

MINUTES OF A MEETING BETWEEN D.S.B. AND TELECOMMUNICATIONS  
GROUP (DEPARTMENT OF SUPPLY) ON COLOROB

Held at D.S.B. on 8th and 9th December, 1955.

Present:	R.N. Thompson, Esq.	Director, D.S.B.
	J.O.H. Burrough, Esq.	ATD (DSB)
	H.C. Ricketts, Esq.	MH (DSB)
	D.J. Bradley, Esq.	MHT (DSB)
	J.A.W. Strath, Esq.	MT (Supply)
	E.T. Robinson, Esq.	Supply
	D.L. Overheu, Esq.	Supply

1. Agenda and Minutes.

ACTION

Tentative agenda had been prepared by DSB. It was agreed that purely technical matters would not be discussed. Two items were added to the agenda. Messrs. Bradley (DSB) and Robinson (T Group) were appointed to record the minutes of the meeting.

2. Detachment of Engineer to GCHQ.

Paragraph 3 of a letter from Mr. Sachse, at that time Head of X Division, GCHQ, to ATD (X/5225 of 22/7/55) was discussed. This advocated -

- (a) sending an engineer of Experimental Officer level to GCHQ in January 1956 until the commencement of deliveries of COLOROB to DSB, and
- (b) sending Robinson (or Watson\*) to GCHQ for the six months prior to completion of deliveries of COLOROB to DSB.

On (a) it was agreed that it would be desirable to send an officer of E.O. or equivalent status: it was also agreed that Mr. Singleton (a member of the DSB maintenance staff) appeared to be suitable, and that GCHQ should be asked their opinion as to his suitability, since he was known to them.

Director, DSB

*Done.  
GCHQ say  
OK.*

With reference to (b), MT and Mr. Robinson expressed the opinion that one month should suffice for the latter's visit, and that even that should be necessary only if considerable changes had been made to the machine design. MT undertook to approach the Department of Supply when the time came but suggested that a firm proposal would be necessary and that a request for a visit lasting more than a month might have little chance of approval.

MT

*DSB will probably have to initiate action on this, in due course*

\* resigned October, 1955.



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2.

ACTION

On a suggestion from ATD, it was agreed that GCHQ be asked as to the possibility of sending one of their engineers to assist with the installation. MT added that when the time came for the requisite submission to be made within Supply, the presence or otherwise of a GCHQ engineer at DSB would materially influence the case for sending Mr. Robinson.

Director, DSB

3. Proposal for a visit to DSB by Dr. Morgan.

The Director explained that an offer made by GCHQ in 1953 to send Dr. Morgan on a visit to DSB was still open.

The meeting agreed that DSB would welcome a visit from Dr. Morgan and that GCHQ should be approached with the suggestion that the visit take place in April 1956 or as soon after as might be convenient to them.

Director, DSB

MF said he thought it desirable that DSB should indeed receive expert advice from GCHQ on machine methods for the particular problems with which DSB is involved. It was agreed that Dr. Morgan would probably not be able to spare all the time required for this and that a senior machine cryptanalyst (in addition to Dr. Morgan) visiting over a period of 3 months or so after COLOROB was working would be of great assistance.

4. Communications with GCHQ concerning COLOROB.

It was agreed that on matters of policy and common interest (such as the design and use of COLOROB) DSB and T Group would consult each other before communicating with GCHQ. This would not be necessary when writing on matters which affected only the originating party, but an information copy would always be sent to the other party in such cases.

It was decided that all communications to GCHQ on COLOROB would in future be addressed to "The Director, GCHQ; attention Head of X Division; info: Head of H Division".

5. Plugboards for COLOROB.

Mr. Robinson gave a brief account of developments at GCHQ, and circulated an X Division minute on the subject (X/3810/2742 of 27/9/55) which he had received. It was agreed that GCHQ should be asked whether the plugboard, if supplied, would be included in the original cost of £Stg 28,400: if not, it was further agreed that an assessment of its desirability should be made, in the first instance by Mr. Robinson and MHT.

Director, DSB

6. Special Test Equipment for COLOROB.

The Director stated that £Stg 2,000 had been put aside for this purpose. Mr. Robinson said that although no such equipment had yet been designed a need

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*GCHQ approached, but Morgan cannot come*

*This seems to be working*

*Done. Plugboard is essential, according to Eastman*



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3.

ACTION

for it might arise either before or after installation.

It was agreed that if such equipment should become necessary T Group would take technical responsibility for its design whilst bearing in mind that for financial reasons DSB would require adequate warning of T Group's plans.

Mr. Robinson

7. COLOROB Working Party.

It was agreed that a working party should be appointed to take care of internal arrangements for the installation of COLOROB. The working party will be required to report progress at 3-monthly intervals and to bring serious difficulties to the attention of the Director, DSB, and any other parties concerned. The Working Party should also advise the Director of impending financial commitments as they become known.

It was further agreed that the Working Party should consist of Mr. D.J. Bradley (DSB) and Mr. E.T. Robinson (Supply) and that the Working Party should have power to co-opt additional members.

The Working Party was instructed

(a) to prepare a time-table zeroed on the arrival date of COLOROB in order that the necessary requisitions for works may be submitted in good time.

Mr. Bradley  
Mr. Robinson

(b) to approach GCHQ with regard to the delivery dates for the racks and power supplies, which they have stated they expect to ship earlier than the other parts of the machine.

Mr. Robinson

(c) to find out what provision GCHQ is making for refrigeration, and subsequently to advise DSB on works required for its installation.

Mr. Robinson

8. Extent of T Group's Responsibility for Installation.

T Group agreed to appoint Mr. Robinson to be responsible as follows:

(a) Prepare estimates for works required to be undertaken at DSB.

(b) Install the machine.

Mr. Robinson

(c) Get it working.

(d) Satisfy himself that the machine will go on working.

(e) Hand on the requisite experience to the Professional Engineer to be appointed by DSB to take charge of the project.

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4.

ACTION

9. Permanent Organisation and Staffing of DSB's Machine Resources.

The Director presented for discussion a draft organisational table\* embodying his proposals on this subject, which would take effect when COLOROB is installed and working. All DSB's machine resources would be combined under one Head, to be known as MX, who would be responsible to the Director. He considered that the rank of MX should, initially at least, be slightly lower than "Head of Group", since his responsibilities appeared to be less than those of the Heads of S, H and Z for example. ATD agreed with this view, and pointed out that MX and X Division at GCHQ could not be said to be of comparable status within their respective organisations, since it was not expected that MX would undertake developmental work such as was carried out by X. The Director added that he had in mind Mr. J.W. Warmington, until recently a senior member of H Group and now deputy head of the Production Group, for this post.

The Director next explained that "MXK" would be the existing MHK, under its present head, and would continue to be responsible for Hollerith and closely associated machines. (The table shows the MHK "New Establishment", which has been approved by the Public Service Board but has not yet been filled). The Technical Defence Officer shown immediately below MXK himself would include routine maintenance in his responsibilities, but ML's engineering staff would be on call for additional assistance as required.

The meeting agreed to the Director's proposals concerning MX and MXK.

Continuing, the Director said that MXC's work would naturally centre on COLOROB, but its field might also include special purpose machines such as ONGA (under construction at Salisbury) and ROMULUS, the Hagelin analogue machine expected shortly from GCHQ. The headquarters of the section, shown on the table merely as "MXC", might eventually comprise two persons, a programmer and a machine cryptanalyst, but it was initially envisaged that one person, Mr. A.C. Eastway (now undergoing training at GCHQ), would carry out both these functions.

MT said that he considered that the lack of a mathematician constituted a serious gap in DSB's resources. He pointed out that ADL in a letter to ATD (DGC/5143 of 18/12/54) had recommended DSB to appoint "at least one good Scientific Officer with a first-class Honours degree in mathematics, to be trained at GCHQ as a programmer", in addition to Mr. Eastway. MT said that apart from this question (whether two persons or

\* Reproduced (with agreed amendments incorporated) as an Appendix to these minutes.

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See  
Para 8 (a)  
of DGC/6309  
27/2/56  
for GCHQ Comment



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5.

ACTION

one would be required for the jobs of programmer and machine cryptanalyst), DSB would seem to require a mathematician in order to be in a position to evolve mathematical techniques suitable for the solution of future cryptanalytic problems occurring in the DSB area, particularly, though not entirely, with regard to planning new tasks for COLOROB. He envisaged this person as fulfilling to some extent the function of HR at GCHQ. ATD replied that however desirable the establishment of an "HR" at DSB might be, it seemed at present to be beyond DSB's resources; at least partial dependence on other centres in this field must be expected for some time to come.

After further discussion, the Director suggested that MT's point be kept in mind, and that the question might be better decided after some months of operational experience with COLOROB. He also suggested that the desirability of an "HR", together with the original question as to the need for a second programmer, might profitably be discussed with Dr. Morgan. The meeting concurred.

MT also mentioned the research work, on which Mr. Overheu is currently engaged, into automatic techniques, and proposed that this should continue. This was agreed, the Director remarking that such assistance was particularly welcome in view of the probable remoteness of the "HR" project. MHT was instructed to liaise with Mr. Overheu on this aspect. Mr. Overheu

MHT

MT added that Supply's primary purpose continued of course to be that of providing machine design.

Turning to his proposals for the supporting staff of MXC, the Director said that it would comprise operators and maintenance staff. After a brief discussion the meeting agreed that two operators - whose duties would include tape preparation - would be a reasonable number with which to start. No decision was taken as to their rank.

The Director said that the intention was that the maintenance staff should be administratively under ML's chief engineer, but permanently seconded to ML. ATD said he envisaged a maintenance organisation in three echelons:

- (a) An Experimental Officer trained at GCHQ, who, with an assistant, would be responsible for the day to day maintenance of COLOROB. (These only are shown on the table).
- (b) A Third Division (Professional) Engineer (whose responsibility would not be confined to COLOROB) who would have a general supervisory and consultatory function.

*See Para 8(b)  
of 39c/6507  
27/2/56 for  
9cHa comment on this  
and last para of  
these minutes*

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ACTION

- (c) Department of Supply, in the person of Mr. Robinson, who would be on call in cases of serious trouble. (Mr. Robinson, as already stated, would have been in complete charge during the installation phase).

He suggested that (a) might be filled by Mr. Singleton, whom (see paragraph 2 above) it was already proposed to send to GCHQ for training. With regard to (b), he mentioned that DSB had applied to GCHQ for assistance in the recruitment in the U.K. of (inter alia) two Third Division engineers, and it might be expected that one of these would fill this post. It might be useful for him to undergo some training at Salisbury.

It was agreed that Supply should accept responsibility as in (c) above. During the discussion which followed on (a) and (b) it was stressed by MT and Mr. Robinson that the officer who filled post (b) would be of critical importance to the success of the project, and that he should not only be technically competent but should show reasonable indications of staying at DSB permanently.

The Director then asked the opinion of the meeting as to whether, alternatively, (a) and (b) might be merged under Mr. Singleton, as engineer in charge of COLOROB, with a rank comparable in salary to that of a Third Division engineer, and probably with two assistants. Some misgivings were expressed concerning his lack of professional qualifications, but it was agreed to leave the question open, and to seek GCHQ's opinion on this specific question when consulting them on their estimate of Mr. Singleton's abilities generally (see paragraph 2 above).

Director, DSB

*We did not do this when writing about Singleton, as it did not seem a sensible question to ask at that time. Nearer the time - yes.*

D. J. BRADLEY

E. T. ROBINSON

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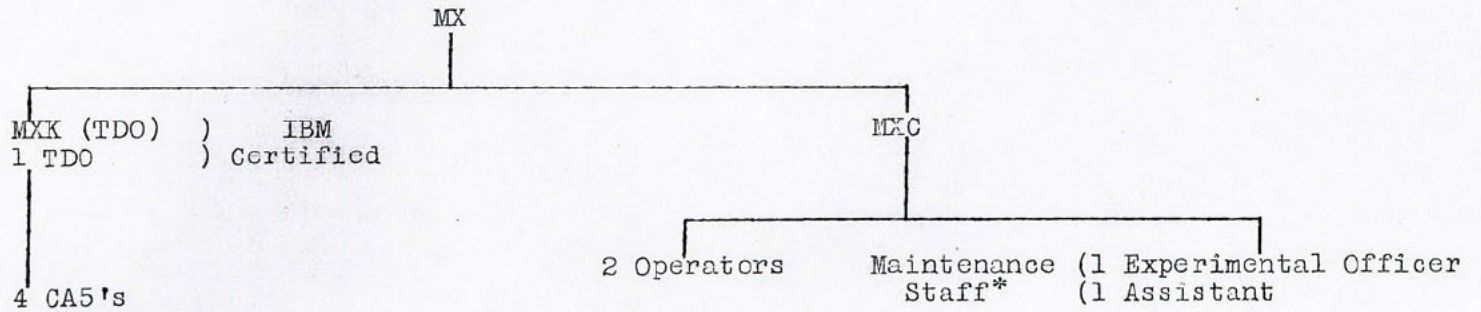
Director	MT (2)
ATD	GCHQ (3)
DQ/MQ	Mr. A.C. Eastway
MH	AUSLO(W)
MLE	



MINUTES OF A MEETING BETWEEN D.S.B. AND TELECOMMUNICATIONS GROUP (DEPT. OF SUPPLY) ON COLOROB.

A P P E N D I X

TENTATIVE ORGANIZATION TABLE FOR DSB MACHINE GROUP



(Additional Engineering Assistance  
to be supplied by ML as required).

\* ML Staff

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