GOVERNMENT COMMUNICATIONS HEADQUARTERS,

OAKLEY, CHELTENHAM, GLOS.

DGC/5330

8th February, 1955.

Tel: CHELTENHAM 55321.

Director,
N.S.A.

EO 3.3(h)(2)
PL 86-36/50 USC 3605

     I have arranged that a GCHQ technician shall visit [   ] at
the end of this month to make final arrangements with the authorities there
regarding the siting and installation of our interception party, which
will be located at [   ] for a reconnaisance lasting twelve months.
(LSIB/2/55 of 3rd January, 1955 refers).

2.   You are aware that L.S.I.B. has agreed to the [   ] request
for [   ] and I now enclose a
synopsis of the elementary course which it is intended to give. They are,
I think you will agree, within the limits allowed by Appendix P. It will
be necessary for our technician to discuss the syllabus with the [   ]
authorities on his forthcoming visit, in order to facilitate their selection
of students, and I would therefore welcome your early comments on the attach-
ment, by signal if possible.

3.   As stated in paragraph 4 of LSIB/2/55, we shall await your views
on a common UKUSA standard of guidance and [   ]
before proceeding beyond these training proposals.

/s/ Eric M. Jones

Director.

TAB "A"

Introduction.

1.   The programme of training falls into two parts.. Firstly, a syllabus of intercept operator training has been designed to cover a course lasting ten weeks, and secondly, a shorter course of approximately three to four weeks, has been drawn up to include instruction and practice in the basic principles of traffic analysis.

2.   Both courses of instruction have been prepared on the assumption that trainees will have a good standard of education, and will already have achieved a morse reading speed of 20 to 25 words per minute. It is possible that students on the traffic analysis course will have previously graduated from the operators course, and the syllabus has allowed for this.

Intercept Operator Course.

3.   The projected time-table for this course covers a period of ten weeks as follows :-

1st week	:	Morse
2nd "	:	Morse, Procedure.
3rd "	:	Morse, Receiver handling; logging; double position working.
4th "	:	Receiver handling; logging; double position working.
5th "	:	Practical interception; double position working.
6th "	:	Practical interception; task cover.
7th "	:	Practical interception; task cover; 1TPD slip reading.
8th "	:	Task cover; I.C.R.; 1TPD slip reading.
9th "	:	I.C.R.; 1TPD slip reading.
10th "	:	Single channel T/P.

4.   It will be noted that the greater part of the course is concerned with manipulative skill, and basic operating procedure; to begin with, morse instruction will deal with improving copy and knowledge of buried letters, at gradually increasing speeds, together with practice on some typical styles of hand keying e.g. bug keying. Trainees will be required to know the essentials of international Q and Z procedure codes with other common signals. At this point some preliminary lectures will be given on methods of working e.g. simplex, complex.

5.   The next phase will include general subjects concerning initial receiver handling, method of logging, traffic copy and practice reception of locally generated signals. This will lead to double position working.

6.   At the end of the fourth week, progress should be sufficient for a start to be made on the logging of live signals on a general search basis, leading to the interception of suitable groups to afford instruction in the principles of task cover.

7.   Cover of [   ] is practised in the ninth week, preceded by some morse slip reading. This will be interspersed with lectures on equipment, (e.g. undulators, various types of bridges). The final week will be devoted to [   ]

Traffic Analysis Course.

8.   This course, as previously stated, has been prepared on the assumption that the students will be radio operators, and will have as its aim the imparting of the basic principles of [   ] It will take the following form :-

First Week.

1. Methods of working, Net terminology.

2. Exercise in Diagrams and Net terminology.

3. Factors of Recognition; schedules; frequencies; callsigns; procedure; message headings; external features of traffic.

4. Practical logreading; continuities; stages in the approach required to produce network reconstruction; records of results.

Second Week.

5. Logreading exercise No. 1.

6. Callsign recovery exercise (rota system).

7. Codes and Ciphers; terminology.

8. Technical Aids to T/A; D/F, RFP, MOA.

Third Week.

9. Logreading exercise No. 2.

10. Callsign recovery exercise (formula system).

11. Introduction to Elint.

12. Review of Aims of T/A: (a)   Reconstruction of Networks.

                              (b)   Production of Intelligence.

9.   The initial subjects dealing with methods of working, and the recording of results, take the trainees a stage further than that given in operator training, and ensure a knowlege of terminology.

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10.   The principles of identification from the various factors apparent
in logs is dealt with by a discussion of frequencies, times of activity,
types of callsign and procedure used, the message headings and external features
of traffic. The need for continuity of intercept is explained, and variable
callsign systems are dealt with by examples in the recovery of imaginary rota
and formula types, but the block systems will not be covered in view of the
advanced state of knowledge required in such cases. However, it is probable
that some trainees will be acquainted with encoded callsign systems employed
by our Services in the past, so that some reference may have to be made to
this type. Procedure will be dealt with on the basis of operating "language",
and the common-sense approach to the analysis of this subject will be employed
to show how identification of continuities can be made by a study of the
various methods apparent in logs. Message headings and the external features
of traffic will be used as factors which are likely to remain constant in any
one continuity.

11.   This instruction is followed by practical logreading, including the
association of various intercepted stations into groups, and groups into
networks. Exercises are based on imaginary intercepts which will use
"invented" procedure. Similarly, imaginary rota and formula callsigns systems
will form the basis for exercises designed to demonstrate the approach to
this problem.

12.   A brief survey will be made of codes and ciphers, to illustrate the
significance of certain items of procedure and external traffic character-
istics. Material for this instruction will be limited to that given in
publications available to the general public in Britain and the U.S.

13.   The role of technical aids in traffic analysis will be described
briefly, together with some information of a general nature on non-communi-
cations radio.

14.   Some live material intercepted by the trainees will be used as the
basis for traffic analysis instruction, but identification will only be made
from self evident features (i.e. plain-language, obvious procedure signals).