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HOME OFFICE
CIVIL DEFENCE

Manual of Basic Training
VOLUME I

**PRINCIPLES OF
DAMAGE CONTROL**

PAMPHLET No. 8

LONDON: HIS MAJESTY'S STATIONERY OFFICE

1951

ONE SHILLING NET

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, His 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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INTRODUCTION

In 1943 a Manual of Incident Control* was published, which represented the accumulated experience of the war up to that period in the best methods of providing for the proper co-ordination of Civil Defence Services at incidents caused by enemy air attack. This Manual was revised and reprinted in 1944.

The advent of the atomic bomb and highly concentrated saturation bombing attacks has out-dated the term "incident control", and instead of having to contemplate a series of incidents often completely isolated from one another, continuous damage extending perhaps over several square miles may be the case in future. For example, 4½ square miles of the City of Hamburg was completely devastated by fire and high explosive bombs in an attack lasting approximately one hour. In Japan an even larger area of Tokyo was burned out in a single incendiary raid; and at Hiroshima the atomic bomb devastated an area of 4 square miles.

In the light of these experiences it has been necessary to consider afresh the technique of "incident control", and it has been decided firstly that the term "damage control" is a more appropriate title and secondly that the old system of "incident control" must be revised and expanded.

The principles on which "incident control" was evolved still remain sound; the problem is to develop them to meet conditions of modern air warfare.

Before undertaking a complete revision of the 1944 Manual it was felt desirable to set out, briefly, the principles of the new technique, so that they could be carefully examined and tried out in exercises on the ground and by means of tactical tables. Damage control represents an important part of the tactics of Civil Defence and in this field much study is still necessary.

As a result of this examination it is hoped to be able to establish a provisional technique firm enough to prepare a new manual or pamphlet. In the meantime, therefore, this pamphlet includes only the very broadest outline of the system proposed, and many of the details of the organisation required are purposely omitted. They will all have to be included when enough information is available to enable at least a provisional manual or pamphlet to be prepared.

*Civil Defence Training Manual No. 4.

INTRODUCTION

In 1945 a number of papers were published which reported the experimental results of the first series of tests on the effect of frequency on the propagation of radio waves. The present series of tests was carried out by the Army Signal Corps in 1946 and 1947.

The object of the present series of tests was to determine the effect of frequency on the propagation of radio waves in the frequency range from 100 to 10,000 cycles per second. The results of these tests are reported in this report. The tests were carried out at the Army Signal Corps Station, Fort Monmouth, New Jersey. The results of these tests are reported in this report. The tests were carried out at the Army Signal Corps Station, Fort Monmouth, New Jersey.

In the light of these experimental results it is suggested that the effect of frequency on the propagation of radio waves is a function of the frequency of the waves. The results of these tests are reported in this report. The tests were carried out at the Army Signal Corps Station, Fort Monmouth, New Jersey.

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CHAPTER I

TACTICAL CONSIDERATIONS

1. Possible Forms of Attack

In any future war the type of bombing experienced might present much the same problems as during the 1939-45 war or the country may be subjected to a scale of attack heavier and more concentrated than any hitherto experienced. The possibility of attack by atomic, biological and chemical weapons must also be considered.

Plans for the system of damage control must therefore take into account the following forms of attack :--

(i) *Scattered H.E. and I.B. Attacks*

These attacks may achieve some measure of concentration but in general would give rise to isolated incidents over the area attacked.

(ii) *Saturation Raids*

A saturation raid may be defined as a concentrated attack upon a town, part of a town or other strategic target, during which the enemy drops the heaviest possible weight of bombs in the shortest possible time with the object of so saturating the target area that the defending forces are quite unable to function and fires, resulting from the bombing, can get well established without interference.

In this type of attack the main damage will be in a defined area which may be large or small ; but the probability of numerous isolated incidents must not be overlooked.

A saturation raid may be carried out by piloted aircraft with normal bomb loads and by rockets or other missiles. An atomic bomb by itself is virtually the equivalent of a heavy saturation raid in its effects.

(iii) *Atomic Bombs*

With the atomic bomb, in its present form, the heaviest blast damage is likely to be found within a radius of $\frac{1}{2}$ mile from ground zero and a considerable number of fires are likely to be caused mainly in a fire ring within an area of $\frac{3}{4}$ -1 $\frac{1}{2}$ miles radius.

Damage of varied degrees may be expected to extend up to 2 $\frac{1}{2}$ -3 miles radius.

In addition to heavy damage from blast and fire a Civil Defence Controller might, in certain circumstances, find some parts of the target area affected by radio-active contamination.

(iv) *Flying Bombs and Rockets*

Experience of the damage done by these weapons in certain parts of this country and Belgium is available from the last war. The lessons already learnt can, therefore, be

applied to meet this danger if it should arise again, but it must be remembered that attacks might, in future, be more concentrated.

(v) *Fire Storm*

Fires may be expected with all types of bombing; but a heavy saturation raid with incendiary bombs is capable of starting a fire storm under certain conditions—an intense conflagration covering a large area—within which Civil Defence Services may not be able to operate for some time. A similar situation may in some circumstances arise from an atomic attack.

(vi) *Heavy Concentration of Gas*

Poison gas of a persistent or non-persistent type, used in conjunction with other weapons, or by itself, remains a formidable weapon and its use by an enemy remains a possibility which cannot be disregarded.

(vii) *Biological Warfare*

No experience whatever is available of biological warfare.

The possibility that measures might be required in the future to counteract this form of warfare must, however, be borne in mind.

(viii) *Tip and Run Raids*

What were known as "tip and run" attacks during the last war may still be expected. Such raids might be carried out by fighters or dive bombers in small or large numbers on coastal towns or on objectives as far inland as maximum range will permit.

2. *The Problem*

Many roads may be blocked by debris and be inaccessible because of fires, and well-known landmarks may have disappeared or be completely unrecognisable.

It is possible that in some of the most heavily damaged areas, the only positive way of locating the position of a shelter or other vital point quickly will be by a personal reconnaissance. The task of evacuating stretcher cases from the area in these conditions will be extremely difficult and access by ambulances may be impossible until a passage has been cleared through the debris.

Each of these different types of attack may produce their individual problems and C.D. Controllers will require early information to enable them to make a reasonably accurate appreciation of the situation over the whole of their areas. This appreciation is essential if the most economic and efficient use is to be made of the available services and adequate arrangements made for the reception and deployment of outside assistance. It is also necessary to ensure that, as far as is practicable, unnecessary or unprofitable risks are not taken by the services due to excessive exposure to any dangerous elements that might be present.

CHAPTER II

DAMAGE CONTROL—PREPARATION

8. General Principles

The technique of Incident Control was developed in the last war to enable the operations of the Civil Defence and other services to be co-ordinated at the scene of damage. Since, in general, the areas of destruction caused in any one raid were limited, no undue difficulties arose on the spot and Controllers and Sub-Controllers were able to maintain reasonably effective Incident Officers so far as this procedure was necessary. It is true that in the February-March raids in London in 1944, the area of damage in any one incident tended to increase, necessitating in some cases, the use of more than one Incident Officer at a single incident ; but this was a matter easily arranged locally.

In future, however, it is essential to plan on the basis that there may be large areas of destruction and heavy damage, and that the war-time methods of local co-ordination while they may still have their application, must also be expanded and revised to meet the new operational requirements.

There are certain fundamental principles on which any system for the co-ordination and control of Civil Defence damage control operations must be based. The most important of these principles are that :—

- (i) The system is an integral part of the Civil Defence Control organisation.
- (ii) Control must be flexible and adaptable to both heavy and light attacks.
- (iii) It must be economic in man-power.
- (iv) It must be simple.
- (v) It must have reliable communications.

The responsibility for the operation of Damage Control will be placed upon the Warden Section of the Civil Defence Corps and the Police.

The principal duty of Damage Control Officers is to co-ordinate the operations of the different engaged and to ensure that there is the closest co-operation with the Police, Fire and, indeed, any other Services ; they must also act as a link with the Controller or Sub-Controller concerned, and are in some respects his operational officers on the spot. This was last war practice. It is considered, however, that under future conditions there will be need for certain additional links between the Controller or Sub-Controller and the local Damage Control Officer. And this is one of the important changes that is proposed. It is believed that co-ordination over wider areas than those covered by the local Damage Control Officer is necessary, and that in some circumstances operational decisions may have to be taken by officers occupying positions intermediate between the Damage Control Officers

and the Controller or Sub-Controller. It is impossible and undesirable to lay down any hard and fast doctrines on this matter. The whole object is to enable the Controllers and Sub-Controllers to conduct their battle successfully and to provide, in cases of emergency, that operational control is maintained, even though those in general command have temporarily, for some reason, ceased to exercise effective control.

It is clear that personnel required to carry out these important duties must be trained in peace time and must make a careful study of their areas and the problems that might be presented.

Certainly under atomic attack and probably under heavy concentrated saturation attack, there will be broadly three types of damage :—

- (a) Very heavy, amounting probably to complete destruction.
- (b) Heavy.
- (c) Light.

Naturally these areas will shade into each other and the pattern may be irregular. But they do provide a useful rough guide. If this is the picture, then the Civil Defence and other forces will have to work their way forward, perhaps by stages, to reach the core of the damage or those areas where their main task will lie.

It is hoped that the proposals put forward in this pamphlet will provide a practical basis on which to study these highly important operational problems. It is again emphasised that the scheme must be considered to be highly flexible and that in operations there would inevitably have to be a good deal of improvisation. But on the basis proposed it is believed that the proper exercise of operational control and co-ordination at all levels could be achieved, though no finality can be reached in this matter until exercises and trials have been carried out on the ground and studies made on a tactical table.

9. Organisation of Damage Control in a Town

(i) *Basis of Organisation*

In the last war control was in most cases exercised centrally and the principle was established that in all towns and cities having a population of 100,000 or over, the area should be split up for operational purposes. In practice this meant that a sub-control was provided roughly for every 100,000 of the population. The areas served by these sub-controls were demarcated on a locally convenient basis, often corresponding to the police divisions.

To meet future conditions :—

- (a) Control may have to be exercised wherever possible from a point outside or on the periphery of a town rather than from the centre or other vulnerable area at which an attack is likely to be directed. This in itself may make necessary the division of a town into Sub-Control areas to ensure efficient control.
- (b) Sub-Control areas within the town should be so arranged that each has a share in the responsibility for the vulnerable or target area, with good communications between that area and the periphery. Control elements of such areas, placed on or near the periphery, are more likely to survive under

the worst conditions and are well placed to maintain contact with the control centre.

- (c) Where the number of Wardens' Posts in the area covered by a Control or Sub-Control is more than can be conveniently handled (i.e. more than six), the area will be sub-divided into Sectors, each containing a number of Wardens' Posts. One Warden's Post in each Sector will be designated as the Sector Post through which reports from each group of Posts should be filtered to avoid congestion at Control or Sub-Control.

It is within this framework that damage control must operate.

In all large areas, whether towns or counties, decentralisation of operational control is essential.

In towns of a population of under 100,000 where the need for sub-controls may not have existed hitherto, exercises and study may reveal the need for some operational break down—possibly as part of the damage control system.

London boroughs present special problems ; but it is considered that the principles proposed can be equally well applied.

In the last war teams of Incident Officers were formed in some cases mainly from the Police and Wardens' Service, and they took charge of incidents *ad hoc* as required. In other cases Incident Officers were provided by Wardens or Police on the spot. It is felt that a tighter system is needed for the future which will form an integral part of the Civil Defence organisation and which can be brought into action automatically.

It seems right again to make use of the Police and members of the Warden Section of the local Civil Defence Division. Training in the basic principles of damage control must form part of the section training of the majority of members of the Civil Defence Corps ; but the police and wardens generally should be trained to a higher standard and selected senior members of both organisations should be trained up to the highest standards and should be capable of assuming local operational control should the need arise.

Whether the Warden Section is organised by the Police or is independent of them will not affect the plan. It should be integrated to the Wardens' organisation. It is suggested, however, that in settling the layout of the Wardens' organisation the principles set out in this pamphlet should be studied carefully, especially the provisions made to interlock adjoining sectors and to provide means whereby gaps caused by enemy action can be discovered quickly and temporarily plugged. One of the greatest dangers will be loss of control at all levels due to lack of information, the scale of damage experienced and the inevitable confusion which is an inescapable aftermath of a severe attack. It is hoped that by means of the damage control system proposed, together with the special reconnaissance personnel in the Headquarters Section working direct to the Controller or Sub-Controller, the situation can be held.

(ii) *Details of the System*

(a) *Wardens' Post Areas*

It has been decided that even in the more heavily populated areas, Wardens' Posts should not be more closely sited than at half-mile

intervals, i.e. so that each post should have a coverage of not less than 160 acres. To have posts more closely sited than this would, in cases of heavy attack, not only tend to clog the reporting mechanism, but would increase the likelihood of posts being knocked out, with consequent disruption of communications, wastage of warden manpower and lack of guidance to incoming services. Despite the wider spacing now envisaged, the Wardens' Post should still be able adequately to fulfil its function as a reporting agency, since, with posts at half-mile intervals, no warden should be more than about ten minutes on foot from the nearest post if telephonic communication were not possible, and assuming that conditions, although difficult, did not completely impede progress on foot. It is not considered necessary to provide Wardens' Posts sufficiently closely sited to give 160 acre coverage throughout all Urban areas. Generally speaking, the more lightly populated areas will be less liable to attack and it is felt that in those parts of a town where the population is more dispersed, there is justification for siting posts at wider intervals, namely one mile apart (giving a post coverage of 640 acres) or two miles apart (giving a post coverage of 2,560 acres).

Density of population is not, however, the only criterion which should govern the siting of Wardens' Posts. Although, in general, it is the more densely populated areas which are most liable to heavy attack, there will inevitably be places where the presence of a special target will make them more prone to suffer attack than the density of population would indicate. A periphery area, for instance, may be entitled on the density of population basis only to 640 acre wardens' post coverage. Nevertheless, because of the presence of an important target, it may well be liable to attack as the more densely populated areas in the centre of the town. For such cases, therefore, it is suggested that the area surrounding a known target should, for purposes of post coverage, be regarded as belonging to the next higher category. Any system of post coverage, however arrived at, must provide flexibility.

(h) Sector Areas

Local factors and features must be considered in deciding the actual boundaries of Sectors, but the following general principles might be found useful :—

- (i) Roads are not normally suitable as boundaries but where a road is used to fix a boundary, the boundary line should be drawn so as to include the houses on both sides of the road in one area. Each Sector should also, if possible, include two good roads leading right through the Sector up to the centre. These roads will be highly important for operational purposes.
- (ii) Rivers, railways and other natural or artificial features provide useful boundary lines and should be used where possible. If located in the centre, for example, of a Sector they may create awkward operational obstacles.

In each Sector there will be a Sector Officer who will co-ordinate Damage Control arrangements. He might be a Police Officer or an officer of the Warden Section. The officer concerned must have one if not two reliefs.

All Sectors must be numbered.

(It may follow in exceptional cases that owing to the size of a Sector, its peculiar features or hazards, or the unusually large number of wardens' posts or wardens allotted to it, there may be the need for Sub-Sectors to be created within the Sector. Where this is decided upon, Sub-Sector Officers will have to be appointed who will work to the Sector Officer. Each Sub-Sector would of course have to be given an identification number.)

(c) Control and Sub-Control

The damage control system as such will end with the Sector Officers who will be operationally responsible to the Controller or Sub-Controller. The system provides for complete cover of the area, and also for the necessary co-ordination. For administrative purposes, the whole damage control arrangements might be focused in the Chief Air Raid Warden or the Chief Constable. Where the Chief Constable is not in charge of the wardens he might nevertheless be made responsible for Damage Control arrangements. This must be left to local decision, with the proviso that some one person must be given the overall responsibility for organising and training this very important operational set-up.

Although the primary task of damage control is to co-ordinate the operations of all services, occasions may arise, as has already been stated, when personnel may have, temporarily at any rate, to assume operational control of their particular Sector. The course of the action and the state of communications will decide. This need must not be forgotten and should be taken into account in selecting persons for the posts of Sector Officers.

The general direction of operations will be the responsibility of the Controller of the local Division, working, where required, through one or more Sub-Controllers.

Sub-Controllers will have charge of a number of Sectors for operational purposes, and requests for reinforcements and other relevant matters will have to be reported to them, and by them to the Controller. Where no Sub-Controller exists, the reports may go direct from Sector Officers to the Controller. Such reports, requests, etc., will, where circumstances warrant it, be routed by the Damage Control Officers to the Sector Officer. These tiers are necessary because it may be possible for these officers to initiate the appropriate action immediately. In any event, they will have a broader view of the situation and are in a better position to advise the Sub-Controller or Controller as the case may be. They will equally be better placed to dispose of reinforcements to the best advantage. An important consideration is the need to avoid overloading communications where in large areas of damage, many reports would otherwise be sent direct to control centre.

Although Controllers and Sub-Controllers must have from which to operate, there will be every advantage if they can also have mobile headquarters. This matter lies outside the scope of this pamphlet; but it is clear that the successful conduct of operations on the scale envisaged can, in many cases, best be done on the spot rather than from some area remote from the field of battle. It may be recalled that, in the later stages of the last war, mobile incident control vans were used with great advantage. And something on these lines may well be valuable in the future.

10. Application of the System to Small Towns

The system described in the preceding paragraphs under (ii) can be readily applied to small towns. The scheme is flexible and can stand even if only some of the tiers are required. In a small town sub-division into Sub-Sectors might not be necessary. If an isolated incident occurred then it could be dealt with by the Damage Control Officer in just the same way as was an incident in the last war. Obviously no more of the organisation should be used than is required for operational purposes, otherwise there will only be confusion and waste of man-power.

11. Operational Maps

It is important, if confusion is to be avoided, that Sector Officers are provided with, and trained in, the use of maps which should be uniform in scale and gridded in accordance with the National grid.

For general operational purposes the 1947 Ordnance Survey maps having a scale of $2\frac{1}{2}$ inches to one mile (1/25,000) are considered to be most suitable. They contain sufficient detail for most purposes, are clear and of convenient sheet size. The whole of Britain is not yet covered by this series, but it already extends over all the more important areas and is being completed in the reasonably near future.

For operations in a town and especially in Control Rooms larger scale maps will be required. The most convenient size must be a matter for local decision. It is essential that all those conducting operations requiring the use of maps have these maps gridded and use the standard grid laid down. The subject of map reading and reconnaissance will, however, be dealt with in a separate pamphlet.

All damage control personnel should have a map of their area and it should have clearly marked on it the positions of fire stations, police stations, Civil Defence Depots and other important and relevant information. Map reference of these points could also be noted on any ungridded plans or maps of the area and used in reports.

CHAPTER III

DUTIES AND RESPONSIBILITIES OF DAMAGE CONTROL

17. Avoiding Confusion

The efficient operation of all Sections of the Civil Defence Corps will depend, to a considerable extent, on sound damage control arrangements. Unless the work of all those engaged is properly co-ordinated great confusion will be caused, as experience has shown. Furthermore, once operations have started, damage control will be one of the most important channels of communications with Controllers and Sub-Controllers.

Normally, damage control should only operate so long as there are casualties in the area concerned. It may, however, on occasions, due to special circumstances, be found desirable to maintain damage control, or some part of it, after all casualties have been dealt with. No hard and fast rule can be laid down and circumstances at the time will dictate the policy.

Once damage control has been withdrawn it will be the duty of Police or Wardens to supply any information required or to take any further action necessary during any site clearance or restoration work.

18. The Damage Control Officer

The Damage Control Officer should automatically go out as soon as possible without waiting for instructions. Until he arrives it will be the duty of the Police or Wardens to report the damage and set up a damage control post. It is for this reason that all such personnel should be trained in the basic elements of this system.

When the Damage Control Officer arrives he will take over and be responsible for the co-ordination of all elements of the Civil Defence Corps allotted to his area. He must co-operate most closely with Police and Fire Services.

Party leaders and others in charge of Civil Defence units will always retain full responsibility for the technical operations of their units. The Damage Control Officer will, however, in consultation with them, be responsible for indicating priorities and deal with such other matters as may be necessary for the orderly and efficient conduct of operations.

It may well be that in any Wardens' Post area there will be need for a number of Damage Control Officers to go into action. The partition of the area should be planned beforehand and, subject to adjustments to meet the situation created, officers should be ready to take post. The Sector Officer, in consultation with the Post Warden, should normally be responsible for the allocation of areas which should each bear an identification letter and/or number.

The Damage Control Officer will on arrival :—

- (i) Select a suitable site for use as his headquarters, which should, if possible, be under cover and clear of smoke and dust but

easily accessible to incoming services. This headquarters will be identified by a pennant by day and blue light at night. The Damage Control Officer will wear a light blue helmet cover. Immediately the site is selected, Sector Headquarters must be notified of its location.

- (ii) Arrange for a deputy and the services of personnel to act as clerks to keep the necessary records.
- (iii) If there is a fire situation, see that the fire has been reported and contact is made with the nearest Fire Service control point to inform them of the general situation and get an appreciation of the fire situation and the probable course of fire operations. This information is essential before arranging the Civil Defence operations.
- (iv) Arrange for a rapid survey of the area in order that he can prepare his operational plan. It is important that once the headquarters has been set up it is not left unattended.
- (v) Despatch to the Sector Officer the Damage Control Report for the area, as set out in Appendix A, as soon as the required information has been obtained.
- (vi) Request the Wardens' Post to mobilise any local help available, if this has not already been done. Urgent requirements will probably be for messengers and guides for the Damage Control Officer and to reinforce the Wardens in immediate action in the damaged area.
- (vii) In co-operation with the Police select suitable sites as ambulance loading points and parking grounds for rescue and other Civil Defence vehicles, having special regard to any Fire Service operations which must normally have priority. Sites selected should, if possible, be up wind and free from smoke or contamination. In the case of ambulances it is important to keep the carry for stretchers as short as possible whilst avoiding the necessity for ambulances to pass over debris after loading. If the area roads are impassable it may be necessary for Sector Officers to arrange central loading and parking points to serve a number of damage control areas.
- (viii) See that arrangements are made for the evacuation of walking wounded, old people, children and others who cannot be usefully employed in the area. It is important this movement is kept under proper control and routed so that such people will not interfere with incoming Civil Defence or other services. If possible, the names, addresses and probable destination of these people should be recorded at the damage inquiry point if one has been set up by a Warden. Time should not be wasted on this record if there is heavy damage as these people will have to be collected and dealt with outside the damaged areas where the necessary particulars will be secured. The object of this information is primarily to assist rescue parties and others in their work and enquiries should be directed to this end. The Damage Control Officer channel through which any such information should be received from, or passed to, the damage control inquiry point, if one has been set up.

Walking wounded must be directed to the nearest place where they can receive attention and told the routes to follow. It may be necessary to send someone with them.

- (ix) Inform ambulance attendants of any alterations in the hospitals or first aid posts to which casualties are to be taken. Ambulance attendants are responsible for getting information beforehand as to the hospitals they serve.
- (x) Make arrangements for the reception of services. On arrival of Civil Defence Corps units, the Damage Control Officer, after consultation with the leaders, should indicate priorities and spheres of action, give also the position of loading points and any other relevant information as to the situation, including the disposal of the dead and the safe custody of valuables.
- (xi) Keep a record of the deployment of services. (Appendix B.)
- (xii) Ensure that all requests from leaders for reinforcements or help from Technical Officers are despatched with the minimum delay. All such messages should be sent on message form C.D./M3. (Appendix C.)
- (xiii) At frequent intervals send Progress Reports to Sector Headquarters.
- (xiv) Maintain close liaison with the Fire Control Officer.
- (xv) Pass on information about water supplies in the vicinity to the Fire Service.
- (xvi) Arrange reliefs for services as necessary.

The details of the Damage Control Officer's duties given above are not necessarily exhaustive. They are intended as a guide to the most important aspects of his work.

19. The Sector Officer

The Sector Officer is responsible for the co-ordination of all damage control operations in his area. He is also in charge of all damage control personnel in his Sector.

His main duties may be summarised as follows :—

- (i) To select and man a headquarters if this has not already been done.
- (ii) To report immediately to the Controller or Sub-Controller that Sector Headquarters is in action, giving location.
- (iii) To contact all Damage Control Officers in his Sector, inform them of the location of Sector Headquarters and receive their appreciations and reports.
- (iv) To ensure that the Damage Control Officers are functioning in areas which have sustained damage and arrange for replacements or reinforcements if necessary.
- (v) To keep the Controller or Sub-Controller informed of the situation by sending Damage Control and Progress Reports. (Appendices A and C.)
- (vi) To select rendezvous points, parking areas, and assembly points for the homeless and arrange for the manning of these points as necessary. If damage is very extensive and roads are obstructed, to arrange loading points to serve several damage control areas as necessary.

- (vii) To direct services to the Damage Control Officers and arrange for guides as necessary.
- (viii) To keep a record of deployment of services. (Appendix B.)
- (ix) To arrange reliefs for Damage Control Officers.
- (x) To ensure continuous manning of Sector Headquarters.
- (xi) To maintain liaison with adjoining Sector Officers so that he may know the general situation in neighbouring areas, especially any circumstances likely to affect operations in his area.

(Where Sub-Sector Officers are necessary, similar duties will fall to them, but they will work to the Sector Officer instead of the Controller or Sub-Controller.)

It has been stressed that the main purpose of damage control is to co-ordinate the operations of the Civil Defence Corps units, and to ensure close co-operation with the Police and Fire Services and, indeed, any other forces operating on the ground. The general operational control of the Civil Defence forces remains vested in the Controller; the Chief Constable and Chief Fire Officer are similarly responsible for their own forces. It is possible, however, that due to interruption of communications or other hazards of war, central control may become temporarily inoperative. Sub-Controllers and Sector Officers must be prepared, therefore to assume operational control of all Civil Defence units in their areas and to delegate such control to subordinate Officers if required. Police and Fire Officers would act similarly in these circumstances. It will be vital that these Officers maintain the very closest co-operation if all the forces engaged are to be employed with the greatest efficiency. In an extreme case any one of these senior officers might have to take control of all the forces temporarily. Conditions at the time must dictate the right course of action. But training to meet all these conditions must be carried out in peace-time and the object must be to ensure that at all times and by whatever means are available operational control must remain effective.

20. Contaminated Areas

Special precautions will be necessary in gas contaminated or radio active areas and full instructions will be issued in due course.

Radio active contamination may vary considerably in degree over an area and the action necessary may have to be decided on a local basis.

In these circumstances the Damage Control Officer, in consultation with members of the Headquarter Section reconnaissance parties, will be responsible for marking of danger areas of contamination and deciding how long parties may safely work in particular areas.

CHAPTER IV

PLAN OF OPERATIONAL CONTROL

26. Life-saving Battle

It is an established fact that no battle can be fought successfully unless the commander can appreciate the situation quickly and with reasonable accuracy.

A rapid appreciation of the situation is no less vital to the Civil Defence Controller (who is fighting a life-saving battle) than to commanders of the Armed Forces in active contact with the enemy.

After an atomic bomb or saturation raid has taken place there will be a natural and human tendency by the services in the more lightly damaged areas to regard their own problems as the most urgent, requiring immediate and large scale assistance ; furthermore, there must be an inevitable delay in receiving information from the heavily damaged parts of the area.

Such a situation, if not carefully controlled, might result in the available resources being dissipated and wrongly employed.

27. Operational Use of a Template

In order that the Local Controller may obtain a rapid appreciation of the damage sustained after an atomic attack, a template will be found most convenient. This can be made up locally, but it must be marked to the scale of the map or chart used. The example in Plate I is to a scale of $2\frac{1}{2}$ 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.

Immediately the approximate centre of damage or its general direction is known (this information may have been received from observation posts, ground zero detectors or other sources), the centre of the template should be placed on the centre of damage and three circles drawn ; this may be done by the insertion of a pencil point in the three holes drilled along the N line ; these circles will give the varying degrees of damage sustained. It must be realised that this is a rough-and-ready method of obtaining a first appreciation of the damage picture, with the areas likely to be affected by blast, heat flash and gamma flash, but it should provide a useful guide to the Local Controller in making his first moves and dispositions and in ascertaining which of the sub-controls is most likely to be most seriously affected.

The template helps him to visualise the extent to which his Damage Control system must be brought into operation at the outset, with the variations in its deployment necessitated by the indication of the Sectors and Wardens' Posts most likely to be out of action. (Plate II. This illustration is only used as a guide and does not give the actual number of Posts or Sectors to a particular area. For convenience the centre of the town has been taken as the central target area.)

The final shape of the damage will only be known when full reports have been received and co-ordinated. The final shape may well be as shown in Plate III.

It will be clear, therefore, that to obtain this final assessment, all officers forming the links in the chain of Damage Control must collect, co-ordinate and pass on immediately to the next senior officer all relevant information concerning the situation in their areas.

28. Priority of Information

In an area where the damage is very severe and widespread, the Local Controller has to set life saving operations in motion at the earliest possible moment and cannot await receipt of detailed reports before making his preliminary dispositions, but he must, however, be in possession of sufficient information for him to form a plan of action and issue deployment orders to his services,

Consequently he will first require a broad picture which will tell him :—

- (a) The estimated location of the centre or centres of damage and the approximate area affected.
- (b) Areas suspected of being contaminated by radioactivity, poison gas or other toxic agents.
- (c) Location of any major fires or fire storm areas.
- (d) Condition of principal roads leading into the area.

29. Reconnaissance

Headquarter Section reconnaissance parties working under and reporting direct to the Local Controller either by wireless or through the operational channel of communications, will be available to carry out a broad reconnaissance just after a heavy attack for the purpose of giving the Controller an overall picture of the extent of damage. Their reports, together with the reports sent in from Wardens' Post areas, will form the basis of a plan of operations.

The duties of reconnaissance parties will be set out in the Home Office pamphlet entitled "Reconnaissance and Reporting".

30. Movement of Services

As soon as he is aware of the approximate centre of damage, the Local Controller will be able to plan the deployment of the forces under his command, although he may have to await more detailed information as to state of roads, etc., before deciding on the movement of vehicles.

Should it become necessary to summon outside reinforcements the Local Controller will indicate rendezvous points at which such reinforcements will report and arrange for the provision of guides.

31. Plotting of Actual Damage

From the information received the Local Controller will be able to build up a picture of the situation and plot the damage on his operational maps.

32. Procedure to be Taken When a Sector Post is Out of Action

Some of the Sector Posts may be situated in what proves to be the centre area of damage and they and the personnel who serve them may be put out of action.

This will not affect the general arrangements as it will be the Controller's or Sub-Controller's responsibility to arrange for control to be taken up by the personnel of adjoining Sectors where damage and casualties may be on a lighter scale.

33. Transmission of Reports and Messages

The methods by which reports and messages should be forwarded will be dealt with fully in "Reconnaissance and Reporting", but it must be remembered by all concerned that speed and accuracy are the governing factors at all times.

If information is sent by messenger he should, on his arrival, be in a position to supply first-hand information on the condition of important roads en route.

34. Control at Vital Points

Large and important factories, power stations and other undertakings which are vital to the war effort will normally be responsible for operations in their own premises, though they may be regarded as forming a part of, or co-operating closely with, the local services.

Industrial Civil Defence and Damage Control Officers will maintain the closest possible contact at all times with the local Civil Defence Services and may in certain circumstances and by mutual agreement with the Industrial Controller be asked to operate in accordance with the general plan of the Local Controller.

35. The Need for Careful Allocation of Services

At a time when heavy calls for services and reinforcements are being made, very careful allocation of services is essential, if they are to be put to the most economic use.

Damage Control Officers will be conversant only with the situation in the comparatively small areas in which they are themselves operating. The Sector Officer, on the other hand, should know the situation throughout the whole of his Sector and be in a better position to decide where help is most urgently needed. For this reason Damage Control Officers should not normally make specific requests for services—their duty being to report fully on the situation in their areas. Where these reports are made to the Sector Officer it will be for the Sector Officer to decide what Civil Defence reinforcements to ask for and their allocation on arrival. Sector Officers when asking for services must also give a damage picture so that services can be distributed by the Controller to the best advantage over the whole area.

Technical Officers and Leaders of Parties requiring reinforcements or additional equipment will inform the Damage Control Officer, who will forward on the request immediately. The source of the request should be stated.

36. Requests for Services

Reports of fires will be made direct to the Fire Service who will

be responsible for the supply and operational control of appliances. The Control Centre must also be informed.

As soon as possible the Sector Officer will report the damage to Control or Sub-Control and state what assistance he requires from the Civil Defence Corps. In reaching this decision he will be influenced by the urgency of his needs. For example—people trapped in a burning building would require immediate help, whilst the recovery of the dead from another building could well be postponed. Only requests for urgent help should be made in the early stages and less important demands should be left until priority requirements have been met.

It is important that Damage Control Officers make use of all available local resources since there can be no guarantee that their requests for assistance will be met either in part or in whole.

37. Rendezvous Points for Services

When asking for assistance the Sector Officer will name the position of the rendezvous point at which services are to report. A map reference may be essential if other easily identifiable means of recognition have disappeared. The rendezvous points may not necessarily be on the same site as that chosen by the Sector Officer for his own headquarters.

Sector Officers will ensure that parties allotted to them are met on their arrival and that their leaders are directed without delay to the Damage Control Officer in whose area they are to operate.

Guides should be provided with written instructions and orders of priority for the allocation of parties to individual Damage Control Posts. Guides should report back to Sector Officers that these dispositions have been carried out.

38. Disposition of Services by Sector and Damage Control Officers

The main consideration in the deployment of services will be to cover the most important sites of damage as quickly as possible. Operations will consist of:—

- (a) The rapid distribution of services throughout the area.
- (b) The collection and dispatch of casualties by ambulance.

It must be remembered that services may have been sent to the rendezvous point with no precise information of their tasks and must be notified of the places at which they are to operate and the best routes by which to get there. Guides must be supplied where necessary.

Orders for deployment should be prepared by the Sector Officer pending the arrival of services, and instructions for the tasks they are to carry out will be given to the leaders of parties by the Damage Control Officer upon their arrival at the Damage Control Post.

Damage Control Officers will be responsible for seeing that a log is kept showing the time of arrival of each Party, where it is employed and time of dismissal, together with any other important facts connected with the operations. (See Appendix B.)

A similar Log Sheet is used by Sector and Sub-Sector Officers.

CHAPTER V

IDENTIFICATION MARKS

44. Need for Uniformity

In view of the probability of long distance reinforcements and co-operation with the Armed Forces it is important that Civil Defence identification marks should be uniform throughout the whole country.

The best distinguishing marks for Damage Control by day and night can only be ascertained by trial under varying conditions.

So far as individual markings are concerned it must be appreciated that Damage Control will not form a separate organisation and responsibility for carrying it out will fall on officers in the Warden Section or the Police. It is necessary, however, that these officers should have appropriate distinguishing marks during the periods they are carrying out these duties. These will take the form of a light blue helmet cover with the title indicated thereon, i.e. "Sector Officer", or "Damage Control Officer".

Damage Control H.Q.s will be similarly indicated by day by a light blue pennant with the appropriate marking "Sector Officer H.Q." or "Damage Control Officer H.Q.". By night these H.Q.s will be indicated by a light blue hurricane lamp, Sub-Sector H.Q. (where necessary) and Sector H.Q. being distinguished by one and two red rings respectively.

These markings, which will be regarded only as a basis for tests and exercises, may show what additions, alterations, or improvements may be necessary.

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CHAPTER VI

PARKING OF VEHICLES

50. Plan of Operation

The proper arrangements for the parking of Civil Defence vehicles at the scene of damage is a matter of first class importance. This draft is, however, at this stage intended to give only the outline of the principles of the damage control system so that trials may be carried out. It will then be elaborated to contain full details of all requirements. For this purpose, therefore, the arrangements given in Chapter VIII of Civil Defence Training Manual No. 4 "Incident Control" reprinted 1944, will be held to apply. Although out of date in respect of certain terminology, it represents the general scheme under which parking and marshalling should be carried out.

A plan of operation should be prepared prior to the arrival of services with the following broad requirements in view :—

- (i) The selection of a suitable loading point for casualties from which ambulances can have clear egress after loading without passing over debris or fire hose. Subject to this requirement the point should be as near the damage as possible to reduce stretcher-carrying to a minimum. When this has been done a parking ground for ambulances giving convenient access to the loading point can be decided upon.
- (ii) The selection of an alternative entry for other services which will not obstruct the loading point or interfere with ambulance working.
- (iii) Arranging for all Civil Defence vehicles to be halted at a point or points where they can be sorted and directed as above and someone placed in charge with clear instructions.

CHAPTER IV

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CHAPTER VII

PERSONNEL

56. General Requirements

The number of damage control personnel required to deal with a large area of damage will depend on the following factors :—

- (i) The density of the built-up area.
- (ii) Number of shelters.
- (iii) Type and construction of dwellings.
- (iv) Time of attack.
- (v) Number of vital points.

Factories employing large staffs will, normally, have their own Civil Defence organisations, including Damage Control and Reconnaissance Officers ; it is important, however, that members of the local organisation should contact their opposite numbers in the factory, to find out the situation and if help is required. The Civil Defence organisation in factories should conform to the general pattern so as to facilitate co-operation in the general tactical plan.

Small works, not large enough to have their own organisation, but still engaged on vital production, will be the direct responsibility of the local organisation, as with an institution, i.e. schools, hospitals, etc.

57. Earmarking of Damage Control Personnel

It is clear that under circumstances of major damage—heavy saturation or atomic attack—the number of personnel required for damage control must be considerable ; they must be well trained and possess good local knowledge.

It will be impossible to provide a separate body of men and women for this task and the main responsibility will fall on the Police and the Warden Section.

In the first instance, up to 25 per cent. of the Warden Section in any Division of the Civil Defence Corps should be fully trained in these duties, and the remainder in the basic elements. As time goes on this percentage of fully trained personnel should be increased.

A suitable proportion of Police will be trained in damage control, and Fire Service Officers will be instructed in the duties and functions of the Damage Control Officer and routine methods of co-ordination. The elementary principles of damage control must be known to all personnel connected with Civil Defence operations as well as to members of the Armed Forces.

Quite a simple incident may require the attendance of a Damage Control Officer over long periods, so provision must be made for reliefs.

When considering the effects of modern bombing, i.e. saturation, atom, etc., and the large area of devastation likely to be caused, it is clear that the figure of 25 per cent. may not be sufficient and the

necessity for training further personnel capable of carrying out damage control duties is an important matter. Whether or not a percentage of the damage control personnel shall be withdrawn to depots on the periphery of the target area to act as a pool for replacement or reinforcement will be a matter for local decision.

By the use of selected members of the local Warden Section or Police as Damage Control Officers, no wastage or overlapping in manpower will arise and an additional advantage is obtained in ensuring that trained personnel are always available in the vicinity when required.

CHAPTER VIII

DAMAGE INQUIRY POINTS

63. Functions of a Damage Inquiry Point

Experience in the last war showed the importance of establishing an Inquiry Point at the site of any major damage to act as the focal point for all types of enquiries.

- (i) To relieve the Damage Control Officers of enquiries from the general public.
- (ii) To pass on to the Damage Control Officer any information which might be of use to the services working on the spot.
- (iii) To receive from the Damage Control Officer or other source and pass on to the general public any information which might relieve their anxiety or help them in distress, thereby assisting in restoring morale.
- (iv) To undertake such other duties as the Damage Control Officers may request, such as taking in and listing personal belongings and valuables for delivery to the Authorities at the Town Hall, or other designated place, for safe custody.
- (v) To provide escorts to accompany relatives to hospitals and mortuaries and guide stragglers to Rest Centres, Billeting Offices, First Aid Posts, etc.

64. Setting up of a Damage Inquiry Point

The Damage Control or Sector Officer should choose the site for the D.I.P. and inform the Officer in charge of the D.I.P. team. This team will normally be supplied by the Welfare Section but in their absence or pending their arrival their tasks will be carried out by Wardens or the Self Help Service. The D.I.P. should be set up immediately and should continue in operation as long as required.

A D.I.P. may be set up in each Damage Control Officer's area or, if more convenient, the Sector Officer may arrange for a central D.I.P. to serve several such areas.

The D.I.P. requires under-cover accommodation if possible and might be set up in a house or other suitable building.

If occasion warrants, the Point can later be transferred to a larger building.

Arrangements should be such that, if possible, inquirers should come in one way and go out another. Whoever is responsible for the D.I.P. organisation must be informed immediately through the Local Controller where D.I.Ps. have been set up so that staff may be sent to man the points if local personnel are insufficient.

If the area of damage is great, necessitating enquirers coming some distance, or if congestion occurs in or around the D.I.P. the Damage Control or Sector Officer may give instructions for one or more additional D.I.Ps. to be opened. In this event arrangements must be made for co-ordination of all information received. The D.I.P. organisation will arrange for this co-ordination at all levels.

65. Personnel

A fully-trained officer will be in charge of the D.I.P. at each level and she will have a deputy and a trained team of workers with reserves sufficient to man the point for as long as it may be required.

66. Messengers

It is important that messengers should be provided to act as runners between the Inquiry Point, the Damage Control Officer, Sector Officer and other points from which lists or information have to be obtained or to which information has to be taken.

67. Information

Arrangements will be made for particulars from Mortuary, Hospital, and First-Aid Post Casualty Lists, as well as from Rest Centre Lists, to be made available to the D.I.Ps. concerned at the very earliest possible moment.

The Officer in charge of the D.I.P. will see that the point is provided with a General Information Sheet, containing, for example, addresses of Information Centres, but information in connection with the damage area, i.e. loading points, etc., must be provided through the Damage Control or Sector Officer.

68. Records

Experience has shown the necessity of keeping the records as simple as possible and in such a manner as to ensure quick and ready reference. It is important that every query, however trivial, should be noted together with the reply given and care must be taken to ensure the correct sequence of enquiries and answers.

Information regarding casualties and homeless received from Damage Control Officers should be co-ordinated by the Records Section of the D.I.P. It may be necessary to send messengers from the Point to Rest Centres, Shelters, Police, etc., or to secure from the Damage Control Officer such information as :—

Names of killed.

Names of casualties, where they are found and where sent.

Names of people in Rest Centres or billets.

Address of Rest Centre or Centres in use.

Position of First Aid Posts being used.

Dangerous Areas.

Any special information.

These duties will be carried out in co-operation with the Police and will in no way conflict with any Police responsibilities.

It is important that any information obtained should be passed back to the Damage Control Officer without delay.

69. Log Sheets

A specimen Log Sheet is shown in Appendix " E " and the following points should be noted :—

- (i) Each person involved should be entered on a separate log sheet.

- (ii) The log sheets will be filed alphabetically under the name of the person involved.
- (iii) In the first column should be inserted the time of first information or inquiry made.
- (iv) The latest information should be recorded on log sheet as received.
- (v) Action taken in regard to inquiries should be stated in the last column.

70. Information Centres

The Damage Inquiry Point is operational and is not intended in any way to usurp the functions of the Local Authority Information Centre nor those of the Citizens' Advice Bureau. Contact should be maintained between all these sources of information. It is possible that forward units of either of the above may be set up near the sites of damage if distances are great. It is important that the D.I.P. is in possession of the location and times of functioning of these Centres.

71. Emergency Feeding

When emergency feeding arrangements are operating the approximate time of distribution of food must be secured and made available to enquirers at the D.I.P.

The first part of the paper will be devoted to a general discussion of the problem of the origin of life. It will be shown that the origin of life is a problem of the first importance, and that it is one of the most interesting and important problems of the present day.

The second part of the paper will be devoted to a discussion of the various theories which have been advanced to explain the origin of life. It will be shown that the most plausible of these theories is that of the origin of life from non-living matter.

The third part of the paper will be devoted to a discussion of the evidence which has been accumulated in support of the theory of the origin of life from non-living matter. It will be shown that this evidence is of a very convincing nature, and that it is in complete agreement with the theory.

The fourth part of the paper will be devoted to a discussion of the various objections which have been advanced against the theory of the origin of life from non-living matter. It will be shown that these objections are of a very unconvincing nature, and that they are in complete disagreement with the theory.

The fifth part of the paper will be devoted to a discussion of the various conclusions which can be drawn from the evidence which has been accumulated in support of the theory of the origin of life from non-living matter. It will be shown that these conclusions are of a very convincing nature, and that they are in complete agreement with the theory.

The sixth part of the paper will be devoted to a discussion of the various implications which can be drawn from the theory of the origin of life from non-living matter. It will be shown that these implications are of a very important nature, and that they are of a very far-reaching character.

The seventh part of the paper will be devoted to a discussion of the various questions which remain to be solved in connection with the theory of the origin of life from non-living matter. It will be shown that these questions are of a very important nature, and that they are of a very far-reaching character.

The eighth part of the paper will be devoted to a discussion of the various conclusions which can be drawn from the evidence which has been accumulated in support of the theory of the origin of life from non-living matter. It will be shown that these conclusions are of a very convincing nature, and that they are in complete agreement with the theory.

The ninth part of the paper will be devoted to a discussion of the various implications which can be drawn from the theory of the origin of life from non-living matter. It will be shown that these implications are of a very important nature, and that they are of a very far-reaching character.

The tenth part of the paper will be devoted to a discussion of the various questions which remain to be solved in connection with the theory of the origin of life from non-living matter. It will be shown that these questions are of a very important nature, and that they are of a very far-reaching character.

The eleventh part of the paper will be devoted to a discussion of the various conclusions which can be drawn from the evidence which has been accumulated in support of the theory of the origin of life from non-living matter. It will be shown that these conclusions are of a very convincing nature, and that they are in complete agreement with the theory.

The twelfth part of the paper will be devoted to a discussion of the various implications which can be drawn from the theory of the origin of life from non-living matter. It will be shown that these implications are of a very important nature, and that they are of a very far-reaching character.

CHAPTER IX

RELATION TO INDUSTRY AND THE ARMED FORCES

77. Industry

All large industrial concerns will be required to set up an internal Civil Defence organisation for the protection of their personnel and premises and to ensure that production is as little interfered with as possible. Whatever the size or form of the industrial organisation the control and efficient operation of the services, together with the closest co-operation with the local Civil Defence organisations will be vital to the successful handling of a damage situation.

Due to the wide divergence of circumstances obtaining between factory and factory, and industry and industry, it is impossible to lay down any general rule of procedure. It is, however, essential that the following factors should be known to the damage control system: (1) the entrances and exits; (2) the width of roadways within the premises; (3) the geographical position of the factory Control Centre; and (4) the nature and extent of internal communications. Damage control must be made a subject with which the factory Civil Defence Officer is fully conversant.

Damage control in the premises of any industrial undertaking may vary in methods and application, according to (a) the size of the works concerned; (b) the nature of the industry; and (c) the proximity of the factory or industrial premises to the nearest source of possible assistance. This latter point is particularly important because, if a factory premises suffers extensive damage, its own internal organisation may be considerably disrupted, and full or partial reliance may have to be placed upon assistance obtained from outside. Sources of possible assistance, therefore, must be in possession of a full knowledge of the geographical layout of works in their area, and any particular problems which exist therein and which may have to be dealt with in an emergency such as ammonia plants, storage of acids, electrical installations, explosive materials, poisonous gases and, of course, exceptionally high fire risks.

If a factory Damage Control Officer is available to the assisting organisation, his knowledge of the internal arrangements of the factory will be invaluable. It follows, therefore, that there must be the closest liaison between industrial concerns and their immediate sources of assistance, whether neighbouring factories, the local authority or any other source of reinforcement.

78. The Armed Forces

The Civil Defence commitments of the three Fighting Services are:—

- (i) To provide appropriate C.D. measures for the protection and preservation of their personnel and property.
- (ii) In the case of the Royal Navy and Royal Air Force to provide, *ad hoc*, any assistance to the local Civil Defence authorities that may be possible having regard to their operational commitments.

- (iii) In the case of the Army, provision of Mobile Columns in support of Civil Defence Services, provided operational commitments permit.

Damage Control Officers are responsible for the co-ordination of all Civil Defence operations within an area of damage whether these operations are being performed by civilian or military personnel.

The question remains as to whether the Damage Control Officer is provided by the military or by civilian authorities.

Within the precincts of military property, the Fighting Service concerned will normally provide the Damage Control Officer. He will be in general charge of any Civil Defence Services sent in to provide assistance.

Should the assistance required be such that the Service authorities request the civilian authorities to "take over" the situation, then damage control would automatically become a civilian responsibility and the Damage Control Officer would be designated by the civilian authorities.

Conversely, Damage Control Officers in any other area will be civilian and will co-ordinate the operations of any Military or other Service Units sent in to provide assistance.

Should the assistance required be such that the civilian authorities request the military authority to "take over" the situation, then damage control would automatically become a military responsibility and the Damage Control Officer would be a soldier or a civilian designated by the military authority. In certain circumstances, e.g. a naval port, he might be provided by the Service primarily concerned.

APPENDIX "A"

DAMAGE CONTROL REPORT

| | | | | | |
|--------------------------------|------------------------|--|--------|------|-------|
| DESIGNATION 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 BOMBS/SUSPECTED CONTAMINATION

DAMAGE TO PROPERTY

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

SERVICES PRESENT

REMARKS

TIME OF ORIGIN (Sgd.)

DATE

Faint, illegible text at the top of the page, possibly a header or title.

Second line of faint, illegible text.

Third line of faint, illegible text.

Fourth line of faint, illegible text.

Fifth line of faint, illegible text.

Sixth line of faint, illegible text.

Seventh line of faint, illegible text.

Eighth line of faint, illegible text.

Ninth line of faint, illegible text.

Tenth line of faint, illegible text.

Eleventh line of faint, illegible text.

Twelfth line of faint, illegible text.

Thirteenth line of faint, illegible text.

Fourteenth line of faint, illegible text.

Fifteenth line of faint, illegible text at the bottom of the page.

APPENDIX " C "

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 Control Room)

SIGNATURE (of official authorising the despatch of this " out " message) :

APPENDIX "D"

SMITH, MRS. JANE

10, GREEN STREET

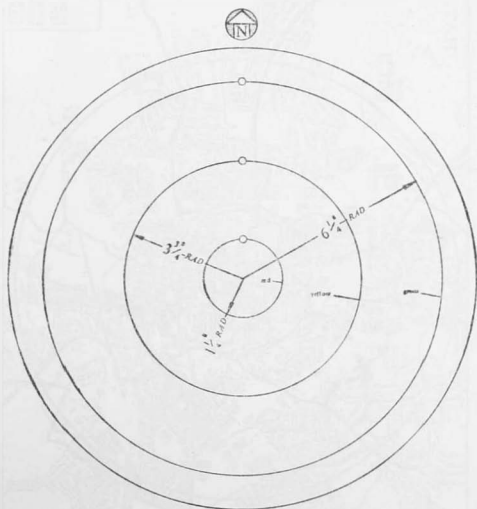
DAMAGE CONTROL INQUIRY POINT LOG SHEET

NAME AND ADDRESS OF PERSON CONCERNED

| DATE | TIME | LATEST INFORMATION | SOURCE OF INFORMATION | ENQUIRER NAME AND ADDRESS | REMARKS ACTION TAKEN |
|---------|------|----------------------------|-----------------------|---|---|
| 17.8.52 | 0840 | None | None | Mr. Smith (Husband), working at 12, High Street, Northtown. Tel. : Abe. 1234. | Told him we would let him know if any news came through. |
| | 1015 | Taken to General Hospital. | Casualty List No. 1. | | Message sent to Mr. Smith. |
| | 1630 | | | Mrs. Brown (Daughter- in-law), The Grange, Southwich. | Told that her mother-in-law is in hospital. Escort sent with her to visit hospital. |

*NOTE.—As lists come in from Mortuary, Hospitals, Rest Centres, they should be numbered and Log Sheets should be made for each person or family giving latest information ready for use if and when an inquiry comes through.
(This form should be printed on a stiff card measuring approx. 8 ins. by 6 ins.)*

PLATE I



Scale: $2\frac{1}{2}$ to 1 Mile

RED CIRCLE $\frac{1}{2}$ MILE RADIUS
 YELLOW CIRCLE $1\frac{1}{2}$ MILES RADIUS
 GREEN CIRCLE $2\frac{1}{2}$ MILES RADIUS



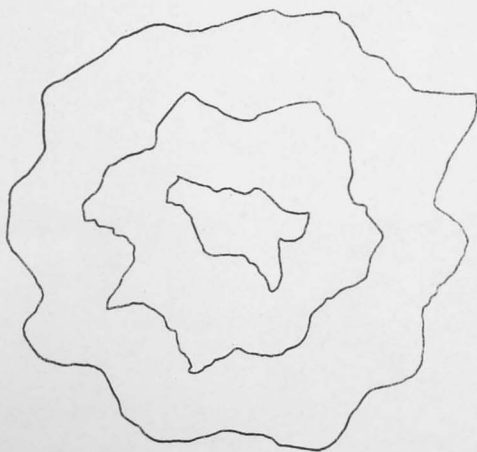


PLATE 1



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VOLUME II

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*Printed in Great Britain under the authority of His Majesty's Stationery Office
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S.O. Code No. 34-324-1-8*