and thorough test of the sand and silt should be carried out. The yard called in the National Radiological Protection Board (NRPB), a government-funded body staffed by people from the nuclear industry.

British Shipbuilders seemed sure that the NRPB would give it a clean bill of health. Even before the NRPB had reported its findings, British Shipbuilders had allowed the local council to remove some of the silt from the dry dock and use it as infill on various sites, including a disused reservoir alongside another used for recreation (4 on the map); and on a British Rail asbestos tip close to a residential area (5), where a geiger-counter test by *The Economist* revealed levels of radiation up to ten times background.

Some of the silt was trucked to British Shipbuilders' own rubbish dump on Walney Island (3 on the map), a licensed tip for "low-level" radioactive waste. The tip is yards from a popular sandy beach and a stone's throw from a residential caravan site. It is unfenced, with no warning signs that it is a radioactive dump. Silt was being removed to these sites before the NRPB was called in and also during the nine to ten weeks which the board took to report to the Barrow yard. Excess sand went to a building materials supplier.

The NRPB report gave British Shipbuilders a clean bill of health. "In both an absolute and a relative sense," it said, "the doses and the risks from the use of Walney Channel material are quite low and are surely not a cause for anxiety." But there remain some questions:

- Why did British Shipbuilders fail to monitor the potentially-contaminated sand and sediments until the dock was almost full? Even were it ultimately proved that there was no risk, such action, according to Mr Philip Day, a chemistry lecturer of Manchester University who is an authority on pollution from Windscale, is "foolish, irresponsible". Mr Richard Scott of the department of molecular biology at Edinburgh University thinks it "deplorable" that the material was ever brought ashore.
- Why did the NRPB take only two samples of silt from the dry dock when the two differed in level of radioactivity by large amounts? There was a variation of five-to-one in respect of caesium 137, a beta emitter, and of more than ten-to-one in respect of the transuranic elements (ie, americium-241, plutonium-238, -239 and -240, all alpha emitters). Many more samples, say Mr Scott and Mr Day, should have been taken.
- Why did the board assume that material suspended in air is of the same radioactive composition as material in bulk? When sediment is extracted from sand as contaminated as the NRPB found in Barrow, its radioactivity can be vastly increased: by up to 50 times or more. That means, says Mr Scott, the figure for silt blowing off the dry dock (and also off those areas where the silt has been dumped) "would be twice the public air limit for alpha-particle emitters specified by British Nuclear Fuels in their environmental monitoring reports."

Before panicking, let south-west Cumbrians recall that the stuff is ten times less lethal than the risk of being killed on the road or at work. But it is still toxic and dangerous. The safety and the public relations of all things nuclear need to be handled with extra special care. The risk is certainly not as small as both British Shipbuilders and the NRPB would have had Barrovians believe.

Public spending

Star-struck

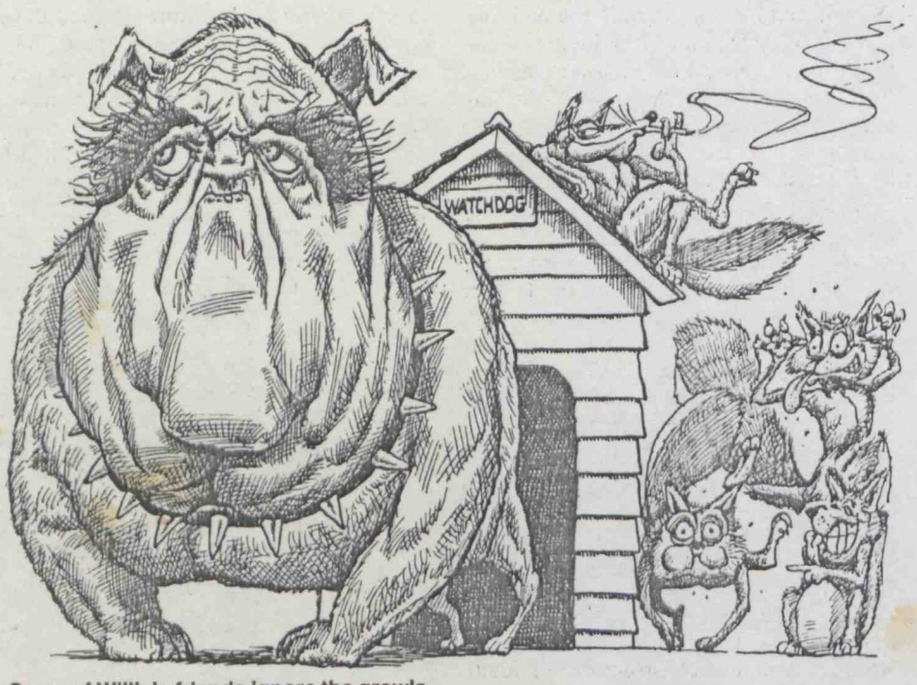
The cabinet's annual blood-on-the-carpet season opened on Tuesday with the first meeting of Star Chamber under its chairman, Lord Whitelaw. Its task is to prune spending bids from departments to the 1986-87 planning total of £139 billion agreed by the cabinet in July, to make room for tax cuts in next year's budget.

Already it is clear that more spending programmes than ever before are likely to come before the Chamber, in part because a new Treasury chief secretary took over only last month. The formal public spending round is far behind schedule. The mere existence of the Chamber, now in its fourth incarnation, is beginning seriously to undermine the Treasury's authority. Any minister who wants to walk tall among his colleagues and officials must show his Star Chamber scars. Worse, more ministers may risk appealing from the Chamber to the prime minister and chancellor, or even to the cabinet.

Last year, four out of eight programmes brought before Lord Whitelaw went on to Downing Street on appeal. This year, he has been growling that anyone who appeals over his head will be no friend of his. His team includes the "dries", Mr Leon Brittan and Mr John Biffen, both former Treasury chief secretaries, augmented by the party chairman, Mr Norman Tebbit, and the Welsh secretary, Mr Nicholas Edwards. This year's Chamber secretariat is headed by a seconded Treasury official, Mr Brian Unwin, much admired by the prime minister.

The Treasury is entering the Chamber more cheerfully than last year. Within the £139 billion planning total is an unprecedentedly high £6 billion reserve for contingencies. The "hard core" of excess bids is roughly £4 billion above target. Less than the contingency reserve—but the Treasury is determined to protect that as long as it can. There will be lots of argument about this year's likely inflation, the baseline for next year's spending, but the Treasury expects lower rates in future years.

All the big programmes will face Star Chamber scrutiny—social security, defence, energy and environment—as well as the Foreign Office, law and order and agriculture. The sensitive arts budget has been much fought over with the Treasury,



Some of Willie's friends ignore the growls

Sunday Times
27th-10-85.

£1bn Sellafield waste plant put in balance

by David Connett and Anne Spackman

A FORTHCOMING parliamentary report into radioactive waste is examining the future of a £1.3 billion reprocessing plant at Sellafield in Cumbria. The report by the House of Commons environmental select committee will say reprocessing is no longer the most economical method of getting rid of spent nuclear fuel and is worsening Britain's already serious waste disposal problem.

Instead of reprocessing, MPs believe in future we should store the fuel in concrete containers.

The costs of reprocessing, which run into millions of pounds, used to be offset by the value of the uranium and plutonium it extracted. Now with uranium cheaper to mine and little demand for plutonium it is more economical to store spent fuel.

MPs have not yet decided whether to call for the immediate abandonment of the £1.3 billion project at Sellafield that is known as Thorp. That stands for thermal oxide reprocessing plant, and will be Britain's most up-to-date waste disposal installation when it starts in five years' time. Already £300m has been spent on it with money provided by foreign countries which want Britain to deal with their waste.

Some MPs argue that spending a further £1 billion would be "throwing good money after bad". Others feel it is too late to stop Thorp.

Its abandonment would anger Margaret Thatcher, who is thought to be personally committed to the project, as it would mean pulling out of lucrative international contracts. Reprocessing and storing waste is a big money-spinner for Britain. In 1983-84 British Nuclear Fuels, which runs the Sellafield complex, did £91m of foreign business. But increasingly other countries are looking for cheaper options.

One of BNFL's biggest customers, the Central Electricity Generating Board, has yet to sign a contract for Thorp. The board's chairman, Walter Marshall, told the committee it was exploring alternative ways of getting rid of nuclear waste.

A key argument against reprocessing is that it produces waste up to 200 times greater in volume than the initial spent fuel. As the public sees the disposal of waste as the biggest problem facing the industry, the creation of more unnecessary waste makes a bad problem worse.

Britain has no waste policy. At the moment waste is stored at nuclear power stations or at the dump at Drigg near Sellafield. It used to be dumped on the sea bed in the North Atlantic but that was stopped by an international ban and a blockade by transport unions.

The sea ban has increased pressure to find a dump on mainland Britain. But the nuclear industry has failed to convince the public that dumping is safe.

Its experience two years ago underlines the point. In 1983 Nirex – the nuclear industry radioactive waste executive – launched the news on an unsuspecting public in Billingham on Teesside and Elstow in Bedfordshire that they had been chosen as Britain's dump sites. The communities were horrified.

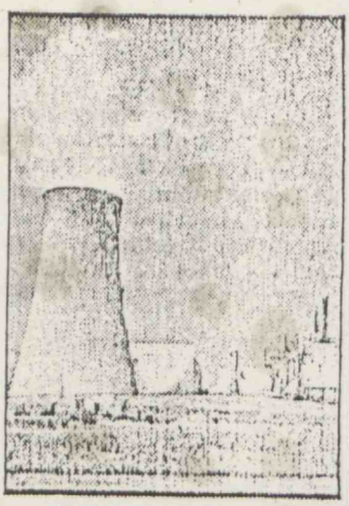
They immediately formed anti-dumping campaigns. Nirex was forced to pull out of Billingham when ICI, which owned the mine chosen as the dump, refused to let it enter. Elstow's fate still hangs in the balance, along with four other sites, yet to be officially named.

The committee will say this shows that while many people may accept nuclear power in general terms, they will not accept nuclear waste near their homes. The committee chairman, Sir Hugh Rossi, said; "It is quite simply a case of 'not in my own back yard'."

MPs will report that winning public confidence is the most urgent and difficult task facing the industry. They will attack it for its high-handed manner in expecting the public to accept its safety claims without question. The industry's spokesmen are not believed.

They think people's fears are too deep-seated to be allayed by public relations treatment or gimmicks. Instead they will urge the industry to take a radical new approach.

First, the industry should talk and listen to the public's concerns.



Sellafield: a shambles?

The committee will cite the West Valley nuclear plant in the United States as a successful example of winning over a reluctant public. The Americans cleaned up a notoriously accident-prone plant in a painstaking and lavish fashion, convincing the local community of their commitment to act safely and honestly.

In Britain Nirex is attempting to improve its image in anticipation of the committee's criticisms. It is poised to become a legally constituted body with a new chairman and at least one new board member from outside the nuclear industry.

The need for the industry to win public support is becoming urgent as the stockpiles of waste grow daily. Last week the environment minister, William Waldegrave, reiterated to the committee the need to press ahead with suitable sites. International visits, notably to Sweden and West Germany, highlighted to MPs how far Britain lags behind in its research into potential underground sites.

The visits also left the committee with the impression that the management of Sellafield could be improved, after comparing it with its French counterpart at Cap la Hague. One MP described Sellafield as a "shambles" by comparison.

The Sellafield operation, where the anti-nuclear lobby has concentrated its energies, has become the focus of public concern over nuclear waste. Marshall admits that public pressure is forcing the industry, reluctantly, to take a leading role in wooing the public on to its side.