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DEPARTMENT OF THE NAVY
OFFICE OF THE CHIEF OF NAVAL OPERATIONS
WASHINGTON, D.C. 20350

IN REPLY REFER TO

OPNAVINST 3500.27B
OP-342D

28 JUN 1974

OPNAV INSTRUCTION 3500.27B

From: Chief of Naval Operations

Subj: Construction and control of digital processor programs
for the Navy Combat Direction Systems

Ref: (a) OPNAVINST 4720.2D of 9 Jul 1973 (NOTAL)
(b) CNO ltr Ser 639P35 of 21 Apr 1966 (NOTAL)
(c) OPNAVINST C5711.91B of 9 Mar 1973 (NOTAL)

(A)

1. Purpose. The purpose of this instruction is to provide guidance for the construction and control of Combat Direction Systems (CDS) digital processor programs for the Navy, to ensure that:

a. Primary emphasis of Fleet Combat Direction Systems Support Activities is focused on producing and supporting high quality software for the Naval Tactical Data Systems (NTDS) family of systems, as installed in naval ships and aircraft, related systems and such other Command, Control and Communications Systems as may be directed, e.g., the Message Processing and Distribution System (MPDS).

b. Doctrinal content of digital processor programs for Combat Direction Systems is established with knowledge of, and under the broad direction of, the Chief of Naval Operations, with direct input from the fleet commanders in chief.

c. Demands on the Fleet Combat Direction Systems Support Activities for digital processor programming services, other than for Combat Direction Systems software, for the Navy will be carefully screened and controlled by the Chief of Naval Operations, to ensure efficient and effective expenditure of effort and funds by Fleet Combat Direction Systems Support Activities.

d. The portion of the effort of the support activities which is directly responsive to fleet initiated modifications is so organized as to make such response of the most constructive, timely and consistent nature.

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2. Cancellation. OPNAVINST C3500.27A of 6 Mar 1969 is superseded.

R) 3. Background. The Fleet Computer Programming Center, Pacific and Atlantic, have been redesignated the Fleet Combat Direction Systems Support Activity, San Diego and Dam Neck. These activities are assigned to the Chief of Naval Operations for command and support. The mission of both activities is to plan, design, construct, test and deliver Combat Direction Systems (CDS) digital processor programs for the operating forces, including training programs, as assigned: to correct, update, modify, enhance, and distribute operational programs in accordance with evolving fleet requirements; to provide ancillary digital processor programs in support of such digital processor program development and maintenance; and to provide technical assistance and digital processor programs to the shore establishment, as directed. Pursuant to this basic authority, it is the policy of the Chief of Naval Operations that the Fleet Combat Direction Systems Support Activities will be separate commands collocated at Fleet Combat Direction Systems Training Centers and that Fleet Combat Direction Systems Support Activities will be staffed partially by civilian digital processor programmers who possess suitable qualifications. The proportion of officers to civilian programmers shall be such as to ensure realistic operational content of the programs. It is also within this policy that the commanding officers of the Fleet Combat Direction Systems Support Activities will act, in addition to other duties, as agents for the Navy in the administration of software contracts in support of CDS.

A) 4. Funding of software modification

a. The initial digital processor program(s) for a CDS, whether it be as a part of a new construction project or a modernization, will be the funding responsibility of the Principal Development Activity (PDA). This program will be of sufficient operational capability and stability so that it can be used by the ship, or aircraft in combat operations (i.e., an FC operational program vice a demonstration program).

b. In all cases where changes or additions are made to the combat system of ships through the Fleet Modernization Program (FMP), and such changes or additions affect the CDS program(s), then it shall be the responsibility of the activity sponsoring the change or additions to ensure the necessary resources for computer software are included in the FMP through the medium

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of the semi-annual Fleet Modernization Conferences as described in reference (a). Similarly, in those cases where changes or additions are made to aircraft or associated shore based systems, it shall be the responsibility of the activity sponsoring the change to ensure that the necessary resources for computer software is included as part of the modernization or update program.

c. Modifications to CDS digital processor programs supported by the Fleet Combat Direction Systems Support Activities which are required due to changing operational concepts or which are needed to improve the capabilities of operational CDS, but which do not result from the incorporation of new or modified hardware will be funded by the Chief of Naval Operations.

d. For those cases in which the developing activity is not also the activity which will provide software life-cycle support for the CDS digital processor software the developing activity will provide resources required to procure and install at the life-cycle support activity the equipment necessary to provide life-cycle support, as well as resources required to accomplish any software re-engineering required to establish interoperability with existing CDS prior to operational introduction. Planning for the necessary resources should be begun at the earliest possible time through collaboration by the developing activity and the life-cycle support activity. Such resources should be identified in an appropriate Software Life Cycle Management Plan.

5. Planning and delivery of digital processor program

a. The provision of timely, suitable, and stable digital processor programs for CDS is a vital element in overall systems capability.

b. CDS digital processor programs determine not only digital processor operation, but also the operating mode of the entire complex of systems; therefore, to a considerable extent, the capability of CDS programs tends to establish operational doctrine.

c. CDS digital processor programs constitute the principal medium through which refinements, improvements, and new applications in fleet combat direction capability will be effected. This replaces the earlier methods of securing advances in operating capability through engineering alteration or component

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or system replacement. The potential of digital processor programming to secure these advances more rapidly, effectively, and economically than was possible by former methods must be fully exploited.

d. Approved plans for fitting of NTDS in ships, aircraft, and other systems pose rigorous requirements for scheduled delivery of CDS digital processor programs.

e. CDS programs should be delivered sixty days prior to the final sea trials of ships in which NTDS is to be fitted or as specifically directed by the Chief of Naval Operations for aircraft and other programs.

f. CDS programs must be tested and corrected in the Fleet Combat Direction Systems Support Activities to the most advanced stage possible before delivery to the operational units.

g. The final stages of CDS program test, error location, and error correction on the operational site must be accomplished by Fleet Combat Direction Systems Support Activities personnel, assisted by the personnel of the operational unit. Fleet Combat Direction Systems Support Activities personnel will cooperate with naval shipyards in the conduct of system operability test (SOT) and operational program functional checkout (OPFCO).

h. Time required to conduct CDS digital processor program update, test, error location, and error correction in the operational environment must be minimized, with the objective of normal completion of this function in five to ten working days. Processing of initial digital processor programs for initial ships, airborne systems, or for newly designed functional digital processor programs, may require up to sixty days.

i. Because of the close relation between fleet operating doctrine and procedure, and the procedures contained in CDS programs, an established method for use by OPNAV and fleet commands for determination, review, and approval of the procedures and operational content of CDS digital processor programs is required. By this method, the content of CDS digital processor programs will be kept consistent with fleet doctrine and operating procedures.

R) j. The proliferation of different CDS programs of a particular model for an individual ship/aircraft class/type is to be avoided. Fleet Combat Direction Systems Support Activities

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resources should not be expended on limited capability programs. Normally, only two levels of programs will be designed. Full capability (FC) programs will be designed to use either the full number of digital processors and memory units or a lesser configuration which will allow instantaneous availability of all functional capabilities of the system. Reduced capability (RC) programs will be designed to use one less digital processor or one less memory unit than the FC program. Additional programs will be required when the training function is not included in the operational programs.

k. Thorough documentation of CDS programs in operational terms and in technical programming terms is required.

l. The delivery and checkout of digital processor programs should impose the minimum constraints possible on the operating schedule of the fleet. New program deliveries just prior to deployment or other major commitments should be avoided by appropriate advance planning.

6. Operational digital processor program content

a. Determination and control of digital processor program content

(1) Significant incremental advances in tactical and other major new applications of CDS, which will be reflected in CDS digital processor programs, together with schedules of attainment, will be determined and promulgated by the Chief of Naval Operations. Inputs from fleet units, including the Fleet Combat Direction Systems Support Activities, are desired.

(2) Schedules of delivery of digital processor programs to ships will be developed under the broad guidance of, and promulgated by, the Chief of Naval Operations.

(3) The content, in terms of major program functions of first runs of operational programs for new configuration, new construction, or converted ships or aircraft, will be determined and promulgated by the Chief of Naval Operations.

(4) Equipment specifications will be provided to the Fleet Combat Direction Systems Support Activities by the Chief of Naval Material for each new system to be supported by the Fleet Combat Direction Systems Support Activities, at least 18 months prior to the time the system becomes operational in the

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fleet, or 18 months before Fleet Combat Direction Systems Support Activities software support is required. A design freeze on hardware specifications should be initiated at this point.

(5) Fleet commanders in chief will ensure that combat direction systems digital processor programs are under continual review, to the end that they are consistent with current operational procedures and fleet requirements. The Fleet Combat Direction Systems Support Activities will assist, as required, in this review and advise the fleet commanders in chief as appropriate.

(6) Fleet Combat Direction Systems Support Activities will prepare and promulgate detailed program construction and revision schedules in response to overall schedules of the Chief of Naval Operations, indicating priorities and levels of effort for tasks assigned.

(7) Revisions and alterations to CDS digital processor programs will be determined and controlled as follows:

(a) Revisions to existing digital processor programs which impact on international, joint or USN CDS interfaces, whether in accordance with promulgated standards or otherwise, will be approved by the CNO prior to implementation.

(b) Major and significant program functional and military capability revisions to existing digital processor programs which do not impact on other systems will be agreed to by both Commanders in Chief, Atlantic and Pacific Fleets and approved by the CNO prior to implementation. In cases wherein agreement cannot be effected, the proposed revisions will be submitted to the Chief of Naval Operations for resolution and approval.

(c) Minor program revisions will be agreed upon by Fleet Combat Direction Systems Support Activities and approved by both fleet commanders in chief. The CNO and other concerned agencies will be kept informed of such changes by the cognizant Fleet Combat Direction Systems Support Activity.

(d) Minor procedural revisions may be implemented by the Fleet Combat Direction Systems Support Activities. The non-originating Fleet Combat Direction Systems Support Activity, fleet commanders in chief, and CNO will be kept informed of such changes by the cognizant Fleet Combat Direction Systems Support Activity.

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(e) Necessary changes in the trouble report correction or changes desirable by reason of improved efficiency in program execution may be made by Fleet Combat Direction Systems Support Activities, accompanied by suitable documentation and notification of appropriate commands.

(f) Fleet commanders in chief are delegated the authority to determine, on a case by case basis, the category, (a) through (d) above, into which proposed CDS program changes or revisions fall. The following definitive guidance is to be used:

1. Inter system revision. One that significantly affects any other Navy, joint, or international system.

2. Major program revision. An addition, deletion, or change that seriously affects the overall functional or military operational capability of any given CDS program and impacts on mission.

3. Significant program revision. A change that significantly affects operator or system performance, or the operational capability of a functional area within a CDS program.

4. Minor program revision. A change that involves only minor effects on console operator techniques or the display capability or other man-machine/human engineering effects controlled by the CDS program.

5. Program procedural revision. A change to the internal workings of the program involving no effect on the operators or the observable operational capability of a functional area within a digital processor program.

6. Program trouble report correction. A change that makes the computer program function as designed, or that corrects design deficiencies or oversights detrimental to intended operator technique or operational capability.

(g) In preparing change recommendations for submission through the procedures described in this paragraph and for lesser incidental changes, users may find some experimental modification profitable to test variations in tactics executed by these programs. Such modifications will be governed by the following restrictions:

1. The master copy of a CDS program will not be altered.

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2. Operational use of a locally modified program when in concert with other CDS-equipped units must be approved by the operational commander responsible for these units.

3. All local changes which do not become a matter of record through the procedures of this paragraph will be reported directly to the Fleet Combat Direction Systems Support Activity with primary cognizance for the program involved.

(h) The complex and varied interfaces of CDS coupled with constant improvement to the hardware, software and associated systems, require stringent hardware configuration control procedures be maintained over the CDS installations of aircraft, ships and associated shore installations. All changes must be approved by a suitable review group. The NTDS change control board sponsored by the Commander, Naval Ship Systems Commander, under the Chief of Naval Material, for example, is considered a suitable reviewing group. Any equipment changes that could conceivably affect the execution of or require alteration of the operational digital processor program must be reviewed by the cognizant combat direction systems support activity to ascertain software impacts.

(8) Proposals for new CDS program design concepts or complete design will be approved by fleet commanders in chief and submitted to the Chief of Naval Operations for review.

(9) For the purposes of this directive, clear differentiation is to be made between a design characteristic change of digital processor programs and digital processor program errors. A design characteristic change is classified as a change which will result in a functional change, functional addition, or a functional deletion. A program error is a deficiency in the digital processor program which results in the digital processor program not responding as it was designed to perform. For example, the reference point symbol is an "X." If this symbol is lost or the formation center symbol "+" appears, a program error exists, assuming no hardware deficiency exists.

R) (10) Diagnostic or maintenance check-out programs should not be confused in their relationship to the content of operational digital processor programs. Any diagnostic or maintenance monitoring/check-out digital processor program,

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that occupies any part of the memory (extended or otherwise) of the system's central processing unit(s) at the same time as a digital processor program supporting the operational mission of the system, will be considered as a part of the "Operational Digital Processor Program," and governed by the same rules and constraints.

b. Coordination between Fleet Combat Direction Systems Support Activities for construction and control of programs

(1) Pursuant to separate directives of the Chief of Naval Operations in assigning CDS digital processor program tasks, principal cognizance for ship, aircraft class, type or other specific CDS programs will be assigned to one of the Fleet Combat Direction Systems Support Activities. This responsibility involves construction, maintenance, master documentation, change notification, and secure custody of the master tape and printed copies of the program.

(2) For Airborne Tactical Data Systems (ATDS), operational (A) Management Information System (e.g. ASIS, LHA MIS), Automated Communication Systems (e.g. MPDS, CDPS, IXS) and other relative systems for which one Fleet Combat Direction Systems Support Activity is assigned cognizance, the alternate Fleet Combat Direction Systems Support Activity will maintain a copy of the current master program for each system and maintain a capability for producing, on short notice, for emergency dissemination copies of master programs under alternate cognizance. It shall remain the responsibility of the cognizant support activity to ensure up-to-date master programs are provided to the alternate activity.

(3) In effecting changes to CDS digital processor programs of general Navy-wide interest the Fleet Combat Direction Systems Support Activity having primary program cognizance is to assume the initiative in review, discussion and agreement on changes with the Fleet Combat Direction Systems Support Activity having alternate program cognizance.

(4) The Fleet Combat Direction Systems Support Activities Standardization and Coordination Board, established by reference (b), will act to attain the necessary standardization in software, to ensure compatibility of CDS-equipped ships and to make possible common use of software developed at both the Dam Neck and San Diego Fleet Combat Direction Systems Support Activities. This board is chaired by an OPNAV representative and convenes quarterly, with

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R) commanding officers of the Fleet Combat Direction Systems Support Activities alternating as host. The executive committee of this board addresses items of inter-center coordination at the planning and policy level.

c. CDS program standards and compatibility

(1) There is a continuing requirement that CDS digital processor programs be constructed in accordance with established standards and compatibility requirements. CDS programs will be designed to perform worldwide. Unique features and programs tailored for specific geographic areas or operations will be implemented only as directed by the CNO. Suitable worldwide programs must exist in addition to any special programs when these are authorized.

A) (2) CDS programs of a given "model" communicate via digital links with CDS programs of the same model, but because of language (data element and format) differences, cannot communicate effectively with CDS programs of a different model. A "model" is, therefore, a digital data link language which includes not only the words (data elements and formats) but the grammar (usage rules) for using the language.

A) (3) A phase results from modifications to a model which have been developed, implemented, and accepted for a given production period. Such modifications authorized by competent authority: (1) will include the incorporation of new capabilities and latest technological advancements to the basic model for improving fleet readiness dictated by operational requirements, and (2) will maintain the compatibility between and among programs delivered from the basic model.

R) (4) Establishment of, and authority to conclude agreements on data standards and compatibility measures reside with Chief of Naval Operations. The DCNO (Surface Warfare) (Op-03) has responsibility for coordinating technical aspects and advising the Chief of Naval Operations regarding digital processor program compatibility within the Navy. Liaison and participation by Fleet Combat Direction Systems Support Activities personnel with OP-34 and appropriate Navy sponsored boards or groups in matters of standardization, compatibility and digital processor program cross-servicing measures are required.

R) (5) CDS digital processor programs are required to be compatible with data standards agreements which include,

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but are not restricted to, joint and international standardization agreements for digital link communications. Reference (c), the U.S. Navy Book of Standards for Tactical Data Systems (NAVTACSTANS), is issued by the Chief of Naval Operations, with periodic changes to reflect the current status of joint and international agreements on tactical standards for automatic tactical data systems, with emphasis on message structure. JCS Pub 10, the unified service counterpart to NAVTACSTANS, is distributed by the Chief of Naval Operations to the majority of commands who are on the distribution list for NAVTACSTANS. NATO standardization documents, STANAG 5511, 5601, 5504, and 5501, are distributed to the Fleet Combat Direction Systems Support Activities by the Chief of Naval Operations.

(6) For purposes of determining data link suitability and as a condition for accepting program maintenance responsibility for CDS programs, the current or prescribed operational specification for Link 11 and the current or prescribed issue of the U.S. Navy Book of Standards for Tactical Data Systems, Appendix D implementation document are considered to be the sole valid specification. A comparison of present and proposed implementation is to be provided by CNO (OP-34) to assist the developing activity in identifying change items. The program will be tested for conformance to these specifications prior to final acceptance. Each identified discrepancy will be assigned to one of three categories: (A)

- Category 1 - Unauthorized or improper implementation
- Category 2 - Failure to implement required basic capabilities that were included in the basic contract or approved Engineering Change Proposals (ECPs).
- Category 3 - Failure to include changes, deletions or additions that are identified as required updates due to requirements established subsequent to the latest approved ECP.

All category 1 and 2 discrepancies must be eliminated prior to acceptance. Category 3 discrepancies not corrected by the contractor shall be corrected by the maintenance activity at the expense of the Principal Development Authority (PDA).

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- A) (7) In situations involving Link 11 message implementation, all U.S. Navy agencies responsible for the production of CDS digital processor programs shall submit their requirements for Link 11 message implementation to the Chairman, U.S. Navy Technical Standards Group on an as-occurring schedule. New digital processor programs, or revisions to existing digital processor programs which impact on international, joint, or U.S. Navy CDS interfaces, whether in accordance with promulgated standards or otherwise, shall be approved by the Chief of Naval Operations prior to implementation.
- d. CDS program design, compilers, and compiling language
- (1) The construction of CDS digital processor programs will be based on a continuing capability to construct final machine code from initial problem or procedure statement by manual methods, if needed.
- (2) The construction of operational CDS digital processor programs will be predicated on the use of semiautomatic compiling production methods in order to meet established ship readiness schedules.
- R) (3) Compiler CMS-2 is established as the standard compiler for construction, production, and maintenance of operational digital processor programs for CDS.
- R) (4) A compiler CMS-2 will be maintained at each Fleet Combat Direction Systems Support Activity and at such other activities as may be separately directed. In this regard, Fleet Combat Direction Systems Support Activity, San Diego is the controlling agency for the CMS-2 series compilers and has responsibility for the maintenance, delivery, support and configuration control of these programs, as directed by the Chief of Naval Operations.
- (5) A continuing effort will be maintained to expand and improve the capability and efficiency of programming techniques used by the Navy. New techniques and developments in industry and within the services will be continuously monitored for possible application to the support of Navy systems.
- (6) In order to provide maximum compatibility and program cross-servicing among strategic command and control systems, associated with Navy operations control centers, and the counterparts in the Army and Air Force as well as the National Military Command System, the Secretary of Defense has directed specific compiler usage for production of operational programs. The compiler used for these systems does not impose or imply requirement to construct CDS programs by the same compiler or to convert

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CDS compiling operations to a compiler other than the CDS series compiler.

e. CDS program documentation and security

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(1) Documentation of CDS digital processor programs will be in accordance with the Fleet Combat Direction Systems Support Activities' Standardization Manual. It will include, but not be limited to, the following:

- (a) Operational documentation
- (b) Technical documentation
- (c) Test documentation
- (d) User - narrative documentation
- (e) Support documentation

(2) Information security of CDS digital processor program documentation, including classification, storage, transportation and accountability, is to be provided in accordance with current security directives and current disclosure restrictions and instructions.

(3) Measures against loss of master CDS digital processor programs and documents are required as follows:

- (a) Adequate fire protection
- (b) Physical security to avoid other kinds of damage
- (c) Secure and careful packing and handling

f. Types and organization of CDS digital processor programs

(1) CDS digital processor programs include:

(a) Operational programs including Full Capability (FC) programs and Reduced Capability (RC) programs. The reduced operational capability is applicable to all systems where the data processing subsystem modularity is consistent with this requirement.

(b) Training and simulation programs are applicable when the configuration includes digital processor-controlled video simulator equipments.

(c) Alternate capability programs to meet and emphasize certain tactical situations when these cannot be met by the FC and RC due to memory size constraints.

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(d) Variable operational capability programs which feature dynamic program changing while the program is running.

(e) Integrated and individual programmed operational and functional analysis ((I) POFA) programs for systems readiness check-out and maintenance.

(f) Compilers.

(g) Supporting programs for such purposes as U-PAK, DDSOT, SSORT, and data reduction.

(2) POFA and (I)POFA programs will be generally developed, maintained, and managed by the cognizant material commands. Fleet Combat Direction Systems Support Activities will hold, employ, and assist in the maintenance of POFA programs as appropriate, and will also maintain the ability to produce, distribute, adjust, and integrate appropriate SSORT programs or program elements into operational programs.

R) (3) Fleet Combat Direction Systems Support Activities will maintain ability to develop, produce, distribute and maintain training, simulation, supporting and special programs for ships, aircraft, and other systems as assigned.

g. CDS program check out, test, and acceptance

(1) Predicated upon the high technical system reliability experienced with CDS, the majority of the system malfunctions may be expected to arise from program errors. There is a fundamental and continuing requirement for inspection, location, and correction of errors in CDS digital processor programs; this function is commonly termed "debugging."

(2) Fleet Combat Direction Systems Support Activities are responsible for debugging. CDS-equipped units will provide personnel and facilities required to assist in on-board debugging.

(3) Overall test, frequently coordinated with operational evaluation or assist projects, will be conducted under fleet operating conditions to reaffirm readiness of CDSs and their digital processor programs or the effectiveness of new capabilities. These tests will be run generally under the overall direction of the Chief of Naval Operations.

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(4) Attainment of stable, error-free CDS digital processor programs will frequently conflict with the time limits stipulated for on-board debugging. Accordingly, the following provisions will govern the acceptance of CDS digital processor programs:

(a) Acceptance of a CDS digital processor program for use by an operational unit is the prerogative of the commanding officer, subject to the specifications of the program established by higher authority.

(5) Operational Program Functional Check Out (OPFCO) is the final and definitive test of any CDS operational program. It is used to verify the integration of the CDS operational program with the ships own command and control equipment and interfaces. A period of 60 days just prior to completion of overhaul should be planned for the OPFCO. It can only be properly conducted when the following mandatory requirements are met, but can be started as components are available:

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(a) Digital processors and peripheral equipment installed and checked out.

(b) All preliminary digital processor programs and sub-system programs must be installed, debugged and ready for use.

(c) Sensor (e.g. radar, sonar, EW) systems and combat weapons control systems are installed and checked out.

(6) Final action on tests and evaluations of new or improved CDS digital processor programs will be taken by the Chief of Naval Operations on the recommendations of fleet commanders in chief.

h. Research, development, test and evaluation in support of CDS digital processor programming

(1) In order that the efficiency and effectiveness of CDS digital processor programs, and methods for constructing them, will keep pace with changing requirements and the continuing need to exploit the full potential of CDS, a coordinated RDT&E program will be pursued within the Navy in response to R&D planning objectives in combat direction area. The Fleet Combat Direction Systems Support Activities, naval laboratories, and Naval Material Systems Commands will cooperate in their cognizant areas for development associated with CDS.

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(2) Efforts of CDS digital processor programming development, performed for the most part under contract at the contractor site, or under task assignment at a government laboratory, will be closely monitored by the activity which will be responsible for its life-cycle maintenance.

R) (3) Inasmuch as certain CDS digital processor programming development can be performed at Fleet Combat Direction Systems Support Activities most effectively, the assignment of such development tasks to these activities is encouraged in proper priority relation with production of operational CDS digital processor programs. The Chief of Naval Operations (Op-34) will control all task assignments.

(4) In effecting CDS digital processor programming development at the Fleet Combat Direction Systems Support Activities, direct liaison between naval systems commands and the Fleet Combat Direction Systems Support Activities for this purpose is authorized.

A) i. Configuration control of software

(1) Certain common routines and procedures developed for use in a given set of CDS digital processors will have immediate utility for users of other CDS digital processors (e.g., the CMS-2 compiler system). Such programs of routines may be made available upon request to the Chief of Naval Operations (Op-03). In order to achieve the maximum benefit from previously developed digital processor routines and procedures, activities which undertake to develop new CDS digital processor programs are directed to evaluate existing routines and procedures for applicability to the new development. Similarly, activities which have developed digital processor routines and procedures are directed to evaluate and nominate to the Chief of Naval Operations (Op-03) those routines and procedures which may have applicability to several different users. The Chief of Naval Operations will then designate those routines and procedures which are deemed to have sufficiently widespread applicability as "common CDS software."

(2) The responsibility for configuration control of "common CDS software" is the responsibility of the Chief of Naval Operations. The Chief of Naval Operations will designate, on a case-by-case basis, a suitable configuration control group/organization to evaluate proposed changes to "common CDS software" and to implement those changes which are agreed by all users and which can be accomplished within resources which have been/can be provided. For those cases in which complete agreement cannot be reached, any user objecting to the change will forward a statement of the impact of the proposed change

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to his program/project to the Chief of Naval Operations (Op-03). The Chief of Naval Operations will review the desirability of the proposed change in view of the impact statement(s) and will either:

(a) Disapprove the change.

(b) Approve the change for immediate implementation and provide the necessary resources to project/programs impacted by the change.

(c) Approve the change for implementation at a future date at which time it will not impact on existing projects/programs.



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