

28 June 1957
Mr. F. T. Saye
J. C. Floyd
NOTES ON DISCUSSIONS WITH G/C FOOTIT

CONFIDENTIAL

Just to keep you up to date, the following are some notes on discussions which Bob Lindley and myself had with Ray Footit in Ottawa yesterday, Thursday, the 27th of June.

Arrow - Astra - Sparrow

I brought Ray generally up to date on the discussions that you had had with the CAS and told him that our philosophy was, generally, as follows :-

1. There are four main chunks of this complete program:

- (a) Airframe (Avro)
- (b) Engine (Orenda)
- (c) Fire control System (R.C.A.)
- (d) Missile (Douglas, Canadair)

It seems to us that while the airframe and engine are completely compatible, and the final Astra 1 fire control system is compatible (any de-rating of the fire control system could be carried out by a de-sophistication of the Astra concept, with a gradual development to full Astra), the missile was the one outstanding incompatibility.

Our own feelings on the missile were apparently not at variance with the D.R.E. report which concluded that neither the Sparrow 2 or Sparrow 3 were really compatible with the Arrow weapon system, which should be in squadron service in 1961. The R.C.A.F. also realize this, but Easton's pitch has always been that since there was not a weapon that was compatible, Canada should develop one.

We pointed out to Ray that there were obviously two ways, as we see it, of tackling this weapon development:-

1. The R.C.A.F. could choose a weapon being developed by the United States which was compatible with the overall weapon system, and it appeared that the Sparrow X, with provision for either high yield TNT warhead or atomic warhead, would be available in approximately the time scale considered. They could then ensure that the weapon which was used as an interim was, in fact, one of the Sparrow X family of weapons, so that their logistics and training, etc. would have continuity. This road was available to them now in the semi-active family of weapons being developed at Raytheon for the U.S. Navy. The Sparrow 3 could be used now, and gradual development towards the Sparrow X could take place, using the same weapon concept of a semi-active missile.

 2. The other alternative, and the one which the R.C.A.F. had apparently chosen, was to take a missile which had been abandoned by the U.S. Navy, and develop it to the point at which it would be the equivalent, say, of the Sparrow X, and compatible with the general Arrow weapons system concept. From the figures which Bob Lindley had obtained from Raytheon, it appeared that this would entail an enormous missile development and pre-production program for Canada, which might run into a hundred million dollars, and even when this was through, the missile would not necessarily be compatible with a Continental defence system.
- Ray said that he was generally aware of all these points, although he had not realized the cost which might be involved in the Sparrow 2 development program. I left a copy of Bob Lindley's memo to me on Sparrow 3 development costs, and Ray is to extract what he wants from this and return it. He said that a meeting had just taken place on the complete Arrow program, the main object of which was to bring Hendrick up to date on the situation after his recent return from Europe, and that they had themselves come to the conclusion that the Sparrow 2 would probably not be available for operational use until about 1965.

He confessed that he was not clear himself on some of the reasons for the CAS's decision to continue with the Sparrow 2 and abandon the Sparrow 3, however, he said that this move had been made after many checks, including a visit to Buser by the Vice Chief, and that there had also been a strong recommendation from the U.S. Navy that Canada should not switch from Sparrow 2 to 3 at this time (This is probably because Buser feel that it would be in their own interest to have Canada complete the development of the Sparrow 2 missile, at Canada's expense, as a back-up for their Sparrow 3 development program.).

Letter from Thompson to yourself with regard to Missile
Miss Management(?)

I mentioned to Ray that we had received the letter from Thompson which was very strongly worded and suggested that Avro had got too deeply into the management of this program. Ray said that it had always been the intention of the R.C.A.F. that Avro should carry out the design studies, both on weapon compatibility, working directly with Douglas, but keeping Canadair informed, and he said that we should quote the R.C.A.F. letter which gives Avro this responsibility. I told him it was certainly not our intention to get anybody's nose out of joint, and we had just attempted to carry out the instructions of the R.C.A.F., which we believed we had done.

He felt that there was a little competitive jealousy evident among the other parties concerned and that they had probably approached D.D.P., meaning about Avro's over-enthusiasm on this subject. Ray assured us that we had the full support of the R.C.A.F. in the way that we had handled this whole business. (I am writing you a separate memo on this.)

CF-100 Mark 5 Wings

Footitt said that the general opinion in the R.C.A.F. was that, while there was no question that the Mark 5 was as strong

as the specification indicated, it was going to be very difficult to educate the flying boys on the low level structural limitations, and Avro were probably going to be asked what it involved to improve the load factors at low altitude, including any repair schemes which might improve the situation, deleting wing tip extensions, etc., and that we should indicate the effect on performance and cost, etc. of doing this, including retrofit. (We are checking this.)

This meeting was completely informal and should be considered as an "off the record" deal with no quotes of the conversations to anyone. We merely tried to leave with Ray sufficient thoughts and data to assist him in dealing with some of the points which are current in Ottawa at present.

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JCF-kas
Cc: Mr. R.N. Lindley

THIS DOESN'T READ LIKE A MEETING
WITH A GUY WHO EVERYONE SAYS WAS
CONSTANTLY 'GONNING' AT AVRO! (SEE RED
MARKS ON PAGE 3)

PERHAPS THERE WAS A DOUBLE STANDARD
THERE SOMEWHERE?