Naval Training Device Center with your own organization.

Gentlemen, I cannot over-emphasize the importance of fair, unbiassed, and calm exchange of thoughts among representatives of Industry, the supplier; of the military commands represented, the user; and of NTDC, the procurement agency.

When I looked over the printed program I found to my amazement, that no one had made the problem of quality of training devices the main topic of his presentation and since I feel that we should not part without having looked at it, I decided to give you before the general panel discussion on Thursday afternoon, as an unadvertised special, some of my thoughts about reliability problems in training devices and systems.

Thank you for your attention.

THE NTDC PROGRAM CYCLE

Mr. E. X. Blaschka
Head, Program Control Department

A new word was introduced to the Department of Defense jargon only five years ago to describe a different planning/budgeting system. Today, it is impossible to discuss the Department of Defense planning/budgeting system without using this particular word again and again either as a noun, as a verb or as an adjective. This one word has expanded into a descriptive vocabulary without which we would be unable to communicate our thoughts relative to the Defense Budget process. This key word in our vocabulary is the word - PROGRAM. We use this word in so many descriptive ways - PROGRAMMING, PROGRAMMED, PROGRAM CALL, PROGRAM CHANGE REQUESTS, PROGRAM ELEMENTS, PROGRAM OBJECTIVES, PROGRAM PACKAGE, PROGRAM DIRECTOR, PROGRAM MANAGER, PROGRAM SPONSOR and PROGRAM CYCLE which is the topic of my address to you today.

How did the word "PROGRAM" become part and parcel of our planning/budgeting vocabulary? All stories must have a beginning - this one began when Secretary of Defense Robert S. McNamara and his comptroller, Charles J. Hitch, were resolved in 1961 to create something entirely new in the Pentagon: orderly procedures for translating strategic objectives into budgets. Hitch, who had been the Rand Corporation's chief economist, proposed a "programming system", in which military plans were divided into broad "program packages" (e.g. strategic retaliatory forces, continental defense forces, airlift and sealift forces, research and development), when subdivided into hundreds of "program elements" (e.g. the Fleet Ballistic Missile System, VTOL Aircraft, Marine Divisions, and Recruit Training) are typical program elements. The plan was to be kept five years ahead; thus each year's set of programs was, in effect, only the first slice- out of a five year plan. This DOD Programming System was introduced in the Spring of 1961 for application to the development of the FY 1963 budget. This new planning - programming - budgeting system is a noteworthy systematic procedure for translating strategic requirements into budgetary requests - something that had not been accomplished during the previous thirteen (13) years in DOD despite the ministrations of some of the most highly regarded professional managers in the U.S. What happened each year, according to Comptroller Hitch, was "a process of bargaining among officials and groups having diverse strengths, aims, convictions and responsibilities." It would be hard to argue that the new planning - programming - budgeting system is not a great deal more rational.

What is this thing called a "program"? There are three definitions. First, a "program" is a plan or scheme of action designed for the accomplishment of a definite

objective which is specific as to the time-phasing of the work to be done, and the means proposed for its accomplishment, particularly in quantitative terms, with respect to manpower, materiel, and facilities requirements. Thus a program provides a basis for budgeting. Second, a "program" is a segment or element of a complete plan. Third and last, a "program" is a budget account classification. What's good for the noun should be applied to the verb. "Programming" is defined as the process of preparing a program especially in the terms of quantitative, physical requirements of manpower, materiel and facilities. Programming has been characterized as a bridge between planning and budgeting. A more appropriate analogy might be to liken programing to a weld bonding the planning - programming - budgeting process into one integrated whole. The programming and budgeting processes are both inter-related and overlapping. Their relationship is still evolving. It is important to note that the major innovations of the new DOD programming system did not involve alterations of the budgetary process so much as an extension of its discipline further into the planning process. The programming system, by relating cost inputs to force outputs and by extending fully costed programs five years into the future, provided better information for making the decisions which are eventually reflected in budgets. These innovations were, however, essentially outside the federal budgetary process which has been in existence for some forty five years. The DOD Programming System supplements the budgeting system; it does not supplant or supercede it.

So far my discussion of the planning - programming - budgeting system has been the "big picture" - The view from the Pentagon. Our immediate interest is the planning-programming - budgeting view from the Naval Training Device Center at Orlando. However, before we view this picture together, let us take a quick inventory of the tools of the trade. Briefly, the Navy's Planning and Programming System has as its foundation stone the Navy Study Effort. This is the continuing and recurring requirement for strategic and naval warfare systems studies in support of the Navy Planning and Programming Effort. The overall Navy Department study effort is coordinated by the Chief of Naval Operations (CNO).

The five formal basic documents of the Navy Planning System are:

a. The Navy Long Range Strategic Study (NLRSS)

b. The Navy Mid-Range Study (NMS)

c. The Mid-Range Objectives (MRO)

d. The Navy Support Plan (NSP)

e. The Navy Capabilities Plan (NCP)

The Navy Programming System includes two complete program documents:

a. The Department of the Navy Program Objectives (PO):

This document describes the Navy's yearly increments of reasonably attainable force levels and programs of the Navy and Marine Corps. Among other things, it projects procurement, research and development and supporting programs for five years.

b. The Department of the Navy Five Year Force Structure and Financial Program (FY FS & FP).

This programming document is the Navy Department's portion of the DOD FY FS & FP and constitutes the Secretary of Defense approved program for the Department of the Navy. It covers funding for all Navy programs for the prior, current, and succeeding five fiscal years, and force levels for an additional three years.

We spoke earlier of the tools of the trade - the Washington tool kit. Let us take a quick inventory of the tools used by NTDC in the planning/programming cycle:

a. General Operating Requirements (GOR)

b. Tentative Specific Operational Requirement/Specific Operational Requirement (TSOR/SOR).

c. Advance Development Objective (ADO)

d. Proposed Technical Approach (PTA)

e. Technical Development Plan (TDP)

We have the tools - a full kit. How are they used? A formal structure and set of procedures has been established for planning/programming. The procedures involved is also called the dialogue between the user and producer interests of the Navy. This dialogue proceeds generally as follows: The user, CNO, expresses fleet need in a GOR or TSOR. CNR, Chief of Naval Development, and CNM respond to CNO and in response advises CNO of the technical feasibility of producing what is needed, the possible approaches, the economic considerations in the production of needed items, and the time scales on which they might be developed and produced. One of these responses is the PTA. The next stage of this user-producer dialog is the SOR in which CNO states specific needs for a particular capability and outlines the system characteristics which describe what capability is to be achieved. The SOR is the final stage in requirement documentation. CNM then develops the plan, a TDP for the fulfillment of an ADO or SOR. This TDP is a detailed description of the effort necessary to accomplish the development together with a recommended funding schedule. Approval by CNO constitutes the authority to begin implementing the plan commensurate with funds that are provided by separate action. When funded, the TDP becomes the primary management control and reporting document for the life of the project.

The stage has been set - we are now ready for the role of NTDC in the Navy's planning - programming - budgeting system.

All of the tasks accomplished at NTDC are grouped in either one of five programs:

a. Army Program

b. Air Program

c. Sea Program

d. Marine Corps Program

e. Supporting Research Program

Overall program growth is startling. Using 1961 as the base year and culminating in 1967, there has been a whopping 150% program increase.

Four Directorates: Research (Code 50); Requirements, Plans and Programs (Code 60); Engineering (Code 30); Maintenance Engineering and Support (Code 40), are those most concerned in the device development and production cycle - the program cycle - at the Center. The Program Phasing indicates the span and degree of participation of each of these Directorates during the program cycle - the span from conception to death of a training device.

The span of responsibility of the Requirements, Plans and Programs Directorate (Code 60) covers the complete life cycle of any program. Code 60 degree of participation is heavy in the early requirements phase of a project, the initiative stages, where direction and purpose are given to a project - where this input has for-reaching implications on how successful the training equipment program will be in achieving its objective. Decisions made here determine whether the equipment will meet the training

need; will be timely; will be cost effective; and will be located where maximum utilization can be effected. In general, there are three sources of device requirements or tasks in this area: (1) Those resulting from GOR's, (2) Those generated by the operating Navy and Marine Corps (Fleet and Air Activities) and (3) those generated by the Navy technical schools.

Let us talk through an idealized producer-user dialog. The Program Cycle has activities that are external and internal to the Center.

In a training requirements analysis based on a new weapon system still in the development stage the "not yet operational system" must be conceptualized. Once this is done further review identifies the man/machine interfaces within the system and seeks to determine what information the operator receives through his senses, the decisions, actions or reactions that he makes, and the feedback effect that these actions will have on the system. At this point, areas of training difficulty, and specific training problems can be identified. Training methods are then analyzed and from this analysis a recommendation is made as to whether a training device should solve the training problem.

A training device which results from a superficial training requirement analysis is not fully responsive to user needs. In addition, a training device may be well engineered for ease of maintenance and high reliability, but if it does not provide the proper training it has not fulfilled its purpose. Further, considerable time, effort, and money has been expended without making a contribution to Fleet Readiness.

Upon completion of the training analysis phase, resulting in project definition and identification, the Program Control Department takes appropriate steps to establish an overall plan and program within the resources made available. Other responsibilities of this group are to insure responsiveness to user delivery requirements, and to schedule projects throughout the Center in such a manner as to insure a controlled orderly flow throughout the procurement cycle.

Within the Engineering Directorate (Code 30) two basic tasks are performed. One task is related to project engineering and covers all functions designed to convert a training device requirement into a training device. The other task is related to the specialized support required to implement the project engineering function.

The mission of the Maintenance Engineering and Support Directorate (Code 40) is to provide and control logistic support for training devices developed or procured by or transferred to the cognizance of the Center. More than ten separate and distinct functional work areas are performed by this Directorate. These functional areas are here combined into three generalized workload areas, Integrated Logistic Support, Inventory Support and Configuration Management and Inventory Support.

To summarize, the Center's technical workload - the various programs, Army, Air, Sea, Marine Corps and Support Research are composed of tasks that satisfy requirements established by the five training agencies. These sponsored requirements are converted into specific tasks within the Center programs when the following conditions have been met:

a. A cost/lead time estimate together with a procurement plan is developed
b. A training agency sponsors the requirement
c. Funds have been approved

The objective of the Center is the economical procurement and timely delivery of reliable training devices that satisfy the training requirement. THE RIGHT TRAINER - AT THE RIGHT PLACE - AT THE RIGHT TIME - WITH THE RIGHT SUPPORT TO ENSURE A CONTINUOUS FLOW OF TRAINED MANPOWER - THE KEY TO OPERATIONAL READINESS. To this goal, Gentlemen, we enlist your cooperation.