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Operational Communication Planning

P. R. Anderson
U.S. Navy

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OPERATIONAL COMMUNICATION PLANNING

A lecture delivered
at the Naval War College
on 28 August 1952

by
Captain P. R. Anderson, U. S. N.

Admiral Conolly, gentlemen. Our topic this morning is Operational Communication Planning. Before we launch into remarks pertinent to the steps in developing the communication plan for an operation, I should like to make a few remarks, and give you a concept of command and communications.

Communications has been called "the voice of command," "the handmaiden of the commander," "the servant of command," and other things, some of which are unmentionable here. It is, of course, some of those things. You will note a personal connotation in those names. In the days of sailing ships, cavalymen who actually rode horses, and foot soldiers without benefit of motor trucks, the pace of battle was slow. So was the pace of communications which served them. The commander aboard ship relied on signal flags, which were interpreted for him by his Flag Lieutenant, or, in other words, his signal officer. That officer, in addition to his purely communication duties, had status as a personal aide to the commander. He might well have been called the commander's shadow, for during tactical operations, he was always to be found at the commander's side. You will recall that Nelson, mortally wounded at Trafalgar, died in the arms of Hardy his Flag Lieutenant. I mention this to illustrate the personal interest the commander has, in the past, had for his voice of command. While today, with the many complexities which tend to water down the personal interest of the commander in his communications, the successful commander will keep himself informed, communication wise. By so do-

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ing, he is not only aware of his capabilities and limitations, but puts his communicators in a position to assist him properly . . . or else!

Naval communications is the means through which the commander orders and supervises the complex activities of the naval operation. It transmits the information and instructions that make it possible to control and direct a widely dispersed force of diversified elements.

The role and nature of naval communications establish the requirements that it must be rapid, secure, and reliable. Its use demands that it be flexible enough to meet constantly changing needs and to contend with the shifts in task organization that will invariably occur.

The communication planner is concerned with the effective application of available communication facilities to his particular operational situation. He is also concerned with the effect of the communications implications of the operation on the overall operations plan and its subsequent execution. In his attack on this problem, he is guided in every judgment by the basic requirements of reliability, security, and speed to meet whatever demands present themselves. His judgment, however, must be double-edged, since he must select from available facilities those which best suit his purposes. At the same time, he must balance each of the requirements carefully, so that each is satisfied to the highest possible degree without undue sacrifice of any other.

The primary need for each of those requirements for reliability, security, and speed has become evident through scores of combat experiences. An examination of World War Two battle reports, for instance, reveals that in every successful naval engagement com-

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munications had been planned with an understanding of these requirements.

There are lessons, too, in our defeats. One example will suffice to show the fatal damage that can be caused by inadequate communications—the Battle of Savo Island on the ninth of August 1942. In this surface engagement, which lasted only a few minutes, four cruisers were sunk. The Japanese completely surprised the Allied naval units. The post battle analysis shows that one of the major reasons for this surprise was the failure of communications. This failure was attributed to poor radio discipline, incomplete provision for use of visual means, and the inadequacy of circuits for reporting enemy contacts.

The last of these is a clear demonstration of faulty planning. By routing aircraft contact reports of enemy ships through the chain of command, instead of through a simple tactical circuit connecting all echelon of command, reports were delayed disastrously. In four specific instances, contact reports were passed from the plane to its base, over the RAAF circuits through two or three command centers to Brisbane. Then they were passed to Canberra where they were broadcast to Southwest Pacific naval forces, then to Pearl Harbor, and finally from Pearl Harbor to Pacific Fleet naval forces. The average time, from the first sighting of the enemy forces until the receipt of the information by the naval forces at SAVO ISLAND, was *ten hours and eight minutes*. This could have been accomplished in less than thirty minutes if the proper circuit had been planned and had been in operation.

It is clear that successful operations depend upon complete and effective communications and that communications are only as complete and effective as the individual means, procedures, and facilities employed. For this reason, the communication planner

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must concern himself with every detail of the operation, since there is none that does not have some communications connotation.

The communication plan provides for the facilities through which every unit is controlled and directed. The communication planner, therefore, must be equipped with a complete knowledge of the capabilities and limitations of communications available to the operating forces. He must also know the organizational structure in which he fulfills his responsibilities.

Now let's take a look at the concept I mentioned earlier.
(Slide No. 1)

BASIC COMMAND REQUIREMENT FOR COMMUNICATIONS

**FOR THE EXERCISE OF
COMMAND COMMUNICATIONS
ARE REQUIRED:**

**WITH SENIOR COMMAND
(AFLOAT OR ASHORE)**

WITH SUBORDINATE COMMANDS

**WITH SUPPORTING OR
SUPPORTED COMMANDS**

FOR MANEUVERING THE FORCE

**FOR WARNING OR ENEMY
CONTACT REPORTING**

**INTRA-FORCE/AREA
INTER-FORCE/AREA**

FOR DEFENSE OF THE FORCE

**AGAINST AIR ATTACK
AGAINST SURFACE ATTACK
AGAINST SUBSURFACE
ATTACK**

FOR EMERGENCY OR RESCUE

**FOR THE EXCHANGE OF
INFORMATION COMMUNI-
CATIONS ARE REQUIRED:**

**TO PASS MILITARY
INTELLIGENCE**

**INTER-FORCE/AREA
INTRA-FORCE/AREA**

**TO PASS ADMINISTRA-
TIVE INFORMATION**

**FROM/TO SHORE
INTRA-FORCE
INTER-FORCE**

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You will note that the functions performed by a commander's communications are divided into two main groups: Those required for the exercise of command, on the left, and on the right, those required for the exchange of information.

The requirements for any particular organization do not necessarily include all of the items shown, nor are they limited to these items. In other words, this is only *one* concept, but it is one which will cover a large number of cases. It serves as an excellent yardstick against which to measure a communication plan for an operation.

The remainder of my remarks will now be directed toward operational communication planning, with elements considered in, I hope, their logical order.

Modern war has increased the complexity of communications. However, this basic principle remains—communications serve command. The flag hoist of Nelson's day, once the primary means of maneuvering ships, has not disapproved entirely, but the brunt of the work is taken by newer and faster devices, such as radiotelephone, teletype and facsimile. These newer methods have kept pace with the tendency to use larger organizations and to operate over larger areas.

Mahan said of radio that it “. . . . does not affect the well recognized, ancient, strategic principle of the value of interior lines, but it does seriously modify its application.”

In the planning and execution of an operation, a commander has technical staff assistants for communications. Consequently, it is not necessary for him to know details of communication pro-

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cedures or equipment. It is essential that the commander have a sound, general knowledge of the capabilities and limitations of communications. In particular, he must realize what effect the strength and weakness factors of this "handmaiden" is going to have on the operation as a whole.

Knowledge of such a simple thing as the normal time for message delivery under various conditions may have a decisive effect upon a commander's action.

Admiral Halsey, in describing his operations during the Battle for Leyte Gulf in October 1944, tells how two important messages from Admiral Kinkaid required two hours for delivery. Of course we can only speculate as to what action these commanders would have taken if they had anticipated this delay. Perhaps they would have arranged for a command circuit which would have provided satisfactory speed of delivery.

The commander must understand the effect of a large volume of traffic. Human nature being what it is, positive action on the highest command level is necessary to keep traffic loads within reasonable bounds and to give vital matters the right of way over those of lesser importance. When traffic jams the circuits, all messages tend to become PRIORITY or OPERATIONAL IMMEDIATE. Then when the commander wishes to send a message of great importance, it fails to receive the preferential handling which it deserves.

In commenting on Atlantic Fleet exercise, CONVEX THREE, the Commander in Chief, Atlantic Fleet had the following to say about the message traffic:

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"The increased traffic load . . . is a result of operation in but a small area of the overall command; the Commander in Chief considers that the system cannot stand the overall increase in wartime of which CONVEX THREE was but a small pattern.

"A drastic reduction in this load must be devised.

"This problem is closely connected with some of the fundamental principles of command as indicated below:

1. Delegation of tasks and missions to subordinate commanders.

2. Assumption that subordinate commanders are performing such tasks and missions without detailed message reports on routine matters concerned therewith.

3. Greater care in drafting of operation orders and in the preparing and addressing of messages in order to eliminate uncertainty and further interrogation."

Traffic volume is also one of the clues which supply the enemy with valuable information. The rise in traffic volume, which preceded every major operation in World War II, was as significant as a boxer "telegraphing" his punch. A study of radio traffic yields an amazing store of intelligence, even without the necessity of breaking cryptographic systems. In this manner, the following are some of the facts made available to the enemy during recent Korean operations:

"Commander Task Element 95.11 is in the USS BAIROKO (CVE115). This ship is operating off the West Coast of Korea in the Yellow Sea. The Marine Attack Squadron known as the

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"Checkerboard Squadron" is aboard the BAIROKO but will soon go to the BATAAN for duty. This squadron, with blue and white checkerboards painted on the planes, has a new Commanding Officer, LTCOL Robert E. Smith, Jr., and a new Executive Officer, MAJ Edmond P. Hartseck. They both saw their first Korean combat on 10 April. They fly F4U Corsair planes using 1000 lb. bombs, napalm and rockets." There is nothing new about this situation. On November 28, 1941, the Navy Radio Intelligence Unit at Pearl Harbor stated in its daily summary that the Japanese radio intelligence net was operating at full strength upon U. S. Naval communications and "IS GETTING RESULTS."

The communication facilities of Allies should receive careful attention, particularly if they have not been used previously by our forces. Even with Combined procedures and publications, difficulties can arise because of differences in terminology and operating techniques. For example: The British use the term "port wave" to describe what we call a "harbor frequency." UHF radio and radioteletype is not as widely used in Allied forces as in U. S. forces. Consequently, care should be used in prescribing communications which involve their use.

In the planning before Pearl Harbor, the Commander in Chief, U. S. Asiatic Fleet had made arrangements for use of radio facilities in the Netherlands East Indies. When hostilities began and the Asiatic Fleet moved south into East Indies waters, it was found that facilities were not adequate to provide a reliable fleet broadcast. Consequently, it was necessary to continue using Radio Corrigedor for that purpose long after Corrigedor was besieged by the Japanese. Obviously, this was not the best location for origin of a fleet broadcast. The most desirable location

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for such a broadcast would be near the sources of traffic, such as the headquarters of an area command or a naval base.

Another command function is that of logistics. The commander should understand the effect of manpower, training, and equipment requirements for communications. As an example of how communication logistics can fall behind other planning:

Before World War II, the Kaneohe Air Station on the Island of Oahu, was acquired, built, commissioned, and actually operated prior to the receipt of any radio apparatus, except some which was diverted from its intended advance base use. Of course, deficiencies of this type are frequently beyond the control of the operational planner but their effect cannot be overlooked.

If the commander understands the problem of communications as I have just indicated he should, he is well prepared to approach this subject in his estimate of the situation. Communications first appear in the estimate in paragraph 2. In this portion of the estimate are considered the communication facilities of own forces, including Allied support. Communication facilities available to the enemy should also be considered. Countermeasures and security considerations are treated in this part of the estimate.

Particular attention should be paid to any communication limitations which might be a factor in altering a decision. For example: An amphibious operation in the arctic regions might have to be delayed because of expected ionospheric disturbances. On the other hand an operation of a less complicated type might find such disturbances an advantage for covering the approach to the target area.

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Considerations such as those I have mentioned may have an important effect on the commander's decision. Once a decision has been reached, and tasks assigned to support it, communication requirements may be determined. An amphibious operation imposes such severe requirements that it is usually desirable to have a rehearsal for testing the communication plan. Captain Karig, in his book "Victory in the Pacific," says of the Iwo Jima operation:

"The whole landing was held together and coordinated by the tenuous strings of radio." In order to achieve such coordination, it is desirable to test both radio equipment and communication personnel during the rehearsal. This raises the problem of security, since such a rehearsal involves risk of compromising the operation. It is obvious that the question of a rehearsal is a command decision. During the rehearsal for the Okinawa operation, voice radio transmissions from the Amphibious Force in the Philippines were heard in Pearl Harbor. An alert enemy can profit by such an incident.

Other types of operations have less stringent communication requirements. However, careful consideration must be given to any special features such as employment of merchant ships or of foreign forces. Aircraft, minesweepers, submarines, etc., all have their special communication requirements. For this reason, a communication planner must know the composition of forces in the early stages of the planning.

In addition to meeting the communication requirements, as determined initially, the communication planner must be alert to meet new requirements. These may be brought about by changes in the composition of forces, changes in logistics, new intelligence, etc. Every effort must be made to prevent these changes from weakening

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communications and thus placing restrictions on the exercise of command.

Other considerations which determine the nature and scope of a communication plan are:

- a. size of the organization
- b. location of commands
- c. internal and external command relationships
- d. cover and deception considerations
- e. radio frequencies available
- f. radio propagation characteristics
- g. use of plain language for radio transmissions

The latter involves a command decision in which security is weighed against speed.

After ground work has been laid by the preliminary consideration of the communications problems, the planner is ready for the development of his communication plan. This development should proceed concurrently with that of the operation plan itself, and not be left until the basic plan is completed.

The communication planner must have a detailed knowledge of proposed locations and movements of forces. He needs this information so that he can select suitable frequencies and provide adequate broadcast coverage.

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The work of developing a communication plan is reduced considerably by the existence of the Basic Communication Plan for the U. S. Navy (USF 70B) and the Naval Communication Frequency Plan (JANAP 195(C)). The use of these publications also simplifies matters for units and personnel who are assigned to the operation or who may join it while it is in progress. An additional advantage is that continuity is provided with previous and subsequent operations. In other words, there is no radical change in the communication procedures in changing from one operation to another. The production of a new communication plan is thus reduced to the problem of tailoring a basic plan to fit the immediate situation.

One of the variables which may require modification of the basic communication plan is the status of facilities available. When special requirements call for procurement of equipment or additional installations, early action is required to avoid restrictions on the exercise of command. It is assumed that deficiencies might affect the commander's decision have already been recognized in the estimate.

Deficiencies which cannot be remedied, must be minimized. Equipment may be made available for essential circuits by reducing or eliminating less essential functions. Restriction on the use of rapid communications for administrative traffic is an example.

Even when equipment requirements can be met, there remains the problem of personnel. Just as a screen commander never has enough destroyers, so the communication officer never has enough trained personnel. Therefore, provision for training is a continuing task. Training must be provided in exercises and rehearsals before an operation starts and must continue enroute to the target area. Even during replenishment periods, or similar

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intervals between periods of actual combat operations, there are opportunities to continue training. Obviously, communication training must be coordinated with other types of training and must not interfere with accomplishment of the assigned tasks. In addition, attention must be given to the problem of security. These considerations must be resolved by the commander to insure that the effort involved is profitable.

Communication facilities and personnel offer serious problems for large scale operations but the real "bottleneck" is the radio frequency problem. Under modern war conditions, there just aren't enough channels in the radio spectrum to satisfy all needs. It is up to the planner to make the most economical use of the frequencies which are available. The detailed measures which will accomplish this are a matter for the staff communication officer. However, the commander must require an explanation of what effect these measures will have upon the operation as a whole. If they limit his freedom of action or involve a security risk, a command decision is required.

In assigning circuits for an operation, two general types are encountered. The first, and most common, conforms to the organizational structure of the command. Traffic generally follows the chain of command. This procedure has several obvious advantages. All levels of command are able to keep informed on matters in which they will normally be interested. The command function is more easily exercised, since the flow of orders and reports is in the normal sequence for such action.

The complexity of modern warfare has led to the use of another type of communication circuit. This can be called a *functional* circuit, since it is provided for a special function. Functional cir-

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circuits usually cut across organizational lines. Examples of functional circuits are those for:

- gunfire control,
- dissemination of intelligence,
- CIC operations,
- aircraft control,
- weather reports, etc. etc.

Functional circuits are in great demand by those who are concerned with one of the special tasks or functions which I have just mentioned. Because of certain disadvantages, they should be used with caution. They frequently involve delegation of considerable authority to a subordinate. Unless carefully engineered, they may result in uneconomical use of precious radio frequency channels. There is also a tendency for circuit discipline and security to suffer on functional circuits because the direct interest and supervision of the commander is lacking. Further, there is the danger that information originating in functional circuits may not get into command circuits where that information would be useful.

I have previously mentioned that the communication plan must be tailored to support the mission of the commander and the tasks he has assigned. It must go one step farther; it must be capable of following changes in the operation plan and of continuing to support the operation under the changed conditions. The flexibility necessary to accomplish this may be insured by reliance

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on standard methods and procedures. An operation where new forces join after planning is started, or after the operation actually begins, would require a plan capable of being modified readily. This would be particularly true when the new forces are Allied and complete knowledge of their communications is lacking.

Regardless of how complete and effective the communication plan may be, it will not accomplish its purpose unless it is delivered to those who need to know its provisions. Arrangement of the communication plan as an annex to the operation order permits assignment of a lower classification and wider distribution than that of the basic document. The use of appendices also facilitate dissemination to those who require special information.

For example, Admiral Conolly's planners greatly simplified the problem of providing gunfire support to the troops ashore in the operations against Guam in 1944. Although included in its regular place in the annex covering the subject, a pocket-sized pamphlet which contained essential extracts was distributed to the ships and shore fire control parties. These pamphlets contained ships assigned to fire support, their radio call signs and frequencies, schedules of fires, etc. As the commander of a destroyer assigned to fire support missions during that operation, I found the pamphlet most useful.

The mechanics of delivering the plan also deserve some consideration. Here again, adherence to standard procedures simplifies the problem. If deviations from a standard plan are few, essential details of the communication plan may be transmitted by rapid means to remote elements of the force.

We have followed the communication plan, from its inception in the commander's estimate, to its distribution. While many of

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the technical details of communications are understood by, or of interest to, only the specialists, the commander must understand the general principles on which the communication plan is based. He must also know how this plan will aid him in the execution of the operation for which he is responsible. His is the responsibility for accepting limitations on his exercise of command or security risk.

Communication planning cannot be reduced to the blind following of a form or check-off list. It must serve command and support the mission of the operation. Communication planning must start at the beginning of operational planning and follow through with it all the way.

It is not enough to formulate a good communication plan. Intelligent *use* of communications is required. The more users understand about the communication plan the better the end product. As the orator uses and controls his voice to best advantage, so the commander must use and control communications, the voice of command.

BIOGRAPHICAL SKETCH OF LECTURER

Captain Paul R. Anderson, USN, was graduated from the U. S. Naval Academy, Class of 1928, with a B. S. degree. Following seven years of sea duty in the Fleet in various assignments, he was graduated from the U. S. Naval Postgraduate School, having completed the course in Applied Communications (1935-1937). Following service in Fleet Carriers and Minecraft he served as Officer-in-Charge of the Visual Signal Desk, Office of the DNC from 1941-43.

Captain Anderson commanded the USS MURRAY (DD 576), U. S. Pacific Fleet from mid 1943 until late 1944. From January 1945 to February 1946 he served as Operational Communications Officer on the Staff of CINCPAC/CINCPOA.

Following three years as Budget and Personnel Officer, Office of the DNC, he commanded the USS MAURY (AGS-16) and HYDRO SURVEY GROUP ONE, conducting hydrographic survey in the Persian Gulf.

He was graduated from the U. S. Naval War College, Strategy and Tactics Class, in June 1951, and again reported to the DNC where he is now Head of the Operations Branch, Naval Communications Division, Office of the Chief of Naval Operations.