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## **Pay your electricity bill and buy a bomb**

*Plutonium from a breeder reactor is ideal for military purposes. That's what the French use it for. Was that in the mind of the Government when it agreed to support the UK fast breeder programme, asks Walter Patterson*

Energy secretary Nigel Lawson told the Commons in November that the UK Government remained committed to the development of the fast breeder reactor. However, he also said the Government saw no likelihood of ordering fast breeders regularly until 'the early part of the next century'. Even this timetable sounds like wishful thinking, according to a paper by the French economist Dominique Finon, in the December 1982 issue of the quarterly journal *Energy Policy*.

Entitled 'Fast Breeder Reactors: The End of a Myth?' the paper demonstrates unambiguously that even on the most favourable assumptions the fast breeder cannot possibly compete with conventional nuclear technology until far into the future – if ever. Nevertheless the Government will continue to spend £100 million per year on the technology. Is it merely that they hope to see its commercial potential realised, many decades hence, in spite of all the mounting evidence to the contrary? Or might there be another aspect of the Government's fast breeder policy – something left unsaid?

France is generally acknowledged to be the world leader in fast breeder technology. The 250-megawatt Phenix has been in service since 1973; the 1200-megawatt Super-Phenix is expected to start up in 1984. However, one key feature of the French fast breeder programme only came to light in April this year. According to an authoritative article by L Lammers in the journal *Energies*, both the Phenix and the Super-Phenix are dual purpose reactors – and their electricity is only a by-product.

While generating electricity they are also intended to produce high quality plutonium for the French nuclear weapons programme. The French military plutonium production reactors G-2 and G-3 have essentially reached the end of their useful lives; G-2 is already permanently shut down. The Phenix and in due course the Super-Phenix are their replacements. As Yves Lenoir revealed in *Science et Vie* a fast breeder lends itself with striking ease to the dual purpose role. Its core burns comparatively low quality plutonium from conventional reactors, generating electricity; but the plutonium which is simultaneously being created in the 'blanket' around the core is high quality, nearly pure plutonium-239 – just what the bomb makers ordered.

The implications of this French policy are profound. It demolishes forthwith any pretence that the civil and military nuclear programmes are in any way separate; they are clearly part and parcel of the same programme. The political corollaries of this situation are startling. The Super-Phenix is a multinational project; Italy has a 33 per cent interest, and the Federal Republic of Germany a 16 per cent interest. The major West German electricity supplier RWE alone has about 10 per cent. West German politicians have pointed out wrathfully that German electricity consumers are therefore helping to finance the French nuclear weapons programme. In the UK, the CEGB, too, has one per cent interest in Super-Phenix; so electricity users in England and Wales are likewise helping the French to buy their bombs.

This state of affairs is clearly diplomatically explosive. It also casts a grave shadow over the proposed international collaboration on future fast breeder developments – with the French expected to play a crucial role.

It also raises certain stirrings of doubt much closer to home. The UK's own dedicated plutonium production facilities are the eight reactors of Calder Hall and Chapelcross. They are almost exact contemporaries of G-2 and G-3, indeed slightly older. In spite of extensions to their planned lifetimes they are unlikely to survive in service into the 1990s. There is already, to be sure, a large albeit secret stock of military plutonium available to UK bomb makers; but the new generation of weapons featuring Trident will certainly require plenty of plutonium. Given its nuclear weapons policy, it seems inconceivable that the UK Government would willingly allow itself to slip into a situation in which it has no dedicated military plutonium production facility in active service. But no plans have been announced for any dedicated reactors explicitly intended to replace Calder Hall and Chapelcross. Plutonium from the civil stations is inevitably of lower quality, less suitable for the compact hardened warheads of a Trident missile. Plutonium from a breeder blanket, however, is ideal.

What, therefore, is being done with blanket plutonium from the Prototype Fast Reactor at Dounreay? When the Government reached its decision to continue supporting the UK fast breeder programme in spite of its abysmal commercial prospects, did they actually have something else in mind – something not commercial at all?

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