

defence goods required by other governments and of supplies needed to meet Canadian commitments under the Colombo Plan and other international agreements. The original legislation provided for a temporary department with an expected life of five years, but an amendment to the Defence Production Act in 1955 placed the operations of the Department on a continuing basis similar to that of other government departments.

About 62 p.c. of Canada's total defence expenditures since 1951 have been against orders placed by the Department of Defence Production and by Defence Construction (1951) Limited, a Crown company responsible for defence construction activities. By the end of 1955 the total defence orders placed on behalf of the Department of National Defence amounted to about \$5,400,000,000. The aircraft program (including miscellaneous government-furnished aircraft equipment) accounted for about 38 p.c. of this amount, by far the largest portion. Next in value was the construction program with 12 p.c., followed by electronics and communication equipment with 8.5 p.c. and ships with 7 p.c. (See Table 1, p. 1173.)

During 1955 procurement and construction for Canada's defence program continued at a high level, with expenditures just over 3 p.c. below the value for 1954. This stability is attributable largely to the volume of work on programs launched in previous years which offset an appreciable drop in the value of new orders. In general the level of activity remained stable in all branches of the program.

Aircraft.—The major elements in the aircraft program during 1955 continued to be jet fighter production and development. Production continued on both the Canadian-designed *CF-100* (Canuck) all-weather interceptor and the *Sabre VI (F-86)* fighter but rate of output was reduced in conformity with the requirements of the Royal Canadian Air Force. Further development of the *CF-100* was undertaken during the year to obtain more powerful armament, greater altitude and improved manoeuvrability. Production of Series 11 and 14 Orenda jet engines for both the *Sabre* and *CF-100* aircraft also continued but at a reduced rate reflecting the reduction in aircraft output. Tooling and pre-production contracts were placed for a new Canadian-designed supersonic all-weather jet fighter, the *CF-105*, which will eventually replace the *CF-100*. A contract was concluded for the development and manufacture of prototype models of the PS-13 turbo-jet engine which will be installed in the *CF-105*. However the first *CF-105's* to be produced will be fitted with United States J-75 jet engines.

Production of the *Silver Star* jet trainer (*T-33 AN*) powered by the Nene engine continued at a minimum rate throughout the year. An additional sustaining order for this aircraft was placed to permit production at a low rate for replacement of operational losses. The contract for the Nene engines was completed with the delivery of the last of the 50 engines produced in Canada. The *T-34* trainer program was completed in July 1955 with deliveries being made to both the Royal Canadian Air Force and the United States Air Force. Most of the labour force engaged on this program was absorbed into the production program for *Grumman CS2F* carrier based aircraft for the Royal Canadian Navy. The build-up of manufacturing facilities continued for production of the R-1820-82 engines for installation in the *CS2F*. Arrangements were completed for the entire assembly in Canada of the Hamilton Standard 43D51 propeller for the *CS2F*, and for the manufacture of certain components of this propeller.

Development and preparation for manufacture of the maritime reconnaissance *CL-28* aircraft proceeded satisfactorily in 1955 with the design of the aircraft nearing completion and much of the tooling being manufactured. In the helicopter field, purchases of *Sikorsky S-55*, *HO4S-3* and *S-53*, as well as *Pasecki H-21* helicopters were made for the Royal Canadian Navy and the Royal Canadian Air Force. The *S-55's* were fitted with Canadian manufactured R-1340 engines.

Canadian facilities set up for the purpose of manufacturing flight instruments, remote-control gyro-compass systems, pressure indicators, transmitters, etc., were maintained, although at a reduced level in line with the cutback in production rates of aircraft. Development contracts covered such items as the R Theta automatic navigation position and homing indicator, a single-stage version of the R Theta, Ball integrators for computing navigation data, and an advanced version of the Ferranti artificial horizon. All repair