

lead to the general acceptance of plans for an enlarged nuclear technology, the vexed question of long-term uranium availability will certainly raise calls for the early introduction of the Fast Breeder Reactor (FBR), which uses uranium 60 times more efficiently than conventional reactors. The ACORD report does not consider the possible effects of an international moratorium on the FBR, but the oversight is something that the increasingly respectable Friends of the Earth, averse to the FBR in particular rather than nuclear reactors in general, may seek to amend. A government decision on whether to move from the prototype to the demonstration stage with the FBR is to be given in the autumn, and it is still possible that Britain could forego further independent development, opting instead to buy herself into other national programmes at a later stage. The CEGB is known to be engaged independently in ongoing negotiations with the French-German-Italian consortium involved in the Superphénix FBR.

### Conservation

On conservation, there is general accord, with calls from both the nuclear and coal industries for tightly controlled exploitation of North Sea resources. This would not only stretch oil and natural gas reserves, but should also provide the coal and nuclear programmes with a chance to regain a firm grip on the generating market. British Gas, however, will tell the Energy Secretary next week that such measures are largely unnecessary, suggesting that further gas finds could close the predicted energy gap completely.

But, more broadly, ACORD has underlined that because of low energy conservation factors, which average around 40%, every unit of power conserved represents more than two units of primary energy. This is a proportion which may become critical in the energy climate of the late 1980s, and last week Dr Marshall announced that the portion of the DEN R&D budget set aside for conservation—included, incidentally, with the allocation for

alternative resources—is to be expanded by over £7 millions to £22 millions within the next four years.

For its part, the CBI will call for increased consumer influence in energy affairs, a theme also taken up by the National Consumer Council. On the other side of the political fence most of the unions can be expected to underline the already published call of the Amalgamated Union of Engineering Workers for complete nationalisation of North Sea resources. The AUEW also decries any extension of oil and gas use into electricity generation.

So it all begins on Tuesday with the shouting. Some may doubtless regard it as fitting that the Energy Secretary should launch his juggling act under a glare of national publicity. Others more charitably feel that if the right attitudes win through the event could be just the start of an effective exercise in "open government". Whatever the outcome of his eclectic approach one thing is abundantly clear: Mr Benn will need a cool head and steady eye to strike the necessary balance. □

## NUCLEAR TRADE

# Heavy water allegations

*The controversy over international trade in nuclear technology and materials continues in the United States. Colin Norman reports from Washington on the latest development*

THE long-simmering debate over nuclear export policies took an important new twist in Washington last week. Senator Abraham Ribicoff, chairman of the Senate Government Operations Committee, charged in a public statement that heavy water supplied by the United States to India in 1956 played a key role in India's nuclear explosives programme. Ribicoff, an outspoken critic of present US nuclear export controls, sharply criticised the State Department for failing to place strict safeguards on the heavy water sale, and he also condemned the department for failing to establish whether India used the material to produce its explosive device.

Though the State Department and the Energy Research and Development Administration (ERDA) have challenged the chief point in Ribicoff's analysis, his statement is likely to play an important part in public hearings on whether or not the United States should sell some 40,000 pounds of enriched uranium to India to fuel a large nuclear power plant near Bombay. The hearings have been postponed from June 2 to July 20.

According to Ribicoff, the United States sold India 21 tons of heavy water as a moderator for the Canadian-supplied CIRUS reactor, the source of plutonium for India's nuclear explosive. The material was supplied under an agreement that it be used only for peaceful purposes, and Indian officials have claimed that the explosive device detonated in May 1974 was produced without the need to resort to imported material.

The Indian assertion rests on the argument that heavy water in the CIRUS reactor degrades by about 10% a year, so that all the US-supplied material would have been used up and replaced by India's own heavy water (produced in a German-supplied plant) well before its explosives programme was begun. That argument was accepted by State Department and ERDA officials, who reiterated last week that they have no reason to doubt its validity. But Ribicoff claims that loss of heavy water in the reactor is much less than 10% a year, and that a substantial amount of US-supplied material was in the reactor while it was being used to manufacture plutonium.

Whatever the validity of Ribicoff's claims, the suspicion that US-supplied heavy water helped India to produce nuclear explosives is likely to be influential in next month's hearings on the sale of reactor fuel to India. Though the reactor in question, the Tarapur Atomic Reactor, is operated under safeguards administered by the International Atomic Energy Agency (IAEA), critics of the proposed sale have argued that India should accept additional safeguards on its nuclear facilities before final approval is given to the deal.

The IAEA safeguards are designed to prevent plutonium produced in the Tarapur reactor from being used to manufacture explosives. If the United States refuses to supply fuel for the reactor, however, it is conceivable that India could claim that since its nuclear agreement with the United States had been broken, safeguards on the plutonium no longer apply. According to Ribicoff, the Indian Government may be using that possibility as a "subtle form of blackmail" to ensure that the fuel sale is approved, and he argued that the United States "should seek to end the present uncomfortable and uncertain situation by exercising an option we have to buy back the plutonium generated by these power reactors".

At least one of Ribicoff's claims is, however, incorrect. He argued that the United States "never publicly acknowledged exporting the heavy water to India", but ironically, the Atomic Energy Commission trumpeted the 1956 agreement in a press release since it was one of the first nuclear deals under President Eisenhower's Atoms for Peace Programme. □