device requirements. An intensive evaluation program will measure its suitability to training devices, and research will seek out improvements. The Center feels that this is an important new approach to handbooks. It has its real pay-off in reduced training time, and deserves an extended effort on the part of both Government and contractor to take a step forward in the manual area. We'd like your cooperation in producing a new-concept handbook worthy of evaluation.

In summary, I should like to emphasize that quality control is the major hurdle that we must clear. The Center is anxious to cooperate in clearing this hurdle.

I should like to leave you with a few questions which will tie together the areas of contractor-conducted training courses and publications.

a. Are you fully aware of the common data sources which serve as a base for both training courses or publications?

b. Do you understand the abilities which both training courses and publications require of people working in these areas?

c. Have you capitalized on these commons in the way you organize and employ people in publications and training?

PROVISIONING TECHNICAL DOCUMENTATION AND REPAIR PARTS

Mrs. Frances S. Smith
Head, Support Liaison Division

With this presentation we begin Part III of the Integrated Logistic Support (ILS) area, and I will talk directly to Section 5 of Bulletin 40-1. It is the intent of Bulletin 40-1 to insure that "tools for more effective training" are indeed "available tools"; available throughout the life cycle of the training device. This can only be achieved by maximizing the maintainability characteristics of the device through the design considerations, and by determining the support requirements of the device as they are recognized throughout design and development. Objectively, Section 5 of Bulletin 40-1 aims to achieve a measurable increase in training device effectiveness through positive identification of training device repair parts, reduction in the range of parts by use of military standard items, standard commercial items, and multiple use of the same components in the system, improved availability of repair parts and reduced logistic support costs.

During this presentation, I will emphasize the importance and significance of the Contractor Augmented Support Period, highlight the important elements of Provisioning Technical Documentation and the need for adequate and timely submission of Provisioning Data to enable the Navy to procure repair parts, touch on the role of the Electronics Supply Office (ESO) in the Integrated Logistic Support Picture, and I will mention the "Supply Platform" which we work from.

Like astronauts soaring into the unfamiliar environment of outer space, the supply manager has been projected into the environment of Intergrated Logistic Support. Not all of the concepts are new, but in our new management world of technical supply--replete with such terms as reliability, maintainability, and supportability -- we are

experiencing first-hand new complexities in the solutions of our material support problems. Our new environment has been created by the development of the Integrated Logistic Support (ILS) Program for Training Devices. ILS is a composition of the elements necessary to assure the effective and economical support of training devices at all levels of maintenance for its programmed life cycle. It is important to recognize that a "balance" of the elements involved is necessary. These elements include planned maintenance, logistic support personnel, technical logistics data and information, support equipment, repair parts, facilities, and contractor augmented support. Note that the selection of "repair parts" is but one element of ILS. Their selection must be balanced against the requirements of all other elements.

The selection of repair parts moves us into the area known as provisioning; however, before I discuss provisioning and provisioning technical documentation, I wish to comment on the importance of the Augmented Support Period in connection with repair parts for initial support of newly developed devices. As Mr. Okraski has told you, the purpose of the Augmented Support Program is to provide support for training devices during the introductory period prior to Navy support.

The Naval Training Device Center, together with supporting naval activities, is charged with the responsibility of support of all training devices provided to the Fleet and Training Commands, the primary objective being to provide equipment which can be effectively maintained. This objective requires that all factors necessary for support be compatible, timely, and effective.

Historically, the projection of initial repair parts support requirements has been somewhat inadequate, being over-, or under-estimated due primarily to the lack of realistic programming, usage data, and familiarization with the equipment. Initial procurement of support items also had its shortcomings resulting from: the unpredictability of failures, unscheduled removals, design changes, and long procurement lead time.

For example, we are going to develop Device XYZ. The contract is awarded June 1966 with the Device Fabrication/Installation Period of 16 months (Device Fabrication 15 months, plus one month for installation).

There are a number of actions which must be performed commencing approximately in the 12th month of the Device Fabrication/Installation Period. Equipment Repair Parts List, Long Lead Items List and the Provisioning List must be reviewed; provisioning screening through the Defense Logistics Services Center must be accomplished; provisioning process initiated; range and depth of parts must be determined; and procurements initiated. You can see that within the six months' span of time one cannot accomplish the total support objective and be capable of supporting a training device commencing on the Device Acceptance Date.

This brings us face to face with the paramount problem of how to initially provide adequate, economical, and timely logistic support and insure a high rate of device availability to meet Fleet requirements. The Naval Training Device Center endeavored to correct this problem by developing a program identified as "Contractor Augmented Support."

It is within the Augmented Support Period that the Government will be rapidly building its support capabilities to insure timely and effective support at the specified Navy Support Date. Augmented support will cease when Navy Support starts. Some of the important benefits to be derived from Augmented Support are:

a. Support can be tailored to fit a particular situation.

b. Support can be timely during the device introduction phase.

c. Feedback in connection with repair parts usage can be analyzed.

d. Last, because the contractor supports his product, Augmented Support alerts industry to the Navy's logistic support problems and provides an excellent training medium from which both industry and the Navy will profit.

I should like to re-emphasize at this point that the development of Government support capabilities for a training device requires a joint effort by both the contractor and the concerned Navy activities. This is now possible through implementation of the "Augmented Support Period."

In connection with parts selection and provisioning, I would like to begin with a case study. A newly delivered training device at a Naval Air Station is performing well; that is, doing a good job of training pilots to fly that hot new jet aircraft--but something happens--a key part fails; the trainer no longer functions; the replacement part is not readily available;. the trainer is down, useless, or of partial value until the part is installed once again in that trainer.

A vital training program may be delayed--time and money are wasted. This is not a purely fictional situation. This has occurred in the past, and it is my purpose today to examine provisioning of training devices, for the goal of complete provisioning is to reduce instances, such as the one I just mentioned, to zero.

Provisioning is the process of determining the range and quantity of items of repair parts (that is, repairable or consumable items) required to support and maintain an end item for an initial period of service. Its phases include the identification of items of supply, assignment of source, maintenance, and recoverability codes, the establishment of data for catalogs and allowance lists, and appropriate action to assure timely delivery or availability of items required for intial support.

A prerequisite to provisioning is the Provisioning Technical Documentation (PTD) submitted by training device contractors under terms of the device contract and in accordance with Bulletin 40-1.

With respect to the specific documentation to be required by Bulletin 40-1, I'd like to stress that the Navy's requirements will vary under different sets of circumstances. The types of lists or documentation we will require will depend on the size of the training device, the complexity of the device, the time elements involved, and on other factors.

I'd like to mention two of the Provisioning Data lists which are of particular importance in establishing support for a training device:

a. Contractor Acquired Operational Equipment List. This is a listing in tabular form of those items procured by the contractor from operational equipment suppliers only and incorporated into the training devices. This listing is vital in the establishment of support of a training device since both modified and unmodified items must be identified and accepted for supply support by various Inventory Control Points in the Navy Supply System.

In the Figure 18 flow chart, you will note that under terms of a training device contract, the contractor prepares and forwards the Contractor Acquired Operational Equipment (CAOE) List to NAVTRADEVCEN. In turn, NAVTRADEVCEN sends copies to Navy Electronic Supply Office (ESO).

ESO screens the CAOE List, takes action to provision the modified CAOE, and procures required repair parts for Navy support purposes from the device contractors. In addition, ESO provides the Aviation Supply Office (ASO) with information relating to unmodified CAOE.

ASO takes action to provision the unmodified CAOE used in training devices and procures required parts for Navy support from the Operational Equipment Contractor or Supplier.

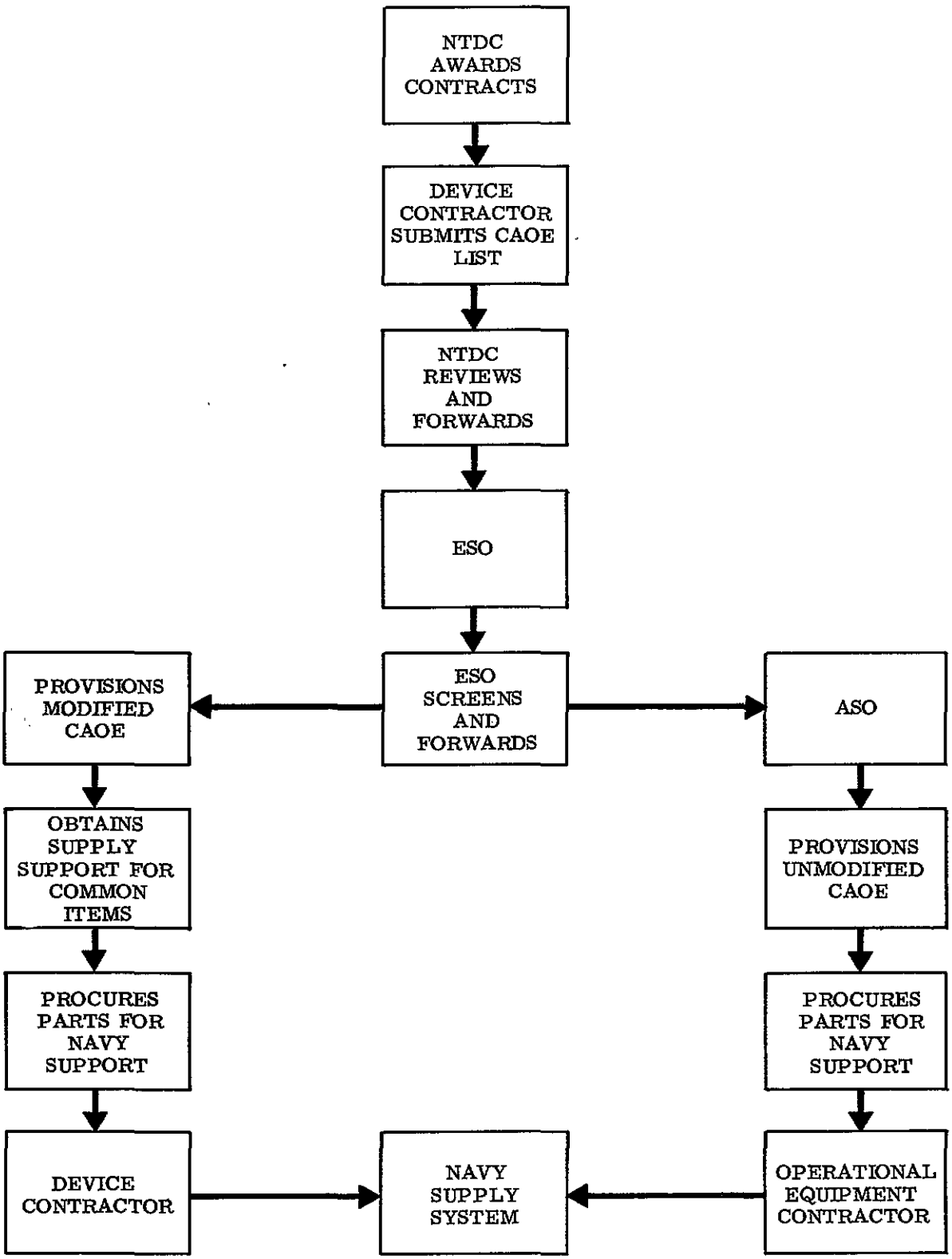

Figure 18. Flow Chart

You can see from this illustration that the CAOE List is a vital reference document, and wide-scale use of this list as a technical reference document can be expected by the Navy activities responsible for providing responsive and effective logistic support for the Training Device Program.

b. Provisioning List. A provisioning list covering all items in a training device will be required in most instances. Actually, the Provisioning List tells us what the contractor has used in a training device. I am sure that many of you realize that the provisioning list provides us, among other things, with information in two vital areas:

First - The Provisioning List in top-down breakdown sequence provides us with information on the "relationship of parts."

Second - The Provisioning List provides the means whereby we can obtain consolidated information on multiple application of parts. With respect to multiple application, we must have the means of knowing how many times a given part is used within a given device; unless we know this, we are in danger of overbuying.

There is one other requirement that has a big impact on the Navy's capability to support a device. This is the requirement for supplementary Provisioning Technical Documentation (PTD). Supplementary PTD includes:

Engineering drawings
Standards and/or item specifications
Illustrations, sketches
Vendor catalog data

It is within the area of supplemental PTD that we have encountered our biggest problems to date--lack of complete and adequate data for vendor items or products. In the Repair Parts area in particular, we have not received complete and timely provisioning data for vendor products. Support of a training device thus is jeopardized. These difficulties are becoming more aggravated as our training devices become more complex and expensive to maintain. Under Bulletin 40-1, the prime responsiblity for providing complete and adequate data for vendor items is fixed on the contractor. Training device contractors should make certain that their suppliers fully understand the need for complete Provisioning Technical Documentation of the supplier's end article used in a training device.

In the past few minutes, I have mentioned the Electronics Supply Office several times. Whenever continued Navy Supply System support is required, "Program Support" will be assigned by the Naval Training Device Center to ESO. What is "Program Support"? Program Support is the responsibility to assure that all items necessary for the support of a training device are accepted for supply support by an Inventory Manager of the Navy Supply System. Basically, training devices are supported by the Government under a Program Support/Supply Support concept.

How does the Program Support/Supply Support concept work? This means that the Naval Training Device Center will look to one Inventory Control Point; that is, ESO, for the support of a training device. ESO, in turn, must insure that items under the cognizance of other Inventory Managers, such as the Ships Parts Control Center (SPCC), the Aviation Supply Office (ASO), the Defense Electronics Supply Center (DESC), as well as ESO, are identified and accepted for continued supply support.

There is one common misconception about ESO that I would like to clear up. ESO does not stock or warehouse any material. ESO is an Inventory Control Point and, as such, is a management organization. The primary mission of ESO in connection with the Training Device Program is to support the Navy and Marine Corps with training device repair parts. In order to accomplish this mission, ESO provisions training devices, determines range and depth of parts, procures material, distributes and

disposes of material, and provides catalog services.

In connection with provisioning, the provisioning process under Integrated Logistic Procedures will not be materially changed; however, to insure timely and adequate Government support, a Training Device Team Provisioning Conference will be scheduled to make decisions such as: Maintenance capability and maintenance echelons, item criticality, tentative selection of range and depth of maintenance repair parts, assign Source Maintenance and Recoverability Codes (SM&R Codes), and determine any additional requirements for item identification and related data. Since it is our intent that the provisioning process be a team effort, let us look at a typical provisioning team which will consist of representatives of:

The Training Device Contractor

The Electronics Supply Office (ESO)

The Using Activity (Navy or Marine Corps), Overhaul Activity

The Naval Training Device Center

Other activities such as the Aviation Supply Office (ASO), as appropriate.

I want to mention one other thing in connection with Provisioning. TIMING is of the essence. All of the Naval Training Device Center's and ESO's actions to support a new training device are geared to meet the "Navy Support Date." We must receive the listings and documentation we require from contractors on schedule. Any slippages may jeopardize the Navy's ability to position material to meet the Navy Support Date.

The Provisioning Pay-Off. Effective team work between the Device Contractor, ESO, and NAVTRADEVCEN results in adequate and timely repair parts support for training devices.

For many years we have been attempting to elevate supportability of training devices. The Integrated Logistic Support Program gives us something we have never had before. For the first time, we now have a "Supply Platform" to work from. The Maintenance Engineering Analysis Record (MEAR) will give us a firm, standard definition of the maintenance and support structure. This means that the Navy will procure material to support the specific maintenance levels and to the depth of maintenance authorized by the approved plan.

One of the important things which must be recognized under the Integrated Logistic Support Program is that the contractor develops the maintenance program and the support requirements for training devices. The contractor has responsibilities in connection with "provisioning" which he has not had in the past. Assignment of provisioning factors is an integral part of the maintenance engineering analysis process. I do not propose, during the course of this talk, to discuss precise definitions of provisioning factors and codes or the methodology for their assignment. However, if you expect to be involved in this process, now is the time for you to start becoming familiar with what they mean.

In closing, you will recall that I emphasized the importance of the Augmented Support Period; highlighted the important elements of provisioning; technical documentation; touched on the role of ESO in the support picture; and mentioned the "Supply Platform" which we will work from.

We believe that Supportability integrated with Reliability and Maintainability, throughout the equipment design and development stages, will insure that our products will indeed be Training Devices which can be supported throughout the device life cycle at the lowest possible cost.