

Rare Book

U1G

573

.45

1867

## REPORT

OF

# THE CHIEF SIGNAL OFFICER.

OFFICE OF THE CHIEF SIGNAL OFFICER,  
*Washington, November 1, 1867.*

**GENERAL:** From the date of the last annual report of the signal officer of the army, filed November 13, 1863, until August 21, 1867, the office of the signal officer of the army at Washington has been, by a contingency of the service, for parts of the time in the care of officers temporarily on duty in the office; and for the remainder of the period without any officer in charge. The officers who were at different times on duty in the office have made reports to the War Department.

In the period which has elapsed since the close of the active operations of the war, the signal corps of the army has been disbanded, and its members, after serving faithfully, and often gallantly, throughout the war, have been returned to civil life. The conduct of many of them, both officers and enlisted men, while in the service has merited especial reward. The attention of the Department will be particularly invited to their cases.

On August 21, 1867, the chief signal officer of the army resumed personal supervision of the office of the signal officer, by order of the General commanding the army of the United States, dated headquarters of the army of the United States, Washington, D. C., August 19, 1867.

At the commencement of the last fiscal year (July 1, 1866,) the balance of appropriations remaining to the credit of the signal service in the Treasury of the United States, and subject to requisition, amounted to the sum of \$245,856 49. Of this amount the sum of \$200,000 was carried to the surplus fund of the Treasury, leaving subject to draft for the signal service, during the year ending June 30, 1868, the sum of \$45,856 49. The estimate of moneys required for the signal service for the fiscal year ending June 30, 1869, and heretofore submitted, is \$27,000.

On August 26, 1867, a project for the introduction of tuition in military signalling and telegraphy, as part of the course of instruction to be pursued at the Military Academy at West Point, was submitted to the Secretary of War, and, meeting his approval, the plan was placed at once in process of execution.

The chief signal officer, visiting for this purpose the Military Academy at West Point, and conferring fully at Washington with the inspector of the Military Academy, Brevet Major General Edmund Shriver, Inspector General United States army, and with the superintendent, Brevet Brigadier General Thomas G. Pitcher, United States army, at the Academy at West Point, has received from both of these officers cordial and important co-operation. The papers herewith

# **National Oceanic and Atmospheric Administration**

## **Annual Report of the Chief Signal Officer, U.S. Army Signal Corps**

### **ERRATA NOTICE**

One or more conditions of the original document may affect the quality of the image, such as:

Discolored pages  
Faded or light ink  
Binding intrudes into the text

This document has been imaged through the support of the Climate Database Modernization Program, NCDC, Asheville, North Carolina. To view the original document, please, contact the NOAA Central Library in Silver Spring, MD at (301) 713-2607 x124 or [www.reference@nodc.noaa.gov](mailto:www.reference@nodc.noaa.gov).

Lason Systems, Inc.  
12200 Kiln Court  
Beltsville, MD 20704  
September 7, 2004

submitted (A, B, C) will show the plans proposed, the course finally adopted upon the recommendation of the academic board, and the order of the War Department making the instruction permanently a part of the course of study and practice to be pursued by the cadets. The tuition was practically commenced on October 1, 1867, Brevet Lieutenant Colonel Peter S. Michie, United States engineers, discharging the duties of instructor; and it is reported at this date as in successful progress.

The course of military signalling and telegraphy thus adopted comprehends both the study of the theory and principles of telegraphy, for recitations, and the drill and actual practice with the apparatus in the field.

It is in the contemplation of the chief signal officer of the army to supply the Military Academy with complete apparatus for the illustration of the management of the flying electric telegraphs in the field, and with whatever equipments for aerial telegraphy experience has shown to be best adapted for that purpose. An electrician and linemen employed by the office of the chief signal officer will, under the orders of Brevet Lieutenant Colonel Peter S. Michie, United States engineers, assist in the management of the flying electric telegraph until such time as their places can be filled by officers and enlisted men of the army, instructed and become competent to discharge these duties. It is probable that the services of an assistant officer will be needed to superintend the practice in aerial telegraphy. It is recommended that in such case an officer of the regular service who has served in the signal corps in time of war be detailed for that duty.

With the formal adoption of the course in military signalling and telegraphy at West Point, it has become desirable that the courses to be pursued in these studies at both the Military and Naval Academies of the United States should be assimilated as closely as practicable, with the object of so instructing the military and naval cadets that when, hereafter, they have entered the service, they may, as officers of the army or navy, be enabled, in any contingency of their duty, to open and maintain communication by codes and codes of telegraphing identical in their operation. The preliminary measures have already been taken, with the approval of the Department, to secure, in so far as it lies in the province of this office, this similarity of the academic courses. With the continuance of that cordial assistance on the part of the War and the Navy Departments, and of the principal officers of both services, which this effort has been so fortunate as to meet, it is probable the desired result will be soon attained.

The study and practice of military signalling was ordered by the Navy Department as a part of the course to be pursued at the Naval Academy early in the war of the rebellion, Lieutenant Commander S. B. Luce, United States navy, now commandant of midshipmen at the Naval Academy, being the first instructor in this duty. Plans and instructions were furnished, at the request of the honorable Secretary of the Navy, by the signal officer of the army. There was at that time no completed manual, and the course could not be made as thorough as was to be desired. The tuition has been pursued, with some variation in its character, from the time of its first adoption, as a part of the course at the Naval Academy, until now. It has been systematized and advanced under the orders of Vice-Admiral David D. Porter, United States navy, superintendent of the Naval Academy.

Practical instruction is given both in the recitation-room at the academy and upon the vessels of the practice squadron during the practice cruises of each year. The naval cadets have illustrated their skill in this branch of their studies before the boards of visitors at their annual meetings at Annapolis.

The study is now made a part of the course of practical seamanship, and is at present directed by Lieutenant Commander Richard W. Meade, instructor in practical seamanship. I have the honor to submit herewith (paper D) a copy of a letter addressed to Vice-Admiral Porter, superintendent of the Naval Academy, by Lieutenant Commander Meade, the result of a personal conference with that officer, which contains his suggestions for definitely and permanently fixing the course. So far as there is information at this office, the plan of assimilating the courses at the two academies, though it may differ from that here suggested, has the approbation of the War and Navy Departments, and of those officers under whose consideration the subject would properly come. It will be cause for congratulation when it shall be carried into effect, and it can be claimed for the Naval and Military Academies of the United States that they have been the first to secure for their respective services facilities for that intelligent co-operation on which, in time of war, the fate of grand operations may depend.

The subject of general signal communication between the army and navy has, of late years, attracted the attention of prominent officers of both services. It has been suggested that the plans and equipment for this communication should be of such a nature that the posts or commands of the army and the vessels or forces of the navy can always be put in communication under any circumstances in which the use of aerial and electric telegraphy is practicable. With the approval of the Secretaries of War and of the Navy, the first plans for so providing the services have been considered by the chief of the Bureau of Navigation on the part of the navy, and the chief signal officer of the army. It is in contemplation to submit a matured plan for the views of the Departments.

A plan for the general equipment and instruction of the army in such manner as to provide for any contingency in which the use of signals or of field electric telegraphs might be necessary, was submitted to the General of the army of the United States and Secretary of War on October 10, 1867.

The recommendations of this office, having received the approval of the Department, are embodied in the regulations published in General Orders No. 92, dated headquarters of the army, Adjutant General's office, Washington, October 31, 1867, herewith. (Paper E.)

The preparation and issue of the articles of supply will be commenced with as little delay as is practicable.

In a service like that of our army the contingencies are of frequent occurrence in which such knowledge of signal duty as can be gained by any officer or intelligent enlisted man, with but little special instruction, may be of importance. It is for cases of this character the plans recommended by the chief signal officer of the army are intended to provide.

The addition of the light field electric trains to the equipment of the forces in the field will afford, in many circumstances of the campaigns constantly occurring in the West and upon the plains, facilities of intercommunication hitherto too much neglected. The practical illustration of the uses of these trains, which must happen in their prolonged service with the troops, will have a beneficial effect in accustoming both officers and men to their employment, and in giving them information of the ease, celerity, and cheapness with which they can be brought into operation, and the advantages to accrue from their use. With the equipment provided under the orders now authorized by the General of the army and Secretary of War, the army of the United States will take the field fully prepared for the use of aerial or electric telegraphy wherever either may be of service.

The details of officers and signalmen for the signal service which the contem-

plated general equipment and instruction of the army will render necessary, have not, as yet, been absolutely determined upon. It is probable that the duties of instruction and care of the property required in each geographical military department will demand the presence and services of at least one well-instructed officer for each department. A number of instructed enlisted men will be needed to serve under the command of the acting chief signal officer in each department.

The act of July 28, 1866, provides, as it is construed by the chief signal officer of the army, for these details, and, if question should arise as to the meaning of the act, they are sufficiently provided for under other acts of Congress. If, however, the act of July 28, 1866, is construed as permitting the detail of engineer officers only for the signal service, it is evident that, while this was not the intention of Congress, it will be injurious both to the corps of engineers, by depriving it of officers whose services might be otherwise needed, and to the signal service, by the complications constantly to arise. In such case, additional legislation, better defining the intention of Congress, will be required. The subject of these details will be made a matter of further communication with the Department.

During the past year the clerical force of this office and the officer (Second Lieutenant L. B. Norton, thirtieth infantry, United States Army, and brevet lieutenant colonel volunteers) retained in the absence of the chief signal officer of the army, have been engaged in bringing up from the great mass of material accumulated during the war the records of the office and of the corps—a work not yet fully completed, and now to be almost necessarily suspended by the more active duties of the office required to carry into effect the plans and orders heretofore mentioned in this report.

Since the date at which the chief signal officer of the army resumed supervision of the office some progress has been made in the preparation of instructions relating to communications in cipher, and a few experiments have been made to test suggested plans of signalling in the field.

The progress of the military art, and the attention foreign powers now give to the subject of telegraphy, will require, on the part of this office, continued practice and experiment to test modes of cipher, proposed plans and apparatus for signalling, and for the construction and working of electric telegraphs. In labors of this nature, and the duties already marked out, will be found abundant employment for the force of the office for the ensuing year. It is probable additional assistance will be required.

In concluding this report the chief signal officer of the army cannot fail to consider with gratification the progress made in the brief period during which the duties of his office have received the attention of the General commanding the Army and the Secretary of War. From the close of active operations in the field in 1865 until August 21, 1867, there had been no progress in either the instruction of the army for the duties of the signal service, or in its equipment to enable those duties to be discharged. Within the few weeks elapsing since the latter date, and by the approval of the War Department, the course of instruction at the Military Academy at West Point has been determined upon and commenced; the accord with the navy in these duties has been assured; the preliminary steps have been taken to base upon the same plans, in so far as is practicable, the courses at the Naval and Military Academies; the project for the general communication of the army and navy by signals common to both services has been brought under consideration; and the order for the general instruction and equipment of the army of the United States has been authorized.

Whatever of success may hereafter be achieved by this branch of the service will be largely due to the aid it has thus received.

I am, General, very respectfully, your obedient servant,

ALBERT J. MYER,

*Colonel and Chief Signal Officer of the Army.*

General U. S. GRANT,

*Secretary of War ad interim.*

A.

OFFICE OF THE CHIEF SIGNAL OFFICER,

WASHINGTON, D. C., August 26, 1867.

GENERAL: I have the honor to recommend that instruction in the duties of signal officers be made a part of the course of instruction at the Military Academy at West Point, the course to be as follows:

1st. Instruction in the theory and principles of signalling—the Manual of Signals as a text-book.

2d. Practice and drill in the duties prescribed in the Manual of Signals in the field, embracing the establishment of lines of aerial and electric telegraph stations, the use of telescopes, and other apparatus, and the actual transmission of messages.

3d. The theory and practical use of flying electric telegraphs, in so far as to acquaint the cadets with the modes in which they are established, the manner in which they are used, and the results to be expected from their use.

A course of instruction in the duties of signal officers has been adopted at the Naval Academy at Annapolis, and it is desirable that the course to be pursued at West Point and that at the Naval Academy be as nearly of the same character as possible, so that in operations of the land and naval forces combined, the officers of each may be guided by the same rules of communication.

With the view of accomplishing these ends, I respectfully recommend that the chief signal officer be directed to confer personally with the inspector and the superintendent of the Military Academy at West Point, and, in conjunction with these officers, to adopt such plans and take such steps, as may be necessary.

I am, General, very respectfully, your obedient servant,

ALBERT J. MYER,

*Colonel and Chief Signal Officer of the Army.*

General U. S. GRANT,

*Secretary of War ad interim, Washington, D. C.*

B.

MEMORANDUM.

Suggested: That the course of study in quarters be the Signal Manual, in lessons of fifteen, twenty, or even thirty pages each—the length to be determined in each case by the discretion of the instructor.

That there be in addition ten hours' practice in the code of two and the code of ten elements, respectively, each hour being a lesson. These lessons to

embrace instruction in opening communication by signals without preconcert, and communication in cipher.

The theory of the construction and use of flying electric lines to be given in five lessons.

*In Encampment.*

The class to have three practical lessons in naval signals, (day and night;) three practical lessons in chrono-semie signals, day and night;) ten practical lessons in the general service codes of two and ten elements, respectively; these lessons to embrace practice with ciphers, and six days of drill with the flying electric telegraph.

The lessons, both in quarters and in encampment, will be in part oral, and in part to be memorized from the manual. In many cases, they will, of necessity, be practically illustrated in the recitation room. The subject of every lesson ought to be read over by the student. The greater part of the course can be gone over rapidly, it being considered necessary to commit to memory for practice but two codes only—the general service codes of two and of ten elements.

It is proposed to supply the academy with two flying electric telegraphs, to be worked for the purposes of illustration at first by operatives and line-men employed by the signal office, and afterwards by non-commissioned officers and privates of engineers instructed for this purpose.

The academy will be supplied with thirty sets of signal apparatus complete, and thirty telescopes.

For practice in time of encampment, a signal camp will be established at Newburgh, or other distant location, whence communication will be had by signals by cadets there stationed with the cadets at West Point. The flying electric telegraphs are to be run out upon the plain and upon the roads near West Point. They will be worked both alone and also as connecting with aerial signals.

It is not possible to fix the subject and the management of each lesson with exactness in advance. It has been aimed to indicate in this memorandum the general features of the course, and to give an idea of the time which will be required.

ALBERT J. MYER,

*Colonel and Chief Signal Officer of the Army.*

WEST POINT, N. Y., *September 18, 1867.*

C.

WAR DEPARTMENT,

*Washington City, October 7, 1867.*

*Ordered:* 1st. That daily instruction in military signals and telegraphy, alternating with instruction in siege artillery, (Saturdays and Sundays excepted) be given to the second class, in the section room or in the field, at the option of the instructor, from the 1st to the 31st of October, and from the 15th to the 30th of April, and at such other times as the superintendent may direct between the 15th of March and 1st of June; the Manual of Signals being used as the text-book, and the course comprehending about thirty lessons.

2d. That practical instruction in the field, comprehended in a course of about

twenty lessons, be given to the cadets of the first class during the encampment; and that one-third of the time usually devoted to practical engineering, with such other time to be designated by the superintendent as may complete the course, be set aside for this purpose.

By order of the Secretary of War *ad interim* :

ED. SCHRIVER,  
*Inspector General.*

INSPECTOR of the *Military Academy.*

---

D.

UNITED STATES NAVAL ACADEMY,

*Annapolis, Maryland, October 18, 1867.*

SIR : To enable the midshipmen to become familiar with the Manual of Signals, and to assimilate, as far as possible, the course of instruction in signalizing pursued at West Point and at this institution—using the Manual of Signals as a work of reference—I propose :

That the first, second, and third classes be furnished by the Department with copies of the Manual of Signals, in the same manner and under the same conditions as the Ordnance Manual is now furnished; that each midshipman be required to make himself familiar with certain portions of the work, by reading it over as he can spare the time for that purpose, and that instruction be given occasionally in the section room, upon such portions as may present any difficulty; and that, at each semi-annual examination in June, the midshipmen be fully examined upon the following subjects :

Mode of transmitting signals by code of two (2) elements.

Use of the homographic code.

Opening communication without preconcert.

General mode of using cipher.

Also that, during the practice cruise, they be fully instructed and practiced as often as possible in the actual transmission of messages by the codes as above mentioned; that during their course at the Naval Academy they be drilled occasionally in the use of the wands, said drills to take place by divisions in lieu of some one of the established drills for the day, or that, in cold weather, when seamanship drills are not practicable, the time allotted by the routine to said seamanship drills be used for instruction in signals.

In addition to these suggestions, I would propose that during the fourth year, or first-class year, the entire subject of signals be given a certain weight, (say 10,) in connection with the study of naval tactics, (which has now a weight of 30,) and that the head of the department of seamanship be instructed to make his report of standing in naval tactics and signals conformable to this.

Very respectfully,

RICHARD W. MEADE, Jr.,

*Lieut. Commander, Head of Department of Seamanship, &c.*

Vice-Admiral D. D. PORTER, U. S. N.,  
*Superintendent United States Naval Academy.*

[General Orders No. 92.]

HEADQUARTERS OF THE ARMY, ADJUTANT GENERAL'S OFFICE,  
*Washington, October 31, 1867.*

The following regulations have been received from the War Department :

1. With a view to the instruction and equipment of the army for any contingency in which communication by signals may become necessary, the chief signal officer of the army will furnish, with as little delay as practicable, two full sets of signal equipments and two copies of the Manual of Signals to each company and post.
2. Telescopes or binocular glasses will be issued by the chief signal officer of the army upon the requisition of officers commanding companies, approved by the department commanders, and then by the General of the army.
3. Such articles of signal equipments or signal stores will be furnished particular companies, detachments, or posts, as in the opinion of the chief signal officer of the army their circumstances may require.
4. All articles of signal equipment or supply will be receipted for by the company or other officers, to whose charge they may be sent, and will thereafter be regularly accounted for to the office of the chief signal officer on forms to be furnished for this purpose.
5. The chief signal officer of the army will provide for the equipment and management of field electric telegraphs to be used with active forces in the field.

By command of General Grant :

E. D. TOWNSEND,  
*Assistant Adjutant General.*