

4 July 1956
 Messrs R.M. Lindley and R. Adey
 J. C. Floyd
 DEVELOPMENTS OF THE CF-105

From time to time we have discussed the establishment of a new project to provide continuity in our Engineering workload, and interest for our key Engineering personnel and Initial Projects Group. Since the timing is now critical, and it is essential that we start something of this kind immediately, I would like you to prepare the following documents.

(A) A complete list of all projects in the Initial Projects office, including Supersonic Transport, Navy V.T.O. interceptor, Missile studies, etc., etc., indicating the personnel employed on each project.

(B) A detailed program for developing the CF-105 beyond the present R.C.A.F. Specification. While it is probably not possible at the present time, without knowledge of the threat within a given time scale, to plan exactly the phasing of this development, we will obviously have to make certain assumptions in phasing. There are a number of possibilities, and the type of development program might be something like this:-

Stage 1: Increase the level speed to Mach 2.5 by substituting 244F skins instead of 75F, and by suitable development of aircraft equipment.

Stage 2: Increase speed to Mach 3 by insulating the skins or going to steel structure. This stage would entail a variable ramp geometry and the engines would be required to operate to higher afterburner temperatures. A considerable amount of development might have to be done on equipment, and especially on air conditioning.

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Stage 3: This might consist of increase in acquisition range of the radar to something of the order of 50 nautical miles, by the use of higher powered magnetrons. Long range missiles might very well be used also at this stage, and the CF-105 role might be called a 'mother ship' role, where weight could be increased and maneuverability could be de-graded somewhat, since the long range missile could do most of the required maneuver after launch.

For (B) above, I would like to see a simple presentation showing the performance corresponding to the various stages of development, a list of the modifications that would have to be incorporated in each stage, and a schedule for the release of engineering information, based on utilizing approximately the same manpower as we have at the present time. Some indication of the costs should also be given, based on all costs over and above those on the present CF-105 contract.

The basic requirement here is to attempt to establish what the most logical program for the development of the CF-105 would be, in order that we can discuss this with the S.C.A.F., and also provide the Company with a cost estimate for the various development stages, and an indication of the extent to which we might have to finance the project in order to retain our engineering skills, and provide the best continuity in our program.

(C) Other uses of the CF-105 should also be examined, including a Tactical Bomber role, and Photo Reconnaissance version, so that we can discuss this at greater length.

I would like to set a deadline of July 27th for the completion of this information. Will Messrs Lindley and Adey please take the necessary action on this.

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