

tion was also not helped by the Administration, which backed the plan during its passage through the Senate, but dropped it like a hot potato when it became clear that it would be rejected by the House of Representatives.

Kennedy's other major piece of scientific legislation, the National Science Policy and Priorities Act, was successfully steered through the Senate, but failed in the House of Representatives. The bill would have increased federal expenditures on civilian research and development, given the National Science Foundation a greatly increased stake in science policy planning, set up conversion schemes for jobless scientists and given Kennedy even more influence over science policy, for the workings of the act would have come under the purview of his NSF subcommittee. The bill did, however, raise considerable debate and it will almost certainly be reintroduced next year.

In his other activities, however, Kennedy has been more successful. He has, for example, steered the bill launching a crusade against diseases of the heart, lungs and blood vessels through Congress. Similarly, he has helped to increase federal funding for programmes designed to attack sickle cell anaemia and has been instrumental in steering through the Senate the bill setting up the Office of Drug Abuse Prevention. His sponsorship of the bill establishing the Office of Technology Assessment is also believed to have been a vital factor in getting the bill rushed through Congress in the nick of time.

As for next year, Kennedy's chief preoccupation, apart from getting the OTA moving, will be with the Science Policy Act. It will be interesting to watch the possible manoeuvrings between the Nixon Administration—if it is re-elected—and Senator Kennedy, who is likely to be a Presidential candidate in 1976. The love-hate relationship over the cancer bill could be a taste of things to come.

TELECOMMUNICATIONS

US First for Canada

by our Washington Correspondent

THERE is more than a touch of irony attached to the planned launching next week of the first satellite developed solely for domestic communications. The satellite, named Anik (Eskimo for brother), was developed for the Canadian government by a United States corporation and will be launched from Cape Kennedy by an American rocket. Yet the United States will not get its own communications satellite into orbit until 1974 at the earliest. Regulatory tangles and dithering by the federal government have meant that United

States expertise has had to be exported before it is put to use at home.

Irony apart, however, the launch will be a landmark in communications history, for although it is seven years since Early Bird built a telecommunications bridge across the Atlantic, the Canadian government is the first to use telecommunications technology for domestic television broadcasting and telephone links. The launch, which is taking place on schedule, is also a vindication of the Canadian government's decision to give the chief development contract to the Hughes Aircraft Corporation of California rather than to Canadian companies.

Since Canada is a large and relatively sparsely populated country, it is, like the United States, a natural candidate for a communications satellite system. Anik will be able to accommodate up to ten colour television channels or 9,600 telephone links, and it will be followed by a similar satellite in about six months. Each satellite is planned to last for between five and seven years, and will provide television reception for the first time in remote areas from the Alaskan border in the north-west to Newfoundland in the east.

The two principal stations for transmission and reception are in British Columbia and near Toronto in Ontario. In addition, two northern stations will be capable of transmitting and receiving messages and television signals from Anik, six network television stations spread across Canada from Newfoundland to Saskatchewan will receive and transmit television signals and twenty-five television receivers will serve remote locations in Canada.

Developed by Hughes Aircraft for Telesat Canada, a self-supporting corporation formed by the Canadian government in 1969, Anik will be launched by a Delta rocket, probably on November 9. It will be placed in a highly elliptical orbit ranging from 196 to 62,301 km, and after checkout a rocket aboard the satellite will circularize the orbit at a synchronous altitude of 36,800 km above the equator. The launch will represent the first use of the so-called Delta "straight eight" rocket. Unlike the previous 91 Delta launchers, which were tapered at the join of the first and second stages, the rocket used to launch Anik will have a diameter of eight feet for all three stages. The rocket will also be the first Delta augmented by nine solid fuel strap-on rockets.

Two years ago, when the Canadian government announced its decision to give the \$30 million chief contract for Anik to Hughes, it was greeted with howls of protest and charges that such a move would sound the death knell for the Canadian space industry. But last month Robert Stanbury, Minister

of Communications in the Canadian government, pointed out that Canada would not have had its satellite either as cheaply or as quickly if it had been developed by Canadian companies. In any case, two Canadian companies were awarded subcontracts on the Anik satellite, and Hughes has recently awarded both of them subcontracts on another satellite. The Canadian government is also cooperating with NASA on the development of a second-generation experimental communications satellite—the CTS—which will pioneer use of the 12 GHz band. CTS is scheduled for launch in 1975, but it may not be ready until 1976.

Meanwhile, south of the border, the Federal Communications Commission is still ploughing through the proposals it has received in response to its belated decision to allow the development of domestic US communications satellite systems (see *Nature*, 238, 8; 1972). In any case, 18 to 24 months will elapse between the FCC's approval of a project and the launching of a satellite. The United States will thus get its own domestic telecommunications satellites some two years after it has launched them for Canada.

CEO

Two New Faces

by our Washington Correspondent

PRESIDENT NIXON has nominated two people to fill vacant posts on the Council for Environmental Quality. They are Dr Beatrice E. Willard, an ecologist from Boulder, Colorado, and John A. Busterud, at present Deputy Assistant Secretary of Defense for Environmental Quality. They will fill the positions on the three-member council that have been vacated by Dr Gordon J. F. MacDonald and Robert Cahn, who both resigned last month to return to private life.

Dr Willard was Assistant Professor of Biology at South Oregon College from 1963-64, and became Executive Director of the Thorne Ecological Institute of Boulder in 1965. She is now president of the institute. Among her society affiliations are membership of the Sierra Club, membership of the board of trustees of the Colorado chapter of the Nature Conservancy and membership of the Wilderness Society. Mr Busterud is a lawyer, specializing in conservation and anti-trust law. Before joining the Department of Defense in 1971, he was active in a number of conservation organizations in the San Francisco area.