

1970

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### Recommended Citation

Mikitarian, Samson (1970) "The Responsibility of Naval Line Officers in Determining Weapon System/Platforms," *Naval War College Review*: Vol. 23 : No. 10 , Article 3.  
Available at: <http://digital-commons.usnwc.edu/nwc-review/vol23/iss10/3>

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*According to a recent survey completed at the Naval War College, the majority of naval line officers are dissatisfied with their role in the development of naval weapon systems and platforms. A group research project at the Naval War College examined this dissatisfaction in a statistical survey and made several recommendations concerning it.*

# **THE RESPONSIBILITY OF NAVAL LINE OFFICERS IN DETERMINING WEAPON SYSTEMS/PLATFORMS**

**A Group Research Project**

**Project Members**

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**Introduction.** The Navy of today has adopted modern and systematized management techniques that are designed to receive and process large volumes of data from the fleet and other sources. As evidenced by the great number of studies, congressional inquiries, and organizational changes, the Navy's entire process of research and development, equipment design, procurement, and operational maintenance

has been taken under close scrutiny in an effort to achieve the most efficient system possible. Communications within the process have also received their share of attention, including not only the transmission of data, but the human element of communications as well. Dialogs, or the lack thereof, among the parties involved have all been considered and have provided fertile ground for the researcher and the analyst.

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In spite of the foregoing, very few line officers would deny having experienced feelings of dissatisfaction in regard to the line officer's ability to influence the choice or design of the tools of his trade or to improve those already in existence.

The degree of dissatisfaction was established by means of a survey questionnaire which was administered to the surface and aviation line officer student body of the School of Naval Warfare and the School of Naval Command and Staff at the Naval War College. These students comprise, in the judgment of the research group, a sample of a representative group of "innovative" line officers in the Navy. Vincent Davis confirms this judgment in his monograph, "The Politics of Innovation," in which he describes the usual innovative advocate in the Navy as "a man in the broad middle ranks . . . lieutenant commander, commander or captain . . . ranging in age from the early 30's to the middle 40's."<sup>1</sup>

**Methodology.** The attitude of naval line officers toward their role in determining future weapon systems and platforms was elicited by the use of a survey questionnaire. The aim of this questionnaire was to gain a line officer's attitudinal profile in respect to his ability to contribute to and influence Navy weapons development. No previous work of this nature was available that could have conceivably provided a base of previous data.

The development of the questionnaire required the use of successive pretests with successive revisions being constructed following the use of same. Students sampled in the pretesting procedure were not sampled in the final survey.

Regular Navy line officer students of the School of Naval Warfare and the School of Naval Command and Staff of the Naval War College were used as the sample population for the question-

naire. Sixty-seven students of the School of Naval Warfare and 105 students of the School of Naval Command and Staff participated in the survey. Seven Naval War College Regular line officer faculty members with submarine experience were also included in the sample population because of the low number of students with submarine experience in the 1969-1970 Naval War College student body.

Naval officers attending the Naval War College have demonstrated potential for higher command and staff positions. The students sampled in both the School of Naval Warfare and the School of Naval Command and Staff have diverse naval operational experience in both command and staff positions. Of a final survey questionnaire distributed to a sample population of 203 officers, 179 (88.1 percent) were returned. The distribution of the line officers who failed to return the completed questionnaire was not centered in any particular area of expertise or experience. All questionnaires returned were used in the data. Questions on the questionnaires that were not filled out or were illegible were treated as a no-response value for that particular question, and these non-responses averaged less than 2 percent for any given question.

All answers to questions were numerically coded on punch tape by means of an identification number. The biographical data for the respondents was obtained from student records at the Naval War College. The computer time-sharing facility at the Naval War College was used in analyzing the collected data, and from the resulting frequency tables various cross-analyses of intergroup and intragroup variations were studied. Special emphasis was put forth to determine the degree of satisfaction with present roles in both current and future weapon systems development and influences on these roles. Where applicable, Goodman and Kruskal's coefficient of ordinal association

was used.<sup>2</sup> Four of the 24 officers who did not return their questionnaires were randomly selected and surveyed. Their responses showed no great variation from the other questionnaire respondents.

**Survey Results.** The survey revealed that 20 percent of the line officers interviewed were satisfied with their role in effecting changes in *current* weapon systems/platforms, while 80 percent were dissatisfied. The majority thought they should have a major role and view their present role as being minor. No officers thought their voices should not be considered or that they had too much of a voice. The more senior officers of the School of Naval Warfare had a 22 percent satisfaction index, while the more junior officers of the School of Naval Command and Staff had a 19 percent satisfaction index. Officers whose primary operational experience was in submarines or missile destroyers tended to be less dissatisfied than officers of nonmissile destroyer operational experience. Differences were also noted between officers with and without staff experience in the Naval Systems Command, and it was apparent that Systems Command experienced officers were significantly less dissatisfied with their present role than non-Systems Command experienced officers. No associated differences were found between officers with or without research, development, testing, and evaluation experience.

Although they did not differ from surface officers as a group, naval aviators exhibited significant differences of opinion among themselves. Fighter and patrol aviators tended to be more dissatisfied than attack and ASW aviators. All other intergroup analysis showed no trends toward any differences of opinion.

The results of this same survey indicated that 16 percent of line officers were satisfied with their present voice in

determining *future* weapon systems. School of Naval Warfare officers had a 20 percent satisfaction index, while officers from the School of Naval Command and Staff had a 13 percent satisfaction index. No officers thought their voices should not be considered or that they should be the overriding consideration. One officer thought he had too much of a voice. The majority of officers thought they should have a significant voice but presently have only a minor voice. Officers with Naval Systems Command experience were again less dissatisfied with their present role. Officers with research, development, testing, and evaluation experience did not differ in their satisfaction with officers without research, development, testing, and evaluation experience. Officers with submarine, missile destroyer, and destroyer operational experience tended not to differ on their roles in future weapon systems development as was the case on current weapon systems development.

The effect of command emphasis on the submission of suggestions and ideas on weapon systems was studied. The results of this area indicate that an increase in command emphasis results in an increase in suggestions and ideas submitted. It should be noted that a small increase in command emphasis resulted in a large increase in the frequency of submission of suggestions and ideas. Analysis of intergroup and intragroup responses found that officers with command experience tended to submit suggestions at a higher frequency than officers without command experience. No such difference was noted between officers with and without staff experience.

The relationship between the number of means of suggestion which an individual has knowledge of and the number of suggestions one submits was examined. This study revealed that increasing knowledge of suggestion procedures led to an increase in the frequency of

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submission of suggestions. No significant differences were noted among the groups of the officer population, but officers with Systems Command staff experience or command experience tended to be aware of more procedures than those without Systems Command or command experience.

A statistical analysis was also made to determine if an increasing knowledge of procedures led to increasing degrees of satisfaction. The results of this examination revealed that, statistically, it did. A further test to determine if increasing the frequencies of submission of suggestions resulted in increasing degrees of satisfaction produced findings that were nonconclusive.

In an effort to determine which methods of suggestion were considered by line officers to be most significant in affecting changes in weapon systems/platforms, the line officers surveyed were asked to choose from a list of methods the one which they considered to be the most effective and to rate that method on a scale from one to four in effectiveness. The ratings given each method were then averaged in order to determine the relative effectiveness of the various methods in the opinion of those marking the survey.

The results revealed that the SSBN Patrol Report and the Trouble Failure Report, both used by submarine officers, are considered to be highly effective by those individuals who utilize them. (Their ratings on the 4.0 scale were 3.5 and 3.2, respectively.) Also rated high in effectiveness were the Surface Missile System, Commanding Officer Narrative Report and the Maintenance and Material Management (3-M) System (both 3.0). Rated as especially ineffective were routine reports and Ship or Ordnance Alteration Recommendations. The two most frequently cited methods of the letter via the chain of command and personal contact with friends in action agencies were accorded the very modest effectiveness ratings of

1.2 and 2.2, respectively. The balance of the methods cited for consideration were rated as mediocre—including OPNAV visits (2.5), professional periodicals (2.2), contractor visits (2.0), and symposiums (1.3).

**Summary of Findings.** The results of the survey show a marked degree of dissatisfaction among naval line officers with their role in development of naval weapon systems/platforms. Specific groups of line officers expressed varying degrees of dissatisfaction. The more senior officers of the School of Naval Warfare expressed a lesser dissatisfaction than the more junior officers of the School of Naval Command and Staff. This difference is not believed to be a function of rank but is attributed to background and experience. School of Naval Warfare officers represented 74 percent of the officers who have had command and 66 percent of the officers who have had Systems Command experience. As was shown in the data, officers with Systems Command experience exhibit significantly less dissatisfaction than officers without these backgrounds. Officers of the Schools of Naval Warfare and Naval Command and Staff without these backgrounds tended to have similar opinions.

It is apparent that line officers with command and Systems Command experience knew of more procedures which they can exercise to make their ideas and suggestions known. This knowledge appeared to decrease the levels of dissatisfaction with roles in weapon systems/platforms development. A probable reason that no similar differences were found between officers with and without research, development, testing evaluation experience is that line officers in these positions are generally involved in the component or more specific areas of weapon systems programs.

The lesser dissatisfaction among submarine officers and missile destroyer

experienced officers can be attributed to the specialized procedures available to them for voicing ideas and suggestions. These procedures apply only to current weapon systems/platforms, and the officers' degree of dissatisfaction is no different from that of other line officers with regard to future weapon systems/platforms.

The effect of increasing command emphasis and knowledge of procedures led to an increasing of the level of the number of suggestions and ideas submitted. The increasing awareness of ways to make ideas and suggestions known had a positive correlation with an increasing level of satisfaction, whether or not this option was exercised. Findings concerning an increase in the rate of suggestion submission leading to increased line officer satisfaction were not conclusive. The inconclusiveness of this latter finding is probably the result of the expressed general ineffectiveness of the communication methods available.

The differences between groups in the foregoing discussion are significant and point out the effects of various influences on line officer dissatisfaction with their role in weapon systems/platforms development. Overall, however, the two main influencing factors found in this study appear to be the lack of knowledge of procedures by which to make their voices heard and the lack of communication methods that line officers think are effective for them.

**Feedback Systems.** All of the methods mentioned by the respondents for recommending changes in weapon systems/platforms and as many more as could be identified by the authors were studied in the hope that such study would assist in the determination of causes for the low degree of satisfaction indicated by the respondents. It was the judgment of the authors that a comparison of the methods was necessary in

weighing the differences in effectiveness of ratings assigned.

Most of the methods identified are readily recognizable from their respective titles and of such general application that an individual description of each is unnecessary. Examples of these methods are letters via the chain of command, postexercise reports, inspection reports, and OPNAV, Systems Command, and contractor visits. The authors selected a number of the more formally structured methods, which are described briefly below.

- The Unsatisfactory Material Condition Report enables commanders to promptly report to the Naval Air Technical Service Facility any material failure in aeronautical material which affects safety or maintenance procedures. These reports are evaluated by the Naval Air Technical Facility, and the results are disseminated to the appropriate commands.<sup>3</sup>

- The Naval Ships Systems Command Defect Prevention Reporting Program provides for the reporting of defects discovered in spare parts, instruments, or other material procured for shipboard construction or repair. Action activities then investigate the report and determine what measures are necessary to prevent recurrence. Defects rather than innovations are emphasized.<sup>4</sup>

- Any alterations in the design, materials, number, or location of the ship's component parts must first be approved by the Naval Ship Systems Command. Requests for such changes are forwarded in a letter via the chain of command to NAVSHIPS, where they are given a priority rating. A recurrent shortage of funds usually precludes all but the most urgent of alterations, and the lengthy approval procedure limits the effectiveness of the system. This probably results in a reduction in the number of submitted requests and the accomplishment of many unauthorized alterations.<sup>5</sup>

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● SSBN Patrol Reports are a series of comprehensive reports which are submitted by the SSBN commanding officer, via the chain of command, upon completion of a patrol.<sup>6</sup> As with most reports of this nature, endorsements and comments are required through the chain. The details of the contents of the report and the methods used are classified. Suffice it to say, however, that due to the strategic importance of SSBN's, it may be assumed that these reports receive appropriate attention throughout the chain of command with action responses commensurate with the degree of urgency applied.

● Report of Unsatisfactory or Defective Torpedoes or Equipment, the RUDTORPE System, provides a means of reporting unsatisfactory torpedoes, mine vehicles, ASROC and SUBROC missiles, and their associated equipment and for recommending improvements thereto.<sup>7</sup> Shop, maintenance, and operating personnel may submit RUDTORPE reports on items which are unsatisfactory or defective. All reports are sent to Naval Underwater Weapons Research and Engineering Station, Newport, R.I. (NUWS), where they are referred to the appropriate action activity, which may include manufacturers. NUWS compiles RUDTORPE data and publishes the monthly RUDTORPE Digest, which contains information on items reported and action taken. It is distributed to all interested activities. In addition, each RUDTORPE submitter is individually informed of resolution of the problem reported.

● The Commanding Officer's Narrative Reports on Surface Missile Systems Deficiency Corrective Action Program (DCAP) provide a means by which commanding officers of guided missile equipped ships, missile schools, naval weapons stations, and naval ammunition depots with missile checkout installations may, on a regular basis, present a comprehensive assessment of the Surface Missile System as a whole.<sup>8</sup>

Allowing wide latitude in scope and format, the report is intended to convey the personal judgment and assessment of the commanding officer as seen from his unique command position. The material reported is elective in nature, permitting the originator to comment according to his desires. The reports are submitted quarterly to Naval Ship Missile System Engineering Station (NSMSES) where they are reproduced and distributed to all interested activities. Acting as a central clearing house, NSMSES reviews the reports to determine action required and acknowledges all reported problems and deficiencies.

● Another specialized Navy feedback system for weapon systems/platforms is the Fleet Ballistic Missile Weapons System Trouble and Failure Report.<sup>9</sup> This report is submitted on any material failure in equipment under the cognizance of the Strategic Systems Project Office. These reports are incorporated into Corrective Action Recommendations which are examined by one of several technical offices and incorporated into a monthly report to all FBM activities. Considering the critical nature of the subject matter, these reports are processed expeditiously.

● The Maintenance and Material Management System (3-M) is an integrated management system designed to provide for reporting and disseminating significant maintenance information.<sup>10</sup> Its two subsystems are the Planned Maintenance Subsystem (PMS) and the Maintenance Data Collection System (MDCS). The former defines uniform maintenance standards based on engineering experience and delineates simplified procedures for performing the required maintenance. The PMS Feedback Report (OPNAV Form 4790/7A) provides type commanders with a means of recommending changes in the maintenance procedures and literature instructional material.

● The Maintenance Data Collection System is a compilation of reports by

maintenance personnel which are used in preparing maintenance information and recommendations. These reports are made on a special form (OPNAV Form 4790/2L), which may include remarks and observations.

- The procedures by which fleet aircraft may be modified provide the naval officer with an opportunity to influence present weapon systems/platforms.<sup>11</sup> Prior to the accomplishment of any installations or prototype change in naval aircraft, the controlling custodian is notified of the proposed change and is provided with justification and a complete description of the modification. Upon approval of the submitted change, *ONE UNIT* may be modified. After a satisfactory time period for evaluation of the modification, the originating activity submits a rough-draft Technical Directive embodying the proposed change and, upon approval, is responsible for the issuance of the formal Technical Directive and the material required.

- The Cash Awards Incentive Program establishes procedures for military personnel to submit practical contributions for cash awards to increase the efficiency and economy of the Navy Department and Government operations.<sup>12</sup> Contributions are submitted via the chain of command on a general form and are reviewed by the Navy Incentive Awards Board.

There are three categories for cash awards: suggestions, inventions, and scientific achievement. A *suggestion* is defined as a proposed method of doing a job better, faster, or cheaper for the Government. *Invention* is the development of a new and useful process or machine which is patentable under the patent laws of the United States. The *scientific achievement* is an act, deed, or accomplishment which significantly furthers the research efforts of an activity or project.

- The Naval Air Training and Operating Procedures Standardization

Program (NATOPS) is a method of rapidly evaluating and disseminating personnel suggestions for improved training and operating practices of aircraft.<sup>13</sup> It has been highly successful due to the rapidity of action required on the urgent items and the convening conferences for the routine recommendations. In addition, the active support of many commanding officers has encouraged personnel to formulate new and improved procedures.

- The last of the feedback systems which will be treated in this article is the End of Line Report, an unofficial document circulated by fleet aviation squadrons to their sister squadrons which operate the same type of aircraft. The report summarizes statistically the operation and maintenance statistics of the particular aircraft type concerned. The End of Line Report is used mainly among the squadrons which operate sophisticated aircraft in the Gulf of Tonkin, and it is submitted only following the combat line period.

The study of feedback systems revealed certain characteristics common to almost all of them, regardless of application. Most systems have the improvement of existing hardware as a goal and have the potential, through data analysis, to influence future hardware design. Limited in scope, they emphasize deficiencies rather than positive or original suggestions. They are slanted toward the specialist, the enlisted technician, or maintenance man, not the line officer.

The feedback programs which received the highest average effectiveness ratings by respondents to the survey questionnaire were those associated with relatively sophisticated weapons systems, notably missile systems. This is not surprising, since these programs, due to the strategic or tactical importance of the weapon systems with which they are associated, are well funded and receive commensurate attention. It is worth noting that surface line respondents



who had never served tours associated with a missile system not only indicated a greater degree of dissatisfaction than their missile-oriented contemporaries, but when asked to identify the most effective feedback system known, frequently answered, "I don't know of any," or, as one respondent put it, "I've been too busy just trying to keep World War II vintage ships afloat to worry about making suggestions."

Finally, the fact that the aforementioned missile systems are relatively sophisticated with sophisticated problems may dictate the need for a special feedback program.

In the field of aviation it appears that established feedback programs offer even less to the line officer as an avenue of communication. As with the surface connected programs, they emphasize defect reporting or maintenance data collection. The aviators among the questionnaire respondents generally indicated a preference for more informal communications methods, notably personal contact. The previously described End of the Line Report, which is unofficial, appears to have evolved from the recognition by the fleet of the lack of a method of communicating valuable operational information and ideas between carrier-borne squadrons and to cognizant agencies up the command chain. It is unique among the aviation feedback programs and certainly points up the need for the formalization of an official system.

In the judgment of the authors, the most desirable characteristics of the feedback systems studied from the viewpoint of the individual line officer are as follows:

1. The establishment of a central clearing house to receive inputs from the fleet, assign problems to action agencies, and monitor the system.

2. Where appropriate, the provision for positive, individual response to inputs, with response deadlines established and adhered to.

3. The provision of input formats, designed to permit brevity but allowing latitude for comments and recommendations, without excessive technical justification and documentation.

4. The elimination of "via" addressees. Inputs are received by the "clearing house" and redistributed as necessary throughout the chain of command.

5. The regular, periodic distribution of system summaries, containing items of interest, to all participating activities.

6. The active participation and accessibility of Navy and civilian contractors and scientists.

7. A clearly defined organization in which responsibilities are well delineated.

The preceding feedback systems are representative of the methods by which management data, suggestions, and ideas may be communicated. Another method of practical value to the Navy, from the standpoint of material management, is the ad hoc conference, symposium, or review. Unlike the systems previously described, these conferences usually grow out of recognition of a specific problem area. The following are two examples of this method.

- Officers assigned to OPNAV planning assignments frequently turn to the fleet operating forces for advice on follow-on weapon systems/platforms. This is usually done on a person-to-person or office-to-office basis. The persons of offices (staffs) consulted are usually selected because of knowledge or individual expertise. In the past the practice has usually provided the limited amount of information requested.<sup>14</sup>

In early 1967 it became apparent to OPNAV planners that this practice should be formalized in order to gain full advantage of the wealth of experience that was developing in the fleet due to the hostilities in Southeast Asia.

The concept was implemented when in 1967 planning was begun for an Annual Requirements Conference on Fighters and Attack Aircraft. All fleet

and shore activities directly associated with operation of fighter and attack aircraft were advised by CNO that such a conference was being planned with the objective to exchange views on fleet requirements, explore current weapon/aircraft limitations, deficiencies, and major problems, and to utilize fleet inputs in future requirements planning.<sup>15</sup> The response was favorable, and after the appointment of a steering committee to plan the agenda and other conference specifics, the conference was scheduled for 3 days in June 1967 at NAS North Island. Attendees were limited to 100 with prorated representation from each command.

After the conference was convened, the conferees were briefed on various subjects, including future weapons, weapon systems, and aircraft developments which could be available in the 1970 to 1985 time period. Following this briefing, both the attack and fighter oriented conferees went into committee sessions which produced conclusions on future aircraft requirements in the areas of fire control systems, displays, electronic countermeasures, communications, navigation, and other aircraft characteristics.<sup>16</sup>

This conference was notable because it was designed specifically to receive innovative ideas from line officers currently in the fleet, and it resulted in a unique dialog between planners and operators.

• During hostile engagements in Southeast Asia between 17 June 1965 and 17 September 1968, it became apparent through analysis that a large number of air-to-air missile firings were required in order to achieve one kill. As a result, CNO in July 1968 established a five-man team to conduct an ad hoc review, the purpose of which was to determine in depth the entire process by which the Navy's air-to-air missile systems are *acquired* and *employed* in order to identify those areas where improvements should be made.<sup>17</sup> The

review occurred August to November 1968. The systems reviewed included the current Navy fighter aircraft and their missile systems that were operating in Southeast Asia at that time.

After an initial review, the team director, accompanied by task leaders selected for their particular area of expertise and the particular area of inquiry, made personal visits to fleet commands, industry, and CVA's. Approximately 87 activities were visited by one or more team members. The visits included type commanders, Marine Corps activities, deployed CVA's, major contractors, major fleet staffs, and many other activities associated with air-to-air missiles. The preliminary series of visits provided the team the perspective essential to meaningful evaluation.<sup>18</sup>

Subsequent to the preliminary team visits, an air-to-air missile system symposium was held. The symposium

...brought together 200 attendees representing the complete spectrum of interest and/or direct participation in all phases of air-to-air missilery: Industry, fleet, shore establishments, and Marine Corps. The primary objective of the symposium was to identify problems and reach concurrence on their definition. No real attempt was made to solve problems then identified...<sup>19</sup>

Shortly after the symposium, three major contractors formed a management and engineering team in an effort to solve these problems.

The review described above typifies the ad hoc method of receiving feedback information. It arises from the acknowledgment of a specific problem area for which possible causes or solutions are sought on a one-time basis. It provides planning and technical agencies with the opportunity to gather fresh viewpoints and to make personal contact with operational units.

The ad hoc method, although tailored more for the officer than for technicians and maintenance personnel, appears to have limited value to the individual officer as a means of making himself heard. Of certain value to the Navy in dealing with specific problem areas, it is, nevertheless, necessarily limited in scope and is usually conducted on a one-time basis. Additionally, it is usually available to only a few select officers, chosen for their experience level and not for their desire for innovation.

**Findings.** The main finding of this study was the vehemency of the dissatisfaction of naval line officers with their role in weapon systems/platforms development. The authors interpret the vehemency of dissatisfaction as being strong, requiring a satisfactory solution. The sampled line officers perceived different levels of responsibility toward future and current weapon systems/platforms development. The stronger role indicated toward current weapon systems/platforms is perhaps dictated by their familiarity with these systems.

Differences in envisioned roles in the different communities of line officers were found. These differences were studied not for themselves, but in an effort to discover the reasons for them. The reasons for the major variations between communities were a lack of knowledge of procedures to make their voices heard and the lack of communication methods that line officers think are effective for them. It was found that the most highly rated communication methods were those related to new, well-funded current weapon systems/platforms. From this information some characteristics of these good communication methods, in the line officers'

view, have been outlined. It was further found that no effective method is available by which line officers can make their ideas and suggestions on future weapon systems/platforms known. The method apparently is contact with friends in appropriate naval staff positions and is dependent on knowing someone in the right agency. This method obviously has limitations for the junior officer who has had less opportunity to establish such contacts. The assignment of line officers to naval staffs involved in weapons development is a communication method in itself but appears to have limited effectiveness. Officers initially upon assignment to staffs can make known their own ideas or suggestions or those of others with whom they have associated, but with time and the lack of continuous direct association with operating elements, their effectiveness as a means of communication is believed to diminish.

The authors of this study recommend that a determination be made on the role desired for the line officer in weapon systems/platforms development by the Navy Department. If that role is less than that indicated by line officers in this study, adequate explanation should be given to alleviate the widespread dissatisfaction currently indicated. It is further recommended that an effective program for the communication of ideas and suggestions on both current and future weapon systems/platforms be established and that such a program receive wide dissemination in the form of a directive to all levels of command. It is envisioned that such a program would not be tied to an already existing program but would have as its sole purpose the interchange of thoughts on weapon systems/platforms development.

## FOOTNOTES

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## BUORD UNDER FIRE IN 1864

*The following letters were extracted from photostats of the Bureau of Ordnance records furnished by the National Archives.*

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Headquarters Dep't of Virginia and North Carolina

In the Field, Va.  
Aug. 12th 1864

Capt. Henry A. Wise  
Chief of Bureau of Ordnance  
Navy Department

My dear Sir:

I have received your telegram in answer to my request to loan me a block for a gun to be put at the disposal of Mssrs. Sawyer for the purpose of being rifled, saying that the block cannot be loaned me as requested, "because it is not considered strong enough to be made into a rifled gun."

I take leave to suggest that I asked the Navy Department for a gun and not for an opinion—I can get the latter anywhere.

I suppose it would depend something on the size of the block and the size of the bore whether it would be "strong enough to be rifled."

To bring the opinion to the reductio and absurdum suppose we take a block for an 11 inch gun and rifle it to the calibre of a Springfield musket, 58/100 of an inch, would the block be strong enough to be made into a rifled gun?

I beg leave also to add that in the Fall of '61, Mssrs. Sawyer rifled for me with Five inch bore two Navy 32's which I took to the Gulf and they did such excellent shooting that the Navy officers borrowed them from me and never returned them, being the only rifled guns they had on board two boats, therefore it was that I ventured to ask the loan of the block. If the Navy will send back my two guns I shall not want to borrow the block, besides I won't say anything about the Twenty five hundred tons of coal I loaned the Navy at the mouth of the Mississippi, which has never been returned or paid for.

Most truly your obliged friend (but not for your opinion)

sgnd—Benj. F. Butler, Maj. Genl.

**Bureau of Ordnance  
Navy Department  
Washington City**

15 Aug. 1864.

My dear General:

I have this day received your letter of the 12th instant, containing your "opinion"—which I should find difficulty in getting "anywhere" else—in reply to what you think of my opinion in reference to gunblocks.

Now let me give you the facts and I think you will then admit that your argument is based upon an entire misapprehension of the real state of the case.

By the way of illustration you ask, if an XI <sup>in</sup> gunblock were bored up to about the size of a pipe stem would it be strong enough for a rifled gun?

Certainly it would—not a doubt of it—provided, however, the gunblock had not *already* been bored to eleven inches, and the iron was good; which is not the case with blocks at Alger's—they being *already bored to 7-1/2 inches*. So that unless the present hole is filled up and a new tube of 58/100 in inserted your illustration will not touch the question.

Again these 7-1/2 inch blocks of 16000 lbs. each, have been found from the results of trial under the direction of Admiral Dahlgren—who designated them—in his opinion, to be of defective metal, and, consequently, of insufficient strength for Rifled Cannon.

You would certainly therefore deem it not less than criminal in me to transfer to you one of these blocks, to be rifled by Messrs. Sawyer, or any one else, for use in the Army to the imminent danger of the men, without at least giving an "opinion".

With reference to the two Sawyer guns the Navy borrowed from you, both gave way under ordinary fire on board ship, "shooting" in different ways, which impressed us with such an idea of that species of rifled artillery that we did not deem it expedient to borrow any more of them for Naval purposes: the sailors did not seem to appreciate them! I send you herewith a sketch of one of them with a report from Admiral Farragut, and the broken guns are now at the New York Navy Yard subject to your orders.

Nevertheless if, with the above facts before you, you still wish to have one of the blocks, a requisition for it in the usual form, through the War Office, will be immediately complied with.

As for the 2500 tons of coal, that operation I have nothing to do with; I have heard, however, incidentally, that at the capture of New Orleans by the Navy, there were seized a number of valuable streamers, cattle and divers other articles, but eventually taken possession of and used by the Army for its purposes—these, perhaps, in the final adjustment of the coal account, will be considered.

All such matters, however, I leave to wiser heads—my business is only Ordnance, for *Ne suter ultra repidam*.

I am, General, with great regard for your opinions in everything save Gun Blocks

Your friend and Servant

Signed—H.A. Wise, Chief of Bureau

Maj. Genl. B.F. Butler  
Headquarters Dept. of Va. & N.C.