

Department of Defense Photographic Standardization Plans

By PHILIP M. COWETT

The 82nd Congress enacted Public Law 436, known as the "Defense Cataloging and Standardization Act," which enjoins the Armed Forces to standardize to the maximum extent practicable. Public Law 1028 of the 84th Congress reaffirmed the intent of the previous Act. This paper discusses the steps being taken by the Department of Defense to carry out the provisions of the Act. Examples in the projection-equipment field are presented.

THE DEPARTMENT of Defense Photographic Standardization Plans discussed in this paper include:

1. The assignment of standardization responsibility to individual military departments by Federal Supply Classes.

2. The establishment, publication, review and revision within the Department of Defense of military specifications, standards and lists of qualified products, and the resolution of differences between the military departments, bureaus and services with respect to them.

3. The maintenance of liaison with industry advisory groups to coordinate the development of military standards and specifications with the best practices of industry.

4. The standardization of items used throughout the Department of Defense by developing and using single specifications, eliminating overlapping and duplicate specifications and reducing the number of sizes and kinds of items that are generally similar.

5. The standardization of methods of packing, packaging and preserving standardized items.

6. Making efficient use of the services and facilities for inspecting, testing and accepting those items.

Authority

These plans are authorized by the Defense Cataloging and Standardization Act (Public Law 436, 82nd Congress). This Law, which was reaffirmed and expanded by Public Law 1028 of the 84th Congress, provides for the establishment of a supply standardization program under the Defense Supply Management Agency. The Act enjoins use of single specifications, elimination of overlapping and duplicating item specifications and reduction of sizes, kinds and types of generally similar items. It also provides for a single Department of Defense catalog system.

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The Department of Defense Reorganization Plan No. 6 of 1953 reassigned the responsibilities of the Defense Supply Management Agency to the Secretary of Defense and a Department of Defense Directive (5126.1, August 13, 1953) delegated the responsibilities to the Assistant Secretary of Defense (Supply and Logistics).

Department of Defense Directive 4120.3, October 15, 1954, restated and clarified the objectives of the program and the methods of achieving the objectives. It requires the development of detailed plans for the accomplishment and maintenance of standardization by assigned departments in cooperation with other interested departments. The standardization assignment by FSC (Federal Supply Classification) classes includes responsibility for standardization of items, methods, codes, nomenclature, marking, packaging and preservation of items within the class.

Standardization Policies

The basic standardization policies of the Department of Defense are as follows:

1. There shall be but one Department of Defense standardization program.

2. It shall be an accelerated program.

3. The office of the Secretary of Defense shall manage and control the program by planning, directing and reviewing its operation which, in turn, shall be decentralized to the military departments with authority to further reassign portions of the operation as necessary.

4. Interdepartmental coordination on all standardization matters having an impact on more than one department shall be required.

5. Assignments and sub-assignments to the military departments shall be made on the basis of departmental capacity and supply interest.

6. The coordinated specifications and standards derived from standardization effort shall be mandatory for use throughout the military supply systems and in the design of new products where practicable. Any deviations or waivers from specifications or standards shall be approved by

competent authority and justified in writing.

7. The standardization efforts shall not be limited to domestic standardization only.

8. Industrial coordination shall be required in the development of standards.

9. Industrial standards shall be adopted where practicable for military use.

Basic Objective

The basic objective of the Defense Standardization Program is to improve, simplify and make economical the performance of logistics functions. This objective also includes promotion, through design practices, of the utmost practicable uniformity and interchangeability of items required to fulfill departmental missions by limiting the selection of material, parts and procedures. All action designed to reduce varieties and kinds — whether of physical objects or of engineering and technical processes — are of concern to the Standardization Program. Standardization is not an end in itself but is a means to improve supply management, and should never operate to the detriment of research and development or the realization of operational requirements.

Engineering Standardization

Engineering standardization is an integral part of the total standardization program. It has brought about the following concepts:

1. Dimensional and functional interchangeability.

2. Uniformity of communications, that is, common recognition and exchange through standardized drafting room practices, symbols abbreviation, codes, etc.

3. The development of basic characteristics of equipments, items and materials.

4. The standardization of engineering and production processes, procedures and practices, etc.

Application

In applying the standardization program, each photographic item presently in stock or about to be procured must be examined by Joint Committees appointed according to the provisions of Department of Defense Directives. The committees must consider four main questions in examining the items: Is there overlapping in types and functions? Can the number of types be reduced? Are all

the features built in as part of the equipment in question required? Can the services actually get together on one common item?

A job of this nature requires a great deal of research and frequent meetings of the committees.

Detailed Plan

The initial step taken by the service assigned to the task of coordinating the standardization of a given group of items in the appropriate FSC class is to develop a detailed plan for the approval of the Department of Defense. The plan must outline each step to be taken toward the standardization of the specified items and must include a list of industrial firms with which coordination is appropriate. If it is considered desirable, joint public advisory committees may be established to assist in standardization.

Members of the working groups who determine the extent to which standardization of individual items is feasible are expected to have a knowledge of engineering and also specialized knowledge of the items under consideration.

Item Studies

The photographic items under the jurisdiction of the assigned working groups are examined to determine which equipment features are acceptable and can effectively be utilized by the military departments. Features which are questionable or are considered too costly for the services they perform are dispensed with.

In the standardization of an item, such as a 16mm sound motion-picture projector, it is necessary that many piece parts be given close scrutiny. While the equipment as presently used by the military departments may be somewhat similar, there may be individual preferences in switches, power plugs, transformer treatments, types of finishes, name-plate materials, etc. The "standard" equipment must be equally acceptable to all services and yet not contain unnecessary design variations.

Specifications

Based on committee discussions and investigations, specifications describing the items under consideration must be rewritten to describe correctly the performance and selective design requirements of the new standards. Prior to approval of the Detailed Plan these specifications are generally rewritten as the result of project assignments by the Office of the Assistant Secretary of Defense for Supply and Logistics. In the same manner, associated sheet standards are also prepared which select the equipment types which may henceforth be purchased for use by the military departments.

Specification and standard preparation time schedules, which are set, are dependent upon the urgency of equipment requirements and upon the availability of qualified personnel at the department designated preparing custodian. During preparation, the custodian must keep in close contact with other military coordinating custodians as well as with appropriate Government testing laboratories and with manufacturers, who produce equipment of the type covered by the specifications. These contacts may be in the nature of letters, telephone conversations or conferences.

The draft specification as initially prepared is intended to cover all the requirements of interested military activities. The comments of interested civilian agencies of the Government are also considered. The draft specification is circulated to military contact points, other interested Government agencies, and to industry for their comments.

Military Comments

Comments received from the contact points reflect the coordinated views of each military or civilian department. These are in the nature of "essential" or of "suggested" comments. All essential requirements must be made a part of a revised specification if at all possible. The suggested comments are those which may further improve the specification. The inclusion of these comments is left to the discretion of the preparing custodian.

Industry Comments

Comments received from industry may be more difficult to cope with since each manufacturer must, of necessity, bear in mind that he is in business to make a profit.

In some instances comments may tend to reflect the product which the manufacturer is producing. However, in general, comments received from industry are excellent. We know that most manufacturers have an honest desire to assist the military whenever possible.

There is also a willingness on the part of manufacturers to arbitrate their comments in order to assure the services of a specification which is satisfactory to all interested parties. When there are many industry comments, which cannot be easily reconciled, the specification custodian may either try to arrive at a satisfactory solution himself or he may arrange a roundtable conference with the manufacturers to discuss the various comments in an effort to reach a solution which will be satisfactory to all. Those comments which have the support of the majority of manufacturers are adopted if at all possible. Those comments which are acceptable only to a small minority of manufacturers and contrary to the majority opinion are not adopted unless the services have a very good reason for



Fig. 1 The JAN Projector.

accepting them. In these instances, the services present their viewpoint in an effort to obtain industry agreement. After such discussions, the specification is ready to be rewritten unless, of course, some of the methods of test have been under attack. In this case, it may be necessary to work out completely new methods for conducting certain tests. This could require the services of a testing laboratory, which is thoroughly familiar with the various methods of test, and which has the facilities to conduct the tests.

Example

The JAN 16mm projector is an example of some of the standardization accomplishments of the Department of Defense. This projector resulted from a specification initially prepared by a committee composed largely of members of this Society. This specification, JAN-P-49, was prepared as a production specification. It was rewritten as a developmental specification since it was not then possible to meet many of the production-type requirements. This resulted in developmental contracts by both the Signal Corps and the Bureau of Ships and very close cooperation be-

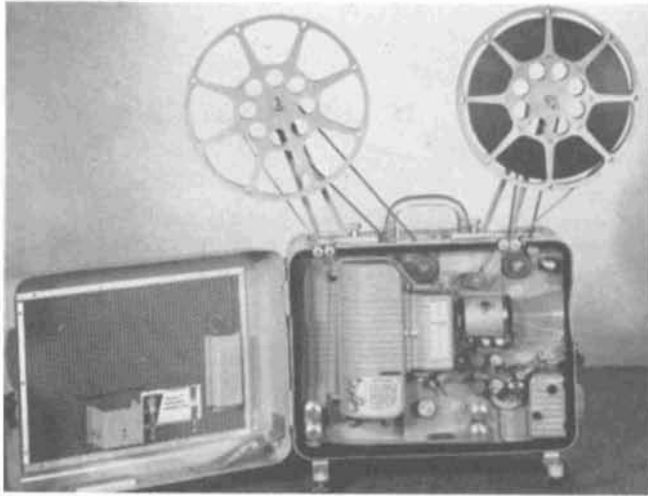


Fig. 2. Single-case unit of the JAN Projector.

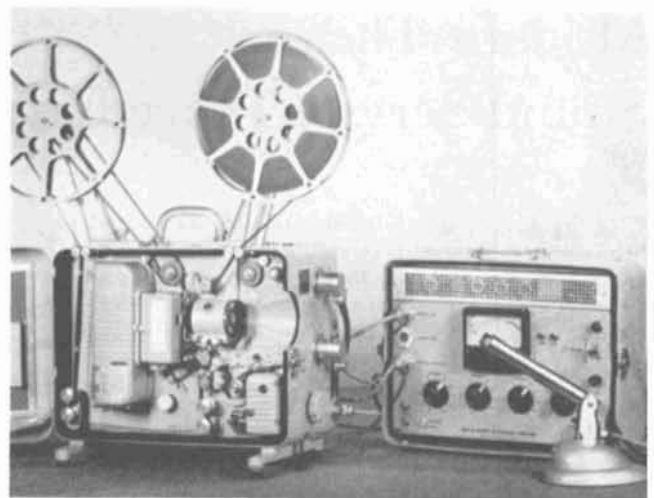


Fig. 3. Single-case unit of JAN Projector, with record facility.

tween the two services regarding military characteristics, performance and general design requirements. In 1946 it was not mandatory that the services join hands to produce a standard projector; however, it was realized that by working together a much better product conforming with the requirements of both services could be obtained. This cooperation resulted in the JAN Projector (Fig. 1.). Both services were responsible for many of the features, which are a part of this design. Changes in the design of this projector were brought about through suggestions from various field activities, by changes and improvements in the art, and by changes in military requirements. This three-case projector (loudspeaker not shown) was used in shipboard motion-picture booths and by various continental U.S. and overseas shore stations. It conforms with SMPTE recommended performance characteristics.

Based upon the requirements of training personnel for a stripped-down version of the three-case projector, the single-case unit shown in Fig. 2 was evolved. Here again close cooperation among the services resulted in nearly identical projectors for each department. Comments received from both ships and shore stations indicate that this single case unit is an important addition to the three-case predecessor. This unit is not equipped for dual operation as it has no changeover facilities. It can, however, be easily modified in the field to include the changeover facilities of the three-case unit. It further can easily be modified in the field to reproduce sound from magnetic track on film. The "record" feature can also be incorporated if

desired. This equipment is shown in Fig. 3.

In carrying out this program, the Department of Defense must rely, to a large extent, on equipment manufacturers and technical societies. In the standardization of photographic goods the Department relies heavily on the accomplishments and decisions of the technical committees of the SMPTE.

Detailed Standardization

It is difficult to comprehend the tremendous scope of the Defense Standardization program. Each nut, bolt, washer, switch, lamp and sprocket, and all characteristics, finishes, tests, etc., in each piece of equipment used by the Department of Defense must be closely examined and decisions made as to the modifications or eliminations necessary to achieve complete interchangeability.

For example, at a recent meeting in New York, all 16mm splicers listed in the supply catalogues of each department were compared. Also, preliminary standardization of hand rewinds was accomplished. One geared-end and one brake-end rewind were selected. Hand rewind sets as such were eliminated. In the future, supply depots will order only the approved items. Instead of receiving a huge package containing a geared-end and a brake-end mounted on a board, the depot can mount the rewinds on a board, workbench, film inspection machine or any other place desired. This may seem a small item but it will result in long-range savings to taxpayers and certainly will not be injurious to manufacturers.

The Defense Department policy of using commercial equipment when it is

possible to do so is well known. If commercial equipment is unsuitable or unavailable, the services may design the equipment through a military specification which permits all manufacturers of similar equipment to offer competitive bids.

Discussion

Boyce Nemeo (Management Consultant, New York): Was this new standardization program adopted as a big head-on, across the board, re-standardization program for all photography? Or was it set up with an order of priority?

Mr. Cowett: I should like to call on Mr. Hutchinson of the Office of the Assistant Secretary of Defense to answer that, if I may.

W. S. Hutchinson: We are going to review, in some detail, all the commodities which we purchase and stock in the military departments. As Mr. Cowett mentioned, we have assigned a department the responsibility for certain Federal Supply Classes. In the photographic field, the Bureau of Ships has projection equipment; the Air Force has certain other types; Signal Corps, others; etc. Progressively, under the detailed plan which they develop in a cooperative manner, they will assign schedules for reviews by priority, as you suggest, on the major items of these equipments, the equipments which they stock, which they buy repetitively. They will assess, for each type of equipment, let's say it's a projector, or printer or dryer or cameras, etc., the types that we need, according to the requirements of the three services; and, within the types that are selected, the best features which we feel that are necessary for their performance. We will take, by priority, those items which have the greatest population, the greatest turnover, the greatest maintenance problems, first, and, progressively, go down through our entire system until we have reviewed everything that shows potential; we will not waste time on items that have no potential.

Ellis W. D'Arcy (D'Arcy Magnetic Products, Inc.): This then is a formal statement of Defense Dept. policy?

Mr. Hutchinson: I'd say, to the best of my knowledge, you may take it as a positive statement of D.O.D. policy.