

MEMORANDUM OF UNDERSTANDING BETWEEN THE CANADIAN DEPARTMENT OF COMMUNICATIONS AND THE UNITED STATES NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

1. The Canadian Department of Communications (DOC) and the United States National Aeronautics and Space Administration (NASA) affirm a mutual desire to extend their successful collaboration in the Alouette and ISIS Satellite programs by undertaking jointly an experimental Communications Technology Satellite Project.

2. The objective of this project is to advance the state-of-the-art in spacecraft and related ground-based technologies relevant to future communications and other satellite applications systems.

3. Accordingly, DOC and NASA agree to use their best efforts to launch a Communications Technology Satellite into a geostationary orbit position which permits experimentation directly with earth stations in the United States and Canada. For this launch a Thor-Delta-class vehicle will be used, and the provisional launch date is estimated at calendar year 1974.

4. The principal technological objectives of this project are to conduct satellite communication systems experiments with 12 GHz terminals and to develop and flight test:

- (a) A superefficiency power tube having greater than 50% efficiency at a minimum output power of 200 watts and operating at approximately 12 GHz;
- (b) Unfurlable solar power arrays of over 1.0 KW initial capability;
- (c) Liquid metal slip rings;
- (d) An electric propulsion system for spacecraft station keeping;
- (e) An accurate stabilization system for a spacecraft with flexible appendages.

5. To carry out this project, the DOC will use its best efforts to fulfil the following responsibilities:

- (a) Design, construct, integrate and test the spacecraft and the subsystems necessary to achieve the technological objectives noted in paragraph 4 above, including flight-qualified spares for all critical subsystems, except as provided in subparagraphs 6(c) and (e);
- (b) Provide, integrate and test the apogee motor subsystems;
- (c) Provide, as mutually agreed, flight-qualified spares of critical spacecraft subsystems, and spacecraft ground checkout equipment, except as provided in subparagraphs 6(c) and (e);