DEPARTMENT OF THE NAVY
NAVAL SEA SYSTEMS COMMAND
WASHINGTON, D.C. 20362

IN REPLY REFER TO

NAVSEAINST 7000.13
Ser 071/532
3 DEC 1984

NAVSEA INSTRUCTION 7000.13

From: Commander, Naval Sea Systems Command

Subj: COST AND SCHEDULE CONTROL IN NAVAL SHIPYARDS

Ref: (a) NAVSEAINST 7600.27, Subj: NAVSEA NIF Financial Management Systems and Procedures Manual
(b) NAVSEAINST 4850.7, Subj: Naval Nuclear Propulsion Plant Production Work; Requirements for Scheduling of
(c) NAVSEAINST 4850.9, Subj: Naval Ship Non-Nuclear Production Work; Requirements for Scheduling of
(d) NAVSEAINST 4850.5A, Subj: Naval Shipyard Workload and Manpower Management and Forecasting Procedures

Encl: (1) Principles for Naval Shipyard Cost/Schedule Control Systems
(2) Naval Shipyard Overhead Budget Structure/Naval Shipyard Budget Management Display

1. Purpose. To establish uniform cost and schedule control criteria and policies for naval shipyards in performing assigned missions and tasks.

2. Policy. COMNAVSEA policy is to maintain and operate the naval shipyards in a required state of readiness for wartime conditions. Consistent with this policy, the naval shipyards are to operate by performing assigned work in accordance with specified technical requirements, on or ahead of schedule, and at the lowest possible total cost. To these ends, line management is responsible for both preparation and execution of annual direct and overhead budget plans as well as individual project cost and schedule plans. Therefore, accurate cost and schedule information must be made visible to all required levels of line management.

3. Background

a. Although significant improvements have been made in recent years in meeting required ship availability completion dates, more emphasis is needed to effect similar improvement in cost control. This is essential for the proper planning and execution of assigned projects within available resources.

b. As stated in paragraph 50104 of reference (a), the COMNAVSEA policy for control of costs in NAVSEA NIF activities requires that operating costs be held below those costs projected during the development of the stabilized rates and that both overhead and direct costs be reduced. Following this policy, the

0693-LD-052-0680

shipyard overhead budgets for FY 85 were reduced from the level previously approved in the Navy's budget submission, and the FY 86 level was frozen to zero program growth over FY 85. Additionally, efforts are now underway to reduce further the cost of overhead and to increase shipyard efficiency through a thorough analysis of shipyard overhead functions and organization. The next step is to provide better visibility of the overhead budget structure and better control of both overhead and direct costs so that the bottom line cost to the Navy can be reduced.

4. Requirements. Budgeting, cost control and scheduling systems shall support the naval shipyards' mission of maintaining a required state of readiness for wartime conditions and of accomplishing assigned work in accordance with specified technical requirements on or ahead of schedule and at the lowest possible total cost. Accordingly, shipyard budgeting, cost control and scheduling systems shall meet the following requirements:

a. Existing cost and schedule control systems based on the uniform scheduling requirements of references (b) and (c) shall be enhanced to meet the basic principles of DOD INSTR 7000.2 as described in enclosure (1). This will provide the necessary linkage of project cost and schedule as well as the required hierarchical structure of responsibility and accountability within the standard naval shipyard organization.

b. Individual manager and supervisor responsibilities shall be clearly assigned and shall aggregate up to the shipyard commander in an efficient and useful manner.

c. An annual direct work budget shall be prepared based on planned direct work. The budget shall be developed from the estimated costs of individual principal projects such as ship overhauls and SRAs. This will be consistent with the planned workload reported in accordance with reference (d).

d. The direct work budget shall be prepared to facilitate accomplishing the direct work projects at the lowest total cost for labor, material, and other services. The shipyard commander's predicted end cost (PEC) for each project shall explicitly state the basic package estimate, the estimated growth, and the shipyard commander's estimate for new work.

e. An annual overhead budget shall be prepared. The overhead budget shall be hierarchical; that is, the sum of the pieces shall equal the whole, and the pieces shall total up to the whole in terms that readily permit identification and choice of overhead work expenditures. Enclosure (2) is the required structure of the overhead budget at the total shipyard level. This shall then be

broken down by department, shop and cost center with an accountable individual assigned to each responsibility group in a manner designed to provide an accountable chain up to the shipyard commander. The overhead budget shall not be exceeded without prior approval by COMNAVSEA.

f. Shipyard line management shall participate in preparation of the annual budget plans, both direct and overhead, and of individual project direct work estimates and schedule plans. All key shipyard managers shall be held accountable for execution of the annual budget plans and the individual project cost and schedule plans.

g. Internal shipyard policies, procedures, and training programs shall stress the responsibilities of line management in schedule and cost control and in the proper charging of costs. A principal role of the shipyard comptroller in this effort is to ensure that the shipyard commander and shipyard managers have access to required cost information.

5. NAVSEA Headquarters Responsibilities. The Deputy Commander for Industrial and Facility Management (NAVSEA 07) in coordination with NAVSEA 01, NAVSEA 08, NAVSEA 90 and PMS 309 will direct and monitor the implementation of the requirements of this instruction. This will include:

(1) Developing required management information system changes necessary to collect costs so that overhead and direct work budget plans can be measured in accordance with the requirements of enclosures (1) and (2).

(2) Establishing system implementation teams as required made up of appropriate representatives from NAVSEA headquarters and the naval shipyards to assist in evaluating current systems, developing plans of action and proposed directives, and in facilitating system implementation through inter-shipyard information exchange.

(3) Establishing revised performance reporting requirements for both headquarters management assessment and customer use. In this regard, NAVSEA 07 is to identify those reports now required which can be cancelled.

6. Action

a. Each naval shipyard will:

(1) Commence immediate cost and schedule control system implementation in accordance with the principles of enclosure (1).

(2) Submit a Plan of Action and Milestones (POA&M) to NAVSEA (07) by 15 January 1985 that identifies all actions necessary for full cost and schedule control system implementation.

(3) Commence planning for implementation of the overhead budget structure of enclosure (2) to support use of this structure for submission of the next overhead budget proposal to NAVSEA (FY 87).

(4) Submit a revised and strengthened POA&M to NAVSEA (07) by 28 February 1985 based on the results of the meeting discussed in paragraph 6b(2) below. This POA&M will include actions necessary for implementation of the revised overhead budget structure of enclosure (2).

b. NAVSEA (07) will:

(1) Establish the initial system implementation team by 15 November 1984 to facilitate implementation. This team will be composed of both headquarters and shipyard representatives.

(2) Convene a meeting of shipyard and headquarters representatives by 31 January 1985 to establish system standards and to identify system changes and Automated Information Systems (AIS) plan requirements required for full implementation of the requirements of this instruction.

(3) Revise this instruction by 30 March 1985 to reflect lessons learned.

c. The Cost and Schedule Control Implementation Team will assist each shipyard in the implementation effort leading to full compliance with the requirements of this instruction by 31 December 1985.

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PRINCIPLES FOR NAVAL SHIPYARD COST/SCHEDULE CONTROL SYSTEMS

The basic principles of cost/schedule control systems which must be satisfied by naval shipyard planning and control systems are as follows:

1. The systems will be based on integrity. Actual cost data and actual schedule progress data will be accurately collected and accumulated to precisely report actual performance. Daily labor charging will be accomplished in a manner that fosters accuracy and simplicity.

2. A hierarchical work breakdown structure consistent with the nuclear and non-nuclear scheduling requirements of NAVSEAINST 4850.7 and 4850.9 will be used to define the project work scope and subdivide the work into logical tasks for purposes of planning, scheduling, execution and performance measurement.

3. The highest level of the cost hierarchy will be the project budget. The project budget represents the total estimate of resources required to accomplish the project work scope, including any reserves and amounts set aside for undefined work. The aggregate total of the lower level budgets will be traceable to, and will not exceed the project budget.

4. The project work scope will be broken down into manageable and relatively small work task elements to facilitate the productive effort. These work task elements will each be assigned a cost estimate (budget) and a performance schedule and will be the structural foundation for measuring cost and schedule performance. The approach used to identify work task elements will be based on enhancing shipyard quality, cost and schedule performance as opposed to merely facilitating the accounting system. Therefore, appropriate shipyard line managers should be involved in determining how work is broken down into work task elements.

5. Actual cost data and actual schedule performance data will be collected at the work task element level. Cost and schedule performance data will relate and aggregate up through the hierarchy such that the effect of actual performance can be accumulated and measured at appropriate higher levels.

6. Cost performance will be measured by comparing actual costs for work performed to planned costs (e.g. budgeted or estimated costs) at the work task element level and at appropriate higher levels.

7. Schedule performance will be measured by comparing actual progress to planned progress at the work task element level and at appropriate higher levels.

8. Schedule performance and manning levels should continue to be planned and monitored below the work task element level where required by NAVSEAINST 4850.7 or 4850.9.

9. Deviations of actual performance from planned performance will be resolved by the responsible line manager.

10. A revised PEC and/or schedule will be developed whenever there are significant deviations from planned performance.

NAVAL SHIPYARD OVERHEAD BUDGET STRUCTURE
NAVAL SHIPYARD BUDGET MANAGEMENT DISPLAY

A. OVERHEAD EXPENSE

I. WORKLOAD DIRECTED
II. OTHER DIRECTED
III. ACCOUNTING ADJUSTMENTS
IV. TOTAL OVERHEAD

B. DIRECT COSTS

I. PRODUCTION
II. ENGINEERING/DESIGN
III. CONTRACTS
IV. MATERIAL
V. OTHER
VI. TOTAL DIRECT

C. WORKLOAD (MANDAYS)

I. PRODUCTION DIRECT LABOR WORKLOAD
II. ENGINEERING/DESIGN DIRECT LABOR WORKLOAD
III. OTHER DIRECT LABOR
IV. TOTAL DIRECT LABOR

NAVAL SHIPYARD OVERHEAD BUDGET STRUCTURE

I. WORKLOAD DIRECTED (VARIABLE)

A. PRODUCTION DEPARTMENT SUPERVISION
B. ENGINEERING/DESIGN SUPERVISION
C. SHOP PLANNING
D. JOB SCHEDULING
E. QUALITY ASSURANCE AND INSPECTION
F. OTHER PRODUCTION SUPPORT (SPECIFY)
° TOTAL

II. OTHER DIRECTED (FIXED AND SEMI-VARIABLE)

A. NON PRODUCTION/ENGINEERING SUPERVISION
B. TRAINING
C. MATERIAL SUPPORT
   (1) PRE-EXPENDED BINS
   (2) MATERIAL EXCESSING
   (3) OTHER MATERIAL PURCHASES
   (4) OTHER SHIPYARD MATERIAL SUPPORT
D. SAFETY AND HEALTH
E. PLANNING SUPPORT
F. PERSONNEL ADMINISTRAION
G. OTHER ADMINISTRATION SUPPORT
H. SECURITY
I. UTILITIES
J. TRAVEL
K. PLANT MAINTENANCE
   (1) RECURRING
   (2) MAJOR NON RECURRING
   (3) ALTERATIONS
L. MINOR PROPERTY ACQUISITIONS
M. LEASES
   (1) INDUSTRIAL PLANT EQUIPMENT
   (2) ADP EQUIPMENT
   (3) OTHER
N. ADP SUPPORT
O. NAVSEA PROGRAMS
P. READINESS MAINTENANCE (SPECIFY)
Q. CAPITAL INVESTMENT (NON ADD)
R. OTHER (SPECIFY)
° TOTAL

III. ACCOUNTING ADJUSTMENTS (AND UNBUDGETED)

A. DEPRECIATION
B. INVENTORY ADJUSTMENTS
C. DEFECTIVE WORK AND SPOILAGE
D. LOST TIME
E. EXCESS MANPOWER
F. OTHER (SPECIFY)
° TOTAL

IV. TOTAL OVERHEAD