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"ALOUETTE" AFTER ONE YEAR

By the end of its first year in orbit, on September 29, the *Alouette* topside-sounder satellite, designed and built by Canada's Defence Research Board (DRB) for ionospheric and other upper-atmospheric investigations, had exceeded in every aspect of its technical performance the highest hopes of Defence Research Telecommunications Establishment (DRTE) scientists and engineers. Canada's first satellite had also added much to man's understanding of the atmospheric envelope surrounding the earth.

BIRTHDAY MESSAGE

An *Aloutte* "birthday greeting" to Dr. A.H. Zimmerman, DRB Chairman, from Dr. Hugh L. Dryden, Deputy Administrator of the U.S. National Aeronautics and Space Administration (NASA), the American agency associated with the Board in the international project, read:

"We at NASA are particularly happy to congratulate our friends in Canada on the first birthday of *Alouette*. This successful Canadian entry into space research embodied many new and courageous ideas, among which I might mention a spacecraft radio antenna 150 feet long. The satellite has provided abundant high-quality data and is still transmitting. We are proud of the association that made possible the first international spacecraft entirely designed and built by another nation and launched by the United States as part of our overall program of international co-operation in space research and exploration."

ANNIVERSARY REPORT

The following is the first annual report of Satellite Controller R.W. Southern to Frank T. Davies, Chief Superintendent of the Ottawa research laboratory:

"At the end of the first year of operation, *Alouette* is performing even beyond the hopes and expectations of DRTE. To date, there is no sign of failure or degradation of any of the equipments or components in the satellite, except, of course, the normal decrease in solar-cell efficiency. All four experiments are performing very well and continue to provide good data.

"The quality of the telemetered signals received at the ground stations has been excellent. No problems have been encountered in commanding on the satellite or in recording of the telemetry transmissions.

"There has been no requirement for any of the spare equipments in the satellite. These include a spare high-frequency pulse amplifier, a spare for each of the two telemetry transmitters and two spare batteries for the power system. As preventative maintenance, the two spare batteries in the satellite were recharged in a special operation on August 13.

STATISTICS

"The solar-cell efficiency is decreasing normally and, at the end of the first year of operation, is 58 per cent. When the satellite orbit is fully sunlit, these solar cells provide 15 per cent more power

(Over)