

Telesat Canada Act

had to be selected and specifications prepared so that procurement of the spacecraft segment can be initiated next month. The target date for the launching of the satellite is late 1971, with the system due to begin operation early in 1972. This is an exceptionally tight schedule and it permits no slippages. I might add that all of this has been accomplished by the officials of the department at the same time as the Department of Communications itself was in the process of being formed and of acquiring personnel.

At this point, Mr. Speaker, we arrive at the bill itself. The purpose of the bill, and the *raison d'être* of the corporation it will create, is set out clearly in clause 5 titled "Object of the Company". The preceding and succeeding paragraphs amplify those objectives and provide the means to accomplish them.

Clause 5 reads:

The objects of the company are to establish satellite telecommunication systems providing, on a commercial basis,—

That is on a profitable basis.

—telecommunication services between locations in Canada.

This means that the system will be constituted purely on a domestic basis; that it will provide telecommunications services by means of a satellite; and that it does this on a self-sustaining basis—that is what commercial basis means—rather than by government subsidies.

Section 2 of clause 5 reads:

The company shall utilize, to the extent practicable and consistent with its commercial nature, Canadian research, design and industrial personnel, technology and facilities in research and development, connected with its satellite telecommunication systems and in the design and construction of the systems.

[*Translation*]

It is therefore our intention, Mr. Speaker, to utilize in this system a Canadian designed and built satellite and associated ground facilities.

The bill gives a detailed description of the structure of the corporation. Our planning has reached the stage where it is possible for me to describe the system in some detail.

From the start we have been faced with a range of alternatives in the type of system we could choose to build. As was said in the House, the cost of the total system—that is of satellite or satellites, launching facilities and ground stations—could range from \$65 million

[Mr. Kierans.]

to \$160 million, depending on whether we built a "compact" or a "Cadillac" system.

Having thoroughly considered these possibilities, we have opted for a "compact" system. Its cost will run from \$65 million to \$75 million, according to the estimates provided to the department and on the basis of the number and variety of ground stations it is decided to install.

That round sum will be made up of \$40 million for the satellite, \$6 million for the launcher and about \$20 million for the ground segment which comprises a master control station, four regional-type multiple-access transmit-receive stations and some 20 northern television receive stations.

These figures are subject to change. For example, our initial estimate of about 20 northern television stations may be substantially revised upwards, if the current estimates of construction costs are borne out. The space segment of the system consists of a single satellite to be placed on geostationary orbit 23,000 miles above the equator and approximately in line with Winnipeg. The satellite itself will comprise six transponders, each able to transmit either a single broadband television channel or the equivalent of 600 telephone circuits. In the event of failure, either at launch or whilst in orbit, this satellite would be replaced by another of identical dimensions. Depending on the growth of demand, a second six-channel satellite could be launched and placed in orbit alongside the first.

The reason why we have chosen a "compact" system is that it meets all our needs at a price we can afford, both as a nation and as a satellite corporation.

The "Cadillac" system would have involved the construction of three satellites, two in orbit with the third in reserve on the ground. It would have also involved the immediate construction of an extensive terrestrial system, instead of, as we now plan, building up that system over the years to match demand. A "Cadillac" system would have provided high reliability in the event of satellite failure and freedom from noise interference during those times when the satellite is in conjunction with the sun and earth. These are marginal benefits which come at too high a price. In addition the two orbiting satellites would have provided a total of 12 television channels, far in excess of anticipated need.

This same consideration of excess capacity has led us to reject a proposal by Comsat that