

Coverage for nuclear power plant accidents goes into limbo

Washington

ON 1 August, the law defining the limits of liability for US commercial nuclear power plant operators expired. The expiration of the Price-Anderson Act will have little if any immediate impact on electric power utilities because the old act will continue to cover existing reactors. But there could soon be fallout from Congress' inaction. Price-Anderson also establishes liability limits for Department of Energy (DoE) contractors. Contracts for the operation of three large national laboratories expire at the end of next month, and the contractor has warned that, without liability protection, they will not be extended.

Last year, Congress appeared close to extending Price-Anderson (see *Nature* 322, 676; 1986), but acceptable compromises suddenly evaporated, and the political battle was put off until this year. Opponents of nuclear power saw the act as a way to make the industry tighten up its safety procedures or stop operating nuclear plants. But supporters of nuclear power have argued that it cannot survive without liability protection.

In the event of a power plant accident, the current version of Price-Anderson requires that the initial round of claims from victims be paid from a \$160 million insurance pool. If damage claims total more than that — a virtual certainty for any significant accident — utilities would contribute \$5 million for each reactor it operated to a pool to pay off additional claims. With 110 reactors now operating in the United States, that limits industry liability to \$710 million, still far below estimated claims for any major nuclear power plant accident.

A version of Price-Anderson that the nuclear power industry supports would keep the same \$160 million insurance level, but raise post-accident contributions to \$63 million per nuclear power plant. This would bring the total liability limit to \$7,090 million. The House of Representatives passed such a version late in July. The Senate's version of Price-Anderson is still stuck in committee, but a bill likely to be debated on the Senate floor next month calls for payments of \$60 million per reactor per accident. Other differences between the House and Senate versions are the duration of the extension (10 versus 30 years) and the way claims are handled after the limits of Price-Anderson coverage are reached.

The nuclear power industry has a certain ambivalence about renewing the Price-Anderson Act. All reactors currently operating or under construction are 'grandfathered' under the limits of liability from the expired act. Pushing for a

twelve-fold increase in potential payments — from \$5 million to \$60 million — runs against the grain. With no new orders for nuclear power plants, there is little rush to welcome this increase. But without Price-Anderson, the industry has no future, as no utility would contemplate construction of a nuclear power plant without a limit on liability.

The immediate concern raised by the expiration of the Price-Anderson Act is how DoE will indemnify its contractors. The first problem comes on 30 September, when contracts with the University of California to run Los Alamos, Lawrence Livermore and Lawrence Berkeley Laboratories expire. Two years ago, DoE and the university agreed to renegotiate

the five-year contracts, but the university has made it clear that it could not expose itself to unlimited liability in the event of a nuclear accident. The university receives \$7 million a year to run the laboratories, but total federal contracts to the three laboratories amount to more than \$2,000 million annually. New versions of Price-Anderson would limit liability at the same level set for commercial nuclear plants, but the payments would come from the federal treasury.

One option being considered by DoE to renew the contracts is to invoke the War Powers Act. This allows the Secretary of Energy to indemnify its contractors in the interest of national security, but there are no specific guidelines on how liability is determined under this law. Price-Anderson is clearly the preferred approach, but there is a good chance that the Senate will fail to act before the 30 September deadline. **Joseph Palca**

South Africa ignores IAEA censure over safeguards

Oxford

THE governors of the International Atomic Energy Agency (IAEA) have abandoned their long-running attempt to persuade South Africa to sign the Nuclear Non-Proliferation Treaty (NPT) and have recommended to its General Assembly that South Africa be suspended from the agency.

The scene for the decision was set in December last year when the agency broke off negotiations with South Africa over safeguards at its new commercial enrichment plant. Although South Africa's existing reactors — two at its nuclear power station at Koeberg near Cape Town and a third research reactor, SAFARI 1 — have always been run under IAEA safeguards, the government refused inspection of the enrichment plant at Valindaba, in the Transvaal, which has the capacity to produce weapons-grade uranium. According to the government, inspection could allow too much to be learnt about the "unique" process employed there. The process was hailed as a breakthrough when announced in 1970 but is widely understood to be only a variant of the centrifuge process.

Fears that South Africa may be ready to manufacture nuclear weapons are not new. In 1977 there was an international outcry after the Soviet news agency TASS warned that a nuclear test was imminent. The claim was backed by France, reportedly on the basis of satellite pictures of extensive construction work in the Kalahari desert. Pretoria denied intent to test nuclear explosives. Later, in 1979, a US satellite detected a mysterious double flash, commonly indicative of a nuclear

explosion, off the coast of South Africa. But US civilian experts concluded that the signal was too different from known blast signals to confirm a test had taken place.

South Africa's refusal to sign the NPT has proved costly. In 1974, the South African Electricity Supply Commission (ESCOM) contracted to supply uranium to be enriched in the United States, before being sent on to France to be transformed into fuel rods, and then returned to South Africa. But in 1978 the US Nuclear Non-Proliferation Act was passed which prevented the export of enriched fuel to any country that did not maintain full IAEA safeguards. By 1982, South Africa was in a 'Catch 22' situation: if it did not supply the uranium to its US contractor, it would have to pay huge penalties for breach of contract, and if it did supply the uranium it could not have it back.

ESCOM chose to supply the uranium, but the contract (valued at R116,384,000) was suspended in 1984. ESCOM had to allow the enriched uranium to be sold on the world market while buying enriched uranium from a Swiss company at black market prices. Losses of R56,782,000 could have been avoided if South Africa had been willing to sign the NPT.

While the government has never advocated acquisition of nuclear weapons, recent developments suggest that it is no longer concerned about international respectability in the nuclear field and is prepared to pay the price of going its own way. With IAEA censure, no government would allow contracts to be signed for the planned second nuclear power station in the eastern Cape Province.

Michael Cherry