

depth charges, 9mm, 20 pounder and 105mm howitzer ammunition, 4", 3"/50 calibre and 3"/70 calibre naval gun ammunition, torpedo warheads, spares for 3"/70 calibre naval guns, 7.62mm C1 automatic rifles and spares, 9mm sub-machine guns, navigational aids, trainfire target devices, mortar base plates, various types of sights, anti-submarine devices, and high-altitude rockets. Production began in 1961 on 105mm armour-piercing ammunition, practice bombs and pyrotechnic devices. Action was taken to procure two new anti-tank weapon systems for the Canadian Army and an improved design of acoustic homing torpedo for the Royal Canadian Navy and the Royal Canadian Air Force.

A feasibility study was undertaken in connection with the launching of test rockets from aircraft to altitudes of 100,000 feet and velocities up to ten times the speed of sound. The Black Brant development program to meet United States requirements progressed satisfactorily.

**Construction.**—Construction activity for the Armed Services increased slightly to \$67,106,000 in 1961, as measured by payments to contractors. The value of contracts issued increased sharply to \$90,671,000. Some of the larger contracts were for mobile homes and storage units at various locations, the extension of a hangar at Summerside, P.E.I., a runway at Chatham, N.B., the extension of a runway at Comox, B.C., a water treatment plant at Camp Gagetown, N.B., buildings at Whitehorse, Y.T., and Camp Borden, Ont., and an electronics workshop and a chiefs' and petty officers' block at Halifax, N.S. Contracts valued in excess of \$17,000,000 were awarded for regional emergency centres at six sites. Contracts were also awarded for five heavy radar bases of the Pinetree Line in Western Canada, and construction for the SAGE system was carried on at a number of Pinetree Line sites.

There was a large amount of construction in Canada in 1961 for the United States Air Force. The value of payments to contractors by the United States was \$13,044,000 as work continued on a number of projects involving the radar improvement programs.

**General Purchasing.**—The procurement of supplies and services not normally requiring special production facilities increased slightly in 1961 to \$181,370,000. Headquarters procurement involved major contracts for medical and dental stores, lamps, photographic equipment and supplies, canned and preserved foods, paper products, packaging materials, building supplies and hardware, furniture and furnishings, appliances, and other barrack, camp and hospital stores. Also purchased centrally were petroleum products and solid fuels, clothing and footwear, electric power generating control and distributing equipment, aircraft ground handling equipment, and all types of mechanical transport, construction and road maintenance equipment. Services arranged by headquarters included repair and overhaul, engineering studies, food catering, aerial surveys, and certain research and development projects.

Markets were thoroughly explored to promote the maximum participation by Canadian industry in the manufacture of ground handling equipment for the *CF-104* aircraft. Significant orders were placed with firms in Canada for noise suppressors, engine trailers, munition trailers, test equipment, maintenance tools, and combined ground services equipment. Research projects undertaken during the year included an investigation into the use of lignin as a rubber reinforcing agent, a study of the combustion characteristics of liquid hydrogen, and the design and development of a high acuity film processing machine for the United States Air Force. Emergency health and welfare supplies and certain Canadian Army requirements for the national survival program were purchased by headquarters. A Canadian company was awarded the contract for the initial supply and installation of dual fuel gas turbine generating sets and waste heat boilers at five radar sites. A product improvement program was undertaken for the *Bobcat* family of light vehicles. Initial action was taken on procurement in connection with a new Army combat uniform. Field boots made by the direct moulded sole process were ordered in Canada for the first time.