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Opportunities For Improvement In The
Administration Of Technical
Training Activities B-175773

Department of the Navy

**UNITED STATES
GENERAL ACCOUNTING OFFICE**

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JUNE 14, 1973



UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D C 20548

FEDERAL PERSONNEL AND
COMPENSATION DIVISION

B-175773

The Honorable
The Secretary of the Navy

Dear Mr. Secretary.

This is our report on opportunities for improving the administration of technical training activities in the Department of the Navy.

Copies of this report are being sent to the Secretary of Defense, the Director, Office of Management and Budget, and the Chairmen, House and Senate Committees on Appropriations, Armed Services, and Government Operations.

Sincerely yours,

A handwritten signature in cursive script, reading "Forrest R. Browne".

Forrest R. Browne
Director

C o n t e n t s

	<u>Page</u>
DIGEST	1
CHAPTER	
1 INTRODUCTION	3
2 DETERMINATION OF INSTRUCTOR REQUIREMENTS	5
3 TRAINING FEEDBACK SYSTEM NEEDED	9
4 NEED FOR STANDARDIZED INSTRUCTOR TRAINING POLICY	11
Conclusions	12
Recommendations	13
APPENDIX	
I Organization of Naval Training Command	15
II Chain of Command/Service School Command	16
III Organization of Service School Command	17

ABBREVIATIONS

CNTECHTRA	Chief of Naval Technical Training
GAO	General Accounting Office

D I G E S T

WHY THE REVIEW WAS MADE

The military services plan to spend more than \$1.5 billion for technical training during fiscal year 1973, of which the Navy's share is about \$550 million. Each year, over 200,000 Navy and other service personnel receive training at more than 80 naval activities.

During 1971 the Navy reorganized its training activities and, to improve the quality of training and management of training activities, placed them under a single Naval Training Command.

As part of our overall plans to examine technical training, GAO undertook a review at selected activities to assess the Navy's administration and management of technical training.

FINDINGS AND CONCLUSIONS

GAO believes that the management of naval technical training can be further improved in instructor requirement determinations in developing systems for feedback of training information, and in standardization of instructor training programs (See p. 3.)

GAO found that differences in the interpretation of instructions governing determination of instructor requirements, as well as the lack of management review at the train-

ing activities visited, resulted in both an overstatement and an understatement in Navy training instructor requirement submissions.

Overstated requirements noted at one training command, if they were the basis for staffing, would result in assigning excess instructors at a cost of about \$1.5 million annually. Conversely, understated requirements at another would adversely affect the quality of training received by students. Naval training officials revised their instructions in January 1973 to correct the problems GAO identified (See p. 5.)

GAO also found that the Navy does not have a formal system for collecting, assessing, and disseminating information regarding the adequacy of its technical training. Experts have recognized the need for a formal feedback system and have brought this to Navy's attention on several occasions. Without this kind of feedback, it is questionable whether curriculum ongoing revision is adequate. In January 1973, the Chief of Naval Training established a special group to develop and implement a standardized training feedback system for all naval training (See p. 9.)

GAO also noted that the absence of a standardized instructor training policy would limit the extent of instructor assignments in teaching various phases of a course. As a result, instructors can spend as

much as 30 percent of their 3-year tours observing other teachers. The Navy had no studies justifying this costly practice nor was there an awareness of the amount of time being spent observing teachers (See p 11)

RECOMMENDATIONS OR SUGGESTIONS

Although the Navy has taken corrective action in two of the matters discussed above, the Secretary of

the Navy should take the necessary actions to insure that

- Naval training officials determine the extent of observation time required and establish a uniform policy for all training activities (See p 13)
- Commanding officers of Navy training activities establish controls to monitor actual time instructors spend on training to insure compliance with standards (See p 13.)

CHAPTER 1

INTRODUCTION

The Chief of Naval Training is responsible for all naval training except for certain aspects of fleet training and training assigned to the Bureau of Medicine and Surgery. The Naval Training Command was established in August 1971 to consolidate various training activities and thereby improve the quality of individual, team, and functional training (See app I for a chart of the organization of the Naval Training Command)

The Chief of Naval Technical Training (CNTECHTRA), a functional command for recruit and technical training, assumed authority and responsibility for all technical training in the Navy on February 15, 1972. This organization absorbed technical and fleet training management functions previously performed by the Bureau of Naval Personnel. CNTECHTRA directs and coordinates more than 80 activities at 37 locations where more than 200,000 Navy and other service personnel receive training annually.

Our review was primarily conducted at the Service School Command, Great Lakes, Illinois. Appendix II shows this command's position within the CNTECHTRA organization, and appendix III lists the departments under the Service School Command. We also visited the Naval Schools Command in Treasure Island, San Francisco, and CNTECHTRA in Memphis.

We did not obtain the total operating and maintenance costs for the activities under CNTECHTRA. However, we found that the total operating cost for the Service School Command, Great Lakes, was approximately \$14.6 million during fiscal year 1972, \$11.3 million of which was for military salaries and allowances. Its budget for fiscal year 1973 is about \$14.5 million, including \$12.5 million for military salaries and allowances.

Our review at the selected training activities, completed in October 1972, disclosed that more effective management controls were needed, particularly in determining instructor requirements, revising and updating curriculums, and standardizing the instructor training program.

In January 1973, the Naval Audit Service announced its plans for a servicewide audit of naval technical training, which was to include an examination of the relationship of training staffs to student billets, reports to management and uses made thereof, headquarters-level procedures to control expenditures, and student load criteria

CHAPTER 2

DETERMINATION OF INSTRUCTOR REQUIREMENTS

Our review of the instructor requirements computed by selected Navy service schools disclosed a need for clarification of instructions issued by CNTECHTRA and for a closer, more critical review of the schools' computations before they are submitted to CNTECHTRA. Differences in the interpretation of the instructions and the lack of management review resulted in both overstatement and understatement of instructor requirement submissions. Overstated requirements noted at one training command, if they were the basis for staffing, would result in assigning excess instructors at an estimated cost of about \$1.5 million annually. Conversely, understated requirements in another training command would adversely affect the quality of training received by its students.

In May 1972, CNTECHTRA issued a new instruction for computing instructor requirements to provide standardized procedures to be used in computing the minimum number of instructors required to conduct efficient instruction in the respective schools and/or courses of the Naval Technical Training Command.

We recognize that the initial report submission under this revised instruction was to analyze its applicability and identify required modifications. However, CNTECHTRA officials stated that subsequent submissions will be considered in making recommendations to the Bureau of Naval Personnel for manpower authorizations.

We analyzed the computations made for the Electronics Technician Class A School Divisions at Great Lakes and Treasure Island and found considerable variances in the manner in which the instructions were applied. These variances were caused by shortcomings in the instruction and lack of management review. Our analyses were not made with the intent of arriving at exact figures for instructor requirements, but rather to determine whether the intent of the CNTECHTRA instruction was satisfied.

One major shortcoming noted in the CNTECHTRA instruction was the apparent failure to identify a uniform basis

for the schools to use in analyzing their student instructional week. CNTECHTRA defines an instructor's weekly teaching load as instructional time including breaks. To arrive at the required number of instructors, it is therefore necessary to apply uniform criteria in defining a student instructional week and an instructor week.

Great Lakes analyzed its student instructional week based on 40 hours, which included, in addition to instructional hours, break time between classes and time spent on service diversions, e g., inspections and counseling. Treasure Island, on the other hand, based its analysis on a 30-hour week which represented actual time spent on instruction. Instructional hours including breaks would have been approximately 35 hours per week for both Great Lakes and Treasure Island. The difference in instructor requirements using the CNTECHTRA criteria as opposed to the schools' criteria is shown in the following table.

Electronics Technician Class A School Division

	<u>Number of instructors (note a)</u>		
	<u>School computation</u>	<u>35-hour week</u>	<u>Difference</u>
Great Lakes	141	124	17
Treasure Island	104	119	-15

^a Does not include supervisory personnel or unscheduled leave time.

Assigning the schools' composite standard military rate of approximately \$10,000 for an instructor-year to Great Lakes' overstatement of instructor requirements could result in assigning too many instructors, at a cost of approximately \$170,000. Further, the potential exists for similar mistakes in instructor requirement submissions by other schools at Great Lakes, which could result in extra costs of about \$1.5 million annually. Conversely, the understatement of requirements noted in Treasure Island's submissions could result in assigning more students per instructor than the instructor could effectively teach.

Other differences noted in Great Lakes and Treasure Island instructor computations were that (1) both activities utilized class quotas which did not comply with the instruction, (2) the student/instructor ratios for laboratory instruction, although computed for the same branch of instruction, differed between the two activities, and (3) the breakdown of curriculum, lecture/laboratory instruction taught by each of the branches in Electronics Technician Class A School Division differed between the two activities

The necessity for clarifying the instruction was further demonstrated in a summary chart submitted by the Great Lakes Naval Training Center Command to CNTECHTRA. That chart showed personnel allowance figures computed by the Great Lakes Service School Command and by the Navy Manpower Shore Survey Team, both of which used the CNTECHTRA instruction in their computations. The survey team, which is under the Chief of Naval Operations, is responsible for insuring optimum military and civilian staffing at all echelons of the Navy by conducting onsite manpower surveys afloat and ashore.

Instructor requirements computed by the Service School Command totaled 1,266, whereas similar computations made by the survey team showed the command's requirement to be only 1,061. The commanding officer of the Service School Command reported that a disparity existed in the instructor requirement totals due to a difference in interpreting the CNTECHTRA instruction by the survey team and by his command, particularly in course length and frequency of classes. The difference of more than 200 instructors would represent personnel costs of approximately \$2 million annually.

Navy officials at Great Lakes said that time constraints did not permit management review of instructor requirements before this date was submitted to CNTECHTRA. CNTECHTRA, on receiving the requirements submissions, reviewed the computations and corrected any obvious mathematical errors, however, the types of errors described above are not the type that would be obvious to CNTECHTRA personnel.

We discussed our findings with officials of the Naval Training Command at Pensacola, Florida. They stated that they were aware of the problems with the CNTECHTRA instructions which were issued without their review and approval.

They said that they had been working with CNTECHTRA officials to develop new instructions that considered the problems disclosed by GAO's review. These new instructions were issued in January 1973. We were advised that CNTECHTRA had developed new procedures, which included periodic testing of the computations during visits at the schools, to more thoroughly review the school computations.

We believe that the actions taken by Navy officials should provide for more accurate determinations of instructor requirements, and the improved review procedures should identify any problems with the new instructions

CHAPTER 3

TRAINING FEEDBACK SYSTEM NEEDED

Our review of naval technical training activities showed that the Navy had not established a formal system which would provide for collecting, assessing, and disseminating information on the adequacy of technical training. In the absence of such a formal feedback system and under the present manner in which the curriculum is being updated and/or revised, there is no insurance that the school is adequately preparing students for fleet assignment.

Navy officials have been advised on several occasions that a meaningful training feedback system is needed. A consultant firm engaged in 1964 by the Bureau of Naval Personnel described the logical requirements for a training feedback system at both the technical and management levels of training and two 1970 naval research reports concluded that

"The schools responsible for training fleet technicians can meet the needs of the fleet only if they are provided information concerning fleet job requirements and the adequacy of their graduates in fulfilling these requirements."

A 1972 naval research report states that various other research reports dealing with training feedback have since been issued and could help in obtaining feedback information. However, the Navy, as of August 1972, had not adopted any systematic procedures for obtaining that feedback.

Officials of the Naval Schools Command, Treasure Island, and the Service School Command, Great Lakes, informed us that neither command is presently using a systematic procedure for obtaining training feedback. In the past, both commands mailed questionnaires. For the most part, they discontinued this method due to its several drawbacks, such as low percentage of replies, careless preparation, and meaningless responses.

Presently, the Service School Command attempts to obtain feedback from instructors who are reassigned from the

fleet to the school. These instructors are questioned regarding graduates' performances, but the discussions are not documented. The command considers this a valuable source of training feedback since a potential instructor, during his fleet assignment, will be learning much about problems which could improve the curriculum at his future school assignment. However, a 1972 naval research report states that such informally obtained information is often incomplete and that an instructor's suggestion concerning curriculum revision, although correct, may not be acceptable because it is based solely upon his personal experience rather than upon the seemingly more objective information gained from a systematic data-gathering procedure. Further, this practice would result in nonstandard curriculum content, since each school would be independently revising its curriculum.

We discussed the need for a formal training feedback system with Naval Training Command officials. They agreed that such a system was needed and told us that the Chief of Naval Training established a special group in January 1973 to develop and implement a standardized training feedback system for all naval training. They stated that the system they are developing provides for distributing to fleet activities a well-structured questionnaire designed to identify any problem areas. There would be followup, with structured interviews at the site, to determine what revisions to the curriculums were necessary.

We believe that the system being developed should contribute to a more effective means of evaluating the quality of naval training and determining any needed revisions.

CHAPTER 4

NEED FOR STANDARDIZED INSTRUCTOR TRAINING POLICY

The Navy does not have an instructor training policy which would limit the extent of instructor assignments in teaching various phases of a course. Consequently, instructors can spend as much as 30 percent of their tours of duty observing the presentation of an experienced teacher (sitting-in), thus increasing the overall stated requirement for instructors. We found no studies which would justify this costly practice, nor was there an awareness of the amount of time devoted to sitting-in.

An instructor must receive a mark of 3 4 or better on a 4.0 scale on his last three performance evaluations, which consider his technical ability in the area he will be instructing. He must also demonstrate leadership and speaking ability and the ability to work with others under supervision.

Prior to beginning instructor duty, instructors receive 4 weeks of training at one of the Navy's instructor schools. Additional training is provided by allowing instructors to sit-in on an area of instruction in a course before he teaches it. Military instructors are usually rotated among instructional areas in an effort to relieve the monotony of teaching in only one area during their 3-year tours of duty at a certain school and in an effort to enhance their technical capability.

Policies regarding the extent of instructor rotation within different schools were mostly discretionary and varied extensively among the training activities. Personal opinions regarding the extent of instructor rotation varied greatly among officials at the Service School Command, Great Lakes, and the Naval Schools Command, Treasure Island. One view was that instructors should begin their tours of duty in a school's lowest level of instruction and then rotate through that school sequentially, completing their tours of duty in the school's final area of instruction, thereby rotating through as many instructional areas as practicable. Under such a plan, instructors rotating sequentially through the Electronics Technical Class A School Division, which was 46 weeks in length, would spend approximately 30 percent of their 3-year tour of duty sitting-in.

Another view was that instructors should be capable of beginning their assignment in any instructional area of a given school and that they should be limited to rotation within one branch of instruction, about 12 weeks in duration. This would limit the instructors' observation time to less than 8 percent of their 3-year tour of duty.

Training officials periodically survey the actual use of instructor time. The last survey of a number of installations, based on 443,000 instructor workdays, showed that only 1.77 percent of the instructors' time was spent sitting-in.

Neither the Service School Command, Great Lakes, nor the Naval Schools Command, Treasure Island, has limited the sit-in time allowed per instructor tour of duty. In addition, neither command followed a designated instructor rotation plan, instead, schools rotated their instructors independently according to their individual desires without accumulating data on the use of instructors' time.

We discussed our findings with Naval Training Command officials who stated that they recognized the need for a standardized instructor training program. They were developing a standardized instructor training course but had not considered the observation time because they were not aware of the magnitude of this aspect of the instructor training program.

CONCLUSIONS

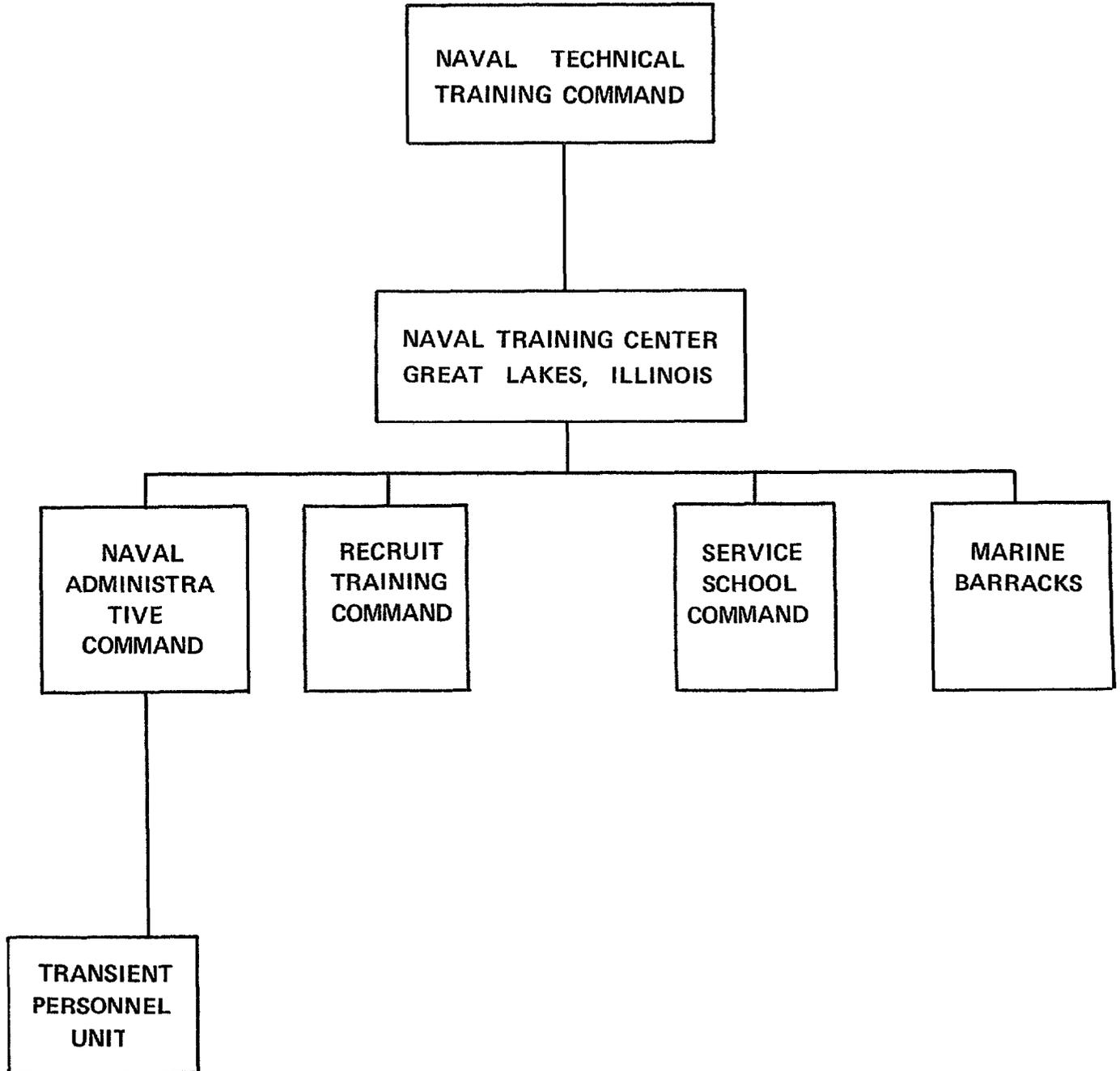
We believe that since instructors are selected on the basis of technical capability in the area in which they are to teach, they should not have to spend any substantial portion of their tour of duty sitting-in, especially in basic subject areas. Permitting instructors to spend as much as 30 percent of their time sitting-in, as has been the practice in some of the schools, is costly, has not been justified, and is probably excessive, in view of the Navy's survey results, which reportedly showed less than 2 percent actual observation time at a number of other schools. In our opinion, Navy training officials should make a determination based on empirical data of the extent of observation time required, giving consideration to optimizing advantages and costs.

RECOMMENDATIONS

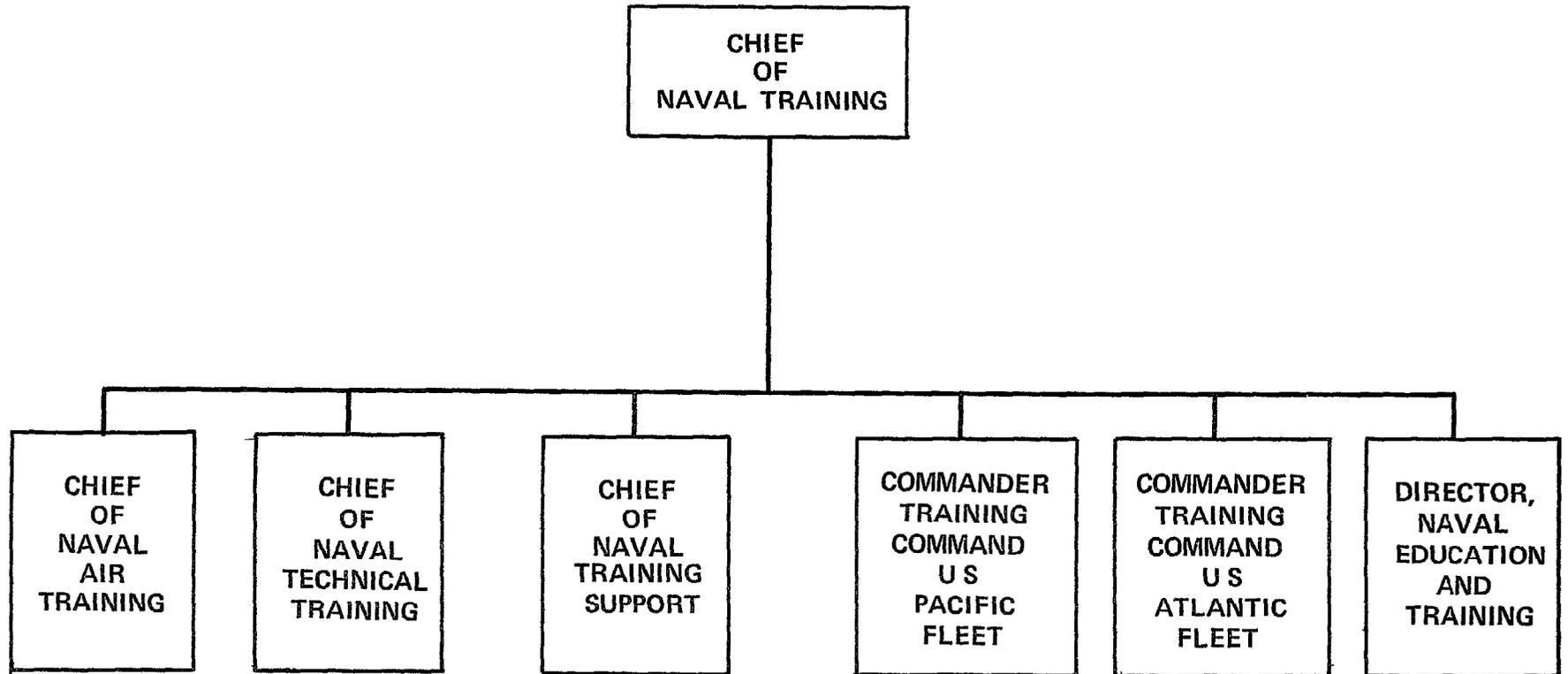
We recommend that the Secretary of the Navy move to insure that

- Navy training officials determine the extent sit-in time is required and establish a uniform policy for all training activities
- Commanding officers of Navy training activities establish controls to monitor actual time spent on training by instructors to insure compliance with standards

CHAIN OF COMMAND/SERVICE SCHOOL COMMAND



ORGANIZATION OF NAVAL TRAINING COMMAND



ORGANIZATION OF
SERVICE SCHOOL COMMAND

<u>Department</u>	<u>Authorized personnel</u>	<u>Fiscal year 1972 graduates</u>
Basic Electricity/ Electronics	106	4,720
Electrical	145	2,241
Electronics	376	5,716
Fire Control	138	1,651
Gunnery	125	1,879
Instructor/Leadership "C"	38	832
Instrumentman/Opticalman	35	254
Propulsion Engineering	311	12,525
Radarman	<u>165</u>	<u>1,749</u>
 Total	 <u>1,439</u>	 <u>31,567</u>

Note There are also 74 authorized billets and positions for the Administrative Department, which brings the total for Service School Command to 1,513

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