

US defence

Congress takes a moderate line

Washington

GROWING impatience with President Reagan's arms control policies has prompted the House of Representatives to take actions on its own. Before leaving for its summer recess, the Democrat-controlled House passed a decidedly "doveish" defence authorization bill and the Republican-controlled Senate also showed signs that it is ready for a more moderate build-up of US military capabilities.

Both houses of Congress have now completed work on versions of the defence authorization bill. Neither house went along with the administration request for \$320,300 million for the Pentagon: the House authorized \$286,000 million, while the Senate agreed to \$295,000 million.

The issue of chemical weapons has proven particularly divisive for Congress. The House agreed by just one vote to delay procurement of binary nerve-gas weapons until 1 October 1987. The Senate continued a string of close votes on chemical weapons and a measure that would have deleted funds for the Bigeye bomb, a new binary nerve-gas bomb that has failed many of its developmental tests, was defeated by one vote.

Although President Reagan has indicated that he no longer intends to abide by the terms of SALT II, the strategic arms treaty negotiated in 1979 but never ratified by Senate, opposition to that decision has been fairly strong in Congress. The House adopted a measure that would force the President to abide by SALT II by prohibiting funds to be spent on any weapons system that would be in violation of the treaty. The Senate would only go as far as requesting a Pentagon report on the consequences of violating the terms of SALT II and other strategic arms control treaties.

Spending on research on a space defence system was cut in half by the House, but authorized for the full \$278 million requested by the administration in the Senate. The Senate bill also includes \$28.5 million to begin procurement of a space defence system. Both houses made deep cuts in the administrations request for funding for the Strategic Defense Initiative.

The Pentagon officially runs out of money at the end of next month. Even if Congress cannot reach a compromise on the two authorization bills, similar language on weapons reduction schemes is included in appropriations bills working their way through Congress. One way or another, there is sure to be a shoot out on arms control before the Pentagon gets any more money.

Joseph Palca

Chernobyl accident

Fallout pattern puzzles Poles

"HOTSPOTS" of radioactive fallout from Chernobyl are puzzling Polish scientists. Dr Zbigniew Jaworoski of the Central Radiological Protection Institute in Warsaw told a Japanese reporter, Mr Fumihiko Yoshida, of the *Asahi Shimbun* recently. The Japanese media have been particularly successful in elucidating details of the Chernobyl disaster and its aftermath — presumably the governments involved respect their unique positions as the only victims of a nuclear bombing. It was on Japanese television that Dr Valerii Legasov, deputy director of the Kurchatov Nuclear Energy Institute of the Soviet Academy of Sciences, revealed that almost all the safety circuits at the Chernobyl power station had been disabled during the unauthorized experiments that led to the disaster.

Dr Jaworoski, who is a leading adviser to the United Nations on nuclear fall-out, is recorded as saying that the hotspots, which measure several tens to several hundred metres across, exhibit levels of radio-activity some ten times higher than the surrounding area. The spots are roughly circular in shape and, in the immediate post-Chernobyl period, it appears their outline could be mapped by field observers with geiger counters. Analysis shows that ruthenium (an element whose name, ironically, derives

from the Latin designation for Ukraine) is the major radioactive material in the hot-spots, although there are a few in which lanthanum or barium isotopes predominate. Although most common in north-east Poland, they could be observed all over the country, Dr Jaworoski reportedly said.

Details of the level of radioactivity of the hot-spots have not been given, but similar ruthenium particles deposited in Sweden have registered levels of 1,000 — 10,000 becquerels per particle.

The Polish scientists, Yoshida reported, have no idea why the hot-spots are so widely distributed, nor why they consist predominantly of ruthenium. An apparently similar phenomenon in the Mahileu rayon of the Byelorussian SSR (well away from the total exclusion zone) has been attributed to a freak rain-shower, but, as the "self-help" advice issued by underground Solidarity makes clear, the one thing the Poles were longing for in the immediate aftermath of the disaster was rain which would, they hoped, wash away the air-borne hazard. Dr F.B. Smith, an expert on air-borne pollution from the UK Meteorological Office at Bracknell, suggests that the radioactive material was deposited by dew, which is sensitive to the temperature differences generated by soil-type and land use.

Vera Rich

Japanese mega-prizes announced

ONE of science's newest — and biggest — prizes has gone to Professor G. Evelyn Hutchinson of Yale University and Professor Nicole M. LeDouarin of the Institut d'Embryologie, Nogent-sur-Marne.

Each will receive the Kyoto Prize medal and ¥45 million (\$300,000) at a ceremony to be held in Japan in November.

The prize was set up last year by Kazuo Inamori, founder of Kyocera Corporation, Japan's most famous and fastest-growing high-technology ceramics company. In just twenty-five years Kyocera has "by the grace of God" grown to produce annual pre-tax profits of ¥53 thousand million. That has made it possible to endow the Inamori Foundation with ¥20,000 million to provide for the award of an annual prize.

The aim of the prize is to encourage balance between scientific and technological development on the one hand and psychological and emotional maturity on the other: equilibrium between the "ying and the yang, the light and the dark" is sought.

Many would say that equilibrium has

been achieved by Professor Hutchinson who is known both as an essayist and a scientist. He did much to establish ecology as a science and was the first to develop the concept of the ecological niche. Born in England in 1903, Professor Hutchinson is now an emeritus professor and still writing and researching.



Prizewinners LeDouarin and Hutchinson — each with \$300,000 to spend.

Professor LeDouarin, born in 1930, is known for the work that led to the creation of quail-chicken chimaeras. The distinctive properties of the tissues of the two animals make it possible to follow previously-unobservable events in development.