



# DEPARTMENT OF THE NAVY

NAVAL SEA SYSTEMS COMMAND  
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IN REPLY REFER TO

NAVSEAINST 11016.2  
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25 OCT 1996

## NAVSEA INSTRUCTION 11016.2

From: Commander, Naval Sea Systems Command

Subj: MANAGEMENT OF NAVAL SHIPYARD CLASS 3 AND 4 PLANT PROPERTY  
AND MINOR CONSTRUCTION PROJECTS

- Encl: (1) Table of Contents and References  
(2) Section I, Documentation, Approval and Acquisition of  
Minor Construction, Class 3 and Class 4 Plant Property  
Projects  
(3) Section II, Class 3 and 4 Plant Property Life  
Cycle Management  
(4) NAVSEA Form 11016/2  
(5) Naval Shipyard Capital Investment Budget Process

1. Purpose. To reissue Naval Sea Systems Command (NAVSEA) policy and procedures for managing Naval Shipyard Class 3 and 4 Plant Property and minor construction projects. References (a) through (p) provide policy and procedural guidance for the planning, submission, programming, budgeting, acquisition and life cycle management of plant equipment, information technology hardware and software, as well as, minor construction projects. The sections contained herein provide additional NAVSEA direction for implementing these policies and procedures. This is a major change to the basic instruction.

2. Cancellation. NAVSEAINST 11016.1 of 14 May 1987 and Report Control Symbol (RCS) NAVSEA 11016-3A.

3. Scope. This instruction applies to Class 3 and 4 Plant Property and to minor construction projects in the naval shipyards. The Class 3 and 4 Plant Property covered by this instruction includes all equipment of a capital nature funded by all sources meeting the definition of Class 3 and 4 Plant Property as established by reference (a), which has a unit acquisition cost equal to or greater than the investment/expense



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threshold used by the Congress for appropriating funds and a useful service life of 2 years or more. Minor construction projects covered by this instruction include all construction, alterations and improvements to Class 2 property funded by the Defense Business Operation Fund (DBOF) via the Capital Purchases Program (CPP) equal to or greater than the established investment/expense threshold used by the Congress for appropriating funds to a maximum of \$300,000. Section I of this instruction provides detailed requirements for documentation, approval and acquisition of Class 3 and 4 Plant Property and minor construction projects. Section II of this instruction provides detailed requirements for life cycle management of Class 3 and 4 Plant Property. This instruction also contains some requirements for the management of minor property. Minor property is defined in reference (a) as property having a service life of less than 2 years or a unit cost less than the funding threshold used by Congress for appropriating funds.

4. Class 3 and 4 Plant Property / Minor Construction Capital Purchases Program Management.

a. Each shipyard will ensure complete obligation of its annual Class 3 & 4 Plant Property Program and minor construction budget authority.

b. The period for installation, inspection and acceptance of Class 3 and 4 Plant Property will be no more than 180 days after receipt of the property.

c. Shipyards will ensure proper life cycle management of Class 3 and 4 Plant Property in accordance with Section II of this instruction.

d. Submit a stable capital investment budget in line with long term investment strategies, and the annual President's Budget submission.

e. Provide spending authority to the shipyards as close to the beginning of the fiscal year as practicable, based on release of funds from DoD and DoN authorities.

5. Policy. NAVSEA's policy is to plan, program, budget and manage its capital assets to ensure timely and efficient support to the Fleet and maximize the quality, productivity and economy of naval shipyards through capital asset modernization and technological improvements. It is NAVSEA's overriding policy that shipyards will promote the maximum return on investment on Class 3 and 4 Plant Property through a thorough economic analysis during project development, prompt installation of equipment once received, proper maintenance during the equipment's life, and the prompt removal of all excess capacity not needed to support workload requirements.

a. Class 3 and 4 Plant Property Retention. Class 3 and 4 Plant Property retained by naval shipyards must meet one of the following criteria:

- (1) Active. Required to support current workload.
- (2) Inactive. Required to support future or potential workload to meet each shipyard's assigned mission or mobilization requirements.

b. Class 3 and 4 Property Project Investment Category. All Class 3 and 4 plant property acquired for shipyard use must be categorized in one of the four investment categories per reference (j):

- (1) Capital Equipment (Other than ADPE & Telecommunications)
- (2) ADPE and Telecommunications Equipment
- (3) Software
- (4) Minor Construction (less than \$300,000)

Capital investment program projects in the four investment categories above shall also be identified according to one of the following primary reasons for justifying the investment:

(1) Replacement. Unsafe, beyond economical repair, or inoperative/unusable assets.

(2) Productivity. Improved efficiency (savings) or effectiveness.

(3) New Mission. Required new capability or capacity that cannot be met with current equipment or facilities including mandatory requirements of DoD, DoN, or NAVSEA (excluding environmental and hazardous waste reduction requirements).

(4) Environmental. Investment for environmental or hazardous waste reduction including regulatory agency mandated requirements.

c. Class 3 and 4 Plant Property Project Development Policy.

(1) All active Class 3 and 4 Plant Property will be maintained at a level to provide cost effective and reliable service, and full compliance with applicable environmental and safety requirements. For maintaining an existing capability, equipment Alt/Mod/Rehab should be considered as a method of maintaining capability unless replacement would be more cost effective. Alt/Mod/Rehab also includes situations where existing equipment could be modified to meet new requirements (e.g., tightening of specification tolerances, Occupational Safety and Health Administration (OSHA) requirements, etc.).

(2) Short-term rental of non-IT equipment is the preferred method in cases where the need to increase capability or capacity is temporary, unless equipment purchase would be more cost effective. In particular, equipment rental may be preferable to purchase when the mission life of the equipment is less than the useful life of the equipment or when the purchase price for the equipment is high relative to the rental cost.

(3) Equipment which establishes an in-house capability for operations which are known to be readily and more economically available through commercial contract will not be procured except as permitted under reference (b).

(4) The preferred approach to identifying and justifying Class 3 and 4 Plant Property requirements is through industrial engineering-based studies (including shop productivity studies, methods improvement projects, material handling analysis, work sampling studies, Industrial Process Instruction development tasks, pollution prevention studies, or industrial planning capability assessments).

(5) All new Class 3 and 4 Plant Property projects must include some form of economic analysis in accordance with the procedures identified in Section I of this instruction.

(6) Projects classified as "productivity" must satisfy NAVSEA's minimum financial requirements of a simple payback period no more than 7 years and an internal rate of return (IRR) of no less than 15 percent (discounted costs and benefits). Projects justified as "productivity" should reflect that alternative which has the highest internal rate of return (i.e., of all the alternatives which satisfy NAVSEA's minimum financial requirements, shipyards should generally pursue the alternative with the highest internal rate of return). However, NAVSEA will sanction the following exceptions. Two dominant goals of NAVSEA are to reduce the release of hazardous pollutants (i.e., air pollutants, water pollutants, or hazardous waste) and to enhance occupational safety. Since, the liability of the release of hazardous pollutants and the effect of occupational safety cannot readily be quantified, shipyards may pursue a project alternative that does not have the highest IRR if that alternative either reduces or eliminates hazardous pollutants or uses technology which is generally agreed upon to be safer. However, the project alternative chosen must meet NAVSEA's minimum "productivity" requirements.

(7) The disposition of all savings associated with projects justified as "productivity" must be identifiable (e.g., the disposition of labor savings can be manifested as an increase in output for the same number of direct labor man-days, a reallocation of direct labor effort to other productive efforts,

or an actual reduction in the direct labor work force). Moreover, any project justified as "productivity" should have savings which can be quantified in the most practical method available.

(8) Projects justified as "new mission" must include only those features clearly necessary to meet mission requirements. Any additional productivity enhancing features above and beyond those basic features necessary to meet mission requirements must be identified as such and undergo a separate Cost/Benefit Analysis.

(9) Class 3 and 4 Plant Property Projects which have not been funded when the project planning has become 3 years old, must be canceled at the beginning of the next fiscal year. The project may, however, be resubmitted under a new project number but only after the justification data, including the economic analysis, are updated.

d. Class 3 and 4 Plant Property Planning.

(1) Each shipyard must have an individual capital plan which supports the corporate capital planning requirements and is tailored to the needs of that particular shipyard. Class 3 and 4 Plant Property, regardless of funding source, along with Information Technology, Manufacturing Technology (ManTech), Military Construction, Minor Construction, Major Non-Recurring Maintenance, Recurring Maintenance and Minor Property are components of capital planning and will be integrated in each naval shipyard's capital plan.

(2) A Class 3 and 4 Plant Property Submission Package will be prepared for each fiscal year under the direction and timetable established by NAVSEA's Annual Capital Planning Guidance.

(3) All shipyard laboratory equipment (chemical and metallurgical) will be identified in the Inter-Laboratory Five Year Investment Plan. NAVSEA 07 Quality Programs Office, SEA 07Q (Labs) will facilitate programming to standardize equipment and coordinate multiple unit purchases.

(4) All shipyard Class 3 and 4 plant property which eliminates or reduces a hazardous pollutant at the source or through integrated recycling (e.g., pollution prevention) shall be identified as a requirement in the shipyard's Pollution Prevention Plan per references (k) and (l).

e. Class 3 and 4 Plant Property Equipment Project Approval. NAVSEA will review and approve all Class 3 and 4 Plant Property projects funded by Defense Business Operations Fund (DBOF) (i.e. Capital Purchase Program) with a total unit cost (including equipment acquisition, transportation and installation) above the congressional mandated minimum funding threshold established at the fiscal year of project submission (i.e. FY96 = \$100,000). All shipyard laboratory equipment (chemical and metallurgical) with a unit cost between \$25,000 and the congressional mandated minimum funding threshold established at the fiscal year of project submission will be approved by NAVSEA 07Q (Labs). NAVSEA 07Q2 Crane and Drydock Certification Branch shall review and approve all weight handling equipment projects for Class 3 and 4 Plant Property. Class 3 and 4 plant property funded through special programs, such as the Manufacturing Technology (ManTech) program, will be reviewed and approved under the requirements established by the organization having cognizance over those programs. Projects with a cost under the established funding threshold of the project execution year shall comply with the requirements of reference (j), Chapter 58, as applicable, and Section I herein.

f. Mandatory Funding Exclusions for Class 3 and 4 Plant Property Funded by the Capital Purchases Program. These are defined in references (c), (d) and (j). In general, these exclusions include:

- (1) Ships for the Military Sealift Command.
- (2) Items funded, procured and installed by the military construction appropriation.

NAVSEAINST 11016.2  
25 Oct 96

(3) Items to meet mobilization requirements when no limited peacetime application exists.

(4) Items initially funded, procured and furnished as part of a weapons system/support system.

(5) Items procured as Government Furnished Equipment (GFE).

(6) Aircraft, ships, barges and general purpose passenger vehicles. Passenger carrying vehicles are a subset of other Civil Engineering Support Equipment (CESE) and include; sedans, station wagons, buses, law enforcement vehicles and non tactical ambulances. These vehicles are centrally managed by the Naval Facilities Engineering Command (NAVFACENGCOM) and only NAVFACENGCOM can fund and procure them.

Note: Vans and carryalls on truck type chassis are considered trucks and can be funded under the CPP and procured by DBOF activities.

(7) Major Range and Test Facilities Base items.

(8) Items for the primary use of tenant activities, military support functions and other activities as may be designated by the Under Secretary of Defense (Comptroller/Chief Financial Officer).

(9) Items procured for Fleet Technical Support Center, Atlantic and Pacific, and for Planning and Engineering for Repair and Alterations (PERA), and Submarine Maintenance Engineering Planning and Procurement Activity (SUBMEPP).

(10) Other exclusions as may be approved by the Under Secretary of Defense (Comptroller/Chief Financial Officer).

g. Class 3 and 4 Plant Property Program Changes. It is imperative that NAVSEA submit a stable budget submission in line with long term investment strategies and the President's Budget submission. Reprogramming and project changes after submission to NAVSEA should be avoided and limited to emergency or urgent

25 Oct 96

emergent requirements. Change requests shall provide a documented justification.

(1) Program changes that affect each shipyard's official Capital Purchases funding plan will be submitted to NAVSEA for review and approval. This includes project cost increases for projects.

(2) Any project originally submitted under the established congressional funding threshold for the project funding year which subsequently exceeds that threshold due to re-pricing or change in scope will be submitted to NAVSEA for review and approval with the appropriate revised economic analysis.

(3) Projects with a unit cost under the established congressional funding threshold for the project funding year do not require NAVSEA reprogramming action.

(4) Any project originally under \$500,000 which subsequently exceeds \$500,000 due to re-pricing or change in scope will be submitted to NAVSEA with a revised economic analysis for review and approval by NAVCOMPT and OUSD.

6. Responsibilities:

a. NAVSEA:

(1) NAVSEA 07I, Installations and Equipment Office, will provide overall program management and policies for the Capital Purchases Program (CPP).

(2) NAVSEA 072, Naval Shipyard Management Group, will provide overall program management and policies for the Manufacturing Technology (ManTech) program and all information technology (IT) projects including those IT projects funded via the Capital Purchases Program.

(3) NAVSEA 07Q (Labs) will review and approve all laboratory equipment projects between \$25,000 to the

NAVSEAINST 11016.2  
25 Oct 96

congressional mandated minimum funding threshold established at the fiscal year of project submission.

(4) NAVSEA 07Q2, Crane and Drydock Certification Branch, shall review and approve all weight handling equipment projects for Class 3 and 4 Plant Property.

(5) NAVSEA OOT, Environmental and Occupational Safety and Health (OSH) Office, will provide pollution prevention, environmental, safety and occupational health advisory information and technical assistance as appropriate.

(6) NAVSEA 07221, Financial Management Division, will provide financial guidance for Class 3 and 4 Plant Property and incorporate programming and budgeting requirements into the appropriate budget process.

(7) Norfolk Naval Shipyard Detachment (Plant Equipment Support Office (PESO)) Annapolis, MD, will assist NAVSEA 07I in executing the CPP to include:

(a) Providing technical assistance to shipyards in finalizing project requirements and cost estimates for capital equipment.

(b) Acquiring capital equipment, as directed by NAVSEA 07I or as requested by shipyards, including screening the supply system, developing procurement specifications, reporting status, and serving as the focal point for technical matters and quality deficiency reporting.

(c) Providing technical assistance to NAVSEA 07I in managing CPP execution and serving as the functional manager for the Equipment Maintenance Management System (EMMS).

(d) For NAVSEA 07I; confirm and validate physical inventories and utilization.

b. Naval Shipyards:

(1) Implement the policies and procedures of this instruction.

(2) Establish an activity level Capital Planning Review Board. The board will be responsible for reviewing, analyzing, prioritizing and approving the investment plan and the Class 3 and 4 Plant Property submission package prior to submission to NAVSEA. This board will consist of a cross section of management disciplines within the shipyard.

(3) Establish a single designated shipyard representative responsible for coordination with NAVSEA 07I all Class 3 and 4 plant property matters governed by this instruction.

(4) Obtain NAVSEA 07Q2 (Labs) approval for shipyard laboratory projects between \$25,000 to the congressional mandated minimum funding threshold established at the fiscal year of project submission.

(5) Obtain NAVSEA 072Q2, Crane and Drydock Certification Branch, approval of all weight handling equipment projects for Class 3 and 4 Plant Property.

(6) Provide timely submission of the Capital Investment Plan as required by NAVSEA's annual capital planning guidance.

(7) Present the Capital Investment Plan and supporting capital asset requirements to the NAVSEA Capital Planning Review Board in accordance with the requirements of NAVSEA's annual capital planning guidance.

(8) Prepare appropriate project documentation as required by Section I of this instruction.

(9) Ensure timely installation of Class 3 and 4 Plant Property projects in accordance with Section II of this instruction.

NAVSEAINST 11016.2  
25 Oct 96

(10) Conduct Post-Investment Analysis (PIA) of Class 3 and 4 Plant Property procurements per Section II of this instruction.

(11) Reduce estimating standards for operations where the introduction of productivity improving equipment will reduce costs that can be attributable to production capacity and efficiency, and take corresponding actions for achieving workload/workforce balance.

(12) Ensure compliance with the provisions of OPNAVINST 5100.23D, reference (m), paragraph 0503d, the safety office shall review all purchases to make certain that occupational safety and health requirements are considered.

(13) Ensure compliance with the current NAVSEA 07 Crane Quality Manual (NCQM), reference (n), and NAVFACINST 11450.1 "Management of Weight Handling Equipment", reference (o), when procuring weight handling equipment.

(14) Maintain physical plant inventories and utilization.

7. Deviations from the procedures contained herein require prior SEA 07I approval.

8. Forms. Minor construction projects shall be processed using a properly completed NAVFAC 11014/64, Special Project Request (Step Two Submission) S/N 0105-LF-003-4230. This form is available in the Navy Supply System and may be requisitioned under NAVSUP Publication 2002.

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NAVSEAINST 11016.2  
25 Oct 96

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NAVSEAINST 11016.2  
25 Oct 96

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TABLE OF CONTENTS

Section I	Documentation, Approval and Acquisition of Minor Construction, Class 3 and Class 4 Plant Property Projects
Section II	Class 3 and Class 4 Plant Property Life Cycle Management
Exhibit A	NAVSEA Form 11016/2
Exhibit B	Naval Shipyard Capital Investment Budget Process

## REFERENCES

- (a) NAVCOMPT Manual, Volume 3, Chapter 6 - Plant Property and Other Navy Property, dated 10 September 1993
- (b) OMB Circular A-76 (REVISED) - Performance of Commercial Activities, dated 4 August 1983
- (c) NAVCOMPT Manual, Volume 5, Chapter 1 - Introduction and General, dated May 1991
- (d) NAVCOMPT Manual, Volume 5, Chapter 4 - Accounting Procedures, dated May 1991
- (e) NAVDAC PUB 15, 7000 - Economic Analysis Procedures for ADP dated March 1980
- (f) SECNAVINST 5231.1C - Life Cycle Management Policy and Approval Requirements for Information System Projects, dated 10 July 1992
- (g) NAVSEAINST 4855.7B - Unsatisfactory Material Reporting Program, dated 14 April 1989
- (h) OPNAVINST 11010.20E - Facilities Project Manual, dated 9 July 1985
- (i) NAVSEA EMM-070-1 - Equipment Maintenance Management System dated 1 June 1985.
- (j) DOD 7000.14-R - Financial Management Regulation:
  - Volume 2B - Budget Presentation and Formulation dated May 1994
  - Volume 4 - Accounting Policy and Procedure dated January 1995
  - Volume 11B - Reimbursible Operations, Policy and Procedures - Defense Business Operations Fund, dated December 1994
- (k) OPNAVINST 5090.1B - Environmental and Natural Resources Program Manual dated 1 November 94
- (l) Executive Order 12856 - Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements dated 3 August 83
- (m) OPNAVINST 5100.23D - Navy Occupational Safety and Health Program Manual dated 11 October 94
- (n) NAVSEA 07 Crane Quality Manual (NCOM)

- (o) NAVFACTINST 11450.1 - Management of Weight Handling Equipment

Section I

DOCUMENTATION, APPROVAL AND ACQUISITION OF  
MINOR CONSTRUCTION, CLASS 3 AND CLASS 4 PLANT PROPERTY PROJECTS

1. Purpose. To establish policies for documentation, approval and acquisition of applicable Minor Construction, Class 3 and Class 4 Plant Property projects.

2. Project Documentation for Naval Shipyard Class 3 and 4 Plant Property Projects

a. Scope. This sub-section applies to all Class 3 and Class 4 Plant Property including standard (stock numbered items with cognizance symbol 7Z, formerly 2Z, 4G, 6G).

b. Project Documentation for Class 3 and 4 Plant Property funded by the Capital Purchases Program.

(1) Purpose. This sub-section provides guidelines for the documentation of Class 3 and 4 Plant Property projects under the Capital Purchases Program (CPP).

(2) It is the responsibility of each shipyard to provide complete information supporting each project for which approval and funding are requested including NAVSEA mandated projects.

(3) Process control documentation, such as Industrial Process Instructions or methods and standards, affected by equipment acquisition will be reviewed and revised accordingly.

(4) All projects must undergo an economic analysis as required by reference (i), Chapter 58, paragraph F. Exclusions to economic analysis include:

(a) Environmental, pollution prevention, or regulatory agency (state, local, or Federal) mandated requirements; also includes directed action by higher DoD or Component authority which precludes choice among alternatives.

(b) DoD instruction or directive which waives the requirement (e.g., equipment age or condition replacement criteria).

Enclosure (2)

(5) Unless otherwise authorized herein or by NAVSEA 07I, all projects shall be submitted in electronic form via the "Resource, Planning and Tracking System (RPS)".

(6) Classes of Economic Analysis for Class 3 and 4 Plant Property under the Capital Purchases Program. There are two types of economic analysis:

(a) Cost/Benefit analysis (also referred to as a Type I economic analysis) is that which involves a proposed savings either over an existing mode of operation or among various alternatives. Investments supported by Cost/benefit Analysis must promise absolute cost savings over the present method of operation.

(b) Cost Effectiveness analysis (also referred to as a Type II economic analysis) is that which selects the most economical alternative from a group of alternatives all designed to perform a function or satisfy a mission which is not justified on the basis of dollar savings. In this case, the economically preferable alternative does not necessarily result in an absolute cost saving; rather, it represents the least costly alternative relative to other possible alternatives.

(7) Level of Economic Analysis Needed for Different Project Justification Classifications.

(a) For all "Productivity" projects, a Cost/Benefit Analysis must be developed and submitted. Data supporting the economic analysis must also be provided as applicable. All projects developed and justified on the basis of "Productivity" must be concurred with by the shipyard comptroller to validate cost savings.

(b) For "Replacement" projects:

1 Where more than one alternative could serve to satisfy replacement requirements, a Cost Effectiveness analysis must be submitted which identifies the least costly (discounted) alternative. Alt/Mod/Rehab must, when feasible, be considered as an alternative to new equipment purchase.

2 For Replacement projects where only one alternative will satisfy the requirement (either because of specific technical requirements or simply a lack of viable and pragmatic alternatives), the economic analysis need only identify project costs. However, in these cases, the shipyard's local

capital planning review board must concur that no viable alternatives exists.

3 Features of "Replacement" projects must be of such scope as to satisfy only the capacities and performance characteristics of the equipment being replaced. In some cases, however, shipyards may wish to add additional features beyond those necessary to satisfy replacement requirements (particularly features which are productivity enhancing in nature). In such cases, the costs of these additional features must be identified separately from the costs associated with the basic equipment that is needed to meet the replacement requirement. For the purposes of economic analysis, the marginal costs associated with the project's additional productivity enhancing features along with the marginal benefits derived from those features must undergo a separate Cost/Benefit analysis. If the additional features exceed NAVSEA's minimum economic analysis requirements, they may be included in the project.

(c) For "New Mission" projects:

1 Where more than one alternative could serve to satisfy new mission requirements, a cost effectiveness analysis must be submitted which identifies the least costly (discounted) alternative. For projects where current equipment does not meet the regulation or requirement, Alt/Mod/Rehab must, when feasible, be considered as an alternative to new equipment purchase.

2 For New Mission projects where only one alternative will satisfy the mission requirement (either because of specific technical requirements or simply a lack of viable and pragmatic alternatives), the economic analysis need only identify project costs. However, in these cases, the shipyard's local capital planning review board must concur that no viable alternatives exists.

3 Where New Mission projects have been mandated from DoD, DoN or higher authority without alternative choice, no economic analysis is required. The project shall provide the estimated cost and cite or reference the source and authorization for the mandated requirement (e.g. DoD/DoN instruction).

4 Features of New Mission projects must be of such scope as to satisfy only mission essential requirements. In some cases, however, shipyards may wish to add additional features beyond those necessary to satisfy mission requirements

Enclosure (2)

(particularly features which are productivity enhancing in nature). In such cases, the costs of these additional features must be identified separately from the costs associated with the basic equipment that is needed to meet the mission requirement. For the purposes of economic analysis, the marginal costs associated with the project's additional productivity enhancing features along with the marginal benefits derived from those features must undergo a Cost/Benefit analysis. If the additional features exceed NAVSEA's minimum economic analysis requirements, they may be included in the project.

(d) For "Environmental" projects:

1 A full economic analysis is not required. However, the project shall include an exemption justification statement documenting the requirement or exemption claimed. The exemption statement shall be validated. Where more than one alternative could serve to satisfy statutory or regulatory environmental compliance requirements, a cost effectiveness analysis must be submitted which identifies the least costly (discounted) alternative. For projects where current equipment does not meet the regulation, Alt/Mod/Rehab must, when feasible, be considered as an alternative to new equipment purchase.

2 For Environmental projects where only one alternative will satisfy the statutory or regulatory environmental compliance requirement (either because of specific technical requirements or simply a lack of viable and pragmatic alternatives), the cost effectiveness analysis need only identify project costs. However, in these cases, the shipyard's local capital planning review board must concur that no viable alternatives exists.

3 Features of Environmental projects must be of such scope as to satisfy only regulatory compliance. Regulatory compliance is defined as compliance with applicable federal, state, and local regulations, not excluding, executive orders. In some cases, however, shipyards may wish to add additional features beyond those necessary to satisfy regulatory requirements (particularly features which are productivity enhancing in nature, incur a cost savings by recycling materials, hazardous waste handling/disposal cost reductions, or reduction of hazardous pollutants found in air, water or soil media). In such cases, the costs of these additional features must be identified separately from the costs associated with the basic equipment that is needed to meet the regulatory requirement. For the purposes of economic analysis, the marginal costs associated with the project's additional enhancing features along with the

Enclosure (2)

marginal benefits derived from those features must undergo a Cost/Benefit analysis. If the additional features exceed NAVSEA's minimum economic analysis requirements, they may be included in the project.

(8) The following elements of cost preceded by an asterisk (\*) are considered by NAVSEA to be basic costs and must be considered in any economic analysis. Those elements of cost which are not preceded by an asterisk (\*) should be included in the economic analysis if applicable to the specific project and if reasonably valid data are available. Note that not all of these costs are depreciated (some are expensed), nor, are all of these costs funded by the CPP. However, all must be included for the sake of an economic analysis. Moreover, all applicable costs must be included in the economic analysis even if they are not being funded in the same fiscal year that the project is being funded.

(a) Investment. All non-recurring costs associated with the acquisition of the project and those costs required to make it operational shall be included. All initial investment costs are considered to be incurred at year "0" and not discounted.

\*1 Engineering Cost. The actual cost associated with development of specifications for contractual procurement of equipment and facilities, and for the engineering design of equipment and facilities to be fabricated or constructed by the activity.

\*2 Acquisition Cost or Contract Price. The cost of adding any facilities, property or equipment to the plant property records through either purchase or contract through commercial or governmental sources, transfer from another agency or department, or by the construction of fixed assets by using in-house labor. All acquisition costs must be included in the economic analysis even if some of the cost is being funded through non-shipyard sources (e.g., NAVSEA, Ships Parts Control Center (SPCC), etc.).

\*3 Installation, Testing and Collateral Equipment. Costs are associated with setting up the equipment, performing initial testing and calibration. Examples would be new electrical connections for machinery, a foundation to support equipment, weight handling costs to set the equipment on its foundation, or additional cabling to connect computer terminals.

Enclosure (2)

\*4 Site Preparation. Costs incurred in making a designated area suitable for the installation of equipment or the construction of a new structure. Examples of such costs would be the demolition of existing structures and the clearing of debris to make way for their replacement.

\*5 Shipping. Freight charges incurred for the transfer of material, equipment or other asset from the vendor to the destination designated by the shipyard.

6 Initial Tooling and Programming. Additional costs for fixtures, cutting tools, attachments and other accessories not considered part of the basic machining and the costs associated with the initial programming of computer-aided design/computer-aided-manufacturing (CAD/CAM) and computer numerically controlled (CNC) machine tools.

7 Initial Provisioning. Repair parts that are purchased along with the production item. These items normally include parts that have a long lead time and are critical to continued operation. These parts are often referred to as "Insurance" items.

8 Initial Training. Personnel costs incurred to initially train the worker in properly using and caring for equipment.

9 Safety. Costs incurred to prevent or minimize bodily injury. These costs may be incurred to meet Navy or OSHA standards. Examples would be the requirement for a safety shower in a chemical department, additional fire extinguishers or sprinklers in a welding shop.

10 Capital Improvement. Costs that extend the useful life of an asset and/or provide additional capabilities, capacities or productivity improvements.

(b) Operation and Maintenance. Costs incurred on a recurring basis directly connected with the operation or maintenance of the machine or facility. Some costs will be variable and estimated on the basis of projected workload, while others will be fixed and estimated on a proportional basis regardless of production. (For the purposes of economic analysis, operating and maintenance costs are discounted in the year they occur from year 1 through the life of the project).

1 Repair. The restoration of a piece of equipment to such a condition that it may be effectively used for its designated purpose by overhaul, reprocessing or replacement of constituent parts that have deteriorated by the elements or usage.

\*2 Maintenance. The recurring day-to-day, periodic or scheduled work required to preserve or restore a piece of equipment to such condition that it may be effectively used for its designated purpose. Maintenance includes work undertaken to prevent damage to equipment that otherwise would be more costly to restore.

3 Labor.

\*a Direct. Salaries of civil service or military personnel which are directly identifiable to the operation or production function of a capital asset.

\*b Indirect. Labor which is not directly associated with the accomplishment of production or function. Examples of indirect labor include payroll, personnel, purchasing and administrative functions.

\*c Fringe Benefits. Benefits that are in addition to base salary. Examples are health and life insurance, retirement and disability, Medicare and other non-monetary compensations.

4 Material. The cost of materials consumed during the operation of the asset to produce an output. These include all the costs normally associated with materials such as handling and shipping.

5 Petroleum, Oil and Lubricants (POL). This category includes products other than fuel.

\*6 Power/Utilities. Cost of utility services required to support the function. Utilities include electricity, water, communication, etc. Costs may be prorated if not metered or identifiable to a function.

\*7 Scrap/Rework. The costs of material and labor (including direct, indirect and fringe benefits) for parts scrapped or in need of rework when the cause of the spoilage is due to the fault of the machine.

Enclosure (2)

8 Testing and Calibration. Personnel, material and contractor costs associated with determining the accuracy of measurement for meters, gauges and other instruments.

9 Failure Diagnosis. The labor costs that are incurred by engineers and technicians in determining the cause of any malfunction.

10 Tool and Test Equipment Maintenance. Maintenance costs of equipment used for repairing, testing and calibrating equipment.

11 Other Consumables. All consumables not identified as material or POL.

12 Training. Personnel costs associated with continuing education, including courses on new techniques and procedures for equipment operation and maintenance. This training category differs from initial training in that training under the operation and maintenance section is a recurring costs and not a one-time investment cost.

13 Inventory Management. Costs associated with the management and storage of initial spares, also referred to as provisional or insurance items, replacement spares and repair parts.

14 Quality Assurance. The costs associated with quality assurance and product testing should be treated as any other direct labor cost.

15 Hazardous Waste Disposal. The costs associated with the planning, transport control (i.e., permitting, pollution control, equipment add-ons) and disposal of toxic materials. These could also be disposal costs.

(c) Disposal. Disposal costs are discounted in the final year of the project.

1 Salvage or Trade-in Credit. Salvage or trade-in is applicable only if the shipyard directly benefits from the credit. Salvage value is the residual value of an asset at the end of the equipment's useful life. Salvage value is deducted from the equipment cost base before determining depreciation.

2 Demolition and Removal. The expenses in dismantling, hauling away, or otherwise disposing of an asset. Removal costs should be subtracted from salvage value. If an

asset contains hazardous materials, which may need to be disposed of as hazardous waste, upon removal, these expenses should be included in removal costs and strongly discouraged by the shipyard planning review board during the procurement approval processes.

3 Site Clearance and Restoration. The costs of restoring a facility or property once an asset has been removed.

(10) Labor Savings. Labor savings should generally be costed out in accordance with the applicable requirements of reference (i).

(11) Economic Assumptions. All assumptions used for the economic analysis must be documented and maintained in the file package for the project.

c. Additional Project Documentation and Justification for Class 3 and 4 Plant Property Associated with Nuclear Facilities and Work Areas.

(1) Projects shall contain a detailed technical description of the project referencing NAVSEA plans, if applicable, or including sketches, schematic diagrams, or manufacturing brochures. Any planned deviation from NAVSEA plans should be noted and described. If NAVSEA technical approval is required (e.g., radioactive waste-processing systems), the NAVSEA letter providing technical approval shall be referenced in the project submission. Conversely, any request for technical approval should identify all costs involved and how they will be funded.

(2) Projects shall list similar existing equipment available to the shipyard including previously funded projects. If applicable, include the following information for each item of existing equipment:

(a) Fiscal year funded, project number, and return cost.

(b) State whether the equipment meets current NAVSEA requirements.

(c) A cost estimate to modify present equipment to meet current NAVSEA requirements (if not provided through normal economic analysis).

Enclosure (2)

(3) Plant equipment projects associated with nuclear facilities or work areas which request conventional, standard equipment of a type used for non-nuclear work (e.g., machine tools, non-destructive testing equipment or welding machines) should be justified based on the following:

(a) Only the minimum of such equipment necessary to perform specific work presently anticipated should be installed initially in any new nuclear facility or work area. Additional equipment should be added later only when justified with specific examples of work which the equipment is required.

(b) Equipment presently available in the shipyard and which has been used for nuclear work to date should be used in new facilities or work areas. Shipyards should identify, for all equipment requested, what similar equipment is available in the shipyard. Justification should include specific reasons why existing equipment cannot be relocated and utilized.

d. Project Documentation for Information Technology Projects (Hardware & Software).

(1) Information Technology (IT) hardware and software projects will be prepared, justified, and approved per references (e) and (f).

(2) Use of the RPS replaces the requirement to provide a Form NAVSEA 11016/2 (see Exhibit "A") for all IT projects with a unit cost greater than the congressional mandated minimum funding threshold established at the fiscal year of project submission. Concurrent with the NAVSEA 07I3 submittal, an electronic copy of all IT data must be submitted to MSSD, Code 1253, Portsmouth Naval Shipyard for review.

e. Project Documentation for Class 3 and 4 Plant Property Not Acquired Through the Capital Purchases Program.

(1) All non-excess Class 3 and 4 Plant Property projects will be developed, submitted, reviewed and approved in accordance with cognizant procedures.

(2) For excess equipment acquired by a naval shipyard, all such equipment (from any source) will be obtained via the designated "single representative" responsible for coordination of all Class 3 and 4 Plant Property matters in the shipyard which will be responsible for obtaining, from the requesting

Enclosure (2)

organizational component, a valid written justification for each piece of requested equipment. The justification becomes part of the shipyard files on Class 3 and 4 Plant Property. The written justification for replacement equipment may consist simply of identification of the item being replaced (name and Navy ID Number) and a brief economic analysis justifying the acquisition. For non-replacement equipment which increases capacity, the justification will be more extensive and will relate the equipment to specific new tasks, specific increases in workload, or other specific new or additional requirements. An economic analysis will be included in the justification.

f. Class 3 & 4 Project Submission Using the NAVSEA Resource, Planning & Tracking System (RPS)

(1) Unless otherwise authorized by NAVSEA 07I, all projects shall be submitted electronically via the Resource, Planning and Tracking System (RPS).

(2) Upload of RPS data shall be via the naval shipyard E-mail system. Uploaded data shall be attached to a message generated by the cognizant shipyard point of contact for the Capital Purchase Program (CPP).

3. Acquisition Policy for Class 3 and Class 4 Plant Property

a. General Acquisition Policy for Class 3 and 4 Plant Property. The Federal Acquisition Regulations (FAR) require that procurement specifications permit maximum practicable competition, state only minimum needs, and avoid restrictive features that would limit acceptable offers to one or a few offerors' products unless the features are essential to satisfy the minimum needs. These requirements must be considered when providing data for all acquisitions. In addition, prompt acceptance of satisfactory equipment is important to avoid undue delay in authorizing final payment to equipment contractors. Of equal importance is prompt rejection of equipment which, upon inspection, is found to be damaged, defective or otherwise does not fully conform to contract requirements. Failure to take action to reject equipment prior to expiration of the acceptance period places the Navy in default of the contract. Prompt reporting of problems experienced with new equipment which has been accepted and placed into operation is necessary to take full advantage of the benefits offered by the warranty period. Delays in properly reporting these problems not only prolongs the period wherein the equipment is idle or operates inefficiently, but also

Enclosure (2)

may jeopardize the Navy's right to seek corrective action under the warranty clause of contract.

(1) Any project for equipment with a feature(s) that is restrictive or proprietary to one manufacturer's model, or is urgently required at the shipyard to satisfy a compelling need, must be accompanied with a Justification and Approval (J&A) in accordance with the requirements of the Federal Acquisition Regulations, Part 6. The J&A shall cite the reason(s) for bypassing the procurement office's need for full and open competition.

(2) Contracts will provide for acceptance at destination after preliminary inspection, installation and satisfactory performance testing of the equipment by the receiving shipyard. The period allowed for installation, inspection and acceptance will be no more than 180 days after receipt of the equipment at destination unless otherwise noted in the project documentation. It is essential that the acceptance time period be identified. The acceptance period includes equipment installation time and time to conduct the performance, operational, or in-service test at the receiving shipyard. Shipyards must give careful attention to planning for the receipt of new equipment to ensure installation, performance testing and acceptance occur within the terms of the contract. In the event the shipyard becomes aware of a condition/delay that may require extension of the acceptance period, the shipyard shall notify the Contracting Officer, NAVSEA 07I, and the contract status control activity (i.e. PESO) immediately so that a contract modification can be negotiated with the contractor to minimize or eliminate Government penalties for late acceptance and payment.

(3) Shipyards will visually inspect equipment upon receipt for in-transit damage. Any apparent sign of damage to the skidding, crating or equipment will be documented and immediately reported to carrier. Any equipment which, upon inspection, is found to be damaged, defective or otherwise does not fully conform to contract requirements will be formally rejected. Rejection will be by registered letter to the contractor with a copy to the contracting office, contract administration and paying activities identified in the contract. The letter of rejection will include a copy of the Quality Deficiency Report in accordance with reference (g) which details reasons for rejection, citing the specific contract requirements where rejection is for nonconformance. If the reasons for rejection prevented performance of a complete inspection, the letter of rejection will so state it. The letter or rejection must be initiated by the receiving shipyard expeditiously to stop

Enclosure (2)

the acceptance period which will remain "on hold" until after the deficiencies have been resolved. After the deficiencies are resolved, if an in-service test is involved, it should be restarted in its entirety. Shipyards will not enter directly into formal or informal agreements with contractors concerning correction or replacement of rejected equipment. Deficiencies found after acceptance will be handled under the warranty provision of the contract.

(4) A manufacturer's warranty generally should be obtained for all Class 3 and 4 Plant Property acquisitions for items not manufactured locally. NAVSEA's goal is to acquire warranties for not less than 1 year after acceptance.

(5) Arrangements for operator, user and maintenance training, as well as documentation for proper equipment operations and maintenance for the estimated service life of the equipment, should be obtained for all Class 3 and 4 Plant Property acquisitions not manufactured locally.

(6) Any restrictions at the installation site must be taken into consideration including physical and utility restrictions. Examples of restrictions include crane hook height or centerline distance; available shop floor space for equipment installation; operation and maintenance; ceiling height; maximum floor load rating; existing utility ratings, ranges, and services (i.e. electric: voltage, phase, current; frequency; compressed air: CFM, PSI (regulated/unregulated); water: GPM, PSI).

(7) An acceptance document will be signed by the "single designated representative" or their designee upon satisfactory completion of all testing at destination and within the time allowed for acceptance by the contract.

(8) Deficiencies found after acceptance will be handled under the warranty provision of the contract. All action relative to defects in new equipment will be centrally coordinated by the "single designated representative" or their designee. Shipyards will not attempt repair of defective equipment still under warranty unless specifically directed to do so by NAVSEA or the applicable contracting activity.

(9) Standard Form 368, Quality Deficiency Report (QDR), will be used to report equipment deficiencies and corrective actions to NAVSEA in accordance with reference (g). A copy of all

Enclosure (2)

QDRs and subsequent responses must be provided to NAVSEADET NMQAO, Portsmouth, NH.

b. Specific Policy for Class 3 and 4 Plant Property Acquired by the Shipyard.

(1) All equipment will be obtained via the "single designated representative" which is responsible for obtaining from the requesting organizational component a valid written justification for each item of requested equipment. The justification will become part of the shipyard files on Class 3 and 4 Plant Property. Each shipyard must inventory equipment which has accessories and auxiliary equipment in a fashion which will readily identify the accessories and auxiliary equipment to the basic item, and to ensure that accessories and auxiliary items are contained with that item and redistributed with it at the time of disposition.

(2) Leased Equipment. Valid justification must be developed for all Class 3 and 4 plant property lease agreements including clear justification (lease vs. buy) where applicable.

(3) Numerical Controls (N/C). Shipyards must review acquisitions of N/C machine tools to determine whether the acquisition needs to include a post processor which is compatible with and will execute on one or more of the CAD/CAM systems in place at the acquiring activity.

c. Specific Policy for Class 3 and 4 Property Acquired By PESO.

(1) Shipyards will provide PESO a complete technical description in sufficient detail to assure procurement of generic equipment with all capacities, features and attachments, and accessories required for the intended application. If the project is for commercially available equipment, also cite all manufacturers and models considered during project development that will satisfy the intended application. If any of the description is restrictive or proprietary to one manufacturer's model, that portion of the description must be underlined.

(a) The project should include a brief description of the intended use or application for the equipment and any critical or unique features which are mandatory in the intended application.

(b) When patents, copyrights or other features are

known to limit consideration to certain manufacturers or models, the project shall cite these limiting factors.

(c) When the equipment is required by a specific date to satisfy mission requirements, ship availabilities, etc., cite the date and any adverse consequences prominently in the project submission.

(d) In addition, activities will:

1 Attach copies of any informal quotations and any literature received from vendors, etc., that may be helpful in describing the equipment and associated cost estimates.

2 Identify the shipyard utility(s) that the equipment is to operate, e.g.:

Electric - Single Service \_\_\_\_\_ volts ( $\pm 5\%$ ),  
 \_\_\_\_\_ phase, \_\_\_\_\_ Hertz  
 Compressed Air - \_\_\_\_\_ PSI, \_\_\_\_\_ CFM, unregulated,  
 regulated ( $\pm$  \_\_\_\_\_ %)  
 Water - \_\_\_\_\_ PSI, \_\_\_\_\_ GPM, \_\_\_\_\_ °F Maximum, Fresh/  
 Salt  
 Gas - \_\_\_\_\_ BTU, unregulated, regulated ( $\pm 5\%$ )

3 For N/C machine tools, identify any special requirements involving the post processor.

(e) Clearly state the requirement for turnkey installation in the project description and the scope of expected contractor responsibility such as foundations, piping, electrical feeders, etc. PESO personnel will contact activities requesting "turnkey" installation during the budget year to gather additional data and discuss factors affecting contractor performance. The following information will be considered during the discussion:

1 Interface requirements with existing equipment and shop operations.

2 Special environmental and safety measures the contractor must take into consideration during installation, such as dust barriers, cleanliness of work site, in-shop ventilation, etc.

3 Special on-site quality assurance requirements

Enclosure (2)

for foundation and construction, such as concrete samples, in-phase inspection of concealed work, etc.

4 Local codes or statutes, etc. which affect installation.

5 Security procedures for contractor personnel.

6 Foundation drawing delivery dates.

(f) Identify all on-site and factory training, installation, and start-up services required. Specify the number and types of persons to be trained, such as: two operators, two each mechanical and electrical and electronic maintenance personnel, etc.

(g) Also, the following details will be provided to PESO:

1 Identify all equipment which will be installed in a secure area and will be accessible to US citizens only.

2 Identify the specific date that the material is required (DMR), and provide justification and consequences if the DMR is not met.

3 Identify the required schedule for installation and final acceptance testing of this equipment.

4 Identify special point(s) of operation guarding or safety devices which are required by the activity beyond that provided with the equipment to meet OSHA, etc., requirements.

5 Identify any special energy or environmental requirements.

(2) Shipyards will immediately notify PESO if, for any reason, installation may be delayed thus preventing final inspection and acceptance from being accomplished within the period specified in the contract.

(3) When problems delay signing of the acceptance document, PESO will be notified immediately as to the nature and length of delay. This will allow PESO to initiate the appropriate contractual action.

(4) Deficiencies found after acceptance will be handled

Enclosure (2)

under the warranty provision of the contract. All action relative to defects in new equipment will be centrally coordinated by the "single designated representative" or their designee.

(5) To process QDRs for acquisitions made by PESO, where time is of the essence (such as near the end of the warranty period or where an urgent need to correct the problem exists), shipyards shall initially notify PESO by the most expedient method, e.g., telephone or naval message, and follow with a more detailed report. As a minimum, PESO will need to know at the outset the contract number, model and serial number, date equipment accepted, date problem developed, nature of the problem and local point of contact (name and telephone number).

(6) PESO will initiate appropriate action via the contracting office to report all warranty problems to the contractor for correction under the terms of the contract. PESO will assure that shipyards and NAVSEA 07I are kept apprised of all such action and the progress thereof.

(7) Shipyards will notify PESO when the problem has been corrected or if the contractor is not making suitable progress in correcting the problem.

(8) Shipyards will not attempt to modify equipment under warranty without prior authorization from the contracting office. Failure to comply with this requirement could seriously jeopardize or nullify the warranty.

d. Acquisitions of Class 3 and 4 Plant Property Not Funded through the Capital Purchase Program. Class 3 and 4 Plant Property not funded through the CPP will be acquired in accordance with the above procedures unless superseded by other procedures established by the organization having cognizance over the source funding the acquisition.

#### 4. Project Documentation for Naval Shipyard Minor Construction Projects Funded through the Capital Purchase Program (CPP)

a. Scope. This sub-section also applies to Minor Construction projects funded through the Defense Business Operations Fund (DBOF) via the Capital Purchases Program (CPP).

Enclosure (2)

b. Project Documentation for Minor Construction Projects Funded by the Capital Purchases Program.

(1) Purpose. This sub-section provides guidelines for the documentation of Minor Construction projects funded under the Capital Purchases Program (CPP).

(2) It is the responsibility of each shipyard to provide complete information supporting each project for which approval and funding are requested, including NAVSEA mandated projects.

(3) Projects shall be prepared in accordance with reference (h), chapter 7 for "special projects". The project shall be prepared using the Step II Special Project Form. An economic analysis shall be prepared and submitted in accordance with NAVFAC P-442, Type A (short form). A cost summary sheet(s) for each project shall be prepared and submitted per reference (h). Specific instructions regarding construction projects can be found in reference (h), Chapter 2. Specific instructions regarding equipment installation projects can be found in reference (h), Chapter 6.

(4) Unless otherwise waived by NAVSEA 07I, all applicable minor construction project data fields shall be additionally submitted in electronic form via the "Resource, Planning and Tracking System (RPS)" for budgetary and tracking purposes.

5. Approval Authority for Minor Construction Projects Funded by the Capital Purchase Program. Local project approval authority is granted the naval shipyards for projects having a funded cost of less than \$200,000.00 and within existing CPP authority. Projects exceeding \$200,000.00 to a maximum of \$300,000.00 shall be routed through the geographic NAVFAC Engineering Field Division (EFD) for site validation. Projects shall be then forwarded to NAVSEA 07I for approval.

## Section II

## CLASS 3 AND 4 PLANT PROPERTY LIFE CYCLE MANAGEMENT

1. Purpose. To discuss NAVSEA policy on installation, utilization, maintenance, retention and disposal of Class 3 and 4 Plant Property and Post-Investment Analysis (PIA) procedures.

2. Installation, Utilization, Maintenance, Retention and Disposal of Capital Equipment.

a. Installation.

(1) Newly acquired equipment must be installed promptly. Delayed installation results in loss of savings for new equipment justified on the basis of increased productivity or other economic basis and reduces the warranty period.

(2) Shipyards are to give careful attention to planning for the receipt of newly acquired plant equipment and are to take all necessary action to ensure prompt installation. PESO will provide any required information concerning anticipated foundation plans, etc., for equipment they acquire.

(3) Installation of newly acquired equipment will normally begin within 30 days after receipt and complete no later than 180 days after receipt. When installation costs exceed \$300,000, an "E" project must be prepared per reference (h) and submitted to SEA 07I.

b. Equipment Utilization

(1) For newly acquired Class 3 and 4 Plant Property, a utilization rate will be developed as part of its PIA.

(2) To develop utilization rates, data from electronic monitors can be used so long as the monitor device measures actual productive time, not just motor time (examples of such electronic monitors include spindle recorders and automatic operator log-on/log-off systems). Operator "estimates" are not a valid source for deducing utilization rates. Where actual productive time data is not available, utilization rates should be developed from statistically-based observations of the equipment over a random period of time. The number of observations must be sufficient to ensure 95% confidence that the resulting utilization rates are statistically accurate to within plus or minus ten percent. For static structures (e.g., staging,

Enclosure (3)

SHT enclosures, etc.) or equipment in exclusionary zones, utilization rates may be developed by reviewing overhaul schedule and key event information.

(3) At minimum, recorded utilization data will include productive time and idle time. Where practical, production time during set up and idle time during maintenance will also be recorded.

c. Maintenance of Class 3 and 4 Plant Property.

(1) The ability to consistently perform quality work in a timely manner is enhanced by cost effective management of Class 3 and 4 Plant Property maintenance. Effective maintenance management permits planning and scheduling of repair work, as opposed to "breakdown" maintenance, on an immediate or emergency basis. Such a program requires early determination of maintenance deficiencies and, therefore, dictates the need for a effective Preventative Maintenance (PM) program.

(2) Shipyards will use the NAVSEA Equipment Maintenance Management System manual, EMM-070-1, reference (i), for guidance in developing and implementing a plant equipment maintenance program.

(3) Shipyards will develop and implement a formal preventive maintenance and lubrication program for all IPE, tailored to the utilization and service requirements of the equipment and develop and implement a formal corrective maintenance program to assure that all active IPE is kept in good working order.

(4) The shipyard maintenance program shall insure that each equipment item is maintained in full compliance with applicable OSHA requirements, and that the item's power source is locked out and/or the item is tagged "out of service" until corrective action is complete.

d. Equipment Retention and Disposal.

(1) Equipment not in use should be identified as "Mission Support" in accordance with reference (a) or excessed. Equipment that can be released immediately will be promptly declared idle. Plant Property records for equipment which has been determined to be "mission support" shall be noted and the equipment prominently tagged to permit immediate identification. Equipment being held pending installation, disposal, or transfer will be stored under covered storage in a manner which will protect the equipment from

Enclosure (3)

cannibalization, moisture, dust, abrasion, or other damage to machine surfaces or precision components.

(2) Naval shipyards shall obtain NAVSEA 07I concurrence and notify other shipyards for possible re-utilization prior to disposal of idle excess capital equipment with a unit cost over the established threshold at the time of disposal. Reporting excess Class 4 equipment to the DoD Commodity Manager For Class 4 Plant Property will be deferred until NAVSEA 07I concurrence is obtained. This requirement also applies to the disposal of equipment replaced with new or used equipment with a unit cost over the established threshold at the time of disposal. It is the responsibility of each shipyard to provide complete information with each request for disposition instructions. Disposal or transfer of equipment associated with nuclear facilities or work areas shall be screened and approved by NAVSEA 07I and 08X.

(3) Excess equipment will be promptly removed and disposition initiated in accordance with reference (a). Disposition action for replaced equipment should generally be initiated within 30 days after the new replacement equipment is in service.

### 3. Post Investment Analysis (PIA).

a. Per DoD Instruction 7000.14, "Financial Management Regulation", Volume 11B, "Reimbursable Operations Policy and Procedures - Defense Business Operations Fund", each shipyard shall perform post-investment analysis for 10% of the total capital investment projects, but not less than 5 projects that were completed during the previous fiscal year and had been justified wholly or partially based on economic considerations (i.e. "productivity"). In cases where the shipyard has completed less than the required minimum of 5 projects, a PIA will be performed on all projects completed that met or exceeded the funding threshold of the project's funding year.

b. Post-Investment Analysis policy compliance begins with items funded with FY 90 OPN funds on all Class 3 and 4 Plant Property having a unit cost which equaled or exceeded the congressional mandated minimum funding threshold established at the fiscal year of project funding (i.e. FY96 = \$100,000). All post-investment analyses shall be made normally 6 months after an asset is in a fully operational mode, but not longer than 2 years after commencement of operational use. In addition, a post-investment analysis shall be conducted at the end of the

Enclosure (3)

projected payback period for all productivity projects with a payback period longer than 3 years.

c. The format of the applicable economic analysis used when initially justifying the project will be used for the PIA except that actual observed data shall be used instead of estimates. PIAs shall be accomplished in constant dollars using the year that the equipment becomes operational as the base year. Therefore, all actual costs and savings must be adjusted to operational year dollars (e.g., any costs realized before the operational year must be accelerated and any costs or savings realized after the operational year must be "deflated"). Inflation factors will be published yearly with NAVSEA's budget guidance.

d. The PIAs must address whether the equipment purchased satisfied the original mission requirement. If the equipment does not satisfy the original mission requirement, an analysis of the reason will be completed no later than 3 months after the PIA began.

e. For productivity projects, the PIA must address whether the equipment purchased achieved the estimated productivity and/or capability goals and benefits assumed by the project's original economic analysis. Intrinsic to this analysis is the development of the actual utilization rate for the equipment to be compared against the estimated utilization rate used in the economic analysis for the project.

f. Normalization of Utilization Data for Similar Outputs:

(1) Care must be exercised in interpreting differences between the projected utilization of the proposed equipment used in the initial Cost Benefit Analysis (CBA) and the actual utilization used in the PIA. Take for example a situation where a manual lathe is replaced by a turning center to do the same type of work. If the utilization of the lathe had been 1900 hours and the turning center is projected to have a Productivity Increase Ratio of 2:1, then the shipyard would project that the turning center would accomplish the same workload as the lathe in half the time, or 950 hours. If during the PIA the shipyard measured that the turning center's first year actual utilization was 1750 hours, then without normalizing for output, the shipyard could very well conclude that the turning center is not substantially more productive than was the lathe.

(2) Normalization of output can be accomplished either by recording output during the entire period that the equipment

Enclosure (3)

utilization hours were recorded or by sampling output during select periods and extrapolating the average output per utilization hour. Once actual/extrapolated output is calculated for both the old and the new pieces of equipment, utilization can be easily normalized. For example, if the lathe generated 1000 parts during 1800 hours of utilization, then its utilization hours per unit of output would have been 1.8 hours per unit. If the turning center generated 2500 parts during 1750 hours of utilization, then its utilization hours per unit of output would have been 0.7 hours per unit. Therefore, the actual productivity increase ratio of the turning center relative to the lathe would be 2.57:1, which is better than the 2:1 projected in the initial CBA.

g. Normalization of Utilization Data For Dissimilar Outputs.

(1) Normalization is more difficult in situations where there is a fundamental change in the type of work done at a shipyard such that the output generated on the new piece of equipment is different than the output generated on the old piece of equipment. In such cases, it may be possible to set up a controlled experiment where both the old and new pieces of equipment produce the exact same part so that equivalent utilization hours per part can be deduced.

(2) In cases where such a controlled experiment would be impractical or disruptive to production, more advanced techniques such as regression analysis may be used. For example, some physical parameter of the part being produced by the old piece of equipment such as weight, surface area, etc. could be regressed against the utilization hours needed to produce the part. Similar regression coefficients could be developed on the new piece of equipment. By using the resulting coefficients, the time to produce the output generated on the old piece of equipment could be simulated based on the coefficients of the new piece of equipment. The resulting hours per output can then be used to normalize the overall utilization between the old and new pieces of equipment.

h. Reduction of Estimating Standards. In cases where reductions to man-day allowances or standards were made as the result of specific capital investments, the post-investment analysis must also address the following issues:

(1) Were man-day allowances or standards actually reduced in accordance with the productivity estimates associated with the project's documentation?

Enclosure (3)

(2) Did actual mandays charged for each operation exceed the new standard?

(3) If the actual mandays charged exceeded the new standard, what was the cause (specifically, were the productivity assumptions associated with the equipment incorrect)?

4. Project Documentation Retention.

a. Projects Not Undergoing Post-Investment Analysis (PIA). All project documentation including that used during the initial development of the project and the economic analysis, when performed, will be maintained in an organized and retrievable fashion a minimum of 5 years after installation.

b. Cost Saving and Productivity Justified Projects Undergoing Post-Investment Analysis (PIA). All project documentation (including that used during the initial development of the project, the economic analysis and the PIA) will be maintained in an organized and retrievable fashion a minimum of 5 years after completion of the post investment analysis (PIA).

<b>PLANT EQUIPMENT PROJECT</b>					
1. ACTIVITY		2. LOCATION OF ACTIVITY		3. MCON PROJ NUMBER	4. PROJECT NUMBER
				5. FISCAL YEAR	<input type="checkbox"/> ORIG <input type="checkbox"/> REV
				6. DATE	
7. DESCRIPTION				8. PLANT EQUIPMENT CODE (12 Digits)	
				9. NO. EQUIP ITEMS/SYSTEMS REQUESTED	
				10. JUSTIFICATION	
				(a) CATEGORY	(b) ALTERNATIVES
				11. DD FORM 1106 ATTACHED? → <input type="checkbox"/> YES <input type="checkbox"/> NO	
				12. FORM DD 1419 (List Req. Numbers for each)	
13. ESTIMATED COSTS (All projects)					14. UTILIZATION (All projects)
(a) PROJECT YEAR COST	(b) TOTAL COST	(c) EQUIP ESTIMATE	(d) TRANSPORTATION	(e) INSTALLATION	HOURS
15. ECONOMICS (Financial Projects)			16. REPLACEMENT	17. SPECIAL PROGRAM	
(a) EST ANN SAVINGS	(b) AMORT PERIOD	(c) IRR	(d) PIR	<input type="checkbox"/> (a) NUCLEAR SUPPORT	<input type="checkbox"/> (b) COLLATERAL EQUIPMENT FOR MCON PROJECT
18. PROCUREMENT			19. RENT/LEASE	20. LOCATION OF EQUIPMENT	
<input type="checkbox"/> (a) PROCURED VIA NAVSEA			<input type="checkbox"/> (b) PROCURED LOCALLY BY ACTIVITY		(a) SHOP/CODE
					(b) BUILDING
21. PROJECT NARRATIVE (Identify other special program projects here) (See NAVSEAINST 11016 for directions)					
22. TYPED NAME OF PREPARER		23. SIGNATURE OF PREPARER			24. DATE SIGNED
25. TYPED NAME OF ACTIVITY CPP COORDINATOR		26. SIGNATURE OF ACTIVITY CPP COORDINATOR			27. DATE SIGNED
28. TYPED NAME OF ACTIVITY COMPTROLLER		29. SIGNATURE OF ACTIVITY COMPTROLLER			30. DATE SIGNED
31. TYPED NAME OF NAVSEA APPROVAL AGENT		32. SIGNATURE OF NAVSEA APPROVAL AGENT			33. DATE SIGNED
NAVSEA 11018/2 (Rev. 1-85) <span style="float: right;">(Previous Revision In Obsolete - Destroy Stock)</span>					34. PAGE OF

**NAVAL SHIPYARD CAPITAL INVESTMENT BUDGET PROCESS  
EXHIBIT B**

**OVERVIEW**

The naval shipyard capital investment budget process begins over two years prior to execution. During February/March two years prior to execution, NAVSEA 07 reviews and approves each shipyard's proposed capital investment program for the fiscal years to be included in the new budget submittal. The shipyards submit their approved capital investment program in May/June to NAVSEA 07 as part of their shipyard Defense Business Operating Fund (DBOF) Annual Financial Management Budget (AFMB).

Using the projects submitted in the AFMB, NAVSEA 07 prepares the Capital Purchase Program (CPP) Fund 9a and 9b exhibits for the Navy Office of Budget/Fiscal Management Division (NAVCOMPT/FMB) budget submission. The NAVCOMPT budget is submitted in July each year. NAVCOMPT reviews the shipyard capital investment projects and prepares budget marks to the naval shipyard program if they determine the program should be reduced or increased. NAVCOMPT marks are normally distributed during August, and NAVSEA has the opportunity to disagree with any NAVCOMPT adjustments by providing amplifying information through the reclama process. NAVCOMPT is the final arbitrator and establishes naval shipyard CPP dollar authority limitations (control numbers).

In September/October, NAVSEA 07 prepares new Capital Purchase Program exhibits for inclusion in the Department of the Navy budget submission to the Office of the Secretary of Defense (OSD). The new exhibits reflect the final CPP control numbers issued by NAVCOMPT. OSD reviews the naval shipyard capital purchase program and prepares Program Budget Decisions (PBDs) as they deem necessary to reduce or increase the shipyard capital

program. Again, NAVSEA has the opportunity to reclaim the PBD actions.

Normally during October, while OSD is reviewing NAVSEA's CPP budget, the OSD Comptroller issues CPP funding authority for the prior year (current execution year) to NAVCOMPT. NAVCOMPT, in turn, issues a unit cost letter to NAVSEA 01 providing CPP authority for the current year to the shipyards. This October unit cost letter, which carries Title 31 of USC 1517 (Anti-Dificiency Act) accountability, permits the shipyards to begin current execution year obligations. A second unit cost letter, reflecting any current budget year adjustments made during the OSD budget review, is normally issued in January.

In December/January, based upon the OSD budget review, NAVSEA revises the CPP budget exhibits and includes them in the naval shipyard President's Budget submission.

The CPP budget reflects projects for either three or four years. During even numbered fiscal years (i.e. FY98 budget submission submitted to NAVCOMPT in July 96), the budget reflects four fiscal years. The four year budget updates the current fiscal year (i.e. FY96), updates the next fiscal year (i.e. FY97), presents the shipyard CPP program to Congress for the budget year (i.e. FY98) (first time Congress has seen this year's program) and projects the CPP program for the budget year plus one (i.e. FY99). During odd numbered fiscal years (i.e. FY99 budget submission to NAVCOMPT in July 97) the apportionment budget is submitted, which displays three fiscal years. It shows the actual/projected CPP obligations for the current fiscal year (i.e. FY97), updates the next fiscal year (i.e. FY98), and updates the budget year (i.e. FY99) program which Congress has already seen once in the prior year's submission.