241. The information needed for the purpose of assessing the principal aerodrome dimensions is the take-off and landing performance of aircraft in terms of I.C.A.O draft Airworthiness and Operations Standards. This comprises :—

Take-off distances—

To unstick
To clear 50 feet } with all engines operating.

To unstick
To climb 50 feet
To accelerate and stop } in the I.C.A.O. "one engine inoperative" case.

Landing distance—

From 50 feet height to stop.
From touch-down to stop.

242. Extracting from the data table the take-off and landing requirements for the classes of aeroplanes likely to operate in New Zealand, the length of the main runway and hence of other runways is determined by reference to the OPS Standards. The runway should have a length not less than the maximum take-off distance required for accelerate-stop or to clear 50 feet, or two-thirds in excess of the distance required to land from 50 feet. (OPS Standards Doc. 3030, Part III, section 3, paragraphs 2.1.3 and 2.1.5.)

243. Many contemporary aircraft are operating from aerodromes whose dimensions are very considerably less than those that would be required theoretically if they were to be operated in conformity with the proposed I.C.A.O. Operational and Airworthiness Standards. For example, the Dakota can be and is being operated quite successfully from runways 3,000 to 3,500 feet long. If it were to be operated in compliance with I.C.A.O. Standards, it would require 4,860 feet for take-off, which is obviously a very much greater length of runway than is normally available to this class of aircraft.

244. It will be observed that there are wide variations in the data in Appendix H for some aeroplanes, the reason for which is explained in the appendix. These variations are an embarrassment when planning aerodromes. This difficulty will disappear in a few years' time, for, as the I.C.A.O. Airworthiness and Operational Standards come more and more into use, more aeroplanes will be provided with the aeroplane flight manual described in Chapter 11 of this Report. The airworthiness authorities of the country of origin will be responsible for deciding which of the many possible take-of measurements is to be taken as the official value, and this value will then be scheduled in the manual. Thereafter, the appropriate take-off distances will be those stated in the approved aeroplane flight manual, irrespective of whatever other measurements may have been, or may be, made.