

## APPENDIX "C."

6TH A.A. DIVISION, JULY-OCTOBER 1940.

(Note.—This report relates only to 6th A.A. Division. It does not cover the operations of A.A. Command as a whole.)

*Glossary of Abbreviations.*

H.A.A. ...	...	Heavy Anti-Aircraft.
L.A.A. ...	...	Light Anti-Aircraft.
G.O.R. ...	...	Gun Operations Room.
A.A.L.M.G. ...	...	Anti-Aircraft Light Machine-Gun.
V.I.E. ...	...	Visual Indicator Equipment.
G.P.O. ...	...	Gun Position Officer.
G.L. ...	...	Radio Location Set for Gun Laying.
V.P. ...	...	Vulnerable Point.
F.A.S. ...	...	Forward Area Sight.
S.O.R. ...	...	Sector Operator's Room.
G.D.A. ...	...	Gun Defended Area.

*1. Layout of A.A. Defences.*

(a) The area covered by 6th A.A. Division coincided with the R.A.F. sectors Debden, North Weald, Hornchurch, Biggin Hill and Kenley (*i.e.*, the major part of No. 11 Fighter Group, R.A.F.). Thus the coastal boundary extended from Lowestoft (exclusive) in the North to Worthing (exclusive) in the South; the internal boundary marching with that of the Metropolitan area.

(b) Distribution of A.A. defences was briefly as follows:—

*(i) H.A.A. Guns.*

The Divisional area contained four main "gun defended areas" at Harwich, Thames and Medway North (guns emplaced along the North bank of the Thames Estuary), Thames and Medway South (guns emplaced along the South bank of the Thames Estuary and defending Chatham and Rochester) and Dover (including Folkestone). In addition, H.A.A. guns were deployed for the defence of certain aerodromes.

Each "gun defended area" was based on a Gun Operations Room: at Felixstowe, Vange, Chatham and Dover respectively. This G.O.R. was connected directly to 11 Fighter Group Operations Room at Uxbridge, from which it received plots of enemy raids, which were in turn passed down to all gun sites.

The armament of each H.A.A. site consisted of the following: 4 (sometimes 2) 4.5, 3.7 or 3-inch guns with predictor. Appendix "A" shows the H.A.A. defences as at the beginning of August 1940 and the end of October 1940.

*(ii) L.A.A. Guns.*

45 Vulnerable Points in the Divisional area were defended by L.A.A. guns. These V.Ps. consisted of Air Ministry Experimental Stations, Fighter Aerodromes, Dockyards, Oil Depots, Magazines, Industrial Undertakings and Factories.

Armament consisted of the following guns: 40-mm. Bofors (with Predictor No. 3 and Forward Area Sights), 3-inch, 20 cwt. (Case I), A.A.L.M.G. and 20-mm. Hispano. Appendix "B" shows the V.Ps. with their armament as in August and October 1940.

*(iii) Searchlights.*

Searchlights were deployed in single light stations at approximately 6,000 yards spacing throughout the area, but with a closer spacing in certain instances along the coast and in "gun defended areas" where the distance between lights was approximately 3,500 yards.

These lights were deployed on a brigade basis following R.A.F. sectors, and each light was connected by direct telephone line and/or R.T. set No. 17 to Battery Headquarters via troop H.Q. and thence to an army telephone board at the R.A.F. Sector Operations Room.

The equipment of a Searchlight site consisted of the following:—

90-cm. Projector with, in most cases, Sound Locator Mk. III. In some instances sites were equipped with Sound Locators Mk. VIII or Mk. IX. During the late Summer and Autumn the number of Mk. VIII and Mk. IX Sound Locators gradually increased, and V.I.E. equipment and 150-cm. Projectors were introduced. Each Searchlight site was equipped with one A.A.L.M.G. for use against low-flying aircraft and for ground defence.

*2. Enemy Tactics.**(a) High Level Bombing Attacks.*

These took place *generally* between heights of 16,000/20,000 feet. Bombers approached their targets in close protective formations until running up to the line of bomb release, when formation was changed to Line Astern (if there was a definite objective to the attack). Attacks frequently occurred in waves, each wave flying at approximately the same height and on the same course. On engagement by H.A.A. guns, avoiding action was taken in three stages:—

*Stage 1.*—The bombers gained height steadily and maintained course and formation.

*Stage 2.*—Formations opened out widely and maintained course.

*Stage 3.*—Under heavy fire, formations split and bombers scattered widely on different courses. It was after this stage had been reached that the best opportunity was provided for fighters to engage.

*(b) Low Level and Dive Bombing Attacks.*

In the latter stages of the enemy air offensive numerous instances of low level and dive bombing attacks occurred, in particular against fighter aerodromes (Manston, Hawkinge, Lympne, Kenley).

L.A.A. and H.A.A. employed in dealing with these forms of attack met with varying success, but in cases where no planes were brought down the effect of fire from the A.A. defence almost invariably disconcerted the dive bomber so that few bombs were dropped with accuracy.

Considerable efforts were made by Me. 109's and Ju. 87's to destroy the balloon barrage at Dover, and, though at times they partially succeeded, excellent targets were provided for the Dover H.A.A. and L.A.A. guns.

*3. Part played by H.A.A. Guns.*

Targets of all types presented themselves to H.A.A. sites, ranging from solid bomber formation to single cloud hopping or dive bombers, balloon strafers or hedge hoppers, all of which were successfully engaged by appropriate method of fire.