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CIVIL DEFENCE

Manual of Basic Training

VOLUME I

HEADQUARTERS SECTION

PAMPHLET No. 4

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GENERAL PREFACE

The series of Civil Defence handbooks and pamphlets is produced under the authority of the Home Secretary by the Civil Defence Department of the Home Office with the assistance of and in co-operation with the Secretary of State for Scotland and other Ministers concerned.

Measures for safeguarding the civil population against the effects of war which these publications describe, have become an essential part of the defensive organisation of this country. The need for them is not related to any belief that war is imminent. It is just as necessary that preparations for Civil Defence should be made in time of peace as it is that preparations should be made for the Armed Forces.

The publications cover, as far as is possible, measures which can be taken to mitigate the effects of all modern forms of attack. Any scheme of Civil Defence, if it is to be efficient, must be up to date and must take account of all the various weapons which might become available. The scale of bombing experienced in Great Britain during the 1939–45 war might be considerably exceeded in any future war, and types of weapons and tactics which were not experienced in this country might conceivably be used against it in the future. It does not follow that any one of the weapons, e.g., the atomic bomb, will necessarily be used, and it is most important that a proper balance is held between what is likely and what is possible.

The use of poison gas in war was forbidden by the Geneva Gas Protocol of 1925, to which this country and all the other countries of the Western Union were parties. At the outbreak of a war, Her Majesty's Government would try to secure an undertaking from the enemy not to use poison gas. Nevertheless the risk of poison gas being used remains a possibility and cannot be disregarded any more than can certain further developments in other scientific fields.

The publications are designed to describe not only precautionary schemes which experience in the last war proved to be extremely effective in preventing avoidable injury and loss of life, or widespread dislocation of national industries, but also the training, both technical and tactical, which will be required of the personnel of the Civil Defence Corps if they are to be ready effectively to play their part if war should ever break out. The publications aim at giving the best available information on methods of defence against all the various weapons. Information is not complete in respect of some of these weapons and the best methods of countering them, but as results of experimental work and other investigations mature, they will be revised and added to from time to time so that the Civil Defence Corps may be kept up to date and training may be on the most modern and experienced lines.

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Note: The pages of this pamphlet are not numbered continuously as it may be necessary to introduce new pages at a later date.

INTRODUCTION

This pamphlet is intended to be a guide for those responsible for the organisation of training, in explaining the functions of the Headquarters Section of a local Civil Defence Division and preparing members for specific tasks.

In the event of heavy attack, it is quite conceivable that a control centre team will have to reinforce or perhaps take over a strange control centre; it is essential, therefore, that throughout the country there should be uniformity of organisation and training. This does not mean that there is no room for flexibility in the procedure. For example the specimen log sheet (Appendix " B ") implies that much detail can be recorded. If this is possible it should be done; on the other hand under heavy saturation or atomic attack it may prove impossible and the logging system should be adapted accordingly and the recording made on an area or other suitable and practical basis. The whole system must, in other words, be capable of adjustment to the needs of the situation.

The organisation, training and war duties of the Section have been planned in the light of experience gained from all types of raids on this country, Germany and Japan. Whatever the nature of the attack, the members of the Headquarters Section will have responsibilities which are second to none in importance, since it is upon their efficiency, speed and accuracy, that the successful control of civil defence operations will in the main depend.

The efficient functioning of the control centre must, however, depend to a considerable extent upon the standard of reconnaissance and reporting carried out by the " man on the spot ". No control centre, however highly organised, can be expected to function satisfactorily if the information it receives presents an inadequate picture of the situation. The importance, therefore, of Wardens who, with the Police, are the main reporting agents, being thoroughly and consistently trained in reporting cannot be too strongly emphasised. It is essential that definite programmes of communications exercises should be organised and carried out, so designed as to increase the reporting efficiency of the reporting agents and at the same time, to test out thoroughly the staff of the Headquarters Section.

This pamphlet deals with the control organisation on a static basis. It could happen that a Civil Defence Controller or Sub-Controller would find that he was too remote from the scene of operations. In such a case he might need to set up an advanced field headquarters as a temporary measure. Situations of this kind should be thought out and practised in peace-time.

CHAPTER I

HEADQUARTERS SECTION OF A LOCAL CIVIL DEFENCE DIVISION

1. Organisation

Each local authority responsible for organising a Division of the Civil Defence Corps will appoint an officer (and deputies where necessary) to take charge of the Section. The officer appointed to be in charge will be responsible for the general organisation and training of the Section though he may delegate the actual training as he thinks fit.

The Section will be divided into two Sub-Sections (i) Control and Communications, (ii) Reconnaissance.

(i) *Control and Communications Sub-Section*

This Sub-Section will provide the means for the effective control and co-ordination of the services in the operational field of civil defence; one of its main functions will be to man and operate control centres at the various levels. It will be responsible for the collection and collation of reports and the issue of orders for the deployment of resources from within the area and of re-inforcing units from outside. It will also be responsible for the manning and field maintenance of emergency communications (despatch carriers, field telephones, wireless, etc.) with which the normal telephone system will need to be supplemented or replaced.

(ii) *Reconnaissance Sub-Section*

While the reconnaissance and reporting of damage will be carried out in large measure by the Wardens and the Police, a Reconnaissance Sub-Section will be an essential part of the civil defence machine. The personnel of this Sub-Section will be specially trained and will normally work in parties reporting direct to the local Control or Sub-Control Centre. They will be responsible for such duties as obtaining further information to supplement the Warden's reports on the extent of damage; investigating the results of the use of any new type of weapon; reporting on the technical aspects of A.B.C. warfare; and any other reconnaissance as required by the Controller or Sub-Controller.

CHAPTER II

CONTROL AND COMMUNICATIONS SUB-SECTION

PART I

THE CONTROL OF CIVIL DEFENCE OPERATIONS

6. General Principles of Local Control

To enable the Civil Defence Corps to act speedily and effectively in an emergency it is necessary to have an efficient method of control and co-ordination and to provide a communications system for passing information and reports to the various services which would be required to act. Control and communications are closely linked, and this chapter gives guidance on both these matters.

The control of civil defence operations involves three processes:—

(*a*) The collection and collation of reports of damage and casualties from all sources.

(*b*) The issue of orders for the deployment of civil defence resources.

(*c*) The collection and dissemination as necessary of intelligence in regard to the enemy (e.g. types of attack, weapons, etc.).

7. Central Government Control

The Government proposes to establish a Central War Room in which information affecting all Departments with civil defence responsibilities will be collected and collated and from which advice and information will be distributed and directions on such matters as inter-regional reinforcements will be issued.

8. Regional Headquarters

In each of the eleven Civil Defence Regions in England and Wales there will be, in war, a Regional Commissioner appointed by the Government to co-ordinate civil defence measures throughout the Region. To his Headquarters, which will be linked to Group and Corps Authority control centres on the one hand and to the Central Government on the other, there will be accredited representatives of all the Departments concerned with civil defence including, for example, an officer of the Ministry of Health concerned with the casualty services and representatives of the police and fire services and of military commands. Regional Headquarters, being kept informed by Group and Corps Authorities of the situation as it develops in their areas, will be responsible for providing reinforcements of Mobile Columns, for co-ordinating mutual aid between local divisions within the Region, and for obtaining assistance from other Regions (through the Central War Room).

9. Central Control (Scotland)

Operational control will be exercised by a Scottish Central Control under the continuous direction of a Scottish Minister. The Control will be linked to the Central Government War Room, the Zone Control Centres and the Main Control Centres of local authorities outside the Zones, to Scottish Command and to other Service Headquarters. The Central Control's functions will be similar to those of the Regional Headquarters in England and Wales.

Two Civil Defence Zones are being set up based on Glasgow and Edinburgh and in each there will be a Zone Headquarters under a Zone Controller who has been appointed by the Secretary of State and will be in operational command, subject to any directions given by the Scottish Central Control, of the Civil Defence Corps Mobile Columns in his Zone, and will arrange where necessary for police, fire and casualty service reinforcements for attacked areas and advise the Central Control when military aid or reinforcements from outside the Zone are needed.

10. Corps Authority Control Centres (England and Wales)

In each county and county borough in England and Wales (outside London Region) and in certain scheduled county districts, there will be a Controller and a control centre dealing with the collection of reports and the deployment of units of the Local Division of the Civil Defence Corps, of the Ambulance Service and of Mobile First Aid Units allocated to the area. A county or county borough control centre will report direct to Regional Headquarters except where other arrangements have been made locally.

In county boroughs with substantially more than 100,000 population one or more Sub-Divisional or Sub-Control Centres may be set up, from each of which a Sub-Divisional or Sub-Controller will arrange for the deployment of such Civil Defence Corps units as the Controller has allocated to the Sub-Control area.

In every county a Control Centre will be set up which will exercise general charge of civil defence operations throughout the county except in any part included in a Group. Generally speaking a county will be divided into convenient operational areas, each of which will constitute a Sub-Division. A Sub-Divisional Control Centre will be set up in each of these sub-divisions. Below Sub-Divisional Control Centre level a centre will be established in some county districts for controlling local units of the county division of the Civil Defence Corps; in some others where the establishment of a control centre is not justified there will, nevertheless, be a centre for reporting on any damage that may occur.

The London Region consists of four Sub-Regions, each to be under a Deputy Regional Commissioner. Each Sub-Region is further sub-divided into Groups (two of which have Sub-Groups) under Group Controllers. Each of the constituent authorities in these Groups and Sub-Groups (viz. the City of London, Metropolitan Boroughs and County Boroughs and certain County Districts of Middlesex, Hertfordshire, Essex, Kent and Surrey) will have its own Controller and control centre, the larger authorities (with substantially more than 100,000 population) also having sub-control Centres.

11. Local Authority Control Centres (Scotland)

In each county, joint county and large burgh (or combined authority) there will be a Controller and a Main Control Centre dealing with the collection of reports and the deployment of units of the local division of the Civil Defence Corps. In some of the larger areas Sub-Control Centres will be set up, from each of which the Sub-Controller will arrange for the deployment of such Civil Defence Corps units as the Controller has allocated to the Sub-Control area.

Applications for reinforcements by local Civil Defence Controllers and their periodic situation reports will normally be made as follows:—

(*a*) in a Zone, to the Zone Controller, who will in turn keep the Scottish Central Control informed, and

(*b*) outside a Zone, direct to the Scottish Central Control.

PART 2

INTERNAL ORGANISATION OF CONTROL AND SUB-CONTROL CENTRES

16. General Requirements

Within any control centre a carefully devised organisation and a trained staff are essential to produce quick and accurate working. The internal organisation of a control centre and the distribution of duties among the staff must be designed to fit local conditions, and will vary, for example, with the topography of the area, the strength of the Civil Defence Division and the number of subordinate centres through which it operates. The control centre must be continuously manned throughout the 24 hours, or at least by a skeleton staff, with arrangements to ensure that a full staff is available without delay in the event of an alert. It is not possible to prescribe standard rules as to the posts which need continuous cover but there must be a proper organisation of shifts so that staff is always standing by to fill those posts which are not continuously covered.

17. Control Centre Responsibilities

A full appreciation of the responsibilities of a control centre staff is essential if the most suitable type of organisation and procedure is to be devised.

The responsibilities can be broadly described as follows:—

(*a*) To receive and take the necessary action including the ordering out of services, on all reports of air raid damage, and to deal properly with any other messages that may be received.

(*b*) To exercise operational control over all units of the Civil Defence Corps and mobile first aid units allocated to the area, including any mutual aid and reinforcements.

(*c*) To call for mutual aid or reinforcements through the appropriate channels, and as necessary to inform the mutual aid or reinforcing authority in regard to rendezvous points and routes.

(*d*) To ensure under conditions of heavy bombing when the local resources may be insufficient at the outset that they are initially deployed to the best advantage, having regard particularly to priorities which are known to the Controller and which must influence his decision.

(*e*) To provide the appropriate higher authority with regular situation reports.

(*f*) To ensure that a proper liaison is maintained with all the other services concerned in Civil Defence.

(*g*) To ensure that essential information is circulated and made available to all those who may be concerned.

(*h*) To act as an Intelligence Centre and to circulate to those concerned information in regard to the enemy's tactics, use of weapons and types of weapons and their probable influence on Civil Defence operations.

18. Control Centre Procedure

The main essentials of control centre procedure are simplicity, speed, accuracy and thoroughness. To meet these requirements rules must be observed:—

(*a*) there must be a clear and well understood division of responsibility between the various members of the staff, including delegation of authority as required;

(*b*) proper records must be kept to ensure that necessary action is not overlooked and to avoid unnecessary duplication;

(*c*) the number of people having direct access to the operations room must be restricted to a minimum;

(*d*) at all times, especially during action periods, the atmosphere in the control centre must be that of a quiet, orderly office;

(*e*) all work must be kept up to date;

(*f*) if the pressure on the Centre is such that all the work cannot be accomplished at once, there must be a planned selection of priorities.

It is also important that there should be a standardised control procedure throughout the country, so that anybody from another Corps Authority area coming in from outside will not have difficulty in understanding what is going on.

The control centre procedure can most conveniently be described by following the course of a message from its receipt to the stage when it is filed away.

If the message is brought by a despatch carrier (on a motor-cycle or bicycle, or on foot), he enters the despatch carriers' waiting room and passes his message through the hatch into the message room; it is taken from the hatch by an indoor messenger, copied by a clerk-telephonist and the copies are given to the message room supervisor who checks them for legibility, etc. The message is then passed through the " in " hatch into the operations room.

If the message is received by telephone the telephonist writes it down and copies are checked by the message room supervisor and passed through the " in " hatch into the operations room.

The plotting clerk takes all messages from the " in " hatch, allots to each an occurrence number, and marks that number on each message; all subsequent reports concerning this occurrence will be given this number. He then plots the occurrence on the map and hands all copies of the message to the operations room messenger who distributes them to the Controller, Operations Officer, Heads of Sections and to the Police and Fire Officers, as required, as quickly as possible. The plotting clerk maintains a list of the occurrences as he plots them and of the numbers allocated to each occurrence.

The operations officer is responsible for preparing and issuing, subject to instructions or advice from the Controller, Sub-Controller or Heads of Sections or Services as necessary, any instructions for the movement of services, etc., which the message requires.

Out messages are collected by the messenger and passed through the " out " hatch into the message room for despatch by telephone or despatch carrier under the supervision of the message supervisor. A copy is handed to the tally board clerk, who maintains a record on the tally board of the services sent to the occurrence.

The original in-message and carbons of the out-message(s) go to the records clerk who keeps the messages relating to each occurrence in a separate folder or clip. When the out-messages have reached their destinations, carbons, bearing the time of despatch by telephone and the initials of the telephonist, are passed from the message room to the records clerk who can thus check that action has been completed. When an out-message is delivered by hand, the despatch carrier will obtain a receipt from the recipient and return this to the records clerk. The records clerk will thus maintain a complete file of reports and action taken at each occurrence. He will, also, for the purpose of easy reference, maintain a log sheet.

The above are the stages through which a simple in-message and the related out-message would go. There will, however, be complications, among which might be the following:—

The message might contain information of specific interest to some service other than the Civil Defence Corps (e.g., damage to public utilities, etc.), or of general interest to all services operating during or after a raid (e.g., damage to communications, blocking of roads, etc.). Copies of an in-message of this kind will be sent by the operations officer or the officer-in-charge to the liaison officers' room where a map or maps showing damage to communications and to other vital services will be maintained, and where telephone facilities will be provided for liaison officers (e.g., gas, water and electricity undertakings) to communicate with their own headquarters.

19. Staff and Duties

Control Centre duties fall into four main blocks:—

Direction of Operations
Receipt and Despatch of Telephone Messages
Despatch Carrying
Liaison.

In the specimen layout of a control centre there is one room for each of these four blocks of duties and for the staff engaged upon it. (See Appendix A.)

20. Operations Room

Accommodation will be provided in the operations room for the Controller, Heads of Sections or Services and for the senior Police Officer and Fire Officer, or their representatives together with the necessary staff. It will also be important that the Controller has available to him a communications adviser and the Chief or Senior Officer of the Reconnaissance Sub-Section.

The Heads of Sections or their representatives have two main responsibilities when on duty:—

(*a*) to keep in touch with the situation so that they can ensure that their own services are operating efficiently (it will be essential for them to pay periodic visits to the action fronts) and

(*b*) to advise the operations room staff when necessary.

As the Controller and Heads of Sections or their representatives cannot and must not always be in the control centre it is essential that authority is delegated to a responsible member of the staff to give orders on their behalf. In this pamphlet the operations officer is assumed to be given that authority. This officer will, of course, consult Heads of Sections, etc., if and when consultation is necessary and practicable; but the despatch of services must never be delayed if, for any reason, the persons to be consulted are not immediately available.

The main tasks of the operations room staff will be:—

(1) To sift information as it comes in and, if necessary, to obtain confirmation. This will entail distinguishing between reports of fresh damage and those which refer to damage already reported, and tracing whether a report in connection with an old occurrence merely confirms previous information or contains some new factor of importance on which action must be taken.

(2) To keep the map marked up so that it shows at any moment a complete picture of all damage that has been reported during the current 24 hours including, in particular, any blocked roads.

(3) To prepare messages for despatch by the message room staff. If it is essential to send or receive verbal messages, a written record of such messages should be made.

It is suggested that the following staff will be required:—

Officer-in-Charge
Operations Officer
Plotting Clerk.

(In large centres each of the above officers might require a clerk to assist him; in small centres the functions of operations officer and officer-in-charge might be undertaken by one person).

Tally Board Clerk
Records Clerk
Indoor Messengers

21. Officer-in-Charge

The officer-in-charge is responsible for the general direction of the control centre and for the organisation and training of the staff and for all personnel matters—duty roster, discipline, etc. It is his job to see that the machine works smoothly and efficiently. He must see that everyone is doing his particular job, provide assistance where needed, secure a general picture of what is happening, settle all difficulties that arise and handle all (except routine) contacts with outside agencies.

22. Operations Officer

The operations officer, under the general directions of the Controller, has three main responsibilities of the highest importance:—

(*a*) to issue the orders calling out the essential life saving services (rescue parties, ambulances, etc.) under command, in accordance with the needs of the situation;

(*b*) to request mutual aid or reinforcements if the local forces are likely to prove inadequate;

(*c*) by keeping the Controller and Heads of Sections or Services informed, to ensure that all forces under command are used to the best and most economic advantage and, as far as is practicable, that they are adequate for their tasks. The importance of using fully all the local forces before asking for help from outside cannot be over emphasised.

In the discharge of all the above responsibilities he will act under the instructions or advice of the Heads of Sections or Services, or their representatives, but he must have full authority to act on his own in their absence. He is also responsible for supervising the preparation of situation reports.

23. Plotting Clerk

The plotting clerk will receive copies of all IN messages and keep the control room map marked up-to-date. He must check all damage reports as they come in to determine whether they relate to fresh damage or to damage which has previously been reported.

The plotting clerk will allot to each seat of damage, a number, (the Occurrence No.) and will mark it on each message relating to that damage so that all subsequent reports and messages concerning it can be keyed to that number. The records should be kept as simple as possible and the following is an example of the kind of chart that may be required:—

Occurrence No.	*Positions of Occurrence (Wardens' Post Area)*	*Reporting Agent*

24. Tally Board Clerk

The tally board clerk will maintain the Tallyboard. On receipt of a message indicating the strength of parties, he will make the necessary adjustments on the board. The tallies will be adjusted in accordance with any move ordered in OUT messages.

25. Record Clerk

The record clerk files all " IN " and " OUT " messages in files numbered to correspond to the reference number of the occurrence to which they refer. He thus has available for reference a complete record of all reports, and of the action taken. He will file a duplicate copy of all " OUT " messages passed for despatch. If despatch is by telephone he will replace the duplicate by the original on its return from the message room. If despatch is by messenger or despatch carrier he will attach to the duplicate the receipt brought from the recipient. Anyone consulting a file can thus see the stage of action reached with regard to an " OUT " message. If the spaces for " Time of Despatch " and " Telephonist's Initials " are not completed it means the original copy is still in the Message Room or on its way by road and its despatch has not yet been completed.

A file is also essential for messages to and from the next higher centre and a " Miscellaneous " file will be required for messages which do not relate to any particular damage.

The records clerk will also keep a Log Sheet for the purpose of showing how the progress of the raid and the utilisation of resources are developing. This information will not only be of the greatest possible use to the Controller but will also provide a permanent precis of damage sustained and Services called out. All this information can be set out on one carefully drawn up Log Sheet. It is true that the Tally Board will give the majority of this information, but it must be remembered that the Tally Board is not a permanent record; when a vehicle returns to its Depot the appropriate tally is returned to its Depot hook, and all record of its operational activity is lost. The log will, therefore, be regarded as a permanent record both for current and future use, e.g., in the compilation of the War Diary. The layout of the Log Sheet must be kept as simple as possible, and yet allow for all information which is likely to prove useful. A specimen log sheet is shown at Appendix " B ".

Whenever time permits the record clerk will scrutinize his files with a view to:—

(*a*) Checking that all action is in hand.

(*b*) Bringing to the notice of the officer-in-charge or operations officer any occurrence with regard to which action is unaccountably incomplete or slow.

(*c*) Verifying that all messages included have been correctly filed and that any superfluous copies are removed.

26. Indoor Messengers

The indoor messengers will be of general use in a control centre. In particular one can well be employed in assisting the records clerk.

27. Message Room

The message room is solely concerned with the receipt and despatch of messages. For this purpose the following staff will be required:—

Message Supervisor
Message Supervisor's Assistant (in large centres)
Telephonists.

28. Message Supervisor

The message supervisor is in charge of the message room, and will be responsible to the officer-in-charge for the training of the staff. He occupies a key position and there are advantages if a volunteer with experience can be found for this post. His duties in connection with the message room routine in war-time are:—

(1) to arrange the duty roster for all message room personnel so that a skeleton staff is always on duty and a full staff is available at very short notice by day or night;

(2) to supervise the work of the message room generally so as to ensure that it is carried out with accuracy and rapidity and that messages are legible;

(3) to draw attention to any interruption or serious congestion of the telephone communications;

(4) to ensure that messages are despatched according to the priority laid down;

(5) during periods of delay in despatch of "OUT" messages to authorise the use of "IN" telephones for their transmission and

(6) to see that "OUT" messages after despatch are promptly returned to the operations room, duly completed, for filing by the record clerk.

29. Telephonists

Telephonists will write down or transmit messages as required, initialling and timing them by the twenty-four hour clock as reception and transmission is completed. Messages must be repeated back, phrase by phrase, to ensure accuracy; after completion they will be handed to an indoor messenger for disposal.

30. Message Carrying

Message carriers provide a supplementary means of communication and are of particular value in case of a breakdown of the telephone service. In a large centre a senior despatch carrier may be needed to supervise the despatch carriers. Long distance runs will be performed in cars or on motor cycles and local deliveries on foot, pedal cycles or sometimes on motor cycles.

31. Liaison

Other services besides the Civil Defence Corps, Police and Fire Services will need information about air raid damage. This can most conveniently be provided in a separate map room where information can be plotted as received (by the clerk-in-charge of the liaison officers'

room) so that a liaison officer from any service may find out the damage situation whenever required. Among the services using this facility would be the Public Utility Services (water, gas, electricity, sewers, etc.) and the Ministry of Food local representatives. According to local conditions other liaison officers should be brought in; in an important railway town, for example it might be advisable to have a railway liaison officer.

The maps will be marked to show the main features of the water, gas and electricity undertakings and sewerage system, the industrial and other important premises served by them, important roads, etc. After heavy damage has occurred the representatives of the services concerned or the clerk-in-charge will be able to show on the maps the damage done to the principal installations or services within their responsibility.

Liaison is a two-way channel of information. For example while representatives of the Public Utility Services will visit the control centre to find out the effects of the attack on their installations, they may also be able to contribute information of value to the Controller or Heads of Sections.

In many sub-control centres a liaison officers' room will not be wanted as all the necessary facilities can be provided in the control centre.

32. Information

Experience of heavy air attack during the 1939/45 War has shown the need, in major controls, for an intelligence room apart from the main control centre, where information can be concentrated affecting the work of restoration and other matters outside the field of operation of the Civil Defence Corps. Such a room will help to avoid congestion in the control centre and interference with the normal work of control. It must be closely linked with the control centre and provided with maps on which damage, road blocks, etc., can be shown. Admission to this room must be restricted to those who require the information to help in their work. The public must not be admitted and the information made available must be regarded as confidential. An officer or clerk must be on duty in this room to give any necessary explanations and to receive and plot information from the control centre.

PART 3

PLOTTING AND THE USE OF THE TALLY BOARD

36. The Map

The map or maps will cover the whole area controlled by the centre, with the addition of such small scale maps as may be necessary to show surrounding areas. The map should be so sited in the operations room that it is clearly visible to all executive officers, and it is suggested that wall mounting is generally the most suitable. The map should be mounted on a material into which pins can easily be stuck. A soft material, such as Insulation Board, has proved generally satisfactory for this purpose.

The space available and the size of the area will determine the most convenient scale of the maps required. The most suitable will probably be found to be:—

1 inch scale for large areas, e.g. Counties.
2½ inch scale for parts of Counties, e.g. Sub-Divisional areas.
6 inch scale for intermediate types of area, partly urban.
25 inch scale for built-up areas.

Whatever the scale of the map, National Grid lines must be shown. Fixed points in the operational organisation such as Civil Defence Depots, Police and Fire Stations, etc., should be indicated by the use of conventional signs. It is essential that a uniform system of signs should be adopted in all control centres. A system which is in use at the Civil Defence Tactical School is set out in Appendix "C". It is recommended that this should be adopted for the purposes of training and exercises; when experience has been gained of its use, it will be reviewed. Consideration will also be given to the adoption of additional standard signs for other fixed points as may be found desirable by experience. The amount of detail to be shown at a particular control centre will vary to some extent according to the area controlled, viz., Division, Sub-Division, Sub-Control area. The boundaries of Wardens' Post areas should be shown at all control centres.

In rural or semi-rural areas, one operational map will normally be sufficient, providing that it gives a complete picture of all the damage reported during the current 24 hours, and when changed, important details such as road blocks are left in position. In the larger control centres, County, County Borough or Group/Zone Controls, two operational maps should be in use, one for the current 24 hours and the other for the previous 24 hours. Post-raid problems are very much simplified if the control centre retains a complete map record of the previous day's occurrences.

37. Plotting

Plotting may have to show:—

(*a*) Localised damage—(a few houses) caused by the odd high explosive bomb, or sporadic raiding.

(*b*) Medium damage—caused by a moderate H.E. or mechanical weapon attack.

(*c*) Area damage—caused by a saturation or atomic attack and which will often be graded from an area of complete destruction to comparatively minor damage.

During the last war the system of plotting was often too complex and some control centres plotted air raid damage by using a series of coloured pins, e.g. blue for H.E., red for Incendiary Bombs, etc. Others used the cork or plastic headed pin into which many other pins were inserted in an endeavour to show all the detailed information in one place. Such procedures are considered to be unnecessary and are liable to confusion by overloading the map with too much detail.

In the event of atomic or saturation attack and to avoid overloading the control centre, operational messages will be filtered at various levels in the reporting chain, i.e. Damage Control Officers, Warden Posts, Damage Control Sector Officers, each level forwarding a composite message giving the overall situation as it applies to the

whole of the area concerned. It follows, therefore, that the plotting of damage must be on a Wardens' Post basis, or possibly after an atomic attack on a Damage Control Sector basis. In a control centre after heavy attack it will not be necessary or even possible to plot each seat of damage, but rather to provide a general picture of the situation on an area basis.

(i) *Localised Damage*

Each seat of damage will be shown on the map by a single flat headed pin, clearly numbered with the serial number taken from the Occurrence Chart. The only other pins necessary on the map are those to show where blocked roads are and the position of unexploded missiles.

(ii) *Medium Damage*

Medium damage, whether caused by saturation attack, or by the more gradual build up of individual occurrences, can be very clearly indicated on the map by a number of pins placed round the perimeter. This can be shown in even greater relief by a length of coloured wool or tape around the pins.

As an alternative to the use of pins, it is now possible to obtain maps, which have been specially processed to enable the use of coloured chinagraph pencils. This method is very simple; the markings can be quickly erased; and there is no danger of pins falling out and the map has a much longer life.

(iii) *Area Damage*

Damage from an atomic attack will also be on an area basis and it is essential that the control centres should obtain a rapid appreciation of the situation as a whole as early as possible. This would be greatly facilitated by an early estimation of the position of ground zero. The determination of ground zero is comparatively easy if observation posts, wardens and other reporting agents can give bearings on the burst from different directions.

Once ground zero has been established, a " template " is used to give a rough picture of the areas of damage. (See Appendix " D "). This " template " can be made up locally but it must be marked to the scale of the map used. The example given is to a scale of 2½ inches to one mile. In preparing the " template " a hole should be pierced in the exact centre and holes also along the line running from the centre to the North Point. In this way by inserting a pencil circles may be drawn on the map itself.

A simplified " template " can be made consisting of a strip of wood or celluloid marked to the scale of the map used, and into which holes are bored, at map distances apart of half mile, one mile, etc. The strip is then used as a compass and circles drawn, with crayon or coloured pencil direct on to the map to indicate the areas of complete damage and the stages of severe and minor damage.

By these means the control centre can obtain a rough picture of the areas affected and make the first dispositions. Undue reliance should not however be placed on these methods; it will only be when full reports have been obtained and plotted that the final shape of the damaged area will be known.

38. The Tally Board

(i) *Functions of the Tally Board*

The main function of the Tally Board is to provide information as to local resources, and the board can easily be made to show:—

(1) The strength of the resources available to the authority at any one time.

(2) The disposition of these forces within the area.

(3) The deployment of forces to sites of damage.

This is by no means the limit of its possibilities, so far as resources are concerned; it can also be made to indicate:—

(4) The position regarding reinforcements both into and out of the area.

(5) The deployment of incoming reinforcements to seats of damage within the area.

These are the main five items but other information can be simply and easily included on the board. It can indicate at a glance:—

(6) Whether a Damage Control Officer is in attendance at an occurrence, and the position of his headquarters.

(7) The outstanding features of the occurrence, i.e. whether the situation is complicated by fire, UXBs, or A.B.C. agents.

(8) Whether the public utility services have been affected.

Many other items *could* be included, but care is needed to avoid overloading, remembering that normally only one person will operate the board, and that detailed information can be obtained from the Log Sheet and Occurrence file kept by the records clerk.

(ii) *Type of Board*

Provided the whole of the Tally Board can be seen by the operations room staff, the choice between a horizontal and vertical board, (i.e. the tallies moved sideways or up and down) will to a large extent, depend upon the space available. Only the former will be described in this pamphlet but the layout and manipulation of the vertical board should be quite clear from the sketch plan in Appendix " E ",

The size of the board will depend on the number of depots and mobile resources available to the control centre, and the number of occurrences it is desired to show on the board at any one time. It is suggested that it could be mounted on the wall between battens secured only by wooden or metal " turn-screws ". The board could be made in two separate panels to allow, if necessary, for the insertion of further reinforcement panels. Further occurrence panels could then be placed alongside the original to accommodate any number of occurrences. A small black-board is included at the bottom of the resources panel to allow recording of essential information not already covered by the board. As a rough guide, a board with the resources panel five feet by four feet and the occurrence panel five feet by three feet would be large enough for a control centre serving a population of about 100,000 and could show up to 30 occurrences at any one time.

The board should be painted with a white undercoating and with two coats of white paint (matt finish). This provides the best possible background, from a visibility point of view, and will not shine. All

rulings and letterings on the board should be in black thus forming a direct contrast to the white background. The tallies should be in plastic, tin, or some other durable substance, capable of withstanding much handling without deterioration. They should not exceed one and a quarter inches by one inch, with a top flange through which a hole should be drilled. The tallies are hung on either right angled brass hooks, or on one inch panel pins set at a slight upward angle.

(iii) *Description*

In actual raiding conditions the Tally Board is just as important as the Map, and is certainly referred to more often. Both are essential—the Map to indicate the battle to be fought and the Tally Board to show the forces available to fight the battle.

Remembering the eight items of intelligence which the Board can be made to show, the proposed board caters adequately for these items and is very simple in operation.

The board consists of two separate panels:—

(1) The Resources or Assembly panel.
(2) The Occurrence panel.

(a) *The Resources Panel*

Down the left-hand side of the panel are shown the various Services likely to be available to the authority. Each Service has its own distinctive colour and the tallies representing parties or vehicles are coloured to correspond.

The following colours should be used:—

Rescue Parties	Green
Ambulances	Blue
Casualty Cars	Orange
Mobile First Aid Units	Brown
Reconnaissance Parties	Yellow
Other Services	Light Blue

Across the top of the panel are shown the depots or hospitals at which the resources are stationed. Each depot is numbered and all the tallies representing resources attached to a depot bear that depot number. When a tally is removed from the resources panel it is immediately apparent from its colour what party or vehicle it represents, and by its number, the depot from which it came.

As " Other Services " may include many different services, it may be advisable, to assist identification, to mark the tally with a letter as well as the depot number. Thus " C " denotes " Canteen ", " O " " Omnibus ", etc.

Down the right-hand side of the panel are shown the reinforcement columns. When it is necessary to ask for assistance the number of tallies of the appropriate colour should be hung in the " IN " " Asked for " column. When they are available they should be transferred to the " IN " " Arrived " column. If the reinforcements are temporarily quartered in existing depots they should be shown in the appropriate depot column. These reinforcement tallies should bear no depot number as they represent services from outside the control centre area.

With " Outgoing " reinforcements, the appropriate tallies are moved from the depot columns to the Reinforcements " Out " column.

(b) *The Occurrence Panel*

Across the top of the occurrence panel there is a column for the Occurrence Number. This is indicated by a numbered tally which will correspond to the Occurrence Number plotted on the map.

When services are ordered to be sent, the appropriate tallies representing the services ordered out are moved across from the resources panel and placed against the occurrence number to which they have been ordered. When the services are reported back at their depots, the tallies are returned to their original position.

All incidents brought together under one Damage Control Officer are treated as a single occurrence and all additional resources sent will report to the D.C.O. The Tally Board can be easily adjusted to show this.

At the bottom of the occurrence panel are shown:—

(1) Whether or not a Damage Control Officer is present. For this purpose a large white black edged tally should be used, hung by one corner. It is recommended that the position of the D.C.O's headquarters should be marked on the tally, e.g., map reference or street name.

(2) Fire—Marked with a red tally.

(3) Unexploded missiles. Marked with a black tally.

(4) Toxic agents—Marked with black tallies with white letters, i.e., A. B. C.

(5) Public utilities damaged—Marked with black tallies with white letters, e.g., " G " Gas Mains, " W " Water Mains, etc.

It must be remembered that the Tally Board is intended to show only the resources available and their disposition. The Board should not, therefore, be loaded with occurrences to which no services have been despatched. This is insured by the operator being instructed to take action only on those messages which order out parties or vehicles.

Occurrences to which no services have been despatched will, of course, be recorded on the Log Sheet.

(iv) *The County Tally Board*

A county or a county borough with sub-controls is not so much concerned with individual occurrences as it is with the general damage and the resources position in each of its sub-control areas. The board can be adapted to meet this condition if instead of depots on the resources panel sub-control centres are substituted. The resources will be numerically greater, but more than one tally can be hung on each hook, or one tally may represent a number of parties or vehicles. On the occurrence panels, instead of dealing with individual incidents, a county or a county borough with sub-controls will be dealing primarily with reinforcement of sub-control areas. Instead of occurrence tallies, therefore, numbered tallies corresponding to the numbers allotted to the various sub-control areas will be used. The principles on which the board works will, however, be exactly the same. (See Appendix F.)

PART 4

LOCAL CIVIL DEFENCE COMMUNICATIONS

44. Requirements

The system of communications must provide for receipt of reports of damage and of calls for aid and consequent messages to Services, for communication with higher authorities and for liaison with other authorities at local level. Civil defence communications must rely primarily on the G.P.O. system. This may be subject to partial or complete local breakdown during or immediately after an attack. The Civil Defence Corps will therefore have to provide their own local communications and this duty will be the responsibility of the communications personnel of the Control and Communications Sub-Section. Alternative routings and the work of the G.P.O. repair parties outside any heavily damaged area would make complete and lengthy breakdown of the trunk telephone system unlikely. It is therefore not proposed to make specific provision of field cable or wireless between regional and main control.

45. Facilities Available

(i) *Telephone*

The war scale of provision is indicated in Appendix G for England and Wales and Appendix H for Scotland. Provision for training purposes may be less.

Exchange lines will be largely used as they provide the maximum flexibility. The telephone numbers will be ex-directory so that the control centre can only be called by authorised persons. The message room lines will normally have consecutive numbers arranged for "auxiliary working" whereby a call made to the primary number of the group of lines is completed over any free line of the group.

Private circuits normally run through the local telephone exchange building in the same cables that carry the exchange lines from the premises concerned; any damage to cables affecting exchange lines can therefore be expected to affect the private circuits.

Headgear receivers will be provided for the message room telephones so that telephonists may have both hands free to handle message forms. This type of receiver, which has only one earpiece, will be associated with the pedestal ("candlestick") type telephone complete with its normal switchhook which will be controlled by the use of a suitable weight.

Visual calling indicators with buzzers may be provided in lieu of telephone bells.

Where it is desired to keep the telephone instruments under lock and key, they may either be terminated on plugs and the lines on sockets, or it may be found convenient to have the instruments fitted with long cords.

(ii) *Field Cables*

In the event of serious local G.P.O. telephone breakdowns, field cable detachments of the Headquarters Control and Communications Sub-Section would lay field cables from control or sub-control centres

to convenient points near the scene of operations. They might also be used to restore telephonic communication with rescue and ambulance depots or, for example, between a county borough control centre and its sub-control centres.

(iii) *Wireless*

Although wireless has obvious advantages for certain purposes, especially for communicating with mobile forces, its use is subject to many limitations and must be confined to the special purposes for which it is essential.

In target areas the Reconnaissance Sub-Section will be equipped with walkie-talkie wireless sets for use between patrols reconnoitring on foot and reconnaissance vehicles driven as near to the heart of the damage as debris, etc. will permit. These reconnaissance vehicles will be equipped with higher powered 2-way VHF wireless sets for relaying reconnaissance reports to Controllers (or Sub-Controllers in large county boroughs). The same sets could also be used, when services are deployed, to provide links between the Controller or Sub-Controller and the Damage Control Officers at the scene of operations if they have no telephone communications.

(iv) *Despatch Carriers*

Runners, pedal cyclists and motor cyclists will provide an alternative means of communication when there is a breakdown of telephone service.

46. Number of Operations Room Telephone Lines

Controllers and Heads of Sections or Services should not require exchange lines for issuing orders (since such orders should, to the greatest possible extent, be despatched in writing through the message room). They will no doubt require them for other purposes, but, with the possible exception mentioned below in the case of the Medical Officer of Health, not one each. A maximum of six lines should be allocated as convenient among the officers in the operations room. The number and variety of the contacts which the Medical Officer of Health or his representative personally will need to maintain during operations may make it necessary for him to have the exclusive use of an exchange line, and where this is so one of the lines mentioned above should be allocated. It may also be convenient to provide the Controller or the operations officer with a parallel extension of the message room line reserved for communication with the next higher authority.

Representatives of the Police and Fire Service should have instruments connected in parallel with the private lines to those services which terminate in the message room; similarly where a private line is provided from the message room to the ambulance control, the Medical Officer of Health should have a parallel instrument in the operations room.

47. Number of Liaison Officers' Room Telephone Lines

One exchange line (or exceptionally two) may be provided for use by visiting representatives of the public utilities and similar services or to enable the headquarter officers of such services to seek operational information by telephone.

PART 5

THE TRAINING OF THE CONTROL CENTRE STAFF

52. General Principles

The training of control centre staffs must follow the four training stages laid down in Training Memorandum No. 1. In order to maintain the interest of volunteers, progress from individual and team to collective training should not be unduly delayed, though the latter form of training will be largely ineffective unless a reasonable standard of individual training has first been attained. Members of the staff will necessarily further develop their skill as individuals during collective training.

Under no circumstances should a control centre be allowed to take part in combined training until the staff are capable of working smoothly and efficiently under strenuous collective training conditions. Any attempt to carry out combined exercises at an earlier date must inevitably mean that civil defence parties will be kept waiting about with resulting general discouragement, loss of interest and adverse repercussions on recruiting.

The training syllabus for the Headquarters Section is laid down in Training Memorandum No. 5. Some of the more important points on which instruction for the Control and Communications Sub-Section will be necessary are given below:—

(*a*) Control Centre Operational Procedure.

(*b*) Message procedure.

(*c*) Communications—Civil Defence, Police, Fire and Army to include military abbreviations (See Appendix I).

(*d*) Local geography with special reference to any features which might affect the deployment of mobile forces, e.g. rivers or railways crossed by only a limited number of bridges.

(*e*) Setting up a Mobile Control.

53. Message Procedure

(i) " *IN* " *Messages*

" IN " messages should be written down on the appropriate form, e.g. First Report, CDM2, Damage Control, CDM4 (see Appendix " J "). " IN " message forms are printed in red to distinguish them readily from " OUT " message forms, which are printed in black.

The number of copies required will be decided in advance by the officer-in-charge and will apply to all messages received. Even in the largest centre, however, not more than five carbon copies should normally be required and these can easily be written in one operation if an F or H pencil is used and a piece of talc or zinc or similar hard substance is placed below the bottom copy.

(ii) " *OUT* " *messages*

Messages should be written on form CDM3. Sufficient copies of all messages must be made so that apart from those required for use in the operations room, one copy for each addressee can be passed to the message room.

54. Hints on Message Composition

1. The message should be clear and brief. No word should be included unless considered essential to the meaning of the message.

2. Punctuation should be confined to full stops which are to be transmitted. In manuscript a full stop should be written as a circle with a dot in the centre. The word " stop " should not be used to indicate a full stop.

3. Fractions, decimals, mathematical and other signs should be written as words, i.e. 2·5 should be written as " two point five ". Inverted commas should be indicated by the word " quote " at the beginning of the quotation and " unquote " at the end.

4. Abbreviations will only be used when their meaning will be understood by all recipients. In other words only authorised and well understood abbreviations should be used.

5. Place names should always be written in BLOCK CAPITALS.

6. The " Address from " should be in some standard abbreviated form, e.g. " BROWNMOUTH CONTROL ".

7. The " Time of Origin " of each message should be inserted, using the 24 hour clock.

55. Hints for Telephonists

1. Handwriting (including the writing of place-names in BLOCK CAPITALS) must be legible.

2. The 24 hour system of recording times must be used. In quoted times 1400 should be given as " One four Double O " and so on, midnight is given as 2359 or 0001, so that it may readily be identified by using a single date.

3. Telephonists must have a knowledge of the Wardens and Damage Control Report Forms and the method of writing down " IN " messages and the telephoning of " OUT " messages. They should be prepared to catechize on " IN " messages from Posts.

4. All messages should be " checked back " to ensure that they have been correctly received.

5. A knowledge of local geography is also important, with particular reference to any names in connection with which errors in telephone messages might easily occur.

56. Hints on the Use of the Telephone

1. Always keep your temper, be clear, precise, and polite.

2. On the most simple call the co-operation of three parties is concerned—the caller, the exchange operator, and the receiver. Full co-operation between users and operators is an essential feature of easy telephoning, and is one which cannot be over-stressed. It should be borne in mind at all times, especially when things are going wrong.

3. When answering the telephone don't say " Hullo " but announce your identity, e.g., " BROWNMOUTH CONTROL ".

4. Assist the exchange operators by speaking distinctly with the lips close to the mouth-piece.

5. All members of the control centre staff must understand that conversation on any telephone (including a direct line) is open to interception deliberate or accidental.

6. Always use the phonetic alphabet when spelling a word. (See Appendix " K " for G.P.O. and British and U.S.A. Armed Forces phonetic alphabets).

57. Hints for Despatch Carriers

1. It is essential that despatch carriers have a sound knowledge of map reading and route finding " without signposts " by day and night, including the quickest route and alternative routes to all depots, posts, etc., within or connected with the civil defence operational organisation.

2. Motor cyclists should not take unnecessary risks when on the road and should remember that fast driving will cause unnecessary wear and tear on machines, particularly on the tyres.

58. Control Centre Exercises

(i) *General*

The object of this part of the training of members of the control centre staff is to teach them to work together as a team. No attempt should be made at first to instruct them in the details of the work of other members of the staff. Such a knowledge is highly desirable, to allow for sickness, temporary casualties and so that they can provide assistance to one another in rush periods, but any changing round of duties should be deferred until each member has become so expert in his own duties that efficient team work is almost automatic.

Although this stage of training must consist of a progressive series of exercises, which should eventually include all persons who would work at the centre in time of war, it is important to postpone until later any exercises in which all the various Civil Defence Sections also play their parts on the ground.

It is important that this training of the staff of a centre should take place in premises which can conveniently be set out as a control centre. If the premises are normally used for some other purpose any difficulties in connection with re-arranging the rooms for training must be faced.

Control centre exercises should rarely last for more than an hour, and should be followed by a discussion at which the personnel taking part can have their attention drawn to any mistakes made.

It is recommended that the exercises should develop as follows:—

Firstly: Exercises without the message room staff.
Later: Exercises for the staff of the complete centre, including message room.

(ii) *Exercises without Message Room staff*

For these exercises, suitable messages to afford practice to the operations room staff should be prepared beforehand, exactly in the form in which they would be delivered from the message room and handed in to the operations room at intervals of time controlled by the officer-in-charge of the exercise. At the outset a single message should be dealt with step by step ample time being allowed for full explanation of the procedure. Gradually the situations revealed by the messages should be made increasingly complicated and difficult to deal with, and the rate at which messages are received should be increased until the staff are hard pressed. It should, however, be remembered that even in war-time the message handling capacity of

the message room will impose limitations on the number of messages received by the operations room. Conclusions which are both discouraging and false may result if the hustling of the staff is pressed to an unrealistic extent at peace-time practices.

During these exercises no actual use is made of the message room telephones, but it is essential to have an experienced person in the message room:—

To produce the prepared " IN " messages as and when instructed by the officer-in-charge.

To receive " OUT " messages originated in the operations room, and after a suitable interval to hand them back with the " Time of Despatch " and " Telephonists Initials " filled in.

To write, and after a suitable delay to produce, any essential replies to unforeseen messages sent out by the staff.

To provide, if the officer-in-charge considers it necessary, any additional information which might have been obtained by means of telephone calls.

As the exercises develop Heads of Sections or their representatives should also attend to fill their appropriate positions in the operations room.

It is important that the officer responsible for arranging operations room exercises appreciates that in war the first reports received at the control centre after a heavy attack will only give a broad picture of the extent and amount of damage. This information will be received from:—

(*a*) Observation Posts or from high ground overlooking the damaged area.

(*b*) Wardens' Posts.

(*c*) Headquarters Reconnaissance Parties.

These reports should give sufficient information to enable the Controller and his staff to form a plan of action and issue deployment orders to the Civil Defence Services.

Although subsequent reports will give more detailed information, it must be emphasised that there will be a considerable time lag before the Controller obtains a complete picture of all that has happened in the area.

As exercises develop the staff must, therefore, be trained to make decisions and draw the correct impressions from information which at first may be incomplete or even incorrect, e.g. conflicting reports from the different reporting agents on the approximate centre(s) and extent of damage, roads blocked, best approach to the damaged area, etc.

The following are some of the problems which messages at this stage could be made to reveal.

(1) Roads blocked between depots and scene of damage to which services are to proceed.

(2) Damage reports giving different descriptions of the same place.

(3) Belated duplicate reports of damage which is already being dealt with.

(4) Report which refers to old occurrence but gives additional information on which action is required.

(5) Reports which at first sight appear complicated or serious but when carefully studied reveal nothing on which immediate action is required.

(6) Inadequate, inaccurate or incorrectly framed messages.

(7) Services after being instructed to proceed to a certain occurrence, either elect or are compelled to stop and deal with other damage en route.

(8) Reports of unexploded missiles.

(9) Damage which should be reported immediately to Group/Zone or Region (e.g. Key or Vital Point).

(10) Total damage exceeds that which can be dealt with immediately by resources available locally.

(iii) *Exercises for the Staff of the Complete Centre*

Exercises in which both operations room and message room staffs take part can be set on the general lines already described for the more advanced exercises for the operations room only. It is, however, important to obtain the co-operation of the Warden Section who might originate damage reports or other messages and send them to the control centre. As the action which will be taken in the operations room cannot be forecast with complete accuracy the messages from wardens cannot be completely pre-arranged in every detail. The officer-in-charge of the exercise may wish to vary the text of certain messages to bring home to the operations room staff the consequence of any omissions or ill-advised action. For this purpose it is a great advantage if all messages sent to the message room are in fact originated from some other place, e.g. Wardens' Post, and arrangements will be required to enable the officer-in-charge to communicate with this place for "stage management" purposes. The simplest solution is for messages to be originated from a place so close to the control centre that the officer-in-charge can give any necessary instructions in person.

At some stage of training, practice should be included in dealing with messages, verbal or written, brought to the centre by despatch carriers, wardens and others. When a verbal report is brought to the centre the person reporting should be carefully cross-questioned to make sure that nothing has been misunderstood or left out. It is less necessary to cross-question the bearers of written reports, provided the report is full and clear, but everyone who brings a report should be kept at the centre till his report has been seen by the message supervisor, in case anything is not clear or additional information is required.

59. Reporting by Control Centres

One of the most important functions of control centres is to keep the next higher authority supplied with such information as is needed to enable action to be taken promptly at higher levels and to make those levels aware of the general position in all areas after attacks. In war the Home Office and/or Regional Commissioners will issue precise instructions as to the kind of information which is required and the priorities for different kinds of messages.

In training in peace time the following guiding principles should be practised and followed:—

(i) The reporting procedure must be flexible so that it can deal with any particular phase of bombing, light, medium or heavy.

(ii) Information which requires urgent action at higher level must be reported immediately (e.g. first bomb, requests for help, suspicion of the use of gas or biological agents, etc.).

(iii) Higher formations must be sent periodic situation reports at reasonable intervals giving a brief summary of the general situation, (including negative information) so that they can judge whether anticipatory action is needed, especially to deal with heavy casualties, large numbers of homeless, etc. The importance of giving early warning of this kind cannot be overstressed since it will enable the authority or authorities needing help to get it much quicker than if they wait till the situation is fully developed and perhaps out of control so far as local resources are concerned.

(iv) Severe damage sustained to vital installations should be reported as soon as possible, e.g. important bridges, power-stations, etc. In judging the need for such reports the effect on the national war effort should be an important criterion.

(v) Routine information should be reserved for the periodic situation reports, and any special summary which may be required every twelve hours. Such reports should avoid unnecessary details and aim only at giving the broad picture. Last war experience showed clearly that far too much detail tended to find its way even up to the highest levels. This is waste of time and may clog up an already overstrained communication system.

If training is based on these principles, it will give a solid foundation for further instruction as and when more detailed guidance on the requirements of modern warfare becomes available.

Practice should include all types of bombing, from minor to the use of the atomic bomb, paying attention, for example, to attacks which develop into those of a saturation nature.

CHAPTER III

RECONNAISSANCE SUB-SECTION

65. Organisation

Each local authority responsible for organising a Division of the Civil Defence Corps will appoint a Chief Reconnaissance Officer (and deputies where necessary) to take charge of the Sub-Section. Where the local authority is divided for control purposes (e.g. in a county borough with Sub-Controls or a county with Sub-Divisional Control Centres) it will be necessary to appoint an Assistant Chief Reconnaissance Officer at each Sub-Control or Sub-Divisional Control Centre. Under these officers the Sub-Section will operate in parties, each under a Reconnaissance Officer. Each reconnaissance party will normally consist of four men including the officer, but their composition can be varied ad hoc according to the task in hand.

Reconnaissance parties will be equipped with wireless and motor transport e.g. of the jeep type. Although they will work from Control and Sub-Control Centres and report direct to the Controller or Sub-Controller they will normally be located at depots situated away from the central target areas.

66. Personnel

Personnel requirements for the reconnaissance sub-section can be considered under two main headings (*a*) general reconnaissance and (*b*) the scientific or technical aspect of reconnaissance.

(*a*) To carry out the type of general reconnaissance which will be the responsibility of the Headquarters Section Reconnaissance Parties (See Manual of Basic Training, Volume I, Pamphlet No. 9, "Reconnaissance and Reporting") will require reasonably fit men, able quickly and accurately to assess the situation, to separate essential from non-essential details and to report the former in concise terms.

(*b*) The scientific or technical aspect of reconnaissance will require the services of people with a scientific background who will be given special training to enable them to carry out reconnaissance duties in connection with A.B.C. warfare.

In addition the Sub-Section will require the services of people with scientific degrees e.g. chemists, physicists or biologists who will receive part of their training under arrangements made by the Regional Scientific Advisers. After successfully completing this training they will be qualified as Technical Reconnaissance Officers and will be responsible for giving technical instruction to those members of the reconnaissance parties mentioned in (*b*) above. It is clearly desirable that the Chief Reconnaissance Officer or one of his deputies should hold this qualification.

67. Functions

During and after an attack, especially an attack with A.B.C. weapons, Civil Defence Controllers will require certain information which can only be obtained by specially trained reconnaissance personnel. The functions therefore of reconnaissance parties will be to collect this information which will be of two kinds; operational and general.

(i) *Operational Requirements*

The object will be to carry out a broad reconnaissance as soon after a heavy attack as possible for the purpose of giving the Controller an overall picture of the general situation, showing the scale and extent of the damage and its probable centre, the fire situation and condition of roads. This report together with the messages sent in by other reporting agents will form the basis of a plan of operations.

If an atomic attack is experienced, urgent information will be required to enable the location of ground zero and the height of burst to be determined. The Civil Defence Controller will also require reports about the extent, if any, of residual radioactivity in order to avoid exposing personnel to unnecessary risk.

If toxic agents have been used an immediate report must be made on the hazard to which personnel in the affected area will be exposed. This information will be required urgently in order to decide on the operational action which may be required. This report should include so far as possible the extent of the areas affected, the wind direction, the intensity of any concentration, and if possible the actual nature of the contamination.

The task of confirming or otherwise the presence of biological agents will be undertaken by the Public Health Laboratory Service who will be called in, if necessary, and will be responsible for the detailed examination of bomb fragments and for the collection of liquid or air samples for laboratory tests. The detection of biological agents is likely to be extremely difficult, and to require the services of a trained bacteriologist.

Reconnaissance parties will be responsible for the identification and/or collection of samples of chemical agents and for providing further information about their effects. In consultation with the Damage Control Officers they will define and mark any danger area.

(ii) *General Requirements*

In addition to the intelligence described above there is a general requirement for accurate and quick information about types of weapons used by the enemy, their effects and other relevant information which would be required both for offensive and defensive purposes. In this connection reconnaissance parties will be responsible for collecting the necessary intelligence. It is important that they should reach the area as quickly as possible before the results of the particular weapon have been obscured as a result of civil defence or other operations, they will also be responsible for the detection and identification of unexploded missiles.

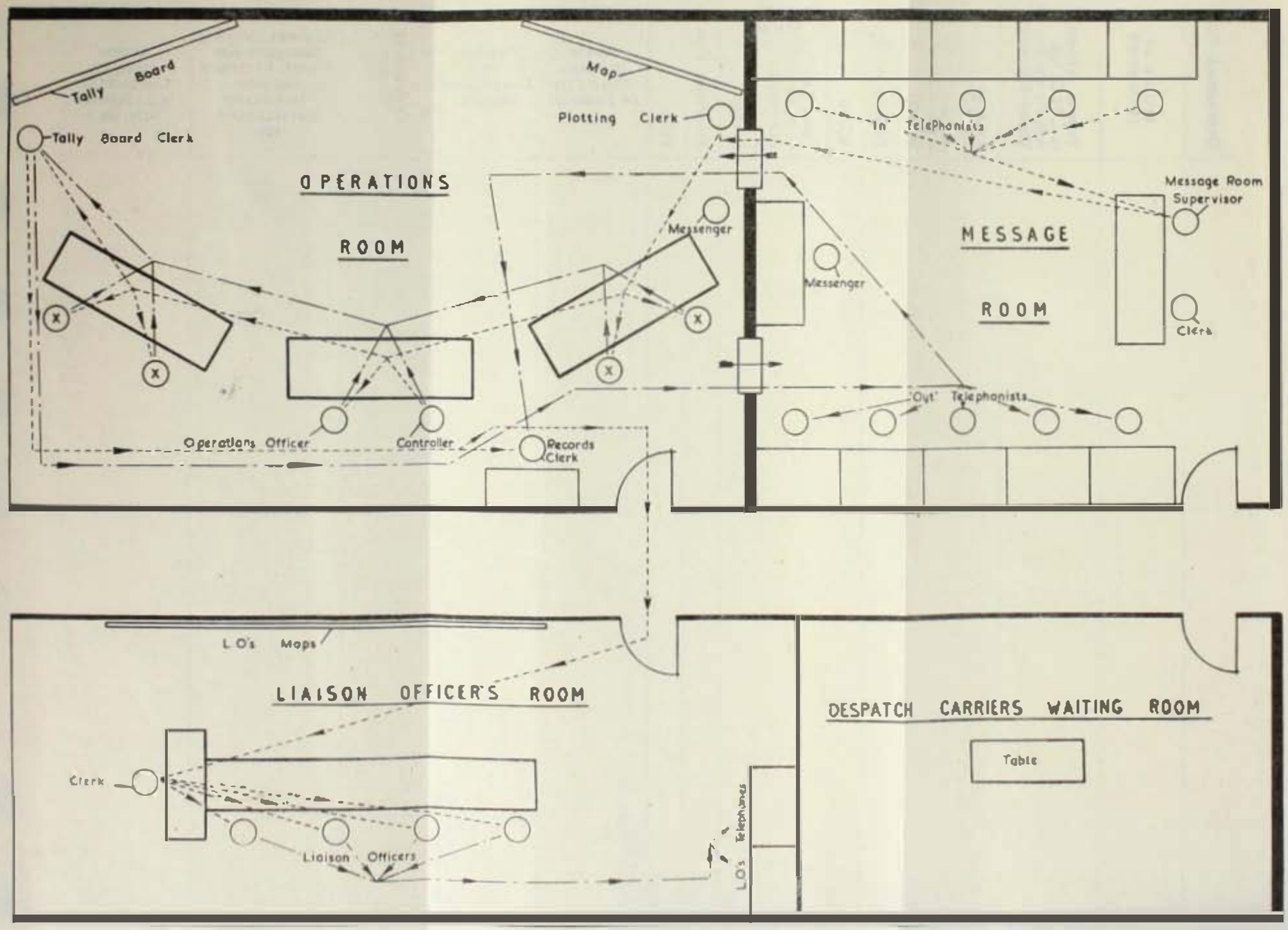
Reconnaissance parties will also be available to carry out other special reconnaissance tasks as required by the Controller, e.g., to clear up any obscure situation, to check and/or amplify reports on which further or more detailed information is required.

68. Training

Technical Reconnaissance Officers will be recruited from persons who already have scientific and technical qualifications and will be given specialised instruction in (*a*) general civil defence duties and (*b*) the scientific aspects of A.B.C. warfare. The other members of reconnaissance units in addition to general civil defence training will be given special training as required by the nature of their duties and will include for example (*a*) reconnaissance and reporting; (*b*) the nature and effects of A.B.C. warfare; (*c*) appreciating any special aspects of bomb damage; (*d*) the location and identification of particular types of weapons used by the enemy, especially unexploded missiles; (*e*) the use of wireless.

APPENDIX A

SUGGESTED LAYOUT OF A CONTROL CENTRE



X Represents Heads of Sections Representatives

PREPARED BY

Occurrence Closed	Remarks including damage to Key Points, Factories and other Important Installations, etc.	Action taken by Controller (e.g., Services Sent, etc.)

APPENDIX C

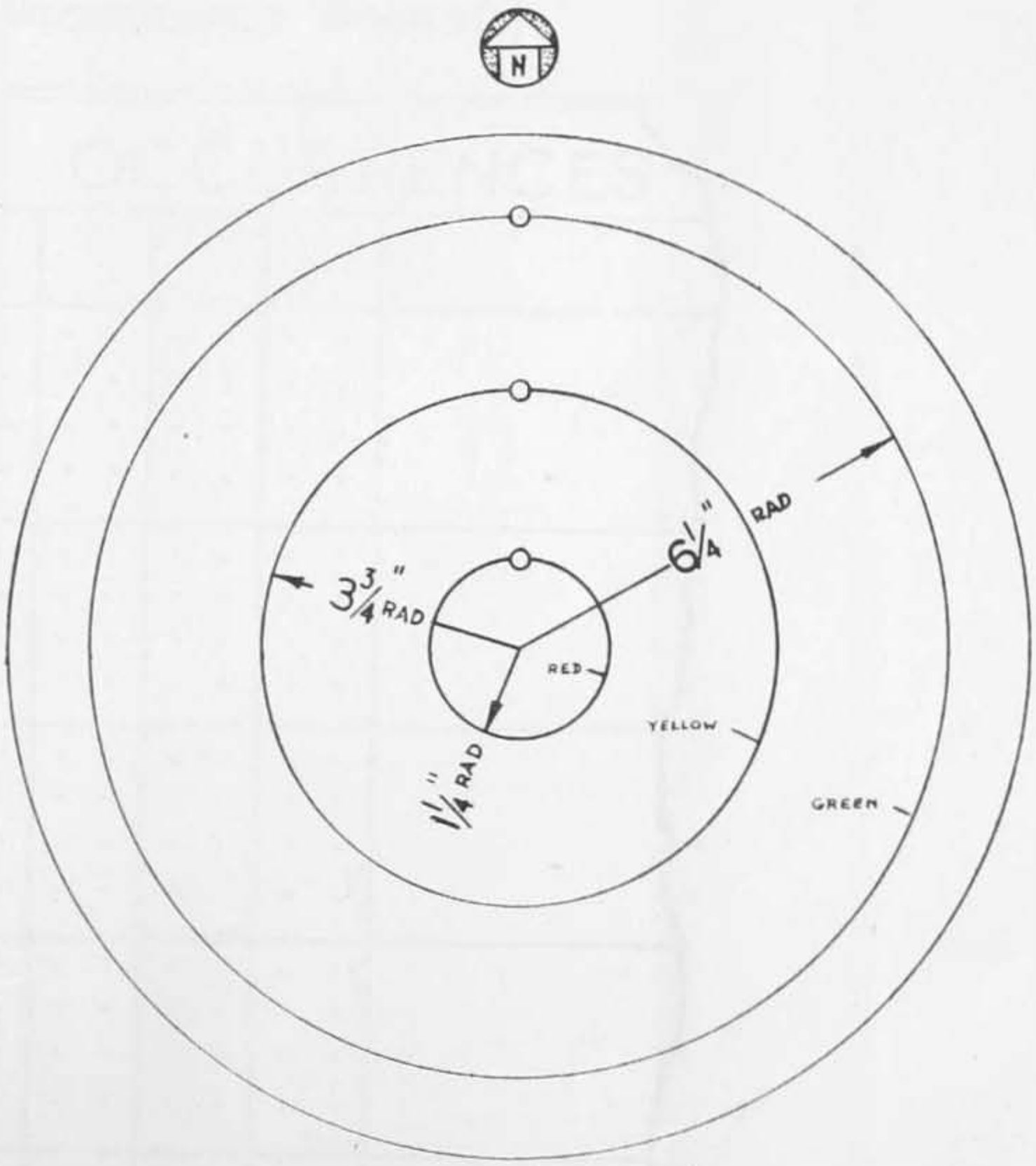
LIST OF CONVENTIONAL SIGNS
TO INDICATE FIXED POINTS ON MAPS

Symbol	Colour	Definition
	Green	Group Control Centre
	"	**England and Wales**—Control Centre for County, County Borough, Metropolitan Borough or Scheduled County District **Scotland**—Control Centre for County Joint County, Large Burgh or combination of these
	"	**England and Wales**—Sub-Divisional Control Centre, Sub-Control Centre of a County Borough **Scotland**—Sub-Control Centre
	"	County District Control Centre
	"	Wardens' Post
	"	Industrial and Commercial Civil Defence Unit
	"	Observation Post
	Red	Fire Station (Further symbols to be proposed in due course)
	Blue	Police Headquarters

Symbol	Colour	Definition
	Blue	Police Divisional Station
	"	Police Sub-Divisional Station
	"	Police Sectional Station
	"	Police Station (other than above)
	Red on white background	Base Hospital
	"	Cushion Hospital
	"	Casualty Transit Centre
	"	Station for Mobile First Aid Units
	Red with white cross	Main Ambulance Station
	"	Local Ambulance Station

Symbol	Colour	Definition
●	Green	Rest Centre
◎	"	Information Centre
○	"	Emergency Meals Centre
▙	"	Public or Communal Shelter (Surface)
▛	"	Public or Communal Shelter (Underground)
▲	"	Civil Defence Depot
⊠	"	Civil Defence Mobile Column Headquarters
×	"	Rendezvous Point

APPENDIX D



Scale : 2½" to 1 mile

RED CIRCLE ½ MILE RADIUS

YELLOW CIRCLE 1½ MILES RADIUS

GREEN CIRCLE 2½ MILES RADIUS

APPENDIX E

SUGGESTED PLAN FOR A HORIZONTAL TALLY BOARD

RESOURCES BOARD

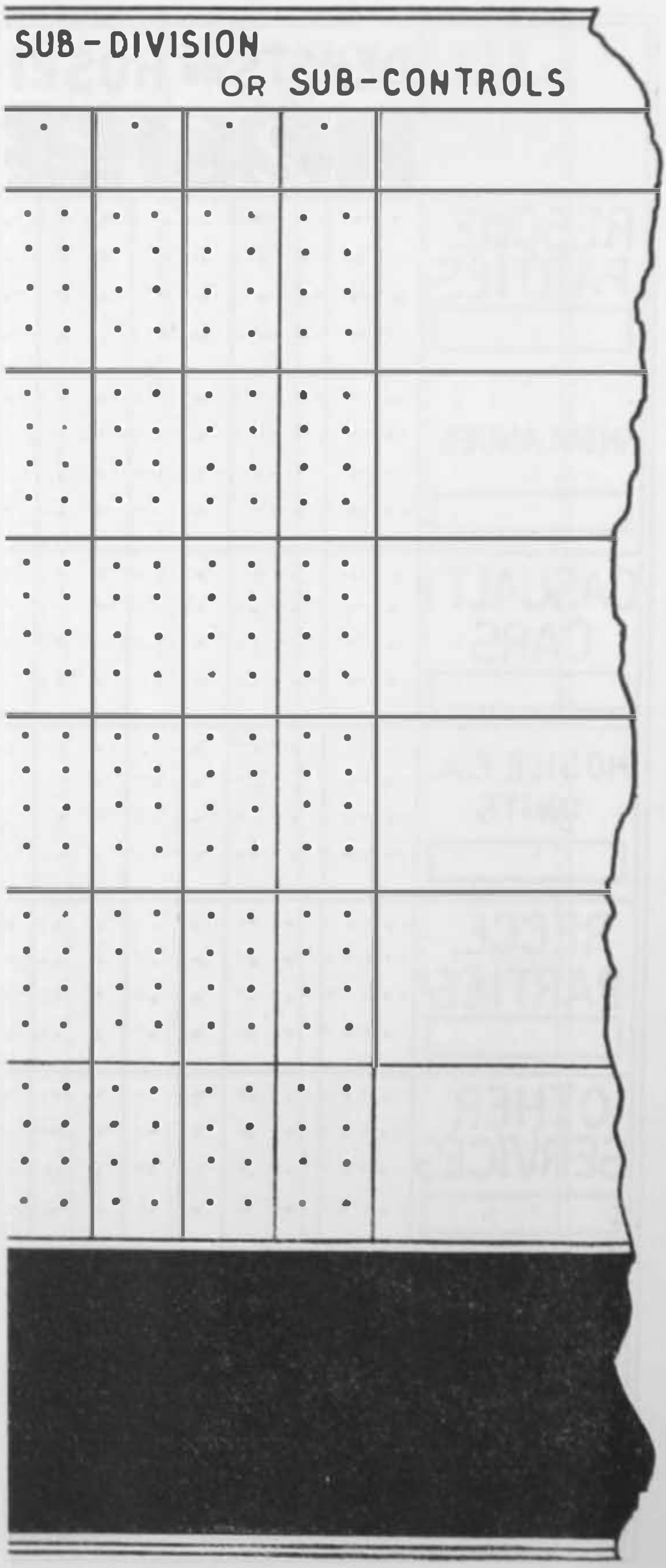
	DEPOTS OR HOSPITALS						REINFORCEMENTS		
							IN		OUT
	1	2	3	4	5	6	ASKED FOR	ARRIVED	
RESCUE PARTIES									
AMBULANCES									
CASUALTY CARS									
MOBILE F.A. UNITS									
RECCE. PARTIES									
OTHER SERVICES									
							D.C.O.		
							FIRE		
							U.X.B.		
							A.B.C.		
							PUBLIC UTILITIES		

OCCURRENCE BOARD(S)

OCCURRENCES				

ARD:

ACTION BOARD



APPENDIX G

NUMBER OF MESSAGE ROOM TELEPHONE LINES (ENGLAND AND WALES)

Population	County Control Centre (*a*)	County Sub-Division Control Centre (*a*) (*b*)	County District Control Centre				Group, *County Borough, *Scheduled County District Control Centre (*a*)	Sub-Control Centres	
			(*d*)						
			Scale A		Scale B				
			IN	(*c*) OUT	IN	OUT		IN	(*c*) OUT
(1)	(2)	(3)	(5)	(6)	(7)	(8)	(9)	(11)	(12)
	One exchange line reserved for communicating with Region, one "general" exchange line per two sub-divisions, plus private lines to Police and Fire County or Divisional HQ and Ambulance Control (where appropriate) if in same town.	One exchange line reserved for communicating with County, one "general" exchange line and one exchange line per two County District Control Centres, plus private lines to Police and Fire County County or Divisional HQ and Ambulance Control (where appropriate) if in same town. If distances are short, private lines to County District Controls in lieu of exchange lines.	One exchange line reserved for communicating with Sub-Division. Private lines to Police and Fire HQ and Ambulance Control (where appropriate) if in same town. In and Out lines as below.				One line reserved for communication with the next higher authority (Region or Group as the case may be). One "general" exchange line, private lines to Police and Fire HQ and Ambulance Control (where appropriate). Group Centres would also have one exchange line (or private line if distances are short) per constituent authority. *Those having Sub-Controls should have one extra exchange line; they should also have one private line for each Sub-Control other than that combined with the main control. *Those without Sub-Controls would have additional telephones as for Sub-Control Centre (cols. (11) and (12)).	One line reserved for communication with parent Control Centre. Private lines to Police and Fire HQ and Ambulance Control (where appropriate). In and Out 'phones as below.	
80,000–100,000			6	6	3	2		6	6
60,000– 80,000			5	5	2	2		5	5
40,000– 60,000			4	4	2	2		4	4
30,000– 40,000			3	3	2	1		3	3
Below 30,000			2	2	1	1		2	2

(*a*) It will usually be possible for the Main Control and the Sub-Control for the area in which it is situated to be combined. The control centre will then require a combined scale of telephones. Thus a County Borough control centre which acts as Sub-control centre for the Sub-division in which it is situated will have the County Borough scale plus the appropriate scale according to population (as indicated in cols. 11 and 12) for the Sub-control.

(*b*) Where a County has no County District Control Centres the Sub-Divisional Control Centres (as they will receive reports direct from wardens, etc.) will need additional telephones, according to population, as shown in cols. (5) to (8).

(*c*) Private lines to important Depots may be provided where specially authorised for each two depots so connected the "out" message exchange lines (cols. (6), or (12)) will be reduced by one, provided that at least one "out" line remains.

(*d*) Scale A will only be provided where specially authorised.

APPENDIX H

NUMBER OF MESSAGE ROOM TELEPHONE LINES (SCOTLAND)

Population	County Control Centre	Sub-Control Centre (County)				Control Centre (Large Burgh)	Sub-Control Centre (Large Burgh)	
(1)	(2)	(3)				(8)	(9)	
	One exchange line reserved for communicating with Zone/ Central Control, one " general " exchange line and one exchange line per two Sub-Controls, plus private circuits to Police and Fire H.Q., if in the same town, or appropriate Station.	One exchange line reserved for communicating with County Control and one " general " exchange line, plus a private circuit to Police Divisional or Sub-Divisional Station.				One exchange line reserved for communicating with Zone/ Central Control, one " general " exchange line, and private circuits to Police H.Q. and Fire Station.	One exchange line reserved for communication with parent Control Centre. Private circuits to Police and Fire H.Q.	
		In and Out Lines as detailed below:				Control Centres having Sub-Controls would also have one private circuit per Sub-Control and one additional exchange line.	In and Out lines as detailed below:	
	See also note (*a*) below.	Sub-Controls in the Zones		Others		See also note (*a*) below.		
		IN (4)	OUT (*b*) (5)	IN (6)	OUT (*b*) (7)		IN (10)	OUT (*b*) (11)
80,000–100,000 ...		6	6	3	2		6	6
60,000– 80,000 ...		5	5	2	2		5	5
40,000– 60,000 ...		4	4	2	2		4	4
30,000– 40,000 ...		3	3	2	1		3	3
Below 30,000 ...		2	2	1	1		2	2

(*a*) In general, a large burgh will be controlled from the main Control Centre; some counties, also, will be controlled directly from the County Control Centre. Such Centres will require a combined scale of telephones (burghs—Cols. (8), (10) and (11); counties—Col. (2) plus Cols. (4) and (5) or (6) and (7) as appropriate). Similarly where a main Control and a Sub-Control occupy the same premises, whether in a county or in a large burgh, the scale of telephones will be found by combining the scales in the appropriate columns.

(*b*) Private circuits to important Depots may be provided, but for each two Depots so connected the " out " message exchange lines (Cols. (5), (7) or (11)) will be reduced by one, provided that at least one " out " line remains.

APPENDIX I

SOME MILITARY ABBREVIATIONS

In Full	Abbreviation
Accommodation	accn.
Acknowledge, Acknowledged, *or* acknowledgement	ack.
Adjutant	adjt.
Administration *or* administrative	adm.
Advance *or* advanced	adv.
Advanced dressing station	A.D.S.
Ambulance	amb.
Anti-gas	A.G.
Anti-personnel	A. pers.
Appendix	appx.
Armour piercing	A.P.
Army Catering Corps	A.C.C.
Army Fire Service	A.F.S.
Artillery	arty.
Atomic warfare	A.W.
Authority *or* authorised	auth.
Bacteriological	bac.
Bailey bridge	B.B.
Bakery	bky.
Base depot *or* bomb disposal	B.D.
Biological warfare	B.W.
Camouflage *or* camouflaged	cam.
Casualty (ies)	cas.
Casualty clearing station	C.C.S.
Casualty collecting post	C.C.P.
Chemical warfare	C.W.
Civil *or* civilian	civ.
Civil Defence	C.D.
Column	coln.
Command, commanded, commandant, *or* commander	comd.
Commanding officer	C.O.
Communication	comm.
Company	coy.
Company quarter-master-sergeant	C.Q.M.S.
Company sergeant-major	C.S.M.
Composite	comp.
Confidential	confd.
Construct, constructed, *or* construction	constr.
Co-ordinate, co-ordinated, co-ordinating, *or* co-ordination	coord.
Corps of Royal Electrical and Mechanical Engineers	R.E.M.E.
Corps of Royal Military Police	R.M.P.
Cross roads	Xrds.
Decontamination	decon.
Depot	dep.
Dispatch rider	D.R.
Detach, detached, *or* detachment	det.
Distribution	distr.
District	dist.
Dock	dk.
Driver	dvr.
Echelon	ech.
Enemy aircraft	E.A.
Equipment	eqpt.
Establish, established, *or* establishment	est.
Estimated time of arrival	E.T.A.
Estimated time of completion	E.T.C.
Estimated time of departure	E.T.D.
Evacuate, evacuated, *or* evacuation	evac.

In Full	Abbreviation
Field ...	fd.
Field dressing station	F.D.S.
Field surgical team ...	F.S.T.
Field transfusion team	F.T.T.
Formation ...	fmn.
Forward *or* forwarded	fwd.
Garrison	grn.
Grave	gv.
Group	gp.
Guard	gd.
Guided missile	G.M.
Headquarters	H.Q.
Helicopter	heptr.
High explosive	H.E.
High Frequency	H.F.
Home Guard	H.G.
Hospital	hosp.
Hour ...	hr.
Hygiene	hyg.
Inch ...	in.
In charge of ...	I.C.
Include, included, including *or* inclusive ...	incl.
Independent...	indep.
Infantry	inf.
Inform, informed, information, *or* for the information of ...	info.
Inland water transport	I.W.T.
Instruct, instructed, instruction, *or* instructor	instr.
Intelligence ...	int.
Intelligence officer ...	I.O.
Intelligence report ...	intrep.
Intelligence summary	I.SUM.
Intercommunication	intercomm.
Junction	junc.
Labour or laboratory	lab.
Leader	ldr.
Liaison officer	L.O.
Line (or lines) of communication	L. of C.
Locate, locating, located, location *or* locality	loc.
Magazine	mag.
Maintain, maintained *or* maintenance	maint.
Maximum	max.
Mechanical transport	M.T.
Mechanical transport officer	M.T.O.
Medical *or* medium	med.
Medical forward treatment unit	M.F.T.U.
Medical officer	M.O.
Meeting point *or* military police	M.P.
Message	Msg.
Meteorological *or* meteorology	met.
Military	Mil.
Minimum *or* minute	min.
Mobile *or* mobilisation	mob.
Mobile laundry and bath company	M.L.B. coy.
Motor *or* motorized	mot.
Motor cycle *or* movement control	M.C.
Movement control officer ...	M.C.O.
Non-commissioned officer ...	N.C.O.
Number	no.
Objective	obj.
Observation ...	obsn.
Observation post	O.P.
Officer	offr.
Officer commanding	O.C.
Officer-in-charge (of)	O.I.C.

In Full	Abbreviation
Operate, operated, operation, operational *or* operator ...	op.
Operation order	O.O.
Organise, organised, *or* organisation	org.
Other rank(s)	O.R.
Park	pk.
Passive air defence	P.A.D.
Periodic intelligence report	perintrep.
Personnel	pers.
Petroleum	pet.
Petroleum filling station	pet. sta.
Pioneer	pnr.
Platoon	pl.
Point	pt.
Portable	ptbl.
Radio telephony	R.T.
Railhead	R.H.
Railway	rly.
Railway traffic officer	R.T.O.
Reconnaissance *or* reconnoitre	recce.
Recover, recovered *or* recovery	rec.
Reference *or* referred	ref.
Regimental aid post	R.A.P.
Reinforcement	rft.
Rendezvous	R.V.
Restricted	restd.
Road	rd.
Royal Army Service Corps	R.A.S.C.
Royal Army Medical Corps	R.A.M.C.
Royal Army Ordnance Corps	R.A.O.C.
Royal Pioneer Corps	R.P.C.
Salvage *or* salvaged	sal.
Second *or* section	sec.
Signal	sig.
Signals despatch office	S.D.O.
Signals despatch service	S.D.S.
Situation report	sitrep.
Squadron	sqn.
Staff officer	S.O.
Staff sergeant	S. sgt.
Station	sta.
Stretcher bearer	S.B.
Tactical reconnaissance	tac.R.
Target	tgt.
Technical	tech.
Telecommunications	tels.
Telegraph, telegraphy, *or* telegraphic	tg.
Telephone	tele.
Temporary	temp.
Top secret	TOP SEC.
Traffic	tfc.
Transport	tpt.
Transporter	tptr.
Unclassified	unclas.
Unexploded bomb(s)	UXB.
Unserviceable	unsv.
Vehicle	veh.
Vehicles to the mile...	vtm.
Vulnerable point	V.P.
Weight	wt.
With effect from	wef.
Workshop	wksp.

APPENDIX J

FIRST REPORT

MESSAGE FORM FOR USE AT CIVIL DEFENCE CONTROL CENTRES

Date	Time at which receipt of message was completed	Telephonist's Initials

Name of Reporting Agent
(e.g. Warden's Post Number).

Position of Occurrence	Time of Occurrence (Approx.)

Type of Damage*	H.E.	I.B.	A	B	C

Damage:—* Severe — Slight

Casualties:—* Many — Few

Roads:—Names of Principal Roads Blocked.

Fires:—* Yes — No

*Delete those NOT reported	Serial No. of Occurrence (For Use in Operations Room)

*DAMAGE REPORT/PROGRESS REPORT CDM.2

MESSAGE FORM FOR USE AT CIVIL DEFENCE CONTROL CENTRES

Date	Time at which receipt of message was completed	Telephonist's Initials

Name of Reporting Agent
(e.g. Warden's Post Number)

Position of Occurrence	Time of Occurrence (Approx.)

Type of Damage*	H.E.	I.B.	A	B	C

Approximate No. of Casualties
(if any trapped say so)

Names of Roads Completely Blocked

Fire Situation

Damage to Mains*—Water, Coal Gas, Sewers, Electric Cables (Overhead, Underground)

*Position of Any—Unexploded Missiles/Suspected Contamination

Remarks

*Delete those NOT reported	Serial No. of Occurrence (For Use in Operations Room)

DAMAGE CONTROL REPORT

Message Form for Use at Civil Defence Control Centres

Date	Time at which receipt of message was completed	Telephonist's Initials

Name of Reporting Agent	Position of Occurrence	Time of Occurrence (Approx.)

		Type of Damage*				
		H.E.	I.B.	A	B	C
Casualties	Trapped	Serious	Slight	Dead	Total	
Cleared ... ... To be cleared ...						

Names of Roads Completely Blocked

Fire Situation

Homeless Situation

Damage to Mains*
- Water
- Coal Gas
- Electric Cables { Overhead / Underground
- Sewers

*Position of any Unexploded Missiles/Suspected Contamination

Damage to Property (State if factories, warehouses, public shelters, food stores or other property including residential)

Services Present

Remarks

*Delete those NOT Reported

Serial No. of Occurrence (For Use in Operations Room)

C.D.M.3

OUT MESSAGE FORM

Date	Time at which despatch of message was completed	Telephonist's Initials

ADDRESS TO:—

TEXT OF MESSAGE:—

TIME OF ORIGIN OF MESSAGE:—

ADDRESS FROM:—	Serial No. of Occurrence (For use in Operations Room)
SIGNATURE (of official authorising the despatch of this " out " message):	

C.D.M.4

MESSAGE FORM

Date	Time at which receipt of message was completed	Telephonist's Initials

ADDRESS TO:—

TEXT OF MESSAGE:—

TIME OF ORIGIN OF MESSAGE:—

ADDRESS FROM:—	Serial No. of Occurrence (For use in Operations Room)

APPENDIX K

PHONETIC ALPHABETS

G.P.O.

Letters	*Figures*	*British & U.S.A. Armed Forces*
A — Andrew	0 — " OH " with long " O "	A — Able
B — Benjamin	1 — " WUN " emphasizing the consonant " N "	B — Baker
C — Charlie	2 — " TOO " emphasizing the consonant " T " with a long " OO "	C — Charlie
D — David	3 — " THR-R-REE " with a slightly rolling " R " and a long " E "	D — Dog
E — Edward	4 — " FOER " one syllable with long " O "	E — Easy
F — Frederick	5 — " FIFE " emphasizing the first consonant " F "	F — Fox
G — George	6 — " SIX " with long " X "	G — George
H — Harry	7 — " SEV-EN " two syllables	H — How
I — Isaac	8 — " ATE " with long "A" and emphasizing the consonant " T "	I — Item
J — Jack	9 — " NINE " one syllable with long " I " and emphasizing the first consonant " N "	J — Jig
K — King		K — King
L — Lucy		L — Love
M — Mary		M — Mike
N — Nellie		N — Nan
O — Oliver		O — Oboe
P — Peter		P — Peter
Q — Queenie		Q — Queen
R — Robert		R — Roger
S — Sugar		S — Sugar
T — Tommy		T — Tare
U — Uncle		U — Uncle
V — Victory		V — Victor
W — William		W — William
X — Xmas		X — X-ray
Y — Yellow		Y — Yoke
Z — Zebra		Z — Zebra

NOTE;

1. All members of the Civil Defence Services will use the G.P.O. phonetic equivalents for letters and figures.

2. At Civil Defence Control Centres where messages are likely to be received from the Armed Forces copies of the Armed Forces phonetic alphabet should be available for reference.

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