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HISTORICAL REPORT
of the
32d AIR DIVISION (DEFENSE)



THE AIR DEFENSE OF A SECTOR
JANUARY thru JUNE 1954

NARRATIVE

HISTORICAL OFFICE
SYRACUSE AIR FORCE STATION, NEW YORK

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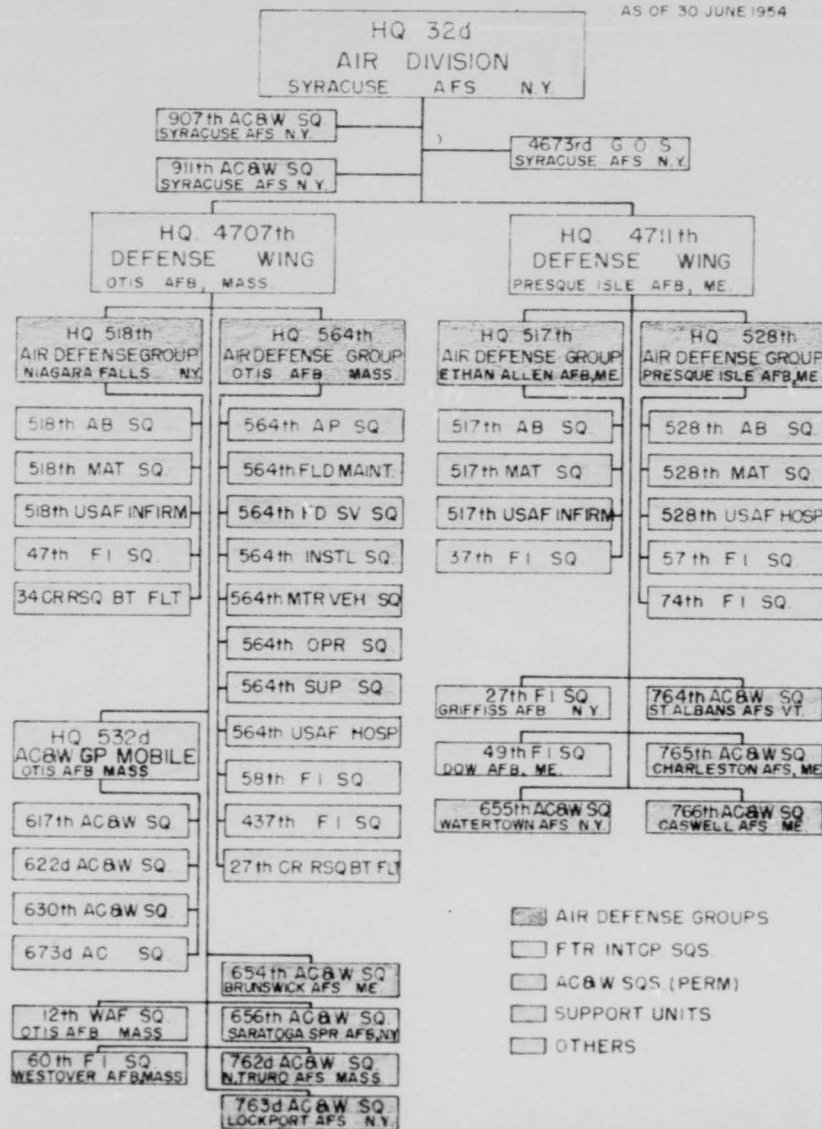
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ORGANIZATION OF THE 32d AIR DIVISION (DEFENSE)

AS OF 30 JUNE 1954



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HISTORICAL REPORT
OF THE 32D AIR DIVISION (DEFENSE)
Number Sixteen

THE AIR DEFENSE OF A SECTOR
1 Jan to 30 Jun 1954

RCS: 1-AF-D2

Chain of Command
Eastern Air Defense Force
Air Defense Command
United States Air Force

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PREFACE

As has been true of its predecessors, the present work owes greater debts than have been possible to acknowledge in footnote and text. Most notably, the historian has drawn freely from the researches of the Directorate of Historical Services at Headquarters, Eastern Air Defense Force, and especially from those relative to the period under study, the draft manuscripts of which were made available in advance of publication. Additionally, members of the Division staff have submitted to questioning with their customary good grace, and have willingly reviewed for accuracy portions of the draft dealing with topics in which they are expert.

The work consists of a narrative and six separate volumes of supporting documents, the index to the latter being incorporated for convenience in the narrative. In some cases documents cited have not been reproduced, but these are in each case available at the Division historical archives.

The details of production have been the concern of Mrs. Marion Magee, who typed the manuscript and supervised the work of collation. Mrs. Elsie C. Freund, predecessor to Mrs. Magee, typed the vast bulk of documentation. Jean S. Berwick designed the covers, and Mr. Robert Horgan saw the volumes into final bound form.

Valuable assistance was extended from several quarters during the closing stages of preparation. Miss Stella Alci indexed much of the documentation. Airman First Class Alvin M. Larson collated and numbered the documents, in which drudgery he was assisted by Airman First Class Zac L. Weaver, who also wrote the appendix. Without the timely collaboration of these individuals the work could not have been completed in time for a deadline already twice postponed.

Syracuse Air Force Station
9 February 1955

Keith B. Berwick

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INTRODUCTION

On his retirement as Chief of the Air Staff of the Royal Air Force in December 1952, Marshal Sir John C. Slessor thought he sensed the advent of a new century of peace--a successor to the Pax Britannica that had succeeded in spanning the full century between Waterloo and Sarajevo. The key element in preserving that relatively peaceful interlude in world affairs had been the British navy and its mastery of the seas. Marshal Slessor looked now for airpower--"largely, but not exclusively, American Airpower"--to fulfill a similar function in the current situation. However strong the Marshal's natural predilections toward airpower, the burden of logic was with him; these were the selfsame ideas that later achieved colloquial currency through the "New Look" and its associated dictum of "massive retaliation." There was certainly no question that the West was relying heavily upon

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strategic air mastery as its anchor man in the tug-of-war of international diplomacy.

Such an instrument of Western policy was not, of course, to be achieved without challenges. Indeed, on two occasions over the following eighteen months the Soviets served dramatic notice of their own very formidable contention for the same prize and its perquisites. In August 1953 they set off a thermonuclear explosion, and the following May, as a feature of the annual Moscow May Day festivities, they displayed two turbo-jet bombers roughly comparable with the USAF B-47 and B-52. The means for almost unlimited obliteration had thus become mutual.

Several implications were obvious. Mankind had perhaps always held the key to its own destruction, and for that matter had not infrequently seemed set on a course to achieve it. Meanwhile the capacity to destroy had become progressively greater and more widespread; atomic and thermonuclear "super-explosives" were the inevitable fruits of a long-standing pursuit of power; they were the latest of a progression of perplexing discoveries that had served to make the danger of universal self-destruction ever more real. The importance of the Soviet revelations was not so much, therefore, that they augured ill for the stability of mankind. Their greatest significance derived from their introduction into an already menacing set of circumstances of an awesome element of probability. Here vanished all reasonable speculation that future total war could amount to significantly less than total cataclysmic disaster.

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Providing a persistent and unmistakable counterpoint to all this was the underlying assumption that an air attack of the kind now possible could not be successfully repulsed. Which is not to confute the old axiom that defense is possible against any offense. No doubt the means to repulse manned bombers could have been constructed, and it is not unlikely that pilotless missiles, which would one day to replace them, could be defended against as well. But technological possibility and economic plausibility are not always counterminous: neither the Soviets nor ourselves appeared willing to provide defensive components in whatever numbers and configurations might be necessary to make for an impregnable air defense. The truth of the axiom was left to its virtual antithesis--that the best defense is a sound offense.

Despite protestations to the contrary, each side was prone to use its hydrogen-atomic air capabilities as a big stick in the conduct of diplomacy. As for their relative bargaining positions, the fact seems to be that each had constructed by 1954 the means to achieve air mastery over the skies of the other. In all history the gap separating offensive capabilities from those of the defense had not been more formidable. Attrition, which had furnished a powerful deterrent to attack during World War II, had become a matter of overhead; in its role was cast the threat of counter-attack. The spectacle of the time, then, was one in which two mighty combatants were squared off against one another, each capable of obliterating the other and neither capable of a satisfactory defense.

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To the articulators of Western policy this state of affairs constituted a basis for hope rather than an omen of certain destruction. "What has happened," said Marshal Slessor, "is that total war has been abolished in the only possible way--it has abolished itself...." This reasoning was predicated on the assumption that the only alternative to total war and hence to the threat of doomsday (short, of course, of total peace), was a resort to the rigidly constricted realm of what has been called termite warfare to achieve piecemeal goals and satisfactions. If the assumption were to prove accurate it would be the irony of the age that hydrogen-atomic air-power, the means to more efficient, perhaps even uncontrollable, destruction, should prove ultimately to be the means to the abolition of total war by having pushed it beyond the point of diminishing returns.

In any event, these were the speculations furnishing the ominous atmosphere in which the air defense system operated during the first six months of 1954. If the dictum of massive retaliation appeared to obviate the need for air defense, that was not the way it was being interpreted. Indeed, for all the merits of a predominantly offensive strategy, there was yet a sound logic beneath the effort to construct a sound air defense system. For one thing, the instinct for self-preservation dictated direct protection of the homeland, quite irrespective of other tactical considerations. Moreover, as a tangible manifestation of the will to resist the system had important psychological applications to a diplomatic struggle where such factors--

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especially those based on tangible foundations--counted heavily. It seemed not at all unlikely, in fact, that its value might ultimately come to be computed in terms of this kind, rather than in the customary statistical expressions of tactical capability.

Through its radar resources the system served as a sort of continental alarm clock. Strategically it was set to trigger counter-attack. Tactically it was designed to furnish protection, the efficacy of which was directly dependent upon the amount of warning available. This "cushion of warning" was in fact the focal point of the entire air defense effort.

If the continental security was not to be equated entirely with air defense capability, the system was nevertheless being counted to bring about substantial attrition of attacking elements. Gone were the conditions of World War II, wherein the threat of attrition was of itself a powerful deterrent to attack. A single bomber could now carry so devastating a payload as to make attack relatively profitable even if only a small percentage of the attacking forces were to be successful. Yet withal, air defense was more than a mere stop-gap measure. The system was being counted upon to assure sufficient survival to guarantee recovery from air assault. It was part and parcel of a strategy designed first and foremost to prevent war, and failing of this initial purpose, to wage war with consummate might and fury.

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CHAPTER ONE: SURVEILLANCE AND DETECTION

Since both Russia and the West aspired to air mastery, and since the race to achieve it was not without consequence for the rest of mankind, there was naturally considerable interest in the outcome. It was only natural, too, that Soviet development of two turbo-jet bombers, coupled with Soviet possession of thermo-nuclear explosives, should have given rise to renewed comparisons of Soviet and Western offensive capabilities. This was indeed one of the absorbing questions of the day. Perhaps of even greater import, however, was the sad fact that continental air defense capabilities were now several laps behind. The gap separating offensive and defensive capabilities had become ever more formidable; and air defense goals, being bound inextricably to offensive capabilities, had been projected accordingly.

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The general character of the air defense effort was of course unchanged by these developments. Time was still the vital commodity. Provision for it continued to pose the most substantial problems, which air defense authorities still pursued along two fundamental avenues: extension of warning resources, and improvement of equipment and procedure. As always, therefore, the system sought on the one hand to trade space for time, and on the other to lessen the margin of warning required. Yet both endeavors were necessarily subject to limitations.

Air defense authorities looked forward to a day of automaticity, when operational intelligence--the tactical description of the air battle--would be gathered, transmitted and displayed electronically, when automatic missiles would be dispatched at the flick of a wrist and guided unerringly to collision with attacking elements. Devices of this kind were in various stages of development by the first part of 1954; the first of them were to start¹ appearing in another year or two. Meanwhile the system was largely

1/ 1. The trend toward automaticity was exemplified by and embodied in the so-called Lincoln Transition System, which was designed to bring about a gradual, non-disruptive transition to the automatic electronic data transmission, collection and display equipments. Some of the highlights of the Lincoln program have been discussed at length in earlier histories of this command. In particular, see 32d ADiv Hist Rept 14, pp 24-25.

2. 32d ADiv Program Book, 15 Dec 53 (s.d. 1).

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manual, depending upon time-consuming verbal transmissions and subject to human error. If automaticity was already evident to a degree--tactical teletype nets and collision-course fire-control systems were operative by this time-- , there were also such cases as that of the Ground Observer Corps, in which human faculties were being called upon to help make up for the inadequacies of electronic facilities. Whatever else was implied by the trend toward automaticity, there was clearly a large area of procedural refinement yet to be traversed.

As for the matter of trading space for time, plans for extended surveillance systems were well advanced by the start of the period under study. The semantics of this endeavor bespeak the urgency attendant on it. Air defense parlance acknowledged three distinct values of surveillance intelligence: warning itself concerned tracking and evaluation data derived from the resources closest in to the targets they sought to defend; distant early warning applied to data to be derived from the resources farthest out; early warning denoted data from resources in between.² Such were the surveillance categories of the time.

2. This resume of surveillance categories fails to mention intelligence that would predict an attack--reconnaissance sightings or a combination of suspicious factors from various sources; or, less likely, a general worsening of relations with the Soviets and heightened tension internationally. This general area of intelligence was referred to as pre-warning, whereas the categories outlined above refer to an attack already in progress.

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Initial Alerting Concepts:

The facilities envisioned for extended systems of surveillance fell into two categories based upon mutually exclusive conceptions: one group felt that radar resources should be positioned to provide the earliest alarm possible, regardless of force-assessment and tracking capabilities; the second group maintained that the radar network should be built solidly from the inside out, that warning without force-assessment and tracking was meaningless. It is perhaps significant that the latter idea--the one insistent upon defense in depth--should be espoused by Canada, whose vital targets were of course more exposed than those of the United States which subscribed to the latter theory. Moreover, it is to be observed that the United States had early recognized the need for air defense resources in Alaska and the Northeast.³

At any rate, the two conceptions came to be embodied in proposals for what were called the McGill Fence and the Distant Early Warning (DEW) line. The latter, a progeny of the Lincoln Laboratory research program, proposed to link Alaska and northern

3. The air defense of strategic Alaska was accorded so high a priority that the bulk of the first appropriations for post-World War II continental air defense had been used to construct an Alaskan system. For a discussion of the resources in Alaska see 32d ADiv Hist Rept 14, pp 64-74.

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Greenland with a single span of self-alerting radar. Envisioned⁴ as an electronic barrier of manned stations interspersed with remoted devices, it was to extend roughly 2,500 miles between Barter Island and Thule. At either flank were to be radar picket vessels and airborne early warning aircraft, all of which would be connected to the system of the interior through radio communications.

As one would expect, so ambitious a program involved tremendous technological problems. Most notably, far-northern communications required particularly efficient, high-range equipment, a problem solved by development of an arctic radio transmitter with a theoretical range of well over 500 miles. Additionally, the obvious problems attendant on manning such facilities were cut to^a minimum by the development of audible alarms attached to the visual radars, so that the large percentage of these facilities could operate unmanned. In theory, then, most of these and similar obstacles had been cleared by early 1953; at the end of the year a 100-mile experimental leg of the system was in operation eastward from its terminus at Barter Island. For an indefinite period the system was to undergo operational testing under the terms of Project Corrode,

4. Lincoln Laboratory Joint Monthly Progress Rept, Oct 53 (s.d. 60 to 32d ADiv Hist Rept 14), pp 31 to 32. As is indicated below, plans for distant early warning called ultimately for a second span of alerting devices to bolster and act as orientation for the first.

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prime contractor for which was the Western Electric Company.⁵

Meanwhile Canadian authorities were at an advanced stage⁶ in their development of the McGill Fence concept. This was to be

5. Ibid. The following description was furnished by the military liaison group to the Lincoln Laboratory:

PROJECT CORRODE (Air Force contract with Western Electric) consists of a "proving ground" near Streator, Illinois (communications to Holmsdel, New Jersey) three alerting stations in Alaska (main station at Bertor Island), four unmanned stations, communications to Anchorage, and surveys for future sites. The three manned stations each is equipped with two AN/FPS-1D (modified) and communication equipment. The four unmanned stations are equipped with Flutter devices. Communication laterally is by UNF 150-Mcps backed up by SCR-499A, and between main stations and Anchorage by HF (a 5-k2 transmitter built by Collins) with AN/FRT-6B equipment modified to utilize forward scatter. Lincoln Laboratory, under contract with Western Electric, works on the following for PROJECT CORRODE:

- Improved Radar - Conventional McGill Fence Type
- Improved Communication - Scatter Techniques
- Airborne Early Warning
- Airborne Moving-Target Indication
- Acoustical Detection
- Audible Alarms
- Systems Planning

It is expected that the Arctic stations will be manned for operation during October 1953.

The distant early warning concept had its genesis in the Sumner Study Group, which concluded in autumn 1952 that a minimum of five or six hours warning of hostile air activity would be necessary and could be achieved.

6. The McGill Fence derived its name from the part played in its development by the Eaton Electronic Research Laboratory at McGill University in Montreal. This is same span of alerting devices along the 55th parallel that was later to be known variously as the mid-Canada line and the Southern Canadian Early Warning line.

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a perimeter of robot devices--there seemed some hesitation in calling them radars--across the breadth of Canada at the 55th parallel, and hence contiguous to the outer limits of existing radar capability. ⁷ That the "pickets" in the McGill Fence were to be self-alerting and remobile meant that it could neither identify nor report direction, speed or altitude. Its automatic microwave signal would serve only as an alerting resource. Yet the system of the interior would be able to correlate its own data with those provided by the Fence, so that in theory, at least, continuous tracking and interception would be possible from the point of alert. The Fence would therefore add an automatic detection perimeter to the existing AC&W system at relatively low cost.

Ultimately, assuming that both the McGill and DEW concepts proved successful in operation, authorities envisioned yet another DEW line to bolster the first, backed up by long-range

7. The existing radar capability was provided by the so-called Pinetree line which was strung along the 50th parallel, was partly subsidized and manned by the USAF, and was just beginning to provide solid surveillance as the current period got under way. In fact, of the total initial cost of the Pinetree stations, estimated at \$400 million, this country is reputed to have paid approximately two-thirds. The principle in determining manning had been largely that of primary interest: the Canadians controlled and manned those stations constructed primarily for the defense of Canadian targets, the USAF those of primary value in guarding the approaches to targets south of the border. For a discussion of the Canadian system see below, the story entitled Resources in the Near North.

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patrol fighters. DEW Line II was to extend from the western terminus of Line I across the expanding face of the globe to northern Labrador. The continental system looked forward, then, to a day when it would be capable of detecting and engaging penetrating elements well ahead of the key targets of population and industry below the 50th parallel.

Resources in the Near North:

However pleasant was the contemplation of these far-northern surveillance projections, authorities at this level were preoccupied for the time being with initial main lines of resistance around the targets of the interior. The immediate objective, identified with several programs for surveillance seaward and to the north, was to assure at least the degree of warning necessary to bring the attacker under fire before his bomb-release lines. Limited as this goal was, it remained largely unfulfilled through the period under study, although there were encouraging developments directly to the north, in south-eastern Canada and beyond.

-
8. The proponents of DEW Line II envisioned that the far-northern spans would be backed up by heavy patrol fighters, perhaps even modified versions of the B-57, modeled on the British Canberra fighter-bomber.
 9. As one would expect, joint programing for these northern resources was an extremely complex business. Such large areas of doctrinal difference as that exemplified by the McGill and DEW concepts had to be resolved to mutual satisfaction. It is admirable testimony to the character of these deliberations that they were able to produce a unified solution to the massive problem. Thus it was that in October 1954 agreement was
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The Canadian system, a skeletal force of dubious practical consequence at the start of 1953, came into its own during the first part of 1954. Where in March 1953 only two permanent radars had operated around the clock, nine were operating fully just one year later. Of even greater consequence, all thirteen of the permanent radars programed north of the 32d were operational to some degree by this time. And the fighter complement numbered 48 all-weather and 12 day jets by this time, plus a variety of auxiliary fighter and antiaircraft resources. All of this constituted a formidable resource capping the 32d's northern frontier, serving as a barrier between the striking areas of the north and the vital targets of the 32nd.

going to be reached on the DSM line involving, among other things, the use of the McGill alerting device, while the Canadians had decided additionally to proceed alone on the McGill Fence proper.

10. At the beginning of the current period two stations, C-6 at Ste. Marie and C-11 at Halifax, had yet to become operational in any degree. Both began operations before the annual critical period of greater daylight in spring. RCAF-ADC Ops Plan 1 May to 30 Jun 54, 1 May 54, p 15.
11. Ibid. This represented an increase of one all-weather jet squadron with a UE of 12 CF-100 aircraft. Hence the total primary weapons complement in June amounted to 48 CF-100s and 12 F-56-Es during the closing month of the period. This number was to be augmented by 12 CF-100s by the end of August. These resources operated from five regular airdromes, three secondary airdromes, and a total of thirteen advanced and emergency strips usable for jet operations.

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The Canadian resources in the east were organized into three sectors--Maritime, Eastern and Central--roughly comparable to the air division sectors on this side of the border. The five stations of the Central sector comprised four direction centers and one early warning station, all operating under control of 3 ADCC at Edgar, Ontario. The Eastern sector included four direction centers operating under the control of 1 ADCC at Lac St. Denis, Quebec. The Maritime sector, under 2 ADCC at St. Margarets, New Brunswick, included two direction centers and two early warning stations.

12. There were differences in terminology and spelling between the Canadian operations and those of this country. What was referred to here officially as a surveillance station (and only informally as an early warning station), was designated officially as an early warning station in Canadian usage. As well, the preferred British spelling of such terms as "centre" and "programme" was reflected in Canadian usage. The present writer, however, has seen fit to use the preferred American spelling of such terms except where they appear in proper names or, of course, in quotations from Canadian documents.
13. C-4 at Edgar was a combined direction center and control center; C-9 at Falconbridge, C-3 at Poymount and C-8 at Senneterre were direction centers; C-10 at Raysore was an early warning station (under operational control of the 30th Air Division and manned by the USAF 912th ACGW Squadron).
14. C-2 at Lac St. Denis was a combined direction center and control center; C-6 at Ste. Marie, C-1 at Mont Apica and C-7 at Parent were direction centers.
15. The mailing address of Ste. Margarets had formerly been Gatham.
16. C-5 at Ste. Margarets was a combined direction center and control center; C-11 at Halifax was a direction center; C-34 at Sidney and C-33 at Moisie were early warning stations.

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The mainstays of the Pinetree network were the familiar CPS-6B and FPS-3 which played a similar role in the American permanent network. As primary height-finders the Canadians used the ISG-9B and the TPS-502, and in most cases the FPS-502 was programmed for installation as backup to the primary search equipment. Ultimately, although they were not yet available at most stations, TPS-501s and 502s were to be used for purposes of emergency height-finding. Meanwhile the system provided whatever capability it could, in much the same way that incompleated stations of the American permanent network had operated through 1952.

Yet equipmental deficiency was not the sole limitation imposed upon Canadian capabilities. The combined deficiency of trained personnel and of active fighter-interceptors for them to control constituted qualitative limitations of even more profound consequence. Yet good progress was being made in each of these areas. Both the agencies of supervision and control--the combat operations center at St. Huberts and the three sector control

17. Stations C-1 at Mont Apica, C-2 at Lac St. Denis, C-6 at Ste. Marie and C-11 at Halifax, all operated CPS-6Bs. The other units operated FPS-3s.

18. This was a modified version of the radar used in Canadian antiaircraft artillery operations. Pinetree Project Progress Report 23, 15 Jun 54 (fn 37, EADP Hist Rept 1 Jan-30 Jun 54).

19. Ibid.

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centers--and the three early warning stations were functioning around the clock in their permanent capacities by midsummer. The ten direction centers were functioning full time as well, but not in their permanent capacities: six were on eight hours ground-controlled intercept and sixteen hours early warning operations; three functioned full time as early warning stations; one, C-8 at Sennsterre, operated full time as a technical training station.²⁰

Similarly, the fighter force was building capability steadily. The active complement--48 CF-100s and 12 F-86Es-- was being used for transitional and proficiency training, and was not normally available for active operations in less than one hour. Yet if this was less than completely satisfactory for defense against a surprise attack, it was also a prerequisite to adequate performance under attack conditions. At the same time the Canadian Ground Observer Corps, with ten filter centers operating full time, had its observation posts operative on only a standby basis. The value of the GOC as an agent of initial detection was nullified thereby, although it would of course constitute a significant

20. EAWF General Commentary on State of Combat Readiness, 30 Jun 54. Of course C-8 could revert to active operations at a moment's notice. Similarly C-6 at Ste. Marie, at which CFS-6B training was being carried on, was prepared to take up active operations in an emergency.

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source of surveillance if pre-warning were available.

Under emergency conditions the Canadians had elaborate plans for the application of a wide variety of augmentation resources. The active facilities were scheduled to come to their maximum capability around the clock. To help man the aircraft control and warning system there were the personnel of ten auxiliary AC&W squadrons who would deploy to permanent facilities. The GObC would come to a full alert. The fighter interceptors would be augmented by approximately 68 conventional aircraft and 24 all-weather and day jets: eight auxiliary fighter squadrons had a composite total of 32 Vampires and 36 F-51s, and two operational training units could muster 12 CF-100s and 12 F-86Fs, respectively. Additionally, the 1 Overseas Ferry Unit represented a potential source of as many as 25 F-86s; regular and reserve antiaircraft artillery battalions augmented the weapons potential still further.²² Moreover, the fighter bases and facilities of the Canadian system--five regular and three secondary airbases, two advanced bases and eleven emergency strips--were capable of supporting advanced operations under emergency conditions.

21. North of the 55th parallel, the GObC constituted a unique warning service staffed by trading post operators, Royal Canadian Mounted Police, weather station personnel and similar inhabitants of the northland. In this division of its operations the GObC of course had no filter centers; the 338 northern posts reported directly to the filter centers in the south through short wave radio or whatever communications might be available.

22. EADF General Commentary on State of Combat Readiness, 30 Jun 54.

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Cross-Border Coordination:

Whatever its capabilities as an independent agency, the greatest value of the Canadian system lay in its participation in the coordinate venture of providing for a common continental air defense. This was nowhere more evident than in the conduct of day-to-day operations between the 32d and the three Canadian sectors capping its northern frontier. Cross-border communications circuitry was set up to facilitate the free transmission of tactical data;²³ adjacent RCAF and USAF operational units kept each other apprised of fighter and ACMW status;²⁴ individual officers and airmen exchanged visits for personal observation of procedures and techniques.²⁵ This mutual interchange of data and know-how was regarded as so significant a factor in coordinated cross-border operations that a full-scale cross-training program was developed late in 1953,²⁶

23. Ltr, Mr. O. B. Tomlin to Mr. Fred L. Smith, "Cross Border Security Landline Circuits," 5 Mar 54 (s.d. 23).
- 24/1. Ltr, 32d AD to EADF, "EADF-RCAF ADC Exchange of Fighter and ACMW Capability Status," 24 Mar 54 (s.d. 24/1).
2. Ltr, 32d AD to EADF, "EADF-RCAF ADC Exchange of Fighter and ACMW Capability Status," 29 Apr 54 (s.d. 24/2).
- 25/ 1. Ltr & Inds, 4711th Def Wg to 32d ADiv, "Non-Tactical Flights to Royal Canadian Air Force Bases," 5 Jan 54 (s.d. 25/1).
2. Ltr, 32d ADiv to 4707th Def Wg, "Non-Tactical Flights to Royal Air Force Bases," 30 Jan 54 (s.d. 25/2).
3. Ltr, 32d ADiv to EADF, "Rept of Visit by Foreign National," 12 Apr 54 (s.d. 25/3).
4. Ltr & Inds, 764th ACMW Sq to 4711th Def Wg, "Report of Disclosure of Classified Information to Foreign Nationals," 13 Apr 54 (s.d. 25/4).
26. Ltr, RCAF, "Cross-Training--RCAF-USAF Aircraft Control and Warning Personnel," 18 Dec 53.(s.d. 26).

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and was continued through the balance of the period under study.²⁷
 Indeed, at the level of daily operations the relationship was so intimate that as early as October 1953 higher headquarters had found it necessary to admonish air defense personnel not to refer²⁸ to the two systems as "integrated".

The import of all this is exemplified best by the series of procedural problems and adjustments to which the growth of the Canadian system gave rise during the period. Confirming a long-standing agreement between the two countries, the operational sub-sector boundaries of border radar stations were realigned in April and May; which simply amounted to an acknowledgment that the Canadian stations were in business.²⁹ In fact, EADF had anticipated this and similar concomitants of the development of Canadian resources by publishing a new identification directive in February.³⁰ While necessarily complex in its detailed provisions, in substance the new directive expanded the perimeter identification zone (PIZ) along

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- ^{27/} 1. Ltr, 766th AC&W Sq to 32d ADiv, "Summary of Results of RCAF-USAF Cross Training Program," undated (s.d. 27/1).
 2. Ltr & Ind, EADF to 32d ADiv, "Cross Training of EADF-RCAF ADC Aircraft Control and Warning Personnel," 26 May 54 (s.d. 27/2).
28. Ltr, B/O George F. Smith to Comdr 32d ADiv, "Incorrect Phraseology," 1 Oct 53 (s.d. 134 to 32d ADiv Hist Rept 15).
- ^{29/} 1. EADF GO 26, 28 Apr 54 (s.d. 29/1).
 2. Ltr, 32d ADiv to 4707th & 4711th Def Wgs, "Air Defense Subsectors," 28 Apr 54 (s.d. 29/2).
 3. Ltr, EADF to 32d ADiv, "Operational Subsector Boundaries," 6 May 54 (s.d. 29/3).
30. EADFR 55-1, 24 Feb 54 (s.d. 30).

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the command's northern frontier, aligning it with pending adjustments to the Canadian and American air defense identification zones along the border (called CADIZ and ADIZ, respectively).³¹ These letter, which it had been thought would be promulgated in February, were not actually put into effect until May;³² requiring issuance of interim instructions in March.³³

When the CADIZ and ADIZ boundaries were adjusted in May, joint planning authorities introduced also a new security identification zone (SIZ) designed to make easier the defense of such northern border targets as Detroit and Niagara Falls. As long as the international boundary stood between American air defense resources and the vanguard of an attacking force, the former were in the position of trying to protect targets they were standing behind, as it were. What the SIZ did, therefore, was create a new "boundary" for identification purposes--a twenty-mile stripe along the 46th parallel between Megantic, Quebec and Parry Sound, Ontario. Canadian resources were to seek to identify all potential hostiles,

31. TTX EA00T-A C-132, EADW to 30th ADiv, 5 Feb 54 (s.d. 31).

32. Ltr, ADC to EADW, "Implementation of New ADIZ Boundaries," 13 Apr 54 (s.d. 32).

33. TTX EA00T-TS C-228, EADW to 30th & 32nd ADivs, 1 Mar 54, (s.d. 33).

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i.e., aircraft flying on straight headings south at greater than 110 knots, penetrating the SIZ. In theory this would bring about identification well ahead of border targets.

The SIZ was established in May, but not before the Division commander, Colonel Robert S. Israel, Jr., had registered a strong protest against the very principle of accepting Canadian identifications. Colonel Israel felt that the plan amounted to passing the buck unwisely, that it would induce "a nonchalant attitude" toward the Division's air defense responsibilities.³⁴ Moreover, he was not convinced that the Canadian radar network was sufficiently advanced to carry out primary identification successfully.³⁵ Noting that the defense process was based on "near-perfect correlation," Colonel Israel pointed to specific weaknesses inherent in existing Canadian resources. Aside from a number of factors under the general heading of inexperience, the Canadian stations were yet without backup equipment to take the place of inoperative primary radars. Under the circumstances the plan seemed less than prudent: aircraft managing to penetrate the SIZ might be

34. Ltr, Col R. S. Israel, Jr., to M/G M. R. Nelson, 23 Apr 54 (s.d. 34).

35. In its air surveillance procedures, the Division had regarded forward telling as a perpetual problem. For example, there had been instances in which adjacent stations with overlapping radar ranges each regarded the other as responsible for reporting intelligence. Indeed, as late as 6 April, just two weeks before Col Israel's protest was lodged, this headquarters had found it necessary to admonish subordinate units to reemphasize forward telling procedures. Ltr, 32d ADiv to 4707th & 4711th Def Wgs, "Air Surveillance Procedure-Forward Telling," 6 Apr 54 (s.d. 35).

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permitted to continue to their targets ³⁶unchallenged.

While as we have noted the security identification zone was indeed established on 1 May, the 32d was authorized, in view of its objections to the arrangement, to monitor and re-identify all inbound flights passing through the SIZ and penetrating the coverage of Division radars. ³⁷ This was to continue until such time as the Canadian system had proven itself capable of carrying out primary identification responsibilities. Meanwhile the effectiveness of Canadian resources was to be measured, with further arrangements to depend upon the outcome. ³⁸

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36. Ltr, Col R. S. Israel, Jr., to M/G M. R. Nelson, 23 Apr 54 (s.d. 34).
37. TXK, EA00T-OS C-464, RANP to 32d ADiv, 1 May 54 (s.d. 37).
- ³⁸/ 1. 32d ADiv, "Report of Identification Conference," 26 May 54 (s.d. 38/1).
2. DF, EA00T to EA00G, "Identification Meeting Held at Headquarters, 32d Air Division (Defense), on 26 May 1954," 3 Jun 54 (s.d. 38/2).
3. The first of these results began appearing as the current period closed. TXK ACS 1-3, 764th ACMW Sq to 32d ADiv, Jul 54 (s.d. 38/3).
4. Likewise, the Division found this a propitious time at which to re-assess the necessity for concentrating all available resources and techniques to effect identification at the earliest moment possible. Ltr, 32d ADiv to 4707th & 4711th Def Wgs, "Identification in Air Defense," 30 Jun 54 (s.d. 38/4).

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The Air Defense Command at this time was studying the same general problem.³⁹ The higher headquarters had come to the conclusion that the perimeter identification zone, revised by EADF Regulation 55-1 in February,⁴⁰ could be dispensed with altogether in view of ADIZ and CADIZ provisions. It seemed to ADC that the provisions of the PIZ could be applied to these other areas--upon which, after all, the PIZ was superimposed--allowing additionally for free areas where traffic was so dense as to make efficient identification impossible. EADF agreed with this view, and planned to cancel the PIZ whenever the ADC directive was published.⁴¹ The directive had not yet appeared by the end of June.

Another outgrowth of the further development of Canadian capabilities concerned procedures for cross-border interception. As in the case of identification, the problem here derived from the juxtaposition of vital targets to Canadian territory, and the necessity for American weapons resources to operate ahead of the targets involved. There were already arrangements whereby USAF fighters could carry out interceptions over Canadian territory under certain conditions, but they were not permitted either to

39. Ltr & Ind, EADF to 26th ADiv, "Identification of Air Movements," 8 Jan 54 (s.d. 39).

40. EADFR 55-1, Identification in Air Defense, 24 Feb 54 (s.d. 30).

41. Ltr & Inds, ADC to EADF, "Perimeter Identification Zones," 11 May 54 (s.d. 41).

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divert or to engage the aircraft thus intercepted until over Amer-
⁴²ican territory. This was naturally a matter of great concern to
 air defense authorities here, for it was clear that as long as the
 fighters were hamstrung over Canadian sovereign territory they
 could hardly protect targets for which the bomb-release lines were
 over Canadian territory.⁴³ It was with some relief, therefore, that
 operational authorities learned that these restrictions were to be
 liberalized. Under new recommendations revealed in February, USAF
 fighters were to be permitted to engage under Canadian rules of
 engagement, which were in the process of revision during the period
 under study.⁴⁴ Specifically what the net effect of all this was to
 be was yet to be seen. The trend was at least encouraging.⁴⁵

Surveillance to the Northeast and Seaward:

Less intimate but fully as vital as resources in the near
 north were those programed for surveillance to the northeast and
 seaward. As reported in earlier histories of this command, a wide

⁴². ADCR 55-35, US/Canadian Border Overfly in Air Defense, 3 Jun 52.

⁴³/ 1. Ltr, Gen B. W. Chidlaw to M/G M. R. Nelson, 29 Dec 53, (s.d. 43/1).

2. EADF, "PJED Recommendation 53/1," 7 Jan 54 (s.d. 43/2).

⁴⁴. Ltr, M/G M. R. Nelson to Gen B. W. Chidlaw, 15 Feb 54 (s.d. 44).

⁴⁵. For a discussion of the import of PJED decisions in this regard, see EADF Hist Rept 1 Jan-30 Jun 54, pp 16-20.

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network of permanent radar facilities was programed under the aegis⁴⁶ of the Northeast Air Command and the Iceland Air Defense Force: three direction centers and seven surveillance stations (plus two⁴⁷ control centers) for Newfoundland, Labrador and Beffin Island;⁴⁸ one direction center and two surveillance stations for Greenland;⁴⁹ one direction center and three surveillance stations for Iceland.

46. The combination of these resources originally totaled 19 stations, but their number was reduced to 17 in mid-1954. At that time, stations N-35 at Narsarsuaq and N-36 at BW-8 in Greenland were dropped from the program for reasons unknown at this level. See fn 48.

47. Programing for the NEAC stations was as follows:

<u>Site No</u>	<u>Location</u>	<u>Manning</u>	<u>Function</u>	<u>Search</u>
N-22	St. Johns, Nfld.	NEAC	CC/DC	CPS-6B
N-23	Stephenville, Nfld.	NEAC	CC/DC	CPS-6B
N-24	Goose Bay, Lab.	NEAC	DC	CPS-6B
N-25	Cander, Nfld.	RCAF	SS	FPS-3
N-26	St. Anthony, Nfld.	ADC	SS	FPS-3
N-27	Cartwright, Lab.	ADC	SS	FPS-3
N-28	Kopedale, Lab.	ADC	SS	FPS-3
N-29	Saglek, Lab.	ADC	SS	FPS-3
N-30	Resolution Isle, Lab.	NEAC	SS	FPS-3
N-31	Frobisher Bay, NWT	ADC	SS	FPS-3

All ten stations were programed for TPG-10D height-finders. ADC Program, 15 Feb 54, p8.

48 & 49 on next page.

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This ambitious program proceeded apace during the first six months of the year. At the beginning of the period ten units had been partially operative with lashup equipment.⁵⁰ By June their number had been increased to fourteen, and more importantly, nine of these were conducting limited operations with their permanent facilities. Thus, only the three outlying surveillance stations in Iceland had yet

48. Resources for Greenland were programed as follows:

<u>Site No</u>	<u>Location</u>	<u>Search</u>	<u>Height</u>
H-32	Thule AFB	FPS-3	FPS-4
H-33	Ice Cap, (Etah)	FPS-3	
H-34	Ice Cap, (Northern)	TPG-1B	

Originally two additional stations had been programed for Greenland, but these disappeared from program documents at mid-year. ADC Program, 1 Jul 54, p 11.

49. The radar net for Iceland, organized under the Iceland Air Defense Force, was programed as follows:

<u>Site No</u>	<u>Location</u>	<u>Search</u>	<u>Height</u>
H-1	Keflavik	FPS-3	FPS-6
H-2	Langanes Pen.	FPS-3	FPS-4
H-3	Hofn	FPS-3	FPS-4
H-4	Horn, N. Cape	FPS-3	FPS-4

IADF resources were under the Military Air Transport Service. ADC Program, 15 Feb 54, p 43.

50. For a discussion of status through the second half of 1953 see 32d ADiv Hist Rept 15, pp 22-24.

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become operational to some degree as the period closed.⁵¹ Moreover, where the units programed for Iceland had been scheduled to activate at Grenier Air Force Base under the jurisdiction of this headquarters, this responsibility was shifted to the Military Air Transport Service⁵² in May. The change was only logical: Grenier had passed from ADC to MATS in the interval since the original plans were made, and MATS⁵³ was senior headquarters to the Iceland Air Defense Force as well.

Northeastern capabilities were at least beginning to assume shape and dimension; the immediate outlook seaward was both less certain and less encouraging. There were elaborate plans to construct a series of Texas Towers with radar equipment on the continental shelf⁵⁴ off the Eastern Seaboard, and to erect an airborne early warning

51. These were H-2 at Langes Peninsula, H-3 at Hofn, and H-4 at Horn, North Cape. ADC Program, 1 Jul 54, p 11.

52/ 1. Ltr, EADP to 1610th Air Transport Gp, "ADC Program Information," 13 Mar 54 (s.d. 52/1).
2. TMX EAOEM-C494, 32d ADiv to 4707th Def Wg, 10 May 54 (s.d. 52/2).

53. The business of activating and manning units programed for locations outside the 32d ADiv had long constituted an onerous burden for this headquarters. In view of the 32nd's proprietorship of Grenier AFB, the Division had prepared units for deployment to Canada, the northeast and elsewhere in the air defense system. The background of this endeavor is detailed in 32d ADiv Hist Rept 15, pp 24-27.

54. ADC Operational Plan for Texas Towers, undated (s.d. 54).

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barrier of RC-121 aircraft patrols farther out to sea,⁵⁵ but neither plan was yet a reality during the period under study. Beyond its own shore-based radar resources, in fact, the 32d had only the expectation that a single radar picket vessel would be on station about one month in three, and the disparate hope that Navy AEW&C aircraft might somehow be of value in an emergency.⁵⁶

Nevertheless, there was a re-awakening of interest in policy matters concerning offshore facilities at this time, brought

55. HF, EAQPM, "Monthly Summary of Changes to the ADC Program Document," 30 Jun 54.

- 56/
1. The extent of Naval participation in air defense is indicated by the reports listed below, which are included in the supporting documents for study.
 2. Ltr, 32d AD to EADF, "Report of Naval/Marine Corps Participation in Air Defense RCS: EADF-T1," 9 Jan 54 (s.d. 56/1).
 3. Ltr, 32d AD to EADF, "Report of Naval/Marine Corps Participation in Air Defense Training (RCS: EADF T-1)," 8 Feb 54 (s.d. 56/2).
 4. Ltr, 32d AD to EADF, "Report of Naval/Marine Corps Participation in Air Defense Training (RCS: EADF-T-1)," 9 Mar 54 (s.d. 56/3).
 5. Ltr, 32d AD to EADF, "Report of Naval/Marine Corps Participation in Air Defense RCS: EADF-T1," 7 Apr 54, (s.d. 56/4).
 6. Ltr, 32d AD to EADF, "Report of Naval/Marine Corps Participation in Air Defense Training RCS: EADF T-1," 10 May 54 (s.d. 56/5).
 7. Ltr, 32d AD to EADF, "Report of Navy/Marine Corps Participation in Air Defense RCS: EADF-TL," 7 Jun 54 (s.d. 56/6).
 8. Ltr, 32d AD to EADF, "Rept of Navy/Marine Corps Participation in Air Defense RCS: EADF-TL," 7 Jul 54 (s.d. 56/7).
 9. Ltr, 32d AD to DO 32d ADiv, "EADF Picket Vessel Conference 13 Jun - 22 Jun 53," 23 Jun 53 (s.d. 56/8).

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on by the signing of the Twining-Carney agreement in December 1953.⁵⁷
As a result of a query of Eastern Sea Frontier headquarters in March,⁵⁸
EADF learned that the Navy planned to convert Liberty ships for use
as picket vessels--they would then be known as YAG's--⁵⁹ and to employ
blimps for offshore surveillance.⁶⁰ Over a period of years these re-
sources were to be built up to a projected total of sixteen YAG's
and eight blimps by July 1959.⁶¹

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57. The agreement and its specific provisions with respect to the Eastern Seaboard are discussed in EADF Hist Rept 15, 1 Jul - 31 Dec 53, pp 220, 221.
- 58/ 1. Ltr, ADC to EADF, "Requirement for Seaward Extension of Contiguous Radar Coverage (1954-1956)," 11 Feb 54 (s.d. 58/1).
2. Ltr & Ind, EADF to ESF, "Seaward Extension of Contiguous Radar Coverage," 25 Mar 54 (s.d. 58/2).
59. DF, EAQOT to EAQFM, "Air Defense Capabilities of Atlantic Fleet, Destroyers and Submarines," 24 Jun 54 (s.d. 59).
- 60/ 1. Ltr & Ind, ESF to EADF, "Seaward Extension of Contiguous Radar Coverage," 12 Apr 54 (s.d. 60/1).
2. Ltr, ESF to EADF, "Seaward Extension of Contiguous Radar Coverage," 29 Apr 54 (s.d. 60/2).
3. DF, Hq EADF EAQOT to EAQFO, "Briefing at Eastern Sea Frontier, 14 Dec 1953," 16 Dec 53 (s.d. 60/3).
61. TNX EAQFM C 419, EADF to ADC, 21 Apr 54 (s.d. 61).

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Then some question arose concerning the number of picket stations to be operated off the coast. All along this headquarters and EADF had assumed that six stations would ultimately be operated, and indeed, programing documents had always reflected this. Yet in June ADC published an operational plan that detailed only five Atlantic stations, albeit to cover approximately the same area for which six had been designated before. Meanwhile the routine training program for over-water fighter-interceptor control, reported upon at some length/the immediately preceding history of this command, was carried on with Escort Squadron SIXTEEN as before.

Plans for airborne early warning, designed to provide an aerial radar screen diagonally from Nova Scotia southwest to Georgia

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- 62/ 1. TWX EAOPM C 562, EADF to ADC, 28 May 54 (s.d. 62/1).
2. Ltr, EADF to ADC, "Picket Ship Requirements," 8 Jun 54 (s.d. 62/2).

63. ADC Operational Plan for Picket Vessels, 15 Jun 54.

64. 32d ADiv Hist Rept 15, pp 41-45.

- 65/ 1. Ltr, Escort Sq 16 to ESF, "Training in Control of Air Force Fighter-Interceptor Aircraft by Escort Squadron 16, 8 Jan 54 (s.d. 65/1).
2. Ltr & Incl, Escort Sq 16 to ESF, "Training of Escort Squadron 16 in Control of Air Force Fighter-Interceptor Aircraft," 7 Aug 54 (s.d. 65/2).
3. Ltr, Escort Sq 16 to ESF, "Report of In-Port Air Control Exercises, Period 1-30 July 1954," 4 Aug 54 (s.d. 65/3).
4. Ltr, Escort Sq 16 to ESF, "Report of In-Port Air Control Exercises, Period 1-30 June 1954," 15 Jul 54 (s.d. 65/4).
5. Ltr, Incls and Incl, ADC to EADF, "Control of Disposition of Sinkable Objects in Harbors and Approaches," 25 Jun 54 (s.d. 65/5).

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by early 1956, underwent several peculiar adjustments between January and June. In March the 4712th AEW&C Squadron was organized at Otis Air Force Base. This command had anticipated the activation and had laid comprehensive plans to accommodate the new unit. It was apparent that Otis was not, by reason of both weather and less than completely adequate facilities, the ideal place to conduct an airborne early warning training buildup. But it was reasoned at this level that AEW requirements were sufficiently urgent to make it necessary, and detailed arrangements had been made accordingly. But all of this was discarded for the time when on 25 May, less than three months after its activation, the 4712th was shifted to McClellan Air Force Base, California.

66. EADF GO 11, 25 Feb 54 (s.d. 66).

- 67/ 1. Ltr & Incl, 4707th Def Wg to 32d ADiv, "Transmittal of Activation Plan for 4712th Airborne Early Warning & Control Squadron," 10 Feb 54 (s.d. 67/1).
 2. WF, 32d ADiv CDC to PBF, MEM, et al., "Trans of Act Checklist for 4712th AEW&C Squadron," 19 Feb 54 (s.d. 67/2).

- 68/ 1. Ltr, EADF to Middletown AMA, "Operations Plan of AEW&C Ground Reporting Stations," 21 Jan 54 (s.d. 68/1).
 2. Ltr, 32d ADiv to EADF, "AEW Support," 8 Jun 54 (s.d. 68/2).
 3. WF, EADF EAOPM to EAODO, "Movement of One AEW&C Squadron to Otis AFB, June 1954," 10 Feb 54 (s.d. 68/3).
 4. Ltr, 32d ADiv to EADF, "Mission Directives," 17 Jun 54 (s.d. 68/4).

69. Ltr, EADF to 4707th Def Wg, "Movement Orders, 4712th AEW&C Squadron," 8 May 54 (s.d. 69).

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The Air Defense Command apparently saw in the limited capabilities of Otis an overwhelming argument against building up its AEW&C resources there. ⁷⁰ The first operational units scheduled for Otis were to be delayed until March 1955, although the first unit was to activate in December 1954. ⁷¹ Thus in March 1955, barring further adjustments to the schedule, Otis was to be the home base for ten RC-121D aircraft, and the scene of a gradual buildup to three times that number. ⁷² And in the meanwhile, the radar aircraft were preparing to undergo operational suitability tests under the auspices of the Air Proving Ground Command. ⁷³

All of this constituted a splendid augury for seaward surveillance in the future. Contiguous to the shore-based radars of the permanent radar network there were to be radar-laden blimps, picket vessels, and airborne early warning aircraft. To the northeast, in Newfoundland and beyond, the seventeen stations of the Northeast Air Command and the Iceland Air Defense Force were bound to provide valuable surveillance data. Yet for the time being there was less than the minimum capability necessary to assure detection in time to bring weapons to bear effectively.

70. Ltr, ADC to EADF, "AEW&C Program," 16 Jun 54 (s.d. 70).

71. ADC Program, 1 Jul 54, p 13.

72/ 1. TWX ADOPR 0044, ADC to EADF, 9 Jan 54 (s.d. 72/1).
2. TWX ADOPR 0267, ADC to EADF, 18 Feb 54 (s.d. 72/2).

73. DF, EADF EAOPM to EAOCCE et al., "Operational Suitability Test of RC-121 C&D AEW&C Acft," 15 Feb 54 (s.d. 73).

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The Ground Observer Corps:

As an adjunct of the effort to make up for the limitations of the permanent radar network, the Ground Observer Corps was endeavoring to provide the command with a low-level detection capability. It was of course at low levels that radar resources, both because of paucity of numbers and their inherent line-of-site characteristics, were least effective.⁷⁴ So the human eyes of the GOC, operating from some 150 active observation posts reporting to the five Division filter centers at Buffalo, Syracuse and Albany, New York, at Manchester, New Hampshire, and at Bangor, Maine, sought to keep watch over the yawning interstices of permanent radar coverage.⁷⁵

The task was not easy. Volunteers were difficult to enlist for the arduous of providing 24-hour surveillance, and those citizens whom patriotism caused to put forth the effort could not be blamed if they felt that such duty should be made compulsory for

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- ^{74/} 1. 32d ADiv Chart, "Radar Coverage at 5,000 Feet," 31 Dec 53 (s.d. 74/1).
 2. 32d ADiv Chart, "Radar Coverage at 10,000 Feet," 31 Dec 53 (s.d. 74/2).
 3. 32d ADiv Chart, "Radar Coverage at 20,000 Feet," 31 Dec 53 (s.d. 74/3).
 4. 32d ADiv Chart, "Radar Coverage at 25,000 Feet," 31 Dec 53 (s.d. 74/4).
- ^{75/} 1. 4673d GOS Monthly Summation, Jan 54 (s.d. 75/1).
 2. 4673d GOS Monthly Summation, Feb 54 (s.d. 75/2).
 3. 4673d GOS Monthly Summation, Mar 54 (s.d. 75/3).
 4. 4673d GOS Monthly Summation, Apr 54 (s.d. 75/4).
 5. 4673d GOS Monthly Summation, May 54 (s.d. 75/5).
 6. 4673d GOS Monthly Summation, Jun 54 (s.d. 75/6).

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⁷⁶ others. Yet, while less than half the total number of volunteers required had been enlisted at the start of the year, and many of these were not participating actively, the picture had begun to brighten considerably. Concerted efforts had by June brought the total of volunteers nationally to 355,000, of whom approximately half were concentrated in the EADF region. ⁷⁷ A good percentage of these were individuals whose duties--as forest rangers, fishermen, Great Lakes mariners, customs attendants, et al.--enabled them to perform Skywatch tasks through the working day. ⁷⁸ Many others were individuals who would not be active until an emergency situation presented itself, after which it might be too late. ⁷⁹ At any rate, the GOC represented an unpredictable source of surveillance data which was at all odds better than nothing at all.

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- 76/
1. Ltr, Mr. Martin Berry to President Dwight D. Eisenhower, 19 Jan 54 (s.d. 76/1).
 2. Ltr, Mr. Val Peterson to Mr. Martin Berry, 12 Feb 54 (s.d. 76/2).
 3. Ltr, 32d ADiv to EADF, Paid Administrative Supervisors, 9 Feb 54 (s.d. 76/3).
- 77/
1. Ltr, 32d ADiv to EADF, "GOC State Activity Report (RCS: ADC-U5)," 8 May 54 (s.d. 77/1).
 2. Ltr, 32d ADiv to EADF, "GOC State Activity Report (RCS: ADC-U5)," 7 Jun 54 (s.d. 77/1).
 3. LF, EADF EAOCB to EAAGH, "Statistical Compilation of the GOC," 19 Jul 54 (s.d. 77/3).
 4. Ltr, 32d ADiv to 4707th & 4711th Def Wgs, "Visits by Civilian Defense Volunteers to Units of this Command," 8 Feb 54 (s.d. 77/4).
78. 1st thru 4th Inds (to Ltr, 26th ADiv to EADF, "Marine Aircraft Flash Test Utilizing Fishing Vessels for Period of 1-31 December 1953," 7 Jan 54), 22 Jan 54 (s.d. 78).
79. Ltr, 32d ADiv to EADF, "Proposed Changes to ADCM 55-6," 19 Mar 54 (s.d. 79).

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For some time the Air Defense Command had sought, not only to build up GOC capabilities, but to arrive at some means of measuring them. In 1953 in the 32d sector, for example, a distinction had been made between intelligence deriving from north and south of the 37th parallel, the former having been reported on a single plot of aircraft on penetration headings.⁸⁰ As an extension of this same effort, ADC implemented Operation Sky Scan in May. This exercise, involving the Bangor, Manchester and Buffalo Filter Centers in the 32d sector, was designed to determine the Corp's effectiveness under alerted conditions, general deficiencies, and major areas of undeveloped capability.⁸¹ Low-level strikes by B-29s were launched against the Buffalo area during the last three days of May, and against the Manchester and Bangor areas between the 6th and 8th of June. As the period closed the results were being analyzed for tracking capability, accuracy and general reliability.⁸² Whatever the specific outcome, it was sure that authorities would have a better line on the results to be expected from the GOC posts and filter centers.

80. TWX ACFOOT-A 9016, 32d ADiv to EADF, undated (s.d. 80).

81. Briefing for General Nelson on ADC Plan for a Study of the GOC as Applied to the EADF Region, undated (s.d. 81).

82/ 1. LP, EADF EACOT to EAOCD, "Plan for a Nation-Wide Study of the GOC," 4 May 54 (s.d. 82/1).
 2. Ltr, 32d ADiv to Mass GOC Coordinator, "Reporting of Severe Storms (Tornadoes) by GOC," undated (s.d. 82/2).
 3. Ltr, EADF to ADC, "Sector Sergeant Plan for Field Training Personnel," 27 Apr 54 (s.d. 82/3).

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CHAPTER TWO: THE PERMANENT RADAR NETWORK

For all the promise of the future, and notwithstanding the capability to be derived from outside sources, the Division's operational intelligence and control responsibilities devolved ultimately upon its own aircraft control and warning resources. For the time being these were still limited to eight permanent radar stations reporting to the control center at Syracuse.⁸³ The existence of the Ground Observer Corps testifies to the inadequacy of this network, and it goes without saying that the facilities extant during the first six months of 1954 were far from adequate to assure effective operational intelligence and control.⁸⁴ There were emergency plans

83. 32d ADiv map, "ACW Resources," 31 Dec 53 (s.d. 83).

84. 32d ADiv Combat Readiness Staff Commentary, May - Jul 54 (s.d. 84).

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for the application of augmentation facilities, of course, as there were programs for supplementing the permanent radars with early warning stations. But defense of the sector still depended primarily upon the permanent resources: the communications, the radars, the men.

Geographically the sector comprised the 100,000 square mile northeastermost tip of the country. Strategically it straddled the most probable avenues of assault from the north and east. And since the expectation was that attack would come with maximum impact and minimum warning, it was both tactically sound and prudent to assume that the 32d would be in the thick of the air battle.

ACW Facilities and Coverage:

The Division's ACW resources during this period were fundamentally what they had been since November 1952, when the last of the permanent stations--P-30 at Caswell, Maine--had become operational. Nevertheless there were advances toward improvement of the basic CFS-6B and FPS-3 search radars, and toward acquisition of the permanent height-finders which had yet to make their debut. On the other hand, the tenuous umbilica of tactical communications remained to be supplemented by an adequate emergency communications network, a problem which was no closer to solution in June than it

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had been six months before. Neither were there any significant advances with respect to backup and augmentation radars during the ⁸⁶ period.

A fundamental equipemental problem derived from the fact that the early warning capabilities of the CPS-6B were severely compromised when the moving target indicator equipment was used. As has been reported in earlier histories, research authorities had found an answer in the GA/347 search modification kit, which was estimated to be capable of increasing early warning ranges by

85. The basic status of the permanent radar network at the close of the period was as follows:

<u>Site</u>	<u>Location</u>	<u>Unit</u>	<u>Search Radar</u>	<u>Height Finder</u>	<u>IFF</u>
P-10	N Truro, Mass	762d AC&W Sq	CPS-6B	FPS-4	GPX-6
P-13	Brunswick HAS, Me	654th AC&W Sq	CPS-6B	FPS-4	GPX-6
P-14	St Albans, Vt	764th AC&W Sq	CPS-6B		GPX-6
P-21	Lockport, NY	763d AC&W Sq	CPS-6B		GPX-6
P-49	Watertown, NY	655th AC&W Sq	FPS-3	FPS-5	GPX-7
P-50	Saratoga Spgs, NY	656th AC&W Sq	FPS-3	FPS-5	GPX-7
P-65	Charleston, Me	765th AC&W Sq	FPS-3	FPS-5	GPX-7
P-80	Caswell, Me	766th AC&W Sq	FPS-10	FPS-4	GPX-7

All eight stations had direction center capabilities, and all were under operational control of the control center at Syracuse. Extract, EADF AC&W Electronics Equipment Status as of 15 July 1954 (s.d. 85).

- 86/ 1. Ltr & Ind, EADF to 32d ADiv, "Status Report of Back-Up Radar," 4 May 54 (s.d. 86/1).
2. Ltr, 32d ADiv to EADF, "Utilization of Project Equipment in Active Air Defense," 23 Mar 54 (s.d. 86/2).

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 as much as 65 per cent. Initially all five CFS-6B stations were scheduled to receive the modification, but P-14 (St. Albans, Vermont) had been dropped from the schedule in mid-1953. The kits were installed at P-21 (Lockport, New York) and P-10 (North Truro, Massachusetts) during the latter half of 1953, and at P-13 and P-80 (Brunswick NAS and Caswell, Maine, respectively) during the first

87. Where the maximum search range of the CFS-6B without moving target indicator was 200 miles or more, NFI reduced the radius to 125 miles. Ltr, 32d ADiv to EAFB, 341.44, "Moving Target Indicator (MTI) Operation," 18 Aug 52 (s.d. 217 to 32d ADiv Hist Rept 13). See 32d ADiv Hist Rept 15, pp 70-76, and ADC Hist Rept 5, pp 29-32.

- 88/
1. The primary equipment at P-80 was designated FPS-10, but it was actually a version of the CFS-6B with fewer scopes. Thus it is referred to as CFS-6B equipment through the body of the present work.
 2. The 764th at St. Albans was quick to request a reconsideration of the decision to eliminate P-14 as a proposed recipient of the OA/347. The unit pointed out that a PRF of 600 was required when NFI was operative, and that the range was thus reduced to 120 miles. The headquarters, in concurring with the request, asked in addition that installation of the kit be expedited to concur with the scheduled transition of the 37th Fighter Interceptor Squadron to F-86Ds. The 32d noted that conversion would make necessary an increase in P-14's high altitude coverage. The proposal was turned down by ADC and resubmitted by this headquarters. ADC's disapproval had to be repeated before the matter was finally closed. Ltr & Inds, 764th ACMW Sq to 4711th DW, 311.19, "Allocation of Radar Early Warning Kit," 12 Jun 53 (s.d. 185, 32d AD Hist Rept 15).

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 six months of 1954. Meanwhile P-14 was re-instated on the priority list as a result of a policy decision by ADC: all CPG-6B were to receive OA/347 modification, and that of P-14 was to be installed before the end of the year.
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Yet all was not well with the OA/347. The sets tended to develop instability of the QK-254B magnetron, which of course hampered the overall effectiveness of the primary search radars. A series of conferences with technical representatives of the Philco, Raytheon and General Electric Companies in May led to specific tests to

89. The basic status of the permanent radar network at the close of the period was as follows:

Site	Location	Unit	Search Radar	Height Finder	IFF
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P-13	Brunswick NAS, Me	654th AC&W Sq	CPS-6B	FPS-4	GPX-6
P-14	St Albans, Vt	764th AC&W Sq	CPS-6B		GPX-6
P-21	Lockport, NY	763d AC&W Sq	CPS-6B		GPX-6
P-49	Watertown, NY	655th AC&W Sq	FPS-3	FPS-5	GPX-7
P-50	Saratoga Spgs, NY	656th AC&W Sq	FPS-3	FPS-5	GPX-7
P-65	Charleston, Me	765th AC&W Sq	FPS-3	FPS-5	GPX-7
P-80	Caswell, Me	766th AC&W Sq	FPS-4	FPS-4	GPX-7

All eight stations had direction center capabilities, and all were under operational control of the control center at Syracuse. Extract, R&AF AC&W Electronics Equipment Status as of 15 July 1954 (s.d. 85).

90. Thus the decision discussed in fn 88 was rectified. Interview with S/Sgt Edward L. Harrison, 32d ADiv C&D Directorate, 3 Jan 55.

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determine the causes of instability.⁹¹ These tests^{were} conducted at P-21 during mid-June. While not fully conclusive, their results led to the conclusion the major fault lay with improper magnetron break-in procedures.⁹² It appeared that the pulse-transformer of the kit was sub-standard in some cases; but by the same token, when the magnetron was broken in under proper procedures there was no indication of arcing or instability.⁹³ At any rate, the units were directed to follow careful break-in procedures while further experimentation⁹⁴ was to be carried on to try and reach definitive conclusions.

At this time the CPS-6Bs were undergoing yet another modification--the substitution of one-tube modulator kits for the 5C22 thyratrons in use theretofore. The use of 5C22s had engendered a host of maintenance and supply problems in the past, which had incapacitated the CPS-6Bs on a number of occasions.⁹⁵ Installation of

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91. Ltr & Ind, 762d AC&W Sq to 32d ADiv, "Conference on EW Kit," 26 Jun 54 (s.d. 91).
92. DF, Capt Leason to Lt Painter, "Historical Report," 7 Jul 54 (s.d. 92).
93. 1st Ind (to ltr, 762d AC&W Sq to 32d ADiv, "Conference on EW Kit," 26 Jun 54), 14 Jul 54 (s.d. 91).
94. Ltr, 32d ADiv to 4707th & 4711th Def Wgs & 766th AC&W Sq, "OA/347 Early Warning Kit Magnetron Test," 15 Jul 54 (s.d. 94).
95. Ltr & Ind, ADC to EABF, "AN/CPS-6B One-Tube Modulator Modification," 26 Feb 54 (s.d. 95).

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the new kits got underway in April, and was to continue over a period⁹⁶ of several months.

Also in line for modification were the FPS-3s, the search capabilities of which had been hampered by an excessive noise in their receiving systems. To remedy the problem, ADC scheduled installation of the Duplexer CU-315/FPS-3 to replace the existing CU-238 equipment; this program was to be carried on through the second half of 1954.⁹⁷ Additionally, all of the Division's stations were to have their radomes repainted and their primary equipments⁹⁸ overhauled at mid-year. This was just a matter of routine, of course, different only in degree from the general run of activities necessary to assure effective operation of the radar resources.⁹⁹

The Problem of Emergency Communications:

If the radar stations could not be regarded as primary targets for a bombing attack, the lines of communications that joined them constituted eminently logical targets for sabotage. It was this¹⁰⁰ situation that gave the urgency to installation defense plans; for the simple act of severing eight entrance cables could isolate the

96. Ltr, EADF to ADivs & Def Wgs, "AN/CPS-6B One-Tube Modulator Modification," 15 Apr 54 (s.d. 96).

97. Ltr & Incls & Incls, ADC to EADF, "AN/FPS-3 Duplexer Modification Schedule," 21 Jun 54 (s.d. 97).

98. Ltr & Incls, EADF to ADivs & Def Wgs, "AN/CPS-6B/FPS-10 and AN/FPS-3 Overhaul and Redome Painting Schedules," 21 Jul 54 (s.d. 98).

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Division's radars and nullify their effectiveness as coordinates of a single AC&W mechanism.

Air defense authorities had grappled with the problem for more than five years without substantial success. In mid-1954 the existing emergency radio facilities were adjudged inadequate to any situation in which a majority of the primary land-lines might fail under attack conditions. ¹⁰¹ Indeed, only the emergency facilities connecting the radar stations with their associated fighter-interceptor squadrons and antiaircraft operations centers were considered ¹⁰² adequate at this time. Each station would therefore be able to

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- 99/ 1. Ltr, EADF to 32d ADiv, "Changes to AC&W Operations Room Equipment Component Location," 22 Jun 54 (s.d. 99/1).
 2. TMX ACFOOT-A 7076, 32d AD to 4707th & 4711th Def Wgs, undated (s.d. 99/2).
 3. Agenda for Installation Planning and Development Review Panel Meeting, 0900, 17 September 1953 (s.d. 99/3).
 4. Ltr, Col R. S. Israel, Jr., to M/G W. R. Nelson, 3 Oct 53 (s.d. 99/4).
 5. Ltr, 32d ADiv to EADF, "Assignment of L-20 Type Aircraft to AC&W Squadrons," 19 Jun 54 (s.d. 99/5).
- 100/ 1. Ltr, 32d ADiv to EADF, "Status of Installation Defense Program," 19 Apr 54 (s.d. 100/1).
 2. 32d ADiv Opns Plan (Installation Defense) No. 3-53 Installation Defense Plan (s.d. 100/2).
101. Memo, Capt W. H. Oakley to Col N. S. Brooks, EADF, "Staff Study Regarding EADF Radio Emergency Networks," 15 Jun 54 (s.d. 101).
102. LF, EACCE to EACDO, "EADF Emergency Communications," 2 Jun 54 (s.d. 102).

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carry on "island" operations in the event of a primary communications rupture; the system would not be crippled completely. But its operations as a system would cease.

From all this it is clear that by far the greatest problem concerned the inadequacy of emergency facilities linking the several direction centers with each other and with the control center at Syracuse. The way to a remedy lay in the realm of high frequency facilities for which both equipment and frequency assignments had been in perpetual short supply. The solution to the equipmental aspect of the problem was at least in sight at mid-year: a delivery schedule had been established that would come close to meeting re-¹⁰³quirements over a period of six to eight months. But the assignment of frequencies was another matter. Higher headquarters had certainly made its problem known to authorities at USAF, but the shortage was Air Force-wide. Moreover, the crowded condition of the high frequency spectrum offered little hope for improvement in the¹⁰⁴ future.

For this dilemma the Air Defense Command offered a clever solution in January. Security control provisions required that commercial and non-tactical civil and military communications facilities be silenced under alert conditions, the precise time at which

103. Memo, Capt W. H. Oakley to Col H. S. Brooks, EADF, "Staff Study Regarding EADF Radio Emergency Networks," 15 Jun 54 (s.d. 101).

104. For a full discussion of this topic, see EADF Hist Rept 1 Jan-30 Jun 54, pp 59-65.

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emergency facilities would be needed for air defense operations. ADC's solution was therefore that non-tactical frequencies be assigned to air defense operations under alert conditions.¹⁰⁵ This concept was approved, and in April EADF was directed to submit a specific justification.¹⁰⁶ In June a request for 48 frequencies was submitted for the EADF region, five day and nine night frequencies to be allotted to the 32d sector.¹⁰⁷ Even the approval of this specific allotment would leave the Division some two thirds short of the frequencies it felt necessary to adequate emergency operation.

Training and Evaluation:

The matter of evaluating capability and pinpointing specific areas of difficulty in radar operations had been persistently problematic in air defense. The best that operational authorities were able to do was determine the most obvious broad areas of concern--the time-honored shortages of skilled personnel and equipment--without discerning precisely what was at the root of their difficulties.¹⁰⁸ Moreover,

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105. Ltr & Incl, ADC to USAF, "Frequencies for ADC HF Emergency System," 21 Jan 54 (s.d. 105).
106. Ltr & Incl, ADC to EADF, "Additional Frequencies for HF Emergency Radio System," 21 Apr 54 (s.d. 106).
107. Ibid, 1st Incl.
- 108/ 1. Ltr & Incl, 32d ADiv IG to 32d ADiv, "Semi-Annual Report of the Inspector General," 28 Jan 54 (s.d. 108/1).
2. TWX ACFPO&R 1170, 32d ADiv to 4707th & 4711th Def Wgs, undtd (s.d. 108/2).

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short of an actual attack situation, or at least a coordinated air defense exercise, the system was unable to assess its radar capabilities accurately in relation to a reliable standard of performance. The radar calibration program had been designed to fulfill the latter requirement, but for a long time the Air Defense Command had felt it wasn't getting an equitable return for its calibration ¹⁰⁹ dollar.

Against this background a system of quality control had ¹¹⁰ been introduced into ACEW operations in mid-1953. The new system had its genesis in a radar evaluation method developed by the Operations Evaluation Group during World War II, and its basis on the assumption that perpetual standards could be established for the functions of individual radars as related to the characteristics of all other radars of the same type. By allowing tolerances for individual variations and relying upon the factors of probability, quality control sought to provide a means to determine precisely when and where difficulties occurred. Evaluation became in theory a matter of routine sampling of radar capability, just as products of ¹¹¹ industry were sampled to assure consistent quality.

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- ^{109/} 1. EADF Rept of 26 May Conference, 28 May 52 (s.d. 109/1).
2. Ltr, 32d ADiv to 32d ADiv Sqs, "Radar Calibration," 23 Jun 52 (s.d. 109/2).

110. The quality control theory, and the way in which it came to be applied to resources of the 32d ADiv during the second half of 1953 is discussed in 32d ADiv Hist Rept 15, pp 78-86.

111. EADF Study, "Quality Control Procedures," undated (s.d. 111).

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Its operational trial through the second half of 1953 the quality control method proved extremely effective in its role as monitor of radar capability. Not all problems of evaluation were dissolved, of course, particularly with respect to cross-border operations at stations such as P-21 (Lockport, New York). But higher headquarters were sufficiently impressed to apply the procedures command-wide in May 1954, having already inactivated the 1st Radar Calibration Squadron in favor of the 4713th Radar Evaluation (Electronic Countermeasures) Flight in March.

It is in this context of radar evaluation that training procedures, and indeed, the overall effectiveness of the radar network, should be considered. Quality control could diagnose the ills of radar performance, but there remained the task of providing for a cure. Largely the cure lay, as had been suspected all along, in the matter of personnel proficiency. To a certain extent this was beyond

112. Ltr & Ind, EADF to 32d ADiv, "Operational Effectiveness of ACM Stations," 29 Jan 54 (s.d. 112).

113. EADFR 55-9, "Quality Control," 12 May 54 (s.d. 113).

114/ 1. Ltr, EADF to RADC, "ADC Program," 21 Jan 54 (s.d. 114/1).
2. EADF GO 8, 16 Feb 54 (s.d. 114/2).

115/ 1. Ltr & Inds, 564th AD Gp to 4707th Def Wg, "EADF Regulation 50-1," 11 May 54 (s.d. 115/1).
2. 32d ADiv C&E Monthly Hist Data Rept, Jan 54 (s.d. 115/2).
3. 32d ADiv C&E Monthly Hist Data Rept, Feb 54 (s.d. 115/3).
4. 32d ADiv C&E Monthly Hist Data Rept, Mar 54 (s.d. 115/4).
5. 32d ADiv C&E Monthly Hist Data Rept, Apr 54 (s.d. 115/5).
6. 32d ADiv C&E Monthly Hist Data Rept, May 54 (s.d. 115/6).
7. Ltr, 32d ADiv to EADF, "Interceptor Crew-Controller-Director Cross Training Report (RCS EADF-T4)," 19 Jan 54 (s.d. 115/7).
8. Ltr, 32d ADiv to EADF, "Comments and Recommendations EADFL 55-15," 20 Jan 54 (s.d. 115/8).

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the purview of operational authorities--to the extent, that is, to which personnel were simply not available in sufficient numbers.

Yet the training of whatever personnel were available presented challenge enough, and the attainment of training objectives would prove rewarding enough, to keep operational authorities busy for some time to come. Moreover, there was much to be done on-the-job, for real proficiency started where formal training left off.

To aid in their training tasks, the units were equipped by the start of 1954 with several devices: most notably the 15-J-10 moving target generator and the 1-DA-11 relative motion intercept trainer. Both were used by directors to simulate actual conditions,

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- 116/ 1. Ltr & Ind, EADF to 32d ADiv, "Recommendation for Shred-Out AFSC 27350-D and 27370-D," 7 Apr 54 (s.d. 116).
 2. The effort at all levels had been to find a way to make up for the inadequate number of directors and technicians by cross training individuals from other fields, as discussed in 32d ADiv Hist Rept 15, Jul-Dec 53, pp 86-94.
- 117/ 1. Ltr, 655th ACMW Sq to 655th ACMW Sq, "Controllers Proficiency Training at Yuma AFB, Arizona," 7 Apr 54 (s.d. 117/1).
 2. For a short time it looked as if the 32d was to have a new training problem, as represented by the assignment of the 532d Tactical Control Group, but the unit is understood to have been inactivated later in the year. EADF GO 7, Assignment and Redesignation of Units, 15 Feb 54 (s.d. 117/2).
 3. TTX ACFCOT C-7328, 32d ADiv to 4707th Def Wg, 25 May 53 (s.d. 117/3).
 4. Ltr & Inds, 532d ACMW Gp to 4707th Def Wg, "Request for Frequencies," 8 Mar 54.
- 118/ 1. Ltr & Ind, ADC to EADF, "Director Aids," 9 Jun 54 (s.d. 118/1).
 2. Ltr, 32d ADiv to EADF, "Relative Motion Intercept Trainer 1-Da-11," 1 Jul 54 (s.d. 118/2).

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and it is indicative of their worth that the 15-J-1C was found to be capable of tracking electronic countermeasures aircraft. Thus the training equipment could be called upon to provide tracking capability in cases where ECM activity succeeded in nullifying the capabilities of primary equipment.¹¹⁹

Electronic Countermeasures Trainings:

The serious business of electronic countermeasures was thrown into sharper focus by the advent of quality control procedures, for quality control monitor flights were easily adapted to ECM training.¹²⁰ Of course, electronic countermeasures had been of concern for some time. Notwithstanding ECM passive defense plans at military installations through the sector,¹²¹ and repeated emphasis upon ECM training, this headquarters did not consider itself prepared to cope with the measures of electronic warfare any competent enemy could be expected to employ. Not only were the physical equipments vulnerable to jamming, but operators at the radar stations were found to be unfamiliar with counter-countermeasure techniques.

In February a Big Photo penetration of sixteen B-36s of the Strategic Air Command gave the system a workout against ECM

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119. Ltr, EADP to 32d ADiv, "Tactical Use of the Moving Target Generator (15J-1C)," 27 Apr 54 (s.d. 119).
120. EADP Study, "Quality Control Procedures," undated (s.d. 111).
121. Passive ECM Defense Plan for Sausson Air Force Base, 4 Nov 53 (s.d. 121).

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techniques employed at high altitudes. ¹²² Then in April two B-29s of the newly formed 4713th Radar Evaluation Flight conducted a mock attack against New York City, passing over the coverage areas of R44 (St. Albans, Vermont), P-49 and P-50 (Watertown and Saratoga Springs, New York). ¹²³ Preceding the two strike aircraft were three B-29s providing electronic jamming cover and mechanical jamming diversion. The system managed to bring about interception of the B-29s some 150 miles out from their target, and one of the B-29s was intercepted twice. This was a fairly creditable performance, but the evaluation flight noted confusion in the units' responses, and concluded that ¹²⁴ a good deal more exercise was in order.

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- 122/ 1. IRS, EADF EACOT to EAODO, "Operation Cold Sweet," 26 Jan 54 (s.d. 122/1).
 2. TXR EACOT-FO C-99, EADF to 32d ADiv, 28 Jan 54 (s.d. 122/2). This message constituted EADF Opus Order 4-54, setting forth the provisions governing exercise Heat Wave.
- 123/ 1. ECM Evaluation Report, 32d ADiv, 29 Apr 54 (s.d. 123/1).
 2. Ltr, 655th ACMW Sq to 32d AD, "ECM Mission," 29 Apr 54 (s.d. 123/2).
 3. Ltr, 656th ACMW Sq to 32d ADiv, "Summary of ECM and Penetration Mission of 29 Apr 54," 30 Apr 54 (s.d. 123/3).
 4. Report of Jamming Training 764th ACMW Sq to EADF, undated (s.d. 123/4).
 5. Ltr, 656th ACMW Sq to 32d ADiv, "Summary of ECM and Penetration Mission of 29 April 1954," 30 Apr 54 (s.d. 123/5).
 6. Ltr & Inds, 517th AD Gp to ADC, "ADC Regulation 55-35 dated 3 Jun 52," 25 May 54 (s.d. 123/6).
124. ECM Evaluation Report, 32d ADiv, 29 Apr 54 (s.d. 123/2).

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The Division commander, Colonel Robert S. Israel, Jr., had come to the same conclusion. Moreover he had learned that the mechanical jamming phase of the ECM training program suffered from a lack of chaff and chaff dispensers. Noting that the ACMW units had managed to complete only 20.6 percent of their required training, and that the fighter-interceptor squadrons were receiving only five percent of theirs, he called upon higher headquarters in May to provide the equipment needed for a full scale program. In Colonel Israel's judgment, aggressive action was imperative if the Division was to achieve its ECM training goals.

Toward the end of June Division stations had another opportunity to exercise against ECM penetrations. This time the coverage areas of six units were penetrated, with the result that the units got one of their best opportunities to acquaint themselves with ECM techniques, and to control fighter-interceptors under conditions of jamming and diversion. What is more, it appeared that such missions would be conducted with increasing regularity in the months to follow.

125. Ltr, 32d ADiv to EADP, "Inadequate Electronic Countermeasures Training," undated (s.d. 125).

126. Ibid.

127/ 1. Rept of ECM Mission Conducted by 4713th Radar Evaluation Flight, 25 Jun 54 (s.d. 127/1).
 2. Ltr, 764th ACMW Sq to 32d ADiv, "Report of Jamming Mission," 30 Jun 54 (s.d. 127/2).
 3. Ltr, 765th ACMW Sq to 32d ADiv, "ECM Training," 26 Jun 54 (s.d. 127/3).
 4. Ltr, 766th ACMW Sq to 32d ADiv, "Report on ECM Mission of 25 June 1954," 28 Jun 54 (s.d. 127/4).

128. Ltr, 32d ADiv to EADP, "ECM Penetration Mission-25 June 1954," 17 Jul 54 (s.d. 128).

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The Supplemental Radar Program:

Apart from its inherent inadequacy of facilities and trained personnel, the permanent radar network suffered from a paucity of numbers. It has been seen that volunteer ground observers were being employed to help plug low-level gaps of radar cover, as it has been implied that this expedient was far from completely successful. Perhaps there has even been the implication that radar resources of the type available, if provided in sufficient numbers and configurations, might be capable of erecting a near-to-perfect electronic barrier. This latter is academic, however, because air defense planning authorities had neither the funds nor the inclination to embark on so ambitious a program. Yet it was in keeping with this principle that the mobile radar program, known now as the supplemental radar program, had been devised.

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- 129/ 1. The first two phases of the supplemental radar program constituted the stations scheduled under the old mobile radar program. Actually, the mobile radar program had been a misnomer all along, for although these radar equipments were capable of being broken down and moved from place to place, they were to be mounted securely on towers at programmed locations. Now, the prefixes "M" and "SM" were supplanted by the following designations: "F" for first-phase stations, "S" for second-phase stations, "T" for third-phase stations and "R" for fourth-phase stations. Ltr, EADP to ADiv & Def Wgs, "Redesignation of Mobile Radar Site Designation," 22 Mar 54 (s.d. 129).
2. The background of the mobile radar program is discussed in 32d ADiv Hist Rept 15, Jul-Dec 53, pp 27-34.

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The four-phase plan for supplemental radars had a long-range objective of augmenting the 75 stations of the permanent network by some 421 additional radars--98 manned stations and approximately 323 automatic alerting devices.¹³⁰ The 44 stations of the first phase and 25 of the second were designed to fulfill two objectives: to complete the double perimeter of radars around the country's three major target complexes--the northeast, the Pacific northwest and California-- and to augment high-altitude coverage at installations of the Strategic Air Command and the Atomic Energy Commission.¹³¹ The 29 stations of the third phase were scheduled to provide coverage along the Gulf of Mexico and in north-central states.¹³² The 323 devices of the final phase were instruments of low-level surveillance, and were to be used to plug interstices of permanent radar cover.¹³³

This command was concerned primarily with the first phase, from which it was programmed to receive four stations as the period closed. But the vagaries of programming had altered arrangements

130/ 1. EADP Memo, "Second Phase Mobile Radar Program," 26 Apr 54 (s.d. 130/1).
 2. Ltr, ADC "Bi-Weekly ACMW Status Report," 18 Jun 54 (s.d. 130/2).
 3. ADC Program, July 54, pp 4-7.

131. EADP Report of Briefing on the Mobile Radar Program, Mar 54 (s.d. 131).

132. ADC Program, Jul 54, p 8.

133. Ibid, p 9.

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before, and there was no guarantee that these arrangements would stay constant. Indeed, in January the 32d had been programmed for five stations, one in the second phase and four in the first.¹³⁴ By February one of the first-phase stations--M-100 at Mattawa, Ontario--had been dropped in favor of an automatic alerting device, and the second-phase station--SM-132 at Fort Dearborn, New Hampshire--had succeeded to its priority.¹³⁵ So the stations programmed for 32d jurisdiction as the period closed were four in number: F-102 and F-103, direction centers at Barrington, Nova Scotia and North Concord, Vermont, respectively, and F-104 and F-110, surveillance stations at Fort Dearborn, New Hampshire and Bucks Harbor, Maine.¹³⁶

This headquarters was concerned also with the matter of providing units for the supplemental radar stations. On hand as the period opened were the 907th and 911th at Syracuse, the 677th at Fort Williams, Maine, and the 700th at Grenier. The 677th and 700th were programmed to occupy stations under the jurisdiction of the 30th Air Division, so in May they were transferred to Willow Run Air Force

¹³⁴. These are listed with the equipments they were to receive in 32d ADiv Hist Rept 15, Jul-Dec 53, p 34.

¹³⁵/ 1. Ltr, ADC to EADP, "Bi-Weekly ACMW Status Rept," 20 Feb 54 (s.d. 135/1).
2. Extract, ADC Diary #32, 16 Feb 54 (s.d. 135/2).

¹³⁶/ 1. The primary search equipment program for these four stations was as follows: an MPS-11 and TPS-10D at F-102, an MPS-11 and MPS-14 at F-103, a TPS-1D at F-104, and an MPS-11 at M-10. EADP report, "EADP 1st Phase Mobile Radar Program," 26 Apr 54 (s.d. 136).

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Station, home of the 30th headquarters. In keeping with these preparations, the 4707th and 4711th Defense Wings were at this same time apprised of their responsibilities for the three sites in New England.¹³⁸ In addition to the details of materiel support, the 4711th was alerted to the pending assignment to its jurisdiction of the 907th and 911th, both of which were scheduled to take beneficial occupancy of their stations in June 1955.¹³⁹

All this represented an encouraging augury for the future of sector capability. But, as was the case with the promising programs for seaward and northeastern surveillance, and for distant early warning in the Arctic, tangible results had yet to appear.

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- ^{137/} 1. Units were assigned to the supplemental stations of the 32d as follows: the 907th was programed for M-110 and the 911th for M-103; M-102 and M-104 were to be occupied by the 672d and 644th, respectively. Ltr & Ind, EADF to ADC, "First Phase Mobile Radar Squadron," 29 Mar 54 (s.d. 137/1).
 2. TWX AFOOT-OC-C 36698, USAF, 31 Mar (s.d. 137/2).
 3. Ltr, EADF to 32d ADiv et al., "Movement Orders, 677th & 700th Aircraft Control and Warning Squadrons," 14 Apr 54 (s.d. 137/3).
 4. EADF GO 27, 5 May 54 (s.d. 137/4).
- ^{138/} 1. DF, EACPM to OOT, et al., "Support of Mobile Radar Program," 19 May 54 (s.d. 138/1).
 2. Ltr, EADF to 4711th Def Wg, "Support of Mobile Radar Program," 30 Apr 54 (s.d. 138/1).
 3. Ltr, EADF to 4707th Def Wg, "Support of Mobile Radar Program," 17 May 54 (s.d. 138/3).
- ^{139.} Ltr, EADF to 4711th Def Wg, "Support of Mobile Radar Program," 30 Apr 54 (s.d. 138/1).

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CHAPTER THREE: THE WEAPONS

If the value of the air defense system might come to be calculated ultimately in other than terms of destruction, there is at least no question that destruction was the focus of the endeavor. In essence the whole massive complex of radars and communications, of support units and facilities, was designed to destroy attacking elements: and only to the extent to which the weapons could repulse an attacker could the mission be considered successful.

The trend was toward dehumanization. That had been evident, if not since the advent of science fiction, certainly since the appearance of the German V-2 rocket of World War II. Indeed, the era of automaticity was close at hand--an assertion which in the case of the air defense system was borne out by the development of such auto-

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matic missiles as the Nike and Bomarc, and of such electronic mechanisms as the Lincoln system of data transmission and display. Air defense authorities could plan for a day of push-button reflexes, when the manual aspects of the air defense process would be supplanted by electronic equipments, and when the human factor would be reduced to a matter of maintenance and decision-making. But in 1954 the continental system was yet at mid-term in the curriculum of automaticity. The year before had seen the onset of such semi-automatic refinements as the collision course fire-control system. Yet consummation of the air defense process--detection, identification, interception and destruction--still depended in major measure upon the human

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140. The Nike was an antiaircraft ground-to-air missile scheduled for deployment in point defense of such key targets as Boston, New York and Philadelphia. The F-99 (Bomarc), in essence a robot interceptor, was an Air Force missile of somewhat longer range and higher speed capabilities than the Nike. The Lincoln system for automatic collection, transmission and display of operational intelligence data, was to be introduced into active operations piecemeal over a period of years beginning in 1955. The characteristics of these advanced mechanisms, and of the plans for their employment, are discussed in early histories of this command, notably in 32d ADIV Hist Rept 14, pp 24-46 & 166-175.
141. The historian is reminded of a cartoon in a recent issue of the New Yorker magazine, in which are pictured two men dwarfed by a massive electronic brain mechanism. One man says to the other, "Suppose you let me do the thinking around here." Yet more seriously, the advent of automaticity involved extremely serious problems of its own. Even the introduction of the relatively simple CPS-6B radars in 1952 had created serious difficulties of maintenance. Certainly such infinitely more advanced equipments as those envisioned by the Lincoln transition system, were going to pose maintenance problems of extreme magnitude. The Division commander Col Robert S. Israel, Jr., once speculated that each Lincoln component would come to air defense complete with two PhDs to keep it operative.

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element: notably upon the proficiency of the scope operator, the director and the pilot.

Fighter-Interceptor Forces:

The year 1953 had been one of wholesale conversion. Where in January the fighter force had been composed entirely of conventional and day-jet aircraft, and in July it had still been interlarded heavily with day-jet machines, by December it had become predominantly airborne-intercept equipped. Through the course of the year only one squadron retained the same aircraft it had had twelve months before. Moreover, where six assorted models of as many types had been employed at the start of 1953, by the end of the year the command had in operation only five models of three basic types. A degree of homogeneity was coming into evidence.

At the outset of the current period the Division's nine squadrons comprised in composite a force of some 200 tactical aircraft. Conversions at the first of the year improved the weapons potential

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- 142/ 1. The characteristics of the new aircraft, quite apart from the fire control systems, were far superior to those of earlier types. 32d ADiv Chart, "F-94C Using Afterburner," undated (s.d. 142/1)
2. 32d AD Chart, "F-94C w/o Afterburner," undated (s.d. 142/2).
3. 32d AD Chart, "F-86D Using Afterburner," undated (s.d. 142/3).
4. 32d AD Chart, "F-86D w/o Afterburner," undated (s.d. 142/4).

143 & 144 on next page.

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still further: the 27th at Griffiss converted from F-86As to F-94Cs¹⁴⁵ and the 47th at Niagara from F-86Fs to F-86Ds. Units converting during 1953 had been required to maintain alerts with their older aircraft until a sufficient number of aircrews had become qualified

143. The progress of conversion in 1953 is evident from the basic status of the fighter interceptor complement as follows:

<u>4711th Defense Wing</u>	<u>Jan</u>	<u>Jun</u>	<u>Dec</u>
27th FIS, Griffiss AFB, NY	F-86A	F-86A	F-86A
37th FIS, Ethan Allen AFB, Vt	F-51D	F-51D	F-86D
49th FIS, Dow AFB, Me	F-80C	F-86F	F-86F
57th FIS, Presque Isle AFB, Me		F-89C	F-89C
74th FIS, Presque Isle AFB, Me	F-94B	F-89C	F-89C
<u>4707th Defense Wing</u>			
47th FIS, Niagara Falls AFB, NY	F-47D	F-86F	F-86F
58th FIS, Otis AFB, Mass	F-94B	F-94C	F-94C
437th FIS, Otis AFB, Mass		F-94C	F-94C
60th FIS, Westover AFB, Mass	F-86E	F-86D	F-86D

The 437th had no aircraft in January; the 57th was not activated until March. Both the 57th and 74th picked up modified F-89Cs which had previously been grounded. For a complete breakdown of the specifics of conversion see the EADW Command Data Books for 1953 (monthly thru June, quarterly thereafter), and 32d ADiv Hist Rept 14, pp 137-153. The geographical distribution of these resources is illustrated in 32d ADiv Map, "Fighter-Interceptor Resources," 31 Dec 53 (s.d. 143).

144. Each squadron was authorized 25 tactical aircraft, but the number of aircraft actually possessed was usually somewhat less, varying according to maintenance and similar factors. For a specific breakdown of these statistics see EADW Command Data Book, 31 Dec 53, pp 5.08, 5.09.

- ^{145/}
1. MEM Hist Rept, Jan 54 (s.d. 145/1).
 2. MEM Hist Rept, Feb 54 (s.d. 145/2).
 3. MEM Hist Rept, Mar 54 (s.d. 145/3).
 4. MEM Hist Rept, Apr 54 (s.d. 145/4).
 5. MEM Hist Rept, May 54 (s.d. 145/5).
 6. MEM Hist Rept, Jun 54 (s.d. 145/6).

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with the newer models to assume alert commitments with them. This rule was applied to the conversion of the 27th.¹⁴⁶ But the 47th, by a special arrangement with ADC, was permitted to deploy to the training establishment at Yuma for a 45-day period of extensive training with its F-86Ds, Niagara alert commitments being assumed meanwhile in the manner customary when squadrons deployed for routine rocketry or gunnery training.¹⁴⁷ This dispensation for the 47th presaged a change in ADC policy which in mid-April permitted the defense forces to relieve converting units from their alert commitments for 75-day periods.¹⁴⁸

The two conversions were certainly significant boosts to the weapons potential of the command, for they reduced to three the number of squadrons still operating the older models: the 57th and 74th at Presque Isle had F-86Cs and the 49th at Dow still operated the F-86Fs to which it had converted in mid-1953. Moreover, both Dow and Presque Isle were scheduled to see changes that would give the Division a fighter-interceptor force equipped completely with

146. TWX EAQOT-FO C-81, EADP to 32d AD, 22 Jan 54 (s.d. 146).

147/ 1. TWX EAQOT-FO C-186, EADP to 32d AD et al., 17 Feb 54 (s.d. 147/1).
 2. TWX EAQOT-FT C-185, EADP to ADC, 20 Feb 54 (s.d. 147/2).
 3. TWX EAQOT-TW C-205, EADP to 32d ADiv, 26 Feb 54 (s.d. 147/3).
 4. TWX HAB DCGO 571, 518th AD Gp to 32d ADiv, 27 Feb 54 (s.d. 147/4).
 5. TWX ADOOT-C 0344, ADC to EADP, 5 Mar 54 (s.d. 147/5).
 6. TWX EAQOT-OW C-230, EADP to 32d ADiv, 5 Mar 54 (s.d. 146/6).

148. TWX ADOOT-C 0604, ADC to WADP, EADP, CADP, 14 Apr 54 (s.d. 148).

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lead collision course aircraft by the end of the year. The 49th was to convert to F-86Ds by September, and the 57th and 75th were to exchange assignments with units at Keflavik, Iceland and Thule, Greenland, respectively. The latter arrangement included a conversion to F-89Ds: the 318th from Thule was to change places with the 74th in August, and the 82d from Iceland was to exchange places with the 57th by January. Ultimately these plans were to be interrupted by Project IRAN, an engine modification program conducted through mid-year. Aside from causing a burden with respect to the attainment of unit proficiency directive and alert requirements, IRAN delayed the Presque Isle exchange several months. But at least

149. Draft of Ltr & Incls, 32d ADiv to EADF, "Study on Air Defense of Maine, New Hampshire, and Vermont," undated (s.d. 149).

150. ADC Program, 1 Jul 54.

- 151/
1. Ltr & Incls, 27th FIS to EADF, "Waiver of ADC UPD Requirements," 11 Mar 54 (s.d. 151/1).
 2. Ltr & Incls, 528th AD Gp to 4711th ADef Wg, "Alert Requirements," 31 Mar 54 (s.d. 151/2).
 3. Ltr & Incls, 57th FIS to EADF, "Waiver of ADC UPD Requirements," 14 Apr 54 (s.d. 151/3).
 4. Ltr & Incls, 27th FIS to EADF, "Waiver of ADC UPD Requirements," 16 Apr 54 (s.d. 151/4).
 5. Ltr & Incls, 27th FIS to EADF, "Waiver of ADC UPD Requirements," 4 May 54 (s.d. 151/5).
 6. Ltr & Incls, 57th FIS to EADF, "Waiver of ADC UPD Requirements," 5 Jun 54 (s.d. 151/6).
 7. Ltr & Incls, 74th FIS to 528th AD Gp, "Request for Waiver of Par 23, AFM 75-37," 14 Jun 54 (s.d. 151/7).
 8. Ltr, Incl & Incls, ADC to EADF, "Request for Waiver of AFR 60-2," 11 Feb 54 (s.d. 151/8).

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the long-anticipated climax to mid-term conversion was in sight.

Whilst conversion and modification took place, of course, the Division was faced with the ever-present problems attendant on maintaining its guard with the forces at hand. On paper the interceptor complement appeared relatively stable during the first six months of 1954, but the picture was rather more complicated in

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fact. Toward the end of 1953 the F-86Ds had been grounded by ADC, from which status the last of them were not released until March.

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Additionally, the command was still engaged in the training program known as Balloon Pump as the period started. This all-out training

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- 152/
1. EADF GO 1, 25 Jan 54 (s.d. 152/1).
 2. EADF GO 6, 12 Feb 54 (s.d. 152/2).
 3. EADF GO 9, 16 Feb 54 (s.d. 152/3).
 4. EADF GO 12, 25 Feb 54 (s.d. 152/4).
 5. EADF GO 14, 3 Mar 54 (s.d. 152/5).
 6. EADF GO 35, 23 Jun 54 (s.d. 152/6).

153/ The command at mid-year had two squadrons of F-89Cs, three of F-94Cs, three of F-96Ds, and only one of the older F-86Fs. This differed from the picture six months before only in the case of the 47th which had converted from F-86Fs to F-86Ds, and the 27th which had converted from F-86As to F-94Cs.

1. EADF Command Data, Dec 53
2. EADF Command Data, Mar 54
3. EADF Command Data, Jul 54

154. TWX ADHAC-242 2452, ADC to Def Forces, 22 Dec 53 (s.d. 344 to EADF Hist Rept, 1 Jul to 31 Dec 53).

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effort to raise the experience level had been scheduled originally to last 90 days, until the end of February, ¹⁵⁵ but was extended an additional month as a result of the incapacity of the F-86D. ¹⁵⁶

Coinciding with the conclusion of Balloon Pump and the release of the last 86D from grounded status, ADC imposed more stringent alert requirements on the fighter-interceptor squadrons. On April 1st, the advent of the annual critical period of greatest daylight and hence the greatest threat of air assault, two-squadron bases were required to double the normal number of fighters on one hour backup, and all bases were to advance an additional two aircraft to fifteen minute availability: otherwise the commitments

155. Alert commitments had been reduced for the bootstrap training period. TFX EA00T-F C-1617, EADF to ADiv, 28 Nov 54 (s.d. 155).

- 156/ For a discussion of the background and provisions of Balloon Pump, see 32d ADiv Hist Rept 15, pp 115-123. An account of its effects is given later in the present work.
1. Ltr & Incl, EADF to 32d ADiv, "Semi-Monthly Aircraft Activity Reports (RCS: ADC-A1)," 15 Jun 54 (s.d. 156/1).
 2. A modification program for the 86D called project Pull Out was stated later in February. Over a period of months it incorporated into the 86Ds several late engineering changes in the fire and flight control systems, the auto pilot, and the J-47 engine. North American Aviation Report, "Project Pull-Out," 25 Jun 54 (s.d. 156/2).
 3. Ltr & Incl, 32d AD, "UHF Tactical Frequency Assignment," 18 Mar 54 (s.d. 156/3).
 4. Ltr & Incl, 32d AD, "UHF Tactical Frequency Assignment," 16 Apr 54 (s.d. 156/4).
 5. Ltr & Incl, EADF to 32d ADiv, "Semi-Monthly Aircraft Activity Reports (RCS: ADC-A1)," 15 Jul 54 (s.d. 156/5).

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were as usual. Under extraordinary conditions--conversion, deployment for rocketry, and the like--special arrangements were made.

Given sufficient warning, the active complement was to be bolstered under attack conditions by interceptors from a variety of sources: from other Air Force commands, the Navy, Air Force Reserve components, and the Air National Guard. There were detailed plans for the accommodation of these resources, and they were given repeated emphasis during the period under study. Moreover, plans were extant

157/ The alert commitments imposed in April 1953 are set forth in detailed 32d ADiv Hist Rept 15, fn 25, p 99.

1. TWX ADOOT-C 0401, ADC to Air Def Forces, 13 Mar (s.d. 157/1).
2. TWX EA00T-OW C 268, EADF to ADC, 17 Mar (s.d. 157/2).
3. TWX EA00T-OW C-305, EADF to ADivs, 17 Mar 54 (s.d. 157/3).

- 158/
1. TWX ACFOOT-FO 4063, 32d ADiv to EADF, 23 Apr (s.d. 158/1).
 2. TWX EA00T-OW C-444, EADF to ADC, 26 Apr 54 (s.d. 158/2).
 3. Ltr, 32d ADiv to 4707th & 4711th Def Wgs, "Temporary Re-deployment of 47th FIS," 7 Jun 54 (s.d. 158/3).
 4. TWX, ACFOOT-FO 6005, 32d ADiv to EADF, 2 Jun 54 (s.d. 158/3).
 5. 32d ADiv staff meeting minutes, Jan and Jun 54 (dated individually) (s.d. 157/5).

- 159/
1. DF, EA00T to EA000, "ADC Operation Plan 4-54," 30 Mar 54 (s.d. 159/1).
 2. TWX ADOOT-B0219, ADC to Moody AFB, 10 Feb 54 (s.d. 159/2).
 3. Ltr, Naval Reserve Training Comd to ADC, "Authentication Blocks; assignment of," 14 Jun 54 (s.d. 159/3).

- 160/
1. Ltr, M/G F. H. Smith, Jr., to M/G M. R. Nelson, 21 Jan 54 (s.d. 160/1).
 2. Ltr & Incl, M/G M. R. Nelson to M/G F. H. Smith, 25 Feb 54 (s.d. 160/2).
 3. TWX ACFOOT-FO 6068, 32d ADiv to EADF, 23 Jun 54 (s.d. 160/3).

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for the inclusion of Air National Guard units into active air defense operations. The idea had been tested in 1953, had been passed upon at higher levels, and in April of the current period was ordered put into effect by EADF. This headquarters had set about to indoctrinate the ANG units for their new responsibilities, but soon ran into a snag: several of the units were unable to meet their obligations in time for the scheduled beginning on June 1st. Apparently staff work had broken down somewhere, and the squadrons concerned had failed

161/ The background of this program is set forth in earlier histories of this command, notably in 32d ADiv Hist Rept 15, pp 175-179.

1. Ltr & Ind, ADC to EADF, "Air National Guard Air Defense Augmentation," 13 Apr 54 (s.d. 161/1).
2. IRS, EADF EAGPM to EAOOT, "Air National Guard Alert Pilots," 7 May 54 (s.d. 161/2).

162/

1. Ltr, 32d ADiv to 4707th Def Wg, "Briefing of Augmentation Forces," 4 Jan 54 (s.d. 162/1).
2. Ltr, 32d ADiv to 4700th AB Gp, "Air National Guard Air Defense Augmentation," 11 May 54 (s.d. 162/2).
3. Ltr, 32d ADiv to 4707th & 4711th Def Wgs, "Air National Guard Defense Augmentation," undated (s.d. 162/3).

163/

1. TXN ADOOT-R2 16378, ADC to EADF, 20 May (s.d. 163/1).
2. TXN EAOOT-OW 16152, EADF to ADivs, 21 May 54 (s.d. 163/2).
3. TXN ACFOOT 5087, 32d ADiv to EADF, 26 May (s.d. 163/3).
4. TXN EAOOT-OW C-592, EADF to ADC, 27 May 54 (s.d. 163/4).
5. TXN ACFOOT 5090, 32d ADiv to EADF, 27 May (s.d. 163/5).
6. TXN ADCST-7 164, ADC to EADF, 28 May (s.d. 163/6).
7. TXN EAOOT-TW 15417, EADF to ADC, 14 May 54 (s.d. 163/7).

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to get directions from the National Guard Bureau. Thus, although
 the plan would be put into effect later, it was not able to commence
 during the current period.

Balloon Pump and Its Effects:

Quantitatively aircrew manning had been pronounced adequate
 by the end of 1953. The incursion of new tactical personnel through
 the middle of the year had brought their numbers to a new high, and
 if the distribution of pilots among the several models of aircraft
 was not altogether equitable, at least the rule of chronic shortages
 seemed at an end. Yet there was another side to the coin: quali-
 tatively the bulk of the newly acquired people left much to be desired.

164. Of eight Air National Guard fighter-interceptor units in the
 32d sector, four were scheduled to take part in the augmenta-
 tion alert program: the 101st at Boston, 131st at Westfield,
 138th at Syracuse, and 139th at Schenectady. DF, EACOT, "Status
 of Air National Guard Air Defense Augmentation Plan," 28 May
 54 (s.d. 164).

165/ 1. TWX EACOT-OW 17439, EADF to ADivs, 3 Jun (s.d. 165/1).
 2. Ltr & Incl, 32d ADiv to ADC, "Air National Guard Capability
 Report (RCS: AD ANG-VI)," 23 Jun 54 (s.d. 165/1).
 3. Ltr, 32d ADiv, "Movement of 102d Fighter Interceptor Wing,"
 8 Jul 54 (s.d. 165/3).
 4. DF, EADF EACOT to EAODO, "ADC Project Reports," 2 Jul 53
 (s.d. 165/4).

166/ 1. TWX EAFWP-O 1062, EADF to ADC, 18 Jan (s.d. 166/1).
 2. TWX ADFWP-O-AZ 0145, ADC to EADF, 28 Jan 52 (s.d. 166/2).
 3. TWX EACOT-FO C-1644, EADF to ADivs, 18 Dec (s.d. 166/3).

167. EADF Command Data, Dec 53.

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In large part the pilots had been recently graduated from flying schools, and the maintenance people too were relatively inexperienced. The combination had created the operational crisis which had in turn precipitated Balloon Pump, the 90-day emergency training program begun in December.

The grounding of the F-86D shortly before the end of the year had served to retard the training effort at the two Division squadrons affected by the measure. Ultimately it had caused higher headquarters to extend Balloon Pump an additional 30 days. But on all other fronts the program proceeded apace. Operational authorities exploited every means at their disposal to raise the level of proficiency. T-33 trainers and flight simulators were worked out alike with UE aircraft. Whatever areas of operation had proved problematic

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- 168/ 1. Ltr, EADF to 32d ADiv, "Flying Records of Recent Graduates of the Air Training Command," 9 Mar 54 (s.d. 168).
 2. The background and objectives of Balloon Pump and the operational crisis that precipitated it are discussed in 32d ADiv Hist Rept 15, pp 106-119.

- 169/ 1. TWX ADOOT-C 0221, ADC to EADF, 9 Feb (s.d. 169/1).
 2. TWX EAQOT-F C-142, EADF to ADiv & Def Wgs, 10 Feb 54 (s.d. 169/2).

- 170/ 1. F-86D Flight Simulator Priority of Allocation as of 1 December 1953 (s.d. 170/1).
 2. F-89D Flight Simulator Priority of Allocation as of 1 December 1953 (s.d. 170/2).
 3. ADC MED Schedule as of 1 December 1953 (s.d. 170/3).
 4. Ltr, 32d ADiv to 4707th & 4711th Def Wgs, 22 Jun 54 (s.d. 170/4).

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in the past were singled out for special emphasis. ¹⁷¹ When it appeared that support unit training was being neglected, the units were admonished to undertake special training programs for air police, supply personnel and the like. ¹⁷² And when at long last the F-86Ds became available in numbers, the other tactical units sought to make up for lost time. ¹⁷³ Unseasonably good weather through February helped pilots keep the accident rate down while piling up additional flying hours in pursuit of proficiency. And meanwhile operations analysts had devised ¹⁷⁴ a formula to measure the results.

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- 171/ 1. Ltr & Ind, USAF to ADC, "Use of Runway Temperatures in Computing Takeoff Distances," 15 Dec 53 (s.d. 171/1).
 2. Ltr, 32d ADiv to 4707th & 4711th Def Wgs, "Violation of Air Force Regulation 60-22," 16 Feb 54 (s.d. 171/2).
 3. Ltr, Incls & Incls, 528th AD Gp to 4711th Def Wg, "Aircraft Clearance for Air Defense Mission Training," 3 Feb 54 (s.d. 171/3).
 4. Ltr, 32d ADiv to EADF, "Cross-Country Navigational Training Flights in Tactical Aircraft within the Continental United States," 15 Jan 54 (s.d. 171/4).
 5. Ltr, 32d ADiv to 4707th & 4711th Def Wgs, "Night Check-Out Requirement for UE Aircraft," 6 Jan 54 (s.d. 171/5).
172. TWX EACOT-FT C-180, EADF to Def Wgs, 20 Feb (s.d. 172).
- 173/ 1. Ltr, EADF to 30th ADiv, "Commander's Estimate of Accident Potential," 13 Feb 54 (s.d. 173/1).
 2. Ltr & Incl, B/G M. S. Roth to M/G M. R. Nelson, 16 Mar 54 (s.d. 173/2).
 3. DF, EAMEM to EADVC, EADCG, "General Roth's letter Concerning Report of F-86D Ungrounding Team Inspections," 2 Apr 54 (s.d. 173/3).
 4. Ltr, M/G M. R. Nelson to B/G M. S. Roth, 5 Apr 54 (s.d. 173/4).
174. Ltr, EADF to 26th ADiv, "Balloon Pump Evaluation," 18 Jan 54 (s.d. 174).

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The wings were inclined to be cautious in toting up the benefits of Balloon Pump. Both had found themselves unable to control such perpetual malefactors as equipemental shortage and personnel assignment instability. But by the same token, both had sensed, if not actually being able to measure, gains of proficiency and enthusiasm. The 4707th was able to state categorically that "there was an increase in both unit and individual proficiency," even if it was impossible to determine to what extent the training program had been responsible.¹⁷⁵ Colonel James O. Beckwith, commander of the 4711th, had found the main benefits of Balloon Pump to lie in the area of aircrew proficiency, and more particularly in "...the opportunity to concentrate training on those pilots who were in specific need of training...."¹⁷⁶ Yet he felt moved to recommend that any similar program in the future be preceded by "at least 45 days of 'lead time'" to permit a greater measure of preliminary planning.¹⁷⁷

The Division Commander, Colonel Robert S. Israel, Jr., felt that both wings had benefited more than either realized. In his own field visits and those of his staff, Colonel Israel had determined that profound managerial benefits, many of them intangible,

175. Ltr & Ind, 4707th Def Wg to 32d ADiv, "Balloon Pump Evaluation Report," 15 Apr 54 (s.d. 175).

176. Ltr & Ind, 4711th Def Wg to 32d ADiv, "Balloon Pump Evaluation," 15 Apr 54 (s.d. 176).

177. Ibid.

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had accrued to the command as a result of Balloon Pump. In all, he reported, "Balloon Pump has served to place objectives in clear focus.... My observations indicate a marked improvement in overall operations and functions of all units."¹⁷⁸

Yet Colonel Israel was not of the opinion that Balloon Pump had solved the command's training problems. Rather he looked upon it as a means to develop capability; he assured higher headquarters that Balloon Pump would be "a continuing process."¹⁷⁹ In this the Division commander had anticipated EADF. The consolidated report to ADC promised that the tenets of Balloon Pump would be continued, particularly with respect to the emphasis upon tactics and techniques, supervision of newly graduated pilots, and all phases of comprehensive unit and systems training.¹⁸⁰ The command did not

178. 1st Ind to Ltr, 4711th Def Wg to 32d ADiv, "Balloon Pump Evaluation," 15 Apr 54 (s.d. 176). In his indorsement to the 4707th, however, Colonel Israel excepted from his general remarks on improvement the 49th Fighter-Interceptor Squadron. For reasons he did not reveal and that were not evident in the 4707th report, Colonel Israel felt that in the case of the 49th Balloon Pump had served merely to "crystallize its problems." Ltr & Ind, 4707th Def Wg to 32d ADiv, "Balloon Pump Evaluation Report," 15 Apr 54 (s.d. 175).

179. Ltr, EADF to ADC, "Evaluation of Exercise Balloon Pump," 29 Apr 54 (s.d. 179).

180. Ibid.

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intend to permit development of another crisis such as that which had precipitated the bootstrap training effort.

It is in this determination to perpetuate the principles and techniques of Balloon Pump that training efforts for the remainder of the period may be best appreciated. The units were admonished to review procedures governing all the aspects of scramble and recovery, of weather minima and instrument approaches, of the specifics of pre-flight and post-flight inspection. Routine flying training accomplishments became a matter of more than routine scrutiny. These after-effects would likely prove themselves more significant in the last analysis than any of the more readily discernable results of Balloon Pump.

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- 181/
1. Ltr & Ind, ADC to EADF, "Instrument Approach Procedures," 14 May 54 (s.d. 181/1).
 2. Ltr & Ind, EADF to 32d ADiv, "Aircrew Indoctrination in Aircraft Navigational Instruments," 14 Jun 54 (s.d. 181/2).
 3. Ltr & Inds, 32d ADiv to EADF, "Emergency Scrambles," undated (s.d. 181/3).
 4. Ltr & Inds, 528th AD Gp to 4711th Def Gp, "Deviations from EADFR 60-13," 10 Jun 54 (s.d. 181/4).
 5. Ltr & Inds, APROTC Det 520 to Hq APROTC, "Orientation in Jet Type Aircraft," 28 Apr 54 (s.d. 181/5).
 6. Ltr & Inds, "Allocation of Flying Time," 13 Apr 54 (s.d. 181/6).
 7. Ltr, 32d ADiv to 4707th & 4711th Def Wgs, "Pre-Flight and Post-Flight Inspection to be Performed by Pilots," 15 Jul 54 (s.d. 181/7).
- 182/
1. Ltr, 32d ADiv to 4711th Def Wg, "Analysis of Flying Status," 17 Jul 54 (s.d. 182/1).
 2. Ltr, 32d ADiv to 4707th Def Wg, "Analysis of Flying Training," 17 Jul 54 (s.d. 182/2).

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Fighter Bases and Facilities:

There was, of course, a distinct and concomitant correlation between combat capabilities and the caliber of supporting operations. The old chestnut about several hundred men standing behind every man in combat had particular applications to air defense, where the purport of the whole massive operational intelligence network was to portray the picture of the air battle to facilitate interception and destruction. In the interception phase of air defense alone there were vast problems involved in supporting combat elements. Most immediately these hinged on supply and maintenance, facilities, and accommodations. And under the provisions of Balloon Pump these matters came in for the same rigorous scrutiny that had penetrated other aspects of air defense operations.

Sound advances were made against problems of aircraft parts supply. Indeed, by the end of Balloon Pump the perpetually high rates of aircraft out of commission for parts had been reduced by as much as 23 per cent, and the command was able to claim a measure of supply discipline unequalled in earlier operations. Largely

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- 183/ 1. Ltr, EADF to 26th ADiv, "Balloon Pump Evaluation," 18 Jan 54 (s.d. 174).
 2. Ltr & Ind, 4707th Def Wg to 32d ADiv, "Balloon Pump Evaluation Report," 15 Apr 54 (s.d. 175).
 3. Ltr & Ind, 4711th Def Wg to 32d ADiv, "Balloon Pump Evaluation," 15 Apr 54 (s.d. 176).
 4. Ltr, EADF to ADC, "Evaluation of Exercise Balloon Pump," 29 Apr 54 (s.d. 179).

184. EADF General Commentary on the State of Combat Readiness, April 1954.

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the difficulty had been determined to have derived from uncertainties in the pipeline flow of certain critical spares, and ultimately from deficiencies of overall materiel management.¹⁸⁵ Prior to the start of Balloon Pump the laxity of supply procedure had been laid at the doorstep of unit commanders, rather than the base accountable officers who were traditionally suspect in such matters.¹⁸⁶ Command-wide reinvigoration of supply discipline brought order to such items as stock control and the disposal of excess supplies, with the results described above.¹⁸⁷ Maintenance too was subject to vigorous staff action, but a promising experiment with/consolidated jet engine minor repair program, called Cosamo, had to be canceled in February as a result, among other things, of the requirements of the Pull Out modification program.¹⁸⁸

¹⁸⁵. Ltr, L/G. O. R. Cook to Gen Chidlaw, 28 Aug 53 (s.d. 185).

¹⁸⁶. Ltr, M/G M. S. Roth to M/G M. R. Nelson, 12 Sep 53 (s.d. 186).

¹⁸⁷/ 1. Ltr, M/G F. H. Smith, Jr., to M/G M. R. Nelson, 23 Sep 53 (s.d. 187/1).
2. Ltr, M/G M. R. Nelson to M/G F. H. Smith, Jr., 13 Oct 53 (s.d. 187/2).

¹⁸⁸/ Cosamo, organized under the 4706th Defense Wing at O'Hare in mid-October 1953, had been designed to help bridge the maintenance gap between field units and depots. ADC had noted the success of similar operations in other commands, and had high hopes for its ability to reduce the time and effort expended on certain types of maintenance in air defense operations. For a full discussion of Cosamo see EADP Hist Rept, 1 Jul-31 Dec 53, pp 146-149.

1. Ltr, EADP to ADC, "Evaluation of the COSAMO Test, EADP," 2 Feb 54 (s.d. 188/1).
2. Ltr & Ind, ADC to EADP, "Discontinuance of COSAMO," 27 Feb 54 (s.d. 188/2).

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One of the more persistent problems in maintaining the fighter interceptors concerned reservicing and "turn around" times. The effort was to reduce to the minimum the time taken in getting the fighters back into the air during active operations. In this wise the Division encountered particular problems with respect to tactical units tenant on bases other than those of the Air Defense Command, and especially with respect to the 49th at Dow, which was under Strategic Air Command jurisdiction. While interim arrangements were made to accommodate the 49th at Dow, the unit was progressed to deploy to Hanscom Air Force Base, Massachusetts before the end of 1955.

Meanwhile there was solid accomplishment in matters of facilities relative to safe operation of the fighter-interceptors. Tactical air navigational systems were in the process of installation at Burlington, Grenier, Niagara and Otis. Crash rescue

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- 189/ 1. Ltr, Maj Robert T. Merrill III to Comdr ADC, "Turn-Around Time for the F-89D(S)," 18 Feb 54 (s.d. 189/1).
 2. Ltr & Ind, ADC to EADF, "Turn Around Time for F-89D(s)," 31 Mar 54 (s.d. 189/2).
190. Ltr & Inds, 49th FIS to 4711th Def Wg, "Refueling Units," 13 Jan 54 (s.d. 190).
191. The long-standing difficulties with respect to the 49th at Dow are detailed in earlier histories of this command. Apparently, the active operations of the Strategic Air Command units and those of the 49th caused conflict and even a degree of enmity. In any event, authorities looked forward to the move to Hanscom, which it was felt would permit of greater harmony. DF, 32d ADiv MEM to FOAR, "Problem Areas," 24 Feb 54 (s.d. 191).

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Facilities were organized at Niagara and Otis as well, since both stations lay adjacent to water, and over-water operations constituted a routine hazard in both cases. ¹⁹³ Additionally, at the end ¹⁹⁴ of the period four stations--Limestone, Presque Isle, Westover and Otis--were high in priority for receipt of SCS-51 ILAS equipment, although Griffiss had been dropped from the schedule because of construction delays. ¹⁹⁵ Other manifestations of the same concern for flying safety and emergency procedures included the formulation of

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- 192/ 1. IRS, EADP EAOCE to EAGDO, et al., "TACAN Facilities," 13 Nov 53 (s.d. 192/1).
 2. IRS, EADP EAOCE-C to EAOOT, et al., "USAF Change No. 0 to EPC-55-1," 8 Sep 53 (s.d. 192/2).
 3. EADP Plan, "Tactical Air Navigation System," undated (s.d. 192/3).
- 193/ 1. EADP GO 22, 8 Apr 54 (s.d. 193/1).
 2. Ltr & Incls, 518th AD Gp to 4707th Def Wg Requirements for Development of Survival Equipment," 23 Jun 54 (s.d. 193/2).
194. Limestone was a Strategic Air Command installation, but its close proximity to Presque Isle made it an excellent emergency recovery base for fighter-interceptor units at that station. Similarly, the 27th at Griffiss had emergency arrangements with Hancock Field at Syracuse, the 60th at Westover with Hanscom, the 37th at Ethan Allen with St. Hubert, and so on. Ltr, 32d ADiv to EADP, "Emergency Airfield for Fighter-Interceptor Squadrons," 23 Mar 54 (s.d. 194).
195. Ltr, USAF to ADC, "SCS-51 ILAS Program," 4 Jun 54 (s.d. 195).

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hurricane evacuation plans in spring, and the conduct earlier in the year of a survey to determine the feasibility of providing for ultra high frequency pilot-to-forecaster weather reports.¹⁹⁶ The latter measure was designed in theory to give the command the benefit of on-the-spot weather observations in the course of routine operations flights.

Less direct but considered no less important than these operational matters were those concerning general accommodations at air defense bases. Over and above the regular requirements of public works programs,¹⁹⁷ the Air Defense Command saw fit to place emphasis upon the benefits to be derived from improved community relations, and from base facilities aimed at increasing esprit.¹⁹⁸ These principles were explicated in the building program known as Project Arrow, which was designed among other things to provide physical

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- 196/ 1. Ltr, 32d AD to Hq Flight Service, "Hurricane Evaluation," 1 Mar 54 (s.d. 196/1).
 2. Ltr, 32d ADiv to 4707th & 4711th Def Wg, "UHF Pilot to Forecaster Service," 5 Jan 54 (s.d. 196/2).
- 197/ 1. Ltr, EADF to 32d ADiv, "FY-1956 Public Works Program (Call for Estimates) RCS: AF-C39, 24 Mar 54 (s.d. 197/1).
 2. USAF Instructions for Preparation of FY-1956 Public Works Program Estimates, 3 Mar 54 (s.d. 197/2).
- 198/ 1. Extract, TWX EAOOT-SF 381, EADF to ADC, 12 Apr 54 (s.d. 198/1).
 2. Ltr, M/G F. H. Smith to M/G Morris R. Nelson, 11 Jun 54 (s.d. 198/2).

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conditioning facilities to keep pilots in fighting trim. The details of Arrow furnish impressive evidence of the degree to which authorities were sought to establish optimum conditions for the conduct of the air defense endeavor.

Antiaircraft Artillery:

The teamwork which had always been an essential condition to the antiaircraft defense of key targets had become more compellingly so in April 1953, when EADP had issued the following announcement:

In the event an enemy bomber force has penetrated an antiaircraft defended area, air division commanders will utilize simultaneous engagement by fighter interceptors and antiaircraft weapons as necessary to effect maximum destruction of the attacking force.

The obvious implications of this policy, given the greater ranges and lethality of such resources as the Skysweeper and Nike, provided the keynote to events through the balance of the year. Wire circuits joining antiaircraft operations centers with adjacent air defense direction centers had been bolstered with emergency facilities, and special efforts had been directed toward the attainment

- 199/ 1. Ltr, M/G J. V. Crabb to B/G G. F. Smith, 21 May 54 (s.d. 199/1).
2. Ltr, B/G G. F. Smith to M/G J. V. Crabb, 4 Jun 54 (s.d. 199/2).
200. Ltr, EADP to 32d ADiv, "Engagement by Fighter Interceptor and Antiaircraft Weapons," 13 Apr 53 (s.d. 317 the 32d ADiv Hist Rept 15).
- 201/ 1. Memo, Lt Col Carl Lentz II, to Capt Roy O. Emsmark, "Antiaircraft (ADOC-ADDC) Liaison Circuits in the Wire Communications Network," 27 Apr 53 (s.d. 201).
2. The status of emergency communications network is discussed in the "Status of Emergency Communications," pp 38-41.

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of coordinated training exercise requirements. These were contin-
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 ued through the period under study. Additionally, antiaircraft
 liaison authorities sought to acquaint air defense people with the
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 characteristics of Nike, which at mid-year was already making its
 205
 operational debut elsewhere in the system.

202. EAAC Opns Order (Training) 4-53, 12 Oct 53 (s.d. 202).

- 203/
1. Ltr, 32d ADiv Representative to EAAC to EAAC, "Monthly Activities Report (January 1954)," 2 Feb 54 (s.d. 203/1).
 2. Ltr, 32d ADiv Representative to EAAC to EAAC, "Monthly Activities Report (February 1954)," 3 Mar 54 (s.d. 203/2).
 3. Ltr, 32d ADiv Representative to EAAC to EAAC, "Monthly Activities Report (March)," 7 Apr 54 (s.d. 203/3).
 4. Ltr, 32d ADiv Representative to EAAC to EAAC, "Monthly Activities Report (April)," 3 May 54 (s.d. 203/4).
 5. Ltr, 32d ADiv Representative to EAAC to EAAC, "Monthly Activities Report (May)," 2 Jun 54 (s.d. 203/5).
 6. Ltr, 32d ADiv Representative to EAAC to EAAC, "Monthly Activities Report (June)," 30 Jun 54 (s.d. 203/6).
 7. LF, Capt Eneamark to Lt Col Deems, "Visit to Naval Base & Fleet Tng Center, Newport, RI," 1 Feb 54 (s.d. 203/7).

- 204/
1. Ltr, EAAC to 32d ADiv & EAAC, "Special Activities Report on Guided Missile Briefings (14 Mar 54-5 Apr 54)," 7 Apr 54 (s.d. 204/1).
 2. Memo, EADP EAACOT to EAACDO, "Visit to 35th Antiaircraft Brigade," 19 Mar 54 (s.d. 204/2).

205. By the end of 1953 guided missile units were located temporarily at Fort George Meade, Maryland and Fort Hancock, New York. By June, three additional units were operational at Chicago, Detroit, and New York, respectively. But for none of these were operational arrangements complete until the close of the current period.

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The status of the Division's anti-aircraft resources meanwhile was fundamentally what it had been since late 1952. Sector programing called ultimately for 32 batteries-four 75 millimeter Skysweepers and twenty-eight 90 millimeter guns--to be deployed in the defense of three key target areas: Boston, Niagara Falls and Limestone Air Force Base. Through the current period, however, there remained only 20 batteries of 90 millimeter guns actually assigned: twelve at Boston and eight at Niagara. Deployment of the Skysweepers to Limestone had been delayed at the end of 1953 by the inadequacy of housing facilities at the Strategic Air Command installation. Even so, the key area was to have been defended by June, but the weapons were not yet in place as the period closed. Thus, if ultimately the sector was to enjoy the benefits of the Eike, the Skysweeper and 90 millimeter guns deployed in the defense of its three vital targets, through mid-1954 its point defense was limited to the capabilities provided by the 90 millimeter weapons doing business at the same old stands--Boston and Niagara.

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- 206/ 1. 32d ADiv Map, "Boston Anti-Aircraft Defenses," 1 Jun 54 (s.d. 206).
 2. 32d AD Map, Niagara Antiaircraft Defenses, undated.
 3. 32d AD Map, Limestone AFB Antiaircraft Defense, undated.
207. Ltr & Incl, EAAC to EADF, "Antiaircraft Defense of Limestone AFB," 29 Oct 53 (s.d. 481 to EADF Hist Rept, 1 Jul-31 Dec 53).
208. 1. Ltr, 32d ADiv Representative to EAAC to EAAC, "Monthly Activities Report (June)," 30 Jun 54 (s.d. 203/6).
 2. Limestone emplacements were to be operative by August. Interview with Lt Col James H. Lewis, 32d ADiv AAA Representative, 7 Feb 55.

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CHAPTER FOUR: THE AIR DEFENSE PROCESS

The air defense system was clearly greater than the sum total of its active resources. From a material standpoint this was borne out by the existence, beyond fundamental mission directives, of some 20 plans and agreements providing for the support of diverse federal and military agencies under emergency conditions. ²⁰⁹ Given ample pre-warning or a less than completely successful first assault, these would constitute a potent factor in sustained hostilities.

Yet even within the limits of its active complement the system called for a measure of reflexive interaction transcending the sum of the capabilities of its components. In this scheme of

209. EADF "Operations Plans and Agreements Basic to the Mission of EADF," undated (s.d. 338/1 to 3rd ADiv Hist Rept 15).

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things the sector was capable of either independent or interacting tactical response. All the resources allotted to defense of the sector were under the operational control of the air defense control center (ADCC) at Syracuse, which was subject in turn to the operational supervision of higher headquarters. In the event of a communications rupture, of course, the direction centers, given clear communications with the associated weapons resources, were capable of mutually exclusive sub-sector response. But it was the control center that furnished the key to reflexive capabilities, and it was upon the Division commander that the burden of tactical decision²¹⁰ revolved.

Operational Intelligence Procedures:

In essence the task was to bring to bear "timely and sufficient firepower" to destroy the maximum number of penetrating elements before they reached their bomb release lines. It was toward the attainment of this standard that all tactical energies were devoted, and against which the success of tactical action was measured. If day-to-day summaries of operations were less than

210. There was of course the effort to standardize procedures through the whole air defense system. But in the last analysis the conditions peculiar to each sector, and the individual characteristics of sector resources, caused ADC to give the Division commander considerable autonomy in the conduct of active operation. Indeed, the Division commander was the key man in the operational picture. Ltr & Incl, 32d ADiv to Sub Units, "Transmittal of Controller Procedure Standardization Conference," 4 Jan 54 (s.d., 210).

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completely indicative of capability, they provided at least an index²¹¹ to the caliber of performance the system could be expected to give.

The air defense effort was noticeably lacking in dogma. Indeed, operational procedures were subjected to the most persistent scrutiny, and as authorities gained in knowledge and experience,²¹² existing rules gave way to refinements. Moreover, for as long as the system continued to absorb new equipments, and for as long as it remained less than 100 per cent effective, such continuing procedural revision was bound to continue.

The most serious problems, or at least the most difficult of solution, concerned operational intelligence, and more particularly the matter of identification. Surveillance and detection presented enormous problems, it is true, but the solution to these lay for the most part in a known formula of mass radar coverage. And it has been seen that during the current period plans were at least extant for the extension of radar resources to the far north and seaward

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- 211/
1. 32d ADiv Operations Summary, Jan 54 (s.d. 211/1).
 2. 32d ADiv Operations Summary, Feb 54 (s.d. 211/2).
 3. 32d ADiv Operations Summary, Mar 54 (s.d. 211/3).
 4. 32d ADiv Operations Summary, Apr 54 (s.d. 211/4).
 5. 32d ADiv Operations Summary, May 54 (s.d. 211/5).
 6. 32d ADiv Operations Summary, Jun 54 (s.d. 211/6).
- 212/
1. Ltr, 32d ADiv to Def Wgs, "Review of Operational Procedure," 27 Jul 54 (s.d. 212/1).
 2. Ltr & Ind, 764th to 32d ADiv, "EADW Regulation 60-13," 15 Jun 54 (s.d. 212/2).

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to guard the most obvious approaches to the continental heartland. Moreover, although radar cover in the interior was likely never to be perfect, the most prominent interstices were beginning to be plugged. Meanwhile the means to identification were at relatively less advanced state of accomplishment.

The greatest concern was for identification under routine conditions. Once an attack became apparent, of course, the country would be at war, triggering the switch to elaborate emergency arrangements for active and passive defense. Identification then would be a relatively simple matter of subtraction, for the skies were to be cleared of all but combative elements; everything aloft would be either friendly or hostile, and the difference would be readily discernable. But in the protracted interval identification depended upon near-to-perfect correlation of radar and flight operations data in the manifestly confused circumstances of routine civil, commercial and military air traffic. The task was made all the more difficult by the marked similarities of USAF and Soviet strategic aircraft. There were such measures as AFSAL and routine

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- 213/ 1. 32d ADiv Plan, "General Instructions," undated (s.d. 213/1).
 2. TWX PC&R 8039, 32d ADiv to Def Wgs, undated (s.d. 213/2).
 3. Ltr, 32d ADiv to EADP, "Comments and Recommendations EADP 55-15," 12 Jan 54 (s.d. 213/3).
 4. Ltr, 32d ADiv to Dist List, "Policy for Dissemination of Intelligence Information During an Emergency, Actual or Simulated," 23 Jun 54 (s.d. 213/4).
214. Ltr & Incls, 32d ADiv to Sub Units, "Characteristics Type-37 and Type-39 Aircraft (USSR)," 28 May 54 (s.d. 214).

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IFF for identification of friendly military tactical aircraft, yet there was constant danger that these would break down, or that the Soviets in attempting surprise would be proficient in existing identification systems, however secret they might be.

Operational authorities were far from disdaining conventional intelligence of the kind that might be expected to contribute to pre-warning of an air assault. But neither did they expect the Soviets could be induced to send advance notice of and instead proceeded on the more prudent assumption that the initial alarm would come from the system's own radar resources. This was no more than a matter of recognizing that the ultimate responsibility for air defense rested upon the air defense system, and upon its ability to carry out all four functions of the air defense process. Thus it was that routine identification procedures were revised in February, and would be revised again before the year was out.

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- 215/ 1. Ltr, 32d ADiv to EADW, "Proposed ADC Regulation of States of Preparedness and Air Defense Warnings," 13 Jul 54 (s.d. 215/1).
 2. Ltr, 32d ADiv to Dist List, "Misinterpretation of IFF Response," 12 Mar 54 (s.d. 215/2).
 3. Ltr, 32d ADiv to Sub Units, "AFSAL 5104," 19 Feb 54 (s.d. 215/3).
- 216/--1. Ltr, Maj C. E. Wayt to Col A. S. Footelian, 16 Jun 54 (s.d. 216/1).
 2. Ltr & Ind, EADW to 32d ADiv, "Planned Distribution of Non-ADC Intelligence Publications," 25 Jun 54 (s.d. 216/2).
 3. Ltr, 32d ADiv to Def Wgs, "Classification of Aerial Photography," 26 Jan 54 (s.d. 216/3).
 4. Ltr & Inds, USNAS 8 Weymouth to 762d ACMW Sq, "Radar Weather Warning," 16 May 54 (s.d. 216/4).
217. EADFR 55-1, Identification in Air Defense, 24 Feb 54 (s.d. 30).

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it was too that authorities exploited every possibility to increase chances of timely identification, and to adapt lead collision course fire control systems to identification requirements.

The Multiple Corridor Identification System:

The most encouraging assault made on the identification dilemma to date had been the multiple corridor system, which was being applied on a sustained basis through the current period, having been initiated in March 1953 as a test governing overwater penetrations of the Eastern Seaboard. The plan was simplicity²¹⁹—a matter of channeling friendly air traffic into imaginary corridors outlined by electronic beacons, having them identify themselves through time and distance tolerances and code designations, and considering all remaining penetrations unknown. But participation in the project was voluntary, and during the course of 1953^{proved} ²²⁰/disappointing.

218. The scope presentation of the E-4, E-5, and E-6 fire control systems required modification to allow discrimination of targets and make possible a pass for visual identification. For as long as identification by other means remained less than 100 per cent effective, operational authorities would have to resort to tactical scrambles against suspicious unknowns. Thus it was vital that the new interceptors be adapted to visual identification procedures. Ltr, Incls and Incl, EADF to 32d ADiv, "Request for Evaluation of Procedure for Utilization of E-4 Fire Control System for Identification," 16 Mar 54 (s.d. 218).
219. The principles governing the multiple corridor system and the background of the endeavor as it concerned the Nantucket corridors of seaward approach are discussed in 32d ADiv Hist Repts 14 and 15, pps 195-197 and 139, 140, respectively.
- 220/ 1. Ltr, ADC to EADF, "Minutes of Multiple Corridor Identification System Conference Held 3 June 1953 at Headquarters Commander Eastern Sea Frontier," 12 Sep 53 (s.d. 220/1).
2. Ltr, Dr Fed Airways to E/C E. P. Benquist, 21 Dec 53 (s.d. 220/2).

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The Air Defense Command would have liked to make the plan compulsory, but felt the necessity first to demonstrate convincingly that it merited the inconvenience involved for air carriers. In January, therefore, military agencies were requested to make participation mandatory, and in following months some of the specifics of the operation were streamlined. In April EADF issued revised operating instructions incorporating changes which, among other things, standardized terminology to agree with that used in the equivalent system off the West Coast. Moreover, EADF officials followed this up with personal visitations to key airline and terminal officials at points where inbound coastal traffic originated. By June the

221. TXZ ADOOT-B1 019, ADC to EADF, 23 Jan 54 (s.d. 221).

- 222/
1. EADF Plan for Increasing Effectiveness of Multiple Corridor Identification System (MCIS), 12 Feb 54 (s.d. 222/1).
 2. Ltr, EADF to Mr J. F. Gill, 2 Apr 54 (s.d. 222/2).
 3. Extract of Minutes, Nantucket Multiple Corridor Identification System and New York Interim Maneuver Identification System, 12 Apr 54 (s.d. 222/3).
 4. EADF Briefing for Airline Operators and Associated Agencies, 12 Apr 54 (s.d. 222/4).
 5. DF, EADF Hansen to Gids, "Report of MCIS Standardization Conference," 25 Mar 54 (s.d. 222/5).

- 223/
1. EADF Opting Instructions, New York DMIS, 12 Apr 54 (s.d. 223).
 2. EADF Opting Instruction, Nantucket MCIS, 12 Apr 54 (s.d. 123 to EADF Hist Rept 1 Jan-30 Jun 54).

- 224/
1. Ltr, MCIS Proj Officer to Mr. M Kauffman, 23 Jul 54 (s.d. 224/1).
 2. DF, EADF EAOT-S to EAGDO, "Status of MCIS and DMIS Progress," 21 Jul 54 (s.d. 224/2).

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effort had already proved worthwhile: fighter-interceptor scrambles for identification--the last resort against unknown penetrations--had been reduced by nearly ten per cent during May alone, and approximately 77 per cent of inbound penetrations at Nantucket were participating in the MCIS program.²²⁵

Tactical and Security Control Procedures:

It is a mark of the pace at which operational events were developing during the period under study that no sooner had the Division issued its tactical doctrine "...as a guide to standardize training and techniques for the employment of lead collision course rocket firing aircraft,"²²⁶ than the process of revision began. The lead collision course interceptors were at once more lethal and less flexible than their conventional and day jet predecessors, and for the first time upset the pre-eminence of the traditional tail chase assault as the basic tactic in aerial combat. Neither were these tactical problems the sole concern of fighter pilots, for the new interceptors placed new kinds of problems in the hands of directors and controllers as well.

Fundamentally, operational authorities were challenged to develop tactics and techniques that would exploit the capabilities of the new weapons while compensating for their limited flexibility.

225. 32d ADiv Minutes, Conference to Review MCIS and IMIS Procedures, 3 Aug 54 (s.d. 225).

226. Ltr & Incl, 32d ADiv to Sub Units, "Transmittal of 32d AD(D) Tactical Doctrine," 8 Apr 54 (s.d. 226).

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Beyond the areas of support and of employment for identification, which were problematic of themselves, the tactical problem hinged in essence upon the matter of positioning interceptors for the 90 degree beam attack.²²⁷ The difficulties attendant on putting the interceptors on a lead collision course led authorities here to the conclusion that, among other measures, broadcast control procedures would prove helpful. This was a method pioneered by the Royal Air Force in which, when close control became impossible because of density of combatant elements or jamming, the fighters were given raid position and guidance by commercial broadcast facilities and left to their own resources through the interception phase.²²⁸ But it furnished only a partial answer to an extremely complex question. At the close of the period the whole matter of doctrine was under examination at this headquarters and in the field. Notwithstanding operational suitability test results, which were available by early in the year, conclusive answers to the doctrinal problem would not be forthcoming for some time. The new

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- 227/ 1. Ltr & Incl, 32d ADiv to Def Wgs, "Transmittal of Interceptor Positioning Study," 13 May 54 (s.d. 227/1).
 2. Ltr & Incl, RCAF to 32d ADiv, "Collision Course (90° Beam) Interception Computation," (s.d. 227/2).

- 228/ 1. IF and Incls, 32d ADiv OOT-A to OOT, "ACM Operations-- Broadcast Control," 10 Jun 54 (s.d. 228/1).
 2. Ltr & Incl, RCAF ABC to 32d ADiv, "ACM Operations-- Broadcast Control," 2 Jun 54 (s.d. 228/2).

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weapons were being subjected to regular systems tests as the period closed; the results of these would exercise considerable influence on tactical concepts of the future.

Under examination also during the current period were the two basic security control measures--SCATER and COMELRAD--designed to rid the skies of all but combative elements in an attack situation. SCATER was designed to ground non-essential air traffic; COMELRAD sought to deny to the enemy any navigational aid from electromagnetic radiations. During the period under study, provisions under the latter were in the process of being implemented with

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- 229/ 1. DF, 32d ADiv OOT-A to OOT, "Mission Evaluation Reports," 13 Mar 54 (s.d. 229/1).
2. Ltr & Incls, EADP to 32d ADiv, "Weapons Systems Training," 17 May 54 (s.d. 229/2).
- 230/ 1. Ltr, 32d ADiv to Middletown AMA, "32-SCATER," 12 Mar 54 (s.d. 230/1).
2. SWX OOT-A 7021, 32d ADiv to 4707th Def Wg, undated (s.d. 230/1).
- 231/ SCATER is the short title for "Security Control of Air Traffic and Electromagnetic Radiations," COMELRAD is the short title for "Control of Electromagnetic Radiations." For a discussion of the principles and background of both as they applied to the Division sector, see 32d ADiv Hist Rept 15, pp 147-155.
- 232/ 1. Ltr, ADC to EADP, "Department of Defense COMELRAD Plan," 29 May 53 (s.d. 232/1).
2. 32d ADiv COMELRAD Alert Instr, "Class of Operation," undated (s.d. 232/2).
3. Ltr & Incls, EADP to 32d ADiv, "Tactical Call Signs," 25 Mar 54 (s.d. 232/3).

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respect to facilities falling under jurisdiction of the Department
of Defense. ²³² Plans for commercial broadcasting facilities had
already been formulated under the aegis of the Federal Communications
Commission. ²³³ But the detailed plans governing individual military agencies
had yet to be completed as the period closed. ²³⁴

Meanwhile the sector plans for air traffic security con-
trol, having been published in August 1953, were supplemented by
additional provisions governing the movement of priority non-tactical
traffic. ²³⁶ The effort was of course to keep to the minimum the
numbers of such flights under emergency conditions. ²³⁷ Additionally,
the Air Defense Command in May requested authority to divert tactical

²³² on preceding page.

- ^{233/} 1. Ltr, EADP to 32d ADiv, "CONELRAD Plans; FCC Agency Plan,"
8 Feb 54 (s.d. 233/1).
2. Ltr, EADP to 32d ADiv, "CONELRAD Plans," 12 Apr 54 (s.d.
233/2).
- ^{234/} 1. Ltr, 32d ADiv to EADP, "CONELRAD Report," undated (s.d.
234/1).
2. Ltr, 1610th ATG to 32d ADiv, "CONELRAD," 30 Apr 54 (s.d.
234/2).
3. Ltr, 32d ADiv to ACMW Sq, "CONELRAD Plan," undated (s.d.
234/3).
4. Ltr & Inc, Middletown AMA to 32d ADiv, "CONELRAD Plan,"
3 Jun 54 (s.d. 234/4).
5. 1st Inc (to Ltr, ADC to EADP, "Air Defense Command CONEL-
RAD Conference," 8 Jun 54) 28 Jun 54 (s.d. 234/5).
- ^{235/} 1. Ltr, EADP to 32d ADiv, "Preparation of Classified Air
Division SCATTER," 2 Jun 54 (s.d. 235).
2. EADP Plan for SCATTER, 1 Aug 53 (s.d. 387 to 32d ADiv Hist
Rept 15).
- ^{236/} 1. Supplement to 32-SCATTER, Annex F, 15 Mar 54 (s.d. 236/1).
2. Supplement to 32-SCATTER, Annex E, 10 Jun 54 (s.d. 236/2).
- ^{237.} Ltr & Inc, EADP to 32d ADiv, "Air Traffic Control Procedures,"
17 May 54 (s.d. 237).

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aircraft from critical target areas under attack conditions. In the absence of such restrictions the major command saw the dual probability that defense capabilities would be impaired and the safety of tactical aircrews jeopardized.²³⁸

Routine Exercise Activity:

As an outgrowth of Balloon Pump, and by way of preparation for Operation Check Point, the 1954 edition of the annual coordinated systems training maneuvers, sector resources were subjected to the most intensive systems training exercise of their experience during the closing months of the period under study. Indeed, of 25 exercises conducted over the six month period, 22 of which involved actual penetrations, fully 14 occurred during May and June. Earlier in the year the command had experienced another big month of exercise activity, six Big Photo exercises having occurred during February alone. Thus the three months accounted for 20 of the exercises for the full period.

Four of the earlier exercises--Duck Blind in January, Cold Sweat in February, Blue Ice in March, and Brown Trout in May--were of the command post type. With the exception of Cold Sweat, which involved multiple strategic penetrations, the CFXs were canned exercises designed to test the decision-making capabilities of the

238. Ltr, ADC to USAF, "Request for Authority to Divert Tactical Air Traffic During Military Emergency," 28 May 54 (s.d. 238).

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Division staff. Twelve of the total number of tests were routine Big Photo missions in which bombers of the Strategic Air Command penetrated the sector, their flight plans having been withheld from the operational units, attempted to trigger the system into an active response. Additionally, Sky Scan was conducted during May as a barometer of ground observer capabilities.²³⁹

But the features of the spring exercise season were the weapons systems tests known as Think Fast and Pogo Stick.²⁴⁰ These were initiated by EADW in April in an effort to bring about greater realism of test activity, particularly with respect to the tactics and techniques of sector response.²⁴¹ Tests theretofore had in large part failed of realism, and in any event had put greater emphasis upon aircraft control and warning capabilities than upon those of the weapons. But the advent of the lead collision course fire control system had introduced new tactical problems that required this new direction of emphasis.

The first Think Fast mission was conducted on April 26th, and was followed by five others before the end of the period. EADW planned to conduct two such missions each month, and to make them progressively greater of scope and complexity. Additionally, the Division designed its own Pogo Stick missions on the same principle.

239. See p 31.

240. Think Fast was the name applied to such exercises conducted under EADW auspices; Pogo Stick was the 32d version of the same kind of mission.

241. Ltr & Insp. EADW to 32d ADiv, "Weapons Systems Training," 17 May 54 (S.A. 225/2).

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While individual compilations of the results of this activity were available as each of the exercises was concluded, their real worth was to become more apparent during Check Point. The system-wide maneuver in July would serve as a sort of final examination for Balloon Pump and the tests that followed it, and would provide a significant index to systems capabilities.²⁴²

242. ADC Exercise Check Point Final Report, 15 Oct 54. It is planned that Check Point will be discussed in the context of the full year's exercise activity, along with documents pertinent to the discussion, in 32d ADiv Hist Rept 17, scheduled for submission to higher headquarters in May 1955.

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APPENDIX: ORGANIZATIONAL TRANSITIONS

There were relatively few staff adjustments during the period under study. Colonel Robert S. Israel, Jr., remained in command of the Division, although his place was taken during absences on two occasions, in January and again in June. ²⁴³ Colonel William H. Clark continued as deputy commander, Colonel William W. Inghutt as deputy for operations, and Colonel Gordon F. Thomas as inspector ²⁴⁴ general, all having occupied these positions as the period started.

- ^{243/}
1. 32d ADiv GO 1, 12 Jan 54 (s.d. 243/1).
 2. 32d ADiv GO 5, 11 Feb 54 (s.d. 243/2).
 3. 32d ADiv GO 19, 26 Jun 54 (s.d. 243/3).

²⁴⁴. Biographical notes on these key officials are included in 32d ADiv Hist Rept 15, pp 173-175.

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In March Captain Carl Burak was appointed acting deputy ²⁴⁵ for personnel, until the assignment of Lieutenant Colonel Frank L. Fenn later the same month. ²⁴⁶ Also in March, Chaplain (Major) Russell C. Archer was elevated to the position of staff chaplain in accordance with a minor adjustment to the headquarters organizational structure. ²⁴⁷ Meanwhile Lieutenant Colonel Dryton R. Griffith was serving as division surgeon in the absence of Major George K. Heberdy, who resumed his position in May. ²⁴⁸

During May and June command of the Headquarters Squadron Section changed hands four times: Major John A. Bell replaced Major Hyles A. King during the absence of the latter through May and again in June, and was himself replaced by Lieutenant Colonel Frank L. Fenn who performed these duties in addition to his primary assignment as deputy for personnel. ²⁴⁹

245. 32d ADiv GO 8, 5 Mar 54 (s.d. 245).

246. 32d ADiv GO 11, 29 Mar 54 (s.d. 246).

247/ 1. 32d ADiv GO 8 (sic) 15 Mar 54 (s.d. 247/1).
2. 32d ADiv GO 10, 16 Mar 54 (s.d. 247/2).

248/ 1. 32d ADiv GO 6, 19 Feb 54 (s.d. 248/1).
2. 32d ADiv GO 15, 13 May 54 (s.d. 248/2).

249/ 1. 32d ADiv GO 13, 1 May 54 (s.d. 249/1).
2. 32d ADiv GO 16, 7 Jun 54 (s.d. 249/2).
3. 32d ADiv GO 17, 10 Jun 54 (s.d. 249/3).
4. 32d ADiv GO 18, 23 Jun 54 (s.d. 249/4).

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In January the 4673d Ground Observer Squadron was attached for support purposes to the Headquarters Squadron Section. At this same time Major Donald R. Casety was appointed additional duties as director of civilian defense, which responsibilities he assumed on a primary duty basis in March. During this period two officers were presented the Armed Forces Reserve Medal, and Detachment 16 of the 12th Weather Squadron, which had provided forecasting service for the headquarters since the move to Syracuse in February 1952, was confirmed in its operational assignment to the Division.

One of the most significant adjustments of the time concerned provision for coordinated air rescue service. For several years the Division had felt the need for headquarters facilities to coordinate rescue operations in the sector. Indeed, a rescue coordination center had been scheduled to start operations early in

250. 32d ADiv GO 3, 13 Jan 54 (s.d. 250).

251/ 1. 32d ADiv GO 2, 13 Jan 54 (s.d. 251/1).
2. 32d ADiv GO 12, 30 Mar 54 (s.d. 251/1).

252/ 1. 32d ADiv GO 7, 26 Feb 54 (s.d. 252/1).
2. 32d ADiv GO 4, 8 Feb 54 (s.d. 252/2).

253. 32d ADiv GO 14, 10 May 54 (s.d. 253).

254. Ltr, 762d AC&M Sq to 32d ADiv, "Report of Unsatisfactory Air-Sea Rescue Operations," 18 Mar 54.

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²⁵⁵ 1953. But it was not until December that it actually got under-
²⁵⁶ way. The results were apparent immediately; in terms of the deep
²⁵⁷ concern for flying safety exemplified by Balloon Pump, the new
²⁵⁸ facility constituted a sound operational advance in sector control
²⁵⁸ capabilities.

Additionally, the Division published in June an operations
 plan governing support of Military Air Transport Service operations
 under attack conditions. The defense wings were to dispatch trans-
 port aircraft and men to MATS jurisdiction in a nice reversal of
 the customary procedures whereby air defense activities were to be
²⁵⁹ supported by other agencies under attack conditions.

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255. Ltr & Incl, EADF to 32d ADiv, "Rescue Coordination Centers,"
 11 Jun 52.
256. 32d ADiv RCC "History of Syracuse Rescue Coordination Center,"
 1 January 1954 - 30 June 1954, undated (s.d. 256).
257. Ltr, EADF to 32d ADiv, "Air Rescue," 28 Jan 54 (s.d. 257).
- ^{258/} 1. Ltr, RCC to 4th ARGp, "Monthly Activity Report of RCC
 Activities, 1-31 January 1954," 3 Feb 54 (s.d. 258/1).
2. Ltr, RCC to 5th ARGp, "Monthly Activity Report of RCC
 Activities, 1-28 February 1954, 3 Mar 54 (s.d. 258/2).
3. Ltr, RCC to 5th ARGp, "Monthly Activity Report of RCC
 Activities, 1-31 March 1954," 3 Apr 54 (s.d. 258/3).
- 2 4. Ltr, RCC to 5th ARGp, "Monthly Activity Report of RCC
 Activities, 1-30 April 1954," 4 May 54 (s.d. 258/4).
5. Ltr, RCC to 5th ARGp, "Monthly Activity Report of RCC
 Activities, 1-30 April 54," 11 May 54 (s.d. 258/5).
6. Ltr, RCC to 5th ARGp, "Monthly Activity Report of RCC
 Activities, 1-31 May 1954," 3 Jun 54 (s.d. 258/6).
7. Ltr, RCC to 5th ARGp, "Monthly Activity Report of RCC
 Activities, 1-30 June 1954," 3 Jul 54 (s.d. 258/7).
259. 32d Opns Plan 3-54, 1 Jun 54 (s.d. 259).

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24/2	Ltr, 32d AD to EADF, "EADF-RCAF ADC Exchange of Fighter and ACSW Capability Status," 29 Apr 54
25/1	Ltr & Inds, 4711th Def Wg to 32d ADiv, "Non-Tactical Flights to Royal Canadian Air Force Bases," 5 Jan 54
25/2	Ltr, 32d ADiv to 4707th Def Wg, "Non-Tactical Flights to Royal Air Force Bases," 30 Jan 54
25/3	Ltr, 32d ADiv to EADF, "Rept of Visit by Foreign National," 12 Apr 54
25/4	Ltr & Inds, 764th ACSW Sq to 4711th Def Wg, "Report of Disclosure of Classified Information to Foreign Nationals," 13 Apr 54
26	Ltr, RCAF, "Cross-Training--RCAF-USAF Aircraft Control and Warning Personnel," 18 Dec 53
27/1	Ltr, 766th ACSW Sq to 32d ADiv, "Summary of Results of RCAF-USAF Cross Training Program," undated
27/2	Ltr & Ind, EADF to 32d ADiv, "Cross Training of EADF-RCAF ADC Aircraft Control and Warning Personnel," 26 May 54

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29/3 Ltr, EADF to 32d ADiv, "Operational Subsector Boundaries," 6 May 54

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32 Ltr, ADC to EADF, "Implementation of New ADIZ Boundaries," 13 Apr 54

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34 Ltr, Col R. S. Israel, Jr., to H/G M. R. Nelson, 23 Apr 54

35 Ltr, 32d ADiv to 4707th & 4711th Def Wgs, "Air Surveillance Procedure-Forward Telling," 6 Apr 54

37 TWX, EAOOT-OS C-464, EADF to 32d ADiv, 1 May 54

38/1 32d ADiv, "Report of Identification Conference," 26 May 54

38/2 DF, EAOOT to EAGDO, "Identification Meeting Held at Headquarters, 32d Air Division (Defense), on 26 May 1954," 3 Jun 54

38/3 TWX ACS 1-3, 764th ACW Sq to 32d ADiv, Jul 54

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39 Ltr & Ind, EADF to 26th ADiv, "Identification of Air Movements," 8 Jan 54

41 Ltr & Inds, ADC to EADF, "Perimeter Identification Zones," 11 May 54

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43/2 EADF, PJBD Recommendation 53/1, 7 Jan 54

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52/2 TWX EACPM-C494, 32d ADiv to 4707th Def Wg, 10 May 54

54 ADC Operational Plan for Texas Towers, undated

56/1 Ltr, 32d AD to EADF, Report of Naval/Marine Corps Participation in Air Defense RCS: EADF-T1, 9 Jan 54

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56/6 Ltr, 32d AD to EADF, Report of Navy/Marine Corps Participation in Air Defense RCS: EADF-T1, 7 Jun 54

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72/1 TWX ADOPR 0044, ADC to EADF, 9 Jan 54

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- 77/4 Ltr, 32d ADiv to 4707th & 4711th Def Wgs, "Visits by Civilian Defense Volunteers to Units of this Command," 8 Feb 54
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HISTORICAL REPORT
of the
32d AIR DIVISION (DEFENSE)



THE AIR DEFENSE OF A SECTOR
JANUARY thru JUNE 1954

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HISTORICAL OFFICE
SYRACUSE AIR FORCE STATION, NEW YORK

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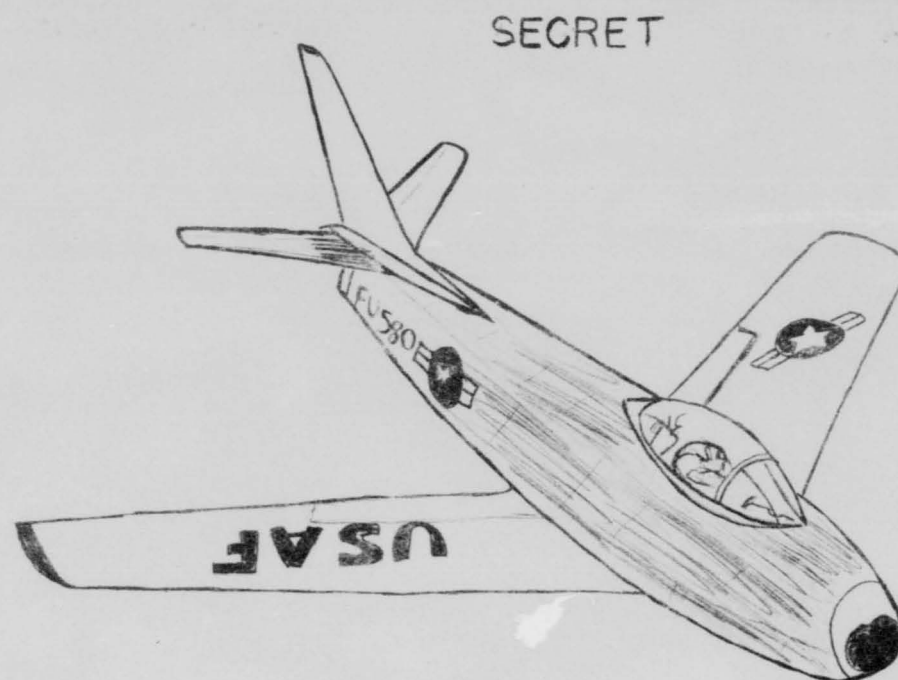
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January thru June 1954

RCS: 1-AF-D2

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HEADQUARTERS
32D AIR DIVISION (DEFENSE)
Syracuse Air Force Station, Eastwood Station 6
Syracuse, New York

PO&R

15 March 1954

SUBJECT: (Unclassified) 32nd Air Division Program

TO: See Distribution

1. This document is developed under the direction of the Office of Plans, Organization, and Requirements, Headquarters 32nd Air Division (Defense), for the period extending from Third Quarter FY 1954 through Fourth Quarter FY 1957. The data contained in the various program sections has been developed from the "ADC Program" 15 February 1954.
2. This program document is compiled so that all elements are mutually consistent and follow the basic time phasing established for the aircraft and the AC&W Program.
3. It is currently planned that the next publication of this document will be on or about 1 July 1954 and will be followed by quarterly publications. In certain instances, however, it may become necessary to publish change sheets which will modify particular pages within this document. All addressees of this document will receive any change sheets.
4. This document is classified secret in accordance with paragraph 25b(6), AFR 205-1, 24 July 1953.

William H. Clark
WILLIAM H. CLARK
Colonel, USAF
Deputy Commander

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GENERAL USAF GUIDANCE AND ASSUMPTIONS

1. The General USAF guidance and assumptions listed below have been assembled to provide a basis for understanding the basic policies behind the detailed planning actions for the remainder of FY 1954 and for FY 1955, as well as for the development of the FY 1956 program. This information, generally extending through FY 1957, is also provided for the purpose of FY 1955 budget defense or adjustment if required.
2. This Program Guidance and the general plan of operation for FY 1954 and subsequent program periods have been based on the following general program objectives. It will be the objective of the Air Force to:
 - a. Complete the equipping and manning of the 137 Wings and the major supporting forces by end FY 1957.
 - b. Increase D-Day combat power to the highest level in accordance with established priorities and by the best allocation of available resources.
 - c. Reduce deficiencies in combat readiness of all resources.
 - d. Provide D-Day readiness materiel reserves required for the employment of Priority I, II, and III forces as indicated in the Strategic Summary (pages 4 and 5).
 - e. Continue emphasis on revitalization of the Air Reserve Forces.
 - f. Support Allied Air Forces through the Military Defense Assistance Program.
3. General USAF assumptions upon which program data and schedules will be developed are listed below. For the purpose of program planning it has been assumed that:
 - a. US forces, reserves, and stock levels will be maintained in Korea and the Far East theatre until after 1 July 1954. Forces not required for peace time deployment in the area thereafter, and for which other bases and facilities are available, will be redeployed from FEAF by 31 December 1954 (ADC will receive 4 squadrons; See Fighter Program for detail). Logistical phase-out will be substantially accomplished during the period of 1 July 1954 to 31 December 1954 and will be completed by 30 June 1955.

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d. The diversion and/or redeployment of units, personnel, supplies, and equipment no longer required in FEAF will be accomplished as expeditiously and economically as possible in accordance with the USAF Plan for Logistics Actions Upon Cessation of Hostilities in Korea. "USAF Level Off Plan," as amended.

e. The MDA Program will be extended and necessary funds will be provided for the maintenance and operation of forces equipped through prior MDA Programs, utilizing off-shore procurement to the maximum extent possible.

f. The USAF will meet its NATO commitment by maintaining units on PCS in Europe and by rotating units from the ZI. The wings which will participate in the rotation plan will be based in the United States and one squadron per wing of this "earmarked" force will be in Europe at any one time. The entire force would be capable of rapid flight deployment to Europe in event of an emergency situation. (No ADC units are involved).

g. Legislation will be enacted during the 2nd Session of the 85rd Congress to authorize establishment of a USAF Academy. No resources except a planning staff will be programmed, however, until enactment of appropriate legislation.

h. Air National Guard units will not be called to active military service during the program period.

i. Flying hours for FY 1964 will be limited to 8.4 million flying hours. The FY 1965, 1966, and 1967 flying hours will be developed with a feasible phasing towards the essential peacetime objectives for the tactical crews. (Feasibility to be based on the demonstrated capability of units and known logistic support).

j. The MATS Transport Fleet will be phased up to their projection of 4 hours per day per aircraft (authorized or assigned, whichever is lower) at a rate of build-up commensurate with the rate indicated by past performance.

k. CRT pilots will be authorized a maximum of 100 proficiency hours per CRT pilot.

l. Peacetime aircraft attrition rates will be used for programming Korean aircraft effective 1 August 1955.

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k. FEAF flying hours will be programmed at commensurate rates to retain the necessary combat and airlift capability. Because of the ceiling on hours for FY 1954, FEAF will be given priority over all other demands, whenever necessary, in order to achieve this objective.

l. The Department of the Army will include in their FY 1955 Budget Estimates resources to provide for the training of Engineer Aviation Units in regular USAF program and for pay of personnel for Engineer Aviation Units programmed for the Air Force Reserve. Logistic support will be provided by the Air Force in accordance with AFR 35-20/AR600-650, 3 April 1950. In the event responsibility for Engineer Aviation Unit training is transferred to the Air Force prior to FY 1956, it is assumed that a proportionate share of funds appropriated to the Department of the Army to carry out its responsibilities in this connection will be made available to the Air Force.

m. Resources will be programmed during this period for the establishment of the following segments of the approved plan for the Augmentation of the Continental Defense Systems:

- (1) Semi-Automatic Data Processing System
(Lincoln Transition System - 3 divisions)
- (2) Texas Towers
- (3) Third Phase Augmentation Radar Program
- (4) Low Altitude Gap Filler Radars
- (5) Southern Canada Early Warning Line (McGill Line)
- (6) GCI Computers and Data Links

Funds for these projects will be held to a minimum taking into consideration equipment leadtimes, construction leadtimes, design and development problems, and base rights where applicable. These funds will be separately identified in each budget project.

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PROGRAMMING ASSUMPTIONS

1. Bomarc units will not be assigned to ADC within the time period of this program. It is assumed that one squadron will be activated during Fiscal Year 1957, probably in ARDC, and that such units will be included in the ADC program in Fiscal Year 1958.

2. Talos missiles will be used for training purposes only. Talos training squadrons as shown include troop spaces only for students. It is assumed these units will be in tenant status with base support and instructors provided by another major USAF command or by the Army.

3. Manpower requirements for the McGill Line are not included.

4. Resupply for Texas Towers will be provided by MSTC, Navy or the Coast Guard. (Therefore troop spaces are not included in ADC Program). ADC will budget for this cross servicing. Locations of Texas Towers not finalized.

5. Third phase AC&W squadrons and Gap Filler stations are reflected as one line entries since final locations are not yet determined.

6. Activation dates of second phase AC&W squadrons have been delayed to 3d and 4th Quarters Fiscal Year 1955 and are subject to further revision depending on beneficial occupancy dates.

7. AC&W squadrons convert to AC&W functional study manning in 3d Quarter Fiscal Year 1955.

8. Activation of new air divisions delayed pending completion of facilities. Four scheduled to activate 3d Quarter 1955 and one in 4th Quarter 1955. Currently organized Defense Wings will be decreased by two in 3d Quarter 1955 and two more in 4th Quarter 1955. Remaining four wings will be retained pending determination of future ADC organizations.

9. Small caretaker detachments are provided for subsector buildings as completed according to schedule shown in Lincoln Transition System Program. These caretaker detachments phase out as subsectors become operational (two in 4th Quarter 1957.)

10. An augmentation of 50 officers and 500 airmen to the 4750th Training Wing (AD) is indicated based on requirements to increase Air Defense specialized training capability of ADC tactical crews and units.

11. Manpower spaces programmed for support of AFRCTC'S over and above that which is provided for the level of AFRCTC activity in 3d Quarter Fiscal Year 1954 and reflected as separate entries (augmentation) of the appropriate air defense or air base groups.

*SECRET*SCHEDULE OF ORGANIZATIONAL CHANGES

A- Activate
 Y- Inactivate
 R- Reorganize
 D- Deploy
 S- Returning from FEAF
 M- Move to 2I

<u>ACTION</u>	<u>UNIT</u>	<u>STATION</u>	<u>ACFT</u>	<u>NEW STATION</u>	<u>REMARKS</u>
MARCH 1954					
A	4715th Radar Sval (ECM) Fbt	Griffiss	B-29		
Y	1st Radar Cal Sqn	Griffiss			
MAY 1954					
A	667th AC&W Sq	Grenier			Will Deploy 1/55
A	933rd AC&W Sq	Grenier			Will Deploy 1/55
JUNE 1954					
D	74th F/I	Presque Isle F-89C		Ladd AFB	
A	4712th AEW&C	Otis	RC-121C		(Act. 1 Mar 54)
JULY 1954					
D	57th F/I	Presque Isle F-89C		NEAC	
SEPTEMBER 1954					
D	667th AC&W Sq	Grenier		Iceland	
D	933rd AC&W Sq	Grenier		Iceland	
SR	334th F/I	Presque Isle F-86D			From FEAF

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<u>ACTION</u>	<u>UNIT</u>	<u>STATION</u>	<u>ACFT</u>	<u>NEW STATION</u>	<u>REMARKS</u>
DECEMBER 1954					
A	551 AEW&C Gp	Otis AFB			
A	961 AEW&C Sqdn	Otis AFB	RC-121C		
A	551 Periodic Maint Sq	Otis AFB			
A	551 Elect Maint Sqdn	Otis AFB			
Y	4712 AEW&C Sqdn	Otis AFB			
A	960th AEW&C Sqdn	Otis AFB	RC-121C		
Y	12th WAF Sqdn	Otis AFB			
3/55					
Y	4711th Def Wg	Fresque Isle			
A	934th AC&W Sq	Grenier			
A	639th AC&W Sq	Grenier			
A	645th AC&W Sq	Grenier			Move to Canada Upon Completion of Sites
A	672nd AC&W Sq	Grenier			Upon Completion of Sites
A	905th AC&W Sq	Grenier			Upon Completion of Sites
A	909th AC&W Sq	Grenier			Upon Completion of Sites
A	910 AC&W Sq	Grenier			Upon Completion of Sites
4/55					
R	58th F/I Sqdn	Otis AFB	F-89D		
D	934th AC&W Sq	Grenier		Iceland	
A	962nd AEW&C Sq	Otis AFB	RC-121C		
1/56					
D	532nd AC&W Gp	Otis AFB		Q/S	
A	540th AC&W Gp	Otis AFB			To Deploy in 3/5

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<u>ACTION</u>	<u>UNIT</u>	<u>STATION</u>	<u>ACFT</u>	<u>NEW STATION</u>	<u>REMARKS</u>
			2/56		
R	437th F/I Sq	Otis AFB	F-89D		
M	49th F/I Sq	Dow AFB	F-86D	Hanscom AFB	
			3/56		
A	498th F/I Sq	Griffiss	F-89D		
M	27th F/I Sq	Griffiss	F-84C	Bunker Hill	
D	340th AC&W Gp	Otis AFB		O/S	
			4/56		
A	329th F/I Sq	Griffiss	F-86D		
			2/57		
R	58th F/I Sq	Otis AFB	F-102		
R	437th F/I Sq	Otis AFB	F-102		
			3/57		
A	303rd F/I Sq	Griffiss	F-102		
R	329th F/I Sq	Griffiss	F-102		
			4/57		
M	498th F/I Sq	Griffiss	F-89D	Fargo	
R	4713th Radar Eval (ECM) Flt	Griffiss	T-29		

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FIGHTER/INTERCEPTOR PROGRAM

1. In order that the equipping and conversion of Fighter/Interceptor Squadrons may be monitored more closely, the sequence for the delivery of aircraft is listed below:

a.	<u>TYPE</u>	<u>QUARTER</u>	<u>SQUADRON</u>	<u>BASE</u>
	F-86D	3d FY 54	47th	Niagara Falls, N.Y.
		1st Qtr FY 55	354th	Presque Isle, Maine
			49th	Dow AFB
		4th Qtr FY 56	329th	Griffiss
b.	F-89D	1st Qtr FY 56	58th	Otis AFB
			437th	Otis AFB
c.	F-94C	3rd FY 54	27th	Griffiss
d.	F-102	3rd FY 57	58th	Otis AFB
			437th	Otis AFB
		4th FY 57	303rd	Griffiss
			329th	Griffiss

2. All squadrons are programmed to receive 25 A/C; however, in some instances it will be a smaller number due to A/C production schedules.

3. The following proposals are being considered by Hq, USAF. These actions are not firm. Upon receipt of confirmation, all interested agencies will be notified.

82nd F/I Squadron return to Presque Isle July 54 (F-89D)
 318th F/I Squadron return to Presque Isle August 54 (F-89D)
 74th F/I Squadron deploy July 54 (AAC)
 57th F/I Squadron deploy August 54 (NEAC)
 334th F/I Squadron return from FFAF to Westover 4/55

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FIGHTER INTERCEPTOR PROGRAM

UNIT	LOCATION	A/C	FY 54		FY 55				FY 56					
			3d Qtr	4th Qtr	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr		
37	Burlington	F86D												
27	Griffiss	F94C	F 94 C											MY FUNKERH
496	Griffiss													F 84 D
49	Hanscom													FR DOW
47	Niagara	F86F	F 86 D											
56	Otis	F94C												F 86 D
437	Otis	F94C												F 86 D
57	Presque Isle	F89C												NEAC
74	Presque Isle	F89C												AAE
334	Presque Isle				EEB EAR		F 86 D							
49	Dow	F86F					F 86 D							MY HANSCOM
80	Westover	F86D												

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FIGHTER INTERCEPTOR PROGRAM

UNIT	LOCATION	A/C	FY 57				UNIT	LOCATION	A/C	REMA
			1st Qtr	2nd Qtr	3rd Qtr	4th Qtr				
37	Burlington	F-86D					37	Burlington	F-86D	
27	Griffiss	F-94C					MV	Bunker Hill		
498	Griffiss	F-86D					MV	HARGO		
329	Griffiss	F-86D				F102	329	Griffiss	F102	
303	Griffiss					F102	303	Griffiss	F102	
49	Hanscom	F-86D					49	Hanscom	F-86D	
47	Niagara Falls	F-86D					47	Niagara Falls	F-86D	
58	Otis AFB	F-89D				F102	58	Otis AFB	F102	
437	Otis AFB	F-89D				F102	437	Otis AFB	F102	
334	Presque Isle	F-86D					334	Presque Isle	F-86D	
60	Westover AFB	F-86D					60	Westover AFB	F-86D	

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NEW AIRCRAFT

PRIORITY	UNIT	MODEL	SOURCE	AMT & DT	AUTH	UENO	ASG	MODEL	DISPOSITION OLD A/C NOT APP
1	58thF/I	F-94C	Pdn	27ea on Hand 2 ea Jan 54	Jan 54	-	-	-	Not applicable
2	37thF/I	F-94C	Pdn	24 on Hand 5 JAN 54	Jan 54	-	-	-	Not applicable
9	27th ² /I	F-94C	Pdn	13 Jan 54 11 Feb 54 5 Mar 54	Mar 54	20	F-86A	-	Returns 6 for alert 7 to ANG 4F-88 and 7 to SAMAMA for IRAN
1	74thF/I	F-89C	Project ADC 3F- 372 and A-4- 4025-00	22 Aval, 3 Feb 54	May 54	-	-	-	Not applicable
3	57thF/I	F-89C	Project ADC 3F- 372 and A-4- 4025-00	23 Aval	Oct 54	-	-	-	Not applicable
30	47thF/I	F-86D	Pdn	6 Jan 54 20 Feb 54	Feb 54	20	F-86F	-	To 330th F/I, Stewart AFB.
39	49thF/I	F-86D	Pdn	1 Jun 54 25 July 54	1-55	27	F-86F	-	Required Amt. Absorbed by other EADF Units
43	534thF/I	F-86D	Pdn	26, 1-55	1-55	-	-	-	Not applicable

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FLYING HOUR PROGRAM
 FLYING HOURS PER AIRCRAFT PER QUARTER
 PRIMARY TACTICAL UNIT "CC"

TYPE A/C	FY 54				FY 55				FY 56				FY 57				REMARKS
	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	
F-102A												137	100	115	141		
TP-102													106	122	148		
F-94B	71																
F-94C	74	87	95	76	98	121	117	91	106	130	124	95	110	134			
F-89C	78	92	90														
F-89D	62	92	90	72	91	116	113	91	109	155	130	100	115				
F-86A	68																
F-86D	72	92	90	72	91	116	113	91	109	135	130	100	115	141			
F-86F	68	92	87	67	77												
RC-121D			231	279	363	282	388	392	402	407	411	411	417	422			
B-29	131	158	180	138	158	190	180	138	158	190	180	138	158	190			
TB-25J	80	96	91	70	80	96	91	70	80	96	91	70	80	96			
	SPECIAL MISSION (CM)																
TB-25K	84	84	89														
TB-25M	84	84	89	89	89	89	89	89	89	89	89	89	89	89	89	89	
VC-47	138	138	159	159	159	159	180	180	180	180	180	180	180	180	180	180	
L-20A	121	118	117	117	117	117	117	117	117	117	117	117	117	117	117	117	
H-19B	43	43	57	57	57	57	57	57	57	57	57	57	57	57	57	57	
H-5G	38	38	51	51	51	51	51	51	51	51	51	51	51	51	51	51	
H-13G	43	43	57	57	57	57	57	57	57	57	57	57	57	57	57	57	
	ADMINISTRATIVE (AD)																
YB-17	103	103	116														
C-54E				166	166	166	180	180	180	180	180	180	180	180	180	180	
	TACTICAL UNIT SUPPORT (CP)																
C-119F				85	104	157	162	119	122	157	162	119	122	157			

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TYPE A/C	FY 54			FY 55			FY 56				FY 57				REMARK
	3d Qt	4th Qt	1st Qt	2d Qt	3d Qt	4th Qt	1st Qt	2d Qt	3d Qt	4th Qt	1st Qt	2d Qt	3d Qt	4th Qt	
C-82A	80	116	121	88	90	116									
C-47	191	246	255	187	191	246									
T-53	127	164	169	124	127	164	169	124	127	164	169	124	116	164	
							OPERATIONAL SUPPORT (CS)								
VC-47	131	175	215	166	172	228	216	167	173	230	237	183	190	253	
C-45G	77	103	127												
C-45H	77	103	127	98			127	98	101	135	140	107	111	149	
C-47	131	175	215	166	172	229	216	200	173	230	237	183	190	253	
C-46D	63	84													
C-45F	77	103	127												
TB-25J	87	115	142	109	114	151	142	109	114	152	156	120	125	167	
T-33		71	88	68	71	94	88	69	71	94	97	75	78	104	
F-80C	42	55	68	53	56	73	69								

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NAVIGATIONAL AIDS STATUS AT FIGHTER RECOVERY BASES

BASE	COMMAND JURIS	TOWER OPR AGENCY	GCA MFN-1	GCA CPH-1	RAPCON RATCC	ILS	UHF/DF	VHF/DF	LG BEACONS	TACAN
Dow	SAC	AACS	NP	<i>Opnl</i> JAN 54	NP	JUL 55	Opnl	Opnl	NP	APR -54
Ethan Allen	ADC	CAA	<i>Opnl</i> NP	<i>Opnl</i> MAR 54	NP	Opnl	Opnl	Opnl	NP	APR-54
Griffiss	ARDC	AACS	Opnl	NP	<i>Opnl</i> APR 54	OCT 54	Opnl	Opnl	OCT 54	APR 54
Niagara Falls	ADC	CAA	NP	<i>Opnl</i> MAR 54	NP	Opnl	<i>Opnl</i> APR 54	Opnl	NP	OCT 54
Otis	ADC	AACS	Opnl	NP	Opnl	APR 54	Opnl	Opnl	Opnl	APR 54
Presque Isle	ADC	AACS	NP	Opnl	NP	APR 55	<i>Opnl</i> APR 54	Opnl	NP	APR 54
Westover	SAC MATS	AACS	Opnl	NP	<i>Opnl</i> APR 54	APR 54 <i>Installd</i>	<i>Opnl</i> JAN 54	Opnl	Opnl	APR 54

TACAN Program will be revised

NP-Not Programmed

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AC&W PROGRAM PERMANENT

SITE NUMBER	Location			RADAR					RADIO					WIRE			REMARKS	
				Type	Bandwidth	Commodity	Primary Search	Emergency Search	Emergency Height	CRC 27	CR 7	GR-3	EC-339	EC-340	Qty. Ent. Pk. Avail.	Qty. Ent. Pk. Avail.		Qty. Ent. Pk. Avail.
5	Syracuse, NY	CC	Mar 52															1. Wire Reqs for
10	N. Truro, Mass	DC	May 51	GB	8*	4*	8	4	4	12	12	34	8	51				Future programs have
13	Brunswick, Me	DC	Jun 51	GB	8*	4*	5	4	4	12	12	23	9	51				been contracted for by
14	St. Albans, Vt	DC	Jul 51	GB	8*	4*	5	4	4	12	12	29	1	51				ADC with the telephone
21	Lockport, NY	DC	Feb 51	GB	8*	4*	5	4	4	12	12	22	26	51				Co. and AMA. Installatio
49	Watertown, NY	DC	May 52	3	4*	5	5	4	4	8	8	24	14	51				& Construction has not
50	Schuyler, Vt	DC	Jun 52	3	4*	5	8	4	4	8	8	30	10	51				been implemented to dat
65	Charleston	DC	Mar 52	3	4*	5	5	4	4	8	8	18	20	51				
80	Caswell, Me	DC	Jun 52	10	8*	4	4	4	4	12	12	17	18	51				2. * Programmed for
																		Installation
																		# Reqs. not program
																		3- AN/FPS-3
																		4- AN/FPS-4
																		5- AN/FPS-5
																		6- AN/FPS-6
																		6B- AN/CFS-6B
																		8- AN/FSP-8
																		10- AN/FPS-10

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MAJOR TRAINING DEVICES

Mobile Training Detachment: A small group of technically qualified personnel with supporting training equipment (MTU) capable of being moved to organizations within the Air Force to provide technical instruction on a specific type and model of aircraft.

Instrument trainers simulate the flight of jet or conventional aircraft under instrument conditions. They embody full aircraft instruments and provide all radio signals of the latest types of navigational ranges and blind flying systems. Flights are recorded for use in critiques.

Flight simulators are devices built to duplicate accurately the cockpit configuration, control pressures, and flight characteristics of a specific airplane. These units are capable of simulating complete flight of a specific aircraft from cockpit checkout, ground run-up, cruise, landing, and emergency procedures under instrument conditions. Flight Simulators are being used to provide training in the following areas:

1. Crew transition
2. Instrument flying techniques and procedures
3. Emergency procedures
4. Crew coordination
5. Radar intercept procedures

These devices are also used to check crew proficiency prior to flight in the aircraft.

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TRAINING DEVICES PROGRAMMED

BASE	UNIT	F-36D Simulator	F-37D Simulator	F-402 Simulator	C-119 Instrument Trg	C-119E Instrument Trg	C-119 Instrument Trg	Instrument Trg 12-1-1-C	Target Gun.	F-105	F-105 A-1H	MTD	Ejection Seat Prog	RC-119	Simulator	REMARKS
Burlington	517th AD Gp	4/54														MTD Avail Jan 54/Sept 54
	517th F/I Sq															
	764th AC&W															
Day	585th F/I Sq	Oct 54														MTD Avail Jan 54/Sept 54
	585th AC&W															
Spangler	585th AC&W															
Spangler	57th F/I Sq	Jun 54														
	585th AC&W															
	522nd F/I Sq	Aug 54														MTD Avail 3rd Qtr F/ 54
	523rd F/I Sq															MTD Avail Jan 54/Apr 54
	498th F/I Sq															
Bangson	45th F/I Sq	Feb 54														
Blairsville	518th Gp	Jul 54														
	47th F/I Sq															
	763rd AC&W															
Oris	504th Gp	Apr 54														MTD Avail Jul 54/Jan 55
	58th F/I Sq															
	437th F/I Sq															
	762nd AC&W															
	551 AEW&C Gp															
Presque Isle	528th Gp	Aug 54														MTD Avail Jun 54/Nov 54
	57th F/I Sq															
	74th F/I Sq															
	334th F/I Sq															
	768th AC&W															
St. Albans	556th AC&W															
Watertown	666th AC&W															
Westover	60th F/I Sq															

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AIR NATIONAL GUARD FIGHTER DEPLOYMENT

(ZI)

The Air National Guard Fighter Deployment of ADC ANG M-Day units is included in the Air Defense Program for information and planning purposes.

The ANG units listed have mobilization assignments to ADC. The six Fighter Interceptor Wings, including the Fighter Interceptor Group, the M&S Group, the Air Base Group and the Medical Group, will be retained indefinitely by ADC after mobilization. The seventeen Fighter Bomber Wing complexes will be temporarily separated in their mission assignment upon mobilization. The fifty one fighter bomber squadrons will be immediately called to active military service, assigned to ADC, and will remain in an air defense role for ninety days. At the end of this period, these squadrons will be reassigned to Tactical Air Command. The wings, less fighter squadrons, augmented by personnel and equipment necessary for ninety day separate sustained operation, will be ordered to active military service by COMAC and assigned to TAC. These seventeen wings will be deployed as required by TAC and will prepare for the return of their respective fighter squadrons temporarily assigned to ADC.

Under present conditions, the Air National Guard may be mobilized by Presidential order, provided Congress has first declared a national emergency, or has authorized the President to order any or all members or units into active military service; or the Air National Guard may be mobilized by Presidential call. The Department of Defense is sponsoring a bill for consideration by the present session of Congress whereby authority will be delegated to the Commander, ADC, to mobilize ADC ANG units in the event of hostilities. However, this bill has not yet been presented for consideration.

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*SECRET*ANG M-DAY UNIT CONVERSION AND EQUIPMENT PROGRAM

UNIT	LOCATION	FY 54	FY 55				END FY 56
		4th Qtr	1st Qtr	2d Qtr	3d Qtr	4th Qtr	
101st F/I Wg	Bangor, Maine						
132nd F/I Sq	Bangor, Maine	14 F-94A/B	15 F-94A/B	23 F-94A/B	25 F-94A/B	25 F-94A/B	21 F-94A/B
134th F/I Sq	Burl. Vt.	14 F-94A/B	15 F-94A/B	23 F-94A/B	25 F-94A/B	25 F-94A/B	21 F-94A/B
133rd F/I Sq	Men. N.H.	14 F-94A/B	15 F-94A/B	23 F-94A/B	25 F-94A/B	25 F-94A/B	21 F-94A/B
102nd F/I Wg	Boston, Mass.						
101st F/I Sq	Boston, Mass.	15 F-94A/B	15 F-94A/B	23 F-94A/B	25 F-94A/B	25 F-94A/B	21 F-94A/B
131st F/I Sq	West. Mass.	15 F-94A/B	15 F-94A/B	23 F-94A/B	25 F-94A/B	25 F-94A/B	21 F-94A/B
107th F/I Wg	Niagara Falls, NY						
136th F/I Sq	Niagara Falls, New York	13 F-94A/B	15 F-94A/B	22 F-94A/B	25 F-94A/B	24 F-94A/B	22 F-94A/B
138th F/I Sq	Syracuse, NY	13 F-94A/B	15 F-94A/B	22 F-94A/B	25 F-94A/B	24 F-94A/B	22 F-94A/B
139th F/I Sq	Schenectady, NY	11 F-94A/B	14 F-94A/B	22 F-94A/B	24 F-94A/B	24 F-94A/B	22 F-94A/B

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RESERVE FORCES SUMMER ENCAMPMENTS FOR FY 54

<u>LOCATION</u>	<u>DATE</u>	<u>NO. CADETS</u>	<u>CAP WING</u>
Ethan Allen AFB	20 Jun 17 Jul	175	
Otis AFB	20 Jun 17 Jul	200	
*Greiner AFB	23 Jun 1 Jul 2 Aug 9 Aug	52 78	New Hampshire Vermont
*Otis AFB	3 Jul 12 Jul	330	Massachusetts

* These dates and locations are tentative, Hq USAF is determining final dates and locations.

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<u>LOCATION</u>	<u>UNIT</u>	<u>HOME STATION</u>	<u>DATES</u>	<u>STRENGTH</u>		<u>AIRCRAFT</u>
				<u>OFF</u>	<u>AMN</u>	
Otis AFB	103d F/B Wing	Connecticut	12 Jun 26 Jun	200	1350	40 F-84D; 31-33; 6T-6; 2C-47
Otis AFB	102nd F/B Wing	Massachusetts	10 Jul 24 Jul	200	1350	26 F-94A/B; 31-33; 12T-6; 2C-47
Otis AFB	101st F/B Wing	Maine	31 Jul 14 Aug	225	1400	42 F-94A/B; 4T-33; 17T-6 3-C-47

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RESERVE CONVERSION AND EQUIPPING PROGRAM

UNIT	LOCATION	FY 54	FY 55		FY 56	FY 57	REMARKS
			2d Qtr	4th Qtr			
89th F/B Wg	Hanscom Fld, Mass.	24 F-80	28 F-80	24 F-80	55 F-84	55 F-84	
445th F/B Wg	Niagara Falls Apt, NY	23 F-80	27 F-80	23 F-80	27 F-80	55 F-84	

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FIGHTER/INTERCEPTOR MANPOWER PROGRAM

UNIT	TYPE MANNING	FY 54				FY 55				FY 56				FY 57		REMARKS
		3d Qtr	4th Qtr	1st Qtr	2d Qtr	3d Qtr	4th Qtr	1st Qtr	2d Qtr	3d Qtr	4th Qtr	2d Qtr	3d Qtr			
37th F/I Sq	T/O Off	84	84	100												MV Bunker Hill 3d Qtr 56
	T/O Amn	247	247	247												
	NT/O Amn	23	18	18												
	TOTAL	354	349	365												
49th F/I Sq	T/O Off	47		55				60	60							MV Fr Dow to Hanscom 2d Qtr 56
	T/O Amn	247		247				247	247							
	NT/O Amn	15		15				15	20							
	TOTAL	309		317				322	327							
37th F/I Sq	T/O Off	47		55				60								
	T/O Amn	247		247				247								
	NT/O Amn	20		20				20								
	TOTAL	314		322				327								
47th F/I Sq	T/O Off	47		55				60								
	T/O Amn	247		247				247								
	NT/O Amn	15		20				20								
	TOTAL	309		322				327								
58th F/I Sq	T/O Off	84		100			99	110			111		63			
	NT/O Off										2		332			
	T/O Amn	247		247			242	242			279		16	15	54-351	
	NT/O Amn	18		18			23	23			57		16	15		
TOTAL	349		365			364	375			449		410				
437th F/I Sq	T/O Off	84		100						110	111		63			
	NT/O Off										2		332			
	T/O Amn	247		247						242	279		16	15	54-351	
	NT/O Amn	18		18						18	57		16	15		
TOTAL	349		365						370	449		410				
57th F/I Sq	T/O Off	110														Deploy O/S 1st Qtr 56
	T/O Amn	269														
	NT/O Amn	3														
	TOTAL	382														

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FIGHTER INTERCEPTOR MANPOWER PROGRAM

UNIT	TYPE MANNING	FY 54				FY 55				FY 56				FY 57		REMARKS
		3d Qtr	4th Qtr	1st Qtr	2d Qtr	3d Qtr	4th Qtr	1st Qtr	2d Qtr	3d Qtr	4th Qtr	1st Qtr	2d Qtr	3d Qtr	4th Qtr	
74th F/I Sq	T/O Off	63														Deploy O/S June 54
	T/O Amn	268														
	NT/O Amn	15														
	TOTAL	367														
334th F/I Sq	T/O Off			55	55			60								Return from PEAR Sept 54
	T/O Amn			247	247			247								
	NT/O Amn			15	50			20								
	TOTAL			317	352			327								
60th F/I Sq	T/O Off	47		55				60								
	T/O Amn	247		247				247								
	NT/O Amn	20		20				20								
	TOTAL	314		322				327								
303rd F/I Sq	T/O Off													63		5x-35
	T/O Amn													332		
	NT/O Amn													15		
	TOTAL													410		
329th F/I Sq	T/O Off												60	63		5x-35
	T/O Amn												247	332		
	NT/O Amn												15	15		
	TOTAL												322	410		
498th F/I Sq	T/O Off												111			
	NT/O Off												2			
	T/O Amn												279			
	NT/O Amn												20			
TOTAL												412				

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BLANK SPACE INDICATES NO CHANGE

0165

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AC&W MANPOWER PROGRAM

UNIT	TYPE	FY 54		FY 55		FY 56		FY 57		REMARKS
		1st Qtr	2nd Qtr	1st Qtr	2nd Qtr	1st Qtr	2nd Qtr	1st Qtr	2nd Qtr	
604th AC&W Sq	T/O Off	31				15				
	NT/O Off					22				
	T/O Amn	214				116				
	NT/O Amn	21				32				
	UNG Civ	17				17				
	TOTAL	286				253				
655th AC&W Sq	T/O Off	15				15				
	NT/O Off					8				
	T/O Amn	139				116				
	NT/O Amn	27				72				
	UNG Civ	17				17				
	TOTAL	197				228				
656th AC&W Sq	T/O Off	15				15				
	NT/O Off					20				
	T/O Amn	136				116				
	NT/O Amn	24				74				
	UNG Civ	17				17				
	TOTAL	194				232				
762nd AC&W Sq	T/O Off	32				15				
	NT/O Off					18				
	T/O Amn	205				116				
	NT/O Amn	36				107				
	UNG Civ	20				20				
	TOTAL	293				272				
763rd AC&W Sq	T/O Off	32				15				
	NT/O Off					8				
	T/O Amn	205				116				
	NT/O Amn	32				80				
	UNG Civ	17				17				
	TOTAL	286				236				

SECRET

BLANK SPACE INDICATE NO CHANGE

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0166

SECRET

AC&W MANPOWER PROGRAM

UNIT	TYPE MANNING	FY 54		FY 55				FY 56				FY 57		REMARKS	
		31 Qtr	1st Qtr	1st Qtr	2d Qtr	3d Qtr	4th Qtr	1st Qtr	2d Qtr	3d Qtr	4th Qtr	1st Qtr	4th Qtr		
764th AC&W Sq	T/O Off	32				15									
	NT/O Off					8									
	T/O Amn	205				116									
	NT/O Amn	31				77									
	UNG Civ	17				17									
	TOTAL	285				233									
765th AC&W Sq	T/O Off	15				15									
	NT/O Off					13									
	T/O Amn	138				116									
	NT/O Amn	27				87									
	UNG Civ	20				20									
	TOTAL	200				251									
766th AC&W Sq	T/O Off	20				15									
	NT/O Off					5									
	T/O Amn	164				116									
	NT/O Amn	31				81									
	UNG Civ	20				20									
	TOTAL	235				237									
877th AC&W Sq	T/O Off	5													
	T/O Amn	45													Moved to Alpena Michigan
	NT/O Amn	13													
	TOTAL	63													
700th AC&W Sq	T/O Off	5													
	T/O Amn	45													Moves to Two Creek, Wis.
	NT/O Amn	13													
	TOTAL	63													
907th AC&W Sq	T/O Off	5													
	T/O Amn	45													Move to Corea, Maine
	NT/O Amn	13													
	TOTAL	63													

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PLEASE ORDER THIS FORM NO. CHANGE

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0167

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AC&W MANPOWER PROGRAM

UNIT	TYPE MANNING	FY 51				FY 52				FY 53				FY 54				REMARKS
		1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	
300th AC&W	T/O Off																	
	T/O Ann																	
	NT/O Ann																	
	TOTAL																	
TRAINING SQUADRON TO BE ACTIVATED																		
300th AC&W	T/O Off																	Activate Mar 1952
	NT/O Off																	
	T/O Ann																	
	TOTAL																	
340th AC&W	T/O Off																	Activate 30 Qtr 1952
	T/O Ann																	
	NT/O Ann																	
	TOTAL																	
340th AC&W	T/O Off																	Activate Mar 1952
	T/O Ann																	
	NT/O Ann																	
	TOTAL																	
370th AC&W	T/O Off																	Activate Mar 1952
	T/O Ann																	
	NT/O Ann																	
	TOTAL																	
300th AC&W	T/O Off																	Activate Mar 1952
	NT/O Off																	
	T/O Ann																	
	TOTAL																	

BLANK SPACE INDICATE NO CHANGE

SECRET

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SECRET

AC&W MANPOWER PROGRAM

UNIT	TYPE MANETHG	FY 54		FY 55		FY 56		FY 57		REMARKS
		1st Qtr	1st Qtr	1st Qtr	1st Qtr	1st Qtr	1st Qtr	1st Qtr	1st Qtr	
809th AC&W	T/O Off				4					Activate Mar 1955
	T/O Ann				4					
	NT/O Ann				27					
	TOTAL				75					
903d AC&W	T/O Off	12								Activate May 54
	T/O Ann	109								
	TOTAL	121								
934th AC&W	T/O Off				15					Activate 3 Oct 1955
	T/O Ann				109					
	TOTAL				124					
910th AC&W	T/O Off				15					Activate Mar 55
	T/O Ann				116					
	NT/O Ann				39					
	TOTAL				170					
667th AC&W	T/O Off	12								Activate May 54
	T/O Ann	109								
	TOTAL	121								

SECRET

BLANK SPACE INDICATE NO CHANGE

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0169

SECRET

UNIT MANNING PROGRAM

UNIT	TYPE MANNING	FY 54				FY 55				FY 56				FY 57				REMARKS
		3d Qtr	4th Qtr	1st Qtr	2d Qtr	3d Qtr	4th Qtr	1st Qtr	2d Qtr	3d Qtr	4th Qtr	1st Qtr	2d Qtr	3d Qtr	4th Qtr			
GROUND OBSERVER CORP																		
4673d GOS	NT/O Off	4		4														
	NT/O Amn	6		6														
	TOTAL	9		10														
4673d Det #1	NT/O Off	3																
	NT/O Amn	14																
	TOTAL	18																
4673d Det #2	NT/O Off	4		5														
	NT/O Amn	14		18														
	TOTAL	18		23														
4673d Det #3	NT/O Off	5		6														
	NT/O Amn	18		22														
	TOTAL	23		28														
4673d Det #4	NT/O Off	7																
	NT/O Amn	28																
	TOTAL	35																
4673d Det #5	NT/O Off	5		6														
	NT/O Amn	18		23														
	TOTAL	23		29														
SYRACUSE																		
32d AD(D)	NT/O Off	68	9					74										
	NT/O Amn	310	519					392										
	GRO Civ	13	13					19										
	UNG Civ	18	18					9										
	TOTAL	341	359					420										

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0170

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UNIT MANNING PROGRAM

UNIT	TYPE MANNING	FY 54		FY 55				FY 56				FY 57		REMARKS		
		1st Qt	2nd Qt	1st Qt	2d Qt	3d Qt	4th Q	1st Qt	2d Qt	3d Qt	4th	2d Qt	4th Q			
				SYRACUSE												
4602d Flt 3D AIS	NT/O Off	2														
	NT/O Ann	5														
	TOTAL	7														
				PRESQUE ISLE												
528th AB Gp	T/O Off	4														
	NT/O Off	4														
	T/O Ann	48														
	NT/O Ann	81														
	GRD Civ	2														
	TOTAL	139														
528th AB Gp	T/O Off	11														
	NT/O Off	2														
	T/O Ann	47														
	NT/O Ann	8														
	GRD Civ	13														
	TOTAL	61														
528th Hosp.	T/O Off	8	1													
	NT/O Off	8	15													
	T/O Ann	31	3													
	NT/O Ann	31	40													
	GRD Civ	6	7													
	UNG Civ	2	2													
	TOTAL	86	68													
528th MAT Sq	NT/O Off	12	12	12												
	NT/O Ann	321	323	325												
	GRD Civ	40	40	40												
	UNG Civ	189	189	189												
	TOTAL	562	564	566												

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0171

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UNIT MANNING PROGRAM

UNIT	TYPE MANNING	FY 54		FY 55				FY 56				FY 57		REMARKS	
		3d Qt	4th Qt	1st Qt	2d Qt	3d Qt	4th Qt	1st Qt	2d Qt	3d Qt	4th Qt	2d Qt	4th Qt		
4711th DW	NT/O Off	27													
	NT/O Amn	85													
	GRD Civ	12													
	TOTAL	124													
				NIAGARA FALLS											
34 CRB Ft.	T/O Off	8													
	T/O Amn	18													
	TOTAL	19													
518th AB Sq	T/O Off	4	4	4					4						
	NT/O Off	3	13	29					28						
	T/O Amn	48	48	48					48						
	NT/O Amn	85	85	85					85						
	GRD Civ	5	5	5					5						
	TOTAL	145	155	171					170						
518th Gp	T/O Off	11													
	NT/O Off	2													
	T/O Amn	47													
	NT/O Amn	3													
	GRD Civ	17													
	TOTAL	81													
518th MAT Sq	NT/O Off	9		9		9			9						
	NT/O Amn	251		252		256			249						
	GRD Civ	32		32		32			32						
	UNG Civ	49		49		49			49						
	TOTAL	341		342		346			339						
518th Gp	T/O Off	11													
	NT/O Off	2													
	T/O Amn	47													
	NT/O Amn	3													
	GRD Civ	17													
	TOTAL	80													

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0172

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UNIT MANNING PROGRAM

UNITS	TYPE MANNING	FY 54		FY 55				FY 56				FY 57				REMARKS
		5d	9d	1st	2d	3d	4th	1st	2d	3d	4th	1st	2d	3d	4th	
818th INF	T/O Off	6	6													
	NT/O Off	1														
	T/O Amn	31	33													
	NT/O Amn	2														
	GRD Civ	4	4													
	TOTAL	44	43													
518th B	NT/O Amn		5	6	23	20	27	29	39							
				ETHAN ALLEN, VT.												
517th AB Sq	T/O Off	4														
	NT/O Off	6														
	T/O Amn	48														
	NT/O Amn	90														
	GRD Civ	4														
	TOTAL	152														
517th GP	T/O Off	11														
	NT/O Off	2														
	T/O Amn	47														
	NT/O Amn	5														
	GRD Civ	14														
	TOTAL	79														
517th INF	T/O Off	6	6													
	NT/O Off	1														
	T/O Amn	31	33													
	NT/O Amn	5														
	GRD Civ	5	5													
	TOTAL	48	44													
4602d Ft #38 AIS	NT/O Off	2														
	NT/O Amn	5														
	TOTAL	7														

SECRET

0173

SECRET

UNIT MANNING PROGRAM

UNIT	TYPE MANNING	FY 54		FY 55				FY 56				FY 57		REMARKS	
		3d Qtr	4th Qtr	1st Qtr	2d Qtr	3d Qtr	4th Qtr	1st Qtr	2d Qtr	3d Qtr	4th Qtr	1st Qtr	2d Qtr		
															OTIS AFB, MASS.
UKO1 AC&W	T/O Off														
	T/O Amn														
	TOTAL														Deploy O/S 3d Qtr 56
UKO2 AC&W	T/O Off														
	T/O Amn														
	TOTAL														Deploy O/S 3d Qtr 56
12 WAF	T/O Off	1													
	T/O Amn	3													
	TOTAL	4													Discontinued 2d Qtr 56
27th CHE Ft.	T/O Off	3													
	T/O Amn	24													
	TOTAL	27													
532nd ACW Gp	T/O Off	29													
	T/O Amn	65													
	TOTAL	94													Deploy O/S 1st Qtr 56
540th ACW Gp	T/O Off									29					
	T/O Amn									65					
	TOTAL									94					Deploy 3d Qtr 56
551st AEW Gp	T/O Off					12									
	T/O Amn					30									
	TOTAL					42									
551st ELM Sq	T/O Off					7									
	T/O Amn					102									
	TOTAL					109									
551 PEN Sq	T/O Off					8									
	T/O Amn					241									
	TOTAL					249									

0174

SECRET

UNIT MANNING PROGRAM

UNITS	TYPE MANNING	FY 54		FY 55				FY 56				FY 57		REMARKS		
		3d Qtr	4th Qtr	1st Qtr	2d Qtr	3d Qtr	4th Qtr	1st Qtr	2d Qtr	3d Qtr	4th Qtr	1st Qtr	2d Qtr			
504th MV Sq	NT/O Off	8		3		3		3								
	NT/O Amn	113		124		138		143								
	GRD Civ			1		2		3								
	UNG Civ	16		26		36		36								
	TOTAL	132		154		179		185								
504th IN	T/O Off	3		3		3		3								
	NT/O Off	2		2		2		2								
	T/O Amn	88		88		88		88								
	NT/O Amn	38		50		68		98								
	GRD Civ	32		38		44		56								
	UNG Civ	147		146		148		149								
	TOTAL	310		329		347		382								
504th OP	T/O Off	9	9	9		9										
	NT/O Off	2	17	38		39		39								
	T/O Amn	128	128	128		126		126								
	NT/O Amn	37	37	54		59		86								
	GRD Civ	10	10	10		13		13								
	TOTAL	184	199	237		246		253								
504th Sup	T/O Off	7		7		7		8								
	NT/O Off	3		3		5		5								
	T/O Amn	91		91		91		91								
	NT/O Amn	22		49		99		120								
	GRD Civ	43		47		47		53								
	UNG Civ	44		50		50		62								
	TOTAL	210		247		319		339								
617th ACW	T/O Off	46														
	T/O Amn	514														
	TOTAL	560														

Deploy Q/S
1st Qtr 56

SECRET

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0175

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UNIT MANNING PROGRAM

UNIT	TYPE MANNING	FY 54				FY 55				FY 56				FY 57				REMARKS
		3d Qtr	4th Qtr	1st Qtr	2d Qtr	3d Qtr	4th Qtr	1st Qtr	2d Qtr	3d Qtr	4th Qtr	1st Qtr	2d Qtr	3d Qtr	4th Qtr			
564th Gp	T/O Off	26				26	26											
	NT/O Off	1				4	4											
	T/O Amn	89				89	89											
	NT/O Amn	35				55	59											
	GRD Civ	45				47	51											
	UNG Civ	5				5	5											
	TOTAL	201				226	234											
564th Hosp.	T/O Off	1	1			1	1											
	NT/O Off	25	30			34	35											
	T/O Amn	3	3			3	3											
	NT/O Amn	73	89			89	89											
	GRD Civ	18	17			19	21											
	UNG Civ	5	5			5	5											
	TOTAL	125	145			151	153											
564th AF Sq	NT/O Off	1				1	1	1										
	NT/O Amn	118				134	143	148										
	TOTAL	119				135	144	149										
564th FDM <i>g</i>	T/O Off	8	8	8	8	8	8											
	NT/O Off					2	2	3	8									
	T/O Amn	113	113	113	113	113	113											
	NT/O Amn	16	23	119	162	210	307											
	GRD Civ			6	6	11	16											
	UNG Civ	32	32	50	50	73	77											
	TOTAL	159	176	298	381	468	429											
564th FSR	NT/O Off	4				5	5	5										
	NT/O Amn	111				175	199	211										
	TOTAL	115				180	204	216										

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0176

SECRET

UNIT MANNING PROGRAM

UNITS	TYPE MANNING	FY 54				FY 55				FY 56				FY 57				REMARKS
		1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	
62nd ACW	T/O Off	46																Deploy O/S 1st Qtr 56
	T/O Ann	514																
	TOTAL	560																
650th ACW	T/O Off	44																Deploy O/S 1st Qtr 56
	T/O Ann	476																
	TOTAL	520																
682 ACW	T/O Off								43									Deploy O/S 3d Qtr 56
	T/O Ann								377									
	TOTAL								420									
643d ACW	T/O Off	44																Deploy O/S 1st Qtr 56
	T/O Ann	430																
	TOTAL	474																
673d ACW	T/O Off	43																Deploy O/S 1st Qtr 56
	T/O Ann	377																
	TOTAL	420																
807 ACW	T/O Off								46									Deploy O/S 3 Qtr 56
	T/O Ann								514									
	TOTAL								560									
960 AEW	T/O Off					180												
	T/O Ann					288												
	TOTAL					468												
961 AEW	T/O Off					180												
	T/O Ann					288												
	TOTAL					468												

SECRET

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0177

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UNIT MANNING PROGRAM

UNITS	TYPE MANNING	FY 54		FY 55				FY 56				FY 57				REMARKS
		1st Qtr	4th Qtr	1st Qtr	2d Qtr	3d Qtr	4th Qtr	1st Qtr	2d Qtr	3d Qtr	4th Qtr	1st Qtr	2d Qtr	3d Qtr	4th Qtr	
967d AEW	T/O Off							180								
	T/O Amn							288								
	TOTAL							468								
4707th DW	NT/O Off	30														
	NT/O Amn	88														
	GRO Civ	2														
	TOTAL	120														
4712th AEW	NT/O Off		74													
	NT/O Amn		382													
	TOTAL		456													Discontinued 2d Qtr 55
517th MAT Sq	NT/O Off	9	9													
	NT/O Amn	262	268													
	GRO Civ	52	52													
	UNG C	99	99													
	TOTAL	422	428													

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C O P Y

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Mr. Fred L. Smith, W-396
Chief, Air Defense Liaison Branch
CAA Air Defense Liaison Officer, 32d AD(D)

March 5, 1954

Cross Border Security Landline Circuits

Your memorandum to Mr. J. R. Ducrest, NY-396, dated February 19, 1954, was referred to this office for necessary coordination with the 32d AD(D) and reply.

The circuitry information contained in the RCAF letter attached to your memorandum is not entirely in accord with the recommendations of the St. Hubert meeting of August 21, 1952, the Ottawa meeting of August 13, 1953, and information available at this division. The circuit described in paragraph 4.(a) omits a drop at Saratoga GCI. In the circuit diagrams attached to the minutes of the St. Hubert and Ottawa meetings, this drop is erroneously listed for "Charleston GCI". The circuit described in paragraph 4.(c) omits the Moncton ATC Center. The circuits between the Boston Center, Saratoga Springs, Watertown and St. Albans GCI's; and between the Boston Center, Brunswick, Charleston and Caswell GCI's, as recommended at the St. Hubert's meeting, are not listed. It is noted that these circuits were also omitted from the circuit diagrams attached to the minutes of the Ottawa meeting. The circuit "termination" listed in paragraphs 4.(a), (b) and (c) imply that "loudspeakers" are to be installed at the Boston and Detroit Centers. I can find nothing in the minutes of the two meetings, nor recall any discussion concerning installation of loudspeakers at these Centers. I am of the opinion that standard termination in the 102A equipment would be made. With the exception of the circuit designator listed in paragraph 4.(a), (DND 312) and paragraph 4.(b), (DND 333), the circuit designators do not correspond to either the AFC or GFP designators on file at this division.

To preclude further confusion and to insure that your information is current on this subject, following is a resume of the recommended circuits, passed and proposed actions, and current circuits, as available at this division:

1. The following circuits were recommended at the St. Hubert's meeting:
 - (a) Boston-Moncton Centers, with loudspeaker, pick-up-to-talk equipped "receive" only drop at Caswell and Charleston GCI's. (Subsequent to this meeting, the division recommended that an identical drop be provided at Brunswick GCI).

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Mr. F. L. Smith
W-396

March 5, 1954

- (b) Boston-Brunswick, Charleston and Caswell GIC's, with loudspeaker and pick-up-to-talk equipment installed at the GCI's.
- (c) Boston-Montreal Centers, with loudspeaker, pick-up-to-talk equipped "receive" only drop at St. Albans and Watertown GCI's. (Subsequent to this meeting, the division recommended that an identical drop be provided at Saratoga Springs GCI).
- (d) Boston-St. Albans, Watertown and Saratoga Springs GCI with loudspeaker and pick-up-to-talk equipment installed at the GCI's.
- (e) Detroit-Toronto Centers with loudspeaker and pick-up-to-talk equipped "receive" only drop at Lockport GCI.
- (f) Detroit-Lockport GCI with loudspeaker and pick-up-to-talk equipment installed at Lockport.

2. As specified above, the circuits listed in (b) and (i) are not listed in the circuit diagrams attached to the minutes of the Ottawa meeting. The subsequent recommendations made by the division for drops at Brunswick and Saratoga Springs on the circuits listed in (a) and (c), however, are listed in these diagrams; except that Saratoga Springs is erroneously listed as "Charleston". Also, the RCAF letter attached to your memorandum omits Saratoga Springs from the circuit listed in (c), and either omits the circuit listed in (a), or omits the Moncton Center from this circuit and omits the circuit listed in (b).

3. Upon our return from the St. Hubert's meeting, the division C&E representative and I reviewed the necessary action required to implement the recommended circuits, with the following results:

- (a) The circuit listed in 2.(b) was in existence, and no further action was required.
- (b) The Lockport GCI drop on the existing Boston-Saratoga Springs-Lockport circuit was discontinued, leaving a Boston-Saratoga Springs Circuit.
- (c) The circuit listed in 2.(d) was in existence, with the exception of a drop at Saratoga Springs. The division has recently issued necessary orders to have Saratoga Springs provided with a drop on this circuit and cancel the Boston-Saratoga Springs circuit.

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Mr. F. L. Smith
W-396

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March 5, 1954

- (d) A request was submitted to higher headquarters to provide the necessary additional circuits and loudspeaker equipment required. It was subsequently determined that entrance facilities at GCI's were not sufficient to permit the installation of the circuits listed in 2.(a) and (c). The circuits listed in 2.(e) and (f), however, were installed and have been operative for a considerable period of time. Also, necessary loudspeaker equipment has been installed at all GCI's.
- (d) In view of the inadequate entrance facilities, the division recommended the following circuit installations until adequate entrance facilities would be available:
- (1) Combine the circuits listed in 2.(a) and (b) into one circuit between Boston and Moncton, with loudspeaker and pick-up-to-talk equipped drops at Caswell, Charleston and Brunswick GCI's.
 - (2) Combine the circuits listed in 2.(c) and (d) into one circuit between Boston and Montreal Centers, with loudspeaker, pick-up-to-talk equipped drops at St. Albans and Watertown GCI. (As specified above, action has been taken to add Saratoga Springs GCI to this circuit).
4. These interim circuits do not limit the GCI's to "receive" only drops and, consequently, they can ring either Boston and Montreal or Boston and Moncton Centers. The Centers made signalling arrangements to be used by each other and the associated GCI's as follows:
- (a) GCI's on the Boston-Moncton circuit and Boston Center ring Moncton by three (3) short rings, and Moncton Center and the GCI's ring Boston by one (1) long ring.
 - (b) GCI's on the Boston-Montreal circuit and Boston Center ring Montreal Center by three (3) short rings. Montreal Center and the GCI's ring Boston Center by one (1) long ring.
5. The Boston Center has advised verbally that this circuit arrangement is not congested and seems to be adequate, and that they have received no complaints from either the Moncton or Montreal Centers. However, the air division is continuing installations to provide adequate entrance facilities to implement the circuits recommended at the

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Mr. F. L. Smith
W-396'

-4-

March 5, 1954

St. Hubert meeting. Entrance facilities are now available at all GCI's except St. Albans, Charleston and Caswell. The division has received a target date for the Caswell entrance facilities as of March 15, 1954. They have not received a target date for St. Albans. Charleston is awaiting the installation of micro-wave equipment. The equipment and necessary funds have been made available; however, installation is awaiting the construction of necessary buildings to house the micro-wave equipment. No estimated completion date can be provided at this time.

6. The circuit designators available at this division for the existing circuits are as follows:

- (a) DND 312 (GFP 1275, AFC 1155), Boston-Montreal, with drops at St. Albans and Watertown GCI. (Saratoga Springs drop should be added to this circuit and the existing Boston-Saratoga Springs circuit cancelled in approximately ten (10) days).
- (b) AFC 240 (GFP 2022), Boston-Moncton Centers, with drops at Brunswick, Charelston and Caswell GCI's.
- (c) AFC 341 (GFP 2059), Boston-Saratoga Springs GCI. (See note to paragraph 6.(a)).
- (d) DND 333 (GFP not known), Detroit-Toronto, with a drop at Lockport.
- (e) AFC 2075 (GFP not known), Detroit-Lockport.

1 cy: F. L. Smith
CAA ADLO WASH File
CAA ADLO, EADF
NY-396
Capt. W. Pate, C&E, 32d AD(D)
2 cys: CAA ADLO, 32d AD(D)

O. B. TOMLIN
CAA Air Defense Liaison Officer
32d Air Division (Defense)
NY-396B

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0182

C O P Y

HEADQUARTERS
32D AIR DIVISION (DEFENSE)
Syracuse Air Force Station, Eastwood Station 6

OOT-A

24 Mar 1954

SUBJECT: (Unclassified) EADF-RCAF ADC Exchange of Fighter and
AC&W Capability Status

TO: Commander
Eastern Air Defense Force
Stewart Air Force Base
Newburgh, New York

1. This headquarters is in receipt of letter your headquarters, EAOOT-TS, subject as above, 15 March 1954.
2. At present, fighter status is exchanged once daily between this ADC and adjacent RCAF ADC's via direct land line in AC&W Voice Code. Voice Code must be utilized as cryptographic facilities will not permit the transmission of messages of a routine nature over this one existing circuit. It is readily evident that the time element involved in this procedure is prohibitive to efficient exchange of data.
3. For the above reason, it is recommended that the following procedure be adapted.
 - a. Adjacent RCAF AC&W squadrons and USAF AC&W squadrons will exchange radar status information over existing direct land-line circuit. For periods of maintenance of less than four hours, the report may be transmitted in clear text in accordance with paragraph 4g, ADCR 55-22. For periods of maintenance of more than four hours when AC&W Voice Code must be utilized, no hardship would be imposed on the transmitting squadron as their functions would be reduced due to the non-operational status.
 - b. Adjacent RCAF AC&W squadrons and USAF AC&W squadrons will exchange fighter status information over existing direct land-line circuits. Status information of only one fighter-interceptor squadron may be transmitted in the clear in accordance with paragraph 5f, ADCR 55-20.
4. This headquarters has no direct concern in the operational status of RCAF radars other than those adjacent to the sector boundary.

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Likewise, the same should be true of the adjacent RCAF ADCC's. The procedure as recommended in paragraph 3a above provides a means of exchanging this information without either undue workload at ADCC and ADCC level or overtaxing of crypto facilities.

5. Fighter range and tactical employment technique precludes the operation of fighters further than two subsectors removed from the deployment base. Therefore, there is no existing requirement for knowledge of fighter status other than that available to the adjacent AC&W squadrons.

6. When the radar and fighter status information is exchanged at squadron level, dissemination may then be made through normal tactical channels within RCAF ADC and USAF ADC echelons, as is present procedure for processing USAF fighter and AC&W data.

FOR THE COMMANDER:

FREDERICK E. YORK
Major, USAF
Adjutant

CONFIDENTIAL

C O P Y

HEADQUARTERS
32D AIR DIVISION (DEFENSE)
Syracuse Air Force Station, Syracuse 6, New York

OCC

29 Apr 54

SUBJECT: (Unclassified) EADF-RCAF ADC Exchange of Fighter and
AC&W Capability Status

TO: Commander
Eastern Air Defense Force
Stewart Air Force Base
Newburgh, New York

1. In compliance with message EA00T-76 C-345 your headquarters, subject same as above, the following report is submitted.
2. The exchange of radar status was conducted during the emphasized exchange period (in accordance with Air Defense Command Regulation 55-22, 23 January 1954). There were no outstanding difficulties encountered on exchanging radar status.
3. The exchange of fighter status between this ADCC and adjacent RCAF ADCC's imposed an increased work load and quite a delay in the exchange of data. Due to lack of Cryptographic facilities from this ADCC to RCAF ADCC's this information had to be accomplished by AC&W voice code (in accordance with Air Defense Command Regulation 55-20, 3 June 1954).
4. A singular radar or fighter status may be passed in the clear. This is done between adjacent ADCC's and between an ADCC and ADCC.
5. It is recommended that the adjacent RCAF AC&W Squadrons and USAF AC&W Squadrons exchange the one fighter status information, each AC&W Squadron is responsible for, over direct land line circuits. This information would then be forwarded to their parent organization (ADCC) over direct land lines. This exchange of information would not impose any undue hardship on any organization and at the same time this procedure would greatly decrease the time lag in exchange of pertinent status information.

FOR THE COMMANDER:

FREDERICK E. YORK
Lt Colonel, USAF
Adjutant

CONFIDENTIAL

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0185

C O P Y

HEADQUARTERS
4711TH DEFENSE WING
PRESQUE ISLE AIR FORCE BASE
Presque Isle, Maine

5 Jan 1954

SUBJECT: Non-Tactical Flights to Royal Canadian Air Force Base

TO: Commander
32d Air Division (Defense)
Hancock Field, Eastwood Station 6
Syracuse, New York

1. During the past year this Wing has been host to a considerable number of Royal Canadian Air Force personnel who have had occasion to visit Presque Isle Air Force Base for various official reasons. Included among these visitors have been area and unit commanders as well as officer and enlisted members. The length of the visits have been from a few hours to several days. As a result of this practice many acquaintances have been made and an atmosphere of sincere friendship exists between personnel of both Air Forces. In addition, a spirit of close cooperation exists regarding matters of mutual interest, such as AC&W and fighter-intercept activities.

2. The RCAF commanders mentioned above have on several occasions invited the Wing Commander and members of the staff, including commanders of the locally based tactical squadrons, to their installations for social activities or ceremonies. These invitations have been predominantly to reciprocate for the courtesies extended to the Canadians in their visits to this base. Acceptance of most of these invitations has been refused with extreme regret due to the short time element involved whereby compliance with the provisions of AFR 60-8, dated 28 March 1952, was not possible.

3. In view of the foregoing, it is requested that the Commander, 4711th Defense Wing be granted authority to place designated personnel on TDY at RCAF bases as the occasions mentioned above arise and when considered advisable. It is believed that the practice of returning the time honored custom of military courtesy calls is greatly desirable in effecting close coordination between the neighboring Air Forces.

JAMES O. BECKWITH
Colonel, USAF
Commander

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Hq 4711th Def Wg Subject: Non-Tactical Flights to Royal Canadian
Air Force Bases

CDC (5 Jan 54) 1st Ind 11 Jan 54

HQ 32D AIR DIVISION (DEFENSE), Hancock Field, Eastwood Station 6,
Syracuse, New York

TO: Commander, Eastern Air Defense Force, Stewart Air Force Base,
Newburgh, New York

1. Forwarded for your consideration and approval.
2. Information available at this headquarters indicates that verbal authority has been granted by Director of Intelligence, your headquarters, permitting visits and liaison with Royal Canadian Air Force Bases. Such visits will be at the unit commander's discretion.
3. Disclosure of classified information will be in accordance with ADC Regulation 205-1, 27 March 1952. ADC Regulation 55-35, 3 June 1952, outlines flight requirements and customs procedures to be followed. Normal flight plan and reporting procedures will apply.

WILLIAM H. CLARK
Colonel, USAF
Deputy Commander

Hq 4711th Def Wg Subject: Non-Tactical Flights to Royal Canadian Air Force Bases

EAQIN (5 Jan 54) 2nd Ind

HQ EASTERN AIR DEFENSE FORCE, Stewart Air Force Base, Newburgh, N.Y.

TO: Commander, 32nd Air Division (Defense), Syracuse Air Force Station, Eastwood Station 6, Syracuse, New York

1. Hq ADC is now coordinating a revised ADCR 205-1 which established a "non-accredited" category of visit. This category will fulfill the requirements outlined in basic communication and allows sufficient flexibility to permit expeditious clearance of such visits. Publication of the revised regulation is anticipated in the near future.
2. No verbal authority has been granted by this headquarters for the authorization of visits and/or liaison with RCAF bases by personnel of your command. Pending publication of the revised ADCR 205-1, such visits and liaison will be processed in accordance with EADF letter EAQIN 333.3, Subject: Official Visits of EADF Personnel to Canada, dated 21 May 1953 except for those individuals and/or unit specifically authorized or directed to conduct such visits and liaison in the accomplishment of their mission; i.e., RCAF - USAF Cross Training Program, 1st Radar Calibration Squadron flights, etc.

BY ORDER OF THE COMMANDER:

Hq 4711th Def Wg Subject: Non-Tactical Flights to Royal Canadian
Air Force Bases

OIN/REL-1 (5 Jan 54) 3rd Ind 30 Jan 54

HQ 32D AIR DIVISION (DEFENSE), Syracuse Air Force Station, Eastwood
Station 6, Syracuse, New York

TO: Commander, 4711th Defense Wing, Presque Isle Air Force Base,
Presque Isle, Maine

1. Visits to Canada will be in accordance with EADF letter, EACIN 333.3, dated 21 May 1953 and ADCR 205-1 as stated in second indorsement to basic letter.
2. It is requested that information contained in second indorsement be transmitted to units of your command in order to clarify the previous verbal misunderstanding.
3. This subject has been reviewed by Colonel Beckwith at Headquarters 32d Air Division.

WILLIAM H. CLARK
Colonel, USAF
Deputy Commander

C O P Y

HEADQUARTERS
32D AIR DIVISION (DEFENSE)
Syracuse Air Force Station, Eastwood Station 6
Syracuse, New York

OIN/REL-1

30 Jan 1954

SUBJECT: Non-Tactical Flights to Royal Air Force Base

TO: Commander
4707th Defense Wing
Otis Air Force Base
Falmouth, Massachusetts

1. A verbal misunderstanding that visits and liaison with Royal Canadian Air Force bases could be made at the unit commanders discretion has existed between this headquarters and Headquarters Eastern Air Defense Force.
2. To clarify this misunderstanding, Headquarters Eastern Air Defense Force states that ADCR 205-1 will be revised in the near future to establish a "non-accredited" category of visit. This category will fulfill the requirements for visits and liaison with Royal Canadian Air Force bases, and will provide sufficient flexibility to permit expeditious clearance of such visits.
3. Headquarters Eastern Air Defense Force further states that no verbal authority has been granted for the authorization of visits and/or liaison with Royal Canadian Air Force bases by personnel of subordinate units. Pending publication of the revised ADCR 205-1, such visits and liaison will be processed in accordance with EADF letter EA0IN 333.3, subject: Official Visits of EADF Personnel to Canada, dated 21 May 1953 except for those individuals and/or units specifically authorized or directed; i.e., RCAF-USAF Cross Training Program, 1st Radar Calibration Squadron flights, etc.
4. It is desired that units of your command comply with provisions of EA0IN 333.3 pending revision of ADCR 205-1.

BY ORDER OF THE COMMANDER:

VIRGINIA L. SWEET
1st Lt, USAF
Ass't Adjutant

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C O P Y

HEADQUARTERS
32D AIR DIVISION (DEFENSE)
Syracuse Air Force Station, Eastwood Station 6
Syracuse, New York

OIN

12 Apr 1954

SUBJECT: (Unclassified) Report of Visit by Foreign National

TO: Commander
Eastern Air Defense Force
Stewart Air Force Base
Newburgh New York

1. In accordance with paragraph 69, AFR 205-1, dated 24 July 1953, Subject: "Safeguarding Military Information", the following report is submitted on the visit of S/L ROGERS, RAF, to this headquarters on 6 April 1954.
 - a. Squadron Leader J. K. ROGERS, RAF, (exchange officer to RCAF) Canadian Air Defense Force.
 - b. Hq EADF classified message, EAOIN 341, dated 5 April 1954.
 - c. Interest was shown in all phases of operations of the 32d Air Division (Defense) and the AirDefense Control Center.
 - d. Questions pertained to operations, personnel, equipment and communications of the 32d Air Division (Defense), and the ADCC.
 - e. Familiarization with general layout, procedures and methods of operational USAF AC&W systems.
 - f. Same as paragraph e, above.
 - g. Officer showed a very high level of intelligence and technical ability in United States and Canadian air defense matters. Command of English language was excellent.
 - h. Officer was given a complete tour of the ADCC and all procedures pertaining thereto were explained to him. Air Defense matters pertaining jointly to the United States and Canada were discussed at length.

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HQ 32D AD (D) OIN Subj: Report of Visit by Foreign Nationals
(CONT'D)

1. The highest security classification of information
disclosed was TOP SECRET.

FOR THE COMMANDER:

FREDERICK E. YORK
Major, USAF
Adjutant

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C O P Y

HEADQUARTERS
76th AIRCRAFT CONTROL AND WARNING SQUADRON
ST ALBANS AIR FORCE STATION
St Albans, Vermont

OPNS

13 Apr 1954

SUBJECT: Report of Disclosure of Classified Information to Foreign
Nationals

TO: Commander
4711th Air Defense Wing
Presque Isle Air Force Base
Presque Isle, Maine

1. In accordance with paragraph 66, AFR 205-1, the following report is submitted pertaining to the visit to this organization, 8 April 1954, by Squadron Leader J. K. Rogers.
2. Squadron Leader Rogers, British subject, is a member of the Royal Air Force presently on Exchange duty with the Royal Canadian Air Force and is currently stationed at Lac St Denis, Quebec. His visit to this unit was authorized by Eastern Air Defense Force message EACIN 341, 5 April 1954.
3. This visit was arranged with the expressed purpose of familiarization with United States Air Force Aircraft Control and Warning facilities and procedures. The visitor displayed the keenest interest in facilities and equipment directly relating to the Operations Section of this squadron. His questions were of an informative type and it is believed that the real object of the visit was the same as the expressed objective.
4. This officer was of high intelligence, excellent character and with an above average technical knowledge in the AC&W field. He had flawless command of the English language.
5. The following subjects and equipment were discussed and shown:
 - a. AN/CPS-6B radar and associated equipment
 - b. AN/GPA-5, video mapper
 - c. 15-J-1C and 15-J-4A, simulator and programmer
 - d. AN/GRT-3 and AN/GRC-27, UHF transmitters
 - e. Operations room layout and equipment.

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SUBJECT: Report of Disclosure of Classified Information to
Foreign Nationals (Cont'd)

- f. Operations communications including manning and procedures.
 - g. Electronic maintenance including procedures and personnel.
6. The highest security classification of material and equipment included in this visit was secret.

FOR THE COMMANDER:

WILLIAM J. BUCHANAN
1st Lt., USAF
Adjutant

DO-INT (13 Apr 54) 1st Ind

HQ 4711TH DEFENSE WING, Presque Isle AFB, Maine

THRU: Commander, 32nd Air Division (Defense), Syracuse Air Force
Station, Eastwood Station 6, Syracuse, New York

TO: Chief of Staff, United States Air Force, Washington 25, DC

OIN (13 Apr 54) 2nd Ind

HQ 32D AIR DIVISION (DEFENSE), Syracuse Air Force Station, Eastwood
Station 6, Syracuse, New York

TO: Commander, Eastern Air Defense Force, Stewart Air Force Base,
Newburgh, New York

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C O P Y

CONFIDENTIAL
CI4-5-5 (SOPC)

DEPARTMENT OF NATIONAL DEFENCE
ROYAL CANADIAN AIR FORCE

St. Hubert, Que, 18 Dec 53.

CG, ADC HQ St Hubert
Sec Cdr, 1 ADCC, Lac St Denis
Sec Cdr, 2 ADCC, Chatham
Sec Cdr, 3 ADCC, Edgar
CO, 11 AC&W Sqn, Lac St Denis
CO, 12 AC&W Sqn, Mont Apica
CO, 21 AC&W Sqn, Chatham
CO, 31 AC&W Sqn, Edgar
CO, 32 AC&W Sqn, Foymount
CO, 33 AC&W Sqn, Falconbridge
Controller, COC ADCHQ, St Hubert

Cross Training-
RCAF - USAF Aircraft Control and Warning Personnel

- 1 Authority is granted your formations to participate fully in a cross training programme with USAF AC&W Personnel.
- 2 Security procedures for this programme are as follows:
 - (a) USAF teams proceeding on TD to Canadian locations will be under the direction of a designated officer. TD orders authorizing the travel will include regimental numbers, ranks (grades), trades, security clearances and parent formations of all team members.
 - (b) RCAF teams proceeding on TD to USAF formations will be under the direction of an accredited officer. TD orders will be issued on the authority of AFHQ letter 450-97/0 (DAPC) dated 7 Jan 53. These orders will include regimental numbers, ranks (grades), trades, security clearances and parent formations of all team members.
- 3 The cross training will be conducted by teams consisting of a Fighter Controller, control technician (RCAF Ops "B"), surveillance supervisor and movements-identification technician (RCAF identification NCO). Exchanged personnel will be placed on shift duty for a minimum of two weeks to become familiar with the differences in procedures and displays that are used.
- 4 It is recommended that a minimum of four teams be sent ~~from~~ to each formation with the training periods scheduled to coincide with those of the exchanging unit.

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Temporary duty action will be carried out as follows:

- (a) RCAF ADC HQ will forward appropriate orders to the USAF Air Division HQ and RCAF AC&W Sqn concerned.
- (b) On receipt of the RCAF ADC HQ orders for the Commander of the Air Division will forward copies of the orders to his exchanging EADF Sqns.
- (c) On receipt of the RCAF ADC HQ orders the RCAF AC&W Commanding Officer is to contact the Commander of the exchanging EADF Sqn and complete arrangements including the setting of effective dates for the movement of his personnel.
- (d) The Commander of the exchanging EADF Sqn is to forward a message to the Commanding Officer of the exchanging RCAF Sqn outlining the effective dates and confirming that they are satisfactory. A copy of this message is to be dispatched and the appropriate Air Div HQ and this CHQ.
- (e) On receipt of the confirmation message outlined in sub para 4 (d) of the RCAF Sqn Commanding Officer may move his personnel.

The same procedure is to apply to teams proceeding to Combat Operations Centres and Air Defence Control Centres. The reverse procedure will apply to movements of EADF personnel.

5 The following units will participate:

- (a) EADF COC and RCAF ADC COC, St Hubert.
- (b) 30th Air Division (Defense) and 3 ADCC, Edgar.
 - (1) 753d AC&W Sqn and 33 AC&W Sqn Falconbridge.
 - (11) 754th AC&W Sqn and 31 AC&W Sqn Edgar.
 - (111) 661st AC&W Sqn and 31 AC&W Sqn Edgar.
- (c) 32d Air Division (Defense) ADCC and 1 ADCC Lac St Denis; 2 ADCC Chatham; 3 ADCC Edgar.
 - (1) 763d AC&W Sqn and 31 AC&W Sqn Edgar.
 - (11) 655th AC&W Sqn and 32 AC&W Sqn Foymount.

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- (iii) 655th AC&W Sq and 11 AC&W Sqn Lac St Denis.
- (iv) 764th AC&W Sqn and 11 AC&W Sqn Lac St Denis.
- (v) 766th AC&W Sqn and 12 AC&W Sqn Mont Apica.
- (vi) 766th AC&W Sqn and 21 AC&W Sqn Chatham.
- (vii) 765th AC&W Sqn and 21 AC&W Sqn Chatham.

6 The Senior Controller Combat Operation Centre, Sector Commanders and COs of the RCAF ADC formations listed in para five are, on receipt of this order, to immediately select personnel and forward nominal rolls of ~~their~~ teams to this CHQ by fastest means. It is intended to commence the cross training programme on or about 11 Jan 54 and to promulgate TD instructions before 06 Jan 54. Officers who are eligible to write qualifying examinations, reference AFAO Pl/22, are not to be selected for TD during period examinations are written.

s/t/ (R.E. MacBride) W/C,
for AOC, ADC

Copy to: Commander,
Eastern Air Defence Force,
Stewart Air Force Base,
Newburgh, N.Y.

Commander,
32nd Air Division, USAF,
Hancock Field, Station 6,
Syracuse, New York.

Commander,
30th Air Division, USAF,
Willow Run Airport,
Belleville, Michigan.

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C O P Y

HEADQUARTERS
766TH AIRCRAFT CONTROL AND WARNING SQUADRON
CASWELL AIR FORCE STATION
Limestone, Maine

SUBJECT: Summary of Results of RCAF-USAF Cross Training Program

TO: Commander
32d Air Division (Defense)
Syracuse Air Force Station
Eastwood Station 6
Syracuse, New York

1. In accordance with your message dated 12/1358Z February, the following short commentary is submitted.

2. The exchange of personnel with RCAF AC&W Squadrons has demonstrated the lack of complete understanding on the responsibilities for Air Defense as interpreted by RCAF personnel. It was readily discovered that USAF AC&W Squadrons are far more serious minded air defense wise than are the RCAF units. This could be attributed to lack of interceptor aircraft for aircraft control, their recent integration into the air defense system, and general lack of experience.

3. The RCAF AC&W installations are far more elaborate than ours and have a potential control capability far superior to ours; however, due to lack of interceptor aircraft, director interest is very low. The assignment of male and female personnel to the same isolated location has resulted in many personnel problems not experienced in USAF bases.

4. Every effort was made to solve daily operational difficulties involving cross-telling, passage of flight plan information between ADDC and local flying areas.

5. This training provided the means of discovering the search capabilities of the 12th and 21st AC&W Squadrons (RCAF) electronic equipment heretofore unknown to us.

6. This cross-training has accomplished a great deal in bringing personnel together face-to-face who have previously had only speaking familiarity with each other. There is no better way to secure cooperation than to personally know the individuals you are working with even though they may be hundreds of miles away.

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7. If for no other reason, this training is worthwhile as it has disclosed why many of the delays occur in receipt of surveillance information from RCAFAC&W units and has resulted in our experienced people suggesting remedies. We have already experienced an improvement in this direction.

8. Our directors have been of considerable assistance to the RCAF in assisting them in the establishment of a GCI let-down, previously unheard of at their sites. We were able to prepare a tracing of one for the 21st AC&W Squadron from which a plate can be produced for their Video Mapping Unit. This should prove highly valuable to them.

9. A thorough briefing on Quality Control was received with enthusiasm by RCAF Directors. They will be familiar with the project when they receive their information from the 1st Radar Calibration Squadron in the near future and will assist them in evaluating their radar and surveillance performance.

FOR THE COMMANDER:

Info Copy:
4711th Def Wg

DOYLE F. BOUTWELL
Captain, USAF
Adjutant

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HEADQUARTERS
EASTERN AIR DEFENSE FORCE
Stewart Air Force Base, Newburgh, N.Y.

EAOOT-TS

26 May 1954

SUBJECT: Cross Training of EADF-RCAF ADC Aircraft Control and
Warning Personnel

TO: Commander
32d Air Division (Defense)
Syracuse Air Force Station
Eastwood Station 6
Syracuse, New York

1. Reference is made to EADF Letter EAOOT-A 353, 12 November 1953, and subsequent amendments and RCAF ADC message P738, 19 May 1954, on the above subject.
2. As recommended by the division's indorsements to EADF Letter EAOOT-TS, 12 March 1954, and the RCAF answer to EADF Letter EAOOT-TS, 5 April 1954, the cross training program will be continued. Paragraph 4 of EADF Letter EAOOT-A 353, 12 November 1953, is hereby amended by the addition of the following sentences: "It is recommended this program be maintained on a continuing basis after the four teams have been exchanged. The frequency of the exchange may be adjusted by mutual agreement between EADF divisions and aircraft control and warning squadrons and the appropriate RCAF ADCCs and aircraft control and warning squadrons based on the personnel attrition rate at the associated units and the need for training new personnel."
3. The procedure for conducting the EADF-RCAF aircraft control and warning cross training program outlined in EADF Letter EAOOT-A 353, 12 November 1953, and subsequent amendments and EADF Letter EAOOT-A, 353, 5 January 1954, apply to the continued program.
4. This correspondence is classified CONFIDENTIAL in accordance with AF Regulation 205-1, paragraph 24(8).

BY ORDER OF THE COMMANDER:

Info cys;
RCAF ADC
ADC

JAMES R. WORLINE
Captain, USAF
Asst Adjutant

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Hq EADP EA00T-TS Subj: Cross Training of RADF-RCAP ADC AC&W Personnel

OOT-A (26 May 54) 1st Ind

Hq 32D AIR DIVISION, (DEFENSE), Syracuse Air Force Station, Eastwood
Station 6, Syracuse, New York 4 Jun 1954

TO: Commander, 4707th Defense Wing, Otis AFB, Falmouth, Mass.
Commander, 4711th Defense Wing, Presque Isle AFB, Maine

1. Forwarded for your information and dissemination to appropriate units.
2. It is desired that AC&W squadron commanders determine requirements in accordance with paragraph 2, basic letter.

BY ORDER OF THE COMMANDER:

VIRGINIA L. SWEET
1st Lt, USAF
Asst Adjutant

C O P Y

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HEADQUARTERS
EASTERN AIR DEFENSE FORCE (ADC)
Stewart Air Force Base, Newburgh, N.Y.

GENERAL ORDERS)
NUMBER 26)

28 April 1954

RESCISSION
ASSIGNMENT OF AIR DEFENSE SECTORS
ASSIGNMENT OF AIR DEFENSE SUBSECTORS

Section I
Section II
Section III

II. RESCISSION. - General Orders No. 113, this headquarters, 29 November 1951, Subject: "Assignment of Air Defense Sectors and Subsectors," is rescinded.

II. ASSIGNMENT OF AIR DEFENSE SECTORS.-1. The following air divisions are assigned sectors of responsibility as indicated, effective 0001Z, 30 April 1954.

a. 26th Air Division (Defense) Sector: That area of the Continental United States bounded within a line beginning at sea adjacent to the Atlantic Seaboard, at the limit of radar surveillance and controlled fighter-interceptors capability, and extending on an azimuth of 302° true to a point where the Rhode Island - Massachusetts boundary meets the Atlantic Coast; thence along the Massachusetts-Rhode Island and Massachusetts-Connecticut boundary to 42° 03' N - 73° 30' W; thence south and west to 42° N - 73° 35' W; thence west to 42° 00' N - 74° 28' W; thence north and west to 42° 25' N - 75° 25' W; thence west to 42° 36' N - 76° 55' W; thence south and west to 42° N - 78° 28' W; thence south and west to 39° 35' N - 80° 20' W; thence south to the intersection with the northern border of North Carolina at 80° 20' W; thence along the Virginia-North Carolina boundary to the Atlantic Coast thence continuing on an azimuth of 122° true to the limit of radar surveillance and controlled fighter-interception capability; and including the area eastward to the limit of radar surveillance and controlled fighter-interceptor capability, adjacent to the Eastern Seaboard of that portion of the continental United States as defined above.

b. 30th Air Division (Defense) Sector: That area of the continental United States bounded within a line beginning at a point on the U.S.-Canada international boundary at 90° 00' W; thence south-southwest to the Minnesota-Wisconsin-Iowa intersection; thence along the western border of Wisconsin to the intersection with the northern border of Illinois; thence to 41° 45' N - 89° 00' W; thence along the 89th meridian to the border of Kentucky; thence along the western border of Kentucky to the northern border of Tennessee; thence east along the northern border of Tennessee and North Carolina to a point at 80° 20' W thence north to 39° 35' N - 80° 20' W; thence northeast to a point on the New York State border at 42° 00' N - 78° 28' W; thence north and west along the New York State border to 42° 15' N - 79° 45' W; thence west to a point on the U.S.-Canada international boundary at 42° 18' N - 80° 30' W.

c. 32d Air Division (Defense) Sector: That area of the continental United States north of a line beginning on the U.S.-Canada international

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GENERAL ORDERS NUMBER 26, Hq EADF (ADC), 28 Apr 54 Cont'd

boundary at $42^{\circ} 18' N - 80^{\circ} 30' W$; thence east $42^{\circ} 15' N - 79^{\circ} 45' W$; thence south and east along the New York State border to $42^{\circ} 00' N - 78^{\circ} 28' W$; thence northeast to $42^{\circ} 36' N - 76^{\circ} 55' W$; thence south and east to $42^{\circ} 25' N - 75^{\circ} 25' W$; thence south and east to $42^{\circ} 00' N - 74^{\circ} 28' W$; thence east to $42^{\circ} 00' N - 73^{\circ} 35' W$; thence north and east $42^{\circ} 03' N - 73^{\circ} 30' W$; thence east along the southern border of Massachusetts to the Atlantic coast; thence extending out to the sea on an azimuth of 122° true to the limit of the radar surveillance and controlled fighter-interceptor capability, and including the area eastward to the limit of the radar surveillance and controlled fighter-interceptor capability adjacent to the Eastern Seaboard to that portion of the continental United States as defined above.

2. Authority: ADC Regulation 55-4, 18 February 1953, and ADC General Orders Number 10, 9 February 1953.

III. ASSIGNMENT OF AIR DEFENSE SUBSECTORS (SECRET).- The following Air Divisions are assigned subsectors of responsibility as indicated, effective 0001Z, 30 April 1954.

a. The subsectors of responsibility for the AC&W Squadrons within the 26th Air Division are as follows:

P-45 - From a point where the Rhode Island-Massachusetts border meets the Atlantic Coast (extending 122° (true) into the Atlantic Ocean) and thence along the Massachusetts-Rhode Island and the Massachusetts-Connecticut borders to $42^{\circ} 03' N - 73^{\circ} 30' W$; to $42^{\circ} N - 73^{\circ} 35' W$ to $40^{\circ} 44' N - 72^{\circ} 55' W$; then a line extending 122° (true) into the Atlantic Ocean.

P-9 - From a point $40^{\circ} 44' N - 72^{\circ} 55' W$ (extending 122° (true) into the Atlantic Ocean) to $42^{\circ} N - 73^{\circ} 35' W$ to $42^{\circ} N - 74^{\circ} 28' W$ to $40^{\circ} 27' N - 75^{\circ} 22' W$ to $39^{\circ} 40' N$ to $74^{\circ} 12' W$; then a line extending 122° true into the Atlantic Ocean.

P-54 - From a point at $39^{\circ} 40' N - 74^{\circ} 12' W$ (extending 122° (true) into the Atlantic Ocean); to $40^{\circ} 27' N - 75^{\circ} 22' W$; to $40^{\circ} 00' N - 76^{\circ} 15' W$; to the Maryland-Pennsylvania border $76^{\circ} 00' W$ east along Maryland-Pennsylvania border then south and east along Maryland-Delaware border to $38^{\circ} 27' N - 75^{\circ} 02' W$; then a line extending 122° (true) into the Atlantic Ocean.

P-56 - From a point at $38^{\circ} 27' N - 75^{\circ} 02' W$ (extending 122° (true) into the Atlantic Ocean); along the Maryland-Delaware border to $38^{\circ} 27' N - 75^{\circ} 42' W$ to a point on the Virginia-North Carolina border at $75^{\circ} 25' W$ along the east

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GENERAL ORDERS NUMBER 26, Hq EADF (ADC), 28 Apr 54 Cont'd

Maryland and Delaware border to 38° 27' N - 75° 42' W to a point on the Virginia-North Carolina border at 75° 25' W then east along the Virginia-North Carolina border to the Atlantic Coast; then a line extending 122° (true) into the Atlantic Ocean.

- P-30 - From a point at 42° N - 74° 28' W to 40° 27' N - 75° 22' W; to 40° 00' N - 76° 15' W to 39° 44' N - 76° 48' W to 42° N 78° 28' W; to 42° 36' N - 76° 55' W; to 42° 25' N - 75° 25' W to 42° 28' W.
- P-55 - From a point at 38° 27' N - 75° 42' W; to a point at 78° 25' W on the Virginia-North Carolina border, west along the border to a point at 80° 20' W to 38° 18' N - 80° 20' W; to 38° 18' N - 79° 30' W; to 39° 44' N - 76° 48' W to 40° 00' N - 76° 15' W to a point on the Maryland-Pennsylvania border at 76° 00' W east along the Maryland-Pennsylvania border then south along the Maryland-Delaware border to 38° 27' N - 75° 42' W.
- P-63 - From a point at 39° 44' N - 76° 48' W to 38° 18' N - 79° 30' W to 38° 18' N - 80° 20' W; to 39° 35' N - 80° 20' W to 40° N - 78° 28' W to 39° 44' N - 76° 48' W.

b. The subsector of responsibility for the AC&W Squadron within the 30th Air Division are as follows:

- P-62 - From a point 42° N - 78° 28' W to 39° 35' N - 80° 20' W; to 39° N - 81° 55' W to 40° 35' N - 82° 20' W; to intersection Michigan-Ohio border U.S.-Canada boundary east along the U.S.-Canada boundary to 42° 18' N - 80° 30' W to 42° 15' N - 79° 45' W; then south and east along the New York-Pennsylvania border to a point at 42° N - 78° 28' W.
- P-20 - From a point at the intersection of the U.S.-Canada boundary Michigan-Ohio border west along the Michigan-Ohio border to 84° 00' W to 43° 07' N - 84° 11' W to 43° 38' N - U.S.-Canada boundary south along the U.S.-Canada boundary to Michigan-Ohio border.
- P-61 - From a point at 45° 20' N - U.S.-Canada Boundary to 45° 10' N - 84° 05' W; to 44° N - 84° 40' W to 43° 07' N - 84° 11' W to 43° 38' N - U.S.-Canada boundary north along the U.S.-Canada boundary to 45° 20' N.
- P-66 - From a point on the US-Canada boundary 86° 00' W southeast along the boundary to 45° 20' N to 45° 10' N - 84° 05' W; to 46° 00' N - 86° 35' W to the US-Canada boundary 86° 00' W.
- P-34 - From a point at 45° 10' N - 84° 05' W to 44° N - 84° 40' W; to 43° 20' N - 86° 40' W; to 44° N - 88° W to 46° 00' N - 86° 35' W to 45° 10' N - 84° 05' W.

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GENERAL ORDERS NUMBER 26, 28 Apr 54 Hq EADF (ADC) Contd

- P-67 - From a point at $44^{\circ}N - 84^{\circ}40'W$; $43^{\circ}07'N - 84^{\circ}11'W$ to Michigan-Ohio border at $84^{\circ}00'W$ to $41^{\circ}00'N - 85^{\circ}50'W$; to $41^{\circ}12'N - 87^{\circ}12'W$; to $43^{\circ}20'N - 86^{\circ}40'W$; to $44^{\circ}N - 84^{\circ}40'W$.
- P-73 - From a point at the intersection of the Michigan-Ohio border US-Canada boundary to $40^{\circ}35'N - 82^{\circ}20'W$ to $39^{\circ}N - 81^{\circ}55'W$; to $39^{\circ}N - 83^{\circ}W$ to $38^{\circ}55'N - 83^{\circ}30'W$; to $38^{\circ}40'N - 85^{\circ}09'W$; to $41^{\circ}00'N - 85^{\circ}50'W$ to Michigan-Ohio border at $84^{\circ}00'W$ east along Michigan-Ohio border to US-Canada boundary.
- P-53 - From a point at $41^{\circ}00'N - 85^{\circ}50'W$ to $38^{\circ}40'N - 85^{\circ}09'W$ to $38^{\circ}10'N - 88^{\circ}W$; to $38^{\circ}10'N - 89^{\circ}W$ to $41^{\circ}12'N - 89^{\circ}W$; to $41^{\circ}12'W$ to $41^{\circ}00'N - 85^{\circ}50'W$.
- P-31 - From a point at $43^{\circ}20'N - 86^{\circ}40'W$; to $41^{\circ}12'N - 87^{\circ}12'W$; to $41^{\circ}12'N - 89^{\circ}W$; to $41^{\circ}45'N - 89^{\circ}W$ to $42^{\circ}30'N - 90^{\circ}40'W$; thence north along the border of Wisconsin to $43^{\circ}30'N - 86^{\circ}40'W$.
- P-16 - From a point at the US-Canada boundary $90^{\circ}W$ east along boundary to $86^{\circ}W$ thence south to $46^{\circ}00'N - 86^{\circ}35'W$; to $46^{\circ}00'N$ sector boundary to US-Canada boundary $90^{\circ}W$.
- P-19 - From a point $46^{\circ}00'N - 86^{\circ}35'W$; to $44^{\circ}N - 88^{\circ}W$ to $44^{\circ}N$ sector boundary; to $46^{\circ}00'N$ sector boundary; to $46^{\circ}00'N - 86^{\circ}35'W$.
- P-43 - From a point at $39^{\circ}35'N - 80^{\circ}20'W$; to $39^{\circ}N - 81^{\circ}55'W$ to $39^{\circ}N - 83^{\circ}W$; to $38^{\circ}55'N - 83^{\circ}30'W$; to a point where the Virginia-Kentucky-Tennessee borders meet; thence east along the southern border of Kentucky to a point at $80^{\circ}20'W$; to $38^{\circ}18'N - 80^{\circ}20'W$; to $39^{\circ}35'N - 80^{\circ}20'W$ (EW for P-42).
- P-82 - From a point $38^{\circ}55'N - 83^{\circ}30'W$; to $38^{\circ}40'N - 85^{\circ}09'W$; to $38^{\circ}10'N - 88^{\circ}W$; to $38^{\circ}10'N - 89^{\circ}W$ to a point at $89^{\circ}W$ on the Kentucky-Illinois border; thence south and east along the southern border of Kentucky to a point where the Virginia-Kentucky-Tennessee borders meet; to $38^{\circ}55'N - 83^{\circ}30'W$ (EW for P-42).
- c. The subsectors of responsibility for the ACSW Squadrons within the 32d Air Division are as follows:
- P-80 - From a point at $46^{\circ}00'N$ - US-Canada boundary north, east then south along the US-Canada boundary to $46^{\circ}N$; west along $46^{\circ}00'N$ to US-Canada boundary (i.e., that portion of Maine north of $46^{\circ}N$).

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GENERAL ORDERS NUMBER 26, Hq EADF (ADC), 28 Apr 54 Contd

- P-65 - From a point at 44°30'N - 66°45'W to 44°30'N - 67°07'W; along the US-Canada boundary to 46°N, west along 46°N to US-Canada boundary south along the US-Canada boundary to 45°N - 71°30'W; to 44°N 38°W to 44°N 66°25'W to 44°30'N - 66°45'W.
- P-13 - From a point at 43°06'N - 70°38'W (extending 122° (true) into the Atlantic Ocean) to 43°35'N - 71°50'W to 45°N 71°30'W to 44°N - 38°W 44°N 66°25'W to 43°N - 65°47'W.
- P-10 - From a point 43°06'N - 70°38'W (extending 122° (true) into the Atlantic Ocean) to 43°35'N - 71°50'W; to 72°21'W on the Massachusetts-Connecticut border; thence east along the Massachusetts-Connecticut and Massachusetts-Rhode Island boundary to the Atlantic then a line extending 122° (true) into the Atlantic Ocean.
- P-49 - From a point at 45°N - 74°46'W; along the US-Canada boundary to 77°30'W; to 42°36'N - 76°55'W; to 42°25'N - 75°25'W; to 43°45'N - 74°41'W; to 45°N - 74°46'W.
- P-14 - From a point at 45°N - 71°30'W along the US-Canada boundary to 45°N - 74°46'W to 43°45'N - 74°41'W; to 43°35'N - 71°50'W; to 45°N - 71°30'W.
- P-21 - From a point at the US-Canada boundary 77°30'W along the US-Canada boundary to 42°18'N - 80°30'W to 42°15'N - 79°45'W; thence south and east along the New York-Pennsylvania border to a point 42°N - 78°28'W to 42°36'N - 76°55'W; to US-Canada boundary 77°30'W.
- P-50 - From a 43°35'N - 71°50'W to a point at 72°21'W on the Connecticut-Massachusetts border; thence west along the Connecticut-Massachusetts border to 42°03'N - 73°30'W; to 42°N - 73°35'W; to 42°N - 74°28'W to 42°25'N - 75°25'W to 43°45'N - 74°41'W; to 43°35'N - 71°50'W.

BY ORDER OF THE COMMANDER:

OFFICIAL:

CARROLL W. McCOLPIN
Colonel, USAF
Actg Vice Commander

s/t/ J. W. FOUNTAIN, JR.
Major, USAF
Asst Adjutant

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C O P Y

HEADQUARTERS
32D AIR DIVISION (DEFENSE)
Syracuse Air Force Station, Eastwood Station 6
Syracuse, New York

OOT-A

28 April 54

SUBJECT: Air Defense Subsectors

TO: Commander
4707th Defense Wing
Otis Air Force Base
Falmouth, Mass.

Commander
4711th Defense Wing
Presque Isle Air Force Base
Presque Isle, Maine

1. Pursuant to instructions contained in General Order Number 20, Headquarters, Eastern Air Defense Force, 28 April 1954, following are subsector areas within the 32d Air Division (Defense) Sector. This change is effective 0001Z, 30 April 1954.

a. P-80 - From a point at 46°00'N - U.S. - Canada boundary northeast then south along the U.S. - Canada boundary to 46°N; west along 46°00'N to U.S. - Canada boundary (i.e., that portion of Maine north of 46°N).

b. P-65 - From a point at 44°30'N - 66°45'W to 44°30'N - 67°07'W; north along the U.S. - Canada boundary to 46°N, west along 46°N to U.S. - Canada boundary, south along on U.S. - Canada boundary to 45°N - 71°30'W; to 44°N 68°W to 44°N 66°25'W to 44°30'N - 66°45'W.

c. P-13 - From a point at 43°06'N - 70°38'W (extending 122° (true) into the Atlantic Ocean) to 43°35'N - 71°50'W to 45°N - 71°30'W to 44°N - 68°W to 44°N 66°25'W to 43°N - 65°47'W.

d. P-10 - From a point at 43°06'N - 70°38'W (extending 122° (true) into the Atlantic Ocean) to 43°35'N - 71°50'W; to 72°21'W; on the Massachusetts Connecticut border; thence east along the Massachusetts Connecticut and Massachusetts - Rhode Island border to the Atlantic; then a line extending 122° (true) into the Atlantic Ocean.

e. P-49 - From a point at 45°N - 74°46'W; along the U.S. - Canada boundary to 77°30'W; to 42°36'N - 76°55'W; to 42°25'N - 72°25'W; to 43°45'N - 74°41'W; to 45°N - 74°46'W.

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Hq 32d AD(D), Syracuse AFB, Eastwood Sta 6, Syracuse, N.Y., OOT-A,
Subject: Air Defense Subsectors

f. P-14 - From a point at 45°N - 71°30'W along the U.S. -
Canada boundary to 45°N - 74°46'W to 43°45'N - 74°41'W; to 43°
35'N - 71°50'W; to 45°N - 71°30'W.

g. P21 - from a point at US-Canada boundary 77°30'W along
the US-Canada boundary to 42°18'N - 80°30'W; to 42°15'N - 79°
45'W; thence south and east along the New York - Pennsylvania
border to a point 42°N - 78°28'W; to 42°36'N - 76°55'W; to US
Canada boundary 77°30'W.

h. P50 - from 43°45'N - 71°50'W to a point at 72°21'W on the
Connecticut - Massachusetts border; thence west along the Connecti-
cut-Massachusetts border to 42°03'N - 73°30'W; to 42°N - 73°35'W to
42°N - 74°28'W to 42°25'N - 75°25'W to 43°45'N - 74°41'W; to 43°35'N -
71°50'W.

FOR THE COMMANDER:

VIRGINIA L. SWEET
1st Lt., USAF
Asst Adjutant

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C O P Y

EAOOT-TS

6 May 1954

SUBJECT: (Unclassified) Operational Subsector Boundaries

TO: Commander
32d Air Division (Defense)
Syracuse Air Force Station
Syracuse, New York

1. This letter supersedes EADF letter EAOOT-A 381, 24 August 1953.

2. The RCAF ADC has published subsector boundaries in RCAF ADC Aircraft Control and Warning Instruction 2-1, Appendix C, 22 July 1953, in conformance with the minutes of the conference between Air Defense Commands of RCAF and USAF, 2 December 1952. Although no formal agreement has been finalized at this time, an informal agreement has been accomplished.

3. The responsibilities of the aircraft control and warning squadrons listed below will be limited to surveillance and identification, except for identification utilizing interceptors, for all or that portion of their subsector which extends into Canada. Interception and rules of engagement will be consistent with approved procedures now in existence.

4. The boundaries will be for operational purposes only and no change will be made to EADF General Order Number 26, 28 April 1954, until ADC General Order Number 10, 9 February 1953, is amended.

5. The subsectors and portions of subsectors in Canada for EADF aircraft control and warning squadrons are as follows:

a. The subsectors of responsibility for the radar stations within 30th Air Division (Defense) are extended into Canada as follows:

- (1) P-20 - From a point at 43°38'N US-Canada boundary south and east along the boundary to 81°40'W to 43°38'N US-Canada boundary.
- (2) P-66 - From a point at 86°W US-Canada boundary southeast along the US-Canada boundary to 45°20'N to 48°20'N 83°20'W to 48°15'N 85°30'W to US-Canada boundary 86°W.

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EA00T-TS Subject: (Unclassified) Operational Subsector Boundaries

- (3) P-16 - From a point at 90°W US-Canada boundary east along the boundary to 86°W to 48°15'N 85°30'W to 48°45'N 87°W to 48°45'N 90°W to US-Canada boundary 90°W.

b. The subsectors of responsibility for the radar stations of 30th Air Division (Defense) entirely within Canada are as follows:

- (1) C-14 - From 53°N 82°W to 53°N 87°W to 48°85'N 87°W 48°15'N 85°30'W to 48°20'N 83°20'W to 50°N 82°W to 53°N 82°W.
- (2) C-15 - From 53°N 87°W to 53°N 90°W to 48°45'N 90°W to 48°45'N 87°W to 53°N 87°W.

c. The subsectors of responsibility for the radar stations within 32d Air Division (Defense) are extended into Canada as follows:

- (1) P-80 - From a point at 69°10'W US-Canada boundary east and south along the boundary to 46°N to 46°N 67°W to 48°N 67°W to 47°30'N 69°W to US-Canada boundary 69° 10'W.
- (2) P-65 - From a point at 46°N US-Canada boundary south-east along the boundary to 67°W to 46°N 67°W to 46°N US-Canada boundary.

6. This letter is classified Secret in accordance with AF Regulation 205-1, paragraph 23(c).

BY ORDER OF THE COMMANDER:

JAMES R. WORLINE
Captain, USAF
Asst Adjutant

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EADFR 55-1

EADF REGULATION)
NUMBER 55-1)

HEADQUARTERS EASTERN AIR DEFENSE FORCE
Stewart Air Force Base, Newburgh, N.Y.
24 February 1954

OPERATIONS

Identification in Air Defense

(Supersedes EADF SOP 55-3, 12 Jul 52)

1. Purpose. To prescribe EADF policy and procedures concerning identification of airborne objects approaching or in the EADF region of responsibility.

2. Definitions. a. Identification: The determination of an aircraft's friendly or enemy character by any means or combination of means, including visual recognition, flight plan correlation, electronic interrogation, track behavior, etc.

b. Perimeter Identification Zone: The air space from the ground up around a defended area in which track identification is required as described in this regulation.

c. Penetration Track: Any track which originated within or enters the Perimeter Identification Zone and indicates movement toward rather than away from the Air Defense Command territory.

d. Suspicious Track: Any track, regardless of its location, which creates suspicion as to its friendly intent by reason of its size, course, speed, altitude, proximity to vital targets, radio-telephone procedures, maneuvers, unusual behavior, etc.

e. Unknown Track: Any track of an airborne object which has not been classified friendly or hostile within one minute from the time it was established on the plotting board.

f. Unidentified: A term applied to a track during the period between the establishment of the track on the plotting board and the classification of the track as friendly, hostile or unknown.

g. Friendly Track: A track that has been classified as "friendly" based upon criteria established in paragraph 3. Note: Faker, Big Photo, Keystone, etc., tracks are special types of friendly tracks.

h. Hostile Track: A track that has been classified hostile based upon criteria established in ADC Regulations 55-9 and 55-10.

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EADFR 55-1

1. Flight Plan Correlation: Flight plan correlation is identification obtained by the matching of the flight plan information available to the MAI section with the tracks of aircraft as displayed on the plotting board.

J. Qualified Observers: Naval, military and civilian personnel whose duties are associated with air operations.

3. Identification Methods. Air division (defense) commanders will use the following methods or combination of methods to determine whether airborne objects are friendly or hostile:

a. Prior to declaration of a military emergency:

- (1) Continuous Tracking - Any track that enters the PIZ proceeding away from EADF's region and returns, provided that continuity of radar track is maintained during the entire flight, will be classified "friendly."
- (2) Speed and Altitude - Any track which indicates a true air speed of approximately 110 knots or less below 4,000 feet above terrain may be classified "friendly" except for penetrating tracks in the coastal ADIZ or crossing the international boundary ADIZ.
- (3) Interception - Reference ADC Regulations 55-9, 55-10 and 55-21 and EADF Regulation 55-14.
- (4) Visual Observation, Ground/Ship - Information about an airborne object obtained from a qualified observer may be used for identification at the discretion of the AC&W squadron commander.
- (5) Single or Twin-Engine Aircraft - Any single or twin-engined aircraft when clearly visible to a qualified observer may be classified "friendly."
- (6) Prior Arrangement - Any track which precisely follows a plan of flight in accordance with a prior agreement between the air division commander concerned and the aircraft operator will be classified "friendly."
- (7) Flight Plan Correlation- Any track will be classified "friendly" if it correlates within the time and distance tolerances described in ADC Regulation 55-24. (Also AFR 60-22 and Regulations of the Administrator, CAA, Part 620.) Flight plans received which indicate by the work "Airfile" that the flight plan was filed in the air will not be acceptable for identification.

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EADFR 55-1

Any track which correlates with an airfile flight plan will be considered as a suspicious track and identification by some means other than a flight plan correlation will be required. (26 AD exception - CESF ltr 2006, 13 Aug 52)

- (8) Radio-Telephone, D/F Procedures - Air division commanders are authorized to utilize simultaneous ground-to-air, radio-telephone, and direction finding procedures to identify aircraft on which the air division commander has a flight plan that fails to correlate within the prescribed tolerances. The frequency specified for this procedure is 119.7 mcs. This procedure operates as follows: When a flight plan fails to correlate within prescribed limits and the radar station has reason to believe that the established track is the same one on which a flight plan has been filed, a call is made to the aircraft concerned to obtain additional identifying information such as the pilot's name, home address, etc. (information which the pilot of a hostile aircraft would not be likely to possess). During the conversation with the aircraft, a fix is taken with DF equipment on the responding aircraft to make sure that the track in question is the same one from which the identifying information is being obtained. If the identifying information is correct and the fix coincides with the track in question, the aircraft will be classified friendly.
Note: Aircraft operators cooperating in this procedure will not be processed as ADIZ violators in accordance with ADC Regulation 55-24, 12 February 1953.
 - (9) Multiple Corridor Identification Procedures - In those locations where multiple corridors for identification of inbound aircraft are established, aircraft complying with the corridor procedures may be classified friendly.
 - (10) Declaration - Any track which does not require identification will be classified "friendly" (see paragraph 4 for information concerning tracks which require identification).
 - (11) USSR Markings - Reference ADC Regulation 55-10.
 - (12) Committing a Hostile Act - Reference ADC Regulation 55-10.
- b. After the declaration of a military emergency:
- (1) In addition to the methods listed above, the air division

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EADFR 55-1

commander may classify an aircraft "hostile" when it does not meet the established standards for identification within Air Defense Identification Zones.

4. Responsibilities. a. General:

- (1) Every track requiring identification will be classified "friendly," "unknown," or "hostile." The classification "unknown" is to be construed as a temporary decision and every effort must be made to determine the true character of the track as either "friendly" or "hostile." Suspicious tracks will be treated in the same manner as unknowns.
- (2) When a radar station is off the air for maintenance or other reasons, the responsibility still exists for identification of tracks detected within its subsector by adjacent radars or the GOC.
- (3) A friendly track in an area in which identification is required will be displayed and cross told until it leaves such area.
- (4) The classification assigned to a track will remain unchanged in cross telling unless its action indicates the classification to be incorrect or its route of flight requires that it be reidentified.
- (5) That portion of the Knoxville ADIZ which lies within the 30th Air Division has been assigned by ADC directive to the 35th Air Division for identification purposes.

b. Present and Warning White Conditions:

- (1) Under the present national emergency and under warning white conditions, the identification function will be limited to tracks detected penetrating or within the PIZ indicating movement toward ADC territory and to suspicious tracks regardless of their location.
- (2) The AC&W squadron commander at each radar station is responsible for the identification of every penetration track detected in any portion of the PIZ which falls within the station's subsector. AC&W squadron commanders are also responsible for the identification of suspicious tracks within the subsector of responsibility of their AC&W squadron.

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EADFR 55-1

c. Red and Yellow Warning Conditions.

- (1) Under yellow or red warning conditions, the identification function will be expanded to include every track throughout the EADFR region. To assist in the accomplishment of this function, aircraft operations will be curtailed in accordance with the provisions of the SCATER Plan and its classified supplements.
- (2) During periods of red or yellow warning, air division commanders will be responsible for insuring identification of all tracks detected within their sector is accomplished. This responsibility will not commence until the initial grounding phase has been accomplished in accordance with SCATER plans.

d. Picket Vessel Identification Responsibility: When tactical control is delegated to an air division, picket vessels will function in the same manner as an ADDC and will be responsible for identification of airborne objects as outlined in this regulation. The ADDC designated primary radio station, in the communications net between land-based radars and a picket vessel, is responsible for passing to the picket vessel all flight plans on flights which will penetrate the radar coverage of the picket vessel.

5. Identification and Flight Plan Log (Attachment 2): A. This form is designed to record systematically and uniformly the information which has previously been recorded in various flight plan logs and identification section logs.

b. These forms are to be the original and only record of the data indicated. They are to be made out concurrently with the action being reported. They are not to be prepared by copying or abstracting from other records.

c. The completed forms will be filed in order by (Z) time and (z) date.

d. The log will be kept for three months and then destroyed.

e. These records may be requested by higher headquarters at any time prior to destruction.

f. Greenwich Mean (Z) time and Greenwich Mean (Z) date will be used.

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EADPR 55-1

g. Forms will be reproduced locally.

BY ORDER OF THE COMMANDER:

OFFICIAL:

GEORGE F. SMITH
Brigadier General, USAF
Vice Commander

s/t/ JOHN L. WARREN
Colonel, USAF
Adjutant

2 Attachments

1. Perimeter Identification Zone (Secret)
2. Identification and Flight Plan Log

DISTRIBUTION:

A;G;H (Navy Category IV and V)

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EADF PIZ

1. The EADF PIZ will include the area bounded as follows:

a. From 43°00'N 65°47'W to 44°30'N 66°45'W to 44°30'N 67°07'W to 41°15'N 69°30'W to 40°15'N 73°15'W to 37°00'N 75°30'W to 36°10'N 75°10'W east along 26th Air Division sector boundary to the ADIZ boundary; (approximately 34°05'N 71°40'W) to 40°00'N 67°00'W to 65°47'W.

b. From 48°20'N 83°20'W to 50°00'N 82°00'W to 51°00'N 82°00'W to 51°00'N 90°00'W to U.S.-Canadian border 90°00'W to 46°00'N CADF-EADF sector boundary east along 46°00'N to 46°00'N EADF-RCAF sector boundary to 48°20'N 82°20'W.

2. A temporary addition to the EADF PIZ is established until such time as RCAF 2 ADCC radars are operational at which time it will be rescinded. From 44°30'N 67°07'W to 46°00'N 67°00'W to 48°00'N 67°00'W to 47°30'N 69°00'W to U.S.-Canadian border 69°10'W along U.S.-Canadian border to 47°00'N to 43°45'N 70°00'W to 43°10'N 70°00'W to 42°40'N 70°10'W to 42°00'N 69°30'W to 41°15'N 69°30'W to 44°30'N 67°07'W.

Adjacent PIZs

3. The following PIZs adjacent to EADF are outlined for information purposes.

a. RCAF Eastern PIZ. From 43°00'N 65°47'W to 43°00'N 65°00'W to 45°00'N 58°00'W to 51°00'N 61°47'W to 51°00'N 66°00'W to 50°00'N 73°00'W to 48°00'N 73°00'W to 48°00'N 79°00'W to 49°00'N 80°00'W to 48°20'N 82°20'W to 46°00'N 3 ADCC-30th Air Division boundary east along 46°00'N to the U.S.-Canadian border, northeast along the U.S.-Canadian border to 69°10'W to 47°30'N 69°00'W to 48°00'N 67°00'W to 46°30'N 62°30'W to 44°30'N 67°07'W to 44°30'N 66°45'W to 43°00'N 65°47'W.

b. CADF-31st Air Division PIZ. From 47°N on the western boundary of the 31st Air Division to the point on this boundary at 46°N east to the point on the 31030 Air Division boundary at 46°N, thence north along this boundary to the Canada-U.S. border, thence north along 90°W to 51°N west to 51°N 100°W south to 49°N 100°W, thence east to the point on the western boundary of 31st Air Division at 49°N and south along this boundary to the starting point.

Attachment 1 to EADFR 55-1

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CP - Check Point
 ETA - Estimated Time of Arrival
 RETA - Revised ETA
 PCT - Pilots' Check Time

IDENTIFICATION AND FLIGHT PLAN LOG

DATE: 1 Feb 54 PAGE NO. 1

RADAR STATION P-75

This log will be maintained on every track which required identification as prescribed by paragraph 4, EADP Regulation 55-1, and will be used to record all flight plans received.

AGENCY AND TIME REC'D	FLIGHT IDENT	TYPE ACFT	OPERATIONAL AREA OR ROUTE		CHECK POINT (Include times rec'd on RETA and PCT)	ALT & SPEED	PWDD TO OTHER AGENCIES	TRACK NO.	TIME IDENT	METHOD USED TO IDENTIFY AS FRIENDLY OR HOSTILE AND/OR REASON WHY TRACK REMAINED UNKNOWN (See notes)
			ORIGIN	DESTINATION						
CAA 0050	A 304	DC6	Montreal	LaGuardia B4-B18	CP BTV	ALT: 14	P-31	D3	0110	Friendly Flight plan correlation
					ETA 0110	KTS: 280	P-			
					RETA	P-				
					PCT	P-				
P-20 0205	AF 3904	B25	Quebec	Syracuse GI-B39	CP	ALT:	P-	D23	0230	Friendly fr- intep noncor- relation. 8 minutes late.
					ETA	KTS:	P-			
					RETA	P-				
					PCT	P-				
CAA	TVA 4	DA9	Gander	Boston R-20	CP YAR	ALT: 6	P-			Did not point. Station off for repairs.
					ETA 0255	KTS: 250	P-			
					RETA 0240	P-				
					PCT 0240	P-				

NOTES; 1. When a flight plan is unaccounted for, insert the probable reason; i.e., station off the air for maintenance or repair, out of range, too low, ground clutter, weather, flight aborted, not known, etc.
 2. When a track requiring identification remains unknown, insert probable reason for failure to identify in accordance with 55-Test.

Attachment 2 to EADP 55-1

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C O P Y

HQ EADF STEWART AFB NEWBURGH, NY

ROUTINE

ROUTINE

COMDR 30TH ADIV (DEF) WILLOW RUN
AF STA BELLEVILLE MICH

x

x

x

COMDR CADF PO BOX 528 KANSAS CITY MISS

EADF-A C- 132 . The PIZ outlined in EADF SOP 55-3, 12 Jul 52, is to be amended as fols: That portion of the PIZ in the 30th ADiv south of a line 46 degrees North, 89 degrees West to 44 degrees North, 83 degrees West is deleted. The above refd SOP is being replaced ASAP and the entire PIZ w/b altered. The above temporary amendment is required due to the issue by CADF of their Reg 55-13, 11 Dec 53. The existing EADF PIZ in the vicinity of 89 degrees West South of 46 degrees North is not compatible with CADF and presents fit plan disem and track identification difficulties. In order to extend the existing PIZ to western extreme of EADF region, folg PIZ add is to be made: Add that portion of the 30th ADiv bounded by the US/Canadian border 89° W, 90° W and 46° N.

SECRET 1 1

t/ Sq Ldr Ockenden

t/ JAMES R. WORLINE, Captain, USAF

EACOT-A 051030 Feb

Asst Adjutant

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C O P Y

HEADQUARTERS
AIR DEFENSE COMMAND
Ent Air Force Base
Colorado Springs, Colorado

ADOOB-B

13 Apr 54

SUBJECT: Implementation of New ADIZ Boundaries

TO: Commander
Eastern Air Defense Force
Stewart Air Force Base
Newburgh, New York

1. Information received from CAA indicates revised ADIZ boundaries will be implemented 1 May 1954.

2. Attached for your information and appropriate action are copies of the revised ADIZ boundaries (Incl #1). Solid black lines denote revised boundaries.

BY ORDER OF THE COMMANDER:

1 Incl
ADIZ Map (dup)

s/t/ JOHN J. HAYES
CWO, USAF
Asst Command Adj

C O P Y

SECRET

HQ EADF STEWART AFB NEWBURGH NY

ROUTINE

ROUTINE

COMDR 30 ADIV (DEF) WILLOW RUN AF
STA BELLEVILLE MICH
COMDR 32 ADIV (DEF) SYRACUSE AF
STA EASTWOOD STA 6 SYRACUSE
NY

COMDR ADC ENT AFB COLO SPRINGS COLO
AOC ADC RCAF STA ST HUBERT QUEBEC CANADA

EAOOT-TS C- 228 . CANUSESECURITY. Ref is made to EADFR 55-1, 24 Feb 54, now being distrd. Attachment 1 outlining the EADF PIZ is to be temporarily amndd as fols: Add par d to EADF PIZ, "That portion of the international boundary ADIZ fr 46 degrees north 83 degrees 27 minutes west, south and east along the boundary to 46 degrees north 70 degrees 18 minutes West." This temporary amnd is required due to the delay in promulgation of the nec directives deltg that portion of the boundary ADIZ quoted above. This hq will immed resc the amnd when the ADIZ Cs become eff.

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t/ S/L OCKENDEN

t/ JAMES R. WORLINE, CAPTAIN, USAF
Asst Adjutant

EAOOT-TS 011630 Mar 54

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C O P Y

HEADQUARTERS
32D AIR DIVISION (DEFENSE)
Syracuse Air Force Station, Eastwood Station 6
Syracuse, New York

23 April 1954

Major General M. R. Nelson
Commander
Eastern Air Defense Force
Stewart Air Force Base
Newburgh, New York

Dear Nellie:

The identification responsibility required in this sector is of grave concern to me. I feel that the present and proposed procedures outlined in EADFR 55-1, dated 24 February 1954, CAA Regulation of the Administrator, Part 620 Amendment No. 2, and Canadian Department of Transport rules for the security control of air traffic will create an identification weakness in the air defense system.

I believe that through these rules and regulations we are backtracking and relaxing our defense to the point where the air defense units will take a nonchalant attitude toward the mission of air defense.

The introduction of the Canadian radar has pushed the radar detection perimeter from our northern boundary to the extremes of their radar beams. However, it is my opinion that the Canadian system is not ready to assume the identification responsibility. This responsibility incorporates the early warning security for cities such as Detroit, Pittsburgh, New York and Boston.

The CAA and Canadian Department of Transport concurred in the ruling that the international boundary ADIZ between 80° West and 70° West will be discontinued as of 1 May 1954. This change permits aircraft to operate between Canada and the United States below four thousand feet above the immediate terrain without filing an air defense flight plan. In accordance with EADFR 55-1 aircraft below the 46th parallel, regardless of heading, altitude or speed, are not required to be identified since the regulation requires identification only within the perimeter identification zone (PIZ). As a result Boston and Detroit AMIS will not have air defense flight plans on aircraft proceeding south below the 46th parallel toward the United States.

Accordingly, the possibility of infiltration into the United States will increase a hundred-fold. It is my opinion that with the adoption of these rules and regulations a sense of insecurity in air defense will spread throughout my division, and that we would be performing our mission of defense strictly on a calculated risk basis.

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The adoption of the Canadian Security Identification Zone, which is spread along the 46th parallel from 83° to 26' West to 70° 18' West in a twenty mile width, will have the primary identification criteria for southbound flights. At present the Canadian Air Defense system is not prepared for this identification responsibility. This conclusion was reached from comments made by members of my organization upon their return from visiting the Canadian stations on the cross-training program and as evidenced in day-to-day operations and exercises. The defense of this sector is based on near-perfect correlation and in my estimation this cannot be accomplished by an inexperienced system.

In addition the back-up radar in the Canadian Air Defense system is not available to fill the gap when the primary radar is inoperative. This opening will allow aircraft to penetrate through the Security Identification Zone unnoticed and reach the area south of 46° North. Unless these aircraft are declared "suspicious" by our Direction Centers prior to penetrating the United States, they may continue their flight to a vital target unchallenged.

I am convinced that the Canadian system is not ready for this identification responsibility and strongly recommend that we continue to monitor and identify all inbound flights from the north penetrating the United States. When the Canadian Air Defense System is strong enough to absorb the identification responsibility, we should then phase into the procedures presently proposed to be effective 1 May 1954.

I further recommend that the flight plan services provided by Boston and Detroit AMIS continue without modification in supplying the air defense system with air defense flight plans for aircraft penetrating the United States from the north.

Sincerely,

s/t/ ROBERT S. ISRAEL, JR.
Colonel, USAF
Commander

COPY

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HEADQUARTERS
320 AIR DIVISION (DEFENSE)
Syracuse Air Force Station, Eastwood Station 6
Syracuse, New York

DOT-A

6 April 1954

SUBJECT: Air Surveillance Procedure - Forward Telling

TO: Commander, 4707th Defense Wing, Otis AFB, Walpole,
Massachusetts
Commander, 4711th Defense Wing, Presque Isle AFB,
Presque Isle, Me.

1. Subsequent to the activation of the Canadian ACW defense net, a requirement arose for the establishment of a procedure to filter information received from that source. With RCAF ACW units warning telling simultaneously to two or more adjacent USAF ACW units, it has been experienced whereby each unit assumed the other to be forward telling this information to this ADCC. Actually, neither had been.

2. This headquarters has continually stressed the fact that air surveillance, to the maximum limit of radar coverage, is an inherent responsibility. In the same manner, each unit also has the responsibility of providing this and higher headquarters with all available information, regardless of the means or manner in which it was obtained.

3. To facilitate filtering of this data, the following areas for reporting responsibility are defined. Each unit adjacent to the US-Canadian Boundary will be responsible to insure forward telling to this ADCC of all data originating within the specified reporting area.

a. 763rd ACW Squadron will forward tell all data north of their subsector and west of a line extending from a point on the US-Canadian Boundary at 77 degrees 30 minutes West to 45 degrees 45 minutes North 78 degrees 30 minutes West; 47 degrees 30 minutes North, 79 degrees 00 minutes West; then due north along 79 degrees West longitude line.

b. 655th ACW Squadron will forward tell all data north of their subsector and between two vertical lines, the first from a point on the US-Canadian Boundary at 77 degrees 30 minutes West to 45 degrees 45 minutes North, 78 degrees 30 minutes West; to 47 degrees 30 minutes North, 79 degrees 00 minutes West; then due north along the 79 degrees West longitude line. The second line from a point on the US-Canadian Boundary at 45 degrees 00 minutes North, 74 degrees 46 minutes West; to 47 degrees 30 minutes North, 76 degrees 00 minutes West; then due north along the 79 degree West longitude line.

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Hq 32d AD(D) OOT-A Subject: Air Surveillance Procedure -- Forward Telling

c. 764th AC&W Squadron will forward tell all data north of their subsector and between two vertical lines, the first from a point on the US-Canadian Boundary at 45 degrees 00 minutes North, 74 degrees 46 minutes West; to 47 degrees 30 minutes North, 76 degrees 00 minutes West; then due north along the 79 degree West longitude line. The second line from a point on the US-Canadian Boundary at 45 degrees 00 minutes North, 72 degrees 20 minutes West; to 47 degrees 30 minutes North, 73 degrees 00 minutes West; then due North along the 73 degree West longitude line.

d. 766th AC&W Squadron will forward tell all data west, north and east of their subsector in a 180 degree arc north of the 46 degree North parallel.

e. 765th AC&W Squadron will forward tell all data in an area from a point on the US-Canadian Boundary at 45 degrees 00 minutes North, 72 degrees 20 minutes West; to 46 degrees 00 minutes North, 72 degrees 36 minutes West; then eastward along the 46 degree North parallel to the US-Canadian Boundary at 46 degrees North. Then southward along the US-Canadian Boundary to a point on the boundary at 45 degrees 00 minutes North, 72 degrees 20 minutes West. In addition, data will be forward-told which is in an area east and southeast of the eastern subsector boundary and south of the 46 degree North parallel.

4. Overlap tell procedure will be as prescribed by ABC regulation 55-29.

5. Provisions of this letter will be implemented upon receipt. Following a sufficient trial period to determine effectiveness of this procedure, provisions outlined herein will be incorporated into regulation form if found to be satisfactory.

BY ORDER OF THE COMMANDER:

Info by:
EADF

VIRGINIA L. SWEET
1st Lt, USAF
Assistant Adjutant

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HQ EADF STEWART AFB NEWBURGH NY

PRIORITY

COMDR 32D ADIV (DEF) SYRACUSE AF
STA EASTWOOD STA 6 SYRACUSE
NY

ACFOOT-A 4069

EAOOT-OS C 464 . Ref ACFOOT-A 4069 24 Apr 54 and Col Israel's ltr 23 Apr 54 to Gen Nelson. Msg in 3 parts. Part 1: You are authd to monitor and re-identify inbound flts fr the north crossing the US-Canadian boundary until such time as you are satisfied the RCAF sys in supg you w/desired identification and reptg. Monitoring and re-identification w/b accomplished utilizing such flt plans as will be aval after 1 May 54 at Boston and Detroit ARTC Cens. This incs all IFR flts crossing the border and DVFR flts above 4000 north of 44 degrees N. VFR flt plans below 4000 north of 44 degrees N and at all alts south of 44 degrees N will not be aval at the ARTC cens but only at pt of dest. The joint CAA-DOT agreement will prov these listed above after 1 May. DOT and RCAF ADC have advised no sp flt plan dissem pros w/b set up. AMIS circuits now in existence will remain. Planning of the CADIZ-ADIZ Cs was accomplished by USAF and RCAF ADCs in conjunction w/CAA and DOT in May 53. Part 2: Ref ACFOOT-A 4069. The only microwave circuits affected are between C-3 and C-4. All other circuits incg cross border should remain in opr. Div co-ordination with Canadian RCAF 3 ADCC during the 2 wk pd to prov your DC/ w/nec info to asst in overcoming the RCAF comms deficiency should be accomplished. Part 3: This hq will take action during the next 2 weeks to arng an EADF, RCAF ADC, 30th and 32d ADiv, 1 and 3 ADCC, CAA, DOT conf to estb a plan for resolving the oprs and comms difficulties in identification and flt plan dissem resulting fr the 1 May ADIZ-CADIZ Cs. Req your hq gather infor to be presented at this meeting.

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t/ Maj Schultz

EAOOT-OS 011215 May

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HEADQUARTERS
32D AIR DIVISION (DEFENSE)
Syracuse Air Force Station, Eastwood Station 6
Syracuse, New York

REPORT OF IDENTIFICATION CONFERENCE

26 MAY 1954

PLACE: Conference Room, Headquarters 32d Air Division (Defense)

TIME: 0900 Hours, 26 May 1954

PURPOSE: To discuss matters pertaining to responsibilities for identification as set forth in EADF Regulation 55-1, effective 1 May 1954.

CONFEREES:

Colonel W. H. Clark	32d Air Division (Defense)
Colonel R. Olds	EADF
W/C R. W. McNair	RCAF (1 ADCC)
W/C T. G. Anderson	RCAF (3 ADCC)
Lt Colonel E. W. Fuller	32d Air Division (Defense)
S/L Ockenden	EADF
S/L D. H. Evans	RCAF (Hq ADC)
Major Schultz	EADF
Captain Beaty	30th Air Division (Defense)
Captain J. L. Ashbrook	RCAF (2 ADCC)
Captain H. E. Santmyer	32d Air Division (Defense)
Captain Clevenger	EADF
Captain E. H. McEachron	32d Air Division (Defense)
Mr. J. R. Decrest	EADF CAALO

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Report of Identification Conference, 26 May 1954 (Cont'd)

Conferees (Cont'd)

Mr. O. B. Tomlin	32d Air Division (Defense) CAALO
Mr. Sid Poe	Boston ATCC
Mr. J. Saunders	30th Air Division (Defense) CAALO
Mr. D. W. Mitchell	CAALO at St Hubert
Mr. R. E. Harris	Toronto ATCC
Mr. N. Demeza	Montreal ATCC
Mr. R. Ballard	Detroit ATCC
Mr. H. Gourdeau	Canadian CAA

Colonel Clark opened the meeting by welcoming the conferees to the 32d Air Division (Defense). He then turned the meeting over to the Chairman, Colonel Robin Olds of EADF.

Colonel Olds stated that EADF Regulation 55-1 was fully coordinated through the proper people. However, at the same time, ADC is writing a rather extensive regulation on the same topic, which tends to nullify some of the content of EADF Regulation 55-1. The difference in these regulations is slight but throughout the course of the meeting, changes would be brought out which could be incorporated.

Major Schultz gave a brief rundown of the proposed ADC Regulation 55- and how it affects the current situation in this area. A question and answer period followed.

Captain Santmyer gave a brief resume' of the difficulties encountered by this division in operating under the new system which was effective 1 May 1954. He said that one of the most important points was the fact that with the elimination of the international boundary ADIZ, we will have no means to identify aircraft penetrating below 4,000 feet.

Colonel Olds asked for objections to the system as it now stands. Colonel Clark had no objection to the system as such but would like assurance that the Canadians are prepared to identify aircraft coming through the SI2, particularly below 4,000 feet.

W/C McNair stated that he thought the basic idea of the new identification plan is good. However, he asked the question: "Are we ready yet?"

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Report of Identification Conference, 26 May 1954 (Cont'd)

S/L Ockenden stated that at the February conference between RCAF and EADF, EADF brought up the issue of trying to get the GOC in the SIZ area on a sky watch basis whereby posts such as Fire Towers, Railway Towers, etc., will report in to GOC. However, it was brought up that at this time the Canadian GOC is not fully manned to provide complete low altitude coverage in the SIZ.

W/C Anderson said that the RCAF is now gathering information on the percentage of tracks which are correlated with flight plans. He said that this is being done to give an indication of the number of known flights which penetrate the SIZ without detection.

Captain Besty stated that General Tucket wants the SIZ moved down to the 44th parallel.

Mr. Harris stated that the new identification procedures would reduce the workload on the Toronto Center by 60%.

Mr. Demeza stated that there had been little change in the workload in the Montreal Center since the new identification plan went into effect on 1 May. He said the reason for this was the fact that few pilots had read the change in the new regulation and therefore were filing flight plans when they were not required to do so.

Mr. Harris stated that their position is to cut down on the total number of tracks reported so that better progress reports can be given on a much smaller number of tracks.

Mr. Tomlin gave a quick rundown on the present and future communications set-up as regards Canadian Department of Transport and our CAA.

The PIZ (perimeter Identification Zone) will be the ADIZ within the criteria outlined in the regulation. Coupled with the elimination of the Perimeter Identification Zone, we have the prerogative of designating free areas by recommendation to ADC. Establishment of any free areas will have to be in mutual agreement between those agencies.

S/L Ockenden asked what flight plans will be available on aircraft that will be detected in the free flying area of the Bangor ADIZ at any altitude now that we have the new system in. Reply was: "Any flight plan that is filed will be available."

S/L Ockenden also brought up the question as to the possibility of the "Q" area adjacent to the Bangor ADIZ being deleted for 20 miles. S/L Evans answered: "No."

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Report of Identification Conference, 26 May 1954 (Cont'd)

W/C McNair suggested that flight tests be run through the SIZ. He said in the meantime, we must agree between ourselves that we will continue on the same basis of identification that we have been using. Colonel Clark agreed with this item.

A discussion as to the time for the test and what identification procedures would be used in the meantime followed. It was decided that the test period would be the month of June.

S/L Evans suggested that we follow the new regulations strictly until the end of the test period. Colonel Clark objected on the grounds that we would still have no flight plan information available on aircraft penetrating the Canadian - U. S. boundary below 4,000 feet.

During the test period, all flight plans which Montreal ATCC has will be passed to us as they have in the past. However, flight plans which are not filed, due to the new regulations, naturally will not be received by units of the 32d Air Division. We will receive no flight plan information from Toronto ATCC. However, adjacent Canadian stations will pass tracks and flight plan information to P-21. This information will not include tracks originating below 44 degrees north.

The test which will be flown during the month of June will be of low altitude type, originating well North of Canadian stations and penetrating through the Security Identification Zone.

Colonel Olds stated that in view of the fact that regulations are already in effect, what we are doing in these tests is determining what degree of risk we are accepting under the new identification changes.

There being no further business, the meeting was adjourned.

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Identification Meeting Held at Headquarters,
32d Air Division (Defense), on 26 May 1954

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3 Jun 54

1. Subject meeting, covering all items listed in paragraph 3a through k below, was attended by representatives, both military and CAA, from EADF and 30th and 32d Air Divisions (Defense), military and DOT from RCAF, military from Canadian ADCCs 1, 2 and 3, CAA from Boston and Detroit ARTCCs, and Canadian DOT from Montreal and Toronto.
2. US ADC's proposed identification regulation was reviewed to ascertain the effect on the EADF identification system. Several contradictions to present regulations, procedures and systems were brought to light and have been forwarded to ADC.
3. The CADIZ-ADIX change, effective 1 May 1954, was discussed in detail, involving:
 - a. Delete duplication and increase the speed of processing and passing F/Ps.
 - b. Identification difficulties below the SIZ.
 - c. SIZ application to the 30th and 32d Air Divisions.
 - d. Changes of AMIS circuits.
 - e. Rewrite of EADFR 55-1.
 - f. Deletion of PIZs.
 - g. Proposed changes of ADIZs.
 - h. Establishment of free areas.
 - i. Aircraft operation below 4,000 feet in ADIZs.
 - j. Small aircraft reporting F/P to filter centers or ADCCs.
 - k. Operation of civil aircraft VFR below 4,000 feet.
4. Reference paragraph 3a through k above:
 - a. ARTCC and DOT personnel agreed to procedures to eliminate duplication and speed up flight plan passing.

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Identification Meeting Held at Headquarters,
32d Air Division (Defense), on 26 May 1954 (Contd)

EAODO

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b. The possibility of low altitude penetrating aircraft passing through the Canadian radar system and picked up below the SIZ was emphasized as a serious threat to air defense.

c. 30th Air Division (Defense) accepts the SIZ and ADIC location according to the 1 May location. 32d Air Division (Defense) requested a series of test flights to ascertain the effectiveness of the 1 May system change.

d. All parties agreed that AMIS circuits would remain as is, and be used for an emergency and during yellow and red alerts even if not used for daily operations.

e. EADFR 55-1 will be rewritten immediately to coincide with ADCR 55- . ADC has been requested for the effective date of ADCR 55- so that this headquarters' 55-1 may become effective simultaneously.

f. PIZs will be deleted upon publication of ADCR 55- and EADFR 55-1.

g. The 30th Air Division (Defense) Commander's decision is to retain the present ADIZ. The commander, 32d Air Division (Defense) will retain the present ADIZ, without comments, pending the results of the low altitude test flights through Canada programmed for June 1953.

h. Requests for free areas were discussed by a decision withheld until a later date.

i. Aircraft operation, within an ADIZ below 4,000 feet, may present a problem. The new proposed EADFR 55-1 will require additional identification not covered by ADC Regulation 55- .

j. The initiation of the program for small aircraft to report by telephone "Aircraft Flash" to filter centers or ADDCs has begun above 46° in the 30th Air Division and for the State of Maine in the 32d Air Division. 30th representatives stated that it may be expanded to 44° to cover the entire Travis City ADIZ. Information on the 32d Air Division's expansion program will be forthcoming at a later date.

k. Civil aircraft operating VFR below 4,000 feet in an ADIZ are not required to file flight plans. This is a serious problem, especially if 4 engine aircraft are operated in this manner. Coordination between airlines, ARTCs and ADDC was discussed to eliminate this problem.

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Identification Meeting Held at Headquarters, 32d
Air Division (Defense), on 26 May 54 (Contd)

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5. Conclusions:

a. Headquarters, EADF, and RCAF, will arrange for the flight of 4 engine type bomber aircraft through the Canadian Air Defense System, below 4,000 feet, to evaluate the effectiveness of the Canadian identification system. These test flights will be flown during the month of June between the Toronto CADIZ and the Maine border.

b. Effective immediately, the personnel of the Toronto ARTCC will refrain from passing flight information to U.S. facilities on aircraft F/Ps originating below the SIZ (46°). A maximum effort will be placed on reporting F/Ps and position reports on aircraft tracks which were initiated above the SIZ and heading south. This will present a clear, concise picture of identification operations in the Toronto and Montreal CADIZ systems.

6. Recommendations:

a. That the 1 May 1954 ADIZ change be operated as published, and that flight tests be conducted to evaluate the efficiency of the Canadian system (below 4,000 ft.).

b. That EADFR 55-1 be rewritten to coincide with ADC's proposed 55- (Identification Reg) when published.

c. That the initiation of any action pertaining to changes, other than those discussed at the meeting, be withheld pending the outcome of the test flights.

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HEADQUARTERS
32D AIR DIVISION (DEFENSE)
Syracuse Air Force Station
Eastwood Station 6
Syracuse, New York

INCOMING CLASSIFIED MESSAGE

ROUTINE

011559/Z

July 54

Copy 1 of 2 Copies

From: Comdr 764 AC&W Sq St. Albans Vt.

To: Comdr 32d ADIV Syracuse N. Y.

ACS 1-3

Ref Urmag ACFOOT-A 5100, the folg rpt is subm for 1 thru 30
Jun 1954.

(1) Number of tracks penetrating sub sector fr Canada which
require ident and on which flt plan was rece fr Bostonamis Montreal
Artcc or Monitor Artcc, is 520.

(2) Number of tracks penetrating sub sector fr Canada which
require ident and which positive ident as to type, serial number,
depart point and dest was recd fr Adj RCAF ACW Sq is 2.

(3) Number of tracks penetrating sub sector fr Canada which
require ident and on which neither flt plan nor positive ident by
ADJ RCAF Sq was recd is 485.

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C O P Y

D R A F T

HEADQUARTERS
32D AIR DIVISION (DEFENSE)
Syracuse Air Force Station, Eastwood Station 6
Syracuse, New York

OOT-A

SUBJECT: (Unclassified) Identification in Air Defense)

TO: Commander, 4707th Defense Wing, Otis AFB, Falmouth, Mass
Commander, 4711th Defense Wing, Presque Isle AFB, Maine

1. Following classified messages, this headquarters, are rescinded upon receipt of this correspondence.
 - a. ACFOOT-A 3029, 11 March 1954
 - b. ACFOOT-A 5002, 3 May 1954
 - c. ACFOOT-A 6003, 1 June 1954 (Sent to Commander 4707th Defense Wing only)
2. The concept of identification as contained in EADFR 55-1 is a desirable and logical step forward in operation of the Air Defense system. However, as the result of tests now being conducted, it is evident that a requirement exists for the establishment of a policy to insure that hostile aircraft are not permitted to proceed unchallenged to their target if they were successful in penetrating the Canadian defense net undetected. All available sources of information to identify unknown and suspicious aircraft must be exploited.
3. As previously advised, flight plans are available only for those aircraft crossing the International Boundary ADIZ or entering or operating within the Bangor ADIZ on a DVFR or IFR flight plan. Other flights which originate in Canada within the Canadian ADIZ may be correlated by flight plan obtainable from the RCAF AC&W system. Flights originating within Canada, not in the Canadian ADIZ and not penetrating the International Boundary ADIZ or the Bangor ADIZ above 4000', are permitted to operate cross-border without flight plans. It is in turn these flights which pose the major problem of segregating those aircraft on which no information is available from possible hostiles which may have penetrated the Canadian defenses undetected.
4. To alleviate this problem as much as possible, proper use must be made of the authorized means of identification. (i.e., speed and altitude, visual observation, single or twin engine aircraft, etc., as specified in paragraph 3a, EADFR 55-1.) Inversely, in relation to identification based on ground observer corps sightings, any aircraft reported

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Hq 32D AD(D) OOT-A Subj: (Uncl) Identification in Air Defense)

by the ground observer corps to be four or more engine will be declared unknown unless positive identification is available. Scramble will be ordered immediately, regardless of lack of radar correlation or point of origin, provided aircraft is heading toward a target area.

5. It is again emphasized that every effort must be made to identify every aircraft penetrating the United States Boundary on which there is any question as to its friendly or hostile intent.

BY ORDER OF THE COMMANDER:

VIRGINIA L. SWEET
1st Lt, USAF
Asst Adjutant

Historian's Note: Letter prepared but not sent.

C O P Y

HEADQUARTERS
EASTERN AIR DEFENSE FORCE
Stewart Air Force Base, Newburgh, N.Y.

EAOOT-A 461

8 Jan 54

SUBJECT: Identification of Air Movements

TO: Commander
26th Air Division (Defense)
Roslyn Air Force Station
Roslyn, New York

1. Attached for your information and comments is a draft of the proposed ADC Regulation on identification of air movements as co-ordinated at ADC with a committee composed of representatives of each air defense force.

2. Request your comments be forwarded to reach this headquarters on or before 25 January 1954, as ADC requires a consolidated return by 1 February 1954.

BY ORDER OF THE COMMANDER:

1 Incl
Draft ADCR on
Ident of Air
Movements

Hq EADF, Stewart AFB, Newburgh NY BAQOT-A 461 Subject: Identification
of Air Movements

OOT-A (8 Jan 54)

1st Ind

21 Jan 54

HQ 32D AIR DIVISION (DEFENSE), Hancock Field, Eastwood Station 6, Syracuse,
New York

TO: Commander, Eastern Air Defense Force, Stewart AFB, Newburgh, N.Y.

1. In compliance with paragraph 2, basic letter, following comments
and recommendations are forwarded:

a. Reference paragraph 8a (1). Recommend correlation limitation
be specified for "International Boundary ADIZ."

b. Reference paragraph 8a (2). With the present capability of
light aircraft to operate in the 110 to 130 Knot air speed range, and the
inability of a bomber or a reconnaissance to operate below 150 Knots, it
is recommended that identification by true air speed be raised to a more
realistic maximum of 130 Knots.

c. Reference paragraph 8a (2). Recommend that this directive
state exactly what criteria will apply for an "accurate method" of
measuring true air speed. Reference paragraph 8a (4). It is recommended
that this method of identification be accepted only in event the target
is a single or twin engine aircraft. Visual recognition of a bomber or recon-
naissance type aircraft by type alone is not acceptable for air defense
without supporting verification such as flight plan correlation, authenti-
cation by AFSAL or SACDAL or prior arrangement.

d. Reference paragraph 9d. Line 2 should be amended to read
"The correlation aid will....."

2. This proposed directive is considered excellent by providing
standard definitions and procedure for effecting identification. It is
recommended that the directive be published as a "Test" Regulation for a
sixty day period for the purpose of applying the set procedure and also
to discover any deficiencies which might exist but which are not apparent
at this time.

FOR THE COMMANDER:

1 Incl
n/c

s/t/ FREDERICK E. YORK
Major, USAF
Adjutant

Ltr, Hq EADF, EAOOT-A 461, Subj: Identification of Air Movements
26ADOOT (8 Jan 54) 1st Ind 25 Jan 54

HEADQUARTERS, 26TH AIR DIVISION (DEFENSE), ROSLYN AIR FORCE STATION,
ROSLYN, NEW YORK

TO: Commander, Eastern Air Defense Force, Stewart AFB, Newburgh, NY

1. The following comments are submitted concerning proposed ADC regulation on Identification of Air Movements.

a. Reference paragraph 5, should include a definite statement that 'Each direction station is responsible for identification of air traffic within their station's subsector.'

b. Reference paragraph 7a, the word 'monitor' could be misinterpreted. Recommend this sentence be changed to read, 'Man the movements identification section 24 hours daily and accept without delay air movements information from the furnishing agencies.'

c. Reference paragraph 8a, Methods of Identification should include: Friendly Tracks:

- (1) Tracks that originate and remain over land areas and remain outside the limits of an ADIZ.
- (2) Tracks that originate over land area and proceed seaward into an ADIZ area and return provided that continuity of radar track is maintained during the entire flight.
- (3) Tracks that originate over land area and are outbound on overseas flights.

d. Paragraph 8a(5) should include: If an aircraft is identified by flight plan correlation and later exceeds the limits for correlation, it will be at the director's discretion to determine the identify depending on the degree of the deviation.

e. Paragraph 8b should include the following for unknown tracks:

- (1) Outbound aircraft that are initially detected outside the continental limits of the United States without suitable flight plan, which reverse their course and become inbound tracks.
- (2) Aircraft that are observed employing ECM and cannot be associated with known friendly aircraft or intended flight plans.

f. Paragraph 8b(1) should read within one minute instead of within the minute.

g. Paragraph 9b should not require the centering of the unit having identification responsibility on the plotting map, but should remain flexible depending on individual composition . . . subsector areas.

2. The incorporation of these comments into the proposed ADC regulation should eliminate the need for individual divisions publishing SOP's to further amplify instructions required on this subject.

FOR THE COMMANDER:

1 Incl
n/c

s/t/ E. H. GAILLOT
Major, USAF
Adjutant

C O P Y

HEADQUARTERS
AIR DEFENSE COMMAND
Ent Air Force Base
Colorado Springs, Colorado

ADOOOT-B

11 May 1954

SUBJECT: Perimeter Identification Zones

TO: Commander
Eastern Air Defense Force
Stewart Air Force Base
Newburgh, New York

1. References:

- a. EADF Regulation 55-1, "Identification Procedures," 21 Feb 54.
- b. Air Defense Identification Zones (ADIZ) designated by the Administrator of Civil Aeronautics effective 1 May 1954 (Incl 1).
- c. Map extracted from CAA Circular Letter W-380-447, Subject: Canadian Rules for the Security Control of Air Traffic, 13 Apr 54 (Incl 2).
- d. Letter, EAOOT-A, Subject: (Uncl) Request to Implement GOC Early Warning Procedures in Perimeter Areas, 26 Jan 53 and 1st Ind, ADOOT-C 381, 17 Apr 53.

2. This headquarters can identify no requirement for establishment of perimeter identification zones superimposed on existing ADIZ's and CADIZ's. EADF Regulation 55-1 contains no procedures which cannot be implemented in an ADIZ and the similarity of defined PIZ's to ADIZ's only serves to confuse identification personnel.

3. The institution of revised ADIZ's, CADIZ's and the Security Identification Zone (Incl 2) provides a basis for unifying identification procedures employed in ADIZ's.

4. Request you submit detailed justification for retention of defined PIZ's not later than 15 Jun 54.

BY ORDER OF THE COMMANDER:

2 Incls
1. ADIZ Map
2. CADIZ Map

s/t/ RECTOR C. DAUCUS
Captain, USAF
Asst Command Adj

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Hq ADC ADOOT-B Subject: Perimeter Identification Zones

EA00T-OS (11 May 54) 1st Ind 4 Jun 54

HQ EASTERN AIR DEFENSE FORCE, Stewart Air Force Base, Newburgh, New York

TO: Commander, Air Defense Command, Ent Air Forces Base, Colorado Springs, Colorado

1. A meeting was held at the 32d Air Division (Defense), Syracuse, New York, on 26 May 1954. Conference was attended by representatives of RCAF ADC, Canadian DOT and ARTCCs, 30th and 32d Air Divisions (Defense), Boston and Detroit ARTCCs, CAA ADLOs and EADF.

2. ADC's proposed 55- , Identification Regulation, EADF Regulation 55-1, and the ADIZ changes effective 1 May were discussed. A separate report is being submitted on this meeting.

3. During this meeting, an agreement was reached to discontinue the use of PIZ, upon publication of ADC's proposed Identification Regulation 55- and rewrite of EADFR 55-1.

4. The following changes are recommended on ADC's proposed 55 - , Identification Regulation:

a. Page 3, paragraph 5b(1), line 3, add "sub" between "each" and "sector".

b. Page 4, paragraph 6, Division commanders should have the prerogative of establishing the identification criteria on tracks indicating movement toward a target complex. As the regulation is written, all tracks regardless of direction (toward a target complex), within an ADIZ, will require identification.

c. Page 4, paragraph 6a(2), Air Speed. This paragraph is in conflict with paragraph 6. Recommend that the following, "The interior of the U.S.", be deleted as this will apply also to any flight enroute from Canada to U.S. ADIZs.

d. Page 4, paragraph 6a. The identification criteria under (6)(a), Friendly Tracks, does not include operations within Free Areas.

e. Page 6, paragraph (6)(a), additional recognition methods should be changed to read "Supplemental Identification Methods".

f. Page 6, paragraph 6a (6) (b) and (c), "Recognition" should be changed to read "Identification".

EA00T-08 Subject: Perimeter Identification Zones (Contd)

g. Page 6, paragraph 6a (6) (a) (b) and (c) are in direct conflict with ADCRs 55-9 and 10.

h. No mention has been made of Air File or SACDAL. Suggest these be commented upon in paragraph 6a(6).

i. Page 7, paragraph 6a (6) (c) (AFSAL 5104). All responsibility is placed on fighter-interceptors with no mention made reference to Ground AC&W Squadrons. Request this be added.

j. Page 11, paragraph 7c(5). MCIS tracks should be classified unknown with a statement of "No scramble action MCIS", (Maximum 5 minutes). This will prevent an unknown from being carried friendly, should identification not materialize within 5 minutes.

5. Request information on the proposed effective date of ADCR 55- , Identification of Air Movements, so that this headquarters may simultaneously publish a revised EADFR 55-1.

FOR THE COMMANDER:

2 Incls
n/c

s/t/ JAMES R. WORLINE
Captain, USAF
Asst Adjutant

B/L Hq ADC, ADOOT-B Subj: Perimeter Identification Zones

ADOOT-C (11 May 54)

2d Ind

22 Jun 54

HEADQUARTERS AIR DEFENSE COMMAND, Ent AFB, Colorado Springs, Colorado

TO: Commander, Eastern Air Defense Force, Stewart Air Force Base,
Newburgh, New York

1. This Command has incorporated the recommended changes to ADCR 55- , Identification of Air Movements, as recommended in 1st indorsement, except for the following:

a. Reference paragraph 4c, since all aircraft are required to file a flight plan when crossing an international ADIZ boundary, it is deemed inadvisable to extend a speed and altitude criteria to such flights.

b. Reference paragraph 4h, SACDAL has been omitted because it is a system of transmitting tail numbers of SAC bomber aircraft in code and not a criteria or method of identification.

2. The ADC regulation on Identification of Air Movements is presently in deptycoordination and should be in the field prior to 15 July 1954.

BY ORDER OF THE COMMANDER:

2 Incls
n/c

JOHN J. HAYES
CWO, USAF
Asst Command Adj

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HEADQUARTERS
AIR DEFENSE COMMAND
Ent Air Force Base
Colorado Springs, Colorado

Office of the Commander

29 Dec 53

Major General Morris R. Nelson
Commander
Eastern Air Defense Force
Stewart Air Force Base
Newburgh, New York

Dear Nellie:

During the last Commanders' Conference, our legal inability to engage aircraft over Canadian Territory was discussed. The Permanent Joint Board for Defense has recently submitted to the governments concerned PJBD Recommendation 53/1, which is intended to replace Recommendation 51/4 as our authority for joint air defense action with Canada. Although the new recommendation has not yet received executive approval, we anticipate early confirmation by both countries.

We consider the inclosed draft as another interim authority, not the answer, but a step in the right direction nevertheless. You will note that the principles have been worded to follow our concept more closely. Sub-paragraph (a) of the attached memorandum substantially broadens our intercept rights over Canada. Further, our present inability to engage aircraft over Canada will be partially alleviated by Recommendation 53/1. However, the rules of engagement of the country over which the intercept occurs will apply, and the authority to direct engagement is reserved for the air defense commander of that country or his designated representatives.

Meetings with Canadian representatives prior to the issuance of Recommendation 53/1 have indicated that we can work out a delegation of engagement authority across the border in the areas where only one country possesses an air defense capability. However, the Canadians are naturally reluctant to formalize any such agreements. We do expect that agreement may be reached verbally at air division level after outlining specific conditions under which the decision to engage would be automatic.

I have forwarded a proposal to Air Vice Marshal James that our staff get together on this subject and arrive at a mutually acceptable understanding.

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I would appreciate your comments on the possibilities opened up by the adoption of the new recommendation and will keep you advised of any further developments between the two air defense commands.

Because of the extreme delicacy of these negotiations, any discussion of this matter with Canadian agencies should be withheld until after the meeting with Canada.

Sincerely,

1 Incl
Proposed PJED
Rec 53/1

t/ B. W. CHIDLAW
General, USAF
Commander

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C O P Y

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HEADQUARTERS

FILE: EASTERN AIR DEFENSE FORCE
 SUBJECT: PJBD Recommendation 53/1
 INTEROFFICE ROUTING SLIP

No. 1 - 7 Jan 54

No. Date From To

EAOOT EAOPM

1. In compliance with Deputy for Operations Memorandum, the following comments are submitted for consideration:

a. This agreement will provide a basis for revising several current publications on rules of engagement. These revisions will provide our interceptor crews and directors with a better working knowledge for border over-fly. At the present time, the RCAF Air Defense Command Air Staff Instructions and USAF Air Defense Command publications on rules of engagement are almost identical in wording. This procedure should be continued on any revisions thereby effectively providing for a maximum of coordinated operational capability. An excellent example of this is ADCR 55-35 and Air Staff Instruction 2/10.

b. Paragraph 1d of PJBO 53/1 provides for engagement authority as a responsibility of the Air Defense Commander and, as such, improves our defense potential at greater distances from target areas. The current restriction on interceptors to engage only while over their own territory has been a matter of primary concern to all air defense personnel. This change is certainly a step in the right direction.

c. Paragraph 1a of PJBO 53/1 seems to restrict intercept action in view of the current procedures published in ADCR 55-35. For example, the requirement to use a USAF interceptor "only when it is not possible for a Canadian military aircraft to carry out the investigation" is not currently published in any directive. Present directives permit over-fly restricted only by requirement for GCI control.

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PJBD Recommendation 53/1 (Contd)

3. Recommend this correspondence be forwarded to EAACP for comments.

t/ LOONEY

t/ OLDS

1 Incl
Pers ltr to Gen Nelson fr
Gen Chidlaw, sub as above w/1 Incl

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C O P Y

HEADQUARTERS
EASTERN AIR DEFENSE FORCE
Stewart Air Force Base, Newburgh, N. Y.

15 Feb 1954

General Benjamin W. Chidlaw
Commander
Air Defense Command
Ent Air Force Base
Colorado Springs, Colorado

Dear Ben:

Reference your letter concerning the proposed PJBD 53/1 paper, "Principles Governing the Interception of Unidentified Aircraft in Peacetime," I have delayed offering my comments pending the outcome of the detailed discussion of this matter at the Commanders' conference, 4 February 1954, at Hq RCAF, ADC.

Review of the proposed PJBD 53/1 and the joint agreement as presented at the St. Hubert commanders' conference indicates a potential increase in the air defense effectiveness of both countries. However, adoption of these agreements engenders certain possibilities or problems which must be resolved and set forth in detailed standard operating procedures for guidance to all concerned, particularly to those at the working level.

There are many implications one might derive from a study of the provisions of paragraphs 1(a) and (d), PJBD 53/1. They fall, generally, within the area of command authority involving forces neither assigned nor attached in the normally accepted sense. Operating procedures as well as definitions or "Operational Control" and the like merit careful attention to insure that the clear intent of both parties is reflected in the necessary implementing directives.

It should also be noted that both of the agreements referenced above are interspersed with non-standard terminology and phraseology concerning "unidentified", "unknown", "hostile", and "manifestly hostile in intent" and actions that may be taken against each. We anticipate that this will result in confusion both in identification and subsequent air defense operations.

Summarizing briefly, PJBD 53/1 may be interpreted into two ways; first, as opening the door to better cross-border coordination and operation, or, secondly, as a tighter restriction on those operations. I fully agree that we should take the positive approach that 53/1 is a

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step in the right direction and continue to work assiduously on promulgation of detailed directives concerning rules of interception and engagement to the satisfaction of both commands.

Sincerely,

t/ M. R. NELSON
Major General, USAF
Commander

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HEADQUARTERS
EASTERN AIR DEFENSE FORCE
Stewart Air Force Base, Newburgh, N. Y.

EAOPM

13 Mar 54

SUBJECT: (Unclassified) ADC Program Information

TO: Commander
1610th Air Transport Group
Greiner Air Force Base
Manchester, New Hampshire

1. The following information, which was obtained from the February 1954 ADC Program document, concerning the programmed activation and deployment of AC&W squadrons from Greiner AFB is forwarded for your information.

<u>Squadron</u>	<u>Programmed Activation Date</u>	<u>Programmed Deployment Date</u>	<u>Destination</u>
667 AC&W Sq	Sept 54	1QFY55	Iceland
933 AC&W Sq	Sept 54	1QFY55	Iceland
934 AC&W Sq	3QFY55	4QFY55	Iceland
639 AC&W Sq	Mar 55	1QFY56	Canada
645 AC&W Sq	Mar 55	1QFY56	Canada
672 AC&W Sq	Mar 55	1QFY56	Novo Scotia
905 AC&W Sq	Mar 55	1QFY56	Canada
909 AC&W Sq	Mar 55	1QFY56	Canada
910 AC&W Sq	Mar 55	1QFY 56	Canada

2. This headquarters will keep you advised as to program changes affecting ADC units at Greiner AFB as changes are received.

3. This letter is classified Secret in accordance with paragraph 23b, AFR 205-1.

BY ORDER OF THE COMMANDER:

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HQ RADP STEWART AFB NEWBURGH NY

10 May 54

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COMDR 32D ADIV (DEF) SYRACUSE AF
STA EASTWOOD STA 6 SYRACUSE NY

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DEFERRED

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COMDR 4707TH DEF WG OTIS AFB FALMOUTH MASS

EAOPM-C 494. Hq ADC has advised that the folg changes to the ADC Program have been made: (1) The 667th, 933d, 934th AC&W Sqs currently programmed to act at Grenier AFB will act in MATS. (2) Act of 1st Phase Mob AC&W Sqs at Canadian locs w/b delayed until FY 56 pending results of an ADC, RCAF conf 17 May 54. You w/b advised as add info is recd.

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LT COL C. K. PETERS/ck

EAOPM 101500 May 54 644

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INTRODUCTION
OPERATIONAL PLAN FOR TEXAS TOWERS

This represents the Air Defense Command's Operational Plan for Texas Towers. Without this Seaward Extension of Radar Surveillance and Control, little air defense can be provided certain coastal targets in the United States. It would be understood at this point that this plan of operations in no way negates the requirement for air borne early warning and picket ship barrier extensions of the warning lines in the Air Defense Warning Zone for the defense of the continental United States. Certain changes in this plan will be required as this Command becomes more familiar with the equipment and its capabilities under operational conditions. This edition contains the best information available to this headquarters at this time. In developing this operational plan, it has been assumed that these installations will operate only as surveillance stations with their total control capability being remoted to a shore Air Defense Direction Center. Their mission is twofold; first, they will serve as a means of extending radar coverage and control capability seaward, second, they will support certain U. S. Navy anti-submarine functions. The need for this type installation exists because of the limited radar cover provided by land based coastal radars. Radar coverage provided by Texas Tower Stations should help to extend the medium and high contiguous coverage approximately 300 miles seaward.

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C O P Y

OPERATIONAL PLAN FOR TEXAS TOWERS

I. GENERAL.

A Texas Tower is a modified marine drilling platform adapted for use as an off-shore air defense radar site.

A Texas Tower functioning as a radar station, with radar equipment, communication facilities, living quarters and personnel, forms a small artificial island.

Radar Coverage provided by radar operated on a Texas Tower site will help to extend the contiguous radar coverage seaward for approximately three hundred (300) miles.

II. MISSION.

To extend the contiguous radar coverage seaward for air defense of vital targets located on the Atlantic Coast. As a secondary mission, Texas Tower sites will support U. S. Navy anti-submarine warfare functions as required.

III. UNIT ORGANIZATION.

A. Location.

1. The locations for the five (5) Texas Towers may vary due to depth and ocean floor conditions. Generally, the proposed locations are as follows:

	<u>Latitude</u>	<u>Longitude</u>
a. Nantucket Shoal	40°45'N	69°19'W
b. Georges Shoal	41°44'N	67°45'W
c. Cashes Ledge	42°54'N	68°57'W

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	<u>Latitude</u>	<u>Longitude</u>
d. Brown's Bank	42°47'N	65°37'W
e. Unnamed Shoal	39°48'N	72°40'W

B. Parent Shore Direction Centers:

1. Texas Towers will provide radar extension coverage and serve as an air-to-ground communications relay point and will report to established Direction Centers as follows:

- a. P-45 Camp Hero, New York - Nantucket Shoal
- b. P-10 North Truro, Mass. - Georges Shoal
- c. P-13 Brunswick NAS, Me. - Cashes Ledge
- d. P-13 Brunswick NAS, Me. - Brown's Bank
- e. P-9 Neversink, N. J. - Unnamed Shoal

C. Personnel:

Two detachments will be required to man each Texas Tower station. Parent Direction Center manning will be augmented to provide the necessary personnel to supply and administer the Texas Tower station detachments. Detachment will be rotated from parent shore station at 15 day intervals.

D. Communications:

Submarine cable and Tropospheric Scatter will connect the Texas Tower to the nearest point on-shore. Landline telephone systems will be used from the on-shore point to the parent Direction Center.

Search video will be transmitted from the Texas Tower to the Parent Station for display on plan position indicators (PPI). Slowed Down Video equipment will be used to transmit the radar video to the shore.

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Air-Ground communication transmitters and receivers installed on the Texas Tower will be operated remotely from the Parent Station.

Height information will be determined by Texas Tower height finder operators and reported by voice to the Parent Station.

E. Detachment Manning Table:

<u>AFSC</u>	<u>TITLE</u>	<u>TOTAL</u>	<u>GRADE</u>
1644	Commander	1	Captain
3044	Ground Electronics Officer	1	Captain
30372	ACM Radar Technician	2	1 M/Sgt 1 T/Sgt
30352	ACM Radar Repairman	4	2 S/Sgt 2 A/IC
30450	Ground Radio Repairman	2	1 S/Sgt 1 A/IC
30470	Ground Radio Technician	1	M/Sgt
47171	Vehicle Maintenance Technician	2	1 M/Sgt 1 T/Sgt
47155	Veh & Motorized Equip Elect	2	1 S/Sgt 1 A/IC
55270	Bldg Crafts Supervisor	1	M/Sgt
36271	Wire Maintenance Tech, Inside Plant	1	T/Sgt
30270	ECM Maintenance Technician	1	T/Sgt
30250	ECM Repairman	1	A/IC
64170	Org Supply Supervisor	1	M/Sgt
56170	Electrical Supervisor	1	T/Sgt
94150	Senior Seaman	1	S/Sgt
94151	Sr Marine Engineman	1	A/IC
90270	Medical Service Supervisor	1	M/Sgt

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<u>AFSC</u>	<u>TITLE</u>	<u>TOTAL</u>	<u>GRADE</u>
27330	Apr AC&W Opr	4	A/2C
27350	AC&W Opr	4	2 S/Sgt 2 A/1C
27370	AC&W Supervisor	1	M/Sgt
29150	Comm Center Specialist	2	A/1C
29250	Cryptographic Operator	1	T/Sgt
39350	Ground ECM Spec	1	S/Sgt
62250	Cook	3	A/1C
62250	Sr Cook	<u>1</u>	S/Sgt
		41	

IV. TRAINING REQUIREMENTS:

Training standards now in effect for Air Defense Command AC&W personnel will be applicable.

V. OPERATIONS READY DATES AND INSTALLATION ORDER OF PRIORITY.

A. Nantucket Shoal - June 1956	1st Priority to P-45
B. Georges Shoal - June 1956	4th Priority to P-10
C. Cashes Ledge - June 1956	3rd Priority to P-13
D. Brown's Bank - June 1956	5th Priority to P-13
E. Unnamed Shoal - June 1956	2nd Priority to P-9

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COMMUNICATIONS ANNEX

1. General.

a. This annex includes the communications required to support operations of the Texas Towers.

2. Communication Requirements.

a. Ground/Air.

- (1) Each Texas Tower will require a minimum of four (4) UHF tactical channels plus the UHF AICC and emergency channels.
- (2) One each 1 KW amplifier is required for each Texas Tower to be used for anti-jamming until the period when Data Link is available at which time it will be used for Data Link transmission.

b. Texas Tower to Shore Communications.

- (1) Primary means of communication will be by submarine cable and Tropospheric Scatter.
- (2) The submarine cable should be coaxial cable with six (6) repeaters per one hundred (100) miles and equipped with carrier. The cable and carrier equipment should provide for sixteen (16) circuits indicated in paragraph 2b(3), plus 100% spares, or a total of thirty-two (32) channels.
- (3) The individual circuit (channel) requirements are as follows:

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Fine Grain Data 3 circuits
UHF Radio 6 circuits
Height Finder 2 circuits
Command and Administration. . . 2 circuits
Data Link 1 circuit
Teletype. 1 circuit
Administrative. 1 circuit
TOTAL 16 circuits

- (4) One (1) HF radio voice channel will be required between each Texas Tower and the shore station to provide emergency communications in the event of failure of primary communications.

c. IFF (SIF) Requirements.

(1) A complete IFF (SIF) function is required for the search radar to include both active and passive decoders. Challenging, for identification, will be performed by a local operator at the request of the director. IFF video will be relayed to shore stations with normal radar video.

d. Cryptographic.

- (1) Cryptographic facilities required at each Texas Tower areas follows:
- (a) Two (2) AFSAM-7 (FB-4C-20)
 - (b) Two (2) Power Supplies (FB-4C-20)

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(2) If the station becomes operational prior to availability of AFSAM-7, one-time pad system will be required for use between the Tower and the parent AADC.

e. Alarm System.

(1) Each Tower requires an alerting alarm that will serve to notify all personnel of an alert condition.

f. Inter-Communications System.

(1) Each Tower requires an inter-communication system that will provide voice communications between the various operating stations within the tower.

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LOGISTICS ANNEX

PURPOSE:

To provide guidance and direction for the logistical support of the "Texas Towers" operational plan.

SCOPE:

This document contains the basic planning factors required for the formulation of a detailed logistical support operating program for the Texas Towers. Items included are: Supply, maintenance, transportation, evacuation, medical, and personnel services.

GENERAL:

The requirement for this plan is generated by the proposal to establish five (5) Air Defense radar sites on modified marine drilling platforms some 60 miles off-shore. These towers will support radar, communications equipment, living quarters and storage space as required. The stations will be manned and operated 24 hours per day. Radar coverage realized by the use of these towers will extend the contiguous radar coverage approximately 300 miles seaward. Construction is the responsibility of the Bureau of Yards and Docks, U. S. Navy. Normal transportation of personnel and supplies will be by sea transport furnished by the U. S. Navy through cross servicing agreements. Emergency supply will be by air or sea, dependent upon the transport vehicle capability and the nature of the emergency. Emergency evacuation of sick and injured shall be by the appropriate rescue agencies, trained and equipped for such missions.

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A. Supply:

1. Rations will be furnished by the U. S. Navy through cross-servicing agreements. Normal levels will be: 15 days of perishables, 30 days dry, and 15 days emergency rations, based on an average strength of 41 men. Periodic turnover of emergency rations will be required.
2. POL supplies will be furnished by the U. S. Navy through cross-servicing agreements. Maintenance of at least 45 day supply is recommended.
3. Office and housekeeping supplies will be furnished by parent unit.
4. TA and UPREAL will be furnished by the parent unit.
5. Radar and communications equipment to be furnished and installed by AMC.
6. Electronics supply support to be furnished by the nearest ADC electronics support base.
7. Unit, electronic, technical, and R&U supply functions to be consolidated in one area and maintain stock levels as follows:
 - a. Unit: As required by T/A and UPREAL.
 - b. Electronic technical: 45 day level, consisting chiefly of replaceable assemblies and subassemblies of electronics components.
 - c. R&U: 45 day level of R&U supplies, to include power generating equipment spares.

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8. Exchange merchandise will be furnished by U. S. Navy.
- B. Maintenance:
1. Electronics - to be performed by unit, contractor support, and AMC.
 2. Installations - preventive maintenance and minor repairs by the unit. Major repairs by U. S. Navy.
 3. Lifeboats: Maintained by unit with periodic inspection by U. S. Navy or Coast Guard.
- C. Transportation:
1. The prime mode of transportation will be by sea transport, furnished by the U. S. Navy.
 2. All agencies will coordinate the scheduled delivery of supplies for the Texas Towers to the appropriate port facility as designated by the U. S. Navy.
 3. Emergency supply will be by air or surface vessel, depending upon the capabilities of the mode of transport and the nature of the emergency.
 4. Periodic delivery and pick-up of mail will be as scheduled by parent unit.
- D. Evacuation:
1. Motor launches in sufficient quantities consistent with personnel assigned will be provided for emergency evacuation. The launches should have a minimum capacity of 15 persons. They will be equipped with Mae Wests and other seagoing survival gear, as required.
 2. Additional life preservers and life rafts to be provided on the tower proper. ~~SECRET~~

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3. Emergency medical evacuation will be performed by the Air Rescue Service, USAF, U. S. Coast Guard, U. S. Navy, or any other appropriate agency trained and equipped for such missions.

E. Medical:

1. Appropriate medical supplies and equipment will be furnished by the parent unit.
2. The assigned Medical Service Supervisor will operate this facility as required.

F. Power Requirements:

Total power will be generated on station to fulfill requirements of technical and station loads. Loads to be determined and sufficient power generating equipment to be installed by the appropriate agency. Electronic voltage regulators (Sorenson) for technical load to be provided by AMC and installed by contractor.

G. Other:

1. Heating system will be installed as part of the construction contract.
2. Air conditioning equipment for the electronics equipment and mechanical cooling for the balance of the facility will be contractor installed.
3. Hot water heaters and hot water storage will be contractor installed.
4. Clothes washer and drier should be contractor furnished and installed.

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5. Fire fighting equipment consisting of pumps, stand pipes and hoses, CO² or foam should be contractor furnished and installed, where required.
6. Fresh water storage sufficient for a period of 30 days, or sea water distillation facilities capable of providing sufficient fresh water on an individual man/day basis to be contractor installed.

H. Personnel Services:

Recreational equipment and facilities will be provided by the parent unit in accordance with requirements and space availability.

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DISPOSITION FORM

SUBJECT: Monthly Summary of Changes to the
ADC Program Document

TO: EACDO EACDC FROM: EAOPM-2 30 Jun 54
 EADVC EAFDP
 EAQOT EAMIM
 EAQCE EAIIG
 EAMIS EAAGH
 EAMMP EAPPL

1. The following changes to the ADC Program document have been received by this directorate and are forwarded for your information:

a. Fighter-Interceptor Program. The 82d and 318th Fighter-Interceptor Squadrons which are currently programmed to be located at Presque Isle AFB in FY55 will remain at Presque Isle until 2QFY57 when these squadrons will deploy to Lages and HEAC respectively. Concurrent with this deployment, the 335th Fighter-Interceptor Squadron will move from Geiger AFB to Presque Isle AFB. This unit will be equipped with F-86D aircraft. At that time Presque Isle AFB is programmed to become a one-squadron base.

b. 1st Phase Mobile AC&W Program. Construction has started on SITES M-106, M-109, M-121 and M-131. The estimated beneficial occupancy dates are Nov 54 for sites M-106 and M-109 and Sept 54 for sites M-121 and M-131.

c. AEW&C Program. The 4701st AEW&C Squadron will be transferred from McClellan AFB to Otis AFB in Mar 55 as an operational unit and will be transferred equipped with 10 RC-121 aircraft. At this time the unit will be reorganized and become the 960th AEW&C Squadron. The 551st AEW&C Wing, 551st Periodic Maintenance Squadron, and 551st Electronics Maintenance Squadron will activate at Otis AFB in Dec 54. The 961st AEW&C Sq will activate at Otis AFB Dec 54 and will receive aircraft at a rate of 2 per month beginning in Apr 55 until an authorized total of 10 RC-121 aircraft have been received. The 962nd AEW&C Squadron will activate in July 55 and will receive two aircraft in August 55, four additional aircraft in Sept 55 and four in October 55. The 966th AEW&C Squadron will activate at Seymour Johnson in Nov 55.

d. Lincoln Transition System. Demonstrations of the Cape Cod Model air defense system have been suspended for a period of approximately 3 months in order that changes to the system can be incorporated.

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e. Texas Towers. Operational and logistic plans for Texas Towers have been received by this headquarters and have been disseminated to interested staff agencies at this headquarters.

f. Picket Vessels. An operational plan for the utilization of picket vessels to extend a contiguous radar coverage and weapons directing capabilities seaward has been received by this headquarters and disseminated to the appropriate staff agencies.

2. Headquarters ADC has advised that a new program document will be forwarded to this headquarters approximately 15 July 1954.

3. This Disposition form is classified SECRET in accordance with paragraph 23b, AFR 205-1.

s/t/ PEERS

s/t/ KIRKENDALL

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C O P Y

HEADQUARTERS
32D AIR DIVISION (DEFENSE)
Hancock Field, Eastwood Station 6
Syracuse, New York

OOT-A/OPS-7

9 Jan 1954

SUBJECT: Report of Naval/Marine Corps Participation in Air Defense
RCS: EADF-T1

TO: Commander
Eastern Air Defense Force
Stewart Air Force Base
Newburgh, New York

1. Following report is submitted in accordance with Joint Agreement, Headquarters Eastern Sea Frontier and Headquarters Eastern Air Defense Force, 12 December 1951:

a. Mission conducted by Station P-13

- (1) 2 December 1953
- (2) Navy 260
- (3) 2 - AF's
- (4) Aircraft requested radar surveillance.
- (5) NA
- (6) None

b. Mission conducted by Station P-10

- (1) 22 December 1953
- (2) 58th FIS - PV Station 4
- (3) 2 F94C - 1 DER Picket Vessel
- (4) Passing control for practice intercept mission.
- (5) Three unsuccessful intercepts were attempted. Aircraft were under Picket Vessel control for 10 minutes.

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Hq 32D AD(D), OOT-A Subj: Report of Naval/Marine Corps Participation
in Air Defense RCS: EADF-T1

(6) None

c. Mission conducted by Station P-10

(1) 23 December 1953

(2) 58th FIS - PV Station 4

(3) 2 F94C - 1 DER Picket Vessel

(4) Passing of control for practice intercepts.

(5) Three collision course intercepts were attempted of which one was successful. Aircraft were under Picket Vessel Control for 30 minutes.

d. Mission conducted by Station P-10

(1) 25 December 1953

(2) 437th FIS - PV Station 4

(3) 2 F94C - 1 DER Picket Vessel

(4) Communications check was made between aircraft and picket vessel.

(5) None

(6) Communications were unsatisfactory to accept control.

e. Mission conducted by Station P-10

(1) 26 December 1953

(2) 437th FIS - PV Station 4

(3) 2 F94C - 1 DER Picket Vessel

(4) Passing of control

(5) None

(6) Radio contact could not be made.

Hq 32D AD(D), OOT-A Subj: Report of Naval/Marine Corps Participation
in Air Defense RCS: EADF-T1

f. Mission conducted by Station P-10

- (1) 30 December 1953
- (2) Navy 1588
- (3) Unknown
- (4) Relay of position report
- (5) NA
- (6) Aircraft was heard calling Nantucket Radio but not receiving a reply. He was then heard on 255.4. P-10 contacted by radio and requested information as to assistance they could give. Pilot advised of his position which was relayed to Boston ARTCC.

g. Mission conducted by Station P-13

- (1) This station participated as a "Backup" for station P-10 in Picket Vessel Operations.
- (2) U.S. Navy units located at Brunswick NAS continued to coordinate with navigational assistance, position fixing and communications checks.

h. Negative reports are submitted for the remaining organizations within this Air Division.

FOR THE COMMANDER:

FREDERICK E. YORK
Major, USAF
Adjutant

0276

C O P Y

HEADQUARTERS
32D AIR DIVISION (DEFENSE)
Syracuse Air Force Station, Eastwood Station 6
Syracuse, New York

OOT-A/MGT 7-2

8 Feb 1954

SUBJECT: Report of Naval/Marine Corps Participation in Air Defense
2 Training (RCS: EADF T-1)

TO: Commander
Eastern Air Defense Force
Stewart Air Force Base
Newburgh, New York

1. Following report is submitted in accordance with joint agreement, Headquarters Eastern Sea Frontier and Headquarters Eastern Air Defense Force, 12 December 1951.

a. Mission conducted by Station P-10.

- (1) 29 January 1954
- (2) 437th FIS-PV Toronto Fox
- (3) 2 F94C-1DER PV
- (4) Passing of control for practice interceptions
- (5) Unknown
- (6) Aircraft under PV control for fifty-one minutes.

b. Mission conducted by Station P-10.

- (1) 26 January 1954
- (2) 437th FIS-PV Toronto Fox
- (3) 2 F94C-1DER PV
- (4) Control passed via land line through Yearly Victor Able, for practice interceptions.
- (5) 3 Intercepts attempted of which one (1) was successful.

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Hq 32d AD(D) OOT-A Subject: Report of Naval/Marine Corps Participation in Air Defense Training (RCS: EADF T-1) Cont'd

(6) Aircraft were under PV control for forty (4) minutes.

c. Mission conducted by Station P-10.

(1) 26 January 1954.

(2) 58th FIS-PV Toronto "C"

(3) 1 F94C-1DER PV

(4) Passing of control

(5) No intercepts attempted

(6) Unsuccessful attempt was made to control fighter over PV position.

d. Mission conducted by Station P-10.

(1) 25 January 1954.

(2) 437th FIS-PV Station 4

(3) 1 F94C-1DER PV

(4) Radio communications check

(5) INAP

(6) PV could not receive transmission

e. Mission conducted by Station P-10.

(1) 23 January 1954

(2) Navy 9741, P4Y

(3) 1 P4Y-Station P-10

(4) Aircraft requested weather information and relay of position report.

(5) INAP

(6) Two (2) position reports relayed to Boston ARTC Center. Advised of HCO weather.

Hq 32d AD(D) OOT-A Subject: Report of Naval/Marine Corps Participation
in Air Defense Training (RCS: EADF T-1) Cont'd

f. Mission conducted by Station P-10.

- (1) 12 January 1954
- (2) Navy 1604, R6D
- (3) 1 R6D-Station P-10
- (4) Aircraft requested position report relative to ACK and ATC Clearance to CEF.
- (5) INAP
- (6) Position report was given and ATC clearance obtained from Boston ARTC Center from ACK to CEF.

g. Mission conducted by Station P-10.

- (1) 5 January 1954
- (2) Navy 6683, PBY
- (3) 1-PBY, Station P-10
- (4) Aircraft requested position report and weather.
- (5) INAP
- (6) At 1658g when aircraft requested position report, P-10 was inoperative. At 1716g, P-10 was operational and advised Navy 6683 of his position and latest weather.

h. Mission conducted by Station P-10.

- (1) 3 January 1954
- (2) Navy 6296, P4YB
- (3) 1-P4YB, Station P-10
- (4) Aircraft requested navigational assistance and clearance.
- (5) INAP
- (6) Navy 6296 was unable to contact ground radio for clearance from Boston ARTC Center. P-10 obtained clearance, advised on weather and vectored aircraft to NCO.

Hq 32d AD(D) OOT-A Subject: Report of Naval/Marine Corps Participation
in Air Defense Training (RCS: EADF T-1) Cont'd

i. VF 851, VF 852 and VMF 441 are still in transition period
at Niagara Falls and no missions are planned for the next month with
Station P-21.

j. No Picket Vessel activity between Station P-13 and PV
Station 3 due to deployment of vessel. Communications checks,
practive navigational assistance and electronic checks continue between
P-13 and Naval units permanently located at Brunswick NAS.

k. Negative report is submitted for the remaining organi-
zations within this air division.

FOR THE COMMANDER:

VIRGINIA L. SWERT
1st Lt, USAF
Assistant Adjutant

C O P Y

HEADQUARTERS
32D AIR DIVISION (DEFENSE)
Syracuse Air Force Station, Eastwood Station 6
Syracuse, New York

OOT-A

9 Mar 1954

SUBJECT: Report of Naval/Marine Corps Participation in Air Defense
Training (RCS: EADF T-1)

TO: Commander
Eastern Air Defense Force
Stewart Air Force Base
Newburgh New York

1. Following report submitted in compliance with instructions concerning Eastern Sea Frontier and Eastern Air Defense Force Joint Agreement for the training of Naval/Marine Corps in Air Defense of the Eastern United States.

a. Mission conducted by station P-10

- (1) 5 February 1954
- (2) 58th Fighter Interceptor Squadron--PV "Toronto Fox"
- (3) 3 F94C--1 DER PV
- (4) Practice Intercepts
- (5) Unknown
- (6) Aircraft under PV control for 35 minutes

b. Mission conducted by station P-10

- (1) 7 February 1954
- (2) P-10--Navy 6119
- (3) 1 F9F
- (4) Aircraft requested radar control
- (5) NA

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Hq 32d A Div (Def) OOT-A Subject: Report of Naval/Marine Corps
Participation in AirDefense Training (RCS: EADF T-1)

- (6) Aircraft was enroute Manchester, New Hampshire to Oceans NAS, Virginia. P-10 assumed control over Bedford, Massachusetts and advised on rectors. Control was passed to P-45.

c. Mission conducted by station P-10.'

- (1) 12 February 1954
- (2) 437th Fighter Interceptor Squadron--PV "Toronto Fox"
- (3) 2-F94C--1 DER PV
- (4) Practice intercepts
- (5) NA
- (6) Aircraft were unable to make radio contact with PV.

d. Mission conducted by station P-10

- (1) 17 February 1954
- (2) P-10--Navy 1643
- (3) 1-R7V
- (4) Aircraft requested navigational assistance
- (5) NA
- (6) Pilot stated radio navigation gear was inoperative. Navigational aid was provided to place aircraft over Cod Intersection as was requested.

e. Mission conducted by station P-21.

- (1) 13 February 1954
- (2) VF-851
- (3) P-21--2F4U
- (4) Practice GCI Letdowns
- (5) NA

Hq 32d A Div (Def) OOT-A Subject: Report of Naval/Marine Corps
Participation in Air Defense Training (RCS: EADF T-1).

(6) None

f. Mission conducted by station P-21

(1) 25 February 1954

(2) VF-852

(3) P-21 1-PBY

(4) Practice GCI Letdowns

(5) NA

(6) None

g. Mission conducted by station P-21

(1) 27 February 1954

(2) VMF--441

(3) P-21 2 F4U

(4) UHF Calibration Flight

(5) NA

(6) None

2. No picket-vessel operations were conducted by station P-13 during the reporting period. This squadron participated in a classified project with the Navy. Details are not included in this report.

3. Negative report is submitted for the remaining units of this division.

FOR THE COMMANDER:

FREDERICK E. YORK
Major, USAF
Adjutant

C O P Y

HEADQUARTERS
32D AIR DIVISION (DEFENSE)
Syracuse Air Force Station, Eastwood Station 6
Syracuse, New York

OOT

7 Apr 1954

SUBJECT: Report of Naval/Marine Corps Participation in Air Defense
RCS: EADF-T1

TO: Commander
Eastern Air Defense Force
Stewart Air Force Base
Newburgh, New York

1. In compliance with Joint Agreement, Headquarters Eastern Sea Frontier and Headquarters Eastern Air Defense Force for the training of Navy and Marine Corps units in the Air Defense of the Eastern United States dated 12 December 1951, the following report is submitted of 31 March 1954.

a. Mission conducted by Station P-10.

- (1) 5 March 1954
- (2) 330th FIS Goat Island
- (3) 2 F86F 1 DER Picket Vessel
- (4) Passing of GCI control for Picket Vessel
- (5) Four (4) intercepts completed
- (6) Picket vessel had control of aircraft for 49 minutes.

b. Mission conducted by Station P-10.

- (1) 12 March 1954
- (2) 330th FIS Toronto Fox and Goat Island
- (3) 2 F86F 1 DER Picket Vessel
- (4) Passing of Control
- (5) N/A
- (6) Toronto Fox unable to get radio or radar contact.

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Hq 32d AD(D) OOT Subject: Report of Naval/Marine Corps Participation
in Air Defense RCS: EADF-T1 (Cont'd)

Broke off mission due to fuel status.

c. Mission conducted by Station P-10.

- (1) 16 March 1954
- (2) 58th FIS Toronto Fox
- (3) 2 F94C 1 DER Picket Vessel
- (4) Passing of Control
- (5) N/A
- (6) P-10's only participation was furnishing aircraft and relaying to adjacent station which passed control to the picket vessel.

d. Mission conduction by station P-10.

- (1) 17 March 1954
- (2) 58th FIS Toronto Fox
- (3) 2 F94C 1 DER Picket Vessel
- (4) Practic Intercepts
- (5) Unknown
- (6) Picket vessel had control of aircraft for one (1) hour.

e. Mission conducted by Station P-10.

- (1) 29 March 1954
- (2) Navy 1280 Quonset Point, Rhode Island
- (3) N/A
- (4) Air Sea Rescue
- (5) N/A
- (6) Station P-10 took control of Navy 1280 and, with assistance from AF 5521, directed the Navy 1280 to

Hq 32d AD(D) OOT Subject: Report of Naval/Marine Corps Participation
in Air Defense RCS: EADF-T1 (Cont'd)

Westover AFB. At time of assistance Navy 1280
was reporting one engine feathered.

f. Mission conducted by Station P-21.

- (1) 28 March 1954
- (2) VF-851
- (3) 1 P4U
- (4) Practice Steers
- (5) N/A
- (6) VF-851 was under control of Station P-21 for
38 minutes.

g. Mission conducted by Station P-13.

- (1) This unit and US Navy units located on the Brun-
swick Naval Air Stations continued to conduct
operations of mutual benefit. Such operations
include communication and electronic checks, navi-
gational practice, operations planning and air
defense indoctrination discussions.

FOR THE COMMANDER:

FREDERICK E. YORK
Major, USAF
Adjutant

C O P Y

HEADQUARTERS
32D AIR DIVISION (DEFENSE)
Syracuse Air Force Station, Eastwood Station 6
Syracuse, New York

OOT-A

10 May 1954

SUBJECT: Report of Naval/Marine Corps Participation in Air Defense
Training RCS: EADF T-1

TO: Commander
Eastern Air Defense Force
Stewart Air Force Base
Newburgh, New York

1. In compliance with Joint Agreement, Headquarters Eastern
Sea Frontier and Headquarters Eastern Air Defense Force for the
training of Navy and Marine Corps Units in Air Defense of the Eastern
United States dated 12 December 1951, the following report is sub-
mitted for the month of April 1954:

a. Mission conducted by station F-21.

- (1) 22 April 54
- (2) F-21 VF 851
- (3) 2 TBM's
- (4) GCI Letdown
- (5) N/A
- (6) Under control 12 minutes

b. Mission conducted by station F-21

- (1) 24 April 54
- (2) F-21 VF 852
- (3) 12 TBM's
- (4) Practice Intercepts
- (5) None
- (6) Under control 1:10

c. Mission conducted by station F-21

- (1) 24 April 1954
- (2) F-21 VMF 441
- (3) 10 F-8-F's
- (4) Practice Intercepts
- (5) None
- (6) Under control 0:38

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HQ 32D AD (D) OOT-A SUBJ: Rpt of Naval/Marine Corps Participation
in Air Defense Tng (Contd)

d. Mission conducted by station P-13

(1) Unit assumed primary control for picket vessel
station four for a period of four hours, 31 minutes
due to communications difficulties at P-10. One
track was passed by the picket vessel and one flight
plan was passed to the picket vessel.

2. Negative report is submitted for the remaining units of
this air division.

FOR THE COMMANDER:

FREDERICK E. YORK
Lt Colonel, USAF
Adjutant

C O P Y

HEADQUARTERS
32D AIR DIVISION (DEFENSE)
Syracuse Air Force Station, Eastwood Station 6
Syracuse, New York

OOT-A

7 Jun 1954

SUBJECT: Report of Navy/Marine Corps Participation in Air Defense
RCS: EADF -T1

TO: Commander
Eastern Air Defense Force
Stewart Air Force Base
Newburgh, New York

1. In compliance with Joint Agreement, Headquarters Eastern Sea Frontier and Headquarters Eastern Air Defense Force for the training of Navy and Marine Corps units in the Air Defense of the Eastern United States dated 12 December 1951, the following is submitted as of 31 May 1954.

a. Mission conducted by Station P-21.

- (1) 1 May 1954
- (2) VMF 441
- (3) 10 F44's
- (4) Practice Intercepts
- (5) Two (2) intercepts completed
- (6) P-21 had control of aircraft for 1 hour and 34 minutes.

b. Mission conducted by Station P-21.

- (1) 2 May 1954
- (2) VMF 441
- (3) 5 F44's
- (4) Practice Intercepts
- (5) Three (3) intercepts completed
- (6) P-21 had control of aircraft for 1 hour.

c. Mission conducted by Station P-21.

- (1) 15 May 1954
- (2) VF 852
- (3) 2 F 44's
- (4) Practice Intercepts
- (5) Two (2) intercepts completed
- (6) P-21 had control of aircraft for 30 minutes

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Hq 32D AD(D) Subject: Navy/Marine Corps Participation in Air Defense
RCS: EADF -T1 Contd

d. Mission conducted by Station P-21

- (1) 17 May 1954
- (2) VMF 441
- (3) 2 F 44's
- (4) Practice Intercepts
- (5) Two (2) intercepts completed
- (6) P-21 had control of aircraft for 1 hour and 2 minutes.

e. Mission Conducted by Station P-21.

- (1) 28 May 1954
- (2) AAU 852
- (3) 10 TBM's
- (4) Practice Intercepts
- (5) Sixteen (16) intercepts completed
- (6) P-21 had control of aircraft for 4 hours and 15 minutes.

f. Mission conducted by Station P-13.

(1) This unit and U.S. Navy units located on the Brunswick Naval Air Station continued to conduct operations of mutual benefit. Such operations include communication and electronic checks, navigational practice, operations planning and air defense indoctrination discussions.

2. Negative report submitted for remaining units this Air Division.

FOR THE COMMANDER:

FREDERICK E. YORK
Lt Colonel, USAF
Adjutant

C O P Y

HEADQUARTERS
32D AIR DIVISION (DEFENSE)
Syracuse Air Force Station, Eastwood Station 6
Syracuse, New York

OOT-A

7 Jul 1954

SUBJECT: Report of Navy/Marine Corps Participation in Air Defense
RCS: EADF-TI

TO: Commander
Eastern Air Defense Force
Stewart Air Force Base
Newburgh, New York

1. In compliance with Joint Agreement, Headquarters Eastern Sea Frontier and Headquarters Eastern Air Defense Force for the training of Navy and Marine Corps units in the Air Defense of the Eastern United States dated 12 December 1951, the following is submitted as of 30 June 1954.

- A. Mission conducted by 437th Fighter Interceptor Squadron
 - (1) 29 June 1954
 - (2) 437th FIS and PV Toronto Fox
 - (3) 2 F94C's; one DER picket vessel
 - (4) Passing control for purpose of practice intercepts
 - (5) None: Weather conditions
 - (6) Picket vessel had control of aircraft for 45 minutes.
- B. Mission conducted by station P-21
 - (1) 5 June 1954
 - (2) WGF 441
 - (3) 4 F4U's
 - (4) Practice intercepts
 - (5) One (1) intercept completed
 - (6) P-21 had control of aircraft for 40 minutes.

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Hq 32d AD(D) OOT-A Subj: Report of Navy/Marine Corps Participation in
Air Defense RCS: EADF-Tl Contd...

C. Mission conducted by station P-21

- (1) 6 June 1954
- (2) VMF 441
- (3) 4 F4U's
- (4) Practice intercepts
- (5) Two (2) intercepts completed
- (6) P-21 had control of aircraft for 1 hour.

D. Mission conducted by station P-21

- (1) 6 June 1954
- (2) VF 851
- (3) 3 PV2's
- (4) Practice intercepts
- (5) Four (4) intercepts completed
- (6) P-21 had control of aircraft for 2 hours and 5 minutes.

E. Mission conducted by station P-21

- (1) 13 June 1954
- (2) VMF 441
- (3) 6 F4U's
- (4) Practice intercepts
- (5) Five (5) intercepts completed
- (6) P-21 had control of aircraft for 1 hour and 25 minutes.

F. Mission conducted by station P-21

- (1) 19 June 1954
- (2) VF 852

Hq 3ED AD(D) OOT-A Subj: Rpt of Navy/Marine Corps Participation in
Air Defense (CS: EADP-TI Contd...

- (3) 2 F4U's
- (4) Practice intercepts
- (5) Two (2) intercepts completed
- (6) P-21 had control of aircraft for one hour

G. Mission conducted by station P-10

- (1) 3 June 1954
- (2) 437th FIS and PV Toronto Fox
- (3) 2 F94C's and DER picket vessel
- (4) Passing control for purpose of practice intercepts
- (5) None
- (6) Picket vessel had control of aircraft for 40 minutes.

H. Mission conducted by station P-10

- (1) 29 June 1954
- (2) 437th FIS and PV Toronto Fox
- (3) 2 F94C's and DER picket vessel
- (4) Passing control for purpose of practice intercepts
- (5) Six (6) intercepts completed
- (6) Picket vessel had control of aircraft for 40 minutes

I. Mission conducted by station P-13

(1) During this reporting period a Naval Reserve Aviation Anti-Submarine Squadron VS-832 from Floyd Bennett NAS was aboard Naval Air Station, Brunswick, for two weeks "Annual cruise". Supervisory personnel from the 654th AC&W Squadron visited VS-832, "Shawl", for indoctrination and discussion on Air Defense procedures. During this period, 13 June 1954 to 27 June 1954, this unit gave electronic, communication and practice navigational assistance involving approximately fourteen (14) man hours.

Hq 32D AD(D) OOT-A Subj: Rpt of Navy/Marine Corps Participation in
Air Defense RCS: EADF-TL Contd...

J. Mission conducted by station P-13

(1) This unit and U.S. Navy units permanently located on the Brunswick Naval Air Station continued to conduct operations of mutual benefit. Such operations include communications and electronic checks, navigational practice, operations planning and air defense indoctrination discussions.

2. Negative report submitted for remaining units this Air Division.

FOR THE COMMANDER:

HENRY R. BROWN
Major, USAF
Adjutant

C O P Y

SECRET

HEADQUARTERS
32D AIR DIVISION (DEFENSE)
Hancock Field, Eastwood Station 6
Syracuse, New York

23 June 1953

SUBJECT: EADF Picket Vessel Conference 13 June - 22 June 1953.

TO: Deputy for Operations
32d Air Division (Defense)
Hancock Field, Eastwood Station 6
Syracuse, New York

1. The basic purpose of this conference was not known nor was it divulged in early sessions beginning 14 June when principles met at Headquarters, Eastern Air Defense Force, Newburgh, New York. The following officers convened in the office of Colonel McColpin, Deputy for Operations, EADF at 1400 hours, 14 June 1953:

Lt Col Price	Headquarters ADC	- Operations & Training
Lt Col Cheevers	Headquarters ADC	- Plans and Requirements
Lt Col Armstrong	Headquarters EADF	- Operations & Training
Commander Fisher	Navy Liaison at EADF	
Maj Baldwin	Headquarters ADC	- Communications & Electronics
Maj Sestokas	Headquarters EADF	- Operations & Training
Maj Sabuto	Headquarters EADF	- Communications & Electronics
Capt Rupprecht	Headquarters 26th AD	- Operations
Capt Stees	Headquarters EADF	- Communications & Electronics
Capt Healey	Headquarters 32nd AD	- Operations

Colonel McColpin conducted the meeting and was attended by Colonel Eagleston. Major General Nelson made a brief appearance and met the visiting officers.

2. Colonel McColpin made it known that at the present time the Navy (Eastern Sea Frontier), had not as yet notified the Air Force, EADF of specific facilities and arrangements available to the Navy which would allow the Air Force to determine their acceptability in a joint Air Force - Navy effective Picket Vessel (hereinafter referred to as PV) program. Colonel McColpin outlined considerable background leading up to the present PV picture. He concluded that when the Navy would offer their plan with detailed equipment, frequencies to be used, and operational procedures which the Navy could accommodate, then EADF would be in a position to evaluate said prospectus and accept or reject as the case may be. Up to the present time the Navy has not presented any organized program to EADF.

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Hq 32d Air Div (Def) Subject: EADF Picket Vessel Conference 13 June -
22 June 1953.

b. It was brought out at this meeting that the Defense Department had requested a report to be made on the PV program in May 1953. This report was submitted to the Director of the Joint Air Defense Board on 21 May 1953. Commander Busby of the Defense Department made this report which put the Air Force in an unfavorable light, in some respects. This report was not submitted to those present at this time.

2. On Tuesday, 16 June 1953 at 1030 hours, the aforementioned officers attended a conference at Eastern Sea Frontier, 90 Church Street, New York, New York with the following Navy representatives:

Captain Rowley	Chief of Staff for Air
Captain Crosley	Staff Communications
Lt Commander McGovern	Naval Air Defense Representative
Lt Armstrong	Navy Liaison for 32d Air Division (Def)
Lt Shay	Navy Liaison for 26th Air Division (Def)

a. Captain Rowley conducted this meeting which was devoted mainly to long-range planning in matters affecting the defense of the United States. In regard to the questions to be answered relative to our visit, very little information was received at this meeting. In the main it was agreed that the present PV program was in a testing period and the most pressing need was for additional frequencies for communications between ship-and-shore stations. At present the Navy has 12 frequencies assigned for the PV program of which 4 are useable. These frequencies have been loaned to the Navy and are not considered adequate in either quality or quantity.

b. It was gathered from Captain Rowley and his staff that if there were any discrepancies or bottlenecks existing in the PV program it existed in a higher command echelon, rather than the Eastern Sea Frontier-EADF level.

c. Captain Crosley stated that when the Navy accepted responsibility for the communications part of this joint effort it was assumed that CW (continuous wave) would be utilized and not voice. It is my belief that this is one of the basic reasons why the PV program has not progressed as well as expected. In this respect it should be noted that the Air Force has no trained personnel in CW technique at GCI sites, whereas CW is the primary communications mode for the Navy.

d. When additional frequencies become available, the Navy plans to utilize 3 PV's on stations simultaneously. At present the Chief of Naval operations has ordered only one DER (Destroyer Radar) type vessel

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Hq 32d Air Div (Def) Subject: EADF Picket Vessel Conference 13 June - 22 June 1953.

to be on one of 4 stations. There are in existence 6 stations, 4 of which have been regular posts since the beginning of the program.

At 1300 hours the meeting was adjourned.

3. On Wednesday, 24 June 1953 at 1300 hours a meeting took place at Beavertail, a small island adjacent to Quonset, Rhode Island. Beavertail is a radio site for ship-to-shore communications - monitoring and relaying to Air Force ADDCs.

a. Lt Commander Adair was in charge of this site in the absence of Commander Walsh. Commander Adair and his staff conducted the Air Force contingent on a tour of the site following which we had a two hour period for discussion on PV operations.

b. It was learned that thirty one Navy controllers had processed through P-10 (North Truro, Mass) site on a two day familiarization program. It was further learned that there had been no Air Force Controllers out on ships for purposes of familiarization with Navy procedures. Lt Colonel Price, ADC Headquarters, took note of this condition. In this respect it was later learned at P-10 that the Navy had decided to wait until their ship was on station #4 before having the Air Force Controllers at P-10 take a tour on board. This information was given by Captain Walker, executive officer at P-10.

c. It was pointed out that there is no set procedure for sending information via the existing communication facilities. There are two methods of relaying information - (1) radio teletype, used for administrative purposes, flight plans, weather sequence, and (2) high frequency radio (HF) which is the primary telling circuit. It was found that there is little use made of the radio teletype (RTT). RTT is used considerably between ship-and-shore (Beavertail), some of which is purely naval administrative information. In case of HF failure, Beavertail can act as a relay facilities for both shore-to-ship and ship-to-shore using RTT.

d. At this juncture of our tour we were getting the answers to some of the problems confronting the Air Force group. It was quite plain that the Navy believes in RTT and would like this means accepted for the primary reporting net instead of voice.

4. On Thursday, 25 June 1953 at 1130 hours the following Air Force officers boarded the USS OTTERSTETER (DER) at Goat Island:

Lt Colonel Price	Major Baldwin
Lt Colonel Cheevers	Captain Rupprecht
Major Sestokas	Captain Healey

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Hq 32d Air Div (Def) Subject: EADF Picket Vessel Conference 13 June -
22 June 1953.

a. Previous to boarding the vessel this officer was able to read a copy of the previously mentioned report by Commander Busby of the Defense Department. The following excerpts are quoted from this report:

21 May 1953

Subject: Picket Vessels

To: Director, Joint Air Defense Board

.....

6. B. It is felt that teletype should eventually become the primary reporting net instead of voice.

6. C. there is some reluctance on the part of the Air Force to stay within frequency tolerance. Even though the Air Force will check their radio transmitter, their enthusiasm wanes after midnight or during mid-watch.

9. 55 contacts were made by Navy PV only 5 flight plans received and 2 processed.

11. Time in passing tracks 3 to 4 tracks per minute - voice. 6 to 10 tracks per minute - teletype, very easily.

.....*approximately 1 to 1½ minutes lapsed time between direction and track received at GCI site*.

b. The USS OTTERSTETTER proceeded to station #2 which is approximately 130 miles due south of Nantucket.

On Friday morning, 26 June 1953 we observed the passage of control of aircraft stationed at Otis AFB to the ship. This mission was observed in the CIC (Combat Information Center) which is outlined in the attached sketch, inclosure #1.

c. To be brief the operation was not very successful. UHF trouble developed aboard the vessel. Only one of ten scopes had a Mark X (IFF) receiver attachment, this being the scope utilized by the controller.

* This statement is considered highly questionable in the opinion of this writer. There is considerable time used in determining whether or not track is an aircraft or surface vessel.- Further, two sources of filtering take place before IP (initial plot) is considered reportable.

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Hq 32d Air Div (Def) Subject: EADF Picket Vessel Conference 13 June - 22 June 1953.

This meant that the regular air-search scope operator whose duty was to detect, could not inform the CIC plotting board of the fighter aircraft position. Further, the controller whose responsibility was Combat Information Officer in charge of the room, found it difficult to correlate the unknown or bogie track (in this case a B-29 out of Griffiss AFB) with the fighter tracks. After some 40 minutes of trying to establish radio contact with the aircraft which were in the area, the ship radio personnel finally accomplished it with average to good results.

This performance indicated that the Navy has the facilities and the ability to become an effective part of the radar and control net, but at this time they lack training experience and proper technique.

d. On the same day at noon the Air Force officers transferred at sea to the USS FESSENDEN (DER) and observed the same plan of passing control of fighter aircraft from P-45 to the ship at sea. The same problems and results were obtained aboard the second vessel. Some differences in procedures aboard the two vessels were observed.

5. Comments.

a. The following are submitted for your consideration:

- (1) There should be three ships on stations simultaneously for practice in passing control of aircraft as well as working together as a team.
- (2) Air Force - Navy exchange program should be implemented at the earliest moment for a minimum tour of one week.
- (3) Re-evaluation of the existing joint SOP's based on the experience gained since the beginning of the program.
- (4) Stress low-level attack tactics for seaward approach of hostile aircraft - consideration should be given to the launching of guided missiles from submarines.
- (5) In joint exercises, a need for conferences before and critiques afterward between the two services. Despatches sometimes are not adequate in detail and letters are slow in getting to all interested parties.
- (6) PVs should be stationed on or near present corridors, wherever they may be.
- (7) Daily air-to-ship radio checks, if possible.
- (8) Navy telephones should be the chest-type to free the hands. It was noticed the controller had a hand set which greatly hampered his work.

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Hq 32d Air Div (Def) Subject: EADF Picket Vessel Conference 13 June - 22 June 1953.

- (9) The Navy should use the VPB (Vertical Plotting Board) in the Combat Information Center. (We were told it was not used in most instances.)

b. In a joint critique after the mission it was felt by all members of the group that much had been gained to help find the answers to the problem. After returning to Quonset on Saturday morning, 20 June 1953 a conference was held aboard ship with Commodore Abhau, PV Squadron Commander. Commodore Abhau was a little surprised to hear there were differences in procedures aboard the two vessels. He did, however, join us in the feeling that much could be accomplished with a closer inter-service relationship.

This officer believes the reason for this PV conference was mainly due to the Defense Department report which was mentioned earlier in this report, copies of which were received at ADC.

One important question to be answered is exactly how should fighter aircraft be passed to the PV with the two existing methods available - RTT or HF - from ground controller to ship controller. There is some reluctance on the part of the Navy to receive control when their air-ground radio reception is marginal and, of course, the pilot is meanwhile out over the sea sweating-out a fuel problem. The method of passing control was brought up in the Defense department letter as well as in each meeting held with the Navy.

A brief session was held with the pilots who participated in the Friday mission. The one word description of the entire performance was "lousy", as quoted from Captain McDonald of the 437th FIS. Major Gaines and Captain Beatty of Otis AFB were also queried with similar results.

In each meeting with the Navy PV representatives the Air Force group made an extended effort to create good will. It was felt that much was accomplished along this line, as well as factual study.

The PV program as it is in existence at this time should be judged, not from its performance based on an operational plan, but rather with the knowledge that it is in a testing period in which many "bugs" are known to exist. These "bugs" can be and will be ironed out.

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Hq 32d Air Div (Def) Subject: EADF Picket Vessel Conference 13 June -
22 June 1953

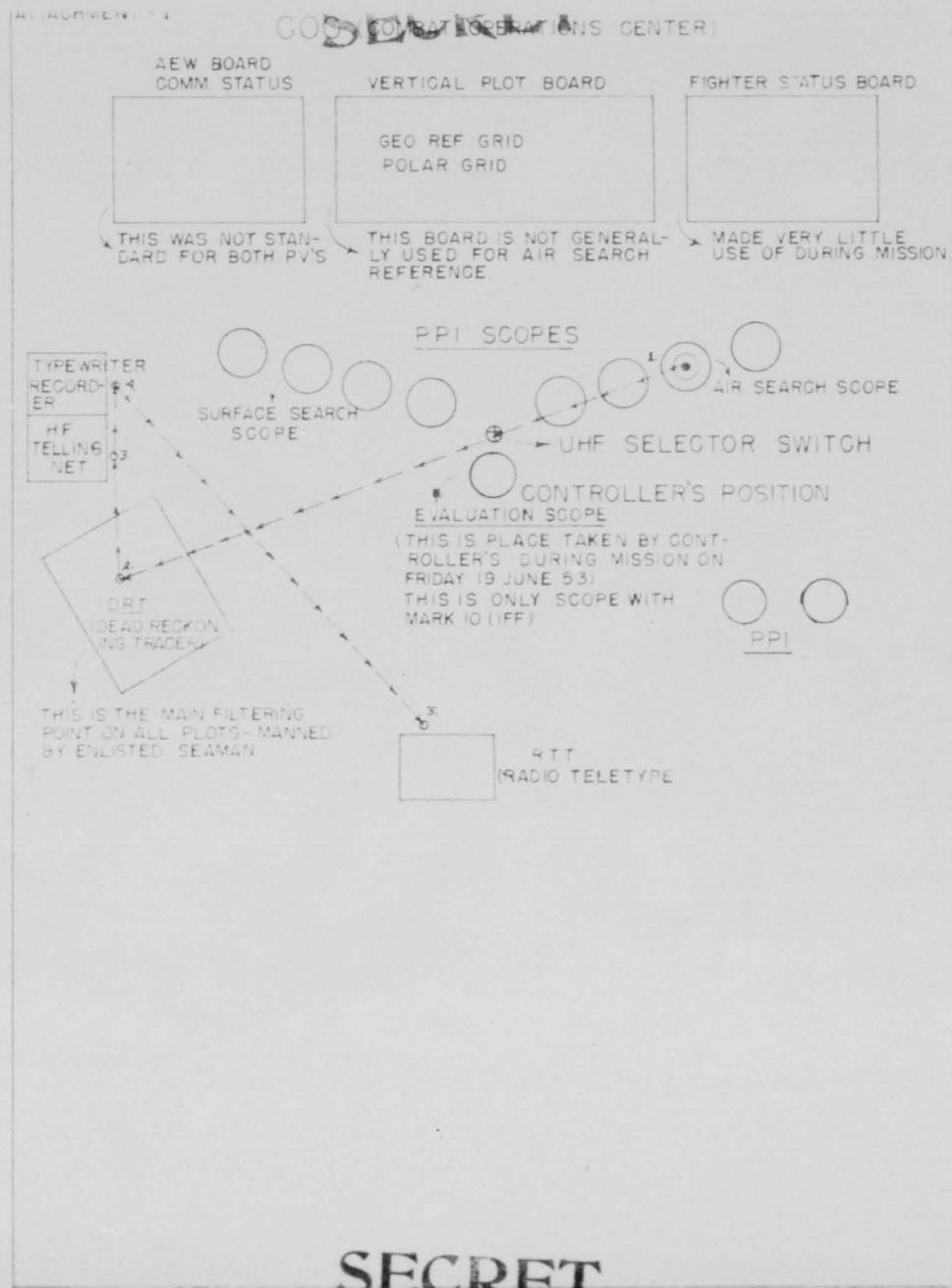
In the meantime it is hoped that the higher echelons will not compromise the splendid effort being made by the men in the field. Much is being done to bring about closer cooperation but a great deal can be lost interservice-wise by misunderstanding the problem at hand.

s/t/ WILLIAM J. HEALEY
Captain, USAF
Aircraft Controller

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C O P Y

SECRET
HEADQUARTERS
AIR DEFENSE COMMAND
Ent Air Force Base
Colorado Springs, Colorado

ADOPR

11 Feb 54

SUBJECT: (UNCLASSIFIED) Requirement for Seaward Extension of Contiguous Radar Coverage (1954-1956)

TO: Commander
Eastern Air Defense Force
Stewart Air Force Base
Newburgh, New York

1. Reference letter this Headquarters, subject: (UNCLASSIFIED) "A Memorandum of Agreement Concerning Contiguous Radar Coverage and the Seaward Extension of the Early Warning System," 25 January 1954.
2. Section II-c. of above-referenced agreement states that the extension to seaward of contiguous radar coverage of the continental air defense system will operate under the direction of Commander, Air Defense Command. Naval forces for the contiguous extension will be allocated by and operated under the command of appropriate Navy commanders. Operational procedures for Naval forces operating on station in the system will be as prescribed by the Commander, Air Defense Command, after consultation with appropriate Navy Commanders.
3. The Air Defense Command requirement for ten (10) picket vessel stations is contained in letter, Headquarters Continental Air Command to Vice Chief of Staff, Headquarters USAF, GCOPR 381, subject: "Radar Picket Utilization in Air Defense," 13 December 1950 (Inclosure #1). Approximate locations and a recommended priority list for operation of picket vessel stations is shown in Inclosure #2.
4. The on station operation of picket vessels, as an extension of the contiguous cover, should be similar to that of a land based station. It is desired that picket vessels assigned to these stations have operational capability comparable to present Air Defense Command Direction Centers.
5. Ship to shore communication requirements for air defense purposes have been established as a minimum of two day and two night frequencies for each picket vessel station. Upon completion of communication tests now being conducted in conjunction with the Navy, a determination will be made as to the method of ship to shore communication.

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ADOPR Subj: (UNCL) Requirement for Seaward Extension of Contiguous Radar Coverage (1954-1956)

6. It is desired that you take the following action:

a. Request Command, Eastern Sea Frontier, to supply picket vessels as soon as possible in accordance with Memorandum Agreement referenced in paragraph 1.

b. Supply Commander, Eastern Sea Frontier a station list showing approximate locations and the desired priority of providing picket vessels for the extension of contiguous cover.

c. Develop, in consultation with the Commander of Eastern Sea Frontier, a tentative operational procedure to be used for employing picket vessels and submit to this headquarters for approval.

BY ORDER OF THE COMMANDER:

2 Incls

1. Ltr, Hq ComAC, GCOPR 381
subj, Radar Picket
Utilization in Air Def,
13 Dec 50 (dup)
2. Aprx Loc of Picket
Vessel Stations (dup)

t/ LEWIS E. SMITH
Captain, USAF
Asst Command Adj

C O P Y

SECRET
HEADQUARTERS
EASTERN AIR DEFENSE FORCE
Stewart Air Force Base, Newburgh, N.Y.

EAOPM

25 Mar 54

SUBJECT: (Unclassified) Seaward Extension of Contiguous Radar Coverage

TO: Commander
Eastern Sea Frontier
90 Church Street
New York 7, New York

1. Reference is made to the Memorandum of Agreement between the Chief of Naval Operations and the Chief of Staff, United States Air Force, a copy of which is attached as Inclosure #1.

2. In view of policies outlined in referenced agreement, it appears advisable to restate our requirements and make reference to certain planning factors and operating directives pertaining to the accomplishment of the seaward extension of contiguous radar coverage.

3. Increased protection for industrial and population centers in the Eastern United States through seaward extension of contiguous radar coverage in an urgent requirement for the effective accomplishment of air defense of the United States and must be provided at the earliest practicable date.

4. The use of radar equipped picket vessels to provide seaward extension of contiguous radar coverage requires continuous operation of picket vessels on the six stations previously designated. These stations, listed in priority of desired operation, are:

- (1) 39° 37' N 68°20' W
- (2) 39° 11' N 70°20' W
- (3) 40° 42' N 67°33' W
- (4) 42° 05' N 67°32' W
- (5) 38° 18' N 71°43' W
- (6) 37° 13' N 72°47' W

As a result of past tests, relocation of certain of the picket vessel operating stations is currently under study in this headquarters. Proposals for these relocations will be made at a later date.

5. We feel that the following directives are adequate as basic operating documents for picket vessel operation:

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EAOPM Subject: (Unclassified) Seaward Extension of Contiguous Radar Coverage (Cont'd)

a. "Standard Operating Procedures for Radar Picket Vessels", Headquarters EADF, 9 June 1952.

b. EADF Regulation 55-27, Subject: "Operations, Picket Vessel Procedures", 12 January 1954, (Confidential).

c. Communications Operating Instructions, ADDC and EW Letter Identifiers, Headquarters EADF, 2 July 1953, (Secret).

d. Communications Operating Instructions, Picket Vessel HF Communications, Headquarters EADF, 12 August 1953, (Confidential).

6. An estimate of availability of naval forces to accomplish the necessary seaward extension of contiguous radar coverage in your area of responsibility is requested.

FOR THE COMMANDER:

1 Incl
Memo of Agreement

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Hq ADC ADOFR Subject: (Unclassified) Requirement for Seaward Extension of Contiguous Radar Coverage (1954-1956)

EAOPM (11 Feb 54) 1st Ind 25 Mar 54

HQ EASTERN AIR DEFENSE FORCE, Stewart Air Force Base, Newburgh, New York

TO: Commander, Air Defense Command, Ent Air Force Base, Colorado Springs, Colorado

1. As requested in paragraph 6, basic letter, the attached letter, listed as Inclosure #3, has been addressed to the Commander, Eastern Sea Frontier.

2. Publications, correspondence and directives relating to the operation of radar equipped picket vessels are attached in response to requirement noted in paragraph 6c, basic letter.

3. A copy of the reply to the letter addressed to Commander, Eastern Sea Frontier, will be forwarded to your headquarters when available.

FOR THE COMMANDER:

7 Incls

Added 5 Incls

3. Ltr Hq EADF, EAOPM,
Subj: Seaward Ext of
Contiguous Radar Coverage
4. EADF SOP for Radar Picket
Vessels, 9 Jun 52 (S)
5. EADFR 55-27, Oprs, Picket Vessel
Procedures, 12 Jan 54, (C)
6. Comms Opr Instrs, ADCC and EW
Ltr Identifiers, Hq EADF,
2 Jul 53 (S)
7. Comms Opr Instrs, Picket Vessel
HF Comms, Hq EADF, 12 Aug 53 (C)

C O P Y

CONFIDENTIAL

Air Defense Capabilities of Atlantic
Fleet Destroyers and Submarines

EAOPM

EAOOT

24 Jun 54

1. At present, there are approximately 190 destroyer type ships under the command of ComDesLant. Of these destroyers, there are 6 radar picket escort vessels (DERs) and 24 radar picket destroyers (DDRs) that have radar air search and aircraft control capabilities. The DERs are presently utilized as picket vessels and the DIRs have capabilities similar to the DERs and could be utilized as picket vessels on station in the event of an emergency. The 160 remaining destroyer type ships have a limited radar search capability and could not fulfill the mission of a picket vessel on station.

2. The mission of the picket vessel as prescribed by Commander, Eastern Sea Frontier, is "to provide a distant means to detect, report and track airborne targets by overseas paths and to control available aircraft to intercept and identify such targets and destroy those determined to be hostile". Those destroyer type ships that do not have an adequate radar search and aircraft control capability cannot fulfill the mission of picket vessel and, therefore, should not be considered as having an air defense capability as a picket vessel. It is my understanding that in the early planning for the utilization of these Navy forces that any destroyer could be assigned as a picket vessel on station and as a result ADC publications relative to picket vessel operations have been distributed to the destroyer command so that all Atlantic Fleet destroyers have a complete file. Specifically, ComDesLant received 276 copies of all publications relative to the operation of picket vessels. Inasmuch as the majority of the destroyer type ships cannot fulfill the mission of a picket vessel, it is obvious that much distribution of publications is wasted.

3. Recommendations. a. It is recommended that your directorate evaluate the destroyer situation and determine whether or not the destroyers without full picket vessel capability should continue to be considered as having an air defense capability.

b. It is recommended that a study be conducted to determine if the destroyers that do not have a picket vessel capability could be utilized as a possible low level surveillance screen located seaward from the present picket vessel and AEW line.

c. It is recommended that distribution of ADC publications to ComDesLant relative to picket vessels be reduced to cover only the 6 DERs and 24 DDrs.

4. There are 6 Radar Picket Submarines (SSRs) under the command of ComSubLant which to my knowledge have not been evaluated for integration into the air defense system in event of an emergency. Their mission is

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CONFIDENTIAL

AD Capabilities of Atlantic Fleet Destroyers
and Submarines (Cont'd)

"to extend the force radar and air control range - - -" and two of their designed tasks are 1. "To detect and give early warning of enemy aircraft - - -" and 2. "To act as a control center for interceptors - - -", thus the SSR could well serve as a picket vessel. It is felt, however, that their utilization could best be used as early warning surveillance seaward of our present PV-AEW line. It is recommended that a study be conducted to determine whether the SSRs have an air defense capability and how it can best be used.

t/ FISCHER

t/ OLDS

CONFIDENTIAL

0303

C O P Y

HEADQUARTERS
 COMMANDER EASTERN SEA FRONTIER
 90 CHURCH STREET
 NEW YORK 7, N.Y.

FF15-3:52:hmn
 N
 Ser 0065

12 Apr 54

From: Commander Eastern Sea Frontier
 To: Commander Eastern Air Defense Force

Subj: Seaward extension of contiguous radar coverage

Ref: (a) Comdr EADF sec ltr EAOPM of 25 Mar 1954

1. Reference (a) requested an estimate of availability of naval forces to accomplish the necessary seaward extension of contiguous radar coverage in Commander Eastern Sea Frontier area of responsibility.

2. Accordingly, the following information is submitted:

a. The program information on Liberty conversions (YAG's) and blimps refers to the procurement program. The schedule for effective units becoming available to join the contiguous coverage system is as follows: (numbers are cumulative)

	<u>July 55</u>	<u>July 56</u>	<u>July 57</u>	<u>July 58</u>	<u>July 59</u>
YAG's	4	8	12	16	16
Blimps		2*	4	6	8

*It now appears that the first two blimps will be delayed until December 1956.

b. Present plans call for the first eight YAG's and first four blimps to be assigned to duty in the Atlantic approaches. It is also contemplated that the DER now under operational control of Commander Eastern Sea Frontier would remain in their present assignment until YAG's, to maintain six stations, are assigned for duty in the Atlantic system.

s/t/ C. C. CROSELY
 Chief of Staff

SECRET

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0304

Hq ESF Ser 0065 Subject: Seaward Extension of Contiguous Radar
Coverage

EAOPM (12 Apr 54)

1st Ind

27 Apr 54

HQ EASTERN AIR DEFENSE FORCE, Stewart Air Force Base, Newburgh, New York

TO: Commander, Eastern Sea Frontier, 90 Church Street, New York 7, N.Y.

1. Reference:

a. Ltr Hq EADF, EAOPM, subject as above, 25 Mar 54 (Secret)

2. In order to supplement program data contained in your basic letter, information is requested as to the estimated date each of the stations listed in paragraph 4 of reference a. will be manned for continuous operations.

FOR THE COMMANDER:

t/ JAMES R. WORLINE
Captain, USAF
Asst Adjutant

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C O P Y

HEADQUARTERS
COMMANDER EASTERN SEA FRONTIER
50 Church Street
New York 7, New York

FF15-3:521;314
N
Ser 0078

29 Apr 54

From: Commander Eastern Sea Frontier
To: Commander Eastern Air Defense Force

Subj: Seaward extension of contiguous radar coverage

Ref: (a) Comdr EADF sec ltr ser EAOPM of 25 Mar 1954
(b) Comdr EADF sec ltr and ser EAOPM of 27 Apr 1954

Encl: (1) Original copy of ComEastSeaFron sec ltr ser 0065 of 12 Apr 1954

1. In reply to reference (a), enclosure (1) provided the only present information as to the schedule of availability for units which will join the contiguous coverage system. Reference (b) requested information as to the estimated date of manning, for continuous operation, of each of the stations listed in paragraph 4 of reference (a).

2. It is contemplated that four of the converted liberty ships (YAGs) will be required to maintain three ships on station. Therefore, if the schedule outlined in enclosure (1) is maintained and one DER continues to be assigned to station, ships will then be available to man stations as follows:

subsequent to July 1955, four stations
subsequent to July 1956, six stations

3. The information presently available does not permit an accurate estimate as to when specific stations can be manned. The availability of vessels is outlined in paragraph 2 above; however, the assignment to the contiguous system of the vessels eventually becoming available will be as directed by the Joint Chiefs of Staff. It is understood that there is now under joint consideration a definition of the degree of readiness which the various elements of continental defense will maintain under certain conditions. This information will be forwarded as soon as Commander Eastern Sea Frontier is advised accordingly.

s/t/ P. C. CROSLY
Chief of Staff

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Briefing at Eastern Sea Frontier, 14 December 1953

EAODO

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16 Dec 53

Captain Leverston USN of CNO gave an informal briefing to the Staff of Eastern Sea Frontier regarding the role the Navy will play in air defense. He stated that the items covered in his briefing were plans generally agreed upon by the Joint Chiefs of Staff and should be formally approved in the near future. Several points of interest were covered:

1. The full picket vessel line would be implemented primarily by converted Liberty ships. Four Liberty ships are expected to be available within a year and a half with four more to follow within six months. Captain Leverston stated that although the Liberty Picket vessel would be manned by the navy, they would for all practical purposes be turned over to the air force for operation. (This statement is considered revolutionary with special significance for EADF). The Liberty picket vessel will remain in station three weeks and will require only 4 ships to man 3 stations. Each ship will have two crews aboard and one ashore.

2. The air force AEW&C program will be implemented as planned. In addition, the navy plans to utilize new type blimps to lengthen the surveillance line southward to/or past the Virginia Capes.

3. After the picket vessel line has been brought up to strength the navy will implement gradually an early warning line or barrier of picket vessels and AEW aircraft from Argonia, Newfoundland, toward the Azores. Later a similar barrier will be implemented from Kodiak Alaska toward the Hawaiian Islands. An EW line across Canada roughly at the 55th parallel will connect the two navy barriers.

4. The above items were presented as general plans before the JCS for approval and are not to be considered as completely accurate or official.

t/ FISCHER

t/ OLDS

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C O P Y

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HQ EADF STEWART AFB NEWBURGH NY

PRIORITY

COMDR ADC ENT AFB COLO SPRINGS COLO
ATTN: MAJ GORDON

EAOPM C 419 . Ref tp conversation Maj Gordon, ADC, and S/L Ockenden, this hq, on 21 Apr 54. Folg ltr recd fr Eastern Sea Frontier in answer to EADF ltr, Subj: "Seaward Extension of Contiguous Radar", dtd 24 Mar 54: Par 1. Ref (a) reqd an est of aval of naval forces to accomplish the nec seaward extension of contiguous radar coverage in Comdr Eastern Sea Frontier area of resp. Par 2. Accordingly, the folg info is sbmd: 2. The program info on Liberty conversions (YAG's) and blimps refers to the proc program. The scd for eff units becoming aval to join the contiguous coverage system is as fol: (nos are cumulative)

	<u>July 55</u>	<u>July 56</u>	<u>July 57</u>	<u>July 58</u>	<u>July 59</u>
YAG's	4	8	12	16	16
Blimps		2*	4	6	8

*It now appears that the first two blimps w/b delayed until Dec 56.
b. Pres plans call for the first eight YAG's and first four blimps to be asgd to dy in the Atlantic approaches. It is also contemplated that the DER now under opnl con of Comdr Eastern Sea Frontier would remain in their pres asgmt until YAG's, to maintain six stas, are asgd for dy in the Atlantic sys.

t/ MAJ H. H. WILSON
EAOPM 211710 Apr 54

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C O P Y

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HQ EADF STEWART AFB NEWBURGH NY

ROUTINE

COMDR ADC ENT AFB COLORADO SPRINGS
COLORADO

EAOPM-C 562 . Some controversy has arisen regarding whether our curr rgmt for picket vessel stations on the east coast is 5 or 6. We are fwdg to you by separate ltr a list of refs which establish our rgmt as being 6 stations and have planned and operated on that figure since Dec 1950. Req the folg info fr your hq: a. Do you concur in our present rgmt for 6 picket vessel stations. b. Based on Texas Tower and AEW&C integration, will the rgmt for picket vessel stations be reduced fr now through the 1960 period. If so when and in what number. This info is required in order to coordinate our planning with that of your hq.

t/ MAJ H. H. WILSON
EAOPM 281700 May 54

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C O P Y

SECRET

HEADQUARTERS
EASTERN AIR DEFENSE FORCE
Stewart Air Force Base, Newburgh, N. Y.

EAOPM

8 Jun 1954

SUBJECT: (Unclassified) Picket Ship Requirements

TO: Commander
Air Defense Command
Ent Air Force Base
Colorado Springs, Colorado

1. Reference our message, EAOPM-C 562 (Secret), 28 May 1954, it was noted that a list of references would be furnished Headquarters Air Defense Command establishing six picket ship stations as a requirement existing since 1950. This figure was recently repeated in correspondence with Eastern Sea Frontier. Copies of the ESF letter and related correspondence are attached as inclosures.

2. A list of references pertinent to the establishment and continued use of six picket ship stations as a planning factor to satisfy seaward extension of contiguous radar coverage in the EADF region is submitted as follows:

- a. 10 Oct 50 - Ltr from ¹⁹⁵⁰ConAC to EADF - Subj: "Request for Radar Picket Stations to Supplement Permanent Radar System" - lists requirement for two stations each located offshore New York, Philadelphia, Norfolk, Seattle and San Francisco for a total of six in EADF region.
- b. 25 Oct 50 - Ltr from EADF to ESF - Subj: As in a. above - states requirement for six picket vessel stations, two each offshore New York, Philadelphia and Norfolk.
- c. 10 Nov 50 - Copy letter from ESF to Commander-in-Chief, U.S. Atlantic Fleet, Subj: "Requirement for Picket Ships for Air Defense" - relaying EADF letter and noting requirement for six picket ship stations.
- d. 22 Nov 50 - Ltr from EADF to ConAC - same subject a. and b. above - stating requirement for six picket ship stations with an ultimate number of eight.
- e. 19 Dec 50 - Copy of letter from Commander-in-Chief, U.S. Atlantic Fleet to ESF concurring in requirement for six picket ship stations.

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EAOPM Subject: (Unclassified) Picket Ship Requirements (Contd)

f. 13 Dec 50 - Ltr from ConAC to Vice Chief of Staff, USAF -
Subj: "Radar Picket Vessel Utilization in Air Defense" - Listing require-
ment for two stations each off New York, Philadelphia, Norfolk, Seattle
and San Francisco for a total of six stations in EADF region.

1951

g. 13 Feb 51 - Ltr from EADF to ADC - Subj: "Status of Picket
Vessel Stations" - Paragraph 2 - "EADF has established a requirement for
six Picket Vessel Stations...." Paragraph 6 - "Recommend that every ef-
fort be made to acquire immediate allocation of Radar Picket Vessels to
man stations one through six."

h. July-Dec 51 - ADC Diary - Page 41 - USAF Placed a require-
ment with JCS in 1950 for ten picket vessels, 2 each off New York,
Philadelphia, Norfolk, Seattle, San Francisco, giving six to the EADF
region.

i. 1. July-Dec 51 - ADC Diary Item 22 Jan 51 - "USAF reiterated
request for 10 picket vessels to which Navy stated they could not supply
until 1954. In April 1951 USAF stated Proposed date was entirely in-
adequate and mid 1952 was latest date possible."

j. July-Dec 51 - ADC Diary - Project CHARLES report - Ind from
EADF to ADC - "Use of three Picket Vessels on station off the east
coast inadequate; stations should be farther out to sea than recommended
in project CHARLES and specifically six vessel stations are required with
locations and priorities as listed in this indorsement."

1952

k. 1 Mar 52 - Ltr from EADF to ADC - Subj: "Status of Radar
Picket Vessels" - reiterated EADF request of 13 Feb 51 and requested
information on stated requirement of "Picket Vessels to man six
sea stations."

l. 12 Apr 52 - Ltr from USAF to CNO - Subj: "Request for Radio
Frequencies, Picket Ships" - Paragraph 3 - "six Picket Vessel stations
located as follows....require....frequency allocations."

m. 26 Jun 52 - 1st Ind to ADC Ltr Subj: "Radio Frequencies for
Radar Picket Ships" - from EADF to ADC - "....it is anticipated there will
be sufficient Picket Vessels to man six locations."

n. 23 Dec 52 - ComCortRon 16 Instructions 03120.1A to Escort
Sqdn 16 - Subj: "Picket Vessel Instructions" - Paragraph 3c - "When a
relief ship is due to relieve a vessel on sta 1 and 2, or 3 and 4, or
5 or 6, since these stations are in separate nets...."

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EAOPM Subject: (Unclassified) Picket Ship Requirements (Contd)

1953

o. 2 Feb 53 - Incl #1 to CESF Instruction letter 003320.1 - Subj: "Radar Picket Vessels" distributed to 33 Navy addressees and Commander, EADF and 26th and 32d Air Divisions (Defense) - listed six radar picket vessel stations identified by georef and longitude and latitude coordinates.

p. 8 May 53 - Letter ComCortRon 16 to CESF - Subj: "Proposed Picket Vessel Test" - Paragraph 5, c, 1, "Links the six picket vessel stations with the four respective ADDCs".

q. 27 May 53 - Report to ADC of conference at Beavertail, Jamestown, R.I., between representatives ComCortRon 16, EADF and Beavertail - "to handle six Picket Vessels, radio facilities would have to be doubled....present stations and station priorities assigned after careful consideration of all factors and no advantage to be gained by changing designated stations at this time." (Comdr Abhau, Comdr ComCortRon 16)

r. 10 Jun 53 - Ltr from E/Gen Berquist to E/Gen G.F. Smith - transmitted a copy of report to Director, Joint Air Defense Board, ADC from Lt Comdr Busby, USN - "...it is noted that the six picket ship stations are divided between two Air Divisions...."

s. 1 Jul 53 - Report of Staff Visit to ESF on 16, 17, 18 Jun 53 by Lt Col Price, O&T, ADC; Lt Col Chevers, Req., ADC; Maj Baldwin, Comm, ADC - "Re-evaluation of stations recommended by Comdr Abhau, Comdr ComCortRon 16, indicate change of Station #1 to #4, #2 to #1, #3 to #5, #4 to #3, #5 to #2, #6 to remain same."

t. 16 Oct 53 - EADF COI - "six picket vessel stations assigned frequencies as...."

3. Request your concurrence in our requirement of six stations as noted in above references in order that this number may be a firm and uncontroversial figure at all levels of the Air Defense Command.

4. This letter is classified Secret in accordance with paragraph 23b, AFR 205-1.

FOR THE COMMANDER:

5 Incls:
1. Cy 1st Ind, EAOPM,
EADF, 25 Mar 54

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COPY

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CES16/WCA:ewq
File: P11
Serial: 06
8 January 1954

CONFIDENTIAL

From: Commander Escort Squadron SIXTEEN
to : Commander Eastern Sea Frontier
Via : Commander Destroyer Force, U.S. ATLANTIC FLEET

Subj: Training in control of Air Force Interceptor-Fighter Aircraft
by Escort Squadron SIXTEEN

Ref : (a) OOI 21-1, dated 9 September 1953 (Paragraph 4)

Encl: (1) Procedure for Training in Control of Air Force Interceptor-Fighter Aircraft by Ships of Escort Squadron SIXTEEN when not on Picket Station.
(2) Schedule of Control Ship Assignments, THIRD Quarter Fiscal 1954

1. It has been proposed that a procedure be developed whereby the standby picket, or other ships of this squadron present in the Narragansett Bay Area, can be exercised in the control of Air Force Interceptor-Fighter aircraft. It is intended that this procedure be used to supplement training with the on-station picket vessel, particularly during the winter months when weather conditions render long over-water flights unduly hazardous for training purposes. The feasibility of training under the given conditions has been established by operations conducted by Escort Squadron SIXTEEN and VF-73 during October and November 1953 when VF-73 was based at the Naval Air Station, Quonset Point.

2. This subject was considered by a conference held at the Naval Air Station, Quonset Point, on 7 January 1954. Present were:

COL R. E. DECKER, USAF	EADF Liaison to COMEASTSEAFRON
CDR E. A. FISCHER, USN	Headquarters EADF
MAJ P. A. RAND, USAF	Headquarters EADF
CAPT J. T. TRUESDELL, USAF	Headquarters EADF
LCDR S. A. NYARADY, USN	Staff, COMEASTSEAFRON
LT S. J. SHEA, USN	Staff, COMEASTSEAFRON
MAJ JOHN YAWORSKI, USAF	Headquarters, 26th ADiv
CAPT R. T. ADAMS, USAF	Headquarters, 26th ADiv
CAPT W. F. TRUMBO, USAF	773rd AC&W Squadron
CAPT DAVID E. SMITH, USAF	Headquarters, 32nd AirDiv
CAPT WM J. FAUCHER, USAF	Headquarters, 32nd AirDiv
MAJ G. R. RAUSCH, USAF	Headquarters, 4707th Def Wing
CAPT C. L. RUCKER, USAF	654th AC&W Squadron
CAPT WILLIAM WILL, USAF	762nd AC&W Squadron
CAPT WILLIAM C. ABRAU, USN	COMCORTRON SIXTEEN
LTJG E. B. STEVENS, USN	Staff, COMCORTRON SIXTEEN

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Serial: 06
8 January 1954

LCDR H. G. WYNNE, USN
LTJG R. A. BALDWIN, USN
LTJG B. W. SALEWSKI, USN

CO, USS OTTERSTETTER (DER-244)
USS OTTERSTETTER (DER-244)
USS JOYCE (DER-317)

3. The procedure given in enclosure (1) was agreed upon at this conference. The present intention is to begin this training on or about 12 January 1954. The availability of ships during the current quarter is given in enclosure (2).

4. It is considered that the following principles, upon which this training plan is based, should be made a matter of record.

a. This training is supplementary to training operations with the on-station picket vessel. During warm weather emphasis should be placed on interceptor-fighter operations with the ship on picket station.

b. This training is superimposed on the other commitments, including upkeep requirements, of both the Air Force units and Escort Squadron SIXTEEN. It is realized that either party may find it impossible to conduct the exercise as scheduled because of higher priority commitments.

c. The procedure to be followed should conform to that used with on-station picket vessels as closely as possible; should allow the control ship to be either in port or in the Narragansett Bay Operating Areas; and should be as convenient as possible for the fighter-interceptor squadrons.

5. For exercises with VHF equipped ships, the GCI Common is considered sufficiently clear for use in conducting intercepts. However, the UHF GCI Common has too many users to be satisfactory except for initial contact. The use of 351.00mcs, Fighter/Bomber Liaison, is authorized by reference (a) for air/ground tactical control. It is believed that this is the only authorized channel for this purpose common to all aircraft which may be involved. It is urgently requested that ships of Escort Squadron SIXTEEN be provided with crystals for 351.00 mcs. This need will still exist after the ships are provided with crystals to meet picket station requirements.

t/ W. C. ARHAU

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CONFIDENTIAL
 COMMANDER ESCORT SQUADRON SIXTEEN
 Care of Fleet Post Office
 New York, N. Y.

CES/6/WCA:ewq
 File: P11
 Serial: 0139
 7 August 1954

CONFIDENTIAL

From: Commander Escort Squadron 16
 To : Commander Eastern Sea Frontier

Subj: Training of Escort Squadron 16 in control of Air Force inter-
 ceptor-fighter aircraft

Ref : (a) COMCORTRON 16, Conf. Ltr P11, Serial 06, of 8 January 1954
 (b) EADF Operation Order 2-54, dated 1 February 1954

Encl: (1) Summary of in-port air control exercises, 12 January-31 July 54

1. The first attempts to exercise ships of this squadron in the control of Air Force interceptor-fighter aircraft were made with the ships on picket stations in February 1953. The early efforts were hampered by lack of experience, poor communications, and various misunderstandings. However, by September 1953 the ships were controlling aircraft effectively. Activity during 1953 is summarized as follows:

Total missions including communication checks	51
Number of times control was passed to picket ship	20
Number of intercepts conducted (one active)	29.

2. In reference (a) it was proposed that a procedure be established for exercising these ships in the control of Air Force interceptor-fighter aircraft while in port. This procedure was intended to supplement the training of ships on picket station during periods of cold weather. The plan was approved on 9 January, was put into effect on 12 January and was formalized by reference (b). These in-port air control exercises have been conducted for seven months with the following results.

Total missions	51
Number of times control was passed to picket ship	31
Number of intercepts conducted	99.

3. During 1954, while the in-port training has been in progress, on-station activity has dwindled. Activity during the first seven months of 1954 has been as follows:

Air Force missions	4
Navy fighter aircraft missions	7
Number of times control was passed to picket ship	11
Number of active intercepts conducted	3
Number of training intercepts conducted	6

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File: P11
Serial: 0139
7 August 1954

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4. It is considered that the program for inport training has been successful. As control was exercised closer to the aircraft bases, more time has been available for conducting intercepts than would have been the case if the aircraft had been sent to the on-station pickets. Also, the squadron commander has been able to supervise the training more closely than before. These advantages have been offset by the following disadvantages: it has not been possible to spread the opportunity for training evenly between the various ships of the squadron, and the material readiness of electronic equipment has suffered somewhat from the loss of upkeep time. A detailed summary of the results of in-port air control exercises is given in enclosure (1).
5. Two new circumstances arise in September 1954 which significantly change the situation. First, the continuous manning of two picket stations will greatly reduce the availability of ships for in-port exercises. No ships will be available for such exercises in September, and the future availabilities will be occasional. Second, the new stations to be manned after 7 September are about 40 miles closer to the coast than the present stations. From the new stations it is entirely practicable to conduct training intercepts without taking the interceptor-fighter aircraft outside gliding distance of land.
6. The following action is recommended.
 - a. After 7 September 1954 place primary emphasis on passing training flights to the control of ships on picket stations. In conducting practice intercepts, ships will keep the aircraft within gliding distance of land.
 - b. Discontinue in-port air control exercises as a matter of routine after 27 August 1954.
 - c. Continue reference (b) in effect for use upon special occasions as requested by COMCORTRON 16. Such requests will be made when a ship is available which particularly needs air controller training, and will be for a period of one week.

W. C. ABBAU

Copy to:

COMDR EADP
COMDR 26th AirDiv(Def)
COMDR 32nd AirDiv(Def)
COMDESIANT
COMDESFLOT 6
CORTRON 16

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Summary of In-Port Air Control Exercises
12 January - 31 July 1954

	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>To</u>
Number of Intercepts completed	15	5	21	17	3	10	28	99
Days successful intercepts made	4	3	8	5	1	4	6	31
Days no ship available	0	2	5	6	4	6	4	27
Days no aircraft available	0	3	1	0	3	3	3	13
Days weathered out	6	5	1	4	3	4	2	25
Days equipment failure in ship	1	1	1	0	3	1	3	10
Days equipment failure in aircraft	1	2	0	2	2	0	0	7
Days overloaded UHF circuit	0	0	2	1	0	0	0	3
Total days available for exercise	12	16	18	18	16	18	18	116
Days at least one intercept made, but ship had equipment failure	2	0	1	0	0	1	1	5
aircraft had equipment failure	1	0	0	2	0	1	0	4
	<u>HAR- VEGON</u>	<u>FES- SENDEN</u>	<u>OTTER- SNETTER</u>	<u>JOYCE</u>	<u>KIRK- PATRICK</u>	<u>STRICK- LAND</u>	<u>TOTAL</u>	
Days assigned	25	4	14	26	5	15	89	
Days ship had equipment failure	5	1	2	4	0	3	15	
Percent days with- out failure	80	75	86	85	100	80	83	
Number of inter- cepts completed	11	0	11	46	10	21	99	
Average number of intercepts per day assigned	0.4	0	0.8	1.8	2.0	1.4	1.1	

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Enclosure (1) to CES 16 Conf. Ltr.
Pll, Serial 0139, dated 7 Aug 1954

0317

C O P Y

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COMMANDER ESCORT SQUADRON SIXTEEN
Care of Fleet Post Office
New York, N. Y.

CES16/EBS:ewg
File: P11
Serial: 0136
4 August 1954

CONFIDENTIAL

From: Commander Escort Squadron 16
To : Commander Eastern Sea Frontier

Subj: Report of In-Port Air Control Exercises, Period 1-30 July 1954

Ref : (a) EADF OpOrder 2-54, dated 1 February 1954

1. The following in-port air controller exercises were held in accordance with the procedure established in reference (a).

a. Thursday, 1 July - USS JOYCE (DER-317)

Two aircraft (Elliot Red from Stewart AFB) controlled. Six intercepts completed. Controller: Ensign BULLER.

b. Friday, 2 July - USS JOYCE (DER-317)

No aircraft available because of bad weather.

c. Tuesday, 6 July - No ship available.

d. Wednesday, 7 July - No ship available.

e. Thursday, 8 July - No ship available.

f. Friday, 9 July - No ship available.

g. Tuesday, 13 July - USS HARVESON (DER-316)

Two aircraft (Elliot Red 25 and 27 from Stewart AFB) controlled. No intercepts were conducted because of IFF failure in ship.

h. Wednesday, 14 July - USS HARVESON (DER-316)

Two aircraft (Elliot Red Leader and 2 from Stewart AFB) controlled. No intercepts were conducted because of unsatisfactory communications. UHF Common (364.20) was overcrowded. Ship was unable to establish satisfactory communications on fighter-bomber liaison (351.00).

i. Thursday, 15 July - USS HARVESON (DER-316)

Two aircraft (Elliot Red Leader and 2 from Stewart AFB) controlled.

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No intercepts conducted because of unsatisfactory UHF communications.

j. Friday, 15 July - USS HARVESON (DER-316)

No aircraft available.

k. Tuesday, 20 July - USS JOYCE (DER-317)

No aircraft available.

l. Wednesday, 21 July - USS JOYCE (DER-317)

No aircraft available.

m. Thursday, 22 July - USS JOYCE (DER-317)

Two aircraft (Raymond Red from Stewart AFB) controlled. Six intercepts completed. Controller: Ensign GONZALEZ.

n. Friday, 23 July - USS JOYCE (DER-317)

Two aircraft (Raymond Red from Stewart AFB) controlled. Seven intercepts completed. Controller: Ensign BULLER.

o. Tuesday, 27 July - USS JOYCE (DER-317)

Two aircraft (Raymond Red Leader and 2 from Stewart AFB) controlled. Four intercepts completed. Controller: Ensign BULLER.

p. Wednesday, 28 July - USS STRICKLAND (DER-333)

Two aircraft (Raymond Red from Stewart AFB) controlled. Four intercepts completed. Controller: Ensign KEENE.

q. Thursday, 29 July - USS STRICKLAND (DER-333)

Two aircraft (Ablaze 82 and 83 from Otis AFB) controlled. One intercept completed. Controller: Ensign SHUTE. Additional intercepts prevented by delay in establishing communications.

r. Friday, 30 July - USS JOYCE (DER-317)

No aircraft available because of bad weather.

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File: P11
Serial: 0136
4 August 1954

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2. The above data are summarized as follows:

- a. Number of intercepts completed this period 28
- b. Number of days successful intercepts were made 6
- c. Number of days no ship available 4
- d. Number of days no aircraft available 3
- e. Number of days weathered out 2
- f. Number of days equipment failure in ship 3
- g. Number of days equipment failure in aircraft 0
- h. Total number of days available for exercise 18

W. C. ABHAU

Copy to:

CDR EADW
CDR 26th AirDiv(Def)
CDR 32nd AirDiv(Def)
COMESLANT
COMESFLOT 6

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CONFIDENTIAL

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COMMANDER ESCORT SQUADRON SIXTEEN
Care of Fleet Post Office
New York, New York

CES16/EBS: tmc
File: P11
Serial: 0117
15 July 1954

CONFIDENTIAL

From: Commander Escort Squadron 16
To: Commander Eastern Sea Frontier

Subj: Report of In-Port Air Control Exercises, Period 1-30 June 1954

Ref: (a) EADF OpOrder 2-54 dated 1 February 1954

1. The following in-port air controller exercises were held in accordance with the procedure established in reference (a).

- a. Tuesday, 1 June - No ship available.
- b. Wednesday, 2 June - No ship available.
- c. Thursday, 3 June - USS HARVESON (DER-316)

Two aircraft (Theology 20 and 21 from Otis AFB) controlled. Two intercepts completed. Controller: LTJG STEWART.

- d. Friday, 4 June - USS HARVESON (DER-316)

No aircraft available because of bad weather.

- e. Tuesday, 8 June - No ship available.
- f. Wednesday, 9 June - No ship available.
- g. Thursday, 10 June - No ship available.
- h. Friday, 11 June - No ship available.

- i. Tuesday, 15 June - USS JOYCE (DER-317)

No aircraft available because of bad weather.

- j. Wednesday, 16 June - USS JOYCE (DER-317)

No aircraft available because of bad weather.

- k. Thursday, 17 June - USS JOYCE (DER-317)

Two aircraft (Elliot Red from Stewart AFB) controlled. One intercept completed. Controller: LTJG LUKAS. IFF equipment difficulties in aircraft prevented conduct of more intercepts.

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CES/16/EBS:tmc
 File: P11
 Serial: 0117
 15 July 1954

CONFIDENTIAL

1. Friday, 18 June - USS JOYCE (DER-317)

Two aircraft (Newgate Brown from Suffolk AFB) were assigned by 762nd ACMW Squadron. Aircraft reported in on frequency, stated that they desired to conduct intercepts by themselves, and switched to a different channel before the JOYCE could assume control. No intercepts completed.

m. Tuesday, 22 June - USS FESSENDEN (DER-142)

Aircraft (Elliot Red from Stewart AFB) were assigned. No intercepts were conducted because of IFF failure in ship.

n. Wednesday, 23 June - USS FESSENDEN (DER-142)

No aircraft available because of bad weather.

o. Thursday, 24 June - USS FESSENDEN (DER-142)

No aircraft available.

p. Friday 25 June - USS FESSENDEN (DER-142)

No aircraft available.

q. Tuesday, 29 June - USS JOYCE (DER-317)

Two aircraft (Mail Bag 34 and 37 from Otis AFB) controlled. Six intercepts completed. Controller: LTJG LUKAS.

r. Wednesday, 30 June - USS JOYCE (DER-317)

Two aircraft (Ligament White from Suffolk AFB) controlled. One intercept completed. Controller: LTJG LUKAS. Failure of ship's IFF prevented conduct of more intercepts.

2. The above data are summarized as follows.

a. Number of intercepts completed this period	10
b. Number of days successful intercepts were made	4
c. Number of days no ship available	6
d. Number of days no aircraft available	3
e. Number of days weathered out	4
f. Number of days equipment failure in ship	1
g. Number of days equipment failure in aircraft	0
h. Total number of days available for exercises	18

Copy to:

CER EAD
 CER 26th AirDiv (Def)
 CER 32nd AirDiv (Def)
 COMDESLANT
 COMDESPLOT 6

W. C. ABBAU

0322

CONFIDENTIAL

HEADQUARTERS
AIR DEFENSE COMMAND
EAST AIR FORCE BASE
Colorado Springs, Colorado

ADMSV-2A

25 June 1954

SUBJECT: (Unclassified) Control of Disposition of Sinkable Objects in Harbors and Approaches

TO: Commander
Eastern Air Defense Force
Stewart Air Force Base
Newburgh, New York

1. Inclosed letter, subject as above, is forwarded for your information and compliance.
2. The cooperation of all Air Defense Command Units is requested in assisting the Navy in its harbor and channel preconditioning program.

BY ORDER OF THE COMMANDER

1 Incl:
Hq USAF ltr,
AFMSS-OP-3,
11 June 1954

s/t/ CECIL F. HUMPHREYS
Captain, USAF
Asst Command Adj

EAMSS-S (25 Jun 54)

1st Ltr

20 July 1954

HQ EASTERN AIR DEFENSE FORCE, Stewart Air Force Base, Newburgh, N. Y.

TO: Commander, 32d Air Division (Defense), Syracuse Air Force Station,
Eastwood Station 6, Syracuse, New York

1 Incl:
n/c

s/t/ J.R.W.

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CONFIDENTIAL

Hq ADC, ADMSV-2A, Subject: (Unclassified) Control of Disposition of Sinkable
Objects in Harbors and Approaches

MDM (25 Jun 54) 2nd Inc

HQ 30D AIR DIVISION (DEFENSE), Syracuse Air Force Station, Eastwood Sta-
tion C, Syracuse, New York, 26 July 1954

TO: Commander, 4707th Defense Wing, Otis Air Force Base, Falmouth,
Massachusetts
Commander, 4711th Defense Wing, Presque Isle Air Force Base,
Presque Isle, Maine

Forwarded for your information and dissemination.

BY ORDER OF THE COMMANDER:

1 Incl
R/C

Virginia L. Sweet
VIRGINIA L. SWEET
1st Lt., USAF
Assistant Adjutant

2
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DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON 25, D. C.

AFMSS-OP-3

14 June 1954

SUBJECT: Control of Disposition of Sinkable Objects in Harbors and Approaches

TO: Commander, Air Defense Command
Ent Air Force Base
Colorado Springs, Colorado

1. The Department of the Navy has requested the cooperation of the Air Force in a program to prohibit the dumping of metallic and other solid objects in harbors and harbor approaches.

2. The Office of the Chief of Naval Operations has determined that the mining of U.S. harbors and harbor approaches by an enemy constitutes a major threat in time of war. A program of preconditioning the bottoms of war shipping channels was initiated by the Navy in 1952. Harbor Defense units located at major U.S. ports and certain overseas bases have been provided with personnel and mine locator vessels to perform the tasks of precisely locating and charting of all objects in these channels which could be confused with mines in time of war and where practicable, the removal of these objects from the channels.

3. Since the establishment by the Navy of the Harbor Maintenance Unit, now designated the Mine Hunting Unit, much of the operating time of the locator vessels and accompanying salvage vessels has been spent in investigating contacts which proved to be objects dumped in previously surveyed and cleared channels. The littering of the harbor bottom with such objects is most undesirable and defeats the purpose of the channel clearance program.

4. While the preconditioning program has reduced the quantity of debris deposited in harbors and approaches, experience since the program was started has demonstrated the necessity of obtaining the cooperation of all governmental agencies in this undertaking. Accordingly, it is requested that all appropriate activities under your command be instructed to assist the Navy by prohibiting the dumping of metallic and other solid objects within the forty (40)

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fathom curve of all harbors and approaches. If for any reason such objects are, through necessity or inadvertence, disposed of in such harbors and approaches, a report should be made to the Navy Commander responsible for the harbor or channel, giving the most accurate location practicable of the object. Responsible Navy Commanders will define the sector limits of approaches to all U. S. and overseas base harbors under their jurisdiction and establish authorized dumping areas where necessary, for sinkable objects for such harbors and approaches.

BY ORDER OF THE CHIEF OF STAFF:

s/w/ J. H. WALLACE
Lt Colonel, USAF
Actg Dep Chief, Operations Grp, D/Sup
& Svs Office, Deputy Chief of Staff,
Materiel

INCL #1

CONFIDENTIAL

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C O P Y

HEADQUARTERS
EASTERN AIR DEFENSE FORCE (ADC)
Stewart Air Force Base, Newburgh, N.Y.

GENERAL ORDERS) 25 February 1954
NUMBER 11)

ORGANIZATION AND ASSIGNMENT OF UNIT

1. Effective 1 March 1954, the 4712th Airborne Early Warning and Control Squadron, a Table of Distribution Unit, (having been designated and assigned to this command) is organized at Otis Air Force Base, Falmouth, Massachusetts, with an initial authorized strength of one officer and one airman.
2. Personnel will be furnished from the 4707th Defense Wing.
3. Concurrent with organization, above unit is assigned to the 4707th Defense Wing.
4. Organizational equipment will be authorized by the Unit Authorization List to be published by this headquarters.
5. Pertinent provisions of AFM 171-6, June 1950, as amended, will apply.
6. Upon completion of action directed herein, Organization Status Change Report (Reports Control Symbol AF-01) will be prepared in accordance with Chapter XX, EADF Manual 171-2, and submitted to the Commander, Eastern Air Defense Force, to arrive not later than 0800 hours the first calendar day following the "as of" date.
7. Authority: AFR 20-52 and letter, Air Defense Command, ADOMO, Subject: Designation and Organization of the 4712th Airborne Early Warning and Control Squadron, 18 February 1954.

BY ORDER OF THE COMMANDER:

OFFICIAL:

GEORGE F. SMITH
Brigadier General, USAF
Vice Commander

s/t/ JOHN L. WARREN
Colonel, USAF
Adjutant

DISTRIBUTION:

- A plus
- 30 - AAG, Hq USAF, Attn: Pub Div
- 10 - Comdr, ADC, Attn: M&O (Unit Con Br)
- 5 - AF Liaison O, Kansas City, Mo
- 6 - EAOPM
- 4 - EACST

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C O P Y

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HEADQUARTERS
4707TH DEFENSE WING
Otis Air Force Base, Falmouth, Mass.

10 February 1954

DWO

SUBJECT: (Secret) Transmittal of Activation Plan for 4712th Airborne
Early Warning & Control Squadron

TO: See Distribution

1. Attached plan for activation of the 4712th Airborne Early Warning & Control Squadron is forwarded for your guidance in the forthcoming activation.
2. Sufficient copies are attached for EADF so that distribution can be made to ADC and AMC if desired.
3. This correspondence is classified SECRET until such time as the General Order effecting activation of the unit is received. At that time this correspondence may be downgraded to the classification of subject General Order.
4. The attached document is classified SECRET in accordance with paragraph 23, AFR 205-1, dated 15 Dec 53.

FOR THE COMMANDER:

1 Incl
a/s

s/t/ JOHN APOSTOLOS
1st Lt, USAF
Asst Adjutant

DISTRIBUTION:

Comdr, EADF (5 cys)
Comdr, 32d AD(D) (2 cys)
Comdr, 4707th DefWg (1 cy)
Comdr, 564th AD Gp (1 cy)
Comdr, McClellan AFB, Calif (1 cy)
DWPMP, 4707th Def Wg (1 cy)
DWO, 4707th Def Wg (1 cy)
DWO, 4707th Def Wg (1 cy)
DWC, 4707th Def Wg (1 cy)
DWM, 4707th Def Wg (1 cy)
S-1, 564th AD Gp (1 cy)
S-3, 564th AD Gp (1 cy)
S-4, 564th AD Gp (1 cy)
Project Off (Major Rausch) (7 cys)

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ACTIVATION PLAN - 4712 (960) AEW&C SQUADRON
Otis Air Force Base, Falmouth, Massachusetts

1 February 1954

PART I

1. Purpose - To aid in preparation of plans for activation of 4712 (960) AEW&C Squadron at Otis Air Force Base, Massachusetts, on or about 1 June 1954, in accordance with ADC Program Booklet, 1 October 1953.

2. Authority - EADFR 56-2, 18 August 1953.

3. Responsibility:

a. Major George R. Rausch, Headquarters, 4707th Defense Wing, is appointed Wing Project Officer for the 4707th Defense Wing for the activation of this squadron. It will be the responsibility of the Wing Project Officer to coordinate all actions pertaining to the activation cycle of this squadron with higher echelons of command, between the various staff sections within the Wing Headquarters and with subordinate echelons of command. He is directly responsible for amendments which are necessary to this activation plan as a result of changes to programming. He is responsible for keeping the Wing Commander and interested staff sections fully informed at all times of the general progress or hindrances to all programmed action.

b. A 4712th (960) AEW&C Squadron Project Officer will be appointed by the 4707th Defense Wing on or before 1 March 1954. This AEW&C Project Officer will be a member of the incoming cadre who will be assigned to the 4712th (960) AEW&C Squadron upon activation and is earmarked to assume a responsible position within the 4712th (960) AEW&C Squadron. Preferably this officer should be the officer scheduled to be the Commander, the Operations or Materiel Officer in the new squadron. He will assume responsibilities for coordination for all actions required between Headquarters, 4707th Defense Wing, Base Supply Officer and 4712th (960) AEW&C Squadron. He is authorized direct communications with the 4707th Defense Wing Project Officer and is responsible to the Wing Project Officer for complete coordination of all problems arising during the entire activation phase of this squadron.

4. Scope - Part II of this Activation Plan is composed of the various actions necessary to be taken by different echelons of command in a chronological order from date of this plan through the activation cycle to the date when the squadron should be prepared to assume operation. This plan is based upon the following programming data: Activation date of squadron, 1 June 1954; Date of receipt of first aircraft, 1 June 1954; Date to assume normal operation, 15 August 1954 or seventy-five (75) days after receipt of first aircraft.

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PART II

General. All available information indicates that the squadron will be activated and receive their first aircraft on the same date, 1 June 1954. Normally a squadron is activated 90 days prior to the receipt of the first aircraft. This plan is written assuming Target Date (arrival of first aircraft) and Activation Date to be 1 June 1954. A request has been submitted to EADP that the General Orders activating the unit effective 1 June 1954 be published not later than 1 March 1954. The General Order is required as the basis of authority for certain requisitions necessary prior to activation date.

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1. Action Required by 1 February 1954 (O-120)
 - a. Action Required by Hqs AMC
 - (1) Establish AFSD and appoint AMA to supervise project. Publish UPREAL. Establish other required special supply actions.
 - b. Action Required by Hqs ADC
 - (1) Ascertain AFSD and special project status. Confirm USAF and AMC instructions to Defense Force.
 - c. Action Required by Hqs EADF
 - (1) Request ADC to obtain training quotas for special courses or to establish courses. Allocate available training quotas to 4707th Defense Wing. Assign personnel from pipeline sources to the 4707th Defense Wing.
 - d. Action Required by Hqs 32d Air Division (Defense)
 - (1) Coordinate with C.G. EADF and Commander 4707th Defense Wing on Activation Plan.
 - e. Action Required by Hqs 4707th Defense Wing
 - (1) Coordinate with Commander 32d Air Division on Activation plan. Select Commander and 1st Sgt for new squadron. Coordinate with 32d Air Division and EADF.
 - (2) Personnel - Determine requirements for training of personnel and request quotas for available courses. Earmark graduates of special courses for assignment to new squadron.
 - (3) Manpower - Secure applicable T.O.'s.

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2. Action Required by 1 March 1954 (0-90)
 - a. Action Required by Hqs ADC
Arrange for MTD.
 - b. Action Required by Hqs EADF
Notify 4707th Defense Wing of AFSD and other supply action.
Publish General Order activating unit effective 1 June 1954.
 - c. Action Required by Hqs 32nd Air Division
Follow-up on implementation of Activation Plan.
 - d. Action Required by Hqs 4707th Defense Wing
Requisition officer personnel IAW EADF Reg 35-2
 - e. Action Required by Hqs 564th Air Defense Group
 - (1) Survey existing facilities and initiate required corrective action.
 - (2) Make housekeeping arrangements for the new squadron.
 - f. Action Required by Otis Base Supply Officer
Screen base stock and forward requirements to appropriate AMA.

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3. Action Required by 15 March 1954 (O-75)

a. Action Required by Hqs 564th Air Defense Group

Coordinate with squadron commander on any operational problems concerning Navigational aids.

b. Action Required by Base Supply Officer

Follow up with AMA. Submit progress report to EADF. Insure that all items are automatically supplied are placed on requisition.

c. Action Required by Commander 4712th AEW&C Squadron

Check with base supply officer to determine if aircraft spares and related equipment are arriving. Insure that all UPREAL items not being supplied on AFSD or other special supply actions are placed on requisition. Requisition necessary publications.

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4. Action Required by 1 April 1954 (O-60)
 - a. Action Required by Hqs EADF
Submit progress report to ADC.
 - b. Action Required by Hqs 564th Air Defense Group
Check base flying regulations, mobile control, etc.
Make housekeeping arrangements for MTD.
 - c. Action Required by BSO
Follow up with AMA
 - d. Action Required by Commander 4712th AEW&C Squadron
Follow up with Base Supply. Initiates progress reports.
Submits requests for Tech. Reps. IAW Par. 6, AFR 66-18.

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5. Action Required by 15 April 1954 (0-45)
 - a. Action Required by Hqs 4707th Defense Wing
Select trained personnel to form Cadre and assign to 4712th AEW&C Squadron (not activated) to report within 15 days. (15%)
 - b. Action Required by Hqs 564th Air Defense Group
Provide technical assistance.
 - c. Action Required by the BSO
Screen all items to insure that schedules are met. Follow up on critical items.
 - d. Action Required by Commander 4712th AEW&C Squadron
Follow up with Base Supply.

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6. Action Required by 1 May 1954 (0-30)
 - a. Action Required by Hqs AMC
Screen all outstanding shortages.
 - b. Action Required by Hqs ADC
Final check
 - c. Action Required by Hqs EADF
Provides technical assistance. Take command action as required on critical items.
 - d. Action Required by Hqs 32nd Air Division
Final check. Follow up action as required.
 - e. Action Required by Hqs 4707th Defense Wing
Select and assign balance of trained personnel to report for duty prior to 1 June 1954. (15%)
 - f. Action Required by Hqs 564th Air Defense Group
Final check
 - g. Action Required by the BSO
Follow up and final check. Notify EADF of critical items.
 - h. Action Required by Commander 4712th AEW&C Squadron
Special check on publications, establish SOP's, etc.
Arrange for ferrying of aircraft.

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7. Action Required by 15 May 1954 (0-15).

a. Action Required by 564th Air Defense Group

Establish system for rapid weather dissemination

b. Action Required by Commander 4712th AEW&C Squadron

Continue follow-up with base supply. Send follow-up TWX if no information received on Tech. Reps. Check on firm training course to follow.

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8. 8. Action Required by 1 June 1953 (0)

a. Action Required by Hqs EADF

Begin assignment of pipeline personnel direct to the squadron. Requisition officer personnel.

b. Action Required by Commander 4712th AEW&C Squadron

Command and 1st Sgt assigned, effective date of activation. Cadre of officers and airmen assigned report for duty (15 %). Ferry aircraft as required. Begin transition program.

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- 9 9. Action Required by 1 July 1954 (04 30)
- a. Action Required by Hqs EADF
Review transition program.
 - b. Action Required by Hqs 32nd Air Division
Review transition program.
 - c. Action Required by Commander 4712th AEW&C Squadron
All personnel should report prior to time squadron is fully equipped with UE aircraft. Continue transition.
 - d. Action Required by Hqs 4707th Defense Wing
Review transition program.

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10. Action Required by 15 August 1954 (O + 75)
 - a. Action Required by Eqs 32nd Air Division
Integrate squadron into Air Defense System.
 - b. Action Required by Commander 4712th AEW&C Squadron
Continue transition program to qualify air crews for full scale operations.

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PART III

GENERAL

1. Security Classification - This document is classified **SECRET** until such time as General Orders effecting activation of the unit are received. At that time the entire document may be downgraded to the classification of subject General Orders.

2. Amendments to this Plan - It is emphasized that this activation plan has been prepared from programming data which is subject to change at any time. The plan is laid out in cycles covering periods of time which may well be lengthened or shortened by changes in arrival dates of personnel, aircraft, etc. Any changes to the plan made necessary by such changes in programming should be made by the 4707th Wing Project Officer.

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(Secret) Trans of Act Checklist for 4712th
AEW&C Squadron

FDP
MDM
ODO
CIG

CDC

19 Feb 54

1. Attached checklist for activation of the 4712th AEW&C Squadron at Otis, AFB, Massachusetts is forwarded for your guidance in carrying out the Commander's responsibilities in this program.

2. Each action agency will report to this office the dates assigned tasks are completed and any difficulties encountered in carrying out this activation program.

s/t/ CLARK/101

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GENERAL

1. 4712th (960) AEW&C Squadron is programmed to be activated at Otis AFB, Mass. on or about 1 June 1954.
2. Authority- EADFR 56-2, 18 August 1953.
3. Major George R. Rausch, Headquarters, 4707th Defense Wing has been appointed "Wing Project Officer" for the 4707th Defense Wing.
4. A 4712th (960) AEW&C Squadron Project Officer will be appointed on or before 1 March 1954.
5. Program data (based upon 4707th Def Wing Activation Plan):
 - a. Activation date, 1 June 1954.
 - b. Receipt of first A/C (Target Date), 1 June 1954.
 - c. Normal Operation, 15 Aug or 75 days after receipt of first aircraft.
6. The Inspector General, 32nd Air Division (Defense) will conduct inspections to determine the progress of this program, as instructed by the Commander.

Action required by this headquarters by 1 February 1954 (O-120).

a. Action Required by All Staff Agencies

Assist Commander 32nd Air Division (Defense) as required in coordinating the Activation Plan.

b. Deputy of Personnel

- (1) Coordinate personnel actions and the selection of a squadron Commander and 1st Sgt for the new squadron.
- (2) Advise in determining training requirements and submission of quotas for available courses.

c. Plans, Organizations & Requirements

Assist in securing applicable T.O.'s.

Action required by this headquarters by 1 March (O-90)

a. All Staff Agencies

Coordinate in follow-up action on implementation of activation plan.

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b. Deputy of Personnel

Assist in the requisition of officer personnel IAW EADF Reg 35-2.

c. Deputy of Materiel

- (1) Coordinate and assist, as deemed necessary, in surveying existing and initiate required corrective action.
- (2) Advise in making housekeeping arrangements for the new squadron.
- (3) Coordinate in the follow-up action to have necessary requirements for supplies forwarded to appropriate AMA.

Action required by this headquarters by 15 Mar 54 (O-75)

a. Deputy of Operations

Coordinate with subordinate commanders on any operational problems concerning Navigations Aids.

b. Deputy of Material

- (1) Coordinate follow-up action with appropriate AMA's.
- (2) Coordinate submission of supply progress reports to EADF.
- (3) Assist all subordinate commanders in problems concerning supply matters and procedures.

Action required by this headquarters by 1 Apr (O-60)

a. Deputy of Operations.

Assist in and coordinate matter pertaining to base flying regulations mobile control, housekeeping facilities for MTD, etc.

b. Deputy of Material

Coordinate follow-up action to appropriate AMA's.

Action required by this headquarters by 15 Apr (O-45)

a. Deputy of Personnel

- (1) Assist and coordinate the selection of trained personnel to form Cadre and assign to 4712th AEW&C Squadron, to report within 15 days.
- (2) Coordinate action taken to secure technical representatives.

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b. Deputy of Material

Coordinate follow-up supply action.

Action required by this headquarters by 1 May (0-30)

a. All Staff Agencies

- (1) Provide required technical assistance
- (2) Make final check. Follow-up action as required.

b. Deputy of Material

Coordinate follow-up action on critical items reported short.

c. Deputy of Operations

Coordinate plans for ferrying of aircraft.

d. Deputy of Personnel.

Assist and coordinate in the selection and assignment of remaining trained personnel to report prior to 1 June 1954.

Action required by this headquarters 15 May (0-15)

a. Deputy of Operations

Coordinate plans for establishing a system for rapid weather dissemination.

b. Deputy of Material

Continue to coordinate of follow-up action on supply matters.

Action required by this headquarters 1 June 1954 (0)

a. Deputy of Operations

Coordination plans for the ferrying of aircraft and transition program.

b. Deputy of Personnel

Coordinate assignment of pipeline personnel direct to the squadron and the requisition of officer personnel.

Action required by this headquarters 1 July 1954 (0/30)

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a. Deputy of Operations

Review transition program

b. Deputy of Material

Continue coordination of supply matters.

Action required by this headquarters by 15 August 1954 (9/75)

All Staff Agencies

Plan the integration of the 4712th (906) AEW&C Squadron into the Air Defense System.

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HEADQUARTERS
EASTERN AIR DEFENSE FORCE
Stewart Air Force Base, Newburgh, N.Y.

EAOCE-C

21 Jan 54

SUBJECT: (UNCLASSIFIED) Operations Plan of AEW&C Ground Reporting
Stations

TO: Commander
Middletown Air Materiel Area
Olmsted Air Force Base
Middletown, Pennsylvania

1. In accordance with Section II, TO-16-1-292, 19 January 1953, the following operations plan is submitted for two (2) air/ground communications stations to support the AEW&C Program of EADF. The two (2) stations that have been selected for this function are North Truro, Massachusetts and Palermo, New Jersey.

a. Equipment is programmed in the EPC-55-1, page 253, Facility Number 6423 and page 290, Facility Number 6423. (M-28 teletype equipment is programmed under Facility Number 6314 for each station).

b. Location of equipment is not critical from an operational viewpoint. Equipment will be operated from the regular site. Optimum communications with AEW&C aircraft is desired. Each station is to be equipped with two (2) operating positions using dual diversity receivers and highly efficient antennas.

c. Units concerned have indicated that sufficient space is available in existing remote transmitter and receiving buildings for the installation of the required equipment and that sufficient government owned land is available on base for antenna installations.

d. The attached map (Attachment #1) shows the appropriate locations of AEW&C aircraft while on station, both when used in conjunction with picket ships on stations and without picket ships on station. The two (2) ground stations, located at North Truro Air Force Station (P-10) and Palermo Air Force Station (P-45), will communicate with any two (2) of the four (4) AEW&C stations adjacent to their area; Palermo serving the southern stations and North Truro serving the northern stations. The AEW&C aircraft will normally operate within the immediate area of the stations shown at an altitude of 2,500 feet.

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Hq EADF EAOCE-C 676.3 Subject: (UNCLASSIFIED) Operations Plan of
AEW&C Ground Reporting Stations

e. High frequencies in the two to twelve megacycles band will be employed to provide reliable communications between four (4) AC&W aircraft and two (2) centrally located ground stations. All data gathered by AEW&C aircraft (radar, ECM and visual) will be told to these central communications points. Identification and weapons control information will be passed from the central communications point to the aircraft. Voice communications is planned in the interest of speed; however, under some conditions it will be necessary to employ CW and/or radio teletype (RTTY) for reliability.

- (1) Four (4) channels of voice and/or CW will be operated from two (2) positions and one (1) teletype keying unit, capable of being patched to either operating position, will be established at the remote receiver sites. One (1) overlap telling circuit to each adjacent AC&W station will be extended to these operating positions to permit the telling of plots direct to the station immediately concerned with the information.
- (2) Due to the operational requirement of maintaining constant communications, an antenna switching arrangement to operate in conjunction with the channel-change switch is desired.

f. None.

g. Not applicable since it is proposed to use existing buildings.

2. This document is classified Secret in accordance with paragraph 23b(4), Air Force Regulation 205-1.

FOR THE COMMANDER:

1 Incl
Coverage Map

s/t/ JAMES R. WORLINE
Captain, USAF
Asst Adjutant

Info cy:
Rome AF Depot
Comdr, ADC
Comdr, 26th ADiv
Comdr, 32d ADiv

2
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C O P Y

HEADQUARTERS
32D AIR DIVISION (DEFENSE)
Syracuse Air Force Station, Eastwood Station 6
Syracuse, New York

8 Jun 54

MM

SUBJECT: AEW Support

TO: Commander
Eastern Air Defense Force
Stewart Air Force Base
Newburgh, New York

1. In order that adequate logistic planning may be carried out at Otis Air Force Base in reference to the Air Early Warning Group, it is requested that the 4707th Defense Wing be informed of all logistic data possible in reference to support, maintenance, parts requirements, consumption data (if possible), new developments in facilities requirements, etc.
2. It is also requested that the 4707th Defense Wing be informed of the tactics to be employed by the Air Early Warning Unit and such changes as may affect the logistic support. It is suggested this be done by at least a monthly report or summary of actual experience of the already established group now in operation on the West coast.
3. This would certainly be of great benefit to Otis Air Force Base in future planning for the day when the group goes into operation at that station.

s/t/ WILLIAM H. CLARK
Colonel, USAF
Deputy Commander

54-2176

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C O P Y

Movement of One AEW&C Squadron to Otis AFB,
June 1954

EAODO

EAOPM

10 Feb 54

1. This directorate has reviewed the IRS prepared by EAMIS pertaining to the activation of facilities for the AEW&C program at Otis AFB and makes the following comments:

a. In view of the fact that the entire AEW&C Group will be activated during a 9 month period following the activation of the first AEW&C Squadron in June 54, it is strongly recommended that we fight for providing rehabilitated facilities for an entire group rather than one squadron. To date, no firm decision has been made concerning the construction of permanent type facilities for this group and based on normal time for construction of facilities, it is believed that permanent facilities would not be available until approximately FY 57. It is also believed that by the time a rehabilitation project for one squadron has been completed, that the entire group would be in existence which would then necessitate overcrowding the facilities which had been rehabilitated for one squadron.

b. The attached chart describing the rehabilitation project has been reviewed and the following comments are made:

- (1) It is believed that the storage facility requirements for one squadron have been underestimated, since the type of supplies authorized one squadron will be peculiar to the entire group and, as such, a considerable number of individual line items (27,000 authorized) must be available regardless of whether one squadron or two squadrons are in existence.
- (2) The requirement for a 200 bed hospital at Otis AFB to take care of the AEW&C Group is considered too high and should be more in the order of 25 beds to take care of a unit with an authorization of approximately 2,100 personnel.
- (3) This directorate questions the desirability of improving and/or establishing another motor pool primarily for the AEW&C program. Although there will be a requirement for vehicles by this unit, it is believed that current authorizations or the Base Motor Vehicle Squadron will not be able to support two motor pools.

t/PETERS
1 Incl - n/c

t/ KIRLENDALL

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0356

C O P Y

HEADQUARTERS
32D AIR DIVISION (DEFENSE)
Syracuse Air Force Station, Eastwood Station 6
Syracuse, New York

OPR

17 Jun 1954

SUBJECT: Mission Directives

TO: Commander
Eastern Air Defense Force
Stewart Air Force Base
Newburgh, New York

1. Reference is made to letter, Headquarters EADF, EAOHM,
20 May 54, Subject: "Mission Directives."

2. Inclosed are mission directives for the following units:

564th Air Def Gp.	37th F/I Squadron
518th Air Def Gp.	74th F/I Squadron
528th Air Base Squadron	57th F/I Squadron
528th Materiel Squadron	765th AC&W Squadron
528th USAF Infirmary	766th AC&W Squadron
517th Air Base Squadron	654th AC&W Squadron
517th Materiel Squadron	656th AC&W Squadron
517th USAF Infirmary	764th AC&W Squadron

3. Mission directives for the following units have not been published for the reasons indicated:

a. 34th Crash Rescue Boat Flight. The mission directive has not been published for this unit due to the fact that rescue equipment has not yet been delivered. The Commander, 518th Air Defense Group has been directed to publish the regulation and forward three (3) copies as soon as possible.

b. 522nd AC&W Group (Mobile) and 617, 622nd, 630th and 673rd AC&W Squadrons. This headquarters was instructed by the Director of Plans, Programs, Organization and Manpower, Headquarters, EADF to withhold publication of directives pending determination of mission of these units by Air Defense Command. These units are presently being reduced in preparation for inactivation on or about 8 July 1954 by direction of Headquarters USAF.

c. 4712th, AEW&C Squadron. This Headquarters was instructed by the Director of Plans, Programs, Organization and Manpower, Headquarters, EADF to withhold publication of directive pending determina-

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Hq 32D AD(D), OPR Subj: Mission Directives

tion of mission and level of operational control of this unit by Air Defense Command. This unit was transferred to Western Air Defense Force on May 22, 1954 by direction of Headquarters, EADF.

4. The following action has been taken to correct the discrepancies in published mission directives:

a. Mission directives for Air Defense Groups assigned to this command are separate and specific as contained in 4707th Defense Wing Regulations 20-2 and 20-8, dated 30 June 1953. It is assumed, therefore, that the intended reference is to 564th Air Defense Group Regulation 20-1, dated 1 September 1954 and revised 4 May 1954 which is, in fact, a general directive for its staff agencies and subordinate squadrons. The Commander, 564th Air Defense Group, has been directed to publish specific mission directives for each subordinate unit as required and to forward copies as soon as possible.

b. The Commander, 518th Air Defense Group, has been directed to forward three (3) copies of the corrected regulation showing proper unit designation of the 418th USAF Infirmary as soon as possible.

5. This Headquarters began on 21 May 1954 a detailed review of all published and required mission directives. Corrective action, where indicated, will be reflected in revised regulations, copies of which will be forwarded through normal distribution.

FOR THE COMMANDER:

16 Incls:

1. Msn Dir, 564th Def Wg (2cys)
2. Msn Dir, 518th ADG, (2cys)
3. Msn Dir, 528th ABSq. (2cys)
4. Msn Dir, 528th Materiel Sq (2cys)
5. Msn Dir, 528th USAF Infirmary (2cys)
6. Msn Dir, 517th ABSq. (2cys)
7. Msn Dir, 517th Materiel Sq (2cys)
8. Msn Dir, 517th USAF Infirmary (2cys)
9. Msn Dir, 57th FIS (2cys)
10. Msn Dir, 37th FIS (2cys)
11. Msn Dir, 74th FIS (2cys)
12. Msn Dir, 764th AC&W Sq (2cys)
13. Msn Dir, 765th AC&W Sq (2cys)
14. Msn Dir, 766th AC&W Sq (2cys)
15. Msn Dir, 654th AC&W Sq (2cys)
16. Msn Dir, 656th AC&W Sq (2cys)

FREDERICK E. YORK
Lt Colonel, USAF
Adjutant

C O P Y

HEADQUARTERS
EASTERN AIR DEFENSE FORCE
Stewart Air Force Base, Newburgh, NY

EAOPM

8 May 1954

SUBJECT: Movement Orders, 4712th AEW&C Squadron

TO: Commander
4707th Defense Wing
Otis Air Force Base
Falmouth, Massachusetts

1. Effective 25 May 1954, the 4712th AEW&C Squadron, less personnel, is moved as indicated:

<u>UNIT</u>	<u>FROM</u>	<u>TO</u>
4712th AEW&C Squadron	Otis Air Force Base, Massachusetts	McClellan Air Force Base California

2. This movement constitutes a Permanent Change of Station. Concurrent with the above action, the 4712th AEW&C Squadron is relieved from assignment to Eastern Air Defense Force and the 4707th Defense Wing, and is assigned to the 8th Air Division (AEW&C), and will be attached to Air Materiel Command for logistical support in accordance with provisions of AFR 11-4.

3. Equipment on hand and on requisition will be disposed of in accordance with separate instructions from this headquarters.

4. Movement will be made in accordance with provisions of AFR 75-2, 75-20 and 75-38. Provisions of paragraph 38c, AFR 35-13, dated 10 April 1953, will be complied with by the 4707th Defense Wing and the gaining command. Military aircraft may be used.

5. PCS open allotment accounting classification 5743500 448-301 P533-99 899-999 will be cited for all costs incident to this movement ;in accordance with the provisions of AFM 172-1.

6. The pertinent provisions of the following directives are applicable:

AFM 171-6
AFR 181-5

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Hq EADF, EAOPM Subject: Movement Orders, 4712th AEW&C Squadron

7. Upon completion of action directed herein, report of action taken will be made by means of the Air Force Organization Status Change Report (RCS AF-01). Specific reference is directed to paragraph 12e, AFR 75-20.

8. Authority: Air Defense Command message, ADOMO 14385, 4 May 1954, and USAF message, AFOOP-CC-C 44929, 30 April 1954.

BY ORDER OF THE COMMANDER:

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COPY

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HEADQUARTERS
AIR DEFENSE COMMAND
Ent Air Force Base
Colorado Springs, Colorado

16 Jun 1954

SUBJECT: (Unclassified) AEW&Con Program

TO: Commander
Eastern Air Defense Force
Stewart Air Force Base
Newburgh, New York

1. The lack of adequate facilities at Otis Air Force Base and the limited capability of the Base during the next year to support our operations necessitated major changes be made in the AEW&Con Program. The revised program is based primarily on the current aircraft delivery schedules and our capability to support the aircraft.
2. Inclosed are copies of the revised activation schedule for the various organizations associated with this program. You will note the cumulative totals for the RC-121C&D aircraft are indicated for each month through January of 1956.
3. The 8th Air Division (AEW&Con) was activated 1 May 1954 and assigned to WADF in order to expedite the implementation of this program. Exercise of command functions by WADF and this headquarters will be normal. All AEW&Con organizations will be assigned to this division until it is deactivated or until they are otherwise reassigned by this headquarters. The charter for the division is as follows:

a. Mission:

- (1) The mission of the air division (AEW&Con) is to provide airborne early warning and control in the air defense combat zone. This includes: station patrol to extend the contiguous land based surveillance and control capability; emergency replacement duty for inactive land based and/or picket ship surveillance and control stations and augmentation for over saturated land based surveillance and control stations.

b. Responsibility:

- (1) The AEW&Con Air Division Commander is responsible for the following:

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Subj: (Uncl) AEW&Con Program (Cont'd)

- (a) Command, organize, administer, train, and equip all personnel assigned in accordance with applicable directives.
- (b) Develop techniques and procedures for the employment of AEW&Con units in the combat zone.
- (c) Develop airborne intercept control procedures for the employment of interceptors in the combat zone.
- (d) Conduct AEW&Con unit training for air defense operations.
- (e) Coordinate AEW&Con operations with appropriate air division (defense) commanders.
- (f) Participate in air defense exercises and maneuvers as directed.
- (g) Make recommendations through WADF to this headquarters for the utilization of an Airborne Early Warning and Control Air Division as a mobile air defense task force.

4. In order for the 8th Air Division (AEW&Con) Commander to accomplish the above mission, he will be required to work closely with the Commander of EADF. Direct communication between Commanders of EADF and the 8th Air Division (AEW&Con) is authorized.

5. Close coordination and cooperation between all agencies will be required to resolve the many problems associated with this program, particularly during the early phases.

1 Incl
Revised AEW&Con Program,
28 Apr 54 (quad)

Frederic H. Smith, Jr.
Major General, USAF
Vice Commander

2

CONFIDENTIAL

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C O P Y

SECRET

JEPNB 57
PARAPHRASE NOT REQUIRED CONSULT CRYPTOCENTER BEFORE DECLASSIFYING
CRYPTO NBR 233
PRIPRITY DTG 092110Z
FROM COMDR ADC ENT AFB COLO SPGS COLO
TO JEEHQ/COFS USAF WASH DC
INFO JEPLG/COMDR TAC LANGLEY AFB VA
JEPNB/COMDR EADF STEWART AFB NY
JWPMC/COMDR WADF HAMILTON AFB CALIF
/S E C R E T/ ADOPR 0044. ATTN: APOOP-OP-D. SUBJ: JUSTIFICATION FOR
A AEW&C SQDN TO BE LOCATED AT LANGLEY AFB. THIS MSG CONFIRMS OUR DECISION
TO LOCATE THE SEVENTH (7) AND ADDITIONAL AEW&C SQDN'S REQ FOR THE EAST
COAST AT SEYMOUR/JOHNSON AFB, GOLDSBORO, N.C. JUSTIFICATION FOR THIS
ACTION IS AS FOL: OUT 1960 REQ PLAN FOR THE AIR DEF OF CONTINENTAL US
DURING THE PERIOD 1957-60 WILL ESTABLISH THE PRIORITY FOR EXTENDING
RADAR COVERAGE SEAWARD. SEAWARD RADAR COVERAGE MUST EXTEND APPROX
475 NAUTICAL MILES SEAWARD FROM NOVA SCOTIA TO SAVANNAH GA DURING
1957-60. THIS RADAR COVERAGE WILL BE PROVIDED BY TWO (2) LINES CON-
SISTING OF NINE (9) AEW&C STATIONS IN THE ABOVE AREA. THE OUTSIDE LINE,
WILL OPERATE CONTINUOUSLY TO PROVIDE CONTINUOUS RADAR COVERAGE AT MAXI-
MUM RANGE TO THE ESTABLISHED AIR DIVISIONS. THE INNER LINE WILL STAND-
BY ON ALERT AND OPERATE CONTINUOUSLY AS REQ. A TOTAL OF 60 121-D
A/C WILL BE REQ TO ESTABLISH AND MAINTAIN THE NEC COVERAGE. OTIS AFB,
FAIRMOUTH, MASS., HAS BEEN SELECTED AND PROGRAMMED AS A BASE FOR A AEW&C
GRP (30 RC-121-D's) TO BE FULLY OPERATIONAL BEFORE 31 OCT 1955. SELEC-
TION OF A BASE TO SUPPORT A SECOND AEW&C GRP (30 RC-121-D;8) IN THE
NORFOLK AREA IS REQ TO COMPLETE THE DEPLOYMENT PLAN FOR AEW&C UNITS ON
THE EAST COAST. LANGLEY AFB WAS DESIGNAT AS THE MOST DESIREABLE CHOICE
OF BASES IN THIS AREA FOR THIS GRP IF SPACE AND FACILITIES COULD BE
ESTABLISHED. A CONFERENCE HELD AT TAC 8 JAN 54 REVEALED THAT LANGLEY
AFB SPACE AND FACILITIES CANNOT BE EXPANDED TO ACCEPT THE AEW&C GRP.
SEYMOUR/JOHNSON AFB, GOLDSBORO, N.C. WAS PROPOSED BY HQ TAC AS A POS-
SIBLE CHOICE IN PLACE OF LANGLEY AFB. HQ ADC REPRESENTATIVE LT COL
GLENN ACCEPTED THE ALTERNATE CHOICE. SEYMOUR/JOHNSON AFB AS OPERATION-
ALLY ACCEPTABLE TO ADC AS THE LOCATION FOR THE SEVENTH (7) AEW&C SQDN
AND EVENTUAL SITE FOR AN AEW&C GRP WHEN IT IS ORGANIZED. THIS DECISION
WAS CONCURRED IN BY CG TAC, GEN CANNON SUBJ TO APPROVAL TO HQ USAF.
TORC 092239Z JAN 67

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C O P Y

JEPNB 58
PARAPHRASE NOT REQUIRED CONSULT CRYPTOCENTER BEFORE DECLASSIFYING
CRYPTO NBR 727
ROUTINE DTG 181622Z
FM HQ ADC ENT AFB COLO
TO COMDR EADF STEWART AFB NY
COMDR WADF HAMILTON AFB CALIF
/S E C R E T/ ADOPR 0267. MYMSG ADOPR 0044, 9 JAN 54 SUBJ: JUSTIFI-
CATION FOR AN AEW&C SQ TO BE LOCATED AT LANGLEY AFB. FOR PLANNING
PURPOSES, SUBJ SQ HAS BEEN REFERRED TO AS 7TH AEW&C. INITIALLY HQ
USAF PROGRAMMED 7TH AEW&C SQ INTO MCCLELLAN AFB. OUR MSG REF ABOVE OUTLINED
JUSTIFICATION AND DECN TO LOCATE THE 7TH AEW&C SQ AT SEYMOUR-JOHNSON AFB,
GOLDSBORO, N CAROLINA. HQ USAF NOTIFIED US ON 8 FEB 54 THAT THEY CON-
CURRED W/OUR DECN. THE 7TH AEW&C SQ IS BEING REPROGRAMMED IN THE AF
FY 55 PUB WORK PROGRAM FR MCCLELLAN TO SEYMOUR-JOHNSON.
TORC 181715Z FEB 61

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C O P Y

SECRET

Operational Suitability Test of RC-121
C&D AEW&C Acft

EAOCB EAQAA
EAMDM EAQOT
EAPDP

EAOPM

15 Feb 54

1. This directorate has reviewed the draft of the proposed operational suitability tests of the RC-121C and D AEW&C aircraft and agrees that this draft could be rewritten for clarity and to eliminate repetition; however, this directorate does not completely agree with the comments that have been made by Hansen and Truesdell in Comment 1. Although the "Constellation" has been in use for quite some time by other agencies, including the airlines, never before has any attempt been made to utilize this aircraft to the extent proposed by the Air Defense Command. It is believed that every operational characteristic of the aircraft must be tested, including operations under adverse weather conditions and at lower altitudes, for example, icing; will the de-icing equipment be effective (aircraft surfaces, radomes, etc.) under extreme and prolonged icy conditions - what happens to the stability, endurance, range, and operational capabilities of the aircraft under these conditions? It is believed that all problems, either actual or contemplated, must be tested in order to achieve the results for which the aircraft was designed.

2. It is strongly recommended that every phase of an operational suitability test be conducted by the Air Proving Group Command prior to our receipt of this type aircraft, so that we may be aware of operational problems that are to be encountered. Information has been received from ADC which indicates that the "Operational Concept for the Seaward Extension of Radar", published in February 1953, should not be used as a guide and that a revised and corrected edition of this document is being prepared and should be distributed in the near future.

t/PETERS

t/ KIRKENDALL

1 Incl
n/c

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SECRET

HISTORICAL REPORT
of the
32d AIR DIVISION (DEFENSE)

CLASSIFIED BY	DATE
BY	DATE
REVIEWED BY	DATE
APPROVED BY	DATE
K DIV 32-11 JAN 5 1954 U.S.	



THE AIR DEFENSE OF A SECTOR
JANUARY thru JUNE 1954

SUPPORTING DOCUMENTS II

HISTORICAL OFFICE
SYRACUSE AIR FORCE STATION, NEW YORK

RSI Cont. No.
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tions 793 and 794. Its Transmission or
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RSI Cont No
S10179

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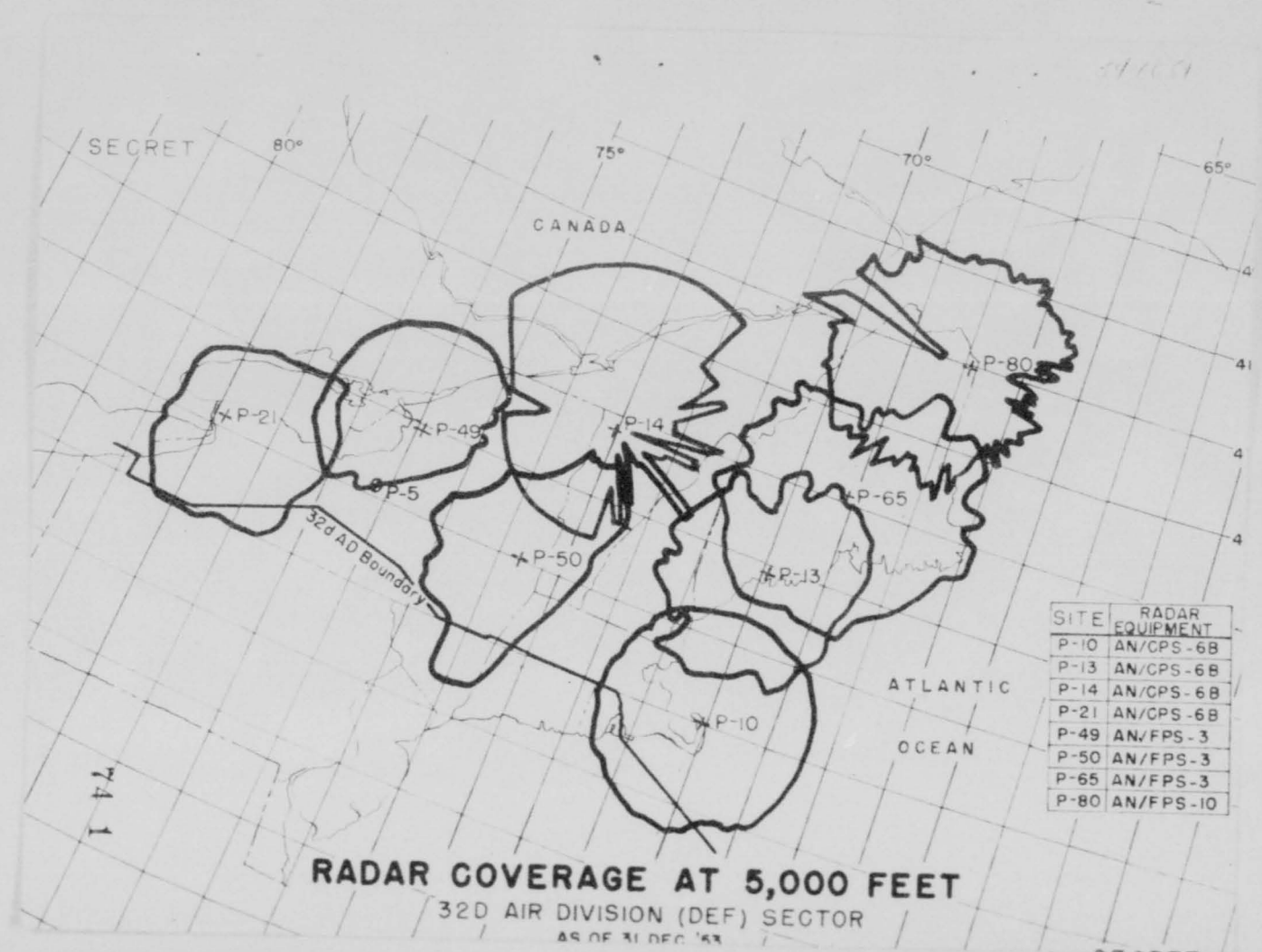
HISTORICAL REPORT
OF THE 32D AIR DIVISION (DEFENSE)
Number Sixteen
THE AIR DEFENSE OF A SECTOR
January thru June 1954

RCS: 1-AP-D2

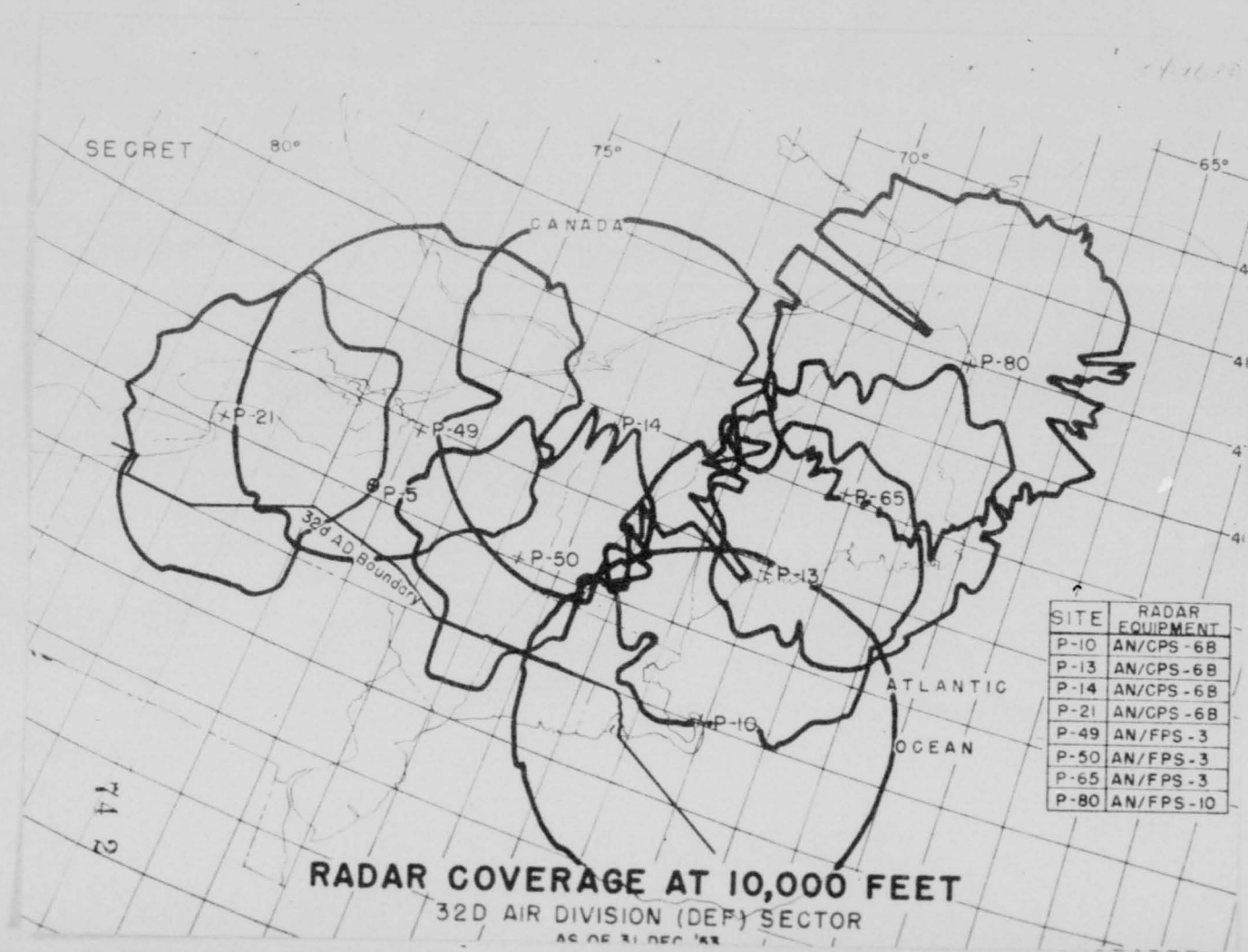
SUPPORTING DOCUMENTS
VOLUME II (Documents 74/1 thru 115/8)

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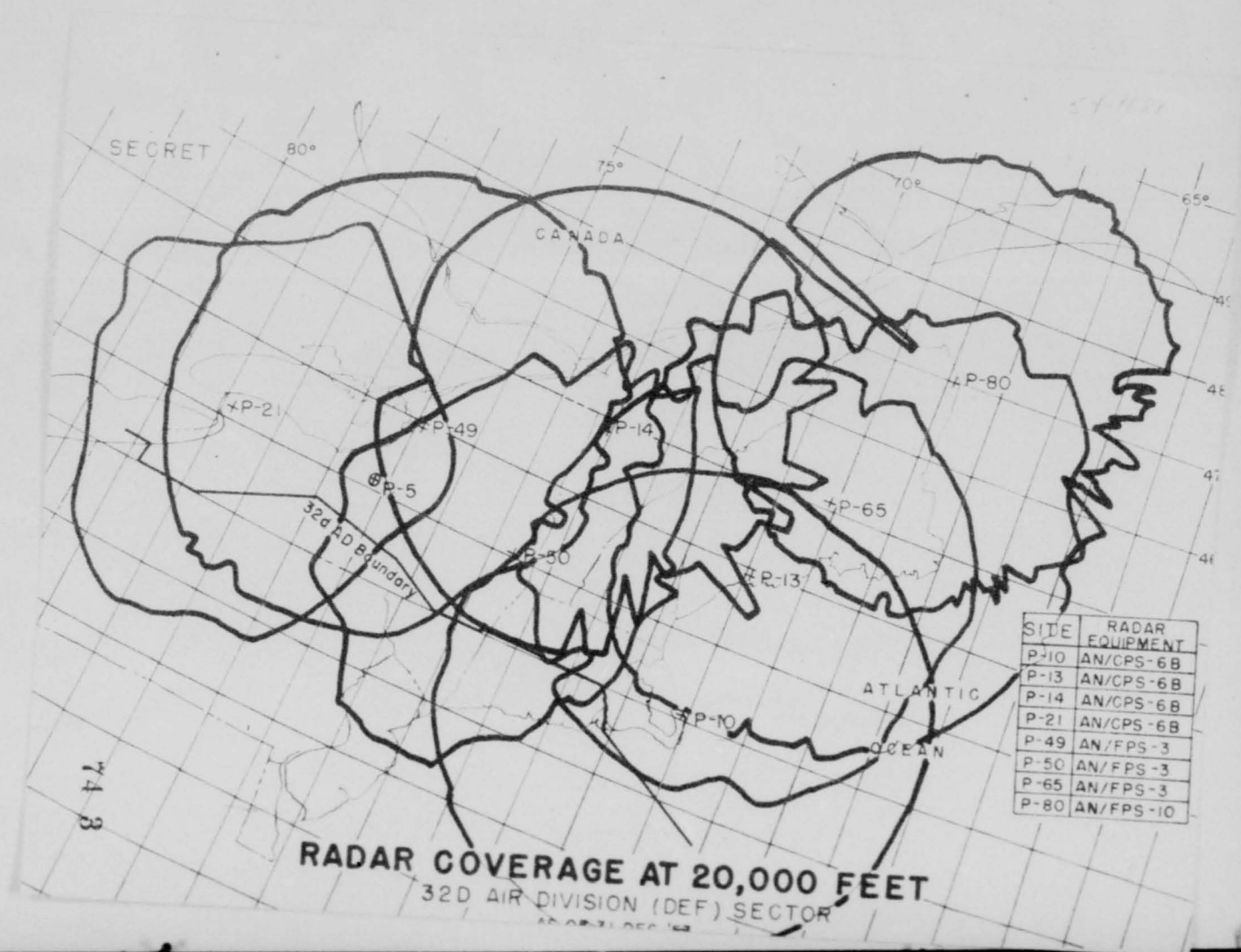
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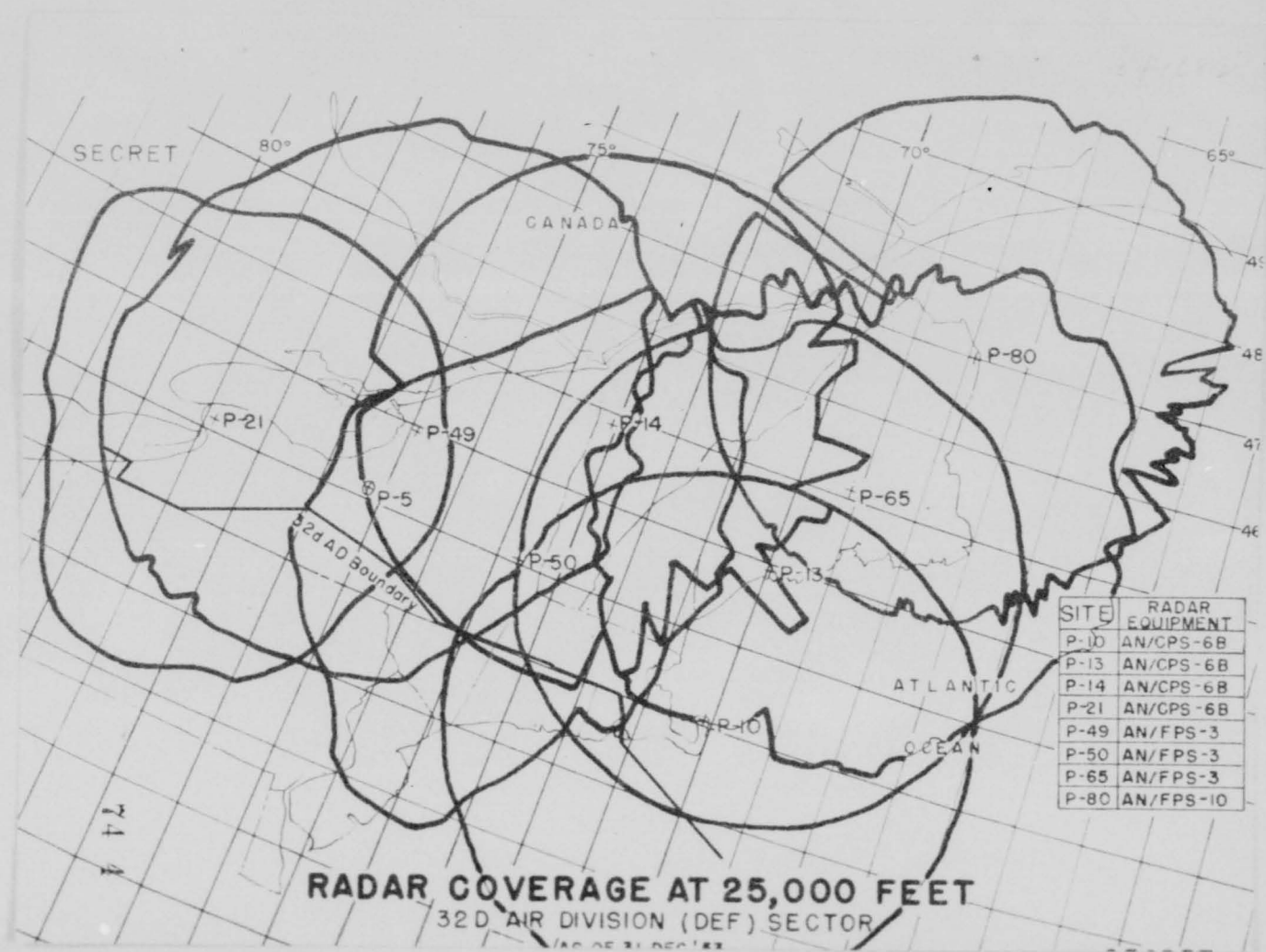
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JANUARY

MONTHLY
SUMMATION

4673rd
GROUND OBSERVER
SQUADRON

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HEADQUARTERS

4073d GROUND OBSERVER SQUADRON
32nd Air Division (Defense)
Syracuse, New York
December 1953

COMMANDER, 4073d Ground Observer Squadron Major Charles Lappe, Hancock Fld, Syracuse, NY
Operations Officer, 4073d Ground Observer Squadron Capt. D. V. Neuh, Hancock Fld, Syracuse, NY

DETACHMENT COMMANDERS

Detachment One Major F. L. Bickell, 2500 Maine St., Buffalo, NY
Detachment Two Capt W. A. Hammer, 624 W. State St., Syracuse, NY
Detachment Three Capt D. P. Stanbrum, 208 Central Ave., Albany, NY
Detachment Four Capt L. S. M. Grath, 1797 Elm St., Manchester, NH
Detachment Five Capt R. E. Johnson, Pine Street School, Bangor, ME

GROUND OBSERVER CORPS STATE COORDINATORS, 32ND AIR DIVISION

DIRECTOR OF CIVIL DEFENSE, 32nd Air Division Major Donald E. Casety, Hancock Fld, Syracuse, NY
NEW YORK Major R. T. Wendell, 124 E. 28th St., New York 16, NY
VERMONT Lt Col C. V. Charbonneau, Redstone, Montpelier, Vt
NEW HAMPSHIRE Lt Col R. P. Hamilton, State House, Concord, NH
MAINE Major, T. G. Schiebel, State House, Augusta, Me
MASSACHUSETTS Major F. C. Woodward, 905 Commonwealth Ave., Boston, Mass.

DISTRIBUTION

Commander, EADF 4	Adjutant, 32d AD(D) 1	GOS State Coord's 2ea
Commander, 32d AD(D) 1	Dep Operations 32dAD(D) 1	Det Commanders 2ea
Dep Commander, 32d AD(D) 1	Historical Section 32d AD(D) 5	Squadron 2
	Comptroller, 32d AD(D) 3	IG Section 1

GENERAL PURPOSE

This Manual is intended to provide guidance for the Ground Observer Operation of the 124th AWGSS as follows:

- (a) A Weekly Summary of Progress toward objectives
- (b) A Review of Accomplishments
- (c) A Comparison of Achievements
- (d) Significant Trends in Operations and Performance

DEFINITION OF TERMS USED

REQUIRED OBSERVATION POST

Required observation posts reflects the total potential of observation posts that can be established.

OPERATIONAL OBSERVATION POST

An observation post is considered operational when a supervisor has been appointed, and completed ADG Form 55 (Report of Aircraft Observation Post) and 56 (Report of Chief Observer) have been received and processed at filter center.

PART TIME

Observation posts operating less than 24-hour basis.

FULL TIME

Observation posts operating continuously on a 24-hour basis.

OPERATIONAL, MANNED OR PARTICIPATING OBSERVATION POSTS

An observation post is considered operational, manned or participating when an observer is available at the observation post for transmission of live messages to the filter center.

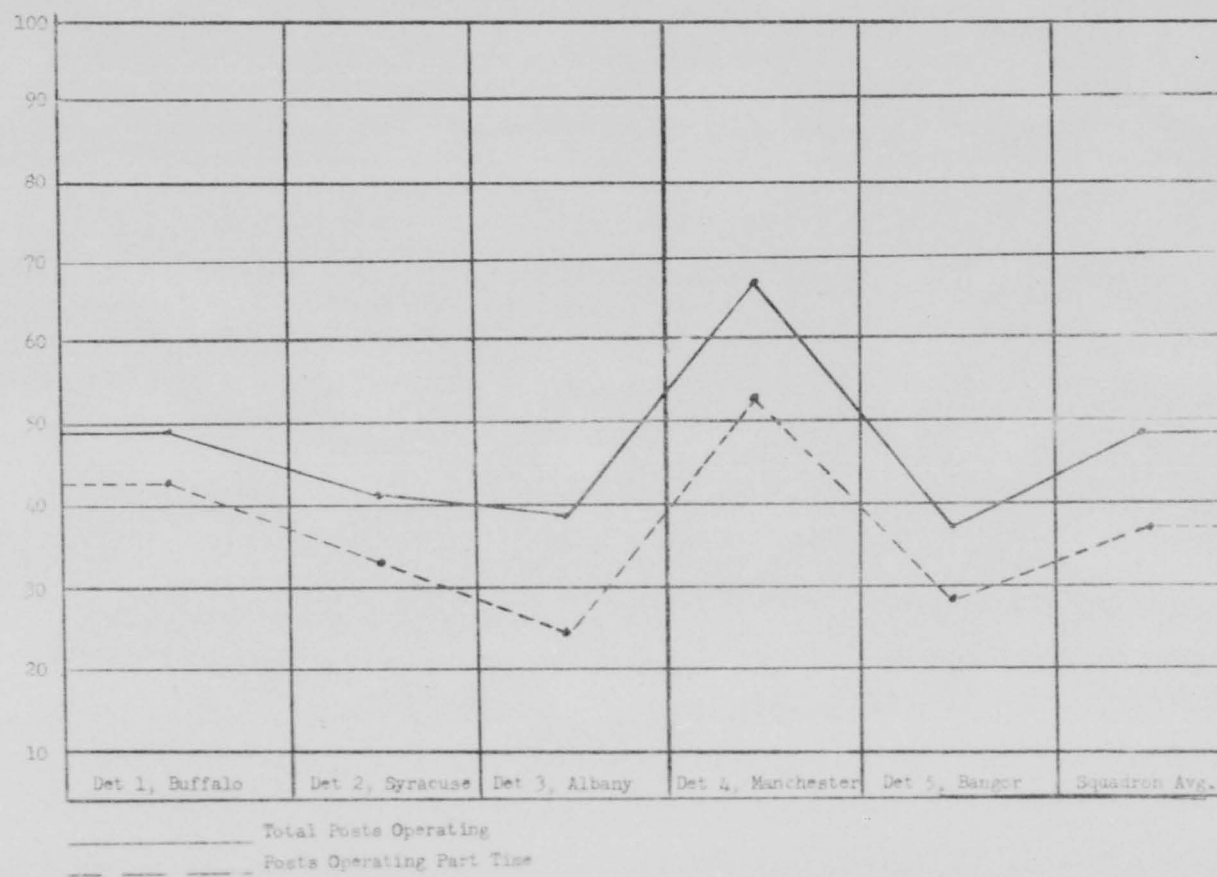
OPERATIONAL CAPABILITY

Operational capability reflects the average number of observation posts participating during 4 six hour periods each day as compared to the number of observation posts.

OBSERVATION POSTS STATUS AS OF 31 JANUARY 1954

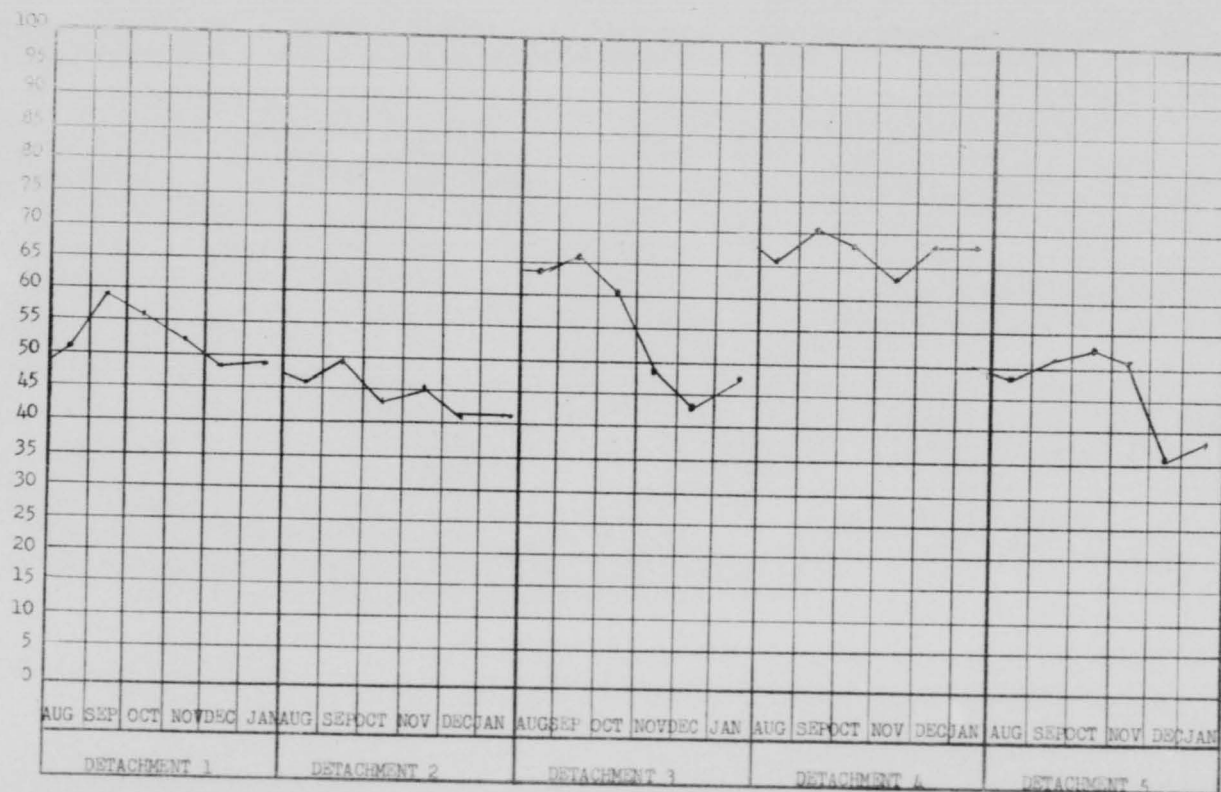
		Civilian Posts				Non-Civilian Posts				TOTAL POSTS				Percentage of Total Required			
		No. Requir- ed	No. Organ- ized	Number Active		No. Requir- ed	No. Organ- ized	Number Active		No. Requir- ed	No. Organ- ized	Number Active		% of Posts Inact- ive	% of Posts oper- ating	Part- Time	Full- Time
				Part Time	Full Time			Part Time	Full Time			Part Time	Full Time				
S T A T E	New York	408	359	165	26	32	21	1	24	197	381	166	50	37	21	11	62
	Vermont	107	81	57	5	39	18	5	13	116	99	62	18	46	40		
	Maine	228	199	79	6	70	70	18	23	298	269	97	29	59	22		
	Mass.	100	99	68	1	22	22	0	22	122	121	68	23	21	55		73
	N. H.	93	73	67	3	46	17	0	17	139	110	67	20	38	48	14	62
	R. I.	2	2	1	1	0	0	0	0	2	2	1	1	0	1	1	100
S _T TOTAL		938	811	437	42	266	152	24	99	1201	985	461	141	51	38	11	62
D E T A C H M E N T	BUFFALO	124	117	57	3	8	6	1	5	132	123	58	8	51	43	4	41
	SYRACUSE	147	134	54	8	15	5	0	5	162	139	54	13	59	33	8	41
	ALBANY	180	127	62	17	82	25	5	20	262	152	67	37	61	25	14	39
	MANCHESTER	294	291	206	9	94	49	0	49	388	340	206	58	33	53	14	67
	BANGOR	193	164	58	5	67	67	18	20	260	231	76	25	62	29	9	38

PERCENTAGE OF POSTS OPERATING



0375

PERCENTAGE OF OBSERVATION
POSTS OPERATING
FOR LAST SIX MONTHS



0376

OPERATIONAL DATA

Filter Center	Plach Calls			Cost			Tracks Established		
	JAN	DEC	INC OR DECR	JAN	DEC	INC OR DEC	JAN	DEC	INC OR DECR
Det 1 Buffalo, N.Y.	5,109	6,374	-- 1,265	.38	.41	-- .03	50	97	+ 47
Det 2 Syracuse, N.Y.	5,026	6,680	-- 1,654	.38	.36	+ .02	58	101	+ 43
Det 3 Albany, N.Y.	10,622	10,622	- 0	.41	.41	- 0	754	770	+ 16
Det 4 Manchester, N.H.	18,696	16,603	+ 2,093	.40	.40	- 0	1,406	1,329	- 77
Det 5 Bangor, Me.	3,346	3,515	- 169	.55	.60	- .05	1,193	1,797	+ 604
Squadron Total	42,799	43,881	- 1,082	.42	.43	- .01	3,461	5,294	+ 1,833

ROAD TEAM ACTIVITIES

Filter Center	Road Team Man Days		Increase or Decrease	Number of people trained		Increase or Decrease
	JANUARY	DECEMBER		JANUARY	DECEMBER	
Det 1	51	63	- 12	490	2,074	- 1,384
Det 2	22	45	- 23	521	400	+ 121
Det 3	50	53	- 3	665	951	- 286
Det 4	53	54	- 1	1,127	826	+ 301
Det 5	84	73	+ 11	1,643	737	+ 906
Sq Total	260	288	- 28	4,446	4,588	- 142

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STATUS OF GOVERNMENT PAID TELEPHONES

FILTER CENTER	JANUARY			DECEMBER			STATE	JANUARY			DECEMBER		
	OP S REQ	OP S SUP	PHONE INST	OP S REQ	OP S SUP	PHONE INST		OP S REQ	OP S SUP	PHONE INST	OP S REQ	OP S SUP	PHONE INST
Det. J. Buffalo	374	39	95	121	98	95	NEW YORK	128	29	112	128	27	112
Det. J. Syracuse	147	89	84	147	95	84	VERMONT	100	32	47	108	30	47
Det. J. Albany	130	36	84	181	84	81	MAINE	228	47	95	229	46	94
Det. J. Manchester	224	209	173	294	209	174	MASSACHUSETTS	100	77	75	100	76	75
Det. J. Bangor	195	74	72	195	75	72	NEW HAMPSHIRE	95	84	48	101	85	49
TOTAL	938	557	403	979	545	500	RHODE ISLAND	2	0	0	2	0	0

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PERSONNEL

FILTER CENTER	OFFICERS		AIRMEN		TOTAL		LOSSES NEXT 60 DAYS	
	AUTH	ASGD	AUTH	ASGD	AUTH	ASGD	OFFICERS	AIRMEN
Det 1 Buffalo	5	4	13	11	18	15	1	1
Det 2 Syracuse	5	3	15	13	20	16	0	0
Det 3 Albany	5	3	15	15	20	18	0	0
Det 4 Manchester	6	2	15	16	21	18	0	0
Det 5 Schenectady	5	2	15	13	20	15	0	0
Det 6 Schenectady	3	2	15	3	18	10	0	0

0379

4673rd
GROUND OBSERVER
SQUADRON

MONTHLY
SUMMATION

FEBRUARY

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MONTHLY SUMMATION
 4673D GROUND OBSERVER SQUADRON
 32nd Air Division (Defense)
 Syracuse, New York
 December 1953

COMMANDER, 4673d Ground Observer Squadron Major Charles Lappas, Hancock Fld, Syracuse, NY
 Operations Officer, 4673d Ground Observer Squadron Capt D. V. Bouck, Hancock Fld, Syracuse, NY

DETACHMENT COMMANDERS:

Detachment One Major H. L. Bickell, 2500 Maine St, Buffalo, NY
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GROUND OBSERVER CORPS STATE COORDINATORS, 32ND AIR DIVISION

DIRECTOR OF CIVIL DEFENSE, 32nd Air Division Major Donald R. Casety, Hancock Fld, Syracuse, NY
 NEW YORK Major R. T. Wendell, 124 E. 28th St, New York 16, NY
 VERMONT Lt Col C. V. Charbonneau, Redstone, Montpelier, Vt
 NEW HAMPSHIRE Lt Col R. P. Hamilton, State House, Concord, NH
 MAINE Major T. C. Schiebel, State House, Augusta, Me
 MASSACHUSETTS Major F. C. Woodward, 905 Commonwealth Ave, Boston, Mass

DISTRIBUTION

Commander, EADF.....4	Adjutant, 32d AD(D).....1	GOS State Coord's.....2ea
Commander, 32d AD(D).....1	Dep Operations 32d AD(D).....1	Det Commanders.....2ea
Dep Commander, 32d AD(D).....1	Historical Section 32d AD(D)....5	Squadron.....2
	Comptroller, 32d AD(D).....3	IG Section.....1

GOC MONTHLY SUMMATION

This Monthly Summation is designed to present concisely for the Ground Observer Squadron of the 32nd Air Division the following:

- (a) A Monthly Summary of Progress toward objectives
- (b) A Review of Accomplishments
- (c) A comparison of Achievements
- (d) Significant Trends in Operations and Achievements

DEFINITION OF TERMS USED

REQUIRED OBSERVATION POST

Required observation posts reflects the total potential of observation posts that can be established.

ORGANIZED OBSERVATION POST

An observation post is considered organized when a supervisor has been appointed, and completed ADC Form 55 (Report of Aircraft Observation Posts) and 57 (Report of Chief Observer) have been received and processed at filter center.

PART TIME

Observation posts operating less than 24-hour basis.

FULL TIME

Observation posts operating continuously on a 24-hour basis.

OPERATIONAL, MANNED OR PARTICIPATING OBSERVATION POSTS

An observation post is considered operational, manned or participating when an observer is available at the observation post for transmission of live messages to the filter center.

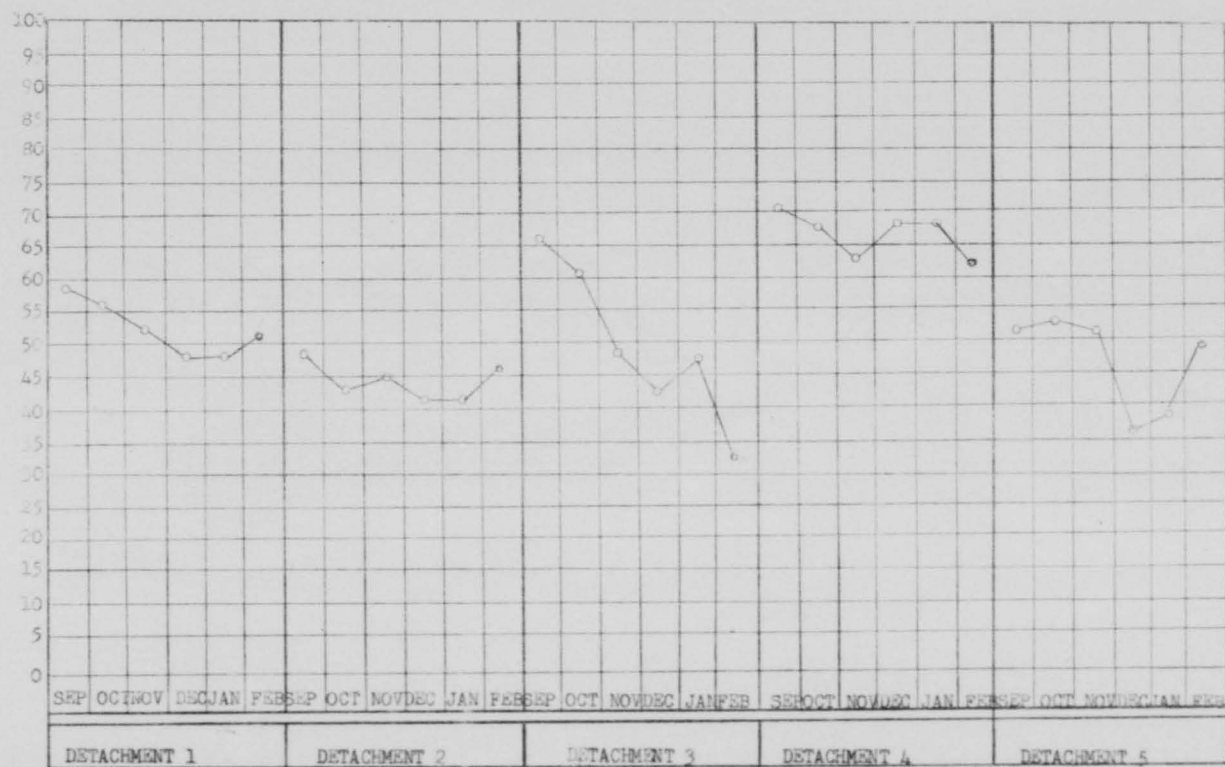
OPERATIONAL CAPABILITY

Operational capability reflects the average number of observation posts participating during 4 six hour periods each day as compared to the number of observation posts.

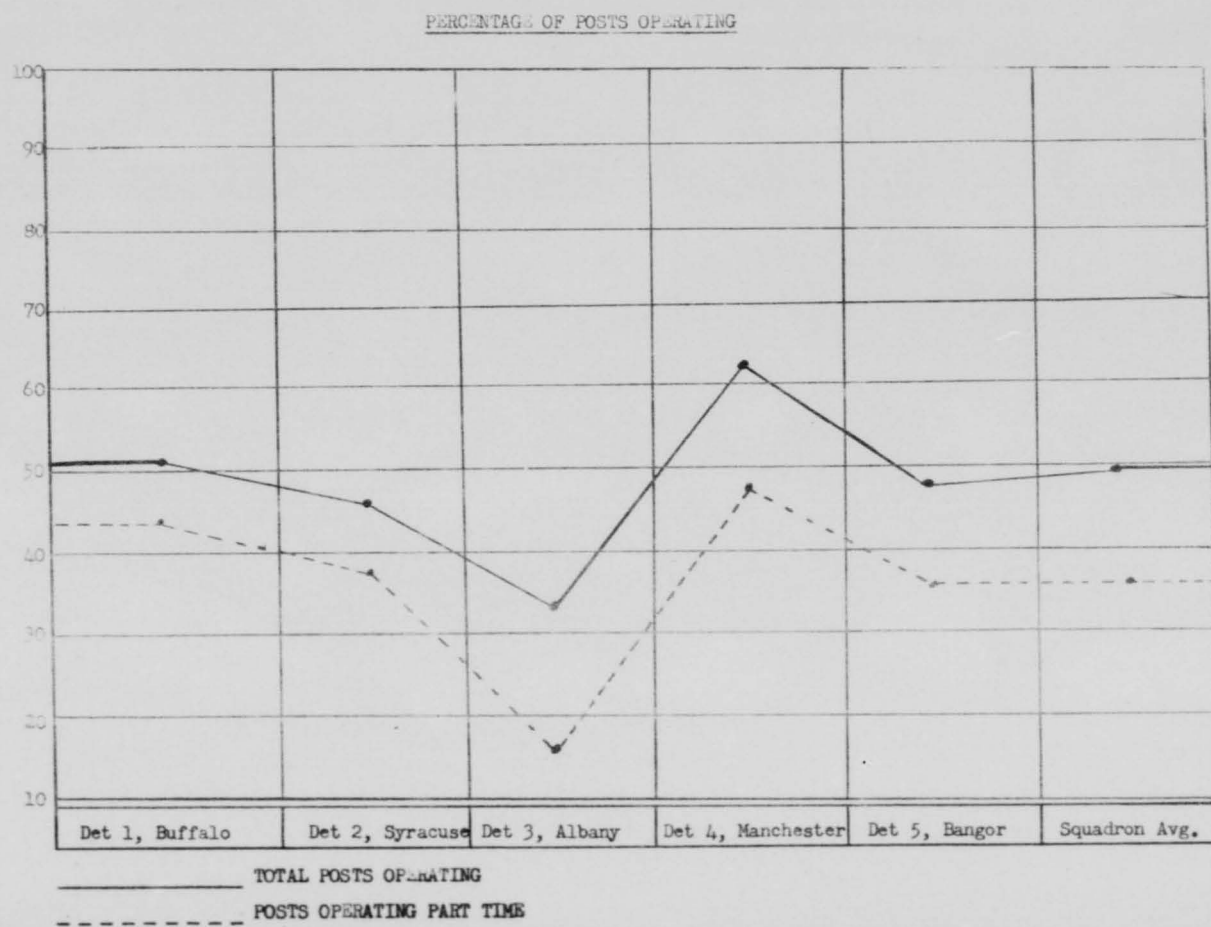
OBSERVATION POSTS STATUS AS OF 28 FEBRUARY 1954

		CIVILIAN POSTS				NON-CIVILIAN POSTS				TOTAL POSTS				PERCENTAGE OF TOTAL REQUIRED			
		No. Requir- ed	No. Organ- ized	Number Active		No. Requir- ed	No. Organ- ized	Number Active		No. Requir- ed	No. Organ- ized	Number Active		% OF POSTS INACT- IVE	% OF POSTS OPER- ATING	TOTAL % POST OPER- ATING	
				PART TIME	FULL TIME			PART TIME	FULL TIME			PART TIME	FULL TIME				
S T A T E	NEW YORK	406	361	157	33	89	25	1	24	497	386	158	37	58	31	11	42
	VERMONT	103	72	41	6	39	18	0	13	142	97	41	24	56	28	16	44
	MAINE	231	202	100	9	70	70	10	28	301	272	110	37	52	36	12	48
	MASS.	190	99	52	1	22	22	0	22	192	121	58	24	45	47	35	67
	N.H.	24	94	67	5	46	17	0	17	140	111	67	22	48	47	35	62
	R.I.	2	2	1	1	0	0	0	0	2	2	1	1	0	50	50	100
STATE TOTAL		938	837	424	55	266	152	11	109	1204	989	435	154	51	36	13	43
D E T A C H M E N T	BUFFALO	124	116	58	5	8	6	1	5	132	122	59	10	49	44	7	51
	SYRACUSE	147	137	60	10	15	5	0	5	162	142	60	15	54	37	9	46
	ALBANY	178	127	44	21	82	25	0	25	260	152	44	46	67	16	17	33
	MANCHESTER	293	290	186	11	94	49	0	49	387	339	186	60	38	47	15	62
	BANGOR	196	167	76	8	67	67	10	25	263	234	86	33	52	36	12	48

PERCENTAGE OF OBSERVATION
POSTS OPERATING
FOR LAST SIX MONTHS



0384



0385

OPERATIONAL DATA

FILTER CENTER	FLASH CALLS			COST			TRACKS ESTABLISHED		
	JAN	FEB	INC OR DECR	JAN	FEB	INC OR DEC	JAN	FEB	INC OR DECR
DETACHMENT 1	5,109	5,490	+ 381	.38	.38	.00	50	439	+ 380
DETACHMENT 2	5,026	5,741	+ 715	.38	.39	+ .01	58	175	+ 117
DETACHMENT 3	10,622	8,394	- 2,338	.41	.42	+ .01	754	699	- 55
DETACHMENT 4	18,696	14,351	- 4,345	.40	.43	+ .03	1,406	2,243	+ 837
DETACHMENT 5	3,346	2,811	- 535	.55	.56	+ .01	1,193	1,871	+ 678
SQUADRON TOTAL	42,799	36,783	- 6,016	.42	.43	+ .01	3,461	5,427	+ 1,966

ROAD TEAM ACTIVITIES

FILTER CENTER	ROAD TEAM MAN DAYS		INCREASE OR DECREASE	NUMBER OF PEOPLE TRAINED		INCREASE OR DECREASE
	JANUARY	FEBRUARY		JANUARY	FEBRUARY	
DETACHMENT 1	51	63	+ 12	490	2,005	+ 1,596
DETACHMENT 2	22	53	+ 31	521	774	+ 253
DETACHMENT 3	50	69	+ 19	665	996	+ 331
DETACHMENT 4	53	71	+ 18	1,127	7,162	+ 6,035
DETACHMENT 5	84	75	- 9	1,643	1,152	- 491
SQUADRON TOTAL	260	331	+ 71	4,446	12,089	+ 7,643

0386

STATUS OF GOVERNMENT PAID TELEPHONES

FILTER CENTER	JANUARY			FEBRUARY			STATE	JANUARY			FEBRUARY		
	OP'S REQ	134 SUB	PHONE INST	OP'S REQ	134 SUB	PHONE INST		OP'S REQ	134 SUB	PHONE INST	OP'S REQ	134 SUB	PHONE INST
DIST 1, BUFFALO	224	99	90	124	99	89	NEW YORK	408	256	242	408	299	241
DIST 2, SYRACUSE	147	89	84	147	90	87	VERMONT	107	51	47	103	51	47
DIST 3, ALBANY	180	86	84	178	88	82	MAINE	228	97	93	211	107	91
DIST 4, MANCHESTER	294	209	173	293	209	173	MASSACHUSETTS	100	87	75	100	87	75
DIST 5, BANGOR	193	74	72	196	74	72	NEW HAMPSHIRE	93	64	48	96	64	48
TOTAL	938	557	503	938	560	503	RHODE ISLAND	2	0	0	2	2	2

0387

PERSONNEL

FILTER CENTER	OFFICERS		AIRMEN		TOTAL		LOSSES NEXT 60 DAYS	
	AUTH	ASGD	AUTH	ASGD	AUTH	ASGD	OFFICERS	AIRMEN
DET 1 BUFFALO, NY	5	3	13	10	18	13	0	0
DET 2 SYRACUSE, NY	5	3	15	13	20	16	0	0
DET 3 ALBANY, NY	5	3	15	15	20	18	0	0
DET 4 MANCHESTER N.H.	6	2	15	17	21	19	0	0
DET 5 BANGOR, ME	5	2	15	13	20	15	0	0
SO HQ	3	2	5	2	8	4	0	0

0388

4673rd
GROUND OBSERVER
SQUADRON

MONTHLY
SUMMATION

MARCH

27
28
29

0389

MONTHLY SUMMATION
4673D GROUND OBSERVER SQUADRON
32ND AIR DIVISION (DEFENSE)
Syracuse, New York
March 1954

COMMANDER, 4673d Ground Observer Squadron. Major Charles Lappas, Syracuse AFS, Syracuse, N.Y.
Operations Officer, 4673d Ground Observer Squadron Capt D. V. Bouck, Syracuse AFS, Syracuse, N.Y.

DETACHMENT COMMANDERS:

Detachment One. Major H.L. Bickell, 2500 Maine St, Buffalo, N.Y.
Detachment Two. Capt W. A. Hammer, 624 N. State St, Syracuse, N.Y.
Detachment Three. Capt D.P. Giambruno, 268 Central Ave, Albany, N.Y.
Detachment Four. Capt C.E. McGrath, 1257 Elm St, Manchester, N.Y.
Detachment Five. Capt R.E. Johnson, Pine St School, Bangor, Me.

GROUND OBSERVER CORPS STATE COORDINATORS

DIRECTOR OF CIVIL DEFENSE, 32nd Air Division. Major Donald R. Casety, Syracuse AFS, Syracuse, N.Y.
NEW YORK. Major R. T. Wendell, 124 E. 28th St, New York 16, NY
VERMONT Lt Col C.V. Charbonneau, Redstone, Montpelier, Vt.
NEW HAMPSHIRE Lt Col Hamilton, State House, Concord, N.H.
MAINE Major T. C. Schiebel, State House, August, Me.
MASSACHUSETTS Major F. C. Woodward, 905 Commonwealth Ave, Boston,

DISTRIBUTION

Commander, EADF.....4	Adjutant, 32d AD(D).....1	GOS State Coord's.....2ea
Commander, 32d AD(D).....1	Dep Operations 32dAD(D).....1	Det Commanders.....2 ea
Dep Commander, 32d AD(D).....1	Historical Section 32d AD(D).5	Squadron.....2
	Comptroller, 32d AD(D).....3	IG Section.....1

GOC MONTHLY SUMMATION

This Monthly Summation is designed to present concisely for the Ground Observer Squadron of the 32nd Air Division the following:

- (A) A Monthly Summary of Progress toward objectives
- (B) A Review of Accomplishments
- (C) A comparison of Achievements
- (D) Significant Trends in Operations and Achievements

DEFINITION OF TERMS USED

REQUIRED OBSERVATION POST

Required observation posts reflects the total potential of observation posts that can be established.

ORGANIZED OBSERVATION POST

An observation post is considered organized when a supervisor has been appointed, and completed ADC Form 55 (Report of Aircraft Observation Posts) and 57 (Report of Chief Observer) have been received and processed at filter center.

PART TIME

Observation posts operating less than 24-hour basis

FULL TIME

Observation posts operating continuously on a 24-hour basis

OPERATIONAL, MANNED OR PARTICIPATING OBSERVATION POSTS

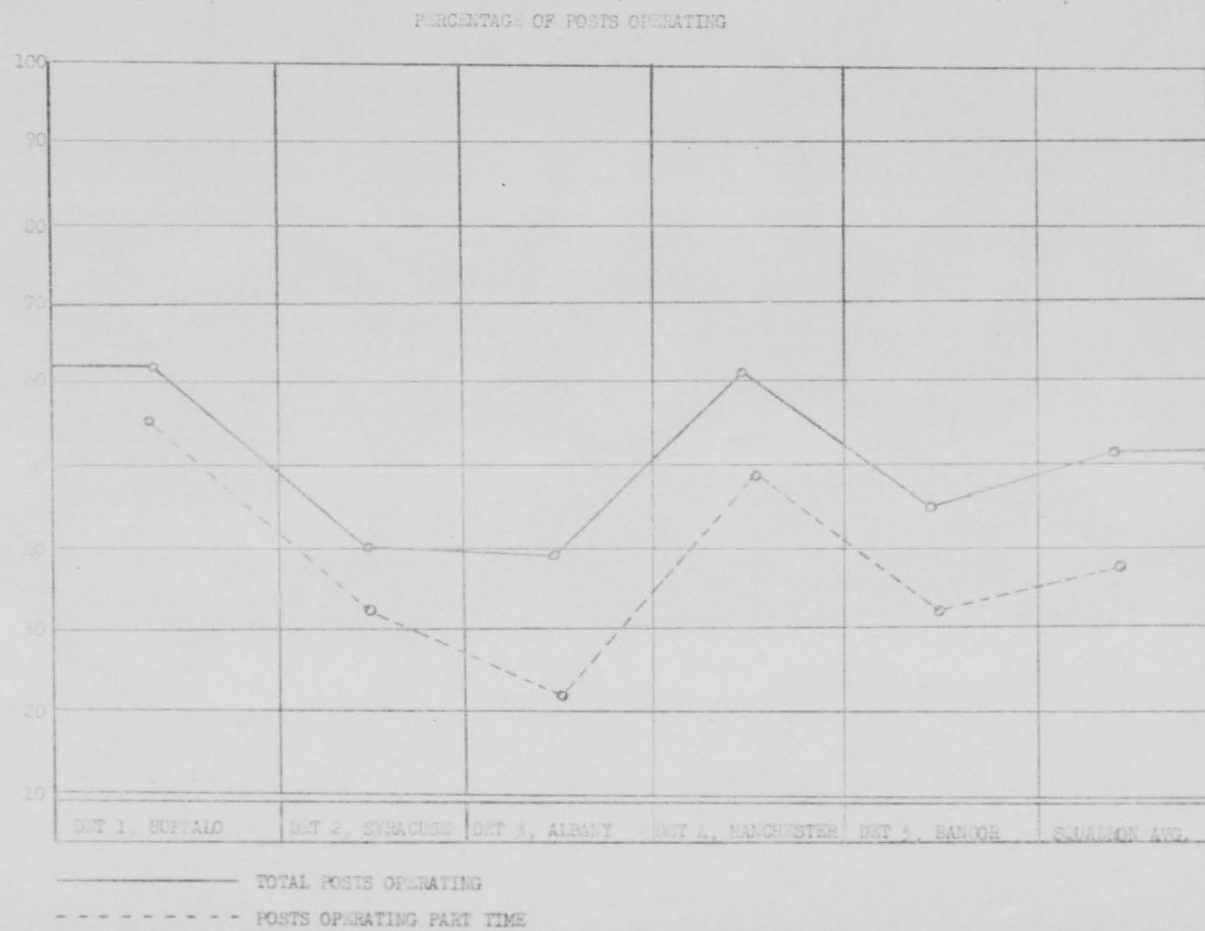
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OPERATIONAL CAPABILITY

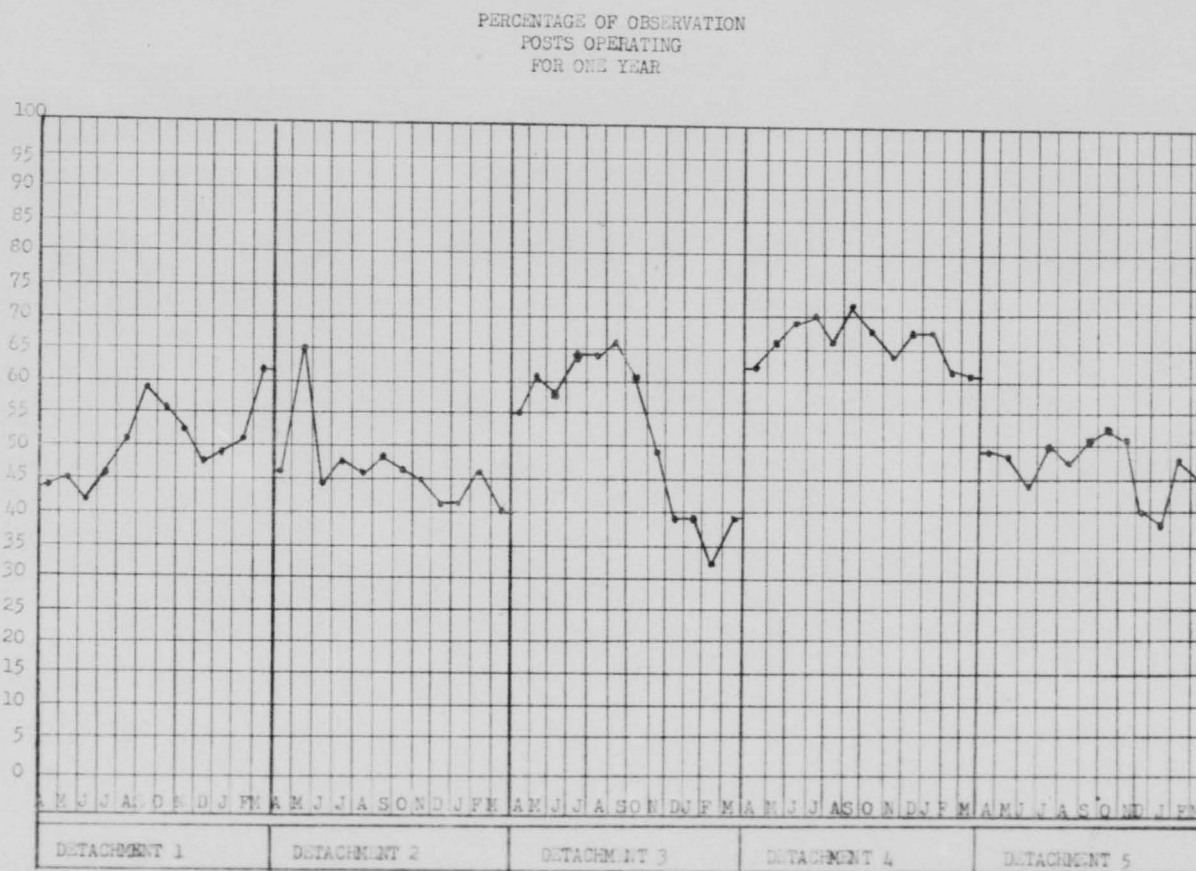
Operational capability reflects the average number of observation posts participating during 4 six hour periods each day as compared to the number of observation posts.

OBSERVATION POSTS STATUS OF 31 MARCH 1954

		CIVILIAN POSTS				NON-CIVILIAN POSTS				TOTAL POSTS				PERCENTAGE OF TOTAL REQUIRED			
		No. Required	No. Organized	NUMBER ACTIVE		No. Required	No. Organized	NUMBER ACTIVE		No. Required	No. Organized	NUMBER ACTIVE		% OF POSTS INACTIVE	% OF POSTS OPERATING	TOTAL % POST OPERATING	
				PART TIME	FULL TIME			PART TIME	FULL TIME			PART TIME	FULL TIME				
S T A T E	NEW YORK	410	367	172	33	89	25	1	24	499	392	173	57	55	34	31	45
	VERMONT	161	75	51	3	39	18	0	17	140	97	51	26	30	36	11	36
	MAINE	341	303	37	9	71	71	12	39	302	274	109	39	56	33	18	44
	MASS.	160	99	60	1	22	22	0	22	122	121	80	23	33	45	17	67
	N.H.	92	92	67	4	45	17	0	17	137	109	67	21	37	68	15	63
	R.I.	2	2	1	1	0	0	0	0	2	2	1	1	0	50	50	100
STATE TOTAL		936	842	448	51	266	153	13	110	1202	995	481	161	49	38	15	51
D E T A C H M E N T	BUFFALO	124	117	74	3	8	6	1	5	132	123	75	8	38	56	6	62
	SYRACUSE	149	139	54	9	15	5	0	5	164	144	54	14	60	32	8	40
	ALBANY	178	132	58	21	82	25	0	24	260	157	58	45	61	22	17	39
	MANCHESTER	289	286	189	10	93	49	0	49	382	335	189	59	39	49	12	61
	BANDOR	196	168	73	8	68	68	12	27	264	236	85	35	55	32	13	45



0393



0394

STATUS OF GOVERNMENT PAID TELEPHONES

FILTER CENTER	MARCH			FEBRUARY			STATE	MARCH			FEBRUARY		
	OP'S REQ'D	134 SUB	PHONES INST	OP'S REQ'D	134 SUB	PHONES INST		OP'S REQ'D	134 SUB	PHONES INST	OP'S REQ'D	134 SUB	PHONE INST
DET 1, BUFFALO	124	103	94	124	99	89	NEW YORK	410	271	247	408	259	243
DET 2, SYRACUSE	149	92	88	147	90	87	VERMONT	101	51	43	103	51	42
DET 3, ALBANY	178	94	81	178	88	82	MAINE	231	96	93	231	107	93
DET 4, MANCHESTER	289	210	173	293	209	173	MASSACHUSETTS	100	88	75	100	87	75
DET 5, BANGOR	196	73	72	196	74	72	NEW HAMPSHIRE	92	64	48	94	64	48
TOTAL	936	572	508	938	560	503	RHODE ISLAND	2	2	2	2	2	2

0395

OPERATIONAL DATA

FILTER CENTER	FLASH CALLS			COST			TRACKS ESTABLISHED		
	MAR	FEB	INC OR DECR	MAR	FEB	INC OR DECR	MAR	FEB	INC OR DECR
DETACHMENT 1	10,250	5,490	+ 4,760	.37	.38	- .01	667	439	+ 228
DETACHMENT 2	7,521	5,741	+ 1,780	.38	.39	- .01	157	175	- 18
DETACHMENT 3	7,934	8,394	- 460	.43	.42	+ .01	964	699	+ 265
DETACHMENT 4	16,240	14,351	+ 1,889	.42	.43	- .01	2,028	2,243	- 215
DETACHMENT 5	2,645	2,811	+ 1,834	.57	.56	+ .01	2,682	1,871	+ 811
SQUADRON TOTAL	46,590	36,783	+ 9,807	.43	.43	.00	6,498	5,427	+ 1,071

ROAD TEAM ACTIVITIES

FILTER CENTER	ROAD TEAM MAN DAYS		INCREASE OR DECREASE	NUMBER OF PEOPLE BRIEFED		INCREASE OR DECREASE
	MARCH	FEBRUARY		MARCH	FEBRUARY	
DETACHMENT 1	96	63	+ 33	1,885	2,005	- 120
DETACHMENT 2	64	53	+ 11	639	774	- 135
DETACHMENT 3	94	69	+ 25	1,452	996	+ 456
DETACHMENT 4	87	71	+ 16	5,654	7,162	- 1,508
DETACHMENT 5	74	75	- 1	4,193	1,152	+ 3,041
SQUADRON TOTAL	415	331	- 84	13,823	12,089	+ 1,734

0396

PERSONNEL

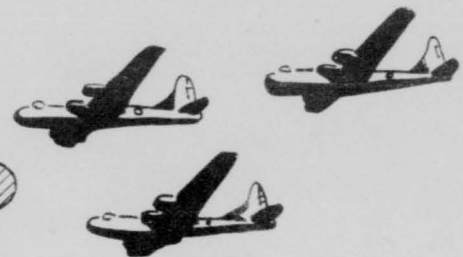
FILTER CENTER	OFFICERS		AIRMEN		TOTAL		LOSSES NEXT 60 DAYS	
	AUTH	ASGD	AUTH	ASGD	AUTH	ASGD	OFFICERS	AIRMEN
DET 1 BUFFALO, NY	5	3	13	10	18	13	0	1
DET 2 SYRACUSE	5	4	15	13	20	17	0	0
DET 3 ALBANY, NY	5	3	15	15	20	18	0	1
DET 4 MANCHESTER	6	2	15	17	21	19	0	1
DET 5 BANGOR, ME	5	3	15	12	20	15	0	0
SQ HQ	3	2	5	2	8	4	0	0

0397

MONTHLY SUMMATION
APRIL '54

4673RD

GROUND



OBSERVER

SQUADRON



754

32nd AID DIVISION (REF)

0398

MONTHLY SUMMATION
4673D GROUND OBSERVER SQUADRON
32ND AIR DIVISION (DEFENSE)
Syracuse, New York
April 1954

COMMANDER, 4673d Ground Observer Squadron. Major Charles Lappas, Syracuse AFS, Syracuse, N.Y.
Operations Officer, 4673d Ground Observer Squadron Capt D. V. Bouck, Syracuse AFS, Syracuse, N.Y.

DETACHMENT COMMANDERS:

Detachment One Major H.L. Bickell, 2500 Maine St, Buffalo, N.Y.
Detachment Two. Capt W. A. Hammer, 624 N. State St, Syracuse, N.Y.
Detachment Three. Capt D.P. Giambruno, 268 Central Ave, Albany, N.Y.
Detachment Four Capt C.B. McGrath, 1257 Elm St, Manchester, N.Y.
Detachment Five Capt R.E. Johnson, Pine St School, Bangor, Me.

GROUND OBSERVER CORPS STATE COORDINATORS

DIRECTOR OF CIVIL DEFENSE, 32nd Air Division. Major Donald R. Casety, Syracuse AFS, Syracuse, N.Y.
NEW YORK. Major R. T. Wendell, 124 E. 28th St, New York 16, NY
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NEW HAMPSHIRE Lt Col Hamilton, State House, Concord, N.H.
MAINE Major T. C. Schiebel, State House, August, Me.
MASSACHUSETTS Major F. C. Woodward, 905 Commonwealth Ave, Boston,

DISTRIBUTION

Commander, EADF.....4
Commander, 32d AD(D).....1
Dep Commander, 32d AD(D).....1

Adjutant, 32d AD(D).....1
Dep Operations 32dAD(D).....1
Historical Section 32d AD(D).5
Comptroller, 32d AD(D).....3

GOS State Coord's.....2ea
Det Commanders.....2 ea
Squadron.....2
IG Section.....1

GOC MONTHLY SUMMATION

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DEFINITION OF TERMS USED

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Required observation posts reflects the total potential of observation posts that can be established.

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An observation post is considered organized when a supervisor has been appointed, and completed ADC Form 55 (Report of Aircraft Observation Posts) and 57 (Report of Chief Observer) have been received and processed at filter center.

PART TIME

Observation posts operating less than 24-hour basis

FULL TIME

Observation posts operating continuously on a 24-hour basis

OPERATIONAL, MANNED OR PARTICIPATING OBSERVATION POSTS

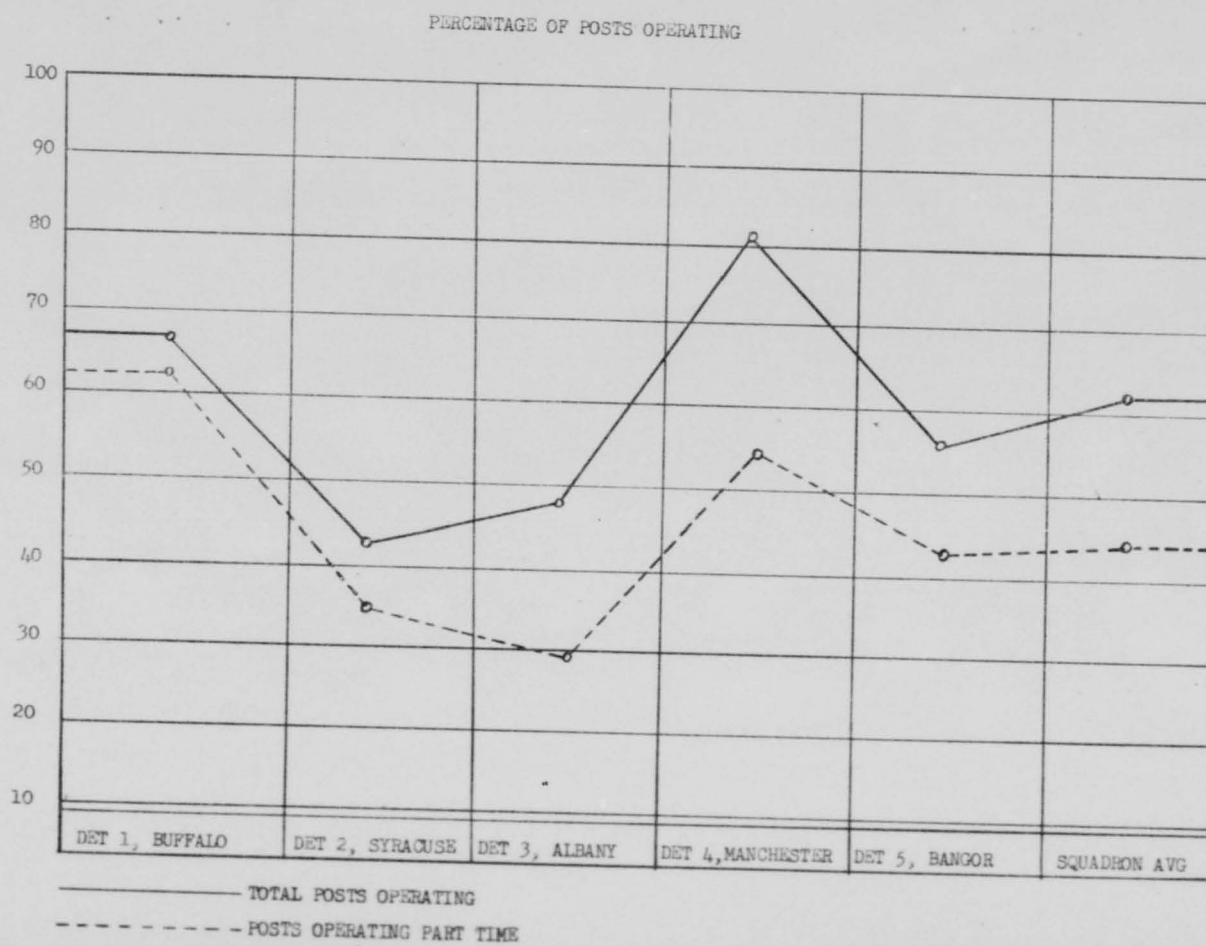
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OPERATIONAL CAPABILITY

Operational capability reflects the average number of observation posts participating during 4 six hour periods each day as compared to the number of observation posts.

OBSERVATION POSTS STATUS
AS OF 30 APRIL 1954

		CIVILIAN POSTS				NON-CIVILIAN POSTS				TOTAL POSTS				PERCENTAGE OF TOTAL REQUIRED			
		No. Required	No. Organized	NUMBER ACTIVE		No. Required	No. Organized	NUMBER ACTIVE		No. Required	No. Organized	NUMBER ACTIVE		% of Posts Inactive	% of Posts Operating	Total % Posts Operating	
				PART TIME	FULL TIME			PART TIME	FULL TIME			PART TIME	FULL TIME				
S T A T E	NEW YORK	409	376	139	28	30	80	7	32	499	456	206	60	47	41	12	53
	VERMONT	100	82	45	3	39	39	0	34	139	121	55	37	35	29	26	65
	MAINE	230	205	108	9	47	47	19	28	277	252	127	37	42	45	13	58
	MASS.	100	99	69	1	22	22	0	22	122	121	69	23	26	56	18	74
	N.H.	92	92	77	6	45	45	0	45	137	137	77	31	7	54	32	83
	R.I.	2	2	1	1	0	0	0	0	2	2	1	1	0	50	50	100
STATE TOTAL		933	856	509	48	243	233	26	161	1176	1089	635	209	38	45	12	62
D E T A C H M E N T	BUFFALO	124	124	81	2	9	9	4	5	133	133	85	7	32	63	5	68
	SYRACUSE	148	138	62	9	15	5	0	5	163	143	62	14	57	35	8	43
	ALBANY	179	139	74	17	82	82	3	33	260	221	77	50	52	29	19	48
	MANCHESTER	288	285	208	12	93	93	0	93	381	378	208	105	19	54	27	81
	BANGOR	195	170	84	8	44	44	19	25	239	214	103	33	44	43	13	56



0403

OPERATIONAL DATA

FILTER CENTER	FLASH CALLS			COST			TRACKS ESTABLISHED		
	MAR	APR	INC OR DECR	MAR	APR	INC OR DECR	MAR	APR	INC OR DECR
DETACHMENT 1	10,250	14,556	/ 4,306	.37	.36	- .01	667	1,039	/ 372
DETACHMENT 2	7,521	8,676	/ 733	.38	.37	- .01	157	107	- 50
DETACHMENT 3	7,934	9,294	/ 1,360	.43	.41	- .02	964 964	1,030	/ 66
DETACHMENT 4	16,240	20,518	/ 4,278	.42	.44	/ .02	2,028	2,222	+ 194
DETACHMENT 5	4,645	5,177	/ 523	.56	.57	/ .01	2,628	2,586	- 96
SQUADRON TOTAL	46,590	58,217	/ 11,625	.43	.43	.00	6,498	6,984	/ 486

ROAD TEAM ACTIVITIES

FILTER CENTER	ROAD TEAM MAN DAYS		INCREASE OR DECREASE	NUMBER OF PEOPLE BRIEFED		INCREASE OR DECREASE
	MARCH	APRIL		MARCH	APRIL	
DETACHMENT 1	96	84	- 12	1,885	1,153	- 732
DETACHMENT 2	64	43	- 21	639	723	+ 84
DETACHMENT 3	94	89	- 5	1,452	1,669	+ 2,121
DETACHMENT 4	87	86	- 1	5,654	2,790	- 2,864
DETACHMENT 5	74	60	- 14	4,193	3,030	- 1,163
SQUADRON TOTAL	415	362	- 53	13,823	9,365	- 4,458

0404

STATUS OF GOVERNMENT PAID TELEPHONES

FILTER CENTER	MARCH			APRIL			STATE	MARCH			APRIL		
	OP'S REQD	134 SUB	PHONES INST	OP'S REQD	134 SUB	PHONES INST		OP'S REQD	134 SUB	PHONES INST	OP'S REQD	134 SUB	PHONE INST
DETACHMENT 1	124	103	94	124	99	99	NEW YORK	410	271	247	409	273	253
DETACHMENT 2	149	92	88	148	95	89	VERMONT	101	51	43	100	52	45
DETACHMENT 3	178	94	81	178	98	81	MAINE	231	96	93	230	104	82
DETACHMENT 4	289	210	173	288	210	173	MASSACHUSETTS	100	88	75	100	88	75
DETACHMENT 5	196	73	72	195	75	71	NEW HAMPSHIRE	92	64	48	92	64	48
TOTAL	936	572	508	933	577	513	RHODE ISLAND	2	2	2	2	2	2

0405

PERSONNEL

FILTER CENTER	OFFICERS		AIRMEN		TOTAL		LOSSES NEXT 60 DAYS	
	AUTH	ASGD	AUTH	ASGD	AUTH	ASGD	OFFICERS	AIRMEN
DET 1 BUFFALO, NY	5	3	13	11	18	14	0	2
DET 2 SYRACUSE, NY	5	4	15	13	20	17	0	0
DET 3 ALBANY, NY	5	3	15	16	20	19	0	2
DET 4 MANCHESTER NEW HAMPSHIRE	6	2	15	17	21	19	0	1
DET 5 BANGOR, ME	5	3	15	14	20	17	1	1
SQ HQ SYRACUSE, NY	3	2	5	2	8	4	0	0

0406

MONTHLY SUMMATION
MAY '54

4673RD

GROUND



OBSERVER

SQUADRON

75 5



0407

52nd Air Div (off)

MONTHLY SUMMATION
4673D GROUND OBSERVER SQUADRON
32ND AIR DIVISION (DEFENSE)
Syracuse, New York
1954

COMMANDER, 4673d Ground Observer Squadron. Major Charles Lappas, Syracuse AFS, Syracuse, N.Y.
Operations Officer, 4673d Ground Observer Squadron Capt D. V. Bouck, Syracuse AFS, Syracuse, N.Y.

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Detachment Five Capt R.E. Johnson, Pine St School, Bangor, Me.

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Commander, 32d AD(D).....1	Dep Operations 32dAD(D).....1	Det Commanders.....2 ea
Dep Commander, 32d AD(D).....1	Historical Section 32d AD(D).5	Squadron.....2
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GOC MONTHLY SUMMATION

This Monthly Summation is designed to present concisely for the Ground Observer Squadron of the 32nd Air Division the following:

- (A) A Monthly Summary of Progress toward objectives
- (B) A Review of Accomplishments
- (C) A comparison of Achievements
- (D) Significant Trends in Operations and Achievements

DEFINITION OF TERMS USED

REQUIRED OBSERVATION POST

Required observation posts reflects the total potential of observation posts that can be established.

ORGANIZED OBSERVATION POST

An observation post is considered organized when a supervisor has been appointed, and completed ADC Form 55 (Report of Aircraft Observation Posts) and 57 (Report of Chief Observer) have been received and processed at filter center.

PART TIME

Observation posts operating less than 24-hour basis

FULL TIME

Observation posts operating continuously on a 24-hour basis

OPERATIONAL, MANNED OR PARTICIPATING OBSERVATION POSTS

An observation post is considered operational manned or participating when an observer is available at the observation post for transmission of live messages to the filter center.

OPERATIONAL CAPABILITY

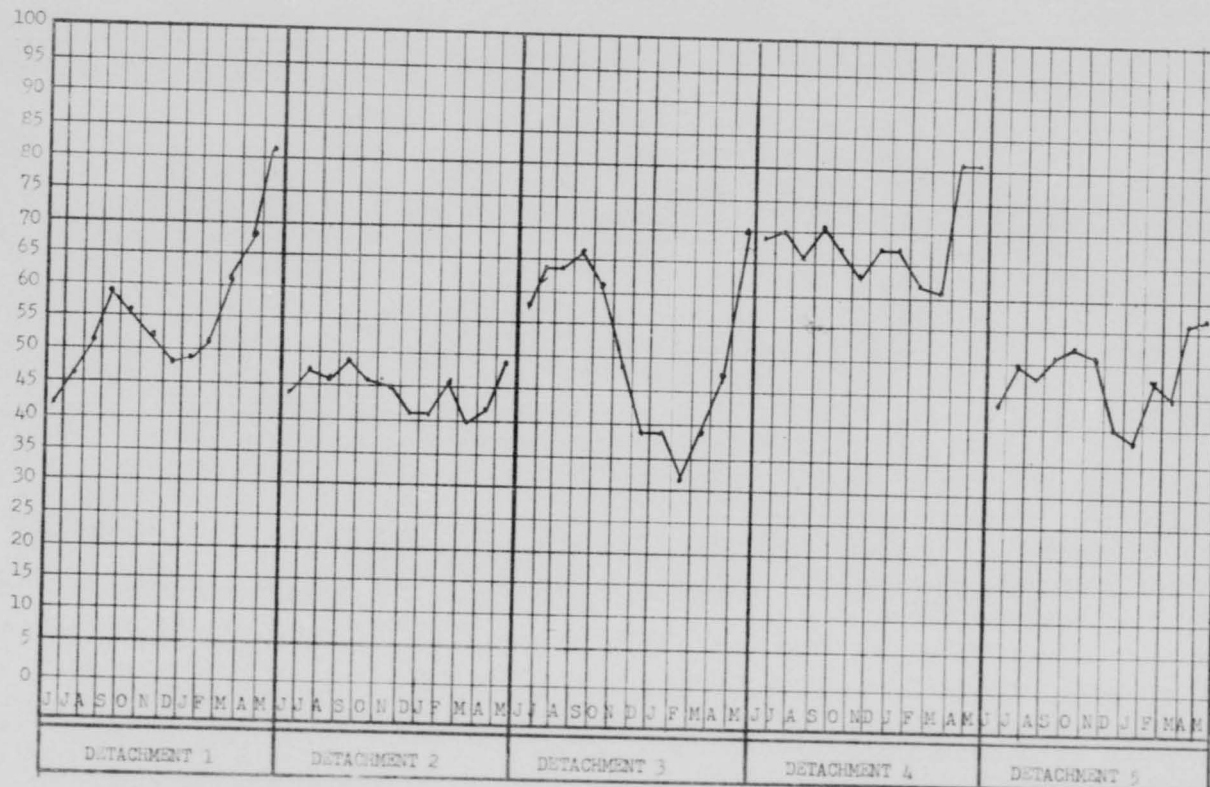
Operational capability reflects the average number of observation posts participating during 4 six hour periods each day as compared to the number of observation posts.

OBSERVATION POSTS STATUS
AS OF MAY 1954

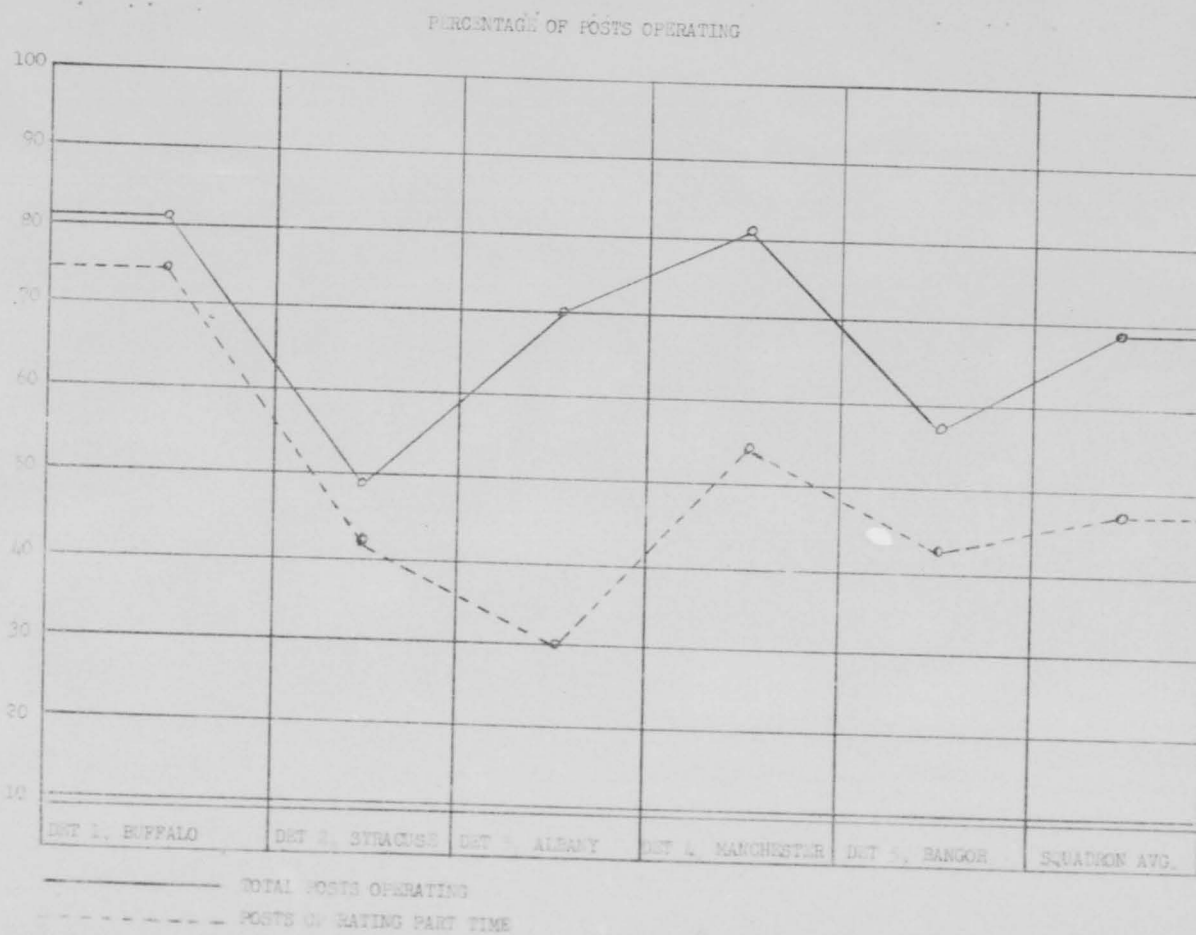
		CIVILIAN POSTS				NON-CIVILIAN POSTS				TOTAL POSTS				PERCENTAGE OF TOTAL REQUIRED			
		No. Required	No. Organized	NUMBER ACTIVE		No. Required	No. Organized	NUMBER ACTIVE		No. Required	No. Organized	NUMBER ACTIVE		% OF POSTS INACTIVE	% OF POSTS OPERATING	TOTAL % POSTS OPERATING	
				PART TIME	FULL TIME			PART TIME	FULL TIME			PART TIME	FULL TIME				
S T A T E	NEW YORK	409	382	218	30	90	90	13	77	499	478	231	107	33	66	21	67
	VERMONT	100	83	36	9	39	39	0	34	139	122	56	43	29	40	31	71
	MAINE	227	200	109	11	55	56	20	29	282	254	129	46	41	45	14	59
	MASS	100	99	69	1	22	22	0	22	122	121	69	23	26	56	2	71
	N. H.	92	92	77	6	45	45	0	45	137	137	77	51	7	56	17	93
E R I	2	2	1	1	0	0	0	0	2	2	1	1	0	50	50	100	
SQ. TOTAL		930	858	530	52	251	250	13	207	1181	1108	569	265	31	47	22	69
D E T A C H M E N T	BUFFALO	124	124	98	2	9	9	3	6	133	133	101	8	10	75	1	81
	SYRACUSE	148	141	99	7	15	15	10	5	163	156	89	12	51	47	7	49
	ALBANY	178	163	79	27	82	82	0	77	260	245	79	104	30	73	40	70
	MANCHESTER	288	285	206	12	93	93	0	91	381	378	206	101	19	51	47	81
	BANGOR	192	165	86	10	52	51	20	26	244	216	136	76	43	41	14	57

0410

PERCENTAGE OF OBSERVATION
POSTS OPERATING
FOR ONE YEAR



0411



0412

OPERATIONAL DATA

FILTER CENTER	FLASH CALLS			COST			TRACKS ESTABLISHED		
	MAY	APR	INC OR DECR	MAY	APR	INC OR DECR	MAY	APR	INC OR DECR
DETACHMENT 1	24,350	14,556	/ 9,794	.37	.36	/ .01	1,823	1,039	/ 782
DETACHMENT 2	8,344	8,676	- 332	.38	.37	/ .01	178	107	/ 71
DETACHMENT 3	11,904	9,294	/ 2,610	.41	.41	.00	1,214	1,030	/ 184
DETACHMENT 4	24,880	20,518	/ 4,362	.41	.44	- .03	2,209	2,222	- 13
DETACHMENT 5	7,234	5,177	/ 2,057	.56	.57	- .01	5,754	2,586	/ 3,168
SQUADRON TOTAL	76,712	58,217	/ 18,495	.42	.43	- .01	11,178	6,984	/ 4,194

ROAD TEAM ACTIVITIES

FILTER CENTER	ROAD TEAM MAN DAYS		INCREASE OR DECREASE	NUMBER OF PEOPLE BRIEFED		INCREASE OR DECREASE
	MAY	APRIL		MAY	APRIL	
DETACHMENT 1	98	84	/ 14	1,823	1,153	- 670
DETACHMENT 2	24	43	- 19	208	723	- 515
DETACHMENT 3	107	89	/ 18	3,410	1,669	/ 1,741
DETACHMENT 4	82	86	- 4	10,263	2,790	/ 7,453
DETACHMENT 5	92	60	/ 32	1,329	3,030	- 1,701
SQUADRON TOTAL	403	362	/ 41	17,233	9,365	/ 7,868

0413

STATUS OF GOVERNMENT PAID TELEPHONES

FILTER CENTER	MAY			APRIL			STATE	MAY			APRIL		
	OP'S REQD	134 SUB	PHONES INST	OP'S REQD	134 SUB	PHONES INST		OP'S REQD	134 SUB	PHONES INST	OP'S REQD	134 SUB	PHONE INST
DETACHMENT 1	124	99	98	124	99	99	NEW YORK	409	275	264	409	273	253
DETACHMENT 2	148	94	90	148	95	89	VERMONT	100	53	46	100	52	43
DETACHMENT 3	178	101	94	178	98	81	MAINE	227	96	93	230	108	82
DETACHMENT 4	288	211	174	288	210	73	MASSACHUSETTS	100	88	75	100	88	75
DETACHMENT 5	192	76	73	195	75	71	NEW HAMPSHIRE	92	65	49	92	64	48
TOTAL	930	581	529	933	577	513	RHODE ISLAND	2	2	2	2	2	2

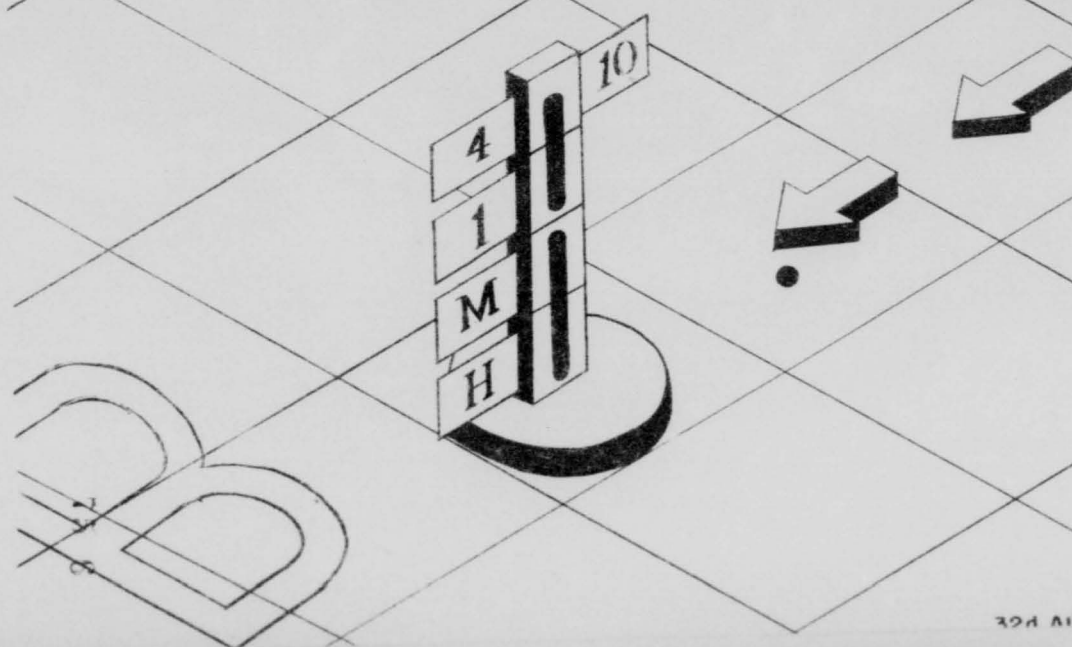
0414

PERSONNEL

FILTER CENTER	OFFICERS		AIRMEN		TOTAL		LOSSES NEXT 60 DAYS	
	AUTH	ASGD	AUTH	ASGD	AUTH	ASGD	OFFICERS	AIRMEN
DET 1 BUFFALO, NY	5	3	13	10	18	13	0	2
DET 2 SYRACUSE NEW YORK	5	5	15	14	20	19	0	0
DET 3 ALBANY NEW YORK	5	3	15	15	20	18	0	1
DET 4 MANCHESTER N.H.	6	2	15	17	21	19	1	1
DET 5 BANGOR MAINE	5	3	15	16	20	19	0	1
SQ HQ SYRACUSE NEW YORK	3	2	5	2	8	4	0	0

0415

MONTHLY SUMMATION
4673rd GROUND OBSERVER SQUADRON
JUNE 1954



32d AIR DIV (DEP)

0416

MONTHLY SUMMATION
4673D GROUND OBSERVER SQUADRON
32D AIR DIVISION (DEFENSE)
Syracuse, New York
June, 1954

COMMANDER, 4673d Ground Observer Squadron Lt Colonel F. E. York, Syracuse AFS, Syracuse, N.Y.
Operations Officer, 4673d Ground Observer Squadron Capt D. . . Bouck, Syracuse AFS, Syracuse, New York

DETACHMENT COMMANDERS:

Detachment One Major H.L. Bickell, 2500 Maine St, Buffalo, N.Y.
Detachment Two Capt W.A. Hammer, 113 S. Midler Ave, Syracuse, N.Y.
Detachment Three Capt D.P. Giambruno, 268 Central Ave, Albany, N.Y.
Detachment Four Capt L.W. Fredlake, 1257 Elm St, Manchester, N.H.
Detachment Five Capt R.E. Johnson, Pine St School, Bangor, Maine

GROUND OBSERVER CORPS STATE COORDINATORS

DIRECTOR OF CIVIL DEFENSE, 32D AIR DIVISION Lt Colonel F. E. York, Syracuse AFS, Syracuse, N.Y.
NEW YORK Major R.T. Wendell, 124 E. 28th St, New York 16, N.Y.
VERMONT Lt Col C.V. Charbonneau, Redstone, Montpelier, Vt.
NEW HAMPSHIRE Lt Col R.P. Hamilton, State House Concord, N.H.
MAINE Major T.C. Schiebel, State House, Augusta, Maine
MASSACHUSETTS Major F.C. Woodward, 905 Commonwealth, Ave, Boston, Mass

DISTRIBUTION

Commander, EADF 4	Adjutant, 32d AD(D) 1	GOS State Coord's 2ea
Commander, 32d AD(D) 1	Dep Operations, 32d AD(D) 1	Det Commanders 2ea
Dep Commander, 32d AD(D) 1	Historical Section, 32d AD(D) 5	Squadron 2
	Comptroller, 32d AD(D) 3	IG Section 1

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FULL TIME

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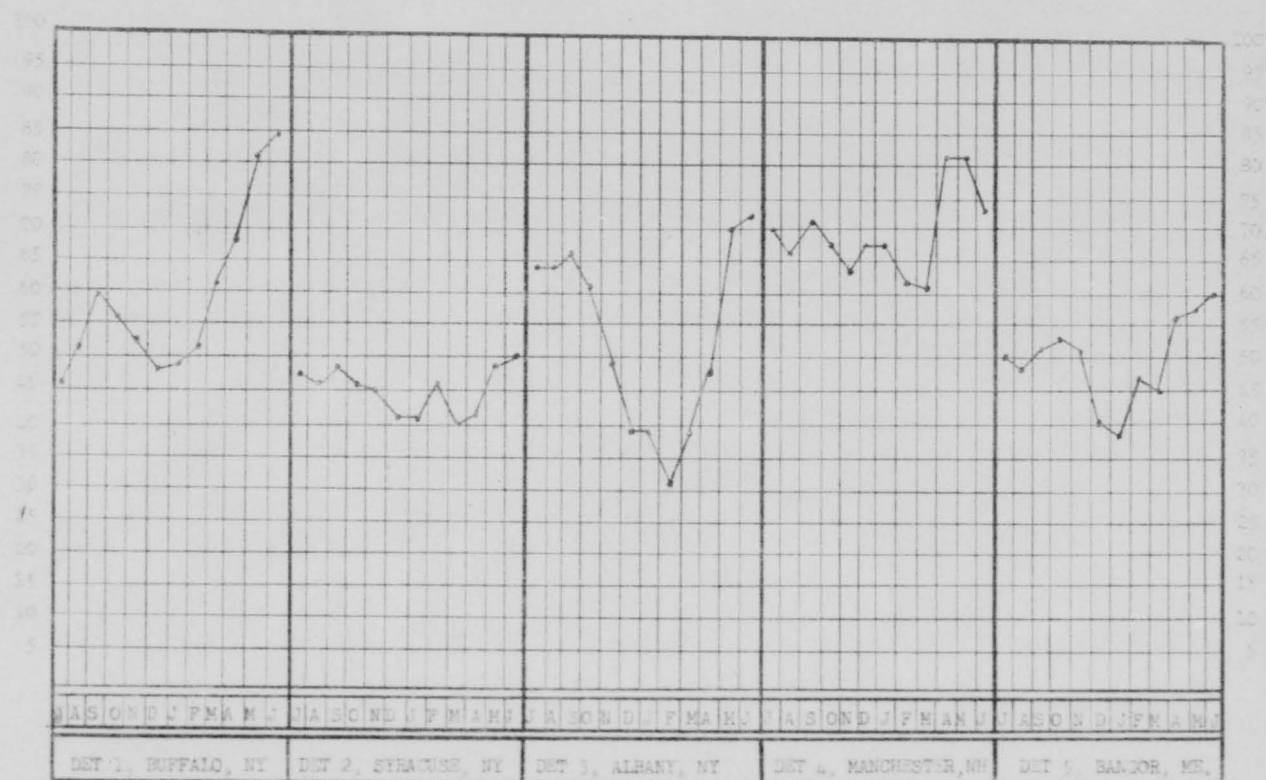
OPERATIONAL CAPABILITY

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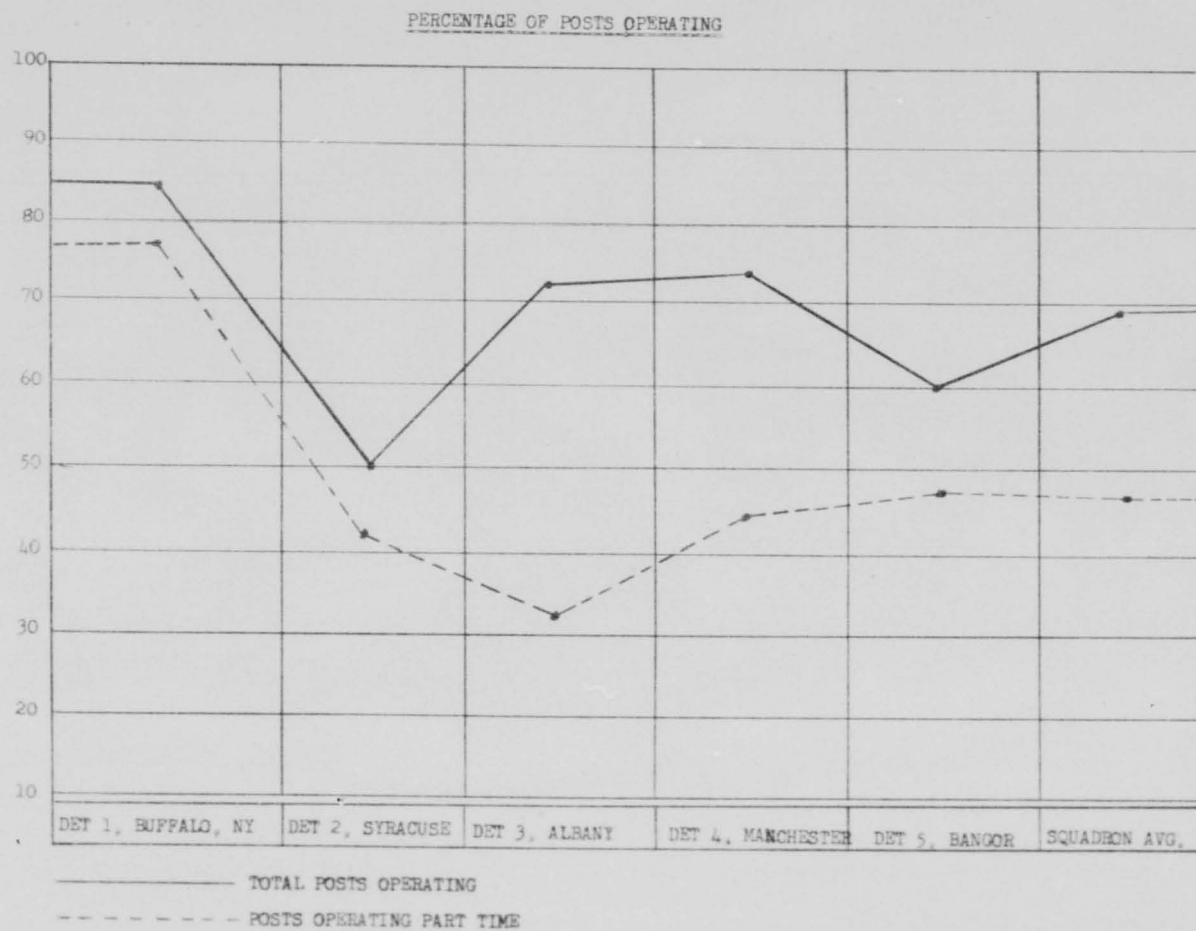
OBSERVATION POST STATUS
AS OF JUNE 1954

		CIVILIAN POSTS				NON-CIVILIAN POSTS				TOTAL POSTS				PERCENTAGE OF TOTAL REQUIRED			
		No. Requir- ed	No. Organ- ized	NUMBER ACTIVE		No. Requir- ed	No. Organ- ized	NUMBER ACTIVE		No. Requir- ed	No. Organ- ized	NUMBER ACTIVE		% OF POSTS INACT- IVE	% OF POSTS OPER- ATING	TOTAL % POSTS OPER- ATING	
				PART TIME	FULL TIME			PART TIME	FULL TIME			PART TIME	FULL TIME				
S T A T E	NEW YORK	478	371	223	34	90	90	14	76	498	461	237	110	31	47	22	69
	VERMONT	100	77	52	10	39	39	4	34	139	116	56	44	28	40	32	72
	MAINE	226	191	109	10	59	58	23	28	285	249	132	38	41	45	13	59
	MASS	97	92	55	1	22	22	0	22	97	92	55	21	35	45	19	64
	N. H.	90	81	65	7	49	49	0	49	139	130	65	56	17	43	40	81
	R. I.	2	2	1	1	0	0	0	0	2	2	1	1	0	50	50	100
SQ TOTAL		923	814	505	63	259	258	41	209	1282	1072	514	272	31	46	23	69
D E T A C H M E N T	BUFFALO	124	124	101	3	9	9	3	6	133	133	104	9	16	77	7	84
	SYRACUSE	148	135	60	8	15	15	10	5	163	150	70	13	50	42	8	50
	ALBANY	177	137	79	28	82	82	5	76	259	219	84	104	28	32	40	72
	MANCHESTER	282	253	170	15	97	97	0	97	379	340	170	112	27	44	29	73
	BANGOR	192	165	95	9	56	55	23	25	248	220	118	34	40	47	13	60

PERCENTAGE OF OBSERVATION
POSTS OPERATING
FOR ONE YEAR



0420



0421

OPERATIONAL DATA

FILTER CENTER	FLASH CALLS			COST			TRACKS ESTABLISHED		
	MAY	JUN	INC OR DECR	MAY	JUN	INC OR DECR	MAY	JUN	INC OR DECR
DETACHMENT 1	24,350	22,778	- 1,572	.37	.41	/ .04	1,823	1,092	- 731
DETACHMENT 2	8,344	8,649	/ 305	.38	.41	/ .03	178	210	/ 32
DETACHMENT 3	11,904	13,378	/ 1,474	.41	.39	- .02	1,214	947	- 267
DETACHMENT 4	24,880	27,177	/ 2,297	.41	.41	.00	2,209	2,380	/ 171
DETACHMENT 5	7,234	11,609	/ 4,375	.56	.51	- .05	5,754	5,419	- 335
SQUADRON TOTAL	76,712	83,551	/ 6,839	.42	.42	.00	11,178	10,118	- 1,060

ROAD TEAM ACTIVITIES

FILTER CENTER	ROAD TEAM MAN DAYS		INCREASE OR DECREASE	NUMBER OF PEOPLE BRIEFED		INCREASE OR DECREASE
	MAY	JUNE		MAY	JUNE	
DETACHMENT 1	98	82	- 16	1,823	1,513	- 310
DETACHMENT 2	24	87	/ 63	208	8,732	/ 8,524
DETACHMENT 3	107	93	- 14	3,410	1,399	- 2,011
DETACHMENT 4	82	79	- 3	10,263	8,062	- 2,201
DETACHMENT 5	92	76	- 16	1,329	1,261	- 68
SQUADRON TOTAL	403	417	/ 14	17,033	14,967	- 2,066

0422

FILTER CENTER	MAY			JUNE			STATE	MAY			JUNE		
	OP's REQD	134 SUB	PHONES INST	OP's REQD	134 SUB	PHONES INST		OP's REQD	134 SUB	PHONE INST	OP's REQD	134 SUB	PHONES INST
DETACHMENT 1	124	99	98	124	99	98	NEW YORK	409	275	264	408	274	268
DETACHMENT 2	148	94	80	148	94	93	VERMONT	100	53	46	100	55	46
DETACHMENT 3	178	101	94	177	103	96	MAINE	227	96	93	226	98	92
DETACHMENT 4	288	211	174	282	211	174	MASSACHUSETTS	100	88	75	97	88	75
DETACHMENT 5	192	76	73	192	75	71	NEWHAMPSHIRE	92	65	49	90	65	49
TOTAL	930	581	529	923	582	532	RHODE ISLAND	2	2	2	2	2	2

0423

PERSONNEL

FILTER CENTER	OFFICERS		AIRMEN		TOTAL		LOSSES NEXT 60 DAYS	
	AUTH	ASGD	AUTH	ASGD	AUTH	ASGD	OFFICERS	AIRMEN
DET 1 BUFFALO NEW YORK	4	3	13	11	17	14	0	1
DET 2 SYRACUSE, NEW YORK	4	5	13	15	17	20	1	2
DET 3 ALEANY, NEW YORK	5	3	18	14	23	17	0	2
DET 4 MANCHESTER N. H.	7	3	28	17	35	20	1	1
DET 5 BANGOR, MAINE	5	2	18	14	23	16	0	3
SQ HQ SYRACUSE, NEW YORK	3	2	6	2	9	4	0	0

0424

MARTIN BERRY
Pleasant Valley, N. Y.

January 19, 1954

Dwight D. Eisenhower, Commander-in-Chief of the Armed Forces,
including the G.O.C. of the U.S.A.F.

The White House
Washington, D. C.

My dear Commander:

Four years ago I was appointed supervisor of the Ground Observer Corps post in Pleasant Valley by the Supervisor of the Town of Pleasant Valley, Dutchess County, New York. I have endeavored to fulfill the duties of my appointment to the moment.

The United States Air Force, on July 14, 1952, ordered all Ground Observer Corps posts manned on a 24-hour day, 7-day week basis. For a year and a half we have been struggling to keep our post manned - yes, we have been quite successful, due to the loyal aid of many patriotic and unselfish people of our community. This you may check by getting 7 ALPHA's record from the White Plains, New York, Filter Center. Our percentage of coverage has been 60 percent to 80 percent. It takes 168 people to man a post 2 hours per week per person, two people per shift.

Now, Mr. Commander, for some time many of the observers have been remarking that they are being made fools of; that they are getting tired after a year and a half of continued service, while the greater percentage of the people in the community refuse to serve in any capacity. Many other observers have simply stayed away with no excuse whatever. We have called these laggards on the telephone, and in some instances sent out postal cards reminding them of their duty, to no avail. This condition is very discouraging and gets no better as time goes on. The complete indifference of a big percentage of the people is a serious hazard to the security of this Nation. We have asked everyone in our community to serve and the number of willing people is too small. I remember a certain test on a Saturday morning in 1951 when I made 60 calls to get 6 people to serve 2 hours each that day. The 60 people were all trained observers but were too busy - all but the 6.

76 1

0425

-2-

I am also one of the assistant Chief Observers of Dutchess County Civil Defense and the same condition that we have in Pleasant Valley prevails throughout the county. The City of Poughkeepsie, with 45,000 population, never has had over 12 hours per week covered. When the Mayor, City Manager and other prominent citizens of a city of this size take no part in this service, how can you expect these posts to be manned by the GEORGES.... There are just not enough Georges. A lady connected with an observation post in New England expressed it this way: "Everybody thinks the G.O.C. is a wonderful service, provided someone else does it". How right she is. From all I can gather the same condition exists more or less over the nation. This state of affairs is not fair to the few observers on duty; it is not fair to the people organizing the posts. The average citizen resents the Post Supervisor asking him to do his duty for his country, as requested by the U.S.A.F. This creates a very unpleasant atmosphere among ones neighbors.

We still have to realize that this program is strictly on a volunteer basis - but, where are the volunteers? We post organizers have to dig, dig and dig and there is a limit to this digging business. The reaction gathered from our vast canvass for volunteers throughout our local area during the past several months is that the average individual has established in his mind that this program is entirely unnecessary, that in case of an emergency the people will come forward. Then, in my opinion, it will be too late. We have been laughed at and chided for putting our time in on "this foolishness, when nothing can happen to us". Only last Friday an observer called to say that he would not be serving any longer, that he could find better use for his spare time than spending it up on the Air Watch. I could write a book on excuses from the rank and the file. But as I stated before, the program calls for volunteers, and who am I to tell them what they MUST do?

I have lived this cause at the GROUND LEVEL for over four years and I have taken the United States Air Force's direction that it is necessary. Mrs. Berry and I have used every effort in our power to make it work, in addition to taking our weekly 2-hour observation shift on Fridays from 4 to 6 A.M. We will not ask anyone to do something that we will not do ourselves. I am convinced that we are making fools out of the few people who are serving as observers month in and month out and with no prospects of replacing them or any information to give them as to when the activity will cease. As a result in a short time this whole program throughout the Nation will peter out in disgrace.

If we are going to do this job, or any other job in our Civil Defense, let's do it one hundred percent...not as a joke. If this program is really necessary let's get behind it and do it right. And if it is not important, let us forget it and release this small group of patriotic people to a stand-by basis AT ONCE.

0426

-3-

Up to this moment it has been utterly impossible to get any reliable information or anyone to commit himself on any question regarding the Ground Observer Corps. It has been a matter of passing the buck, at the expense of a small group of loyal people. I remember having seen last year a small newspaper item quoting Mr. Val Peterson to the effect that he would not hesitate to call for a draft to man the G.O.C. posts if the volunteer system failed, and it **HAS FAILED**. I was greatly encouraged by Mr. Peterson's statement but apparently it was killed quickly as we have seen nor heard anything of it since.

I would like to make this statement: If we can draft the sons of our worthy Mothers of this Nation to fight undecided wars in foreign lands and have them die on those battlefields, it would seem to me that we could have some form of compulsory registration by the rank and the file of the citizenry to prevent an attack against this country on its own soil.

Therefore, Mr. Commander, I take the liberty of making the following suggestions:

1. Have a definite plan of compulsory registration.
2. Limit period of service to 6 months.
- 3... Let it be **EVERYBODY'S** job.

I realize that you are a very busy man and so are we and all those loyal observers on duty. This is a very serious business from our point of view, so I am expecting an answer from you, not from a secretary, as this letter will have been written in vain if you have not read it.

Please Sir, I wish to present these facts before you for your careful consideration and I hope some action may be taken promptly.

Yours very truly,

s/t/ MARTIN BERRY
Supervisor Pleasant Valley
G.O.C. Post.

0427

C O P Y

12 February 1954

Mr. Martin Berry
Supervisor Pleasant Valley GOC Post
Pleasant Valley, New York

Dear Mr. Berry:

Thank you for your interesting letter and for sending me a copy of your letter to the President.

Although your remarks point out some shortcomings I cannot agree that the "volunteer system" has failed. For example, the Ground Observer Corps, which you mentioned specifically, had less than 90,000 active volunteers in 36 states when "Operation Skywatch" became effective in July 1952. Since that date enrollment has reached more than 326,900. The rate of increase since October 1953 has been in excess of 2,000 volunteers per month. That increase has been in spite of the severe winter and the closing of many posts normally operated by various State and Federal forest services during the warmer months.

That can hardly be termed a failure -- especially when viewed as a peacetime endeavor. Never before in our history when the nation was not actually at war have our people been called on to volunteer their time and effort for National Defense. True, Americans have been asked to give blood, to buy bonds, to drive safely, to sponsor CARE packages and the like, but never before have Americans been asked for time -- time away from their businesses, away from relaxation, away from their families; time that can be used to train for a disaster that may never strike.

I am first to admit that our public education program has not been as effective as desired. On the other hand, I believe that we have achieved a far greater return on the program dollar for dollar than any public education program that has ever been undertaken in this country to date.

There are statistics -- facts and figures -- which prove that we are moving within sight of two of our immediate goals; we are making more Americans conscious of the need for adequate Civil

76 2

0 4 2 8

C O P Y

Defense planning and organization within their own home communities; and we are building the necessary "hard core" of civil defense workers throughout the nation.

This, in effect, is the "start line" for civil defense. We believe we have arrived at that line; that the broad base on which to build an effective, though flexible, civil defense in the United States has been laid; that we can now move forward with the superstructure. President Eisenhower has made it clear that he is thoroughly behind us. The governors of our States and the Mayors of our leading cities have been informed of the threat and of plans to combat it. They have indicated their support.

Our job -- the job of all officialdom -- is to carry the message to the people. I am convinced that when they hear it presented, as only their own elected officials can present it, our citizens will take action whether on the farm, in the small community or the large industrial city. And as we move forward, I am certain the morale of the few who have worked so hard already will be lifted immeasurably,

Sincerely,

s/t/ Val Peterson

cc: Lt. General Clarence R. Huebner
Director, New York State Civil Defense
125 East 28th Street
New York 16, New York

C O P Y

HEADQUARTERS
32D AIR DIVISION (DEFENSE)
Syracuse Air Force Station, Eastwood Station 6
Syracuse, New York

OCD/CIV 12

9 Feb 1954

SUBJECT: Paid Administrative Supervisors

TO: Commander
Eastern Air Defense Force
Stewart Air Force Base
ATTN: EAACD
Newburgh, New York

1. Reference your TWX EAACD 3678 dated 4 February 1954; it is recommended that we do not hire a full time paid administrative supervisor for the Filter Centers. However, it is recommended that a full time paid clerk typist be hired to fulfil the desires of the administrative supervisors and their staff.
2. Reasons are that the present volunteers will become antagonized by having a paid supervisor when many hours of work are contributed free by these assistants.
3. In many instances there are volunteers who serve many hours without any thought of reimbursement and it is the opinion of this headquarters that many good volunteers would drop out under such conditions.
4. No paid administrative supervisors are serving in this divisions area of responsibility.

FOR THE COMMANDER:

VIRGINIA L. SWEET
1st Lt, USAF
Ass't Adjutant

76 3

0430

C O P Y

HEADQUARTERS
32D AIR DIVISION (DEFENSE)
Syracuse Air Force Station, Eastwood Station 6
Syracuse, New York

OCD

8 May 1954

SUBJECT: GOC State Activity Report (RCS: ADC-U5)

TO: Commander
Eastern AirDefense Force
Stewart Air Force Base
Newburgh, New York

1. Attached reports have been reviewed and are forwarded in compliance with ADCR 55-48, 18 January 1954.

2. Following commentary is offered:

NEW YORK

a. The telephone company has been contacted regarding an emergency back up line for the filter centers. AT&T has requested that the telephone company make a rerouting study of alternate routes to the various filter centers.

b. 1st Lt. Virginia L. Sweet AL 1 851 '850 will represent the 32d Air Division at the two day civil defense briefing in Albany, New York on 11 and 12 May 1954. She will present the women's part in our air defense system to the various women's organizations.

MAINE

a. No comment.

NEW HAMPSHIRE

a. Leadership is a major problem and will continue to be until the majority of the American public take enough interest to support the civil defense program and adequate funds are appropriated to support this effort. When individuals can be paid for being supervisor or civil defense director in the small towns and villages we will have a better chance to succeed in gaining and holding qualified leaders.

b. The results of the telephone campaign to secure volunteers won't be complete until we see how many of the volunteers stay with the program long enough to become trained.

77 1

0431

Hq 32d AD(D) CCD Subject: GOC State Activity Report (RCS; ADC-U-5)

MASSACHUSETTS

A. No Comment.

VERMONT

a. The problem of acquiring adequate funds to construct observation posts in the small towns and outlying villages of the country where not enough money can be raised for this program is adversely affecting the progress of civil defense. When we can arouse enough interest in the town fathers to construct the necessary buildings for the volunteers to perform their job without the inconveniences of no heat and lights we will be able to hold the civilian volunteers and have them take an active part in the air defense program.

FOR THE COMMANDER:

- 5 Incls:
1. Rpt N.H. (Trip)
2. Rpt Vt. (Trip)
3. Rpt N.Y. (Trip)
4. Rpt Me. (Trip)
5. Rpt Mass (Trip)

FREDERICK E YORK
Lt Colonel, USAF
Adjutant

C O P Y

HEADQUARTERS
32D AIR DIVISION (DEFENSE)
Syracuse Air Force Station, Eastwood Station 6
Syracuse, New York

OCD

7 Jun 1954

SUBJECT: GOC State Activity Report (RCS: ADC-U5)

TO: Commander
Eastern Air Defense Force
Stewart Air Force Base
Newburgh, New York

1. Attached reports have been reviewed and are forwarded in compliance with ADCR 55-48, 18 January 1954.
2. Following commentary is offered:

MAINE

a. The increased activity of the State Coordinator is showing favorable results within the State of Maine. The Grange has helped in its' program with the GOC and has the full cooperation of the Bangor Filter Center along with the State Civil Defense Director. The Grange is to be complimented on its patriotic venture.

b. A great deal of credit for the success of the Armed Forces Day program in Maine is due directly to the untiring efforts of the State Coordinator and the filter center detachment commander.

NEW HAMPSHIRE

a. Everything possible is being done to overcome the resistance of the public toward our program in the GOC. A great deal of sales effort is being promulgated by the Advertising Council of America to advertise our program and no doubt is doing much to keep interest alive in the GOC.

b. Flying over the state of New Hampshire during the summer months normally increase and with multi-engine aircraft flying out of Grenier AFB at Manchester N.H., the air traffic anticipated should assist the GOC with tracks to call into the Air Defense System.

VERMONT

a. It is indeed gratifying to notice the increased interest in GOC within the state of Vermont from the Governor down to and including the local hamlets.

77 2

0433

Hq 32d AD(D) OCD Subject: GOC State Activity Report (RCS: ADC-U5)

b. Reference to suggested certificate of commendation made by the coordinator for Vermont, subject matter has been presented and in the near future a revision to ADCR 30-3 dated 8 Sep 53 will include this recommendation.

NEW YORK

a. No Comment

MASSACHUSETTS

a. Considerable activity on the part of the State Coordinator has improved the recruiting problem in Massachusetts.

FOR THE COMMANDER:

- 5 Incls:
1. Rpt N.H. (Trip)
2. Rpt Vt. (Trip)
3. Rpt N.Y. (Trip)
4. Rpt Me. (Trip)
5. Rpt Mass. (Trip)

FREDERICK E. YORK
Lt Colonel, USAF
Adjutant

C O P Y

Statistical Compilation of the GOC

EAACH

ATTN: Mr. Billias

EAOCD

19 Jul 54

1. Attached herewith is a statistical compilation of the Ground Observer Corps participation during the period January through June 1954 for your information in preparing the six month's history as pertains to the directorate.
2. As will be noted from the attached figures, EADF at the present time is enjoying the highest number of 24-hour observation posts in its history, as well as an outstanding increase in total volunteers participating. Of the 355,000 civilian personnel presently volunteering their service in Air Defense Command, our area reporting 176,000 is almost one half of the total figure.
3. As we discussed on your visit, during the past six months we have relocated three filter centers on the dates indicated:
 - a. Columbus, Ohio on 19 April.
 - b. Baltimore, Maryland on 16 May.
 - c. Syracuse, New York on 4 June.
4. In addition to the above, we are endeavoring to locate new space in Indianapolis in order that our filter center can be relocated from South Bend, Indiana in view of a recent realignment approved by ADC.
5. With the above move of South Bend Filter Center to Indianapolis, authority was received to realign the Grand Rapids, Michigan Filter Center area of responsibility to permit its division, and simultaneously activate a new filter center at Saginaw. Since this realignment would effect the filter centers at Chicago, Columbus and Springfield, we have undertaken a concurrent realignment of all the areas upon approval by ADC. This will entail the physical move of the Center from South Bend to Indianapolis as well as opening a new Center at Saginaw, resulting in the procurement of seven new filter center plotting tables for the filter centers involved.
6. Approval was recently received from ADC to plan on installing air conditioning in the following filter centers, however, due to the shortage of funds, this project was placed in a Category 5 and unless additional funds are forthcoming, the air conditioning for these cities will in all probability not be installed this summer.

77 2

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Statistical Compilation of the GOC (Contd)

- a. Baltimore, Maryland
- b. South Bend, Indiana (to be transferred to Indianapolis)
- c. Lexington, Kentucky
- d. Syracuse, New York

t/ HOLLICK/225

1 Incl
Stat Compilation

C O P Y

STATISTICAL COMPILATION
RAAF

	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>June</u>
O.Ps Required	6460	6463	6512	6544	6517	6546
O.Ps. Organized	5106	5122	5203	5304	5357	5376
24-Hour	572	574	610	722	822	806
Posts Manned	1194	1260	1560	1595	1656	1713
O.Ps. in Skywatch	1766	1834	2170	2317	2478	2519
O.P. Volunteers	151297	151478	151620	157511	164142	166722
F.C. Volunteers	11040	10947	10726	10982	10469	10244
Total Volunteers	162337	162425	162346	168493	174611	176966

Incl #1

0437

C O P Y

HEADQUARTERS
32D AIR DIVISION (DEFENSE)
Syracuse Air Force Station
Eastwood Station 6
Syracuse, New York

OCB/OPS 10-2

8 Feb 1954

SUBJECT: Visits by Civilian Defense Volunteers to Units of this
Command

TO: Commander, 4707th Defense Wing, Otis AFB, Falmouth, Massachusetts
Commander, 4711th Defense Wing, Presque Isle AFB, Presque Isle,
Maine

1. The Department of Defense has assigned to the Department of the Air Force the responsibility for planning and operating an aircraft observer system involving the use of civilian volunteers, as an augmentation of the radar screen.
2. In order to stimulate interest and support for the Ground Observer Corps program, visits by Ground Observer volunteers and other interested civilians to radar sites, Fighter Squadrons, Group and Wing Headquarters are authorized and will be encouraged as security restrictions permit.
3. Direct liaison between Commanders and the Air Defense Command representative of the local Ground Observer Corps organization is authorized for this purpose. In implementing this policy, due consideration will be given to any aspects of procedure which would adversely affect proper accomplishment of assigned mission of the installation.
4. Commanders of Air Force installations will take action, through such means as may be appropriate, to stress to military personnel and the Federal Civilian Employees at their installations the importance of the Ground Observer program and to encourage the voluntary participation of such employees in this program.
5. Orientations or briefings should be well organized and Commanders and key staff officers should participate. Air transportation is authorized for volunteers of the Ground Observer Corps and City and County Civil Defense officials concerned with the Ground Observer Corps as schedules permit.

BY ORDER OF THE COMMANDER:

VIRGINIA L. SWEET
1st Lt, USAF
Ass't Adjutant

A

0438

C O P Y

CONFIDENTIAL

Hq 26th ADiv (Def) 26ADOCB Subject: Marine Aircraft Flash Test
Utilizing Fishing Vessels for Period of 1 - 31 December 1953

EAOPM (7 Jan 54)

1st Ind

22 Jan 54

HQ EASTERN AIR DEFENSE FORCE, Stewart Air Force Base, Newburgh, New York

TO: Commander, Air Defense Command, Ent Air Force Base, Colorado
Springs, Colorado

1. Results of the first 30 days operation of a 60-day test of marine vessel reporting in aircraft surveillance are forwarded for information and return. A two-month test of marine vessel reporting was authorized in the 26th Air Division (Defense) sector and in the Fifth Coast Guard District by ADC message, (Restricted) ADOOT-B 31452.

2. Recommendations of the Director of Civil Defense, this headquarters, are as follows:

a. Reporting in the 26th Air Division (Defense) sector and the Fifth Coast Guard District be continued indefinitely beyond the test period providing the Fifth Coast Guard District Commander can assure continued cooperation by the marine vessel operators.

b. The reporting system being tested in the Fifth Coast Guard District - 26th Air Division (Defense) sector be expanded to the remainder of the 26th Air Division (Defense) sector and the 32d Air Division (Defense) and appropriate Coast Guard Districts.

c. Direct coordination be authorized between the 32d Air Division (Defense) and appropriate Coast Guard Districts and between the 26th Air Division (Defense) and appropriate Coast Guard Districts.

3. Results of the 1 December 1953 - 31 December 1953 test are being supplied this date to Commander, Central Air Defense Force and Commander, Western Air Defense Force.

FOR THE COMMANDER:

3 Incls
n/c

s/t/J. S. FOUNTAIN, JR.
Major, USAF
Asst Adjutant

CONFIDENTIAL

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0439

CONFIDENTIAL

Hq 26th ADiv (Def) 26ADOCB Subj: Marine Aircraft Flash Test Utilizing
Fishing Vessels for Period of 1 - 31 December 1953

ADOOT-B1 (7 Jan 54) 2d Ind 9 Feb 54

HQ AIR DEFENSE COMMAND, Ent AFB, Colorado Springs, Colo.

TO: Commander, Eastern Air Defense Force, Stewart Air Force Base,
Newburgh, New York

1. Authority is granted to continue marine aircraft reporting indefinitely in the 26th Air Division (Defense), provided concurrence is obtained from the Commander, Fifth Coast Guard District.

2. Expansion of marine aircraft reporting to include the 32nd Air Division (Defense) and the remainder of the 26th Air Division (Defense) is authorized, provided active support can be obtained from the Commanders of applicable Coast Guard Districts.

3. Direct coordination between Air Division s (Defense) and applicable Coast Guard Districts is authorized.

4. Request your headquarters investigate feasibility of expanding marine aircraft reporting system to include all classes of vessels, coordination required, agreements which may be necessary and recommendations for inclusion of appropriate instructions in JANAP 146 series. No suspense is established for this project, but subjective material should be submitted to this headquarters when a thorough investigation has been completed and a recommended course of action determined.

BY ORDER OF THE COMMANDER:

3 Incl
n/c

s/t/ RECTOR C. DACUS
Captain, USAF
Asst Command Adj

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CONFIDENTIAL

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CONFIDENTIAL

Hq 26th ADiv (Def) 26ADOCB Subject: (Uncl) Marine Aircraft Flash
Test Utilizing Fishing Vessels for Period of 1 - 31 December 1953

EAOOT-OS (7 Jan 54)

3d Ind

13 Mar 1954

HQ EASTERN AIR DEFENSE FORCE, Stewart Air Force Base, Newburgh, N.Y.

TO: Commander, Air Defense Command, Ent Air Force Base, Colorado
Springs, Colorado

1. Reference paragraph 4, 2d Indorsement, this headquarters is
in receipt of Eastern Sea Frontier Confidential letter, SER: 0105,
dated 24 February 1954, which is quoted as follows:

"1. Commander, Eastern Sea Frontier, has been advised
by the Chief of Naval Operations that a change to JANAP
146B has been jointly approved and will be published in
March 1954. This jointly approved change assigns the
responsibility for implementation of the merchant vessel/
fishing vessel reporting procedures to the Department of
the Navy.

"2. The Chief of Naval Operations has assigned to
Commander, Eastern Sea Frontier, the task of establishing
such procedures for the reporting of certain aircraft,
guided missile, submarine, and surface vessel sightings
made by merchant and fishing vessels. Accordingly, this
command is in the process of developing an organization
and appropriate procedures for implementing the provisions
of the change to JANAP 146B including procedures for reports
of aircraft sightings from fishing vessels at sea.

"3. In order to facilitate coordination in planning
and implementation and to prevent duplication of effort,
it is requested that units of your command be advised to
effect any desired coordination, on the subject of fishing
vessel aircraft sightings, through Commander, Eastern Sea
Frontier. Further coordination in the development of such
procedures will be effected with your headquarters by
Commander, Eastern Sea Frontier."

2. This headquarters desires to expand marine aircraft reporting
to include all classes of vessels. Eastern Sea Frontier letter quoted
in paragraph 1 above establishes a feasible and acceptable procedure
for implementing this expansion.

CONFIDENTIAL

HAOOF-OS Subj: (Uncl) Marine Aircraft Flash Test Utilizing Fishing
Vessels for Period of 1 - 31 December 1953 (Contd)

3. Request approval for adoption by this command of the procedure
quoted above.

4. This correspondence is classified Confidential in accordance
with paragraph 24a(8), AFR 205-1.

FOR THE COMMANDER:

3 Incls
n/c

s/t/ J. W. FOUNTAIN, JR.
Major, USAF
Asst Adjutant

ADOOT-EL (7 Jan 54)

4th Ind

26 Mar 54

HQ AIR DEFENSE COMMAND, Ent AFB, Colorado Springs, Colorado

TO: Commander, Eastern Air Defense Force, Stewart Air Force Base,
Newburgh, New York

Approved.

BY ORDER OF THE COMMANDER:

3 Incl
n/c

s/t/ LEWIS E. SMITH
Capt, USAF
Asst Command Adj

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CONFIDENTIAL

0442

C O P Y

HEADQUARTERS
32D AIR DIVISION (DEFENSE)
Syracuse Air Force Station, Eastwood Station 6
Syracuse, New York

OCD

19 Mar 1954

SUBJECT: Proposed Changes to ADCM 55-6

TO: Commander
Eastern Air Defense Force
Stewart Air Force Base
Newburgh, New York
ATTN: EAODC

1. Reference telephone conversation 17 March 1954 between Lt Colonel Sather, EADF and Major Lappas, this headquarters, the following comments are submitted on proposed revision to ADCM 55-6, dated 1 July 1953. All references are pertinent to section XII of ADCM 55-6:

a. Reference paragraph 1a. There is no consideration given in this paragraph to the desire of the civilian volunteer to help do something for defense in case of an emergency. It is felt that at least ninety (90) per cent of our observation posts will spring into action on a moments notice of an emergency. Suggest the attitude of the volunteer civilian be a primary factor in considering a unit's combat ready potential.

b. Reference paragraph 1a(1). No change recommended in computing productive man days for detachments.

c. Reference paragraph 1a(2). Civilian manning at Filter Centers could be eliminated entirely as this data appears on the V-13 report. Recommended this section be eliminated.

d. Reference paragraph 1a(3). It is desired that when considering the number of required observation posts for this section of the report that "Fire Towers" not be included during the winter months. This procedure will raise our operational capability percentages. Section b of this paragraph could also be eliminated as this data is on the V-13 report.

e. Reference paragraph 1a(4). Lack of authorized items of equipment. It is felt appropriate that regulations pertaining to local vehicle maintenance could be mentioned here. An extended

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Hq 32d AD(D) OCD Subject: Proposed Changes to ADCM 55-6 (cont'd)

delay is experienced at Manchester, New Hampshire and Bangor, Maine in having government vehicles serviced at a MATS and a SAC base. It is highly desirable that local maintenance contracts be authorized for Filter Center vehicles at all detachments regardless of the distance from the nearest Air Force Base.

f. Reference paragraph 1a(5). New Training Film is always welcome. Recommend more film of the "Air Defense" series.

g. Reference paragraph 1b. No change recommended.

h. Reference paragraph 1c. No change recommended.

i. Reference paragraph 1d. No change recommended.

2. ADC Forms 74, 75 and 82 are not applicable to this report.

FOR THE COMMANDER:

FREDERICK E. YORK
Major, USAF
Adjutant

C O P Y

COMDR 32D A DIV (DEF) HAWCOCK FLD,
EASTWOOD STA 6, SYRACUSE, NY

RESTRICTED

PRIORITY

COMDR EADF STEWART AFB NEWBURGH, NY

X

X

ACFOOT-A 9016 . 1. In comp with instra ur msg EAOOT-A 21258 consoli-
dated rept fr AC&W and Filter Centers is sbmd: A. AC&W h. 1.
762d AC&W. a. Perimeter area as outlined in EADF Reg 55-16, about two
(2) for this sta is not sat. The dense trfc w/o flt plan in this rea
makes coorelation impossible under present system. B. O. C. O. D. 176.
E. O. 2. 655th AC&W, A. Present estbd perimeter zone has prove sat.
B. 34. C. 5. D. 114. E. O. 3. 766th AC&W. A. The GOC perimeter
area as estbd in atchmt no 2 of EADF Reg 55-16 seems t/r suff in depth
so that tracks c/be estbd before they reached the skywatch area. B. None
C. None. D. None. E. None. 4. 654 AC&W. A. Suggest a poss chg
be made of the perimeter boundary in the Bangor Area--the DN 300-EQ 4000
line c/be extended North to intersect with AQ 3530--EQ 0030 line extended
East. B. None. C. None. D. 262. E. None. 5. 763d AC&W. A. GOC
perimeter area as estbd is sat and c/b or assistance if a grtr percentage
of observer posts were manned and track continuity c/be obtained. Due
to estbd ident procs, measures to identify a/c are initiated long before
perimeter area is penetrated and pbts that have been received have been of
little operational value. B. None. C. None. D-140 E. None 6. 764
AC&W A. Manning of additional posts w/b extremely beneficial to this area.
B. 211 C-none d-573 e none. 7. 765th AC&W A-Suggest that the cone ex-
tending into the Bangor, Maine area be eliminated. B. none C. none
D. 1850. E. None. II 4673d G Obsr Sq Det #1 Buffalo NY. A. Advantages
a. The implication of EADFR 55-16 has created more interest in both obs
posts and filter cntr pers. The increased amount of traffic has resulted
in a greater importance to the pro and more volunteers are being recruited.
Estbg plots on the first call of penetration tracks decrease the possibility
of low flying a/c traveling very far inland w/o being identified. B--dis-
advantages. a. Perimeter five not large enough to enable ident of low
flying a/c due to inoperative post in cert areas. B. Tracks being estbd
only on penetrations headings. C. Suggestions. a. Increase PIZ area
to fur more comp coverage. B. Est tracks on any heading of certain type
a/c flying in PIZ with potential threat. C. Incorporate Canadian GOC on
wr hr basis for overlap info. 4673d GOS Det #2 Syracuse, NY. This zone
has been very eff as a means of making the volunteers and potential vols

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w/i this area realize that this is a serious bus and that they are on the border of the nations def. Thus, they are more seriously conducting themselves not only in the act of watching but also in the recruitment of new volunteers. Due to per zone there is an incr in "Flash Calls" however they seem to justify the trng and potentiality of positive identification. 4673d GOS Det #3 Albany NY. Since the inauguration of zone there has been a noticeable incr in flash calls and this has assisted the associated radar stas to correlate more flts than prev reporting procs. In addition this has provdd more trng and a much needed lift in the morale and spirits of the volunteers. 4673d GOS Det #4. Manchester NH. It is suggested that the perimeter area line fr co-ordinates DN 3000 to DM 4738 be moved to coordinates DN 5030 to EN 0830. This w/b an economy measure in that it would obv the nec for reprotg much of the heavy comm traf of the Boston Area. 4673d GOS Det #5. Bangor Me. Due to the zone more a/c are, reported, interest in keen and the volunteer feel that their job is much more important. The workload has incr'd as well as the exper and prof gained by the vols. This sys is ideal and we are now training with a realistic view.

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R. L. HAYS, Lt Col, USAF

WILLIAM W. INGENHUTT, Col, USAF

D/GOT

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0448

C O P Y

GENERAL NELSON, STAFF:

1. The following is a brief of the ADC Plan for a study of the GOC as it applies to the EADF region.

INTRODUCTION

a. It is desired to study the Ground Observer Corps on a nation-wide basis to determine present effectiveness under alerted conditions, outstanding deficiencies, and undeveloped capability. This project has been requested by the Commanding General of ADC in order to expand the scope of the recent Ground Observer Corps study made in Western Air Defense Force. The study plan includes a test for the attainment of basic data. Strikes will be flown by four-engined aircraft under closely controlled conditions in ten filter center areas along northern border of the United States. Data collected will cover detection and tracking capability, accuracy of observer reporting, post manning, and intercept capability using GOC tracking. The test will be conducted under fully forewarned alerted conditions to test maximum capability, but exact times and routes for the strikes will be withheld from GOC and radar station personnel.

GENERAL

b. Required tests will be conducted in the last two weeks of May. Selection of the dates within this time period, will be determined by the defense forces. Decentralization of detailed planning and data analysis is considered most desirable. Details, such as the exact routes of strike aircraft, will be formulated at defense force and division level. The consolidation of data from the filter centers will be the responsibility of the defense forces, and the Air Defense Command will consolidate the data from the three defense forces to complete the final report.

SPECIFIC OBJECTIVES

c. The study will be directed toward evaluation of the following phases of operation:

- (1) Detection capability under alerted conditions in daylight and darkness.
- (2) Tracking capability under the conditions prescribed in 1.
- (3) Accuracy of reports made by observers to the filter centers.
- (4) Manning of the posts.

- (5) Ability to make intercept using GOC information alone, and using GOC information in conjunction with radar tracking.
- (6) Number of unusual occurrences, other than routine aircraft observations, aiding Air Force operation, such as: reports of aircraft in trouble, men parachuting from aircraft, and aircraft crashes.

AREAS

d. The test will be conducted in the following filter center areas in EADP region: Bangor, Manchester, Buffalo, Pittsburgh and Baltimore. These areas are a cross section of filter center areas in regards to manning, traffic density, observer post distribution, etc.

STRIKE AIRCRAFT

2 e. B-29s from the 4713th Radar Evaluation (ECM) Flight will be used.

CONDITIONS OF ALERT

f. All GOC and radar station personnel will be notified as to the dates of and importance of the test. However, neither routes of flights nor exact times of flights will be given to observers, filter centers, or radar station personnel.

FLIGHTS FOR DETECTION CAPABILITIES

g. (1) Detection Capability

(a) In daylight. (No strikes will be made under IFR conditions)

1. At varying distances from overhead to 10 miles from the posts.
2. At average altitudes of 500' and 4000' above the terrain.

(b) At night. (No strikes will be made under IFR conditions)

1. At varying distances from overhead to 6 miles from the posts.
2. At an average altitude of 4000' above the terrain.

(2) Post Manning

- (a) Every effort will be made to attain 100% manning of all established posts.

(3) Factors Affecting Visual Detections

- (a) Weather observations along the route will be made either by a weather officer riding in the strike aircraft, or by one of the aircraft crew.

(4) Overlays

- (a) Overlays will be made by the crew of strike aircraft, showing the course flown, as well as the time over prominent check points.

FLIGHTS FOR TRACKING CAPABILITY

h. In planning strike flights, not only will the strike be drawn so that the detection requirements can be met as described but also the following conditions will be met for data on tracking:

- (1) Routes will be selected so that the average tracking capability in a filter center area will be demonstrated.
- (2) Each strike should be 150 miles long or longer.
- (3) The total length of strike track should not be less than 1,500 miles each for both altitudes during the day and again for the 4,000' night strikes. In other words, flying should total in all 4,500 miles.

SUMMARY

For EADF a total of 22,500 miles of strike route is required to meet the above criteria. This is planned with a total of 12 B-29 flights. (shown on map)

BRIEFING OUTLINE FOR CG'S BRIEFING ON GOC EXERCISE

1. Following is a summary of EADF action to date:

a. Warning TWI was received from ADC Apr 5 stating that the nation wide study of Ground Observer Corps would be conducted during the last 2 weeks of May. Representative from this headquarters were requested to attend a conference to be held at ADC to resolve the final details.

b. Copies of the ADC plan for the study were received the 10th

of April 1954. They were retained at this headquarters by O&E, Civil Defense and Ops Analysis.

c. Warning TWX was dispatched to the Divisions, Filter Centers and State Coordinators briefly outlining the exercise and setting up a conference at this headquarters for all interested agencies.

d. Colonel Hollick, Mr. Turpin and myself as well as a 4713th Radar Cal representative attended a conference at Hq ADC, 23 April, to resolve the final details of the study and discuss any problems that might occur in its inception.

e. Conference was held at this headquarters, 28 April, with the division and filter center representatives and state coordinators. They were briefed on the exercise reporting requirements, forms to be utilized, public information releases and such problems as the representatives introduced were resolved. At this time, tentative sites for the exercise in EADP region were selected. They were:

- (1) For the Bangor and Manchester Filter Center areas - 22 and 23 May.
- (2) For the Buffalo, Pittsburgh and Baltimore areas - 27-28-29 May. Filter Center representatives brought 2 copies of maps in their areas which showed the location of all organized posts for use of this staff in establishing the strike routes to meet the criteria laid down by Hq ADC.

f. The revised plan for the nation wide study was received from ADC 3 May 54. It incorporated changes that had been discussed at the air defense conference the 23d of April.

g. Copies of the revised plan along with a letter outlining requirements for reporting at each level of the AC&W system were dispatched 4 May 54 to each division, filter center, wing and AC&W squadron involved. The following extract from this letter briefly outlines the statistics reporting requirements.

(1) Observation Posts - Normal aircraft flash reporting will be utilized. Form 6-3 will be forwarded to the filter centers immediately after the exercise. The remarks column is to contain, where possible, entries on factors affecting the aural and visual detection capability of the post (i.e., wind, factory noise, smog, dust, etc.). This is in addition to remarks on unusual aerial activities.

(2) Filter Centers - Normal plotting and telling will be accomplished. Reports required are:

- (a) Filter Center Tellers Log.

(b) Test Form 1

(c) Tracing of tracks carried at the center during the exercise. Centers will use as many tracings as are necessary to provide a clear picture. Portions of the tracks that are Dead Reckoned will be shown as such.

(3) Aircraft control and warning squadrons - Normal procedures will be utilized. Report requirements are the Intercept Action Report, ADC Form 87. In addition to the regular entries the remarks section is to indicate whether the intercept or attempted intercept was made with GOC plots alone or with GOC plots in conjunction with radar tracks.

(4) Fighter Squadrons - Defense wings will forward copies of the Intercept Mission Report, ADC Form 4A, kept in the fighter squadron for all intercepts accomplished during the period of the exercise.

(5) EADF will collect and analyze all data. Test Forms 2 through 11 are for EADF analysis purposes.

h. Letter was received from ADC, 11 May, assigned the nickname Sky Scan to this exercise, and waived all other requirement of the Radar Eval flights in the continental United States for the period required to complete Exercise Sky Scan. A copy of this letter was coordinated with the affected directorates of this Headquarters and dispatched to the Radar Eval Flight. One paragraph in particular stressed the public information aspects of the exercise: "Sufficient public relation activities will be conducted by Ground Observer Units to insure civil defense and civic officers are informed of the proposed exercise and of the probability of low altitude missions close to small towns and cities. Maximum emphasis must be placed on public understanding and sympathy with the Exercise Sky Scan." This paragraph was quoted verbatim in the Operations Order that was issued. Public information releases has previously been authorized at the 28 April conference to commence 1 May 54.

1. On the 11th and 12th May, two representatives from 4713th Rad Cal Squadron assisted the officers of this headquarters in drawing up the 22,500 miles of B-29 routes required. A summary of the flights is as follows:

(1) Bangor and Manchester areas - 22 May, 2 day flights and 1 night flight. 23 May, 1 day flight and 1 night flight.

(2) Buffalo, Pittsburgh and Baltimore areas - 27 May,

2 day flights and 1 night flight. 28 May, 1 day flight and 1 night flight. 29 May, 1 day flight. A night flight may be required if the 2nd night flight on the 28th is not possible due to shortage of aircrews or B-29s.

j. EADF Operations Order 47-54 was issued the 14th of May to all applicable forces of EADF with an info copy to ADC, RCAF ADC, EASTARAACOM, Eastern Sea Frontier, and CAA First Region. This Operations Order stated the GOC is to be alerted and manned to the maximum as follows:

- (1) Bangor, Manchester 1000Z 22 May to 1000Z 24 May.
- (2) Buffalo, Pittsburgh and Baltimore 1000Z 27 May to 1000Z 30 May.

In the event of inclement weather, this headquarters will order a 12 or 24 hour postponement. Postponement instructions will be issued through operational channels at least 12 hours prior to the commencement of the Ground Observer Corps alert period.

- (3) The only requirement remaining is the need for VFR weather during the period of the exercise. I will monitor the weather forecast on the 21st and 26th of May and issue the appropriate "go ahead" or postponement instructions.
- (4) Unless advised otherwise the Division Commanders will alert the GOC areas for the required period and the exercise will proceed.

NOTE: Mr. Turpin of Operations Analysis will now brief you on the exercise data collection and reduction. Before he briefs you are there any questions on the operational aspects?

C O P Y

Plan for a Nation-Wide Study of the GOC

EAOCD

EAOOT

4 May 54

1. Colonel Hollick, EAOCD; Mr. Turpin, EA00A, and S/L Ockenden, this directorate, attended a conference held at Headquarters ADC, 23 April 1954, to resolve the details of the nation-wide study of the GOC to be held during the last two weeks of May. Major Baumgart represented the 4713th Radar Evaluation (ECM) Flight.

2. Each force is to conduct the study in the filter center areas selected by Headquarters ADC. The EADF areas involved are Buffalo, Pittsburgh, Baltimore, Bangor, and Manchester. The routes of the strike aircraft, which will be B-29s from the 4713th Radar Evaluation (ECM) Flight, are to be determined by this headquarters. The actual dates are also to be determined by Headquarters EADF.

3. A few changes were made to the original plan developed by ADC. They were primarily changes in the method of collecting and analyzing the data.

a. The observation posts will operate normally as they would under alert conditions and will not be required to submit other than normal reports and returns,

b. The filter centers will complete normal reports and returns and will be required to maintain one extra report containing post manning figures. They will also be required to submit tracings of the GOC tracks plotted during the days of the exercise.

c. The AC&W squadrons will operate normally. The figures for the report required are all available in existing AC&W squadron reports.

d. EADF analysis section with the assistance of EAOCD and EAOOT will reduce all the data to the necessary forms for forwarding to ADC.

4. The total flying requirements to provide sufficient tracking and to pass over sufficient observation posts under the various conditions of the test are as follows:

a. Daylight VFR

(1) 500' above terrain - 10 x 150 mile tracks through each area.

(2) 4,000 above terrain - 10 x 150 mile track through each area.

Plan for a Nation-Wide Study of the GOC
(Cont'd)

b. Night VFR

- (1) 4,000 above terrain 10 x 150 mile tracks through each area.

c. The above flights total 1500 miles of track for each filter center area under 3 conditions or a total of 4500 miles of track. This is a total of 22,500 miles of tracking for EADF filter center areas or approximately 15 B-29 flights.

5. The test or exercise, as ADC prefers to call it, has been allocated code word "Sky Scan". The revised plans attached. ADC will issue instructions to the defense forces placing a priority on the exercises for the use of Radar Cal B-29s and relieving them of other commitments for the period.

6. A briefing was held at this headquarters, 28 April 1954, with representatives attending from 32d and 26th Air Divisions (Defense, the five filter centers and 6 states involved in the test. Colonel Hollick, Mr Turpin and S/L Ockenden briefed the delegates on all aspects of the study including the reports required. All filter centers and observation post problems that might arise were discussed.

7. Some queries were made as to the public information releases. The EADF PIO resolved such problems for the delegates.

8. The following action is planned by representatives from this headquarters:

a. Copies of the revised ADC plan will be forwarded to all units concerned. An explanatory letter will accompany each copy outlining each units prime reporting requirement.

b. A brief EADF Operations Order will be issued. The ADC outline with reports required will be referenced in order to avoid repeating all such information in the ops order. Tentative dates for the exercise in EADFRegion are 22d and 23d May for Bangor and Manchester areas, and 27 to 29 May for Buffalo, Pittsburgh, and Baltimore areas.

c. 4713th Radar Evaluation (ECM) Flight personnel will report to this headquarters 11 May to assist in establishing the routes for the 22,500 miles of track required.

9. Copies of this correspondence have been sent to EAACD, EAOGA, and EAACP.

t/ OCKENDEN

t/ OLDS

1 Incl
Revised Plan for Nation Wide
Study of GOC

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C O P Y

HEADQUARTERS
32D AIR DIVISION (DEFENSE)
Syracuse Air Force Station, Eastwood Station 6
Syracuse, New York

OCD/WEA 2-2

SUBJECT: Reporting of Severe Storms (TORNADOES) by GOC

TO: GOC STATE COORDINATOR
905 Commonwealth Avenue
Boston 15, Massachusetts

1. Reference your letter, subject as above, dated 29 January 1954. It is the policy of this headquarters to assist United States Weather Bureau in any way possible without jeopardizing the primary mission of the Ground Observer Corps.
2. At any time that the Boston office of the United States Weather Bureau desires, we shall advise our observation post to call into the Filter Center any unusual weather conditions such as tornadoes or hurricanes which originate within our area of responsibility, for relay to the Weather Bureau.
3. This plan to be put into effect if the commonwealth agrees as stated in basic letter which was written by Brigadier General R. G. Ervin.
4. Desire you furnish the Manchester Filter Center with the telephone number of the Boston Weather Bureau and initiating date far enough in advance to allow for alerting of our observation posts.

BY ORDER OF THE COMMANDER:

VIRGINIA L. SWEET
1st Lt, USAF
Assistant Adjutant

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C O P Y

HEADQUARTERS
EASTERN AIR DEFENSE FORCE
Stewart Air Force Base, Newburgh, N. Y.

EAACD

27 April 1954

SUBJECT: Sector Sergeant Plan for Field Training Personnel

TO: Commander
Air Defense Command
Ent Air Force Base
Colorado Springs, Colorado

1. Reference is made to Headquarters 26th Air Division letter, subject as above, dated 31 March 1954, and 1st Indorsement, this headquarters, dated 9 April 1954. In view of subsequent conversation between Colonel Mayall, your headquarters and Colonel Hollick, this headquarters, request reconsideration of paragraph 2 of the above referenced indorsement.

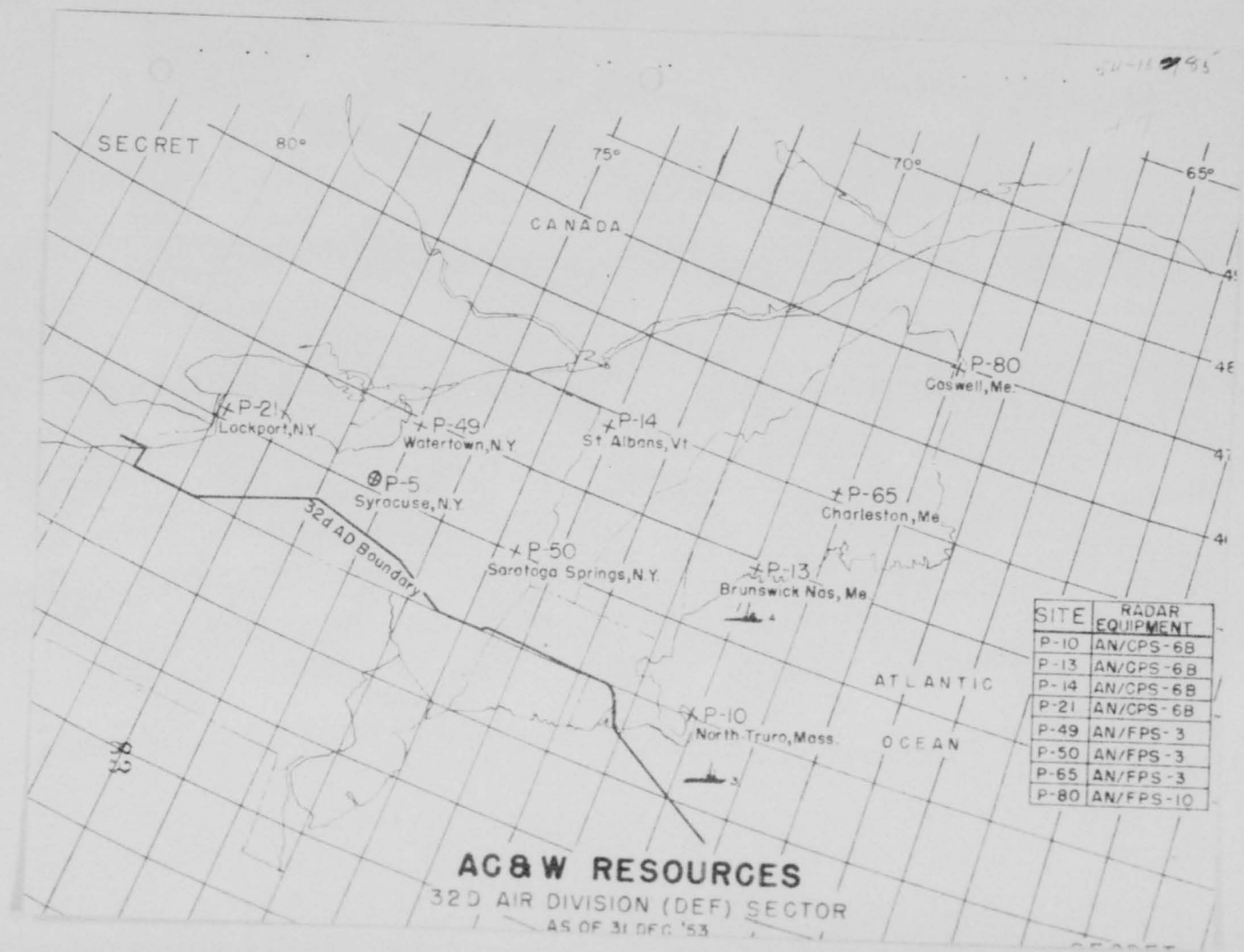
2. This headquarters feels that a more comprehensive evaluation can be made of a sub-area type of training team operation if tested in several areas under different conditions and using different procedures.

FOR THE COMMANDER:

s/t/ J.W. FOUNTAIN, JR.
Major, USAF
Asst Adjutant

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C O P YCOMBAT READINESS STAFF COMMENTARY
AIRCRAFT CONTROL AND WARNING SQUADRONS

<u>SQUADRON</u>	<u>MAY SCORE</u>	<u>JUNE SCORE</u>	<u>JULY SCORE</u>	<u>JULY CO'S ESTIMATE</u>	<u>COMMENTS</u>
654th	87	87	86	65	A study is being made regarding this large number of unknowns which faded prior to interception. However, it is believed that most of these tracks are light civilian aircraft which are numerous in the summer time. This type aircraft usually fly low and do not present a good radar return. Suitable switch cards for modifying the interim headset (H52-AW) for use with the AN/CPS 6B are not available.
655th	90	91	85	85	The new commander is now present for duty. One new director is being assigned but no big improvement is in sight for additional directors.
656th	89	88	88	88	One intercept was missed because a fighter was diverted from CAP with insufficient fuel to complete the interception.
762nd	90	97	93	96	No major problems reflected.
763rd	86	93	93	93	No major problems reflected.
764th	85	82	77	85	Eight out of eleven missed intercepts were due to target fading prior to intercept. Most of these aircraft were low, slow flying civilian aircraft in Lake Champlain area.

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COMBAT READINESS STAFF COMMENTARY
AIRCRAFT CONTROL AND WARNING SQUADRONS

<u>SQUADRON</u>	<u>MAY SCORE</u>	<u>JUNE SCORE</u>	<u>JULY SCORE</u>	<u>JULY CO'S ESTIMATE</u>	<u>COMMENTS</u>
765th	93	84	94	94	No major problems reflected.
766th	91	88	90	80	No major problems reflected.
87th	69	71	74	74	High ANFE and AOCF rate continues with this squadron
37th	73	70	79	50	Reservicing rate shows some improvement over previous reports.
47th	70	84	80	40	GCA at Niagara Falls is still being carried on training status. Letter has been written by Hq, 32d AD(D) requesting waiver of fuel requirements for GCA and ICAS runs. Electronic Fuel Control Mechanics career field will be forthcoming in the September revision of AFM 35-1.
49th	66	68	67	20	Reservicing time has again increased and is now 32 min average compared to 27 min for June. F66D aircraft are currently scheduled to arrive Dow AFB during the latter part of August and first of September.
57th	79	74	34	25	Stabilization of personnel has been affected. Aircraft are being returned from IRAN. Combat effectiveness of this squadron should now be definitely on the upswing.
58th	82	85	89	75	No major problems evident.

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C O P Y

COMBAT READINESS STAFF COMMENTARY
FIGHTER INTERCEPTOR SQUADRONS

<u>SQUADRON</u>	<u>MAY SCORE</u>	<u>JUNE SCORE</u>	<u>JULY SCORE</u>	<u>JULY COL'S ESTIMATE</u>	<u>COMMENTS</u>
60th	90	88	87	60	No major problems evident. Commanders estimate is considered low and the combat effectiveness is more closely represented by the weighted score.
74th	74	75	66	55	Squadron has deployed to NEAC.
437th	83	82	83	25	Commander is basing a low estimate on lack of qualified crews, however, he is carrying 21 crews as <u>Combat Ready</u> .

GENERAL COMMENTS: High ANFE and AOC rate is prevalent throughout. This is basically the result of complicated FCS and lack of sufficient skilled maintenance personnel.

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t/ ALFRED L. CUMMINGS, Major, USAF
Acting Recorder

t/ WILLIAM M. SHELTON, Lt Col, USAF
Chairman

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EXTRACT

AC&W ELECTRONICS EQUIPMENT STATUS AS OF 15 JUL 1954

<u>SITE NO</u>	<u>LOCATION</u>	<u>TYPE STATION</u>	<u>DIV</u>	<u>SQ</u>	<u>SEARCH RADAR</u>	<u>S/N</u>	<u>HEIGHT FINDER</u>	<u>S/N</u>	<u>IFF</u>	<u>RADOME</u>	<u>LAST CALBR</u>	<u>STATE</u>
P-9	Highlands, N.J.	III DC	26	646	CPS-6B QA/347 Instld (FPS-8)**	8	(FPS-4)**		GPX-6	Instld	11 Jun 53	FO 26 Oct 51
P-10	N. Truro, Mass.	III DC	32	762	CPS-6B QA/347 (FPS-8)**	2	(FPS-4)**		GPX-6	Instld	23 Jun 53	FO 4 Oct 51
P-13	Brunswick NAS, Me.	III DC	32	654	CPS-6B QA/347 Instld (FPS-8)**	5	(FPS-4)**		GPX-6	Instld	3 Sep 53	FO 4 Oct 51
P-14	St Albans, Vt.	III DC	32	764	CPS-6B (QA/347)	5			GPX-6	Instld	16 Jul 53	FO 18 Sep 51
P-16	Calumet, Mich.	IR DC	30	665	FPS-3 (FPS-8)**	6	FPS-5** (FPS-6)*	21	GPX-7	Instld	31 Aug 53	FO 3 Apr 53
P-19	Antigo, Wisc.	IR DC	30	676	FPS-3	40	FPS-4 (FPS-4)**	10	GPX-7 GPZ-16	Instld	11 Sep 53	FO 15 Jul 52
P-20	Selfridge AFB, Mich.	III DC	30	661	CPS-6B QA/347 Instld	7			GPX-4 GPX-6 GPZ-16	Instld	13 Nov 53	FO 22 Oct 51

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<u>SITE NO</u>	<u>LOCATION</u>	<u>TYPE STATION</u>	<u>DIV</u>	<u>SQ</u>	<u>SEARCH RADAR</u>	<u>S/N</u>	<u>HEIGHT FINDER</u>	<u>S/N</u>	<u>IFF</u>	<u>RADOME</u>	<u>LAST CALBR</u>	<u>STATUS</u>
P-21	Lockport, N.Y.	III DC	32	763	CPS-6B OA/347	3			GPX-6	Instld	24 Apr 53	FO 21 Sep 51
P-30	Benton, Pa.	III DC	26	648	CPS-6B (OA/347)	9			GPX-6	Instld	30 Apr 54	FO 17 Oct 51
P-31	Williams Bay, Wisc.	III DC	30	755	CPS-6B OA/347 instld	10			GPX-7 GPA-16	Instld	8 Oct 53	FO 4 Oct 51
P-34	Empire, Mich.	III DC	30	752	CPS-6B OA/347 Instld	11		57	GPX-6	Instld	16 Nov 53	FO 6 Nov 51
P-43	Guthrie, W. Va.	IR DC	30	783	FPX-3	52	FPS-4	14	GPX-7 ()		15 Feb 54	FO 9 Aug 52
P-45	Montauk, N.Y.	II DC	26	773	FPS-3 (FPS-8)**	18	FPS-5** (FPS-6)*	18	GPX-7	Instld	4 Mar 54	FO 8 Apr 52
P-49	Watertown, N.Y.	II DC	32	655	FPS-3	21	FPS-5** (FPS-4)*	17	GPX-7	Instld	30 Jun 53	FO 15 May 52
P-50	Saratoga Spgs, NY	II DC	32	656	FPS-3	11	FPS-5** (FPS-6)*	16	GPX-7	Instld	29 May 53	FO 25 Mar 52
P-53	Rockville, Ind.	III-M DC	30	782	FPS-10 OA/347 Instld	28			GPX-6	Instld	20 Aug 53	FO 9 Aug 52

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<u>SITE NO</u>	<u>LOCATION</u>	<u>TYPE STATION</u>	<u>DIV</u>	<u>SQ</u>	<u>SEARCH RADAR</u>	<u>S/N</u>	<u>HEIGHT FINDER</u>	<u>S/N</u>	<u>IFF</u>	<u>RADOME</u>	<u>LAST CALBR</u>	<u>STATUS</u>
P-54	Palermo, N.J.	II DC	26	770	FPS-3 (FPS-8)**	41	FPS-5** (FPS-6)*	20	GPX-7	Instld	22 Mar 54	FO 8 Apr 52
P-55	Quantico, Va.	II DC	26	647	FPS-3	36	CPS-4 (FPS-6)* (FPS-4)**	6	GPX-7	NP	18 Feb 54	FO 14 Apr 52
P-56	Cape Charles, VA.	II DC	26	771	FPS-3 (FPS-8)**	26	CPS-4 (FPS-6)* (FPS-4)**	32	GPX-7	NP	16 Feb 53	FO 22 Apr 52
P-61	Fort Austin, Mich.	II DC	30	754	FPS-3	57	CPS-4 (FPS-6)* (FPS-4)**	35	GPX-7	Instld	3 Aug 53	FO 24 Jun 52
P-62	Brookfield, Ohio	II DC	30	662	FPS-3	38	FPS-5** (FPS-4)*	22	GPX-7 GPA-16	Instld	16 Jul 53	FO 17 Apr 52
P-63	Claysburg, Pa.	II DC	26	772	FPS-3	37	CPS-4 (FPS-4)*	36	GPX-7	Instld	26 May 54	FO 8 Apr 52
P-65	Charleston, Me.	II DC	32	765	FPS-3 (FPS-8)**	51	FPS-5** (FPS-6)*	18	GPX-7	Instld	11 Jun 53	FO 10 Jun 52
P-66	Sault Ste Marie, Mich.	II DC	30	753	10		FPS-5** (FPS-6)*	12	GPX-7	Instld	2 Oct 53	FO 17 Apr 52

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<u>SITE NO</u>	<u>LOCATION</u>	<u>TYPE STATION</u>	<u>DIV</u>	<u>SQ</u>	<u>SEARCH RADAR</u>	<u>S/N</u>	<u>HEIGHT FINDER</u>	<u>S/N</u>	<u>IFF</u>	<u>RADOME</u>	<u>LAST CALIBR</u>	<u>STATUS</u>
P-67	Ft Custer, Mich.	II DC	30	781	FPS-3	39	(FPS-4)*		GPX-7	Instld	17 Aug 53	FO less HF
P-73	Bellefontaine, Ohio	II DC	30	FPS-3		32	(FPS-4)*		GPX-7 GPZ-16	()	18 Jan 54	FO less HF
P-80	Caswell, Mo.	III-M DC	32	766	FPS-10 OM/347 (FPS-8)**	21	(FPS-4)**		GPX-6	Instld	27 Aug 53	FO 19 Dec 52
P-82	Ft Knox, Ky.	IR	30	784	FPS-3	54	FPS-4	12	GPX-7	NP	7 Apr 54	FO 8 Jul 52

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C O P Y

CONFIDENTIAL
HEADQUARTERS
Eastern Air Defense Force
Stewart Air Force Base, Newburgh, N.Y.

EAOOT-OS

4 May 1954

SUBJECT: Status Report of Back-up Radar

TO: Commander
32d Air Division (Defense)
Syracuse Air Force Station
Eastwood Station 6
Syracuse, New York

1. This headquarters has noticed that the 654th AC&W Squadron at Brunswick N.A.S., Maine, is submitting identical radar status reports even though there is no back-up height finding equipment available when utilizing the TYSIB equipment.
2. The operational effectiveness of an ADDC, utilizing TPGIB back-up equipment without a height finder, is not equivalent to that of a CPS6B, as aircraft altitude cannot be measured accurately.
3. Desire this squadron be required to report the radar status according to paragraph 4b(1) of ADCR 55-22.
4. This letter is classified Confidential in accordance with paragraph 24a(8) of AFR 205-1.

BY ORDER OF THE COMMANDER:

JAMES R. WORLINE
Captain, USAF
Asst Adjutant

1653-54

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Hq EADF EA00T-03 Subj: Status Report of Back-up Radar

OCT-A (4 May 54) 1st Ind

Hq 32D AIR DIVISION (DEFENSE), Syracuse Air Force Station, Eastwood
Station 6, Syracuse, New York 18 May 1954

TO: Commander, Eastern Air Defense Force, Stewart AFB, Newburgh, NY

1. Backup equipment at the 654th AC&W Squadron is TPS-1-C.
2. Capability estimate for this squadron has been based on ability to fulfill the primary functions of an ADCC. While it is realized that lack of height finding equipment at the site is a detriment, this item alone was not considered sufficient to declare the station as being below 75 per cent of effectiveness. This was considered appropriate as the squadron could obtain height information from the 762nd and 765th AC&W Squadrons. Although not self contained and self supporting, the operational capability in the performance of ADCC functions was maintained at a reduced level, due to the reduction in range available from the TPS-1-C.
3. Reports in compliance with paragraph 46(1), ADCR 55-22 will be submitted in the future.

FOR THE COMMANDER:

FREDERICK E. YORK
Lt Colonel, USAF
Adjutant

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C O P Y

HEADQUARTERS
32D AIR DIVISION (DEFENSE)
Syracuse Air Force Station, Eastwood Station 6
Syracuse, New York

PO&R

23 March 1954

SUBJECT: (SECRET) Utilization of Project Equipment in Active
Air Defense

TO: Commander
Eastern Air Defense Force
Stewart Air Force Base
Newburgh, New York

1. In reference, with telephone conversation between Major Randle, this headquarters, and Captain Lewis, Headquarters, Eastern Air Defense Force, the following information pertaining to the integration of Lincoln Laboratory experimental radar equipment into the active air defense is submitted:

a. In accordance with Mutual Agreement for the Air Defense of the Continental United States dated 23 November 1951, all forces and facilities possessing an air defense capability that belongs to the Air Research and Development Command will be integrated into the air defense of continental United States in case of emergency.

b. As the results of a conference convened at Lincoln Laboratory on 17 September 1953, and staff visits conducted on 8 September 1953 and 19 January 1954, it was determined that the utilization of low-altitude radars and computer would be impractical at this time, since their data would not be assimilated and integrated by the 32d Air Division (Defense). However, it was agreed that this matter would be reopened for discussion with the completion of the Cape Cod System.

c. The only real potential available at the present time is the FPS-3 located at North Truro. Minor modification at P-10 would permit this equipment to act very efficiently as back-up radar.

2. A 32nd Air Division (Defense), Operation Plan for utilization of the FPS-3 at North Truro will be published in the near future and copies forwarded your headquarters for approval.

FOR THE COMMANDER:

FREDERICK E. YORK
Major, USAF, Adjutant

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C O P Y

CONFIDENTIAL

762D AIRCRAFT CONTROL AND WARNING SQUADRON
NORTH TRURO AIR FORCE STATION
North Truro, Massachusetts

ACQOPS

26 June 1954

SUBJECT: Conference on EW Kit (Unclassified)

TO: Commander
32d Air Division (Defense)
ATTN: Director of C&E
Hancock Field, Eastwood Station 6
Syracuse, New York

1. Forwarded in compliance with message ACFOCR 05014, Headquarters, 32d Air Division (Defense), an informal report of conference between Raytheon Engineers and electronics personnel of this unit is inclosed.
2. This is a preliminary report on this matter. A detailed analysis of this conference will be dispatched to your Headquarters upon receipt of laboratory evaluations and/or recommendations from Raytheon.
3. The results of the conference are encouraging; however, no final conclusions can be reached at this time. As theories presented in this report have been proven or disproven as fact your Headquarters will be notified immediately.
4. Your attention is invited to message AIMCE-2 19466, Headquarters, Air Defense Command, requiring submittal of ADC Form 151, Supply and Maintenance Report of Radar Status, RCS: ADC-E7, to be accomplished on all non-scheduled maintenance of the EW Kit.
5. When inclosures are withdrawn or not attached classification of this correspondence may be downgraded to unclassified in accordance with paragraph 26g, AFR 205-1.

FOR THE COMMANDER:

1 Incl
Informal Rpt of Conference

JAMES J. DOUGHERTY
Captain, USAF
Adjutant

Info Cy:
COMDR, 4707th Def Wg

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Informal Report of Conference

1. A preliminary conference was conducted at the 762d Aircraft Control and Warning Squadron between Mr. A. J. Nastie, Mr. R. A. Lee, Raytheon Magnetron Application Engineers; Captain John R. Dear, Radar Maintenance Officer, Mr. Donald E. Bissell, Philco Technical Instructor and Mr. Robert B. Merritt, General Electric Field Engineer, during period 26-27 May 1954, for purposes of investigating current EW Kit (AN/CPS-6B) problems. Due to the inability of this station to furnish maintenance time the conference was postponed until the annual overhaul period; however, a late model QK 254 B type magnetron, serial number AO 0941 B, from factory stocks was installed at no expense to the government for purpose of running stability and endurance tests under operating conditions. No mechanical data was obtained during this first meeting, other than an indication that further tests should be made under actual operating conditions. This magnetron operated for approximately twenty-four (24) hours at 52.5 ma of magnetron current. After this time the set would not stay in radiate; the runback circuit dropped to 42 ma magnetron current and could not be increased without causing the overload relay K-2 to throw set out of radiate. After this the set would not stay in radiate and it was decided to postpone further tests until the annual CPS-6B overhaul period. It was thought at this time that this magnetron had followed the same general behavior pattern as all previous magnetrons and would be of no further use. A phone call was placed to Raytheon informing them of the condition of the magnetron and it was decided to cease operation until a later date. The set was returned to a standby status.

2. a. A second conference was held 9-11 June 1954 during the annual overhaul period by the same Raytheon Engineers listed in paragraph 1 above. A representative from 32D Air Division was also present at this time. Specialized test equipment was brought from the Raytheon factory for this purpose at no expense to the Air Force.

b. Upon investigation of symptoms mentioned in paragraph 1 it was discovered that the secondary of Pulse Transformer T-21406 was partially shorted. This was immediately replaced by General Electric; however, repeated attempts to keep the set in radiate failed. The set would apparently go out of radiate without current fluctuations, indicating that without magnetron arcing the set would drop out of radiate. The modulator overload relay K-2 was bypassed by inserting a jumper wire between V 21105 and V 21106 and adjusting sensitivity of the reverse current control R-3 to interrupt the circuit after sustained arc of four (4) seconds.

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Informal Report of Conference (Cont'd)

c. When the unit was again started under these conditions the magnetron arced intermittently at maximum current readings of approximately 80 ma for a period of 10 - 15 minutes, finally settling down to 52.5 ma. The overload relay jumper was then removed. It was brought out at this time by the Raytheon Engineers that the optimum current reading for this type magnetron is a minimum of 52.5 ma. A lower magnetron current, as observed on a Tektronix Oscilloscope using an 8020 diode as a probe to observe voltage pulses, indicated considerable instability at low setting. This, according to the engineers, could promote internal magnetron arcing presumably due to the fact that the tube will accumulate gas while actually operating at low settings. This fact has not been accepted as conclusive at this station; however, the magnetron furnished by Raytheon appears to be unstable if permitted to operate below 52.5 ma.

3. The following is a breakdown of pertinent data accumulated during the conference:

a. Observations

- (1) QK 254 type magnetrons which have been idle appear to be gassy in a direct ratio to the length of time inoperative.
- (2) The gassy condition appears to promote instability thru arcing or gas bursts until it has been eliminated by continuous operation during the early unstable period.
- (3) Low magnetron current apparently promotes instability in this tube.
- (4) Present magnetron has operated at 52.5 ma for three hundred (300) hours continuous operation. This figure was given as minimum tube life expectancy by Raytheon engineers.
- (5) Pulse characteristics of the EW magnetron, QK 254, serial number AO 0941 B, measured with a 1.009 ohm viewing resistor using a Tektronix Oscilloscope are as follows:

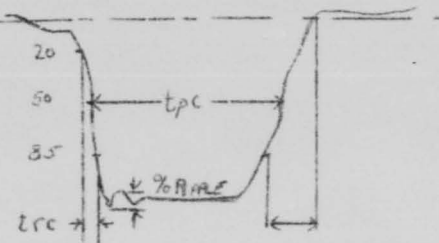
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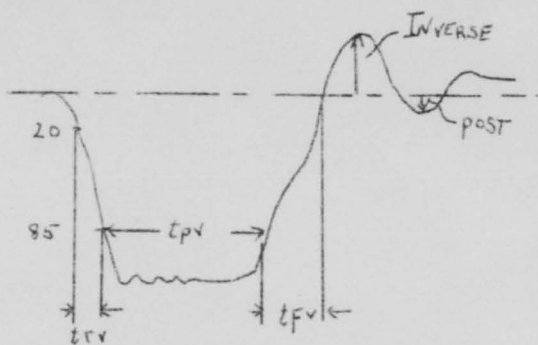
Informal Report of Conference (cont'd)

b. Figure A (Current)



- (1) tpc (current pulse width) - 2.18 microseconds
- (2) trc (current pulse rise) - .23 microseconds
- (3) tfc (current pulse fall) - 2.36 microseconds

c. Figure B (Voltage)



- (1) tpv (voltage pulse width) - 2.36 microseconds
- (2) trv (voltage pulse rise) - .16 microseconds
- (3) tfv (voltage pulse fall) - 1.40 microseconds

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Informal Report of Conference (cont'd)

- (4) Inverse voltage: 31%
- (5) Post Voltage : 17.9 - 24.9% due to jitter
- (6) I_b : 52.5 ma
- (7) prf : 300

d. Recommendations:

- (1) That the magnetron be subjected to a starting current of forty (40) ma only long enough to de-gas the tube. After approximately fifteen (15) minutes to one (1) hour start $\frac{1}{4}$ "firing" way up to optimum magnetron current in steps of 5 ma.
- (2) That overload relay (E-2) be adjusted to 275 ma. This relay may be shorted during the magnetron "burn out" period if the modulator current meter is closely monitored.
- (3) The inverse current relay B-3 be adjusted to four (4) seconds.
- (4) Magnetron current be maintained at 52.5 ma.
- (5) That additional research be made on this equipment in an effort to resolve current difficulties.
- (6) That procedure outlined herein be utilized prior to discarding apparently unserviceable tubes.

e. Remarks:

- (1) Detailed technical information and laboratory analysis, including photographs of wave shapes, is expected from Raytheon in the near future. This information will be used to compile a final report.
- (2) Considerable time and effort was expended by Raytheon Engineers during this conference. Personnel of this station express gratitude for their interest and cooperation in this matter.
- (3) Maintenance personnel at this station acquired a means of viewing and measuring magnetron input wave-shapes during actual operation. This provides a method of comparing performance characteristics of

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Informal Report of Conference (cont'd)

individual magnetrons. A probe was also improvised to observe the magnetron pulse (see figure A & B) at the magnetron cathode. Schematics will be furnished upon request.

- (4) It should be brought out at this time that arcing has been definitely traced to the recently replaced pulse transformer T21406. This condition could be due to poor insulation in the pulse transformer or to reflections caused by instability of the magnetron. This condition is being closely monitored and conclusions with respect to this are forthcoming. One peculiarity of this condition is that as the magnetron current increases due to instability the modulator current decreases in direct proportion.

JOHN R. DEAR
Captain, USAF
Radar Maintenance Officer

CONFIDENTIAL

Hq 762d AC&W Sq ACQOPS Subj: Conference on EW Kit (Unclassified)

OCE (26 Jun 54)

1st Ind

14 Jul 1954

HQ 32D AIR DIVISION (DEFENSE), Syracuse Air Force Station, Eastwood Station 6, Syracuse, New York

TO: Commander, Eastern Air Defense Force, Stewart Air Force Base, Newburgh, New York

1. A conference was held at this headquarters on 1 July 1954 with Messers Ed Williams, C. I. Robbins and R. P. Sutter of General Electric Corporation concerning the attached report on the QK-254B magnetron tests conducted at the 762d AC&W Squadron, North Truro, Mass. The report prepared by Raytheon Manufacturing Company was not discussed as this was received subsequent to this conference.

2. Two significant items of information which were developed at this conference follow:

a. The pulse transformer in the OA-347/EW Kit is sub-standard due to a change in manufacturing process. This information has been disseminated to the field by General Electric Corporation together with instructions for correction of faulty wiring.

b. The magnetron break-in procedures as recommended in the report prepared by the 762d AC&W Squadron is the first known time a definite break-in process has been established. General Electric Corporation will request that Raytheon Manufacturing Company study this proposed starting procedure and publish an approved magnetron break-in procedure.

3. Reference item four on the last page of the Raytheon report. General Electric Corporation has secured permission from Headquarters, Air Defense Command to conduct a thirty day test operating the magnetron at 52 MA. This test will be conducted at the four stations presently authorized to operate the OA/347 EW Kit. It was recommended at the conference held at this headquarters that only new magnetrons be used for this test and that break-in procedures as recommended in the 762d AC&W Squadron's report be followed.

4. The QK-254B magnetron that was broken-in under procedures previously cited has been in continuous operation at the 762d AC&W Squadron for 450 hours as of 2 July 1954 operating at 52 MA plate current. As of that date there has been no indication of magnetron arcing or instability.

CONFIDENTIAL

0474

Hq 762d AC&W Sq ACQOPS Subj: Conference on EW Kit (Unclassified)

5. It must be stressed that these tests are inconclusive inasmuch as the resultant data represents information concerning one particular magnetron. The results are encouraging and indicate that if proper break-in procedures are followed, satisfactory operation can be attained. It is also indicated that better understanding of this magnetron is required in the field. Information copies of these reports are being distributed to all units of this division who are assigned the OA/347 EW Search Kit.

FOR THE COMMANDER:

2 Incls
1. n/c
ADDED
2. Raytheon Rept (Dup)

HENRY R BROWN
Major, USAF
Adjutant

CONFIDENTIAL

C O P Y

Historical Report

Lt. Painter

Capt. Leason

7 July 1954

1. Personnel Changes: None
2. Field Trips:
Capt. James S. Leason: To 762d AC&W Sqdn, N. Truro, Mass.
Purpose: Observing experimental operation OA/347 EW Kit to determine causes for magnetron instability. These tests conducted by Raytheon Manufacturing Company. General Electric Corp was represented by Mr. J. Bangs.
3. Conferences:
Siting: A siting conference was held at this headquarters on 22-23 June 1954. A representative of 4713th Radar Evaluation Flight conducted training for the siting team on mapping preliminary to field surveys.
4. Tests:
 - a. Tests were conducted at the 762d AC&W Sq 9-11 June 1954 on the OA/347 EW Kit to determine causes of magnetron instability. Results of this test, although inconclusive, indicate if proper magnetron break-in procedures are followed, magnetron operation is satisfactory. General Electric will request that Raytheon Manufacturing Company develop their approved break-in and starting procedure.
 - b. A test was conducted at the 764th AC&W Sq on an experimental crystal controlled stalo developed by Airborne Instruments Laboratories. Although stability of this stalo was excellent, spurious radiations from the triode oscillators were injected into the video system negating the value of the MTEI system.

LEASON

92

0476

CONFIDENTIAL

C O P Y

HEADQUARTERS
32D AIR DIVISION (D. 3)
Syracuse Air Force Station, Eastwood Station 6

OCE

15 Jul 1954

SUBJECT: OA/347 Early Warning Kit Magnetron Test

TO: Commander Commander Commander
 4707th Defense Wing 4711th Defense Wing 766th AC&W Sq
 Otis Air Force Base Presque Isle AFB Caswell AF Sta
 Falmouth, Mass. Presque Isle, Maine Caswell, Maine

1. Enclosed report concerns data obtained from tests conducted at the 762d AC&W Squadron by Raytheon Manufacturing Company. The resultant information is inconclusive since exhaustive testing with a number of magnetrons must be made prior to accepting the findings as reliable fact. However, the information is indicative of a possible solution.

2. It is requested that when new magnetrons are installed in the OA/347 EW Kit, that magnetron break-in procedures as outlined in paragraph 3d be followed. It is further requested these procedures be followed on apparently unserviceable magnetrons before discarding them.

BY ORDER OF THE COMMANDER:

1 Incl
Informal Rept
of Conference

VIRGINIA L. SWEET
1st Lt., USAF
Assistant Adjutant

2045-54

CONFIDENTIAL

94

0 4 7 7

C O P Y

HEADQUARTERS
AIR DEFENSE COMMAND
Ent Air Force Base

AIMEL-2

26 February 1954

SUBJECT: AN/CPS-6B One-Tube Modulator Modification

TO: Commander
Eastern Air Defense Force
Stewart Air Force Base
Newburgh, New York

1. Information from the General Electric Company indicates that delivery of the one-tube modulator modification kits for the AN/CPS-6B and AN/FPS-10 radar sets will begin in March at the rate of nine per month. Because of the extensive nature of this modification, it has been determined that the most practical and economical method of accomplishment will be to perform the modification of Modulators MD-98 and MD-99 at the contractor's depot repair shops. Existing depot spare modulators, of which five sets are available, will be modified first and then rotated through the AN/CPS-6B sites until all modifications are complete. This will not only reduce the off-the-air time required at the squadrons but will permit more thorough testing of the modified modulators and better quality control.

2. This headquarters is vitally interested in having all modifications completed as soon as possible. It is felt that this modification will increase the operational dependability of the AN/CPS-6B and will alleviate the present maintenance and supply problems engendered by the 5C22 thyratrons now used.

3. The biggest problem in expediting completion of this modification is insuring that the modified and unmodified modulators are shipped between the squadrons and the contractor with the least possible delay. For this reason it is requested that direct shipment be utilized between the squadron and the contractor with no intervening military channels. If support bases or other echelons desire, information copies of shipping documents may be routed to them.

4. Squadrons should be urged to exercise care in unpacking modulators so that the same packing materials can be used to return the unmodified modulators. Return of the unmodified modulators may be made by collect shipment to the appropriate General Electric depot to avoid delays in acquiring Government bills of lading.

5. The complete modification at the site will consist of replacing the MD-98 and MD-99 modulators and modification of C-561 and C-562

95

0 4 7 8

Hq ADC, AIMEL-2, Subject: AN/CPS-6B One-Tube Modulator Modification

Modulator Control Panels, SB-88 Distribution Panel, and J-304 Terminal Box in accordance with T.O. 16-35-MDI. It is expected that distribution of this technical order will coincide with equipment delivery. These modifications will be made with the assistance of General Electric specialized teams.

6. Request this information be forwarded to all affected activities.

BY ORDER OF THE COMMANDER:

s/t/ ALBERT I. CLENDENIN
Captain, USAF
Asst Command Adj

EAMAC-CRM (26 Feb 54)

1st Ind

11 Mar 54

HQ EASTERN AIR DEFENSE FORCE, Stewart Air Force Base, Newburgh, New York

TO: Commanders, Defense Wings

1. Reference paragraph 3, basic letter. Information copies of shipping documents will be furnished to the appropriate C & E supply support base.
2. Reference paragraphs 4 and 5. ACMW squadrons will not attempt installation of subject modifications without the assistance of the contractor's specialized installation team. Upon receipt, the equipment will be stored pending arrival of subject team.
3. Appropriate references relative to the status of the modifications will be included in parts 15, 16, and 17 of the Weekly Contractors Maintenance Digest by the resident General Electric Field Engineer.
4. Installation priorities for this equipment within this command will be furnished at a later date.

BY ORDER OF THE COMMANDER:

s/t/ JAMES C. MEREDITH
1st Lt, USAF
Assistant Adjutant

0479

C O P Y

HEADQUARTERS
EASTERN AIR DEFENSE FORCE
Stewart Air Force Base, Newburgh, N. Y.

EAMAC-CEM

15 April 1954

SUBJECT: AN/CPS-1 One-Tube Modulator Modification

TO: Commanders, Air Divisions (Defense) and Defense Wings

1. Reference letter from Air Defense Command, AIMEL-2, 26 February 1954, subject same as above, and our 1st Indorsement, EAMAC-CEM, 11 March 1954.

2. Installation of the one-tube modulators is scheduled to start during the week of 12 April 1954 and is expected to proceed at the rate of four or five squadrons per month in the order listed below:

1. 764th	7. 654th
2. 646th	8. 648th
3. 762d	9. 661st
4. 663d (Not EADF)	10. 755th
5. 763d	11. 752d
6. 766th	12. 782d

3. It is anticipated that shut-down time for accomplishment of the installation will be approximately twelve hours.

4. General Electric Company tentatively plans to utilize commercial trucking facilities for expeditious transportation of the modified and unmodified modulators between the squadrons and the contractor. This information cancels those portions of paragraphs 3 and 4 of the referenced letter that relate to shipment of the modulators.

5. Request this information be forwarded to all affected activities.

BY ORDER OF THE COMMANDER:

s/t/ JAMES C. MEREDITH
1st Lt, USAF
Assistant Adjutant

96

0480

C O P Y

HEADQUARTERS
AIR DEFENSE COMMAND
Ent Air Force Base
Colorado Springs, Colorado

AIMEL-2

; 21 June 1954

SUBJECT: (CLASSIFIED) AN/FPS-3 Duplexer Modification Schedule

TO: Commander
Eastern Air Defense Force
Stewart Air Force Base
Newburgh, New York

1. Attached is the schedule for depot-level modification action under which forty-nine (49) AN/FPS-3 systems within Air Defense Command will be altered to incorporate Duplexer CU-315/FPS-3 in place of Duplexer CU-233/FPS-3. It is requested that subject schedule and copies of cover letter containing instructions and general information be forwarded to appropriate activities.

2. Installation of Duplexer CU-315/FPS-3 and associated control components will result in an appreciable improvement in aircraft detection capability for AN/FPS-3, primarily because the receiving system noise figure will be reduced from 16 dbm to only 12 dbm. In addition, the change will result in longer TR tube life, longer signal mixer crystal life and more uniform performance using stock signal mixer crystals.

3. Following is a summary of AN/FPS-3 components which will be directly affected:

<u>Original Equipment</u>	<u>Modified Equipment</u>
Transmitter Group OA-214/FPS-3	Transmitter Group OA-398/FPS-3
Radar Transmitter T-266/FPS-3	Radar Transmitter T-360/FPS-3
Duplexer CU-233/FPS-3	Duplexer CU-315/FPS-3
I.F. Amplifier AM-423/FPS-3	I.F. Amplifier AM-423A/FPS-3
Control Group OA-179/FPS-3	Control Group OA-399/FPS-3
Radar Set Control C-797/FPS-3	Radar Set Control C-1108/FPS-3

4. Rome Air Force Depot has indicated concurrence in the following plan for transferring accountability for two (2) transmitter cabinets at each site scheduled for modification:

2215-54

CONFIDENTIAL

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0481

Hq ADC ADMEL-2 Subj: (Classified) AN/FPS-3 Duplexer Modification
Schedule

a. Bendix teams will transfer to each site two (2) completely modified transmitter cabinets OA-398/FPS-3, using AF Form 104B bearing a voucher number assigned by the Accountable Property Officer at the Bendix factory.

b. Squadrons will transfer to the Bendix depot teams two (2) unmodified transmitter cabinets OA-214/FPS-3, using AF Form 104B bearing a voucher number assigned by the Accountable Property Officer at applicable electronics support base.

5. Following is a brief summary of the operational plan to be used in accomplishing this relatively extensive modification:

a. Specially-equipped Bendix teams will arrive on-site with two (2) completely modified transmitter cabinets OA-398/FPS-3.

b. Bendix teams, assisted by squadron maintenance personnel, will remove unmodified cabinets OA-214/FPS-3, from the antenna support structure and immediately replace them with modified units OA-398/FPS-3.

c. Squadron maintenance personnel, working under the direct supervision of Bendix depot teams, will complete the installation of new control circuit wiring and the modification of Control Group OA-399/FPS-3 and Radar Set Control C-1108/FPS-3.

d. Bendix depot teams will remain on-site for approximately three (3) days to monitor operation of the newly installed equipment. During this monitoring period, squadron maintenance personnel will assist Bendix depot teams in the modification of two (2) Transmitter Groups OA-214/FPS-3, which were removed from the antenna support structure. These modified transmitters will be installed at the next site on the modification schedule.

6. The modification procedure as outlined above will achieve three (3) important objectives:

a. Radar down-time is reduced to the minimum possible for so extensive a modification.

b. Bendix depot teams remain on-site to insure proper operation of newly installed equipment.

c. By actual participation in all phases of the modification work, squadron maintenance personnel are given an opportunity to become thoroughly familiarized with physical and electrical characteristics of new transmitting equipment. Bendix teams will instruct squadron personnel in the proper adjustment and alignment of new equipment.

-2-

CONFIDENTIAL

0482

Hq ADC ADMEL-2 Subj: (Classified) AN/FPS-3 Duplexer Modification Schedule

7. In the interest of avoiding costly delays, it is requested that all AN/FPS-3 squadrons be instructed to take the following actions prior to the on-site arrival of the Bendix depot teams:

- a. Obtain voucher number of AF Form 104B from appropriate electronics support base.
- b. Have available for immediate use the primary items of equipment hoisting gear which were supplied as components of Antenna Towers AB-196 and AB-199. (Reference ADC letter to Air Defense Force Headquarters, ADMEL-2, Subject: Antenna Erection and Hoisting Equipment, dated 11 June 1954).
- c. To avoid technical difficulty and lost-time during modification, remove all minor modifications made under provisions of AFR 65-12 and ADCR 66-11 on any of the AN/FPS-3 components listed in paragraph 3 above.
- d. Arrange to have the majority of radar maintenance crewmen on-site during the modification period in order that they may assist in the modification and receive adequate training in the operation, adjustment and alignment of the new equipment.

8. It is further requested that AN/FPS-3 squadrons be instructed to make available to the Bendix depot teams those items among squadron spare components which will be declared in excess of squadron requirements as a result of subject modification action. Such excess items will be returned to rotational stock at the Bendix depots to help alleviate existing shortages and for further use in the duplexer modification program. Particular importance is attached to coax-to-waveguide transition UC-948 and the waveguide sections for obsoleted Duplexer CU-238/FPS-3. Detailed instructions relative to the disposition of components to be declared in excess will be forwarded prior to 1 July 1954 in separate correspondence following the completion of plans in this headquarters.

9. Although incorporation of Duplexer CU-315 in all AN/FPS-3 systems requires extensive alteration of existing transmitter cabinets, the nature of changes to be made is such that there will be no requirement for exhaustive tests of radar coverage immediately following the completion of modification. Changes to be made are confined to the transmitter cabinet itself and to associated control components. The antenna reflector and antenna horn combination which actually determine the radiation pattern of the system will not be involved in the modification in any respect.

CONFIDENTIAL

Hq ADC AIMEL-2 Subj: (Classified) AN/FPS-3 Duplexer Modification
Schedule

10. The daily maintenance card system for AN/FPS-3 is presently being revised in this headquarters. The revised forms will list maintenance procedures required for the new Duplexer CU-315/FPS-3. It is anticipated that the new card forms will be distributed to the field during the month of July 1954.

BY ORDER OF THE COMMANDER:

2 Incls

1. Duplexer Modification
Schedule (Eastern)
2. Duplexer Modification
Schedule (Western)

L. E. SMITH
Captain, USAF
Asst Command Adj

0484

Duplexer CU-315

Eastern Group

<u>Departure Date</u>	<u>From AC&WSqdn No.</u>	<u>To AC&W Sqdn No.</u>	<u>Arrival Date</u>
July 1	Baltimore	770	July 2
July 8	770	773	July 10
July 15	773	765	July 17
July 23	765	656	July 24
July 30	656	655	July 31
Aug. 6	655	662	Aug. 7
Aug. 13	662	664	Aug. 14
Aug. 20	664	781	Aug. 21
Aug. 27	781	754	Aug. 28
Sept. 4	754	753	Sept. 5
Sept. 11	753	665	Sept. 12
Sept. 18	665	676	Sept. 19
Sept. 25	676	756	Sept. 26
Oct. 2	756	739	Oct. 3
Oct. 9	739	787	Oct. 10
Oct. 16	787	789	Oct. 17
Oct. 23	789	738	Oct. 24
Oct. 30	738	797	Oct. 31
Nov. 6	797	798	Nov. 7
Nov. 13	798	791	Nov. 14
Nov. 20	791	784	Nov. 21
Nov. 27	784	783	Nov. 28
Dec. 3	783	772	Dec. 4
Dec. 10	772	647	Dec. 11
Dec. 17	647	771	Dec. 18
Dec. 24	771		

Encl #1

2215-54

0485

Duplexer CU-315

Western Group

<u>Departure Date</u>	<u>From AC&W Sgdn No.</u>	<u>To AC&W Sgdn No.</u>	<u>Arrival Date</u>
July 1	Baltimore	636	July 8
July 15	636	761	July 16
July 22	761	759	July 23
July 29	759	758	July 30
Aug. 5	758	637	Aug. 6
Aug. 12	637	638	Aug. 13
Aug. 19	638	760	Aug. 19
Aug. 25	760	680	Aug. 26
Sept. 1	680	681	Sept. 2
Sept. 8	681	778	Sept. 9
Sept. 15	778	779	Sept. 16
Sept. 22	779	780	Sept. 23
Sept. 29	780	786	Sept. 30
Oct. 6	786	785	Oct. 7
Oct. 13	785	777	Oct. 18
Oct. 25	777	776	Oct. 26
Nov. 1	776	774	Nov. 2
Nov. 8	774	775	Nov. 9
Nov. 15	775	670	Nov. 16
Nov. 23	670	751	Nov. 24
Dec. 1	751	769	Dec. 3
Dec. 10	769	767	Dec. 11
Dec. 17	767	768	Dec. 18
Dec. 24	768	741	Dec. 26
Jan .2	741		

Encl #2

0486

Hq ADC ADMEL-2 Subject: (Classified) AN/FPS-3 Duplexer Modification
Schedule

EAMAC-CEM (21 Jun 54) 1st Ind 2 July 1954

HQ EASTERN AIR DEFENSE FORCE, Stewart Air Force Base, Newburgh, New York

TO: Commanders, Defense Wings

1. Reference paragraph 7b, basic letter. The primary items of equipment hoisting gear necessary to be on hand were listed in letter this headquarters EAMAC-CEM 413.44 (FPS-3), Subject: Antenna Installation and Erection Equipment, 9 December 1953.

2. Request immediate distribution of this correspondence to all AN/FPS-3 sites of your command. It is further requested that each site advise this headquarters, by electrical message, receipt and understanding of the information contained herein. Adherence to these instructions will insure that this program is carried out as scheduled.

BY ORDER OF THE COMMANDER:

2 Encls:
n/c

s/t/ JAMES R. WORLINE
Captain, USAF
Asst. Adjutant

Info cy to
Comdr, 26th ADiv (Def)
Comdr, 30th ADiv (Def)
Comdr, 32d ADiv (Def)

C O P Y

HEADQUARTERS
EASTERN AIR DEFENSE FORCE
Stewart Air Force Base, Newburgh, N.Y.

RAMBL-E

21 July 1954

SUBJECT: AN/CPS-6B/FPS-10 and AN/FPS-3 Overhaul and Radome Painting Schedules

TO: Commanders, Air Divisions (Defense) and Defense Wings

1. Additional information concerning overhaul and radome painting schedules, which, for some sites has resulted in a change to the original schedules, has been received in this headquarters. To facilitate use of the schedules, we have combined the painting and overhaul schedules for both AN/CPS-6B and AN/FPS-3 type radars. The combined schedule is furnished as Enclosure No. 1 and supersedes all other schedules for overhaul and painting.

2. The need for complete coordination of overhaul and painting schedules among the various staff agencies at all echelons of command, as well as advance planning regarding anticipated shutdown of radar sets, cannot be overemphasized. Coordination and planning can help to eliminate delays that result in costly rescheduling of contractor teams. The attached letters from Headquarters Air Defense Command are furnished to further impress on you the importance of such coordination and planning.

3. All schedules for overhaul and painting, as well as the various special contractor modification team visits, are compiled by Headquarters Air Defense Command. In some few cases two stations proximate to one another have been scheduled for shutdown within a few days of each other. These circumstances are not due to oversight, but rather due to the impossibility of scheduling all overhauls to occur at ideal times. In these cases, air division commanders are enjoined to carefully plan specific shutdown portions of the overhauls for the sites involved.

4. It is requested that air division commanders carefully screen the attached schedules, and if they do not meet with approval, initiate requests for changes well in advance of effective dates. Recommendations for substitution of dates within air division will be furnished in all instances, as well as valid justification for the changes.

54-2116

SECRET

98

0488

Hq EADF EAMEL-E Subject: AN/CPS-6B/FPS-10 and AN/FPS-3 Overhaul
and Radome Painting Schedules (Cont'd)

5. Upon removal of Enclosure No. 1, this correspondence may be
downgraded to unclassified in accordance with paragraph 25g, AF
Regulation 205-1.

BY ORDER OF THE COMMANDER:

3 Encls

1. Combined Ovhl Scd
(Secret)
2. Ltr ADC, AEMEL-2, Subj:
Coordination of Ovhl Scds,
8 May 54
3. Ltr ADC, ADOOT-C, Subj:
Advance Planning of ACGW
Radar Ovhl, 20 May 54

s/t/ JAMES R. WORLINE
Captain, USAF
Asst. Adjutant

SECRET

BALF AN/CPS-6EPPS-10 AND AN/FPS-3
OVERHAUL AND RADOME PAINTING SCHEDULES

4706th Defense Wing

<u>Squadron</u>	<u>Overhaul Date</u>	<u>Painting Date</u>
664	15 Sep 54	
665	(see note)	
676	(see note)	1 Jul 54
753	1 Aug 54	
755	20 Sep 54	4 Oct 54
782	2 Aug 54	19 Jul 54
784	1 Dec 54	

4707th Defense Wing

654	23 Aug 54	
656	15 May 54	8 Oct 54
762	7 Jun 54	
763	5 Apr 54	20 Sep 54

4708th Defense Wing

661	11 Oct 54	16 Aug 54
662	1 Jul 54	27 Aug 54
752	25 Oct 54	13 Sep 54
754	16 Jul 54	26 Jul 54
781	1 Sep 54	9 Aug 54
783	1 Oct 54	

4709th Defense Wing

646	17 May 54	
648	22 Mar 54	
773	1 Nov 54	25 Oct 54

4710th Defense Wing

647	15 Oct 54	
770	15 Nov 54	
771	1 Dec 54	
772	1 May 54	

4711th Defense Wing

655	15 Jun 54	10 Sep 54
764	28 Jun 54	13 Sep 54
765	1 Jun 54	25 Sep 54
766	9 Aug 54	6 Sep 54

NOTE: Overhaul dates for these sites are not available, due to the Bendix Mobile Laboratory going overseas on 15 July for a period of from four to six weeks. Appropriate organizations will be advised upon receipt of firm information concerning those sites.

54-2110

0490

OVERHAUL AND RADOME PAINTING SCHEDULES

(Cont'd)

Central Air Defense Force

<u>Site</u>	<u>Overhaul Date</u>	<u>Painting Date</u>
P-42	15 Nov 54	16 Aug 54
P-35	4 Oct 54	30 Aug 54
P-81	19 Jul 54	16 Aug 54
P-69	1 Aug 54	
P-85	15 Aug 54	
P-18	15 Sep 54	

C O P Y

HEADQUARTERS
AIR DEFENSE COMMAND
Ent Air Force Base
Colorado Springs, Colorado

ADMKL-2

8 May 1954

SUBJECT: Coordination of Overhaul Schedules

TO: Q Commander
 Eastern Air Defense Force
 Stewart Air Force Base
 Newburgh, New York

1. This headquarters is presently taking action designed to minimize conflict between schedules for tactical operations projects at AC&W squadrons and on-site depot-level overhaul of radar equipments and radomes. During the past year there have been several instances in which costly delays were caused by a lack of complete coordination between Operations groups and Electronics Maintenance sections.
2. Schedules for the annual overhaul of radar equipments and radomes are originated in this headquarters, and are then distributed to all echelons of command within Air Defense Command. In the interest of facilitating complete coordination, it is requested that action be taken to make certain that copies of these schedules are furnished for filing to all Air Defense Force and Air Division sections which are normally involved in the advance planning of AC&W operations projects.

BY ORDER OF THE COMMANDER:

RECTOR C. DACUS
Captain, USAF
Asst Command Adjutant

54-2210

C O P Y

SECRET
HEADQUARTERS
AIR DEFENSE COMMAND
Ent Air Force Base
Colorado Springs, Colorado

ADDOOT-C

20 May 1954

SUBJECT: Advance Planning of AC&W Radar Overhaul

TO: Commander
Eastern Air Defense Force
Stewart Air Force Base
Newburgh, New York

1. On several occasions during the past year, it has been necessary to rearrange schedules for the depot-level overhaul of radar and/or radome equipments at AC&W Squadrons in order to avoid conflict with operational projects. In a majority of these instances, the depot-level overhaul groups have arrived on-site without prior knowledge that an operations project was being planned or was in progress.

2. Circumstances such as these unavoidably cause an appreciable increase in the cost of on-site overhaul operations. In addition, such incidents invariably cause extensive delays which seriously impair the ability of depot groups to perform the amount of overhaul work which must be accomplished in a given period of time.

3. Schedules for the depot-level overhaul of radar equipments and radomes are arranged in advance by this headquarters to cover a period of one year. Copies of these schedules are forwarded to Defense Forces and Air Divisions (Defense).

4. In the interest of avoiding future costly conflict between operations and maintenance schedules, it is recommended that the operations and maintenance sections at Defense Forces and Air Divisions (Defense) effect a closer coordination in the advance planning of all projects, tests, exercises, etc.

BY ORDER OF THE COMMANDER:

ALBERT I. CLENDENIN
Captain, USAF
Asst Command Adj

Incl #3

SECRET

0493

C O P Y

HEADQUARTERS
EASTERN AIR DEFENSE FORCE
Stewart Air Force Base, Newburgh, N.Y.

EA00T-08

22 Jun 1954

SUBJECT: Changes to AC&W Operations Room Equipment Component
Location

TO: Commander
32d Air Division (Defense)
Syracuse Air Force Station
Eastwood Station 6
Syracuse, New York

1. Several directives have been issued in recent months relative to location changes of equipment components within the operations room at AC&W squadrons of this command.
2. These directives were not intended to prohibit movement of equipment components but rather to discourage modifications and/or changes which would hamper or preclude installation of equipment programmed for the future.
3. The following may be used as a guide for any units desiring to relocate equipment components within the operations room.
 - a. Approval of this headquarters must be obtained prior to effecting any major changes in component locations. (This does not preclude movement of components within the limits of existing cabling).
 - b. Relocation must not necessitate modifying or otherwise altering any operations room equipment in such a manner that it cannot be readily restored to the original design.
 - c. Equipment relocated must be able to be returned to standard location within 24 hours.
 - d. Requests for relocation of equipment components submitted to this headquarters for approval should be submitted in accordance with the provisions of EADFR 57-1, 22 April 1954.

BY ORDER OF THE COMMANDER:

J. W. FOUNTAIN, JR.
Major, USAF
Asst Adjutant

99 1

0494

C O P Y

COMDR 32D A DIV (DEF), HANCOCK FLD,
EASTWOOD STA 6, SYRACUSE, NY

RESTRICTED

ROUTINE

COMDR 4707 DW OTIS AFB FALMOUTH MASS
COMDR 4711 DW PRESQUE AFB, PRESQUE ISLE, ME.

EAOOT-A 24155 RESTRICTED

ACFOOT-A 7076 . Thefolg EADF msg is quoted FYI and nec action.
"EAOOT-A 24155. Folg msg fr ADC is quoted FYI and nec action: "ADOOT-
C 19922. ADC radars have a capability to perform tracking and advis-
orty sv for ADC Ferry Crews on a/c dlvr flts. Utilization of the
AC&W sys for this pur is authd and encouraged. Unfamiliarity w/a/c
cond and freq low exper of crews in a/c being ferried pt up the need
for this flt folg sv to be aval upon req by the plt while in radar
coverage areas. This sv w/b differentiated fr estbd emer pros for
radar assistance for a/c in distress in contl us and adjacent areas,
inasmuch as a plt may req that his flt be fold for the assur resulting
therfrom w/o actually expereg any particular difficulty. ADC radars
w/cross-tell his track. Any aircrew desg this sv w/call "any ADC
radars" in the clear on GCI Common, aft estbd contact, identify himself
as an ADC ferry crew, give his aprx psn, his dest, and req tracking
or a steer as desd. Any ADC radar unable to prov this assistance due
to primary man activity may decline this req and will so notify the
plt w/the word "Unable." Proper sv w/b rendered a/c in distress.
Iff w/b used. GCI common freq 133.20 mcs VHF or 364.2 mcs UHF w/b
instld prior to dept fr the fcty. This pro in no way rels the plt
fr reg ARTC reptg rqmts.

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VITA FEDOROVICH, Lt Col, USAF

D/OOT

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MAEJORIE J. STUK
2d Lt, USAF
Asst Adj

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0495

AGENDA FOR INSTALLATION PLANNING AND DEVELOPMENT

REVIEW PANEL MEETING, 0900, 17 SEPTEMBER 1953

1. Opening of the meeting and outline of agenda (Colonel DeBolt and Major Daniels). (All personnel in attendance).
2. Review of each base program for accuracy of data on all forms. Wing Installations Officers will verify quantity listing, unit price and requested appropriation of each line item on the line item listings and comparable listings on the program summary, AF Form 800, for all AC&W Squadrons under their command. The Wing AIO, 4707th Defense Wing, will also perform the same function for the Headquarters Squadron, 32nd Air Division program. Wing Commanders and Wing AIO will be present in the board room during the proceedings, verifying accuracy of data on all base and AC&W programs of units under their command. Base Commanders and AIO will be called to the board room as their base program comes up for this review.
3. Review of the narrative justifications for each line item on base and AC&W programs for factuality and completeness. The Wing Commander and Wing Installations Officer will be present in the board room during this review of the base and AC&W Squadron programs of their command. Base Commanders and Air Installation Officers will be present in the board room during the review of their base program narrative justifications. The base Air Installations Officer will read each narrative justification to the board and both he and the Base Commander will be prepared to answer questions of the panel in reference to the narrative justification. Wing Commanders and Wing AIO will act in the same capacity for the AC&W Squadron programs.
4. Assignment of division priority to the line items of the entire division program. Both Wing Commanders and Wing Air Installation Officers will be present in the board room during this process. Wing Commanders may call upon Base Commanders and Base Air Installation Officers during this session as discussions may effect them.
5. Announcement to all bases of the division priority assigned their items. (All personnel in attendance.)
6. Adjournment. Wing Installations Officers will remain at division to accompany representative of this Headquarters taking the entire program to EADF.

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C O P Y

3 October 1953

Major General Morris R. Nelson
Commander
Eastern Air Defense Force
Stewart Air Force Base
Newburgh, New York

Dear Nellie:

After six months of operation under the 16 February 1953 reorganization, I am convinced that a realignment of medical channels to conform with command channels is highly desirable. This should be accompanied by a realignment of the medical officers presently assigned within the division, according to rank and responsibility.

Although inherently responsible for those factors affecting the health, both physical and psychological, of the personnel assigned to my command, I am not provided with the means of obtaining first-hand information nor of control of those factors. I feel that I am seriously hampered in the performance of my assigned mission by this condition.

I therefore recommend that the structure of the medical program of this division be headed and monitored by the staff surgeon assigned to this headquarters. My staff surgeon should be charged with the responsibility of the direction of the medical services of this division, to include plans, reports, policies and assignment of personnel.

Under the foregoing realignment, I propose the following changes in assignment of medical personnel:

- a. Colonel George H. Kojac, Otis Air Force Base be assigned this headquarters.
- b. Major George K. Reberdy, this headquarters, be assigned Otis Air Force Base.
- c. A medical administrative officer be assigned this headquarters to assist the staff surgeon in the administration of personnel and reports.
- d. A company grade medical officer be assigned this base to replace Major Reberdy to care for the medical needs of this installation.

I firmly believe that the realignment of medical channels to conform with command channels and the assignment of the senior flight surgeon to my headquarters will provide a sound, efficient medical program for the entire command and have a definite bearing on the performance of the mission.

Sincerely,

ROBERT S. ISRAEL, JR.
Colonel, USAF
Commander

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C O P Y

HEADQUARTERS
32D AIR DIVISION (DEFENSE)
Syracuse Air Force Station, Eastwood Station 6
Syracuse, New York

OPR

19 Jun 1954

SUBJECT: Assignment of L-20 Type Aircraft to AC&W Squadrons

TO: Commander
Eastern Air Defense Force
Stewart Air Force Base
Newburgh, New York

Problem:

1. It is feasible to assign L-20 aircraft to the AC&W Squadrons within the 32nd Air Division (Defense) responsibility?

Factors Bearing on the Problem:

2. The Criteria are:

- a. Accessibility of AC&W Squadrons by aircraft.
- b. Personnel and facilities readily available.
- c. The need and utilization of L-20 aircraft by AC&W Squadron.

3. The Facts are:

- a. The AC&W Squadron assigned to this division needs airlift support for effective operations.
- b. Within the Division area, four (4) AC&W Squadrons could utilize established military bases, three (3) would utilize civilian airfield, and one (1) would require construction of an air-strip and plane shelter.

Discussion:

1. All the AC&W Squadrons within this division have facilities, military or civilian, readily available, that could accommodate L-20 type aircraft, with the exception of the 765th AC&W Squadron, Charleston, Maine. These facilities are located on the average of 9 miles from the AC&W sites.

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Hq 32d AD(D) OPR Subj: Assignment of L-20 Type Acft to AC&W Squadrons

2. If L-20 type aircraft were assigned to the AC&W Squadrons it would become necessary to augmentate each squadron with aircraft maintenance personnel; two (2) qualified mechanics and one (1) administrative airman to maintain required records.

3. Four of the AC&W Squadrons assigned would be able to utilize establish Air Force or Naval facilities. Three assigned squadrons would have to utilize civilian air-strip, storage, refueling facilities and severe weather equipment, which, in the case of the 765th AC&W Squadron fails to come up to Air Force Standards.

4. There is a definite need for L-20 type aircraft support by the AC&W Squadrons. The aircraft would be used for the following:

- a. Liaison work
- b. Search and Rescue
- c. Supporting Supply and Maintenance
- d. Meeting AFR 60-2 Requirement
- e. Evacuation (from the 765th AC&W Squadron only)

5. Advantages of assigning L-20 aircraft to AC&W Squadrons:

- a. Logistic support. The L-20 could be utilized for pick-up of ROCP parts and other critical items.
- b. Liaison work with higher headquarters and other units would be expedited saving TDY expense and man-hours.
- c. TDY funds and man-hours would be saved in meeting AFR 60-2 requirements by assigned personnel.
- d. An aircraft would be readily available for search mission.

6. Disadvantages of assigning L-20 aircraft to AC&W Squadron:

- a. Assignment of an L-20 would increase the work-load of the AC&W Squadrons. The assignment of maintenance personnel would not be sufficient to off-set the additional work-load of supply, refueling reports, maintenance of Form 5's and etc.

C O P Y

Hq 32D AD(D) OPR Subj: Assignment of L-20 Type Acft to AC&W Squadrons

b. The 655th, 765th and 764th AC&W Squadrons would be operating from airfields that fail to meet Air Force standards with respect to weather facilities.

c. The squadrons utilizing civilian airfields would not have the necessary snow removal equipment to maintain winter operation.

d. The amount of flying required by the average AC&W Squadron would not justify the assignment of an L-20 type aircraft on a full time basis.

e. The cost of maintaining an L-20 aircraft and the construction of shelters, and one air-strip required would be excessive.

Conclusion:

7. Having an L-20 aircraft readily available would greatly improve the operation efficiency of all assigned AC&W Squadrons. However, the excessive cost and additional workload would not be compensated by the increase in operational efficiency.

Recommendations:

8. That instead of assigning L-20 type aircraft to each AC&W Squadron, one (1) L-20 be assigned to each Air Defense Group for support of AC&W Squadrons. This would not require the assignment of additional personnel, acquisition of storage and refueling facilities, and construction of an air-strip, but still L-20 aircraft would be available for AC&W Squadron utilization within one (1) hour.

FOR THE COMMANDER:

2 Incls:

1. Asgmt of L-20 Type Acft to AC&W Sq 4707th DW w/2 Atchmnts (1cy)
2. Asgmt of L-20 Type Acft to AC&W Sq 4711th DW (2cys)

FREDERICK E. YORK
Lt Colonel, USAF
Adjutant

SECRET

C O P Y

Headquarters
32D Air Division (Defense)
Syracuse Air Force Station, Eastwood Station 6
Syracuse, New York

19 Apr 1954

CFM

SUBJECT: Status of Installation Defense Program

TO: Commander
Eastern Air Defense Force
Stewart Air Force Base
Newburgh, New York

1. Reference paragraph 3, letter your headquarters, subject as above, no date, transmitted herewith are completed questionnaires and Commanders' Estimate of the Security Situation, Headquarters Squadron Section, 32d Air Division (Defense), Syracuse Air Force Station, Syracuse, New York; 762nd AC&W Squadron, North Truro, Massachusetts; and 656th AC&W Squadron, Saratoga Springs, New York.
2. Reference Question K of questionnaire pertaining to report of Headquarters Squadron Section, 32d Air Division, plan will be submitted for approval on or about 1 May 1954.
3. The 4711th and 4707th Defense Wings have been instructed to forward remaining reports direct to your headquarters so as to meet deadline.
4. With removal of inclosures, basic correspondence may be downgraded to unclassified.

FOR THE COMMANDER

3 Incls: (4 cys ea)

1. Est Scty Sit & Qstnr
Hq Sq Sec, 32d AD(D)

2. Est Scty Sit & Qstnr, 762d AC&W

3. " " " " " 656th AC&W

s/t/ FREDERICK E. YORK
Major, USAF
Adjutant

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SECURITY INFORMATION

32D AIR DIVISION (DEFENSE)

OPERATIONS PLAN
(Installation Defense)

No. 3-53

INSTALLATION DEFENSE PLAN

SECURITY INFORMATION

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SECURITY INFORMATION

OPERATIONS PLAN
(Installation Defense)

No. 3-53

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SECURITY INFORMATION

HEADQUARTERS 32D AIR DIVISION (DEFENSE)
Hancock Field, Eastwood Station 6, Syracuse, N.Y.
1 December 1953

OPERATIONS PLAN
(Installation Defense)

No 3-53

CHART AND MAP REFERENCES: None

TASK ORGANIZATIONS:

Headquarters Squadron Section, 32d Air Division (Defense)

4707th Defense Wing

4711th Defense Wing

Fighter-Interceptor Squadrons

Air Base and A&W Squadrons

1. GENERAL SITUATION: The security of air defense installations is threatened internally by the Soviet capability of sabotage, espionage, subversion, and incitement to mutiny and riot by Soviet agents, American Communist Party members, and political sympathizers who have infiltrated every sphere of American society. The USSR has the capability of attacking the United States by air and by sea with chemical, biological, radiological, atomic, and high explosive weapons. To counter these internal and external Soviet threats to the Security of 32d Air Division bases and installations, it is imperative that adequate and realistic base installation defense systems be developed. Failure to do so will weaken our air defense capabilities, increase enemy capabilities, and, as a consequence, diminish the power of the United States to retaliate.

a. Friendly Forces:

- (1) Local agencies of the Federal Bureau of Investigation have the mission of apprehending civilians engaged in sabotage, espionage, and subversive activities.
- (2) Local units of the Office of Special Investigation will investigate and apprehend Air Force civilian employees and military personnel engaged in sabotage, espionage and subversive activities.
- (3) Local Civil Defense organizations render such emergency assistance to adjacent Air Defense Command installations as resources permit.

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- (4) Local Army, Navy, and Air Force units render such emergency assistance to adjacent Air Defense Command installations as resources permit.
- (5) Component units of Air Defense Command installations operate in accordance with respective defense plans in safeguarding security.

2. MISSION: To insure the defense of Air Defense Command installations against attacks by hostile forces, sabotage, espionage, subversion, civil disturbances through active and passive defense measures, and to minimize destruction caused by acts of God; to provide forces for domestic emergency assistance as may be required by EADF in consonance with the accomplishment of assigned primary mission.

3. TASKS FOR SUBORDINATE UNITS:

a. Air Defense Wings will:

- (1) Have prepared installation defense plans for their respective groups and units of their command.
- (2) Monitor and coordinate installation defense plans for the units of their command.
- (3) Furnish technical advice and assistance to all units.

b. Headquarters Squadron Section, 32d Air Division (Defense) will:

- (1) Prepare a base defense plan for Headquarters, 32d Air Division, (Defense).
- (2) Coordinate all installations defense matters with the Commander, 32d Air Division and render such assistance as required.
- (3) Assume operational control of all officers and airmen assigned or attached this headquarters not actively participating in Air Defense Operations.

c. All subordinate units will:

- (1) Hold periodic installation defense drills and evaluate the effectiveness of the installation defense plan throughout their command.
- (2) Have trained installation defense crew at all times.
- (3) Be prepared to organize work parties to assist in cleaning debris, etc.

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- (4) Be prepared to furnish auxiliary Air Police and firefighters as required.
- (5) Prepare for use and draw supplies for decontaminating and First Aid Stations when directed by higher headquarters.
- (6) Dig slit trenches and construct bomb shelters when directed by higher headquarters.
- (7) Assign all personnel not actively participating in Installations defense plans to dispersal areas or bomb shelters.
- (8) Prepare a plan for the notification of all military personnel.
- (9) Be prepared to render such additional assistance to Headquarters 32d Air Division as may be required.

d. General Instructions: All units will include the following in their installation defense plan:

- (1) Installation defense organization
- (2) Personnel dispersal areas (as applicable)
- (3) Bomb shelters (as applicable)
- (4) Location of installation defense supplies.
- (5) Personnel decontaminating and First Aid Station.
- (6) Location of evacuation and collecting stations.
- (7) Communications plan
- (8) Evacuation plan
- (9) Medical assistance plan.
- (10) Food service menu.
- (11) Security plan.
- (12) Mutual assistance plan.
- (13) Installations or damage repair plan.
- (14) Emergency supply plan.
- (15) Alert notification plan.

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4. ADMINISTRATIVE AND LOGISTICAL MATTERS:

a. Normal, except as specifically modified in installation defense plans to include, in the event of attack, subversive activity, or damage resulting from Acts of God, a report to be submitted to this headquarters as soon as possible to include:

- (1) Casualties
- (2) Damage
- (3) Contamination

5. COMMAND AND SIGNAL MATTERS:

a. Command: Normal except as specifically modified in installation defense plan.

b. Signal:

- (1) Air Defense Warning Signals, as prescribed by ADCR 56-1, paragraph 4e (1) and (2) are:
 - (a) "The Air Defense Warning RED Signal (to announce imminent air attack) will be of 3 minutes duration and will consist of fluctuating or warbling signals of varying pitch by sirens or a series of short blasts by horns or whistles."
 - (b) "The Air Defense Warning WHITE Signal (to announce all clear) will be a series of 3 one minute blasts by sirens, horns, or whistles, interrupted by silent periods of 2 minutes each. "

These signals will apply to installations defense as prescribed by the division commander.

- (2) Ground defense signals, as prescribed by ADCR 56-1, paragraph 4 f are:
 - (a) The Ground Defense Warning Signal will consist of a continuous series of 3 blasts by horns or whistles. This signal will be used immediately to arm and place into position personnel assigned duties as auxiliary air police or as members of ground defense flights.
- (3) The Ground Defense Warning Signal may be sounded as required

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by the installations commander to attain any state of
of installations defense (Note: Both the Ground Defense
Warning Signal and the Air Defense Warning Signal will be
sounded if installation defense plans are to be employed
during air defense warning periods as determined by the air
division (defense) commander.)

OFFICIAL:

William W. Ingenhutt
WILLIAM W. INGENHUTT
Colonel, USAF
Deputy for Operations

ROBERT S. ISRAEL, JR.
Colonel, USAF
Commander

DISTRIBUTION:

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C O P Y

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MEMO TO: Colonel Nelson S. Brooks
Director, Communications & Electronics
Headquarters Eastern Air Defense Force

SUBJECT: Staff Study Regarding EADF Radio Emergency Networks

PROBLEM:

1. To determine the capability of the EADF Emergency Radio Networks to provide the minimum essential communications to support an integrated air defense effort EADF-wide.

FACTORS BEARING ON THE PROBLEM:

2. Fulfillment of the Headquarters EADF primary mission of regional air defense is dependent upon the timely and effective application of both passive and active defense measures.

3. Effective employment of the various facilities, weapons, and instruments of defense is, likewise, dependent upon rapid and reliable communications services. The primary communications systems utilized between land-based units are of the land-line variety (voice/teletype).

4. The volume of traffic generated in performing the EADF mission at the desired effectiveness level has indicated the communications requirement to be approximately 833 individual land-line point-to-point circuits. This figure was derived from experimenting, analyzing, and evaluating the performance of communications facilities during air defense exercises and day-to-day operation. The circuitry involved is typified by function, routing, and termination points, in the EADF Tactical Wire Standard (Tab #1).

5. By its very nature, communications cable is vulnerable to damage by accident (Tab #2), natural causes (storm, etc.), and sabotage or bomb damage. American Telephone & Telegraph Company, and its affiliate commercial telephone companies serving this command are thoroughly aware of this situation, and have been completely cooperative in the establishment of land-line circuit restoration priorities (Tab #3) designed to minimize outage time on high priority circuits. Despite this cooperation and the effort expended by these highly efficient communications agencies, recent experience indicates that, in many instances, the time element involved in the return to service of disrupted land-line communications by priority reroute or restoration (repair) is excessive to that which may be tolerated during Air Defense operations (Tabs #2, 4 and 5).

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Memo to Colonel Brooks, Subj: Staff Study Regarding EADF Radio Emerg Networks (Cont'd)

6. It must be assumed that any communications disruption resulting from bomb damage, and/or sabotage preceding or accompanying the outbreak of hostilities, will be more extensive and widespread than that recently experienced due to accidental or natural causes. Further, while the commercial communications agencies will strive to outdo themselves in rerouting and resotation activities by virtue of the critical nature of the situation, the mere volume of disruption, in itself, will preclude improvement of the present unsatisfactory outage time element.

7. The EADF Radio Emergency Systems necessary to insure a continuous Air Defense capability during periods of extensive and/or extended landline outage must:

- a. Follow the general pattern of primary communications networks, to;
- b. Permit passage of those elements of information necessary to institute required defense measures, and maintain minimum control of those integrated forces necessary to the conduct of the air battle.
- c. Conform in scope and/or size to economic and technical feasibility commensurate with the mission to be performed.

DISCUSSION:

8. The need for an emergency radio system in Air Defense of the EADF region was recognized better than five (5) years ago when ConAC was responsible for the air defense of continental United States, and that headquarters initiated communications projects under Air Force Regulation 100-17 to meet the known requirements at that time. With the rapid growth of our Air Defense system, and the numerous revisions in operational concepts, the EADF Emergency Radio Systems have constantly been subject to evaluation, adjustment, expansion, and realignment to remain abreast of the mission requirement. As a consequence the systems currently in being and planned for the future bear only a slight resemblance to those foreseen by ConAC.

9. In the build-up of these networks, at no time has there been any consideration given to the duplication of primary (wire) communications systems (833 circuits at present) with a like number of individual radio circuits. Not only would this be completely beyond all reason economically, but technically unfeasible as well when it is realized that approximately 90% of these circuits would fall in the high frequency range and a minimum of 1500 reliable frequencies would be required. - - - All these in a frequency band currently so overcrowded that the total EADF assignment for all emergency nets as of this date is forty-eight (48) frequencies.

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Memo to Colonel Brooks, Subj: Staff Study Regarding EADF Radio Emerg Networks (Cont'd)

10. The radio nets under consideration being designated "emergency systems", this headquarters has consistently visualized systems providing for passage of only top priority information, minus the refinement incorporated when utilizing wire facilities. As recently as 4 June 1954, reaffirmation of this concept and the radio circuit requirement was accomplished (Tab #6). The circuit alignment follows the pattern of the primary system (Tab #1), reduced in scope to exclude circuits to those agencies which provide systems refinement rather than the basic needs, and to single circuits between any two units considered of primary importance to the defense effort. Circuit alignment, by priority, is as follows:

- a. Fighter Base to Direction Center
- b. Direction Center to Control Center
- c. Control Center to CONELRAD Key Points (FCC)
- d. Control Center to CAA
- e. Direction Center to AAAOC
- f. Direction Center to Adjacent Direction Center
- g. Control Center to EADF
- h. EADF to ADC
- i. Control Center to Control Center
- j. Control Center to Eastern Sea Frontier.

11. It is not considered at all beyond comprehension that the entire wire communications networks between the above cited units could be disrupted simultaneously. This could be accomplished by cutting the entrance cables at twenty-eight (28) permanent radar sites and three (3) ADCC's, isolating all units below the Defense Force level. It is highly improbable that this would occur as the result of bombing, since these installations are not considered high priority strategic targets, and while considerable communications disruption might be accomplished through attacks on our major cities, complete isolation would be extremely unlikely. By the same token, however, the severe handicap imposed on the U.S. defense potential by an occurrence of this nature, and, inversely, the distinct benefit accrued by an aggressor, make these facilities lucrative targets for a concentrated sabotage effort. By their very conformation our radars are easily identified, and their location is not only conducive, but downright inviting to communications sabotage.

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Memo to Colonel Brooks, Subj: Staff Study Regarding EADF Radio Emerg Networks (Cont'd)

It is, therefore, conceivable that, at some point during the initial phase of hostilities between the United States and an aggressor nation prior to full implementation of ground defense measures, the sole means of tactical communications available to EADF would be radio.

12. A summary of requirement versus present equipment, frequencies, mode of operation, and degree of fulfillment follows:

a. The known requirement for priority 1 type radio circuits (Fighter Bases to DC) noted in Paragraph 10a, above, totals twenty-two (22) in number (USAF Fighters only). All of these are currently operational, of which number six (6) are HF and sixteen (16) VHF. All circuits are direct point-to-point in nature, with VHF circuits having individual frequency assignments, and HF circuits being assigned working frequencies as required out of the Air Division block assignment of eight (8) frequencies (Tab #7). In the event all landlines between concerned Fighter Bases and Direction Centers were out, all of the required radio circuits to USAF bases could be operated simultaneously. An additional capability is provided in all instances by the utilization of an airborne VHF/UHF relay (Tab #8). Based upon the above, it is felt that this requirement is being satisfactorily met at present, and will continue to be met in the future as pertains to EADF units. The total requirement for radio circuits to ANG and Naval Fighter Bases, however, has not been clarified to date, consequently only six (6) and three (3) circuits, respectively, are presently programmed for installation by the 2d quarter, FY 55.

b. Radio systems-wise, priority 2 (DC to CC) and priority 6 (DC to DC) circuits, noted in Paragraphs 10b and 10f, above, go hand-in-hand, and will be evaluated at a latter point in this study.

c. The present and future requirements for priority 3 type radio circuits (CC to CONELRAD key points) noted in Paragraph 10c, above, totals thirteen (13) in number. None of these circuits are operational at present, however a plan for implementation of such networks within the 26th Air Division area has been forwarded to higher headquarters for approval (Tab #9). Contingent upon approval, implementation can be accomplished within 90 days, and like systems will be planned and implemented in the 30th and 32d Air Divisions as shortly thereafter as possible.

d. The complete requirement for Priority 4 type circuits (CC to CAA) noted in Paragraph 10d, above, has not previously been established with the exception of one (1) between the 26th Air Division Headquarters and New York ARTCC, one (1) from P-55 to Washington, D. C. ARTCC, and one (1) from P-10 to Boston ARTCC. None are presently operational, but the three (3) circuits programmed are scheduled for early installation.

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Memo to Colonel Brooks, Subj: Staff Study Regarding EADF Radio Emerg Networks (Cont'd)

e. The present and known future requirement for Priority 5 type circuits (DC to AAAOC) noted in Paragraph 10e, above, totals seven (7) in number. All of these circuits are currently operational using interim equipment. Installation of UHF equipment for all circuits is programmed for completion during the 1st Quarter FY 55. Individual point-to-point frequencies are, and will be utilized.

f. By far the largest preponderance of circuits required are of the HF variety and fall in the Priority 2 and 6 brackets (DC to CC, and DC to DC) noted in Paragraph 10b and 10f, and referenced in Paragraph 12b, above. Presently required Priority 2 circuits are thirty-one (31) in number, while the Priority 6 requirement is sixty (60), for a total of ninety-one (91) individual point-to-point HF circuits. Known future requirements, based on the M-site program, indicate an increase to 109 total circuits. In order to activate all circuits simultaneously on the individual point-to-point basis, a minimum of 182 and 218 high frequencies, present and future respectively, would be required.

- (1) Sufficient equipment is presently available for activation of fifty-three (53) circuits, however the frequency assignment limitation (8 per air division - 24 total day and night frequencies) enable simultaneous activation of a maximum of fifteen (15) circuits at any one time. This barely provides coverage for loss of only one DC within a division, much less the full coverage desired. To make the most of this situation, the few frequencies assigned are maintained and controlled by the air division, with a call net - or alarm system - utilized to enable allocation of frequencies for specific point-to-point use where and when outages occur (Tab #10).
- (2) Sufficient equipment is programmed for installation by the 2d Quarter FY 55 for activation of seventy-six (76) individual circuits not including M-sites, and eight-seven (87) at a later date upon completion of M-sites. This is still short of the total mark (sub-paragraph f above) by twenty-two (22), however, netting arrangements, and frequency sharing can be accomplished to reduce this shortcoming to a certain extent. The major area of concern continues to be frequencies.
- (3) The urgent need for high frequencies has been evident for some time, and numerous unsuccessful attempts were made by this headquarters to acquire a permanent

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Memo to Colonel Brooks, Subj: Staff Study Regarding EADF Radio Emerg Networks (Cont'd)

assignment of additional frequencies. On each occasion the overcrowded state of the HF spectrum and the severe shortage of high frequencies, was cited as the basis for non-assignment. Our most recent request (Tab #11) was predicated on the need for many commercial, civil, and non-tactical military agencies to maintain radio silence during Air Defense alerts, and proposed assignment of a number of the frequencies for EADF utilization during these periods only. This proposal was received favorably by higher headquarters and this headquarters recently submitted justification for assignment of forty-eight (48) additional frequencies (Tab #12). Upon approval, a total of seventy-two (72) frequencies would be available for use during emergency periods, enabling the simultaneous activation of a maximum of thirty-six (36) circuits at any one time. Acquisition of either 182 or 218 frequencies (sub-paragraph f, above) is not considered likely under any circumstances, now or in the future.

g. Radio systems-wise, Priority 7 (CC to EADF) and Priority 9 (CC to CC) circuits fall in the same category and will be considered together.

- (1) Presently required Priority 7 circuits are three (3) in number, and Priority 9 circuits three (3), for a total of six (6) circuits, all of the HF variety. With the addition of new air divisions these requirements will increase proportionately.
- (2) Sufficient interim equipment is presently on hand to enable simultaneous activation of three (3) circuits. Even if equipment for all six (6) circuits were available, however, frequency limitations (Tab #7) permit simultaneous operation on an absolute maximum of only three (3) circuits, and then only if propagation conditions are ideal. The type operation conducted is similar to that for air division call nets (Priority 2 and 6 type circuits) as indicated in Tab #10, and circuit netting or frequency sharing can be accomplished to provide service between these points.
- (3) Current C&E programming provides for individual radio teletype circuits (equipment and frequencies) between EADF and each air division. Programmed voice capability

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Memo to Colonel Brooks, Subj: Staff Study Regarding EADF Radio Emerg Networks (Cont'd)

continues to be restricted to three (3) circuits equipment-wise, and this, coupled with the anticipated frequency limitations, will require circuit netting rather than individual point-to-point voice service. The additional capability provided by radio teletype service, however, will ease the burden on these voice facilities.

h. There is a present and future requirement for only one (1) Priority 8 type circuit (EADF to ADC) as noted in Paragraph 10i, above. This is a radio teletype circuit which is currently installed and operating. The only change anticipated is the replacement of present interim equipment with permanent equipment.

i. The known present and future requirement for Priority 10 type circuits (CC to ESP), noted in Paragraph 10j, above, is two (2) in number, neither of which is installed or programmed. There is, however, a radio teletype circuit programmed for installation between EADF and Eastern Sea Frontier during the 1st Quarter FY 55, which will provide a means for relay between the cited points.

13. As indicated previously in this discussion, planning for the EADF Radio Emergency Systems was accomplished over a considerable period of time, during which many changes in concept and much expansion ensued. Programming for radio facilities was accomplished as requirements became known, and action taken to expedite implementation of urgently needed facilities (Tabs #13 and 14). Exact requirements for certain categories of circuits, by number and termination points, listed in the most recent statement of requirements (Tab #6), remain an unknown quantity as of this date, and must be determined prior to further action.

14. In the 4 June 1954 statement of radio circuit requirements (Tab #6), an estimate was made as to the amount of outage time which could be tolerated on the various categories of circuits, ranging from "none" to one (1) hour. Past experience indicates that due to equipment, frequency, and human limitations, some outage must be anticipated (Tab #5). In some instances this will be very little, and on other occasions considerable.

CONCLUSIONS:

15. The presently established EADF Radio Emergency Systems are completely inadequate to the stated requirement, and barely provide sufficient capability to keep EADF out of an outright island defense in the event of complete land-line failure.

16. The only stated circuit requirements which are being met, as presently stipulated, are those for circuits from DC's to USAF Fighter Bases, DC's to AACC's, and the circuit from EADF to ADC.

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Memo to Colonel Brooks, Subj: Staff Study Regarding EADF Radio Emerg Networks (Cont's)

17. The requirement for circuits between air divisions and Eastern Sea Frontier can be satisfied by relay through this headquarters over planned RATT circuit to Eastern Sea Frontier.

18. Contingent upon ADC approval of proposed radio circuits from air divisions to CONELRAD key points, this requirement can be met in a matter of months.

19. Firm and complete requirements for circuits between DC's and ANG/Navy bases must be established and necessary action taken to program C&E equipment at the earliest possible date. Like action should also be accomplished with regard to circuits from air divisions to ARTCC's.

20. Neither present nor planned facilities and frequencies for circuits between DC's, DC's and CC's, CC's, and CC's and EADF will meet the stated requirement. Further, the possibility of meeting this requirement is extremely remote due to the severe limitations on high frequencies. By modification of the stated requirement to allow for multi-station nets, however, a reasonably satisfactory service can be provided with planned facilities.

21. Upon loss of land-lines, a drastic reduction in traffic volume will be necessary, and should be provided for in the SOP's for the various users of communication facilities. That type that cannot be eliminated entirely should be reduced to the most concise form possible, and should be transmitted in the most expeditious manner consistent with good communications discipline practices. As an example, transmission of recovery base weather information from fighter base to DC should assume somewhat the following form: "Knock-knee/Scatterbrain, Recovery weather - Stewart, open; Westover, open; Suffolk, closed, etc., over." and, in reply "Knock-knee copied solid, - out!"

22. The circuit outage tolerances as indicated in the established requirement (Tab #6) - particularly those less than thirty (30) minutes - cannot be consistently met on all circuits.

RECOMMENDATIONS:

23. Immediate action be taken to acquire requirements for circuits from DC's to ANG/Navy bases, and CC's to ARTCC's, from the Directorate, O&T, EADF, (the latter to be coordinated with CAA by the most expeditious means) and necessary equipment programming action be taken prior to next PC revision.

24. The statement of requirement be modified to provide for:

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Memo to Colonel Brooks, Subj: Staff Study Regarding EADF Radio Emerg Networks (Cont'd)

- a. The Priority 10 circuit (Tab #6) to terminate at EADF and Eastern Sea Frontier rather than CC's and Eastern Sea Frontier.
 - b. Circuit sharing or netting of Priority 2, 6, 7, and 9 type circuits, rather than stipulating individual direct point-to-point circuitry.
 - c. Restatement of circuit outage tolerance in a more realistic manner, i.e., -- "as near the absolute zero factor as possible". This statement, or one similar, can be utilized for all circuit categories most satisfactorily.
25. This headquarters continue all efforts to expedite implementation of planned and programmed radio facilities.
26. All EADF Staff agencies which utilize tactical communications facilities be made aware of the drastic reduction in traffic volume which will be necessary should the use of radio facilities be required. Further, recommend the same staff agencies prepare and disseminate those directives as required to assure elimination of all refining data, and passage of only the top priority information pertinent to their functions in it's most concise form.

WILLIAM H. OAKLEY
Captain, USAF
Chief, Radio Branch

This document is classified
SECRET in accordance with
Paragraph 23c, AFR 205-1.

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SECRET

0517

C O P Y

EADF Emergency Communications

EAODO

EAOCE

2 June 1954

1. This directorate is currently evaluating the capability of the EADF emergency Radio Networks to provide the absolute minimum communications necessary to enable an integrated defense effort EADF-wide.

2. In establishing this end it is necessary that this directorate have an outline of the minimum number of circuits, by priority, necessary to meet this emergency requirement. A meeting was therefore held at this directorate as of 24 May 1954 to resolve this question. Personnel in attendance at this meeting are as follows:

Major S. L. Irby	EAOCE
Captain A. J. Haden	EAOCE
Captain, W. H. Oakley	EAOCE
WOJG R. C. Varner	EAOCE
Major L. A. Briggs	EAOIN
Major F. M. Brown	EAOIN
Major B. R. Work	EAOOT
Capt L. C. M. Clevenger	EAOCP

3. Prior to establishing the circuit requirements, it was agreed that in the minimum emergency type operation visualized the volume of data exchanged would necessarily have to be greatly curtailed. All circuits would therefore be utilized to pass information of top priority nature and/or at the discretion of the commanders concerned, and could not be assigned any specific function such as those applied to our current wire networks.

4. The list of circuits determined to be the absolute minimum for the stated purpose, in priority order, follows:

a. Fighter Base (USAF, ANG, Navy) to Direction Center:

(1) This circuit granted priority one since it will enable the commitment of fighter aircraft in an island defense. No outage can be tolerated on this circuit.

b. Direction Center to Control Center:

(1) This circuit granted priority two since it enables collection and dissemination of minimum information necessary to direct and retain minimum control of the air battle within an air defense sector. Dependent upon the time of outage, a return to island defense may be necessary, therefore no outage should be tolerated if at all possible.

EADF Emergency Communications (Cont'd)

c. Control Center to CADW Key Points:

- (1) This circuit was granted number three priority in order that the responsibility for civil alert and implementation of CONELRAD might be discharged. No outage should be tolerated.

d. Control Center to CAA:

- (1) This circuit was granted number four priority to enable implementation of Scater, provide a means of air traffic control and ease the identification burden.

e. Direction Center to AAAOC:

- (1) This circuit was granted priority number five to enable engagement of additional weapons. No outage should be tolerated.

f. Direction Center to Adjacent Direction Center:

- (1) This circuit was granted priority six since it will multiply the radius of action for fighters and increase the division commander's capability to control the air battle. An outage of up to thirty minutes may be tolerated on this type circuit.

g. Control Center to Control Center:

- (1) This circuit was granted priority seven since it enables further expansion of the radius of action for fighter aircraft throughout and beyond the EADF Area. Outage of up to one hour may be tolerated.

h. Control Center to EADF:

- (1) This circuit was granted priority eight to enable the timely and effective dissemination of intelligence and command data force wide. Outage of up to one hour may be tolerated.

EADF Emergency Communications (Cont'd)

1. EADF to ADC:

- (1) This circuit was granted priority nine since it increases the capability to that of territorial defense, enables acquisition of augmentation forces and presentation of a more complete intelligence picture. Outage of one hour may be tolerated on this circuit.

j. Control Center to Eastern Sea Frontier:

- (1) This circuit has been granted priority ten since it will enable the acquisition of naval forces and the additional early warning and intelligence data available from this source. An outage of up to one hour may be tolerated on this circuit.

5. Contingent upon your concurrence that the above listed circuits are the absolute minimum emergency requirement, this directorate will continue the evaluation of our emergency radio networks, utilizing this outline as a guide, and forward the completed study for your review at the earliest possible date. For your convenience, and to expedite your review, a rough sketch of the total emergency circuit requirement, by type, is attached as inclosure No. 1.

s/t/ OAKLEY
488

s/t BROOKS
396

COPY

HEADQUARTERS
AIR DEFENSE COMMAND
Ft Air Force Base
Colorado Springs, Colorado

ADOCE-C

21 Jan 1954

SUBJECT: Frequencies for ADC HF Emergency System

TO: Director of Communications
Headquarters USAF
Washington 25, D. C.

1. At the present time there are sufficient high frequencies assigned to all ADC air divisions, except the 35th Air Division, to support normal cable outages at one site in an air division. In the event of air attack upon the United States, and a subsequent declaration of war, wide scale sabotage or bomb damage can be expected that would undoubtedly impair tactical land line communications. The number of HF frequencies presently assigned would not be adequate to support these anticipated outages. This would especially apply to EADF and CADF air divisions where all of the AC&W circuits use high frequency with AN/TRC programmed only for scramble circuits to fighter bases and AAOC units. An example of the difficulties foreseen may be better appreciated by referring to the 30th Air Division in EADF. This air division at present has 12 active permanent AC&W sites plus 5 programmed mobile (M) sites and one programmed "SM" site. Emergency HF communications would be required not only in nets between these stations, but to stations outside of the air division in the event of large scale cable damage. It would not be possible to maintain emergency communications with the eight frequencies presently assigned.

2. Being cognizant of the overcrowded state of the HF spectrum within the ZI, it is assumed that it is impossible to secure a sufficient number of additional frequencies to assure communications between all stations. Since the absolute need is evidenced only during an actual attack on this country, it is suggested that consideration be given to augment all presently assigned HF frequencies with a like number selected from those presently being used by civil, commercial, amateur, and non-tactical military communications services. These frequencies would be assigned to ADC for use only in the event of actual hostilities and the subsequent loss of wire communications to a degree whereby presently assigned frequencies would not be adequate to provide enough emergency communication between a sufficient number of sites. Firm assignment of additional frequencies on this basis would allow requisition of crystals which would be required prior to operation.

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ADOCE-C, Subj: Frequencies for ADC HF Emergency System

3. It is requested that consideration be given to the proposal outlined, and, if approved, that your headquarters prepare a frequency plan for "D" day and wartime operation.

FOR THE COMMANDER:

s/t/ JOSEPH D. HORNSEY
Lt Col., USAF
Asst Command Adj

AFOAC-F/F

1st Ind

30 March 1954

Department of the Air Force, Headquarters USAF, Washington 25, D. C.

TO: Commander, Air Defense Command, Ent Air Force Base, Colorado Springs, Colorado

1. Plans to utilize certain commercial and amateur frequencies for military use have been formulated by Headquarters USAF. These plans are being coordinated with the other departments in the Defense establishment. However, to meet the demands of all departments, the Air Force must have communications plans from the interested commands.

2. It is requested that Headquarters Air Defense Command submit communications plans which would show wherein additionally assigned frequencies could be used to an advantage. This plan should be realistic, outlining equipment and personnel spaces which would be available to go into operation in the event of wide scale sabotage and bomb damage that would impair landline communications.

3. Upon receipt of the above information, Headquarters USAF will attempt to designate frequencies for the requirements set forth in communications plans insofar as possible. Such frequencies, however, would become available only in case of full scale war or extreme emergency resulting in evocation of Section 606 of the Communications Act of 1934 by the President or his agent.

4. Action will be taken to assign high frequencies to fill the present back-up requirements of the 35th Air Division upon receipt of information required by CEI, Chapter II, Paragraph 2109.4a.

BY ORDER OF THE CHIEF OF STAFF:

s/t/ ROBERT J. HENNESSY
Major, USAF
Executive, Plans and Policies
Div
Director of Communications, DSC/O

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C O P Y

CONFIDENTIAL

HEADQUARTERS
AIR DEFENSE COMMAND
Ent Air Force Base
Colorado Springs, Colorado

ADOCE-C

21 April 1954

SUBJECT: Additional Frequencies for HF Emergency Radio System

TO: Commander
Eastern Air Defense Force
Stewart Air Force Base
Newburgh, New York

1. In an effort to obtain additional operating frequencies for the HF Emergency Radio System, this headquarters recently queried Headquarters USAF as to the feasibility of using frequencies presently assigned to various civilian services which would be shut down in case of national emergency. Headquarters USAF in the 1st Indorsement to the above correspondence, indicated plans had been formulated to use certain non-military frequencies in case of war. Copies of the basic letter mentioned above, and the 1st Indorsement thereto from Headquarters USAF are attached.

2. It is requested that your headquarters take necessary action as noted in paragraph 2, 1st Indorsement, of attached correspondence. This information should arrive at Headquarters ADC not later than 17 June 1954.

BY ORDER OF THE COMMANDER:

2 Incls

1. B/Ltr fr ADC to Hq USAF
2. 1st Ind fr Hq USAF

/s/ JAMES S. PURDUM
Major, USAF
Asst Command Adj

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CONFIDENTIAL

Hq ADC, ADOCE-C, Subj: Additional Frequencies for HF Emergency Radio System (cont'd)

EAOC-C (21 Apr 54)

1st Ind

11 June 1954

HQ EASTERN AIR DEFENSE FORCE, Stewart Air Force Base, Newburgh, N. Y.

TO: Commander, Air Defense Command, Ent Air Force Base, Colorado Springs, Colorado

1. The EADF call net system of emergency radio communications is designed to provide alternate radio communications in the event of landline failure. Each Air Division is assigned a block of eight (8) frequencies for assignment as required, which during normal peacetime operation is considered adequate. Complete loss of landline facilities at any one ACW Station would in all likelihood, require the use of all frequencies assigned. Due to the short duration and infrequent occurrence of such a situation, this can be tolerated.

2. During an actual emergency, landline facilities would be extremely vulnerable to sabotage and bomb damage and extended outages can be anticipated. This would require a much greater radio capability to provide communications than the current frequency authorizations will permit.

3. EADF Air Divisions are programmed for sufficient equipment to activate 76 HF circuits with only 24 frequencies assigned, 8 frequencies available to each Air Division. Limitations to day or night use of these frequencies means that only 15 frequencies are available during the day and 9 frequencies for night operation. With 1 day and 1 night frequency being used for call net operation in each division approximately 20% of the circuits could be activated during an emergency with the remaining frequencies during daytime and 10% during the night.

4. This headquarters does not feel that it will ever become necessary to activate all of the emergency circuits simultaneously. It is felt however that a 50% capability should be considered. This would require the assignment of 18 day frequencies and 30 night frequencies. Since the 30th Air Division has a far greater number of stations than the 26th Air Division and the 32nd Air Division, it is requested that assignment be made in the following proportion:

26th Air Division - 5 day - 9 night.
32nd Air Division - 5 day - 9 night.
30th Air Division - 8 day - 12 night.

CONFIDENTIAL

Hq ADC, ADOCE-C Subj: Additional Frequencies for HF Emergency Radio System, 1st Ind (cont'd)

5. The assignment of the additional frequencies requested in paragraph 4 above will bring the total frequencies available in EADW Air Divisions to 22 in the 26th and 32nd Air Divisions and 28 in the 30th Air Division to be used for operations in accordance with ADC COI 20-1, dated 1 October 1953. No additional personnel will be required as these circuits are operated from the telling positions which normally use the landlines being augmented.

6. The contents of this indorsement are classified **CONFIDENTIAL** in accordance with paragraph 24a (10) AFR 205-1.

FOR THE COMMANDER:

2 Incls:
w/d

s/t/ JAMES H. WORLINE
Captain, USAF
Asst Adjutant

C O P Y

HEADQUARTERS
32D AIR DIVISION (DEFENSE)
OFFICE OF THE INSPECTOR GENERAL
Syracuse Air Force Station, Eastwood Station 6
Syracuse, New York

CIG

28 January 1954

SUBJECT: Semi-Annual Report of the Inspector General

TO: Commander
32d Air Division (Defense)
Syracuse Air Force Station
Eastwood Station 6
Syracuse, New York

1. The following report of inspection activities of the Office of the Inspector General, 32d Air Division (Defense), for the period 1 July - 31 December 1953, is submitted as directed by paragraph 23, AFR 123-1.

2. Inspection Activities: See Inclosure No. 1

3. Major Deficiencies Noted:

a. Special Subjects: Generally speaking, action required by Special Subject Letters was not being accomplished in a satisfactory manner. Cause: Failure of unit commanders to require a qualified individual to take immediate action in accordance with existing regulations, and failure of division, wing and group staff personnel to adequately monitor the action taken on these letters. Some confusion and failure by lower units to initiate immediate action to comply with these letters resulted from the fact that AFR 120-25, on this subject, was outdated, written at a time when inspection service was included at base level. AFR 123-8, 8 December 1953, rescinding AFR 120-25, has eliminated this area of possible misunderstanding as to who is responsible for taking action on Special Subject Letters. This office will continue its program of monitoring the compliance given this subject through letters and through inspection coverage. Recommendations regarding deficient action by the staff is contained in paragraphs 3e and 5 below.

b. Administrative Investigations: This headquarters has been plagued with unsatisfactory "Administrative Investigation Reports". Repeated efforts by this headquarters and Headquarters EADP to improve this area of administration have shown some results; however, it is too

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Hq 32d Air Div (Def), Off of the Inspector General, CIG Subj:
Semi-Annual Report of the Inspector General

early to make a conclusive statement (as to the degree of this improvement). The main area of deficiency appears to be with the appointing authority. Orders to the investigating officer, in nearly all cases, failed to specify what is to be investigated, the coverage required, and what regulations, manuals, etc., are to be complied with by the investigating officer. Upon receiving the investigating officer's report, the appointing officer, now the reviewing officer, has failed to insure that the report is complete, properly prepared, and that the findings substantiate the recommendations. It appears that this subject will require special attention for some time. This office will continue careful review of all reports of investigation received. It has been the policy to correct or otherwise salvage deficient reports, when possible, at this headquarters. This action saves time ordinarily consumed in returning correspondence to the originating agency. In all cases, deficiencies noted in reports are made known to the responsible Wing Commander.

c. Staff Visits: Field visits by members of wing and group staffs, with few exceptions, were not being made with sufficient frequency or were not being reported in such a manner as to obtain maximum results from each visit. This situation has shown considerable improvement. Recently, it has been noted that the Commander, 4707th Defense Wing, has made considerable use of follow-up staff visits to check corrective action taken on deficiencies reported by the 32d Air Division Inspection Team.

d. On-the-Job-Training: Many units visited by the team were lacking in qualified supervisory personnel and were assigned large overages of airmen at the "3" level. Positive action was not being taken to solve this problem, as there was little indication of upgrading (OJT) training programs. Most units were maintaining the required paper work for OJT, but had no effective program to back it up. The division Deputy for Personnel is making this problem a subject of special emphasis.

e. Shortage of Skilled Personnel: A "shortage of skilled personnel" in AC&W operations existed throughout this period. This was especially true of Controllers (1635s), Radar Operators (27000), and UHF trained maintenance personnel. In the case of the 764th AC&W Squadron, this situation was considered critical, in that, entry level Controllers (6131) were being utilized as Senior Directors (1635). These particular individuals had acquired only 2, 3 and 7 months of experience respectively. Fortunately, in this case, the crew chiefs and floor supervisors were adequately trained and capable of carrying the workload. Personnel officers are cognizant of this condition and are attempting to equalize the distribution of experienced personnel. Recent assignment of fifteen 2d Lieutenants (AFSC 1631) will alleviate this situation somewhat for the future. However, the solution lies in OJT and upgrading in all specialties where supervisory personnel are authorized and required, rather than to expect a sudden improvement in the experience level of

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Hq 32d Air Div (Def), Off of the Inspector General, CIG Subj:
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newly assigned individuals. With a shortage of skilled personnel, it is imperative that all practicable measures be taken to insure a uniform distribution of qualified supervisors, both officers and non-commissioned officers throughout all echelons of the division. This cannot be accomplished by monitoring inspection reports and personnel reports alone. It requires visits by personnel from the division Deputy for Personnel Office to wing Directors of Personnel and, in turn, wing personnel staff visits to the field. Top grade non-coms are rapidly becoming scarce and since they are important key personnel, should be given special attention in assignment.

f. Supply Records: The overall condition of supply records has improved over the previously reported period, but it was noted that the largest portion of those units and activities inspected were not fully implementing the prescribed procedures for property accounting and records maintenance as outlined in the applicable sections of AFM 67-1. The discrepancies that were repeatedly evident included: Failure to use and maintain record of custody receipts on those supply transactions involving Supplement II plant account and UPRAL property; failure to maintain In Use Plant Account Property Record Cards, AF Form 90A, in the manner prescribed and outlined in AFM 67-1; invalid hand receipts and inadequate control on property issued to using activities from unit supply sections; unfamiliarity in the use of AF Form 25A. Units were encouraged to stress the importance of corrective action in their respective OJT program for supply personnel. These items have been reported in detail in inspection reports, and indorsements from units indicate that corrective action has been initiated. A good OJT program would do much to alleviate this situation.

g. Organization: It is apparent from interviews with personnel at division and wing level that there still exists some misunderstanding concerning the division of functions between the two headquarters. There is considerable misunderstanding over the so called "flow chart" or use of channels for correspondence and distribution of publications. For instance, during the general inspection of the 517th Defense Group it was noted that the 37th Fighter-Interceptor Squadron received some correspondence direct from the 4711th Defense Wing and also Headquarters EADF, while some was distributed from Headquarters EADF through wing and group to the squadron. As another example, the Deputy for Personnel, this headquarters, has participated on several occasions in discussions at this headquarters regarding assignments of individuals within units, and has otherwise become involved in personnel actions which are more properly a function of the wing Director of Personnel. In this regard, it is my opinion that we have not fully exploited the capabilities of our Defense Wings. In view of the peculiar nature of the air defense organization, it is considered of special importance that each member of the organization fully understands his role on the team. This is most important at division and wing headquarters

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level, where it is true that if one section of either staff fails to do its job, the job does not get done. As an example, if the wing personnel officer fails to make sufficient staff visits or his office is not adequately manned to permit these trips, many field personnel problems go unnoticed by all except inspectors. It is, therefore, recommended that special emphasis be placed on the theme "understanding your role". This can be done by personal contact alone. By this I mean exchange visits between corresponding members of the division and wing staffs so that personalities as well as mutual problems are understood and cooperation is encouraged. It will also serve to point up weaknesses in staff manning, or in capabilities of individuals. I believe that it would be beneficial to give this subject special coverage in information programs for airmen assigned the two headquarters. Only after this type of effort can we truly consider wing staffs an extension of the division commander's staff as is conceived by General Nelson.

4. The Inspection System: The inspection system is established by directives of higher headquarters. Generally speaking, the system is satisfactory. ADCR 123-1 requires that all ADC units below Air Division (Defense) and wing headquarters level receive a minimum of one inspection each fiscal year. This inspection may be made by either Headquarters ADC, Headquarters BADF or by the division inspection team. The IG, Headquarters BADF, has indicated that General Nelson desired that each unit be given one general inspection from division level each year and any special inspections considered necessary. The burden of general inspections will seriously curtail our activity in the area of special inspections. Experience indicates that general inspections are needed; however, I believe after each unit has received one general inspection, we would be justified in asking relief from the strict requirement for general type inspections. Special inspections of the follow-up type could serve to check units on previously reported deficiencies. Further, much can be accomplished by sending out teams of specialists on assistance type inspections where conditions warrant.

5. I believe there is room for improvement in coordination and general liaison between the division staff and the inspector's office. We have made good progress in this, but the optimum has not been reached. On several occasions, members of the staff have returned to us without comment; indorsements to inspection reports, even though these indorsements contained requests for reconsideration of recommendations made by inspectors. I strongly recommend that staff officers be required as SOP to visit the inspector's office prior to each staff visit to be briefed on the last reported condition of the activity scheduled for the visit, and to be apprised of applicable Special Subject Letters. This procedure will promote a mutual understanding between inspector and staff officer;

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Semi-Annual Report of the Inspector General

will be of considerable assistance to the staff officer; and will
serve to alert the inspector to staff problems and areas of required
emphasis.

1 Incl
Inspection Activities

GORDON P. THOMAS
Colonel, US F
Inspector General

C O P Y

HEADQUARTERS
32D AIR DIVISION (DEFENSE)
OFFICE OF THE INSPECTOR GENERAL
Syracuse Air Force Station, Eastwood Station 6
Syracuse, New York

SUBJECT: Inspection activities for F/Y 54

1. Inspections conducted 1 July - 31 December 1953.

a. SCHEDULED INSPECTIONS:

<u>UNIT</u>	<u>DATE</u>	<u>TYPE</u>
(1) 4711th Defense Wing	29 Jun - 3 Jul	General
	18 - -19 Nov	Special
(2) 523th Air Def Gp	29 Jun - 3 Jul	General
(3) Det #2, 4673d GOS	20 Jul	Special
(4) 4673d GOS	21 Jul	Special
(5) 765th AC&W Sq	3 - - 5 Aug	Special
(6) 49th F/I Sq	3 - - 7 Aug	Special
(7) Det #5, 4673d GOS	6 Aug	Special
(8) 127th AC&W Sq	7 Aug	Special
(9) 128th AC&W Sq	7 Aug	Special
(10) Det #1, 4673d GOS	24 Aug	Special
(11) 763d AC&W Sq	24 - - 26 Aug	Special
(12) 4707th Defense Wing	28 - - 30 Sep	Special
(13) 762nd AC&W Sq	30 Sep - 2 Oct	Special
(14) 703rd AC&W Sq	16 Oct	Special
(15) 517th Air Def Group	26 - - 31 Oct	General
(16) 764th AC&W Sq	26 - - 28 Oct	General
(17) 37th F/I Sq	26 - - 31 Oct	Special
(18) 766th AC&W Sq	16 - - 19 Nov	General
(19) 656th AC&W Sq	14 - - 16 Dec	General
(20) Det #3, 4673d GOS	14 Dec	General

b. UNSCHEDULED INSPECTIONS:

a. In addition to the above scheduled inspections, this office conducted a number of unscheduled special inspections of supply and maintenance activities. Visits were also made to the 517th Air Defense Group, 47th F/I Sq, 763rd and 655th AC&W Squadrons to assist supply personnel in established and maintaining property records.

Incl #1

0531

C O P Y

Hq 32d Air Div (Def), Off of the Inspector General, Subj: Inspection activities for F/Y 54

2. Inspection schedule for remainder F/Y 54.

a. SCHEDULED INSPECTIONS:

<u>UNIT</u>	<u>DATE</u>	<u>TYPE</u>
(1) 655th AC&W Sq	11 - 15 Jan	General
(2) 27th F/I Sq	11 - 15 Jan	General
(3) Hq Sq, 32d AD(D)	8 - 16 Feb	General
(4) 4673rd GOS	8 - 16 Feb	General
(5) Det #2, 4673d GOS	8 - 16 Feb	General
(6) 907th AC&W Sq	8 - 16 Feb	General
(7) 911th AC&W Sq	8 - 16 Feb	General
(8) 654th AC&W Sq	22 - 26 Mar	General
(9) 677th AC&W Sq	22 - 26 Mar	General
(10) 60th F/I Sq	8 - 12 Mar	General
(11) 700th AC&W Sq	8 - 12 Mar	General
(12) Det #4, 4673rd GOS	8 - 12 Mar	General
(13) 528th Air Def Gp	12-16 Apr	General
(14) 57th F/I Sq	12 - 16 Apr	General
(15) 74th F/I Sq	12 - 16 Apr	General
(16) 564th Air Def Gp	10 - 20 May	General
(17) 437th F/I Sq	10 - 20 May	General
(18) 58th F/I Sq	10 - 20 May	General
(15) 703rd AC&W Sq	10 - 20 May	General
(20) 27th C/R Boat Sq	10 - 20 May	General
(21) 518th Air Def Gp	14 - 18 Jun	General
(22) 47th F/I Sq	14 - 18 Jun	General
(23) 34th C.B. Sq	14 - 18 Jun	General

COPY

COMDR 32D A DIV (DEF) HANGCOX FLD
 EASTWOOD STA 6 SYRACUSE NY

UNCLASSIFIED

COMDR 4707TH DEF WG OTIS AFB PALMOUTH MASS
 COMDR 4711TH DEF WG PRESQUE ISLE AFB
 PRESQUE ISLE ME

PRIORITY

X

X

AD000 32961

UNCLASSIFIED

ACFR0000 1170 . AD000 32961. The folg msg fr Hq ADC is
 quoted FYI and issued action: "Hq USAF has dir'd all maj USAF comds to conduct
 detailed functional studies of manpower utilization w/i their various hqs down to
 lower operating levels. The studies must result in new t/d's being sub'd to Hq
 USAF w/ptg docu by 1 Feb 54. The new t/d's will become eff in Apr 54. As a
 result of the above your hq is dir'd to conduct studies (as above) for your apropr
 ADC hq and your subor div hqs. Your final repts must be compl'd in sufficient
 time to reach this hq on or before 20 Jan 54. The hqs orgn to be rev'd is that
 reflected in the Jan 53 t/d's (to be distr shortly). Data gained as a result of
 this rev w/b applied as apropr at later dts to the FY 55 ADC Comd structure orgn.
 This hq is aptg a rev bd under the chairmanship of the c/s Hq ADC whose functions
 w/b to exam in detail the functions of the stf offices of this hq together
 w/assoc'd manpower auths and arr at 2 conclusions for ea stf office: 1. Required
 functions 2. Required manning. It is desired that your hq apt a rev bd of similar
 stature whose gen terms of ref w/b as outlined above. Because of the ltd time avail

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for easy correlation and summarizing of data prior to sub of the comm-wide rept to Hq USAF the presentation of the repts of your hq and your 4 Div hqs to this hq must be dir in a std format. The gen outline guide folz: 1. Present the gen functions and responsibilities of the directorate (or equivalent) being discussed. 2. Prep orgn charts of ea directorate (or equivalent) to the sec level, showing nos grs AFSC's (incg civs) authd ea orgnl elm. 3. List ea function now being performed in order of priority of the directorate (or equivalent) being discussed. 4. If apropr add to the above list ea function the agency chief may think should be performed but which he is not now accomplishing. 5. Identify the cat of ea function listed (para 3 and 4 above) as one of the folg 3: a. Those required by Hq USAF (cat "A"). Identify the apropr directive in ea case and to these functions assoc nos grs and AFSC's of pers, or fractions of pers, if apropr. b. Those considered nec and/or dird by higher hq other than Hq USAF. Identify the directive (if appl). c. Those considered nec by the agency whose rpt is being presented (Cat "C") and not under cats a or b. 6. Fr the total list of functions identify those which can be reduced in scope or elid w/o serious eff on the ADC

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men. 7. Identify functions which: a. Dup those of lower hq. b. Overlap those of lower hq. c. Complement those of lower hq. 8. Identify and elim overlap or dup of functions w/ssi any single hq. 9. Make apropr recs as to the necessity for contg the relationships in para 7 and 8 (above) or mods as apropr. 10. Make apropr recs concerning a min alloc of pers to the function which must be contd to incl nos gra and AFSC's for mil and civa. 11. Prepare resulting manning docus. 12. Identify those spaces contained in the manning docus which are nec to perform functions required by Hq USAF directives but which are not considered essential by the presenting agency. 13. Prepare a written rept of the actions listed in all steps above together w/a summary of the discussion before the rev bd and final action. These repts w/b fwd as incls to the final rept for Hq USAF. More detailed instrs and data w/b fwd o/a 23 Nov 53. It is planned that your reprs will present the final repts of your hqs to the hq ADC rev bd. In conf at this hq. Project office for this exercise at Hq ADC w/b the MEO directorate, DCS/O. It is reqd that comms on this subj be addressed to the attn of that office.

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ADD Hq project off is Col D Gould MCO directorate ext 237 or 238. Req you
shd names of the proj off in your hq asap. It is not planned to hold an initial
briefing at this hq on this proj. All correspondence, graphs, charts and rept
w/b circ to Hq 328 A Div (Def), ATTN: PMSA, to reach Hqs 32 AD WIT 14 Jan 54.

VITA FREDERICKSON, Lt Col, USAF

D/PCAR

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WILLIAM W. INGERSHUTZ, Col, USAF

0536

28 May 1952

SUBJECT: Conference 26 May at E. A. D. F.

TO: Combat Operations
Attn: Major Milford

1. The undersigned attended a conference 26 May 1952 at 10:30 D.S.T. held at Headquarters, E.A.D.F., Stewart A.F.B. Those present were General Minty, 26th, 30th and 32d Division representatives, members of General Minty's Staff and four representatives of CADS (Continental Air Defense System). The purpose of this conference was to explain to the officers present a new method of measuring the performance effectiveness of radar stations which has been evolved by CADS personnel.

Briefly, the plan is as follows: Based on the contour and range of the lower lobe, a calibrated scale is prepared which is to be superimposed on a map showing the plotted position of each initial pickup of aircraft when a flight plan showing altitude has been correlated or when accurate height-finding information is available. The scale is marked to show a corridor representing the normal pickup expectancy of the lower lobe. Initial plots appearing closest to the station - inside the corridor area - would indicate reduced efficiency of the station, while those appearing outside the corridor area would indicate peak performance.

2. Various charts have been prepared for use at the G.C.I. station and at higher headquarters which will reflect the degree of efficiency or effectiveness, based on a percentage figure.

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25 May 1952

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Attn: Major Milford

3. This system is now being tested at P-9, and it is contemplated that CADS personnel will be ready to install a similar program at P-13 within six weeks to two months. Two representatives of CADS will spend a week to two weeks at each station to familiarize the station personnel with their system, and before any reports will be made to higher headquarters, each station will operate the system at least one month to acquire the efficiency needed for comprehensive analysis. This plan is to be installed first at all 6-8 sites, after which it will be set up for FPG-3 sites.
4. Comment: While on the surface this system appears to be a method of effective measurement of capability, it is my belief that some difficulty will be experienced at stations using a combination of high, middle and low lobes for the reason that a compound scale would be necessary. Since several charts will have to be kept by each station and by higher headquarters, the problem of additional personnel to handle reports is a definite consideration. It is questionable whether the expense involved would be justified for the end result obtainable.

/t/s/ WALTER H. SCHRYER
CAPTAIN - USAF

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SECURITY INFORMATION

HEADQUARTERS
32D AIR DIVISION (DEFENSE)
Hancock Field, Eastwood Station 6
Syracuse, New York

Hq 32d AD (U)
AUTH: CG
DATE: 20 Jun 52
INITIALS: /s/WLH

000 319.1

23 June 1952

SUBJECT: Radar Calibration

TO: Commanding Officers, Separate Squadrons, 32nd Air Division (Def)
(Excluding Hq Squadron Section and 4673d GOS)

1. A conference was held at EADF Headquarters on 25 May 1952. The conference was arranged for the purpose of having the Bell Laboratories CADS project present their system of radar calibration. The 7th Calibration Squadron has been working on a project similar to the CADS project. Plans were made for representatives of the 7th Calibration Squadron to meet with CADS personnel for an exchange of information. Two officers from the 32d Air Division were invited to attend. Captain McKay, 654th AC&W Squadron, and Captain Schryer, Headquarters, 32d Air Division, attended. The following report is a consolidation of their reports.

2. CADS Project: The CADS system of calibration is devised to compare initial pickups with a chart previously made by normal calibration to determine proper functioning of personnel and equipment. In reality it is not a calibration.

a. Plan: Based on the contour and range of the lower lobe, a calibrated scale is prepared which is to be superimposed on a map showing the plotted position of each initial pickup of aircraft when a flight plan showing altitude has been correlated or when accurate height-finding information is available. The scale is marked to show a corridor representing the normal pickup expectancy of the lower lobe. Initial plots appearing closest to the station - inside the corridor area - would indicate reduced efficiency of the station, while those appearing outside the corridor area would indicate peak performance.

b. Equipment:

- (1) A special computer has been devised for this purpose. It displays a lobe pattern as obtained from the calibration chart with predetermined pickup points based upon altitude and range of the A/C.

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Hq 324 AD(D) OCO 319.1 Subj: Radar Calibration, 23 June 52

- (2) A map of such scale, as to be in accord with the lobe pattern of the computer, is required. This map to have the same reference grid as normally used in operations.
- (3) A scale using two systems of grading "pickups" is used. For low flying A/C the scale is in plus or minus degrees. For high flying A/C the scale is in decibels of power.

c. Theory: All readings are for four motor type A/C at a predetermined altitude.

- (1) Low Flying A/C: Aircraft flying into the low part of the lobe pattern should be detected immediately as this is the strong section of the lobe. An A/C detected outside of the normal lobe pattern because of ducting would be considered plus degrees for detection. A/C detected inside the normal lobe pattern would be considered minus degrees. The actual distance inside or outside would determine the number of plus or minus degrees.
- (2) High Flying A/C: Aircraft at a given altitude should be detected at a definite point. If detected beyond this point, this is a plus D. B.

d. Calibration Readings: A margin of allowable difference is built into the computer.

- (1) Pickups with too high a minus factor in either the low section or the high section indicate a problem and bears immediate investigation. This indicates personnel error or equipment fault.
- (2) Pickups with normal low readings but minus upper lobe readings indicate equipment fault.
- (3) Pickups with plus low readings indicate ducting.
- (4) Pickups with plus upper readings indicate the possibility of too much power output, and maintenance personnel may need to check the equipment for possible damage.

e. Procedures of Operation: Calibration readings can only be taken on four motored A/C flying at a know altitude, head on towards the station.

- (1) Watch board for initial pickup.
- (2) Plot initial pickup on calibration board.
- (3) Move computer over target and read.

C-1921 (4) Log reading.

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Hq 32d AD(D) OOO 319.1 Subj: Radar Calibration, 23 June 52

- (5) Analyze poor readings by reference to above grading system.
- (6) Take any necessary corrective action.

3. Summary:

a. The CADS project is still in the development stage. Further checking will be performed in the near future at three different sites selected for the following reasons:

- (1) Site #1: Penetrations over water.
- (2) Site #2: Penetrations over land. (Some shielding required.)
- (3) Site #3: Penetration over high land.

b. Sites selected were one in which each of three divisions. The station at Brunswick, Maine was selected for the 32d Air Division area because of overland penetration tracks flying head on to the station. Some study of tide reflection results will be made on A/C over water flying from Yarmouth to Boston or Idlewild.

c. No apparent consideration by CADS personnel was given to difference in pickup because of size of target. Calibration check was limited to four motor type A/C. The 7th Calibration Squadron has made a study of pickups based on target size and is making this information available to the CADS personnel.

d. CADS personnel consider this computer to be adaptable to the use of determining estimated heights on "pickups".

e. The system is devised to work only on the vertical lower lobe of the A. N. /CPS-6B. Radar faults of this lobe are readily discernable.

f. By maintaining records of pickups and scoring as good, poor, and bad, squadron and division commanders can maintain a running account of the early warning proficiency of a given station.

g. Recurring irregularities would be pointed out graphically and correction would be possible.

h. Crew competition for pickup performance would increase and result in better early warning.

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Hq 32d AD(D) OOO 319.1 Subj: Radar Calibration, 23 June 52

4. Recommendations:

- a. Further study and coordination with the 7th Calibration Squadron be made before adopting this process.
- b. As indicated in studies completed by the 7th Radar Calibration Squadron, size of target determines point of pickup. This study should be incorporated into the development of the computer so that the comparison not be limited by each flight plan or four motored aircraft.
- c. No attempt should be made to use a calibration chart as means of determining heights. As indicated by the studies mentioned above, a target detected at 100 miles could be a B-29 type aircraft at 10,000 feet, an F-47 at 14,000 feet or an F-86 at 12,000 feet. Since any system of determining heights without height finding equipment is inherently poor, it is recommended that operators be required to use a "rule of thumb" system of estimating 1,000 feet of altitude for every 10 miles of range. This figure is in agreement with the average Calibration chart and insures a standard system for all stations.
- d. Records presently maintained give a graphic picture of the overall proficiency of the entire operation. The CADS system is a check only on the initial pickup to determine capability performance in accordance with previously calibrated data. This should not be a continuous process, but should be limited to a monthly check to determine the need for a new calibration.
- e. Present system of readings taken by maintenance of personnel is considered satisfactory for proper monitoring of operation of equipment.
- f. Scope operations are receiving adequate supervision and a new system of creating crew initiative is not required.

5. Comments:

- a. While on the surface this system appears to be a method of effective measurement of capability, it is our belief that some difficulty will be experienced at stations using a combination of high, middle and low lobes, for the reason that a compound scale should be necessary.
- b. Since several charts will have to be kept by each station and by higher headquarters, the problem of additional personnel to handle reports is a definite consideration. It is questionable whether the expense involved would be justified for the end result obtainable.

6. Your comments and recommendations are requested.

BY COMMAND OF BRIGADIER GENERAL McCauley:

C-1981 SECRET s/t/ THOMAS R GLASS
2d Lt, USAF
Asst Air Adjutant General

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HEADQUARTERS
EASTERN AIR DEFENSE FORCE
Stewart Air Force Base, Newburgh, N.Y.

QUALITY CONTROL PROCEDURES

This document consists of 18 pages

EADF #97

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C O P Y

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Applications of Quality Control to SC&W Operation

1. Quality Control is the term given to the process of sampling and monitoring the progress or operational condition of a manufactured product, operating mechanism or engineering development. Mass production in industry and especially military contracting brought about a necessity for governing the quality of produce. Quality control has enabled manufacturers to set up producing best utilizing equipment, personnel, and materials available, resulting in increased profits, quality of materials and maintaining contract specification.

2. There are many functions to which quality control can be applied. For example: A firm may use this method to first set up their machinery for the manufacture of roller bearings. The question they present to the quality control operators may be: a. Can the present machinery turn out the bearings within specifications and if so, how many rejects per 1,000 bearings can be expected? b. What periodic adjustments are required of the machinery? c. How many bearings can the machinery make per hour? d. Most important of all, what profits can be made from the total contract? In the initial tooling up of a factory, the quality control personnel will have the machine operators process a small sample of the product. From these samples, the quality control group will construct a graph as shown in Figure #1. In Figure #1, the control graph indicates the diameters of a series of 1,000 bearings turned out by a lathe. Beginning with bearing #1 they were made exactly to specifications, but after approximately 500 bearings, all subsequent bearings' diameters did not fall within specifications, or tolerances. The quality control analyzer can recommend the following corrective measures for the above example:

- a. Repair machinery to maintain closer tolerances.
- b. Procure better machinery.
- c. Stop production and readjust machinery after every 500 bearings.

The above depicts only one of the many processes that may be required in production line installation. Quality control could be used in many of the following problems:

- a. Choice of materials.
- b. To determine placement of personnel to maintain smooth production.
- c. To locate failures of machinery or personnel.
- d. To constantly monitor the profits and losses of the individual process or overall product.

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FIGURE #1

QUALITY CONTROL GRAPH

PRODUCT: Roller Bearings

TOLERANCES: Diameter-1 inch

QUANTITY: 1,000

\pm .01 inch

Inches	Bearing Number														
	1	2	3	4	5	100	101	102	103	104	105	200	201	202	203
\pm 1.010															
\pm 1.005												X	X	X	X
1.000	X	X	X	X	X										
- .995															
- .990															

Inches	Bearing Number														
	300	301	302	303	304	400	401	402	403	404	500	501	502	503	504
\pm 1.010															
\pm 1.005											X	X	X	X	X
1.000	X	X	X	X	X										
- .995															
- .990															

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e. Determine skill levels of employees required for each process. From the preceding examples, it can be seen that quality control is an extremely essential function upon which the supervisors and management must rely.

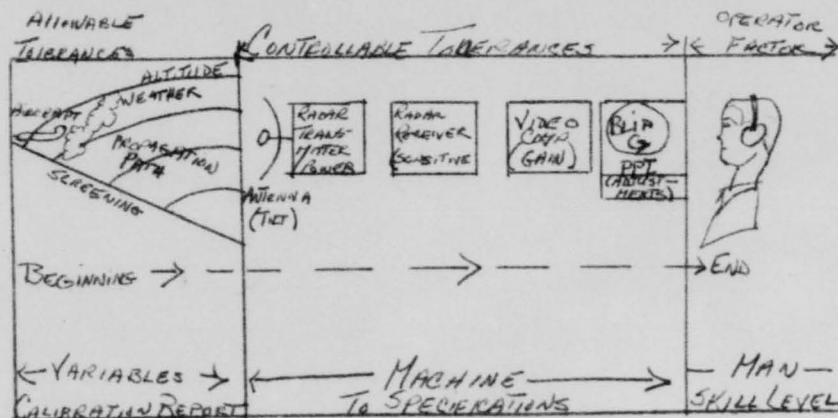
3. It may be difficult to compare and visualize quality control applications to a radar site where there is no immediately recognizable manufacturing process, product, or profit and loss. To a great extent, this is true. However, the main benefits to be derived from quality control methods are the monitoring features. At this point, we examine the functions of a radar and ask the following questions:

a. What is the radar product or end result? Answer: The blip upon a PPI, the recognition and identification by the operator, establishing the blip to be a target.

b. What is the source or raw material for the blip or end result? Answer: The raw material or beginning of the product is the target (aircraft, ship, missile).

c. What factors are considered in the manufacturing process? Answer: Electronic equipment and operating personnel.

d. What are the specifications or tolerances given to the end result, the recognized blip on the PPI, the product? Answer: Three sub-categories determine the nature of the end result of product. They are the allowable tolerances, controllable tolerances and the operator facts. These are displayed in Figure #2.



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In Figure #2 note that the process of radar surveillance is a series function. By analyzing each component of the series process and establishing control limits, specifications and tolerances, a quality control monitoring system can be put into effect by monitoring the end product, with the purpose of maintaining and constantly viewing the capability of the radar site. From the calibration report of a radar site, we can find the capabilities of the equipment operating under optimum conditions and determine limitations. During maintenance periods, we measure and adjust the radar equipment for best operation. The operating personnel are positioned in the operations room to best fulfill the requirements and are relieved periodically to reduce fatigue. When all of these factors are optimum, we have radar surveillance or coverage within specifications of the equipment design. However, any change in any series factor in Figure #2 will result in a proportionate change in the end result, the target blip on the radar indicator. The following is a list of the major series factors which affect the radar pickup and are considered in quality control:

- a. Aircraft size or reflecting area.
- b. Weather and propagation path.
- c. Screening or masking.
- d. Antenna beam tilt.
- e. Transmitter power output.
- f. Receiver sensitivity
- g. Video amplification
- h. Indicator adjustments
- i. Radar operator
- j. Movements and identification section.

All other governing factors have been consolidated into one of the above to minimize unnecessary complication in applications of quality control. Each of the above factors can be expressed in percentage, that is, the percentage of effect each factor has upon the end result or the target presented upon the PFI. For example: If a specific size target is detected at the maximum pickup range of a specific radar operating at optimum by an alert operator, this would be considered 100%. A diversion from this maximum detection range expressed as a percentage shows some deviation of the system. The standards which are established as the 100% capability are the data and findings collected during the calibration of a radar site plus information compiled by research agencies.

4. The Radar Evaluation Test conducted by the Air Defense Command, ADC Operations Order 17-52, 1952, endeavored to affix definite standards to the radar parameters of the AN/CPS-6B and AN/FPS-3. One important

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finding by this group made quality control applications more practical to ACSS radar operation. This was the fact that radars with a relatively free space beam radiating characteristic perform identically regardless of high or low (mountainous or sea level) siting and the coverage is modified only by the line of sight limitation of the individual radar set or the free space radiated beam maximums. In addition, radar coverage for many tactical type aircraft was determined. During the evaluation, many other factors such as weather, operator factor, equipment maintenance and adjustment were correlated to the point where it is now possible to predict or have accurate knowledge of conditions affecting radar operation, thereby permitting the setting of standards and tolerances necessary for quality control.

5. a. Analyze the radar parameters in Figure #2. Beginning with the aircraft, we know that large 4 engine types have more reflecting area than the smaller jet type and the resulting radar pickup will be greater in range for the 4 engine aircraft, due to the large target reflecting area. Changing attitudes and aspects of the targets reflecting area cannot be pinpointed exactly, however, a mean or average can be affixed which will serve satisfactorily. To give a comparative figure of merit between different types of aircraft, one aircraft (B-29) has been chosen as the standard and all radar performance of other aircraft is related by comparison to the B-29. Figure #3.

Figure #3

Type Aircraft	AN/FPS-3 db below B-29	AN/CPG-6B db below B-29
B-29	0	0
B-17	-.8	-.6
F-86	-15.6	-15.6

* See page 14 for complete listing.

The db ratings of each aircraft listed in Figure #3 are used instead of percentages to permit comparison with other radar range parameters. Percentages can be readily obtained from chart. Figure #4.

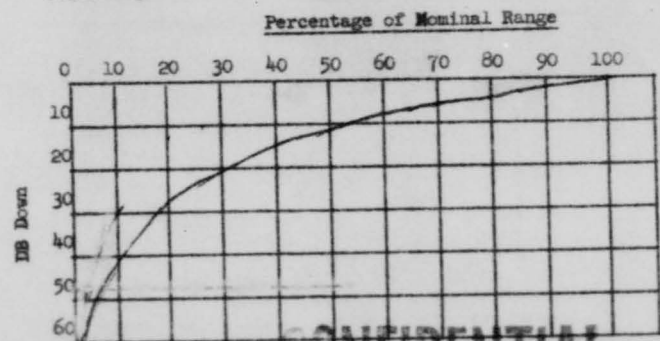
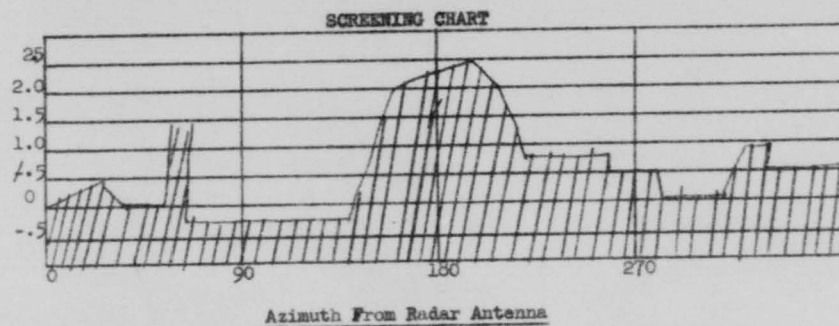


Figure #4

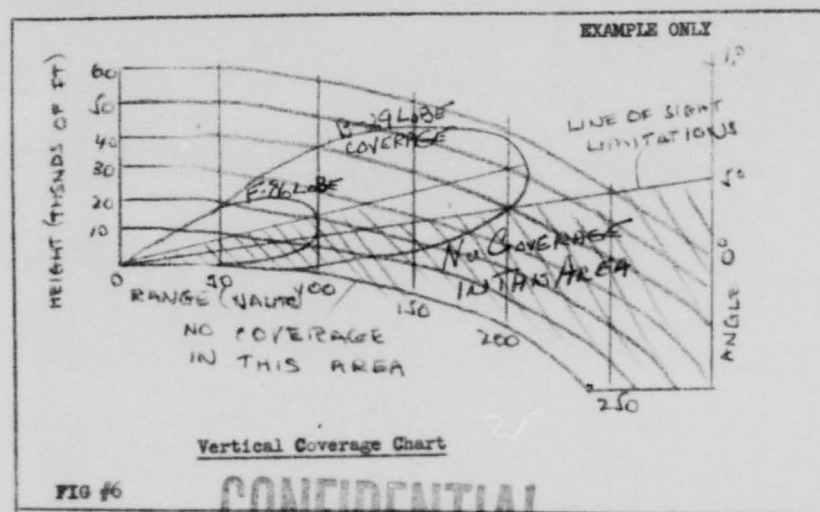
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b. Radar Line of Sight imposes a great restriction to radar coverage. The terrain features surrounding each radar site differ as to a relatively straight line from the radar site and does not follow the earth's curvature under normal conditions. Masking or line of sight from the focal center of the radar antenna and applying a refraction correction factor. This is done for 360° about the station and recorded graphically (Figure #5) in the calibration report.



In Figure #6, the screening angle has been placed upon a $4/3$ earth curvature vertical coverage chart representing one azimuth of coverage for a theoretical radar site. It will be noted in Figure #6 that the radiated beam is cut off due to an obstruction .50 above the radar antenna. This boundary or limitation surrounding a radar site is the cutoff point for aircraft detection, therefore, can be established as a standard or limit for quality control 100% pickup point.



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c. All limitations to the radar coverage of a radar site are not attributed to line of sight restrictions. In Figure #6, it should be noted that a B-29 aircraft flying at altitudes above 35,000 ft will not be limited by line of sight, but limited by the composite power and sensitivity beam of the radar equipment commonly known as the radiated lobe pattern structure. A smaller aircraft results in decreased coverage in the composite power and sensitivity lobe structure. A very important consideration to the radiated lobe of a radar is the positioning of this lobe into space which is governed by the antenna tilt. Since this lobe must be positioned so that the radar will detect both high and low flying aircraft, the antenna tilt and the resulting radar coverage must compromise with the average line of sight surrounding the radar station. Generally, the rule of thumb used to determine the proper antenna tilt is "Adjust the antenna tilt to one-half of the total vertical lobe width at half power points of the lowest beam, above the average screening angle". For example: The AN/CPS-6B has a 2.2° vertical lower lobe or beam width. One half of this is 1.1° . For this example, we chose an average screening angle of 4.5° . Therefore, the recommended tilt would be 1.1° plus 4.5° or 1.6° . The lobes of the AN/FPS-3 and AN/CPS-6B are well defined into free space and when the equi-signal contours are constructed on a vertical coverage chart for various size of targets, these boundaries can be depended upon at least 95% of the time. However, it is important that the positioning of the radiated lobe be as accurate as possible. It has been determined through many hours of testing at each radar site, that a radar antenna will have errors between mechanical tilt indicator and actual electrical radiated lobe center. Errors have been discovered in the order of 1° from the mechanical indication. This error has been found for each radar site and is listed in the calibration report. The radiated beam of the AN/CPS-6 and AN/FPS-3 is an egg-shaped pattern whose equi-signal contours intersect altitudes at different ranges. High elevated beam tilts increase high altitude coverage or target tracking ability. Whereas, low tilts reinforce the low altitude coverage. A compromise must be made to assure the high and low coverage of a radar site. Aircraft at low altitudes penetrate line of sight cut off into a very high intensity portion of the beam, whereas high flying aircraft gradually increase the intensity of radar signal as it converges upon a station. All of the above factors pertaining to positioning of the radar beam must be considered in order that the radar station gain the optimum coverage. To best visualize the parameters discussed in par 5a, b, and c, the 1st Radar Calibration Squadron has constructed a Radar Coverage Indicator.

d. The Radar Range Indicator contours, db ratings, percentages and configurations display the capabilities of the radar equipment and its radiation characteristics. These are all affected proportionally to the condition of the radar components. A transmitter and receiver operating at TO specifications will net a corresponding radar maximum detection range. The following are the transmitter and receiver T.O. specifications for the equipment presently in use by ADC.

	<u>AN/FPS-3</u>	<u>AN/CPS-6B</u>
Transmitter Power:	750 KW Peak or 89.8 db	900 KW or 90.5 db

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AN/FPS-3AN/cps-6B

Receiver MDS	<u>103 db</u>	<u>103 db</u>
Combined Performance Figure:	192.8 db	193.5 db

For both radars, this performance figure is required to produce a target at the optimum range. A loss or gain in this T.O. performance figure will affect the db equi-signal contours of the radar range indicator in direct proportion, which represents the equipment capabilities. It then becomes conceivable, that if the end product were to be monitored, (the radar blip at the indicator), performance of the radar equipment could be determined by observing the maximum range pickup of a target. That is, when all radar range parameters are known and standards are set, it becomes possible to sample a group of radar plots from a PPI indicator and compare these plots to the standard upon quality control graphs in percentage. Figure #8.

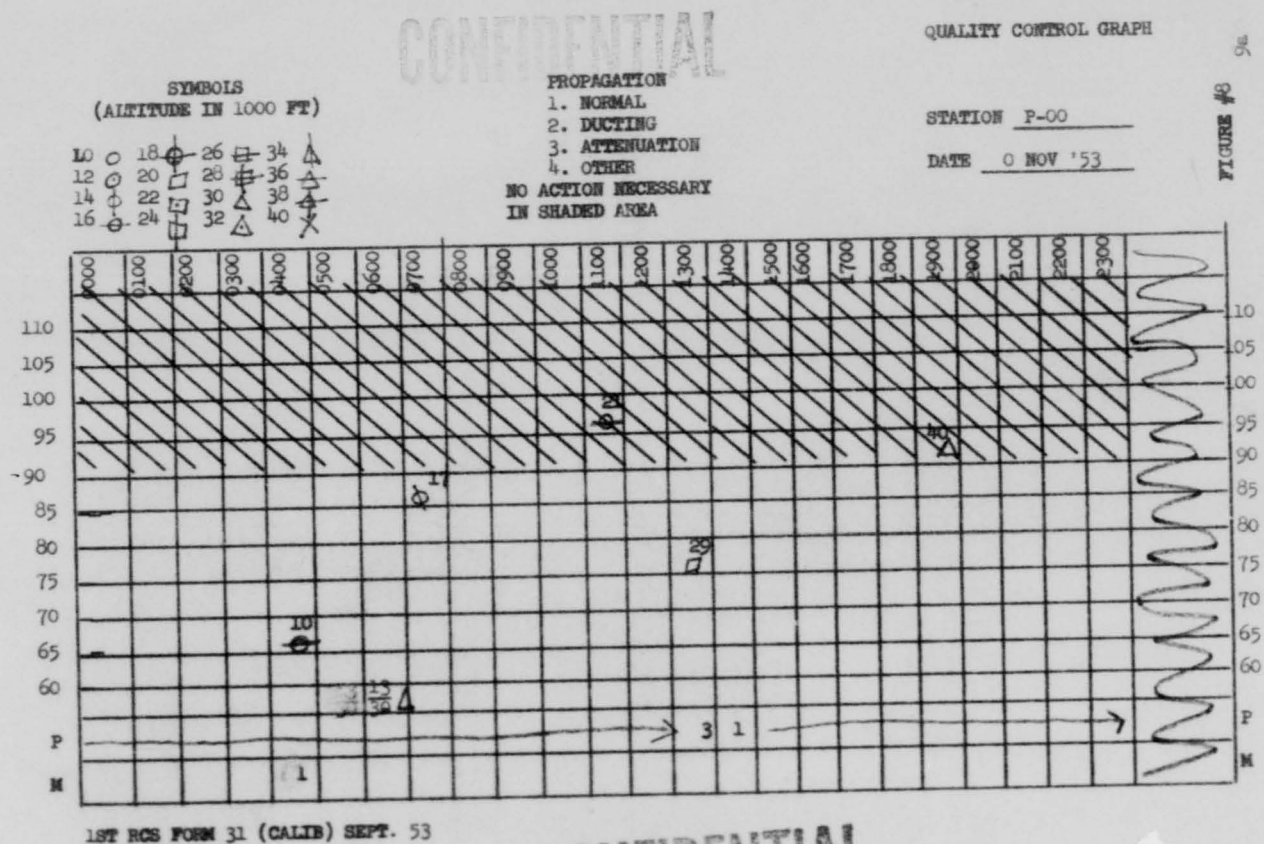
e. In addition to the transmitter and receiver of a radar, consideration must be given to the video components and adjustments of the radar indicator. Figure #2. The video components consist of amplifiers, mixing circuits, gain controls and special anti-jamming or clutter features. Once again it is emphasized that losses or gains from T.O. specifications in the video or any stage will affect the end result. For example: when the signals from one radar beam are mixed with another, which is common in both the 6B and FPS-3, the overall sensitivity of the equipment decreases 1.5 db per additional mixed video. This is due to a consolidation of noise levels in each circuit. Another common loss or gain in overall radar performance can be attributed to adjustments of the radar indicators. Anti-clutter features and blanking circuits also cause loss in performance. Radars operating with MTI have different factors from normal radar. The MTI receiver usually has a MDS 3 to 6 db (16% to 30%) lower than the normal receiver plus stability and attenuating factors of other MTI components. Many of the above factors add variables to the picture and can be determined to some extent.

f. The radar operator and his ability to recognize a target, plus his skill in interpreting accurate range and azimuth information is the final step in the radar manufacturing process. Here once again is a variable, a human variable. In the previous steps or development of the radar target up to this stage, we had mechanical and some adjustable variables. The radar operator factor is affected by his alertness, environment, mental state, skill, and workload. A radar target can be present on his indicator, equipment working normally, but if the operator does not detect the target, the radar coverage for that site is zero. This, of course, is an exaggerated condition, however, there are very few instances where an ACW man-machine combination actually reaches the 100% mark or has the continuous coverage reported on the calibration report. The calibration report is the standard, 100% or optimum to be expected from that particular station when all conditions are normal. During a

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Initials of person
investigating track

REMARKS

PROPAGATION
MAINTENANCE
TRACK RECORD

1	10	Mds-97 dbm Tuned Stalo Mds-103 A/2c Smith	PDQ
1	13	MDS-103 A/2c Smith asleep 30%	PDW
	17	Dud 87%	BTU
	21	MDS-103 A/1c George 98%	WPA
3	29	Heavy rain 32 miles, 020°-080° (-1.2 db) A 2/c Jones	GCA
1	40	S/Sgt Klunk 93%	HRA
	10	This low percentage value demands corrective action. If it does not interfere with the mission of the station, the set should be taken out of the net to determine the cause of the deficiency. In this particular case, the MDS was found to be well below the optimum value.	
	13	Corrective action taken as required.	
	17	No other factors seem to be affecting the set. This value can be ascribed to the operator.	
	21	The operator's name is recorded for his proficiency chart. Since the MDS during this period showed no drop, the same value is assumed for the preceding target. The set was not taken out of the net specifically to check the MDS - this period happened to coincide with the regular daily maintenance.	
	29	The operator factor can be extracted from this target value by application of the rain attenuation factor and the coverage indicator. Any reduction ascribed to rain must indicate the slant depth of the rain - such information is generally available from the nearest weather station, or by studying the scope picture.	
	40	This entry is recorded for the proficiency chart.	

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radar calibration, a controlled aircraft is used. The position of the aircraft is known at all times. The element of surprise is not considered. In the study made by the CADS committee, "Recommendation #71" and the report on the radar evaluation test, detection capabilities of an unalerted operator were formulated in an attempt to narrow this variable to a usable figure. From this data, a quality control limit has been set at 10% to cover the operator factor. The 10% operator factor can be converted to db or radar ranges to facilitate its application to the radar range indicator and quality control procedures.

6. To recapitulate the parameters of radar and integrate the AC&W quality control procedures, we must first consider the three main categories; **ALLOWABLE TOLERANCES, CONTROLLABLE TOLERANCES AND THE OPERATOR FACTOR.** When all three are functionally perfect, we have 100% radar coverage. Specifically, if the maximum calibrated detection range for a B-29 aircraft flying at 30,000 feet is 200 miles and the radar operator initially detects this aircraft at 200 miles, this indicates all elements in the three main categories are functioning properly. However, if the aircraft were detected at 150 miles, this would indicate a 25% drop in overall performance that could be traced to one or all of the three categories. For example, to show the possible cause of the above 25% loss, the following breakdown is made:

Allowable Tolerances:

a. Aircraft size - B-29	100%
b. Weather (normal)	100%
c. Screening (Not affected)	100%
	<u>100%</u>

Controllable Tolerances:

a. Transmitter power 900 KW	100%
b. Receiver sensitivity 100 dbm	85%
c. Video components OK	100%
d. PPI Adjustments OK	100%
	<u>85%</u>

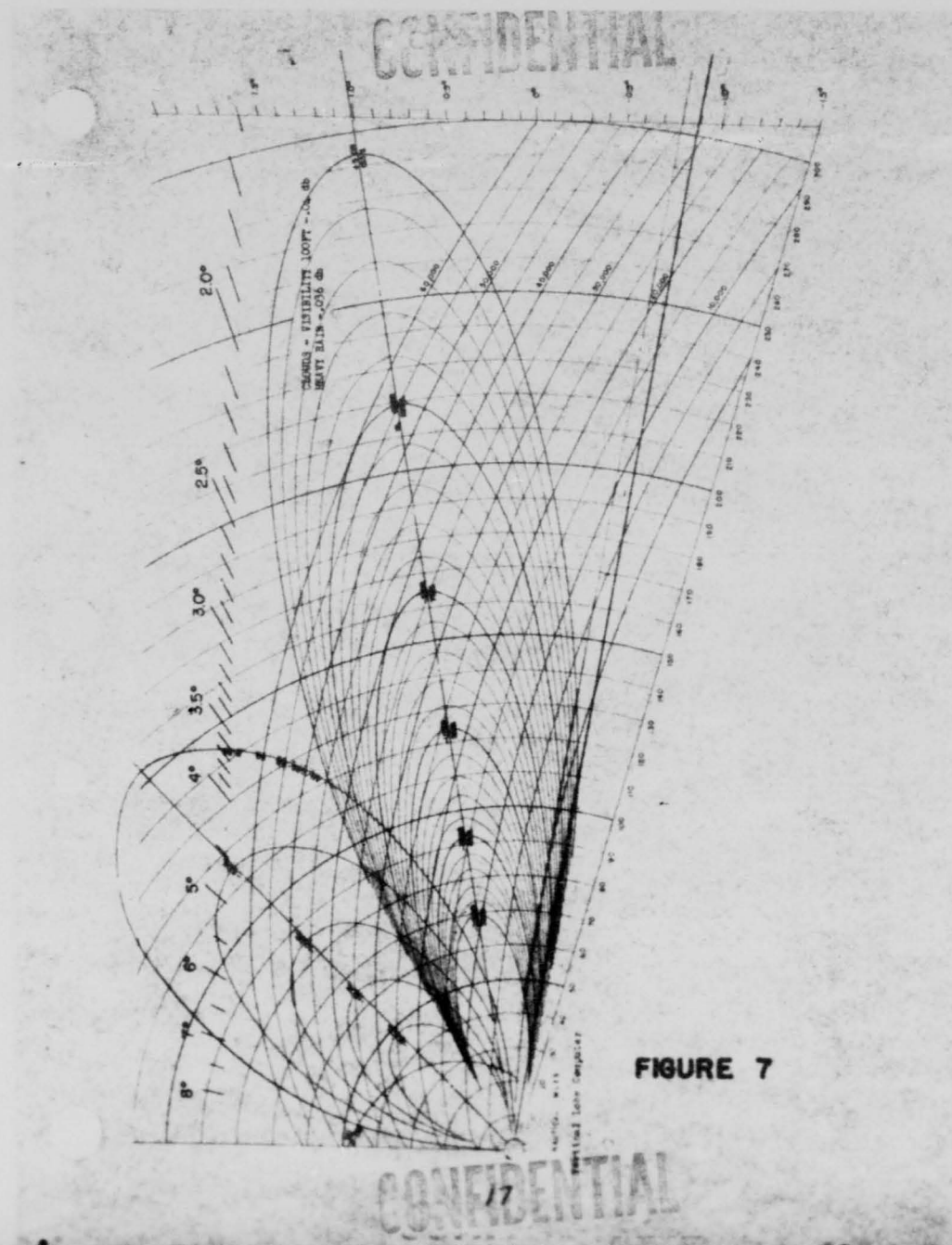
Operator Factor 10% tolerance	90%
-------------------------------	-----

In the breakdown above, the correlation of the three categories shows the allowables to be 100%, 15% loss due to drop in receiver sensitivity and an additional loss of 10% due to operator factor, resulting in an overall decrease of 25%. The inter-effect between the three main categories must be considered as a series circuit. In other words, the operators cannot reach the calibrated standard if the radar equipment is not 100% operational. Although they are 100% efficient, they can do no more than the equipment is capable of. Therefore, when rating radar performance, the allowable tolerance factors must be considered first and their percentages derived, then the controllables and finally the operators.

7. The initiation of quality control at a radar site will require a person to periodically monitor or sample the initial detection ranges

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(the plot) as they appear upon the plotting board. This man then compares the plot to the standard or calibrated coverage using the radar coverage indicator. He then expresses the difference in coverage in percentages above or below the calibrated or standard range and enters this upon the quality control graph, Figure #8. Hourly samples enable the maintenance and operations personnel to monitor and take action when deficiencies are found.

8. The Radar Coverage Indicator, Figure #7, is an effort to fulfill the requirement of educating radar operating and supervisory personnel to a better understanding of the multiple conditions that set the parameters of radar coverage. The indicator has many applications. Simple explanations to numerous radar problems can be explained when the indicator is properly used. Primarily, it was designed to display maximum pickup range of all sizes of aircraft, the effects of different tilts of the antenna upon the coverage, and establish the most suitable tilt considering the screening and size of aircraft. This is the main tool used in performing quality control at a radar site.

9. Construction of the Radar Coverage Indicator:

a. The radar coverage indicator (Figure #7) is a refinement of the original Vertical Lobe Computer. Several changes had to be incorporated in the original to afford a greater degree of accuracy.

b. The Radar Coverage Indicator is made up of the following items:

- (1) Vertical Coverage Chart
- (2) Lower and Upper Beam Patterns
- (3) Screening Cursor
- (4) Skyline Screening Chart

c. The Vertical Coverage Chart is drawn initially by constructing range circles at equidistant intervals, every 10 miles to required range (300 NM). On the outer range circle (300 NM mark), mark off linear angle marks in 1/10 (0.1) of degree increments, beginning with zero reference on the right side of coverage chart. Mark off counter clockwise all positive angles and clockwise negative angles from the zero reference line ($+8^{\circ}$ and -1° in this case). Using the "Table of coordinates in the Vertical Plane", project E-1 recommendation #121, Bell Laboratories, plot altitude contours for all altitudes required from the center of the chart to the 300 NM range marked (0 through 60,000 feet altitude in 5,000 feet increments in this case).

d. The vertical lower beam of either the AN/CPS-6B or the AN/FPS-3 can now be constructed to the scale as an overlay for the coverage chart. Secure a transparent paper over the coverage chart and plot beam contours at the desired levels using the Tables for constructing beams. (Figure #9) Contour lobes may be plotted for any aircraft, provided

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TABLES FOR
CONSTRUCTING VERTICAL AND HORIZONTAL RADIATED LOBE
PATTERNS

TOTAL BEAMWIDTH AT $\frac{1}{2}$ POWER POINT

	1.0	2.0	2.2	3.0	3.2	4.0	5.0	6.0	7.0	8.0	9.0
% RANGE	DEGREES OFF CENTER OF BEAM										
.999	.0333	.0666	.07333	.1	.1066	.1333	.166	.2	.2333	.2666	.3
.995	.0666	.1333	.1466	.2	.2133	.2666	.232	.4	.4666	.5333	.6
.987	.0999	.1999	.2199	.3	.3199	.3999	.498	.6	.6999	.7999	.9
.975	.1333	.2666	.2933	.4	.4266	.5332	.564	.8	.9333	1.0666	1.2
.964	.1666	.3333	.3666	.5	.5333	.6665	.73	1.0	1.666	1.3333	1.5
.946	.1999	.3999	.4399	.6	.6399	.7998	.896	1.2	1.3999	1.5999	1.8
.927	.2333	.4666	.5133	.7	.7566	.9331	1.062	1.4	1.6333	1.8666	2.1
.905	.2666	.5333	.5867	.8	.8533	1.066	1.228	1.6	1.8667	2.1333	2.4
.884	.2999	.600	.660	.9	.9600	1.199	1.394	1.8	2.1000	2.4000	2.7
.856	.3333	.6667	.7334	1.0	1.0667	1.333	1.56	2.0	2.3334	2.6667	3.0
.830	.3666	.7333	.8067	1.1	1.1733	1.466	1.726	2.2	2.5667	2.9333	3.3
.803	.39999	.800	.8800	1.2	1.2800	1.599	1.392	2.4	2.800	3.2000	3.6
.772	.4333	.8666	.9533	1.3	1.3866	1.733	2.058	2.6	3.0333	3.4666	3.9
.742	.4666	.9333	1.0267	1.4	1.4933	1.866	2.224	2.8	3.2667	3.7333	4.2
.707	.5000	1.000	1.100	1.5	1.6000	2.000	2.500	3.0	3.5000	4.0000	4.5
.676	.5333	1.0666	1.173	1.6	1.7066	2.1333	2.666	3.2	3.7333	4.2666	4.8
.641	.5666	1.133	1.2466	1.7	1.8133	2.2666	2.832	3.4	3.9666	4.533	5.1
.608	.5999	1.199	1.3199	1.8	1.9199	2.3999	2.998	3.6	4.1999	4.7999	5.
.577	.6333	1.266	1.3933	1.9	2.0266	2.5333	3.164	3.8	4.4333	5.0666	5.
.540	.6666	1.333	1.4666	2.0	2.1333	2.6666	3.333	4.0	4.6666	5.3333	6.0
.511	.6999	1.3999	1.5399	2.1	2.2399	2.7999	3.496	4.2	4.8999	5.6000	6.3
.483	.7333	1.466	1.6133	2.2	2.3466	2.9333	3.662	4.4	5.1334	5.8667	6.6
.429	.7666	1.5333	1.6867	2.3	2.4532	3.0666	3.828	4.6	5.3667	6.1333	6.9
.407	.7999	1.600	1.7600	2.4	2.5599	3.1999	3.994	4.8	5.6000	6.4000	7.2
.383	.8333	1.666	1.8334	2.5	2.6666	3.3333	4.160	5.0	5.8334	6.6667	7.5
.340	.8666	1.7333	1.9067	2.6	2.7732	3.4666	4.326	5.2	6.0667	6.9333	7.8
.300	.8999	1.800	1.980	2.7	2.8799	3.5999	4.492	5.4	6.3000	7.2000	8.1

Example:
5° beamwidth at 2.5° off center
equals .707 x maximum range

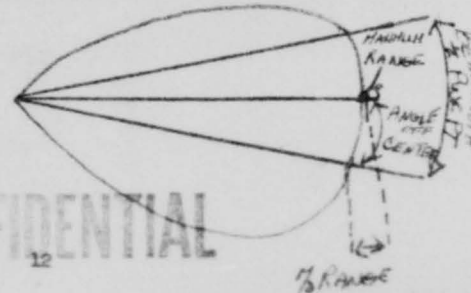


FIGURE #9

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performance figures are known. As an interim reference, use nautical mile (NM) to the nose of the beam for a B-29 type aircraft. This contour represents the maximum free space range, nose aspect, of the target in question. Further, reference contours may be drawn to represent minimum detection limits, $\frac{1}{2}$ below the maximum or in db. A line should be inscribed through the center of the beam for tilt reference.

e. Assembly of the indicator is now effected by securing the beam pattern and the screening cursor at zero altitude and range with a rivet or similar gadget so that both beam and cursor may be adjusted. Note the altitudes are elevations above the sea level. Mount the skyline screening chart on the most convenient portion of the indicator.

f. Use the indicator as follows:

- (1) Set beam center at desired ELECTRICAL TILT.
- (2) Set screening cursor at desired screening angle (azimuth in question).
- (3) Read range from intersection of the cursor or beam contour whichever is less, and the altitude in question. (Caution: Subtract antenna mean elevation from the altitude in question to give elevation above station MSL).
- (4) This is the reference range for that azimuth, altitude, aircraft combination. Zero db or $\frac{1}{2}$ on the indicator corresponds to maximum detection range for a B-29 type aircraft. For maximum detection ranges of other aircraft refer to tables below which correlate aircraft response in percentages or decibels as compared to the reference of a B-29 type aircraft. (See next page for tables)

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Type Aircraft	"S" Band in Percentage	db below B-29	"L" Band in Percentage	db below B-29
B-29	00.0	0.0	00.0	0.0
B-17	-02.0	-0.6	-04.0	-0.8
B-24	-13.0	-2.4	-09.0	-1.7
B-25	-27.0	-5.5	-27.0	-5.5
B-36	+01.0	+0.2	+01.0	+0.3
B-45	-37.0	-7.7	-39.0	-8.1
B-47	-49.7	-11.6	-49.8	-11.7
F-51	-45.0	-13.0	-45.0	-13.0
F-86/wvt	-60.0	-15.6	-60.0	-15.6
AT-6	-34.0	-07.0	-34.1	-07.1
F-47	-45.0	-10.1	-45.0	-10.0
F-38	-51.0	-11.0	-52.0	-12.1
F-82	-30.0	-06.0	-24.0	-04.7
C-69	+05.0	+01.5	+04.0	+01.0

(5) When the above tables are applied to the Indicator, it will display the maximum range for a single target. For aircraft in formation, add .75 db for each additional aircraft ; in the formation.

10. The following is the proposed operating procedure and regulation prepared by the 1st Radar Calibration Squadron to be used as a guide for initially setting up quality control procedures at the AC&W squadrons.

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QUALITY CONTROL

(Prepared by 1st Radar Calibration Squadron)

1. **PURPOSE:** To establish procedures for maintaining a constant check on radar station effectiveness by means of quality control; to explain the use of Quality Control Charts and Graphs.
2. **GENERAL:** Although the method of operating quality control is left to the discretion of the station commander, the following should be used as a guide to insure some standardization.
3. **CHART CONSTRUCTION:** Quality Control established a means which enables a radar station to maintain a given level of operational efficiency. The system is analogous to that used in industry, in that a constant sampling is made of the radar station's produce - detection and tracking of aircraft - and compared to a standard. Since the operational characteristics of both the AN/FPS-3 and the AN/CPS-6B are well known, it is possible to establish a reference range contour for any specific radar station by use of the radar coverage indicator and the screening chart for that station. As an example of how this reference is established, consider a hypothetical radar station with a screening angle of -0.1° at an azimuth of 090° and an electrical tilt of $\neq 1.5^\circ$. The following procedure is used:
 - a. Set the screening cursor of the Radar Coverage Indicator to the screening angle of -0.1° .
 - b. Set the lobe pattern to the proper electrical tilt of $\neq 1.5^\circ$.
 - c. Record the altitude at the intersection of the zero db lobe line and the screening cursor (18,000 feet).
 - d. Record ranges of all altitudes below 18,000 feet where the altitudes intersect the screening cursor (i.e., 15,000 ft, 166 nautical miles; etc.)
 - e. For each altitude above 18,000 ft record the intersection of the altitude line and the zero db line.
 - f. The above procedure is used for all variations of screening on the skyline screening chart.
4. **OPERATION OF QUALITY CONTROL:**
 - a. Designation of personnel to operate Quality Control (hereafter referred to as the Quality Control Man, or QCM). Considerable technical knowledge will be required of the person who fills out the reverse side of the Quality Control Graph (1st RCS Form 31), Figure #8. He must be familiar with all of the factors which affect a radar station's effec-

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tiveness. Therefore, it is suggested that one of the electronics maintenance men be assigned as QCM. His duties during normal set operation are usually light, and he would have no work as QCM when the set is off the air.

b. Physical location of QCM: Since movements and identification personnel receive information regarding the type aircraft and altitude, the QCM must work in conjunction with them, and should be situated so that information can be readily interchanged. Note: The QCM and M&I personnel should be isolated from the scope operators and cautioned against informing the operator of the expected appearance of an aircraft. Otherwise, Quality Control will not truly represent the station's effectiveness. Personnel should be cautioned that spot checks with friendly aircraft can be made without their filing of a flight plan. This would immediately expose any attempted fraud in the system and will undoubtedly be resorted to as a check. Remember, a true picture is better than an optimistic one in base of an attack. Do not build yourself up to proportions you will not be able to maintain when the cards are down.

c. Operations: This system of quality control is based on the initial detection range of four-engine aircraft with reflecting surfaces equivalent to that of a B-29 (DC-6, Constellation, Boeing Stratocruiser, etc.).

- (1) M&I informs the QCM of the expected appearance of a four-engine aircraft, and its altitude.
- (2) As soon as the target appears on the plotting board, the QCM records the exact azimuth and range, as well as the operator's name.
- (3) He then uses the radar coverage indicator and determines the percentage value of the track. If the percentage cannot be interpolated from the coverage indicator, calculate the percentage, using the equation,

$$\frac{\text{ACTUAL RANGE} - \%}{\text{THEORETICAL RANGE} - \%}$$

- (4) The percentage and track number are entered on the Quality Control Graph (Form 31) in the proper time space. The operator's name is entered along with the track number on the reverse side of Form 31 under Remarks.
- (5) If the percentage falls below 60%, the actual percentage is entered on the control graph below the station track number. (For example, if track number 13 falls at 30%, it is entered on the control graph as 13/30). The same applies to tracks above 110%.
- (6) In entering these tracks on Form 31, the altitude symbol is placed at the correct percentage value and the track number

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is placed adjacent to it. (These symbols appear on Form 31).

- (7) Propagation characteristics are entered in the time sequence in the line titled "P", according to the code on the top of Form 31.
- (8) Maintenance difficulties are similarly entered in the line titled "M", but no code is used for them. Instead, they are listed in sequence, the first comment being labelled "1", the second, "2", etc. Any tracks entered on the reverse side during this same time period should also carry this maintenance notation and subsequent explanation in the appropriate column. For example, let us assume that a track falls below 70% and subsequent examination reveals that the target "ran away". Obviously, this should be entered as the explanation for this low percentage value.
- (9) Items entered under "Remarks" should be explicit. For example, rather than say "Weather" as an excuse for low percentage, state "23 miles of heavy rainfall on aircraft azimuth - db attenuation". Rather than say "MDS low", state "MDS taken 15 minutes after low percentage pickup was - 98 dbm. Improved to - 103 dbm by replacing _____".
- (10) The QCM should be cautioned against stereotyping his remarks. For example, simply because one aircraft did not adhere to its flight plan and flew at a lower altitude than intended does not mean that all aircraft during that day or week will do the same thing. It should be obvious that such stereotyping will be evident in the analysis of the remarks.

d. Operator efficiency: To provide the Station Commander with an idea of the efficiency of his operators, a chart might be constructed on which the percentage values for each operator are entered. Obviously, however, if the examination shows that the low percentage was due to maintenance or propagation difficulties, the inefficiency cannot be ascribed to the operator. (Similarly, high percentages will probably be ascribed to propagation rather than the operator.) Investigation should be made of any operator whose percentage is below the average for the station, and an effort should be made to raise the overall efficiency of the station if all the percentages are low. The operator can be obtained by several methods. One method can be accomplished during normal radar operation using the target simulator (15JIC). A simulated target may be injected into the system in the area of responsibility of the operator to be tested. An operator percentage is the result of comparing the initial detection range to the injected range of the simulated target. This method can be applied to establish overall crew efficiency.

e. Stations operating radar equipment on MTI PRF, (600 PRF for AN/CPS-6B and 400 PRF for the AN/FPS-3) will note that pickup percentages for targets at altitudes normally not limited by the station's line of sight,

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must be graded as to their penetration compared to the equipment's PRF limitation by use of 1st RCS Form 37.

5. SUMMARY: The great value of Quality Control as applied to a radar station is that any decrease in station efficiency is almost immediately apparent. The Maintenance Officer and Operations Officer will watch for any deterioration of performance and act to prevent a major difficulty before it occurs. The Commander has a constant finger on the pulse of his station, and can assure himself that he is maintaining the quality of our radar network at the high standards demanded by the vital job he is performing. The same monitoring privilege extends upward through all command levels, since they have recourse to, and undoubtedly will avail themselves of screening charts and elevations of all stations under their jurisdiction.

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C O P Y

HEADQUARTERS
EASTERN AIR DEFENSE FORCE
Stewart Air Force Base, Newburgh, N. Y.

EAOCE-E 29 Jan 54

SUBJECT: (Uncl) Operational Effectiveness of AC&W Stations

TO: Commander
32d Air Division
Syracuse AFB
Syracuse, New York

1. Quality control procedures are being used by this headquarters to analyze the operational effectiveness of AC&W radar stations throughout the command. Data for this analysis is being extracted from Form 75A of the ADC V-8 Monthly Report, assuming that this detection data represents a cross section of the average detection range for each station. A monthly operational effectiveness percentage figure for each AC&W station is then established by comparing the detection data presented on the Form 75A with the maximum possible detection range.

2. Quality control procedures have been developed to a point where it is possible for an AC&W station to maintain a percentage figure within 90 to 100% of the calibrated coverage. Percentage figures lower than 85% establish the fact that deficiencies exist due to equipment malfunction, insufficient and/or inexperienced operation or maintenance personnel, or misinterpretation of reporting regulations.

3. An analysis covering 1 September through 31 December 1953 indicates that the following station was below the desired quality control performance minimum of 85%:

P-21, Lockport, N.Y.

<u>Month</u>	<u>0-10,000 ft</u>	
	<u>Low Altitude</u>	<u>Above 10,000 ft</u> <u>High Altitude</u>
Sep 53	50%	30%
Oct 53	37%	41%
Nov 53	90%	55%
Dec 53	45%	20%

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4. All stations in your command other than that listed above, reported data which fell within the accepted standards.

5. It is desired that the following action be taken:

a. An investigation be made to determine the reasons for sub-standard detection range percentages of the station listed in paragraph 3.

b. Results of this investigation and corrective action taken be forwarded to this headquarters.

c. That system performance be closely monitored by utilizing the quality control procedures which were established at the Quality Control conference held at your headquarters, 7 Oct 53, pending the publication of a regulation on this subject.

BY ORDER OF THE COMMANDER:

JAMES R. WORLINE
Captain, USAF
Asst Adjutant

DCE (29 Jan 54) 1st Ind 18 Feb 54

HQ 32D AIR DIVISION (DEFENSE), Syracuse Air Force Station, Eastwood Station 6, Syracuse, New York

TOL Commander, Eastern Air Defense Force, Stewart Air Force Base, Newburgh, New York

1. A study was made of the apparent sub-standard detection ranges of P-21 for the period September 1953 thru December 1953. Utilizing the Form 75A's of the V8 report the following facts were noted:

a. Ninety-eight per cent of all tracks reported by P-21 on Form 75A's originate at Toronto, Canada and are in a sector of 290 and 300 degrees.

b. The sector 290-330 degrees lies within the maximum screening area of P-21 (270° to 005°).

c. The airline distance between P-21 and Malton Airport (Toronto) is 49 miles; calibrated 5,000 foot coverage of P-21 in this azimuth is 50 miles (Radar calibration report P-21 dtd 12 May 53).

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d. Time element between recorded radar pick-up and height indication was excessive.

e. Radar performance figures for the period involved in so far as MDS figures concerned were considered normal. Time-off the air for the same period was excessive due to radar overhaul, radome painting, EW kit installation and EW kit calibration and tune-up. During this operation back-up radar TPS-1C was utilized accounting for approximately 10% of data presented on Form 75A's.

2. The two main factors contributing to low percentage figures when Form 75A's are used are:

a. Excessive time element between recorded radar pick-up and height determination.

b. Use of TPS-1C radar which in the case of P-21 is poorly sited and should not be considered as 100% effective. Of the two elements contributing to low percentage figures the time element between recorded pick-up and height determination has been the greater of the two and has shown in Inclosure 1 on a test run for a period of nine days during which time an additional RHI operator was utilized to cover the sector 290 to 330 degrees exclusively, thereby reducing the reporting times the percentage increased to a near normal of 85%. P-21 is continuing the use of an additional RHI operator for the sector 290 to 330 degrees.

3. This headquarters considers that the use of Form 75A's for quality control percentage figures may result in erroneous percentage figures if all contributing elements are not taken into consideration. Particular attention should be given to screening all tracks reported on Form 75A's that originate within the coverage area of the station. To quote a specific example: An aircraft of the "North Star" category taking off from Toronto to Buffalo with an assigned altitude of 7,000 feet will not be picked up by P-21 until such time has elapsed that the aircraft has reached an altitude of at least 3,000 feet - considering its plus 3 degrees screening in this azimuth. A time element of one minute to determine height will introduce more error and the subsequent recorded detection range of P-21 will suffer as a consequence. Detection range data therefore for all flights which originate inside the calibrated station coverage and which have a heading toward a station cannot reach the optimum figure of 100% as computed on radar range detection devices used to ascertain radar pick-up capabilities. It is therefore recommended that quality control percentages be deducted by using data gathered from flights originating outside of the station coverage and entering its area at a sustained altitude or flights leaving a station's area at a sustained altitude.

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4. Corrective action as directed by paragraph 5b, subject letter has been taken by P-21 as follows:

a. Time element of height estimation has been reduced by the use of a sector RMI operator.

b. Quality control measurements have been instituted and will continue on targets falling within criteria as noted in paragraph 3 above.

FOR THE COMMANDER:

1 Incl:
Percentage Charts

FREDERICK E. YORK
Major, USAF
Adjutant

Info cy:
763d AC&W Sq

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C O P Y

EADFR 55-9

EADF REGULATION }
NUMBER 55-9 }

HEADQUARTERS EASTERN AIR DEFENSE FORCE
Stewart Air Force Base, Newburgh, NY
12 May 1954

OPERATIONS

Quality Control

1. Purpose. This regulation established procedures for maintaining a constant check on radar station effectiveness by the application of quality control procedures.
2. Scope. These instructions will apply to all AC&W squadrons utilizing AN/CPS-6B, AN/FPS-10, AN/FPS-3 or AN MPS-7 equipment.
3. Reference. Inclosure 1 of Headquarters EADF letter, Subject: (Uncld) Quality Control Procedures, 27 Jan 54 (Confidential).
4. Responsibility. Station commanders will be responsible for:
 - a. Application of quality control procedures to their stations.
 - b. Initiating corrective action necessary to improve operational performance of the station by eliminating operational and/or equipment deficiencies whenever the quality control percentage figure falls below 85 per cent.
5. General. Quality control procedures outlined in referenced inclosure will be used to insure standardization.
6. Procedure.
 - a. A minimum of one track an hour will be evaluated and recorded on 4713th Radar Evaluation (ECM) Flight Form 31.
 - b. A negative entry will be made on Form 31 when a penetration does not occur during any one hour period.
 - c. Whenever the quality control percentage figure of a track is below 85 per cent, at least two additional tracks will be evaluated as soon as practicable, in order to substantiate or eliminate the need for corrective action.
7. Records Disposition. The completed 4713th Radar Evaluation (ECM) Flight Form 31 will remain on file for a period of six months.
8. Security Classification. The 4713th Radar Evaluation (ECM) Flight Form 31 will be classified Confidential when entries are made thereon.

EADFR 55-9

9. Supply of Forms. Reproduced locally.
(EAOCE)

BY ORDER OF THE COMMANDER:

OFFICIAL:

GEORGE F. SMITH
Brigadier General, USAF
Vice Commander

s/t/ J. W. FOUNTAIN JR.
Major, USAF
Asst Adjutant

DISTRIBUTION:

E (plus 4713th Radar
Evaluation (ECM) Flight
H

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HEADQUARTERS
EASTERN AIR DEFENSE FORCE
Stewart Air Force Base, Newburgh, N.Y.

EAOFM

21 Jan 1954

SUBJECT: (Unclassified) ADC Program

TO: Commander
1st Radar Calibration Squadron
Griffiss Air Force Base
Rome, New York

1. Headquarters ADC has advised that the 1st Radar Calibration Squadron will be inactivated effective 18 March 1954. This unit will be replaced by a Table of Distribution Radar Evaluation (Electronics Countermeasures) Flight (4713th) which will be designated by Headquarters ADC effective 19 March 1954.
2. The latest information available at this headquarters indicates that this unit will be authorized a total of 38 officers and 169 airmen, and the squadron will be equipped with 7 B-29s and 3 B-25s. Future programming calls for 7 T-29s, and at this time the programmed personnel authorizations will be 42 officers and 138 airmen.

BY ORDER OF THE COMMANDER:

Info cy to:
Comdr, Rome Air Dev Cen
Comdr, 32d ADiv (Def)

JAMES R. WORLINE
Captain, USAF
Asst Adjutant

This document is classified Secret in
accordance with par 23b(5), AFR 205-1.

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HEADQUARTERS
EASTERN AIR DEFENSE FORCE (ADC)
Stewart Air Force Base, Newburgh, NY

GENERAL ORDERS }
NUMBER 8 }

16 February 1954

ANNOUNCEMENT OF ORGANIZATION OF UNIT SECTION I
INACTIVATION OF THE 1ST RADAR CALIBRATION SQUADRON SECTION II

SECTION I

1. Announcement is made that the 4713th Radar Evaluation (Electronic Countermeasures) Flight is designated and organized under Table of Distribution at Griffiss Air Force Base, Rome, New York, and assigned to Eastern Air Defense Force, effective 18 March 1954, with an authorized strength of 38 officers and 169 airmen.

2. Authority: Air Defense Command General Orders Number 2, 25 January 1954.

SECTION II

1. Effective 18 March 1954, the following unit is inactivated at station indicated:

<u>UNIT</u>	<u>STATION OF INACTIVATION</u>
1st Radar Calibration Squadron	Griffiss Air Force Base, Rome, New York

2. Concurrent with inactivation, the above unit reverts to the control of the Department of the Air Force.

3. Personnel will be transferred to the 4713th Radar Evaluation (Electronic Countermeasures) Flight.

4. Equipment and supplies rendered surplus by this action will be transferred to the 4713th Radar Evaluation (Electronic Countermeasures) Flight. The equipment authorization documents of the 1st Radar Calibration Squadron will be transferred to the 4713th Radar Evaluation (Electronic Countermeasures) Flight and are authorized as an initial Unit Authorization List for that flight.

5. Records will be disposed of in accordance with instructions contained in AFM 181-5.

6. The pertinent provisions of the following directives are applicable:

AFM 171-6, June 1950, as amended.
AFR 176-1, 29 May 1951, as amended.
AFR 176-2, 5 November 1951.

GENERAL ORDERS 8, 16 Feb 54, Cont'd

7. Upon completion of action directed herein, Organization Status Change Report (Reports Control Symbol AF-01) will be prepared in accordance with Chapter XX, EADF Manual 171-2, and submitted to the Commander, Eastern Air Defense Force, to arrive not later than 0800 hours the first calendar day following the "as of" data.

8. Authority: Letter, Department of the Air Force 322 (AFOMO 959h), 28 December 1953, Subject: Inactivation of the 1st and Certain Other Radar Calibration Squadrons; Reorganization of the 330th Fighter-Interceptor Squadron, and 1st Indorsement thereto, Headquarters Air Defense Command, ADOMO, 12 January 1954.

BY ORDER OF THE COMMANDER:

OFFICIAL:

GEORGE F. SMITH
Brigadier General, USAF
Vice Commander

s/t/ JOHN L. WARREN
Colonel, USAF
Adjutant

DISTRIBUTION:

A plus
30 - AAG, Hq USAF, Attn: Pub Div
10 - Comdr, ADC, Attn: M&O (Unit Con Br)
5 - AF Liaison O, Kansas City, Mo
6 - EAOPM
4 - EACST

C O P Y

HEADQUARTERS
564TH AIR DEFENSE GROUP
Otis Air Force Base, Falmouth, Mass.

OPR

11 May 1954

SUBJECT: EADF Regulation 50-1

TO: Commander
4707th Defense Wing
Otis Air Force Base
Falmouth, Massachusetts

1. In accordance with the desires expressed by the Commanding General of Eastern Air Defense Force, EADF Regulation 50-1, dated 4 February 1954, Subject: Training - General, has been further evaluated and comments are submitted as follows:

a. In general, it is felt that this regulation is exceptionally well written and the policies outlined therein, although general in nature, have been of considerable assistance in establishing ultimate objectives for our training program. Although the concepts outlined in this regulation are not new, this regulation serves the specific purpose of establishing a directive for commanders to use as a guide in organization, planning and operation in the field of training.

b. As a direct result of this regulation, our placement of responsibilities for training in the Air Defense Group staff have been re-evaluated and re-assigned in certain areas, thus effecting a redistribution of the workload. The re-assignment of responsibilities will result in a much clearer and precise definition in areas of responsibilities. This will also result in clearer objectives for staff personnel to work toward.

c. The ensuing action which resulted from this regulation will undoubtedly permit better utilization of training personnel and more effective training programs, thus finally enabling better accomplishment of the assigned missions.

d. One factor which is not exactly clear in this regulation are Division Commanders responsible for all categories of

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Hq 654th Air Def Gp, OPR, Subject: EALF Regulation 50-1

training outlined in paragraph 4 of subject directive. Information presently available at this headquarters leads us to believe that Division Commanders are not in the chain of command on matters pertaining to formal training.

LUTHER H. RICHMOND
Colonel, USAF
Commander

Hq 564th AD Gp OPR Subject: EADFR Regulation 50-1

DWOOT (11 May 54) 1st Ind

HEADQUARTERS, 4707TH DEFENSE WING, OTIS AIR FORCE BASE, Falmouth,
Massachusetts 7 Jun 1954

TO: Commander, 32d Aif Division (Defense), Syracuse Air Force Sta-
tion, Eastwood Station 6, Syracuse, New York

One comment in addition to those expressed in the basic letter is that there appears to be a conflict between EADFR's 50-1 and 50-5. Paragraph 2b, EADFR 50-5 states that individual training specifically does not include tactical unit training of (a) aircrews (b) aircraft controllers. Paragraph 4g, EADFR 50-1 places training of this nature under individual training.

RICHARD A. LEGG
Colonel, USAF
Commander

Hq 564th AD Gp OPR Subject: EADF Regulation 50-1

OOT-FO (11 May 54)

2d Ind

26 Jun 1954

Hq 32D AIR DIVISION (DEFENSE), Syracuse Air Force Station, Eastwood
Station 6, Syracuse, New York

TO: Commander, 4707th Defense Wing, Otis Air Force Base, Falmouth, Mass.

1. In reference to paragraph 1d of basic letter:
 - a. Division Commanders are definitely in the chain of command on all matters pertaining to training.
 - b. Commanders are charged with responsibilities which are inherent to the function of command in addition to those specifically outlined in directives.
2. Comment in 1st Indorsement is well founded and will be referred to the headquarters publishing subject regulation.

ROBERT S. ISRAEL, JR.
Colonel, USAF
Commander

0576

MONTHLY HISTORICAL DATA REPORT

1 - 31 January 1954

(RCS: 1-AF-D2A)

COMMUNICATIONS

VITA FEDOROVICH
Lt. Col., USAF
Director Comm.

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0577

COMMUNICATIONS

HISTORY

Electronics

Completed investigation on reasons for poor test equipment calibration and overhaul support by Gentile AFB for the 655th AC&W Squadron, Watertown, New York. Results were satisfactory.

Completed investigation on 2BC-610 transmitter scheduled for shipment to 655th AC&W Squadron in May 1953 from Signal Depot, Philadelphia, located at Camp Drum, New York.

Completed investigation on 3 UHF transmitters lost in the depot at Griffiss AFB, Rome New York, belonging to the 763d AC&W Squadron, Lockport, New York. These transmitters were located in the wrong agency at that base.

Attempts to secure direct channels of communication between this headquarters and 1st Communications Squadron, Rome, New York, for obtaining technical assistance were unsuccessful.

SITE

Micro-wave project completed at P-10.

The Micro-wave siting and requirements for P-65 have been completed.

The augmentation cables at P-21, P-49, and P-50 have been completed.

The sites are in the process of ordering up the circuits that they do not have but are authorized and can be utilized.

Communications has taken over the responsibility of the CONELRAD Plan from OCT. A booklet on the Division CONELRAD Plan is being prepared at the present.

RADIO

A new source to obtain supplies for the MARS Stations has been found. The reclamation depot at Griffiss AFB, Rome, New York, was contacted and permission to screen surplus radio parts for use of MARS was granted. Several items were obtained through this source which have been needed and we hope to obtain enough equipment to help all net stations improve their stations.

The Radio Section gained one but lost four Radio Operators.

ECM

During the month of January 1954 the 32d Air Division participated in one CPX mission, "Duck Blind". ECM initiated during the mission was moderate. The ADCC air surveillance officer placed triangulation into operation and interception was made by the plots established.

A number of Big Photos missions were run against F-65, F-49 and F-50. The Big Photo aircraft were from Limestone AFB, Maine.

MONTHLY HISTORICAL DATA REPORT

1 - 28 February 1954

(RCS: 1-AF-DQA)

COMMUNICATIONS

VITA FEDOROVICH
Lt. Col., USAF
Director Comm.

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0580

COMMUNICATIONS

HISTORY

Electronics

Staff Studies. Quality Control procedures were studied at the 763d AC&W Squadron, Lockport, New York, by direction Headquarters, Eastern Air Defense Force. The 763d AC&W Squadron was apparently operating at approximately 40% efficiency. However, study showed that EADF was compiling data extracted from Form 75A, V-8 Report. This results in errors since 98% of tracks reported on this form originate in Toronto, Canada, approximately 50 miles from Lockport, New York. Aircraft taking off from Toronto were climbing to gain altitude when detected by the 763d AC&W Squadron. This squadron utilized flight plan altitude rather than detection altitude in reporting these tracks. The apparent ineffectiveness of the squadron was a result of administrative error in reporting flight altitude on Form 75A rather than detection altitude. It was recommended that only flights originating outside stations coverage area be utilized in quality control procedures.

Letter originated by this headquarters requesting concurrent radome painting and annual radar overhaul was disapproved by Headquarters Air Defense Command. This letter was indorsed back to ADC with study on desirability of this program.

Page 2

AN/GPA-5 Video Mapping Unit, transferred from 30th AD to 764th AC&W Squadron, St. Albans, Vermont. This equipment now installed and operating.

DB figures were received from RADC, Griffiss AFB, Rome, New York, on F-94C and F-89 aircraft. This data sent to all AC&W Squadrons.

A maintenance rack for the AN/GRC-27 was made up for Maj. Kohel at Rome, New York and copies are being fabricated by all AC&W Squadrons. This rack permits easy maintenance from any position on the AN/GRC-27.

Radio

Mr. Charles Downs, Philco Technician Representative, from Clinton Air Force Base, Middletown, Pa., arrived at this headquarters on 24 February 1954 for the purpose of engineering the Antenna Farm for use with the projected Wilcox 99A transmitters.

After considerable difficulty, due to the limited space and the number of antennas required, Mr. Downs accomplished the initial engineering for the project. It was generally agreed by all concerned that the proposed antenna arrangement had the greatest possibility of working considering the limitations mentioned. Mr. Downs departed this headquarters on 3 March 1954.

Crystals for the projected equipment have been requisitioned.

0382

Page 3

Mr. F. G. Carney, Rome AFB, visited this headquarters on 13 February 1954. Purpose of visit was to offer assistance in the reduction of noise at all sites in an effort to improve communications and electronics performance. Mr. Carney stated that he would initiate the request to provide the service in order to expedite this project.

ECM

EADF was notified that the ECM airborne training program for the AC&W Squadrons within the 32d Air Division is inadequate. During the fiscal year 1953 the AC&W Squadrons received 14.5% of the programmed training. During the first half of the fiscal year 1954 an increase in programmed training to 21.5% was realized. This increase being attributed to the cooperation of the 42d Bomber Wing (SAC). Basic factor of deficiencies - lack of aircraft and equipment.

The proposed procurement of one ECM aircraft per division was returned unfavorably considered.

EADF indicates that at such time as ECM equipment is available for installation in three of the 4713th Radar Evaluation Flight B-29s, the feasibility of assigning our ECM B-25s to air divisions will be evaluated by this headquarters. In the meantime, every effort will be made to utilize SAC missions to supplement the ECM training program.

0583

MONTHLY HISTORICAL DATA REPORT

1 - 31 March 1954

(RCS: 1-AF-D2A)

Communications & Electronics

VITA FEDOROVICH
Lt. Col., USAF
Director Comm & Elect

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0584

Communications & Electronics

HISTORY

Radar

General:

- a. Proposal to use AN/MPQ-7 from 532d Tac Control Group disapproved due to reduction of that unit to housekeeping status.
- b. Operation Plans for back-up radar completed by all AC&W Squadrons.
- c. Sent digest of information on OA/347 Early Warning Kit magnetrons to Lt. Col. Dawson for inclusion in report to Col. Israel.
- d. OA/347 Early Warning Kit installed at F-13 on 24 March 1954.
- e. Completed all materials necessary for inclusion in C-E Command Data Book requested by Lt. Col. Fedorovich, CCE.
- f. Major Kobel wrote short justification for antenna towers for programmed equipment for the 1955 Budget.

Page 2

ECM

General:

a. During the past three months this Division has received five ECM "Big Crater" missions from Keesler AFB, Miss. They are the first of such missions this Division has received from the Electronic Countermeasure School. The present plan of operation will give the 32d Air Division one mission a week.

b. The 1st Radar Calibration Squadron, Griffiss AFB, N.Y., has been deactivated and reactivated as the 4713th Radar Evaluation (ECM) Squadron. To supplement the 4713th Squadron in ECM equipment, trained personnel in ECM tactics and maintenance, the HADP ECM Flight Section has been reassigned to the 4713th. The move of aircraft, equipment and personnel was initiated during the week of 15 March 54. The present plan of the 4713th Radar Evaluation Squadron is to equip two B-29's with ECM equipment until additional equipment is supplied.

c. With the ECM training furnished by the "Big Crater" from Keesler AFB, Miss., the "Freak Show" from the 4713th Radar Evaluation Squadron, Griffiss AFB, N.Y., and "Big Photos" by SAC units, the lack of actual ECM flight training should be greatly reduced.

Mire

General:

a. The recent conference at HADP has laid down a plan whereas certain tactical circuits will terminate in the administrative switch-board in the interest of economy.

0586

Page 3

b. The cable augmentation of the ACMW Sites has been completed except for F-65 and F-14.

c. The Division CONELRAD Plan is ready for distribution to all field units minus the Fighter Squadron's plan which will be firmed-up at a later date.

Radio

General:

a. Five new Radio Maintenance personnel were assigned to this section eliminating the personnel shortage in radio maintenance.

b. A radio maintenance school is being conducted by Mr. Yeomans, RCA Tech Instructor. The purpose of this school is to familiarize the new personnel with the equipment utilized by this headquarters and as a refresher course for all personnel in regards to trouble shooting and first and second echelon maintenance.

0587

MONTHLY HISTORICAL DATA REPORT

1 - 30 April 1954

(NSC: 1-47-02A)

Communications & Electronics

VITA FEDOROVICH
Lt. Col., USAF
Director Comms & Elect

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0588

Communications & Electronics

HISTORY

ECM

General:

- a. On 29 April 1954 a special ECM mission was run against F-14, F-50 and F-49. The mission was composed of three B-25's and two B-29's. The mission was planned by the 4713th Radar Evaluation (ECM) Flight, Griffiss AFB, New York, with the cooperation of the 32d Air Division.
- b. This is the first time an ECM mission of this nature was performed within the 32d Air Division area. It was planned as near to the tactical nature as could be expected to be used by an attacking force with the exception of communication jamming. Jamming of tactical radio communications is prohibited by the Federal Communications Commission.
- c. The concept of the mission was for the three B-25's to come in low out of Canada under radar coverage until they were close to F-49, then climb fast using chaff and electronic jamming. When the B-25's arrived within the border of the United States they split up with a B-25 jamming each of the three F-49's. Under the coverage of the jamming aircraft the two B-29's were to try to sneak in at an altitude above 10 angles. The B-29's would not be dropping chaff or doing electronic jamming.

Page 2

d. One B-29 did not get to participate in the mission due to being five minutes off of flight plan. The second B-29 was intercepted about 60 miles southeast of P-49.

e. The mission proved to be of great value in training and in giving the squadrons an idea of what is to be expected in the event of hostilities.

WIRE

General:

a. The Wire Section devoted most of its time to routine work during this period.

b. A new system of utilizing the telephone hot-lines has been suggested by the 30th Air Division in the interest of economy; and the 32d Air Division is in the process of making the necessary changes in order that the system can be fully evaluated.

c. Hot-line telephone scramble circuits have been ordered between five ADDC's and National Guard Fighter units for the coming 60 day familiarization period starting 1 June 1954.

d. P-65 is awaiting construction of a building to house the microwave equipment that will be used for entrance facility augmentation.

0596

Page 3

COMM SECURITY

General:

- a. USAF Security Service conducted an inspection of crypto facilities and operations at this headquarters. The after inspection briefing with Lt. Col. Fedorovich was very satisfactory.
- b. Command inspections of subordinate cryptographic facilities are nearing completion for the first half of 1954. All Command and Security Inspections to date have been satisfactory.
- c. Additional cryptographic equipment has been received by our wings and this headquarters which will permit early tests of direct on-line circuits for classified message traffic.

RADAR

Personnel:

Major Leonard S. Hotel departed for Headquarters, USAF and subsequent assignment to Military Advisory Group, London, England.

Staff Visits:

- a. Siting Survey was conducted by Capt. J. B. Leason and Mr. Lee F. Hale, Civilian Engineer, Headquarters, Middletown, USA, at P-49, P-50, P-65, P-80, P-10 and P-13 for the purpose of selecting sites for back-up radar equipments. Survey made during the period of 20 - 27 April 54.

0591

Page 4

b. Mr. Fogust, from Airborne Instrument Laboratories, visited this headquarters, preparatory to commencing studies concerning jamming vulnerability of certain communication equipments.

General:

Quality Control reporting procedures put into effect on 1 April.
This is a daily report giving information as to efficiency of prime radar set.

0592

MONTHLY HISTORICAL DATA REPORT

1 - 31 May 1954

(RCS: 1-SP-02A)

COMMUNICATIONS

VITA PEDGROVICH
Lt. Col., USAF
Director, Comm.

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0593

COMMUNICATIONS

HISTORY

RADAR

STAFF VISITS

- a. Director of Communications and the Radar Officer attended the C&E Conference held at EADF on 5 May 1954. This conference covered long range plans for C&E activities.
- b. Radar Officer also attended a conference held at Brunswick, Maine, 17 May 1954, on individual training.

GENERAL

- a. Gap-Filler Radar Conference was held at EADF on 19 May 1954. Two officers from the Defense Wings were selected to attend.
- b. Annual overhaul of radar equipment has been accomplished at P-50. One-tube modulators have been installed at P-14 and P-21.

Page 2

WIRE

GENERAL

a. The greater part of the Wire Section's time was devoted to routine matters during this month, however, a few projects were started or completed.

b. The tactical telephone system has just recently undergone a modification in order that administrative traffic may be passed over circuits at a substantial savings to the government.

c. Project CONELRAD has been printed and completed up to and including Annex C. Distribution of the CONELRAD Plan containing those annexes pertinent to the ACOM sites are complete and will be distributed in June.

RADIO

GENERAL

a. As stated in the history report for April 1954 a school is being conducted by this section in radio maintenance. These classes are held from 0900 to 1100 hours Monday through Friday and in no way interfere with operations of the transmitters section. The classes were divided into three groups and given approximately four weeks training each. Upon completion the Airmen were assigned to shifts

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Page 3

thereby releasing others to form another class. The third class is now in attendance and should graduate by the end of this month.

b. This training has proved of immeasurable value in that most radio mechanics, even at senior level, have lost proficiency through duty assignment which did not call for continued trouble shooting and repair of the types of equipment in use at this station.

c. Inclosed is a radio log showing actual landline outage for the month of May, in which case HF radio back-up was utilized.¹

1. Actual Landline Outage Report - May 54

0596

ACTUAL LANDLINE OUTAGE REPORT
MAY

DATE	CALLER STATION	TIME OF OUTAGE	TIME OF INITIAL CONTACT	TIME BACKUP OFF	DURATION OF OUTAGE	REMARKS: (REASON FOR OPERATING DELAY, ETC)	TYPE EMISSION
14 May	Ann & Man Wibk	1519Z	1525Z	1529Z	10 Min	Assigned C-43 5X3 Contact	6A3
11 May	Man	2211Z	2215Z	2327Z	1 Hr & 16min	Assigned C-43 4X4 Contact	6A3
15 May	Man & Wib	0409Z	0414Z	0420Z	11 Min	Assigned C-40 3X3 Contact	6A3
19 May	Wib Man & Fdr	1315Z		1321Z	6 Min	Assigned C-43 Called off before contact was made	6A3
12 May	Man & Wib	1850Z	1908Z	1928Z	38 Min	Assigned C-43 4X4 Contact	6A3
28 May	Simp & Ann	1245Z		1256Z	11 Min	Assigned C-42 Called off before contact was made	6A3
29 May	Ann & Mos	1212Z		1219Z	7 Min	Assigned C-43 Called off before contact was made	6A3
10 May	Man & Ann	0713Z	0719Z	0744Z	31 Min	Assigned C-40 4X4 contact	6A3
10 May	Man & Wib	0745Z	0843Z	0925Z	1Hr & 31 Min	Assigned C-40 4X4 Contact	6A3
10 May	Man & Ann	0800Z	0840Z	0920Z	1Hr & 20 Min	Assigned C-40 3X3 Contact	6A3
10 May	Wib & Man	0925Z	0927Z	1318Z	3Hr & 53 Min	Assigned C-40 3X3 Contact	6A3
10 May	Man & Fdr	0915Z		1430Z	5Hr & 15 Min	Assigned C-40 (Man NCS didn't keep log this Station so didn't know time of initial contact)	6A3

C O P Y

HEADQUARTERS
32D AIR DIVISION (DEFENSE)
Hancock Field, Eastwood Station 6
Syracuse, New York

OCT-A/MZF 7-2

19 Jan 1954

SUBJECT: (Unclassified) Interceptor Crew-Controller-Director Cross
Training Report (RCS EADF-T4)

TO: Commander
Eastern Air Defense Force
Stewart Air Force Base
ATTN: Director of Statistical Services
Newburgh, New York

1. In accordance with EADF Regulation 50-9 subject: "Interceptor
Crew-Controller-Director Cross Training" dated 10 August 1953--a
consolidated report is hereby submitted.

Part I Directors-Controllers

1. Number of directors and controllers attending training this
calendar year, 115.
2. Number of directors and controllers that have not received
training this calendar year, 0.
3. Number of directors and controllers that have received training
in the F-86 simulator this calendar year, 6.
4. Number of directors and controllers that have not received
training in the F-86 simulator this calendar year, 117.

Part II Day Pilots

1. Number of day pilots attending training this calendar year, 110.
2. Number of day pilots that have not received training this
calendar year, 101.

Part III AW Pilots

1. Number of AW Pilots attending training this calendar year, 183.

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0598

Hq33d AD(D) OOT-A Subject: (Unclassified) Interceptor Crew-Controller-Director Cross Training Report (RCS EADW-T4) Cont'd

2. Number of AW Pilots that have not received training this calendar year, 53.

Part IV Radar Observers

1. Number of radio observers attending training this calendar year, 169.

2. Number of radio observers that have not received training this calendar year, 50.

FOR THE COMMANDER:

FREDERICK E. YORK
Major, USAF
Adjutant

OOT-A/PUB 3-2

20 Jan 1954

SUBJECT: Comments and Recommendations ADPL 55-5

TO: Commander
Eastern Air Defense Force
Stewart Air Force Base
Newburgh, New York

1. In compliance with your message, EAOOT-A 320, on the above subject, dated 6 January 1954, the following is submitted.

a. Paragraph 4c(1). Recommend the trigger word "Initial" be substituted for the word "Track". Remainder of sequence should conform to that designated in paragraph 4f(1)(b)3, ADCR 55-29.

b. Paragraph 4c(6). Recommend this sentence be explicit in stating ground speed.

c. Paragraph 4d. Recommend plot telling frequency be either five miles or two minutes. One minute frequency is unnecessary and presents difficulty in reading from the ADDC plotting board.

d. Paragraph 4g. Line 4 which reads, "Contact lost targets, (fades) will be dead-reckoned", will tend to confuse. One standard definition should be used throughout. Contact lost targets are not "fades", as defined by ADCR 55-29. Recommend sentence be amended to read: "Contact lost targets will be dead-reckoned through known areas of marginal radar coverage or for at least five minutes. Tracks which can not be re-established within these limits will be dead-reckoned for a period not to exceed 15 minutes, upon request from the ADDC, or faded".

e. Paragraph 4.1. The ADDC track designator for an interceptor should be the call sign and color code or pilot number, in accordance with ADCR 55-30 and ADCR 55-29. Therefore, if the AAA track is to be continued at the AAOC it should carry the track designator, as stated in the second sentence of paragraph 4.1. Additional instructions should be presented for display of the amplifying data.

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0600

32d Air Division OOT-A Subject: Comments and Recommendations
EADFL 55-15

f. Paragraph 5. Recommend that reference to "area of responsibility", be omitted whenever possible. Each ADDC has an inherent responsibility for the collection of radar intelligence to the maximum extent of coverage, regardless of sub-sector boundaries. This thought should be implemented whenever possible.

2. With the exception of the minor amendments recommended above, this directive is considered excellent and sufficient to most requirements.

FOR THE COMMANDER:

FREDERICK E. YORK
Major, USAF
Adjutant

