

<b>SOLICITATION, OFFER AND AWARD</b>			1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700)		RATING	PAGE OF PAGES 1   107	
2. CONTRACT NO.		3. SOLICITATION NO. N65540-11-R-5005	4. TYPE OF SOLICITATION [ ] SEALED BID (IFB) [X] NEGOTIATED (RFP)	5. DATE ISSUED 18 Feb 2011	6. REQUISITION/PURCHASE NO.		
7. ISSUED BY NAVAL SURFACE WARFARE CENTER CARDEROCK CODE 3362, ANDREW LUCAS 215-897-1232, ANDREW.C.LUCAS@NAVY.MIL 5001 SOUTH BROAD STREET PHILADELPHIA PA 19112-1403			CODE N65540	8. ADDRESS OFFER TO (If other than Item 7) <b>See Item 7</b>		CODE	TEL: FAX:
TEL: 215-897-1232 FAX: 215-897-7059							

NOTE: In sealed bid solicitations "offer" and "offeror" mean "bid" and "bidder".

### SOLICITATION

9. Sealed offers in original and 5 copies for furnishing the supplies or services in the Schedule will be received at the place specified in Item 8, or if handcarried, in the depository located in BUILDING 4 SECOND FLOOR until 04:00 PM local time 06 Jun 2011  
(Hour) (Date)

CAUTION - LATE Submissions, Modifications, and Withdrawals: See Section L, Provision No. 52.214-7 or 52.215-1. All offers are subject to all terms and conditions contained in this solicitation.

10. FOR INFORMATION CALL:	A. NAME	B. TELEPHONE (Include area code) (NO COLLECT CALLS)	C. E-MAIL ADDRESS
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### OFFER (Must be fully completed by offeror)

NOTE: Item 12 does not apply if the solicitation includes the provisions at 52.214-16, Minimum Bid Acceptance Period.

12. In compliance with the above, the undersigned agrees, if this offer is accepted within 180 calendar days (60 calendar days unless a different period is inserted by the offeror) from the date for receipt of offers specified above, to furnish any or all items upon which prices are offered at the price set opposite each item, delivered at the designated point(s), within the time specified in the schedule.

13. DISCOUNT FOR PROMPT PAYMENT (See Section I, Clause No. 52.232-8)			
14. ACKNOWLEDGMENT OF AMENDMENTS (The offeror acknowledges receipt of amendments to the SOLICITATION for offerors and related documents numbered and dated):		AMENDMENT NO.	DATE

15A. NAME AND ADDRESS OF OFFEROR		CODE	FACILITY	16. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER (Type or print)	
15B. TELEPHONE NO (Include area code)		15C. CHECK IF REMITTANCE ADDRESS IS DIFFERENT FROM ABOVE - ENTER SUCH ADDRESS IN SCHEDULE. <input type="checkbox"/>		17. SIGNATURE	
				18. OFFER DATE	

### AWARD (To be completed by Government)

19. ACCEPTED AS TO ITEMS NUMBERED		20. AMOUNT		21. ACCOUNTING AND APPROPRIATION	
22. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION: <input type="checkbox"/> 10 U.S.C. 2304(c)( ) <input type="checkbox"/> 41 U.S.C. 253(c)( )				23. SUBMIT INVOICES TO ADDRESS SHOWN IN ITEM (4 copies unless otherwise specified)	
24. ADMINISTERED BY (If other than Item 7)		CODE	25. PAYMENT WILL BE MADE BY CODE		
26. NAME OF CONTRACTING OFFICER (Type or print)		27. UNITED STATES OF AMERICA		28. AWARD DATE	
TEL:		EMAIL:		(Signature of Contracting Officer)	

IMPORTANT - Award will be made on this Form, or on Standard Form 26, or by other authorized official written notice.

Section B - Supplies or Services and Prices

MINIMUM AND MAXIMUM QUANTITIES

The quantities of supplies specified are estimates only.

The Naval Surface Warfare Center, Carderock Division Philadelphia is the ordering activity authorized to issue delivery orders. Orders will be placed in writing only.

**This solicitation is a 100% Small Business Set-A-Side.**

MINIMUM AND MAXIMUM QUANTITIES

As referred to in paragraph (b) of FAR Clause 52.216-22, "Indefinite Quantity" of this solicitation, the contract minimum is all First Article Testing Line Items and the maximum quantity is the total of all Contract Line Items. The minimum quantity will be met by issuance of Delivery Order 0001.

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0001	FIRST ARTICLE - DESIGN REPORT IAW Data Item A001. Refer to Contract Data Requirements List (CDRL) DD Form 1423 and Contract Specifications. FOB: Destination FFP	1	Lot		
				NET AMT	

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0002	FIRST ARTICLE - TEST PLAN IAW Data Item A002. Refer to Contract Data Requirements List (CDRL) DD Form 1423 and Contract Specifications. FOB: Destination FFP	1	Lot		
				NET AMT	

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0003	FIRST ARTICLE - ASSEMBLY DRAWINGS IAW Data Item A003. Refer to Contract Data Requirements List (CDRL) DD Form 1423 and Contract Specifications. FOB: Destination FFP	1	Lot		
NET AMT					<hr/>

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0004	FIRST ARTICLE - DETAIL DRAWINGS IAW Data Item A004. Refer to Contract Data Requirements List (CDRL) DD Form 1423 and Contract Specifications. FOB: Destination FFP	1	Lot		
NET AMT					<hr/>

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0005	FIRST ARTICLE - WIRING LIST AND DIAGRAM IAW Data Item A005. Refer to Contract Data Requirements List (CDRL) DD Form 1423 and Contract Specifications. FOB: Destination FFP	1	Lot		
NET AMT					<hr/>

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0006	FIRST ARTICLE - TEST REPORT IAW Data Item A006. Refer to Contract Data Requirements List (CDRL) DD Form 1423 and Contract Specifications. FOB: Destination FFP	1	Lot		
				NET AMT	<hr/>

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0007	FIRST ARTICLE - TESTING & TESTED VALVES This CLIN is for the testing and delivery of 3 valves IAW the Contract Specifications. FOB: Destination FFP	1	Lot		
				NET AMT	<hr/>

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0008	FIRST ARTICLE - ENGINEERING DATA PACKAGE IAW Data Item A007. Refer to Contract Data Requirements List (CDRL) DD Form 1423 and Contract Specifications. FOB: Destination FFP	1	Lot		
				NET AMT	<hr/>

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0009	FIRST ARTICLE - TECHNICAL MANUAL IAW Data Item A008. Refer to Contract Data Requirements List (CDRL) DD Form 1423 and Contract Specifications. FOB: Destination FFP	1	Lot		
NET AMT					<hr/>

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0010	FIRST ARTICLE - STATUS REPORTS IAW Data Item A009. Refer to Contract Data Requirements List (CDRL) DD Form 1423 and Contract Specifications. FOB: Destination FFP	1	Lot		
NET AMT					<hr/>

ITEM NO	SUPPLIES/SERVICES	MAX QUANTITY	UNIT	UNIT PRICE	MAX AMOUNT
0011	MOPV Production Year One FOB: Destination	UNDEFINED	Each		
MAX NET AMT					<hr/>

STEPLADDER PRICING

STEPLADDER NAME	ITEM NO	FROM QUANTITY	TO QUANTITY	UNIT PRICE
MOPV PRICE	0011	5.00	20.00	
		21.00	50.00	
		51.00	100.00	
		101.00	200.00	

201.00	500.00
501.00	1,100.00

ITEM NO	SUPPLIES/SERVICES	MAX QUANTITY	UNIT	UNIT PRICE	MAX AMOUNT
0012	MOPV Production Year Two FOB: Destination	UNDEFINED	Each		

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MAX  
NET AMT

STEPLADDER PRICING

STEPLADDER NAME	ITEM NO	FROM QUANTITY	TO QUANTITY	UNIT PRICE
MOPV PRICE	0012	5.00	20.00	
		21.00	50.00	
		51.00	100.00	
		101.00	200.00	
		201.00	500.00	
		501.00	1,100.00	

ITEM NO	SUPPLIES/SERVICES	MAX QUANTITY	UNIT	UNIT PRICE	MAX AMOUNT
0013	MOPV Production Year Three FOB: Destination	UNDEFINED	Each		

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MAX  
NET AMT

STEPLADDER PRICING

STEPLADDER NAME	ITEM NO	FROM QUANTITY	TO QUANTITY	UNIT PRICE
MOPV PRICE	0013	5.00	20.00	
		21.00	50.00	
		51.00	100.00	
		101.00	200.00	
		201.00	500.00	
		501.00	1,100.00	

ITEM NO	SUPPLIES/SERVICES	MAX QUANTITY	UNIT	UNIT PRICE	MAX AMOUNT
0014	MOPV Production Year Four FOB: Destination	UNDEFINED	Each		

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MAX  
NET AMT

STEPLADDER PRICING

STEPLADDER NAME	ITEM NO	FROM QUANTITY	TO QUANTITY	UNIT PRICE
MOPV PRICE	0014	5.00	20.00	
		21.00	50.00	
		51.00	100.00	
		101.00	200.00	
		201.00	500.00	
		501.00	1,100.00	

ITEM NO	SUPPLIES/SERVICES	MAX QUANTITY	UNIT	UNIT PRICE	MAX AMOUNT
0015	MOPV Production Year Five FOB: Destination	UNDEFINED	Each		

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MAX  
NET AMT

STEPLADDER PRICING

STEPLADDER NAME	ITEM NO	FROM QUANTITY	TO QUANTITY	UNIT PRICE
MOPV PRICE	0015	5.00	20.00	
		21.00	50.00	
		51.00	100.00	
		101.00	200.00	
		201.00	500.00	
		501.00	1,100.00	

CLAUSES INCORPORATED BY FULL TEXT

HQ B-2-0004 EXPEDITING CONTRACT CLOSEOUT (NAVSEA) (DEC 1995)

(a) As part of the negotiated fixed price or total estimated amount of this contract, both the Government and the Contractor have agreed to waive any entitlement that otherwise might accrue to either party in any residual dollar amount of \$500 or less at the time of final contract closeout. The term "residual dollar amount" shall include all money that would otherwise be owed to either party at the end of the contract, except that, amounts connected in any way with taxation, allegations of fraud and/or antitrust violations shall be excluded. For purposes of determining residual dollar amounts, offsets of money owed by one party against money that would otherwise be paid by that party may be considered to the extent permitted by law.

(b) This agreement to waive entitlement to residual dollar amounts has been considered by both parties. It is agreed that the administrative costs for either party associated with collecting such small dollar amounts could exceed the amount to be recovered.

Section C - Descriptions and Specifications

TECHNICAL SPECIFICATION

**TECHNICAL SPECIFICATION  
FOR  
MOTOR-OPERATED PILOT VALVE**

**15 FEB 2011**

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## **TECHNICAL SPECIFICATION FOR MOTOR-OPERATED PILOT VALVES (MOPVs)**

### **1. SCOPE**

#### ***1.1. PURPOSE***

This specification defines the requirements applicable to the design and construction of the motor-operated pilot valve (MOPV) for use aboard US Navy ships. This document contains the specific performance, functional, maintenance and programmatic requirements for the MOPV.

References to the “MOPV” or the “valve” within this specification refer to the entire valve assembly, actuator, and any auxiliary devices supplied by the Contractor, unless otherwise specifically stated.

#### ***1.2. BACKGROUND***

The existing solenoid-operated pilot valve (SOPV) shown on NAVSEA Drawing 803-5959218 is used to control several Hytrol valves in the Aqueous Film Forming Foam (AFFF) Balanced Pressure Proportioning System shown on NAVSEA Drawing 803-5959273. Numerous failures of SOPV’s have been experienced in service.

The MOPV will provide two control functions, as a 4-port master MOPV and a 3-port service MOPV. The 4-port master MOPV will be used to initiate AFFF concentrate flow and firemain flow for mixing and disbursement to AFFF systems aboard ship. The 3-port MOPV serves as the local disbursement valve for either firemain flow or the AFFF mixture. The MOPV specified herein shall be a 4-port valve with capability to function as a 3-port valve. See Section 3.3.21 and the figure cited therein for the Port and Flow configurations and the Open/Close designations.

#### ***1.3. LIABILITIES***

The Contractor shall accept responsibility and liability for the effect on the baseline design of all design changes instituted, recommended, and approved. The Contractor shall evaluate all changes and modifications to the basic design to ensure that the strength, performance, service life, safety, interchangeability, maintainability, reliability and operation of the entire valve and components are not compromised as a result of the modification or change. In the event that this evaluation reveals compromise in any of the above, the Contractor shall immediately inform NSWCCD in writing of the results of the evaluation and shall provide a recommendation, including a cost estimate and schedule for the work needed to recover from the compromised condition.

#### ***1.4. SUBMITTALS***

All Contractor submittals, including technical deliverables, shall be to NSWCCD as defined in the purchase order or herein. All Contractor requests for interpretation or clarification of any purchase order specification, requests for repair welding authorizations (when required) and requests for acceptance of a nonconforming condition shall be submitted to the applicable Navy contracting officer. The minimum required deliverables are defined in the applicable sections of this specification. Deliverables required by this and other specifications shall be submitted to NSWCCD for approval. The submittals shall identify the purchase order number and purchase order item number for which the data is submitted. To this purpose the following definitions apply:

- (a) US Navy - United States Navy
- (b) Contractor – Manufacturer, Corporation or Agency accepting a contract to develop or provide the material described herein.
- (c) Government – All official agencies of the US Government
- (d) NAVSEA – Naval Sea Systems Command

(e) NSWCCD – Naval Surface Warfare Center, Carderock Division

## 2. APPLICABLE DOCUMENTS

### 2.1. SPECIFICATIONS, STANDARDS, AND PUBLICATIONS

The following documents form a part of this specification to the extent specified herein. However, all revisions or effective dates of specifications referenced within this document, shall take precedence over the issue in effect as well as the effective issue date defined in Section 2.2.

<u>Military</u>	<u>Title</u>
A-A-59125/2	Commercial Item Description Sheet, Terminal Boards, Molded, Barrier Screw Type, Class 38TB
MIL-B-24480A	Bronze, Nickel-Aluminum (UNS No. C95800) Castings for Seawater Service
MIL-C-15726F w/Amendment 1	Copper-Nickel Alloy, Sheet, Plate, Strip, Bar, Rod, and Wire
MIL-C-24679	Copper-Nickel Alloy Forgings and Forging Stock
MIL-DTL-1222J	General Specification for Studs, Bolts, Screws, and Nuts for Applications Where a High Degree of Reliability is Required
MIL-DTL-15024F	General Specification for Plates, Tags, and Bands for Identification of Equipment
MIL-DTL-24441D	General Specification For Paint, Epoxy-Polyamide
MIL-F-8961A w/Amendment 1	Fastener Element, Self-Locking, Externally Threaded, 450° F and 1200° F
MIL-F-1183/10A	Military Specification Sheet, Fittings, Pipe, Cast Bronze, Silver-Brazing; Union, Pipe
MIL-P-24396A	Packing Material, Braided PTFE (Polytetrafluoroethylene)
MIL-S-901D	Requirements for Shock Tests, H.I. (High-Impact) Shipboard Machinery, Equipment, and Systems
MIL-STD-108E w/Notice 1	Definitions of and Basic Requirements for Enclosures for Electric and Electronic Equipment
MIL-STD-129P w/Change 4	Military Marking for Shipment and Storage
MIL-STD-130	Department Of Defense Standard Practice Identification Marking Of U.S. Military Property
MIL-STD-167-1A	Mechanical Vibrations of Shipboard Equipment (Type I - Environmental and Type II – Internally Excited)
MIL-STD-461F	Requirements for the Control of Electromagnetic Interference Characteristics of Subsystems and Equipment

MIL-STD-464C	Electromagnetic Environmental Effects Requirements For Systems
MIL-STD-792F	Identification Marking Requirements for Special Purpose Components
MIL-STD-798 w/Notice 1	Nondestructive Testing, Welding, Quality Control, Material Control and Identification and Hi-Shock Test Requirements for Piping System Components for Naval Shipboard Use
MIL-STD-883H	Test Method Standard: Microcircuits
MIL-STD-1399 Section 300B	Interface Standard for Shipboard Systems Section 300B Electric Power, Alternating Current (Metric)
MIL-STD-1399C	Interference Standard for Shipboard Systems
MIL-STD-1472F w/Notice 1	Human Engineering
MIL-T-81556A w/Amendment 1	Titanium and Titanium Alloys, Extruded Bars and Shapes, Aircraft Quality
NAVSEA S9074-AR-GIB-010/278	Requirements for Fabrication Welding and Inspection, and Casting Inspection and Repair for Machinery, Piping, and Pressure Vessels
NAVSEA T9074-AS-GIB-010/271	Requirements for Nondestructive Testing Methods
<b><u>Commercial</u></b>	<b><u>Title</u></b>
ASME B18.2.1	Square and Hex Bolts and Screws
ASME B18.2.2	Square and Hex Nuts
ASME B18.3	Socket Cap, Shoulder, and Set Screws, Hex and Spline Keys
ASME Y 14.34M	Associated Lists
ASME Y14.1	Decimal Inch Drawing Sheet Size and Format
ASME Y14.100	Engineering Drawing Practices
ASME- Y14.35M	Revision of Engineering Drawings and Associated Documents
ASME Y14.5.1M	Mathematical Definition of Dimensioning and Tolerancing Principles
ASTM D 1141	Standard Practice for the Preparation of Substitute Ocean Water
ISO 9001 - 2000	Quality Management Systems - Requirements
SAE J2280	Ship System and Equipment – Fasteners – Selection and Identification Requirements
<b><u>Federal</u></b>	<b><u>Title</u></b>
FED-STD-H28/20B w/Notice 1	Screw Thread Standards for Federal Services Section 20: Inspection Methods for Acceptability of UN, UNR, UNJ, M, and MJ Screw Threads
FED-STD-H28A	Screw Thread Standards for Federal Services
FED-STD-595C w/Change Notice 1	Colors used in Government Procurement
QQ-B-639B w/Amendment 1	Brass, Naval: Flat Products (Plate, Bar, Sheet, and Strip)

QQ-N-286G

Nickel-Copper-Aluminum Alloy, Wrought (UNS N05500)

## ***2.2. EFFECTIVE DATE***

Unless otherwise specified herein, the revision of the applicable Government or commercial specification cited shall be the revision in effect in at the time of contract award. The ASSIST database at <http://assist.daps.dla.mil> is the official source for all Defense Standardization Program documents and contains the most current information. The ASSIST database should be used as a guide for determining which issue of specifications, standards, and handbooks, and amendments to these documents is in effect on this date. Where a specification is cancelled and a replacement is identified in the cancellation notice, the last revision prior to cancellation shall be used until US Navy approval is obtained that the replacement specifications, with any necessary supplemental requirements or modifications, is adequate.

## ***2.3. USE OF LATER REVISIONS OF MATERIAL SPECIFICATIONS***

Except in cases where a specific revision of a specification is invoked by this procurement specification or other contractual document, the Contractor may elect to use material procured to later revisions than the effective revision of the material specification. This election is allowed provided that the material form, mechanical properties and composition of the material will not be altered, and that neither the number nor the scope of any required destructive or nondestructive tests or other inspections will be reduced or the acceptance criteria degraded.

Material specifications are defined as those specifications that identify the requirements for mechanical properties, material composition, testing, and inspection of the materials used in construction for the component. This includes specifications for metals in all forms, lubricants, non-metallics, such as gaskets and O-rings, and fasteners.

In the event that the Contractor elects to use material procured to a later revision of a specification, the applicable material certification packages, whether provided with the component hardware or retained on record at the Contractor's facility, must be supplemented by appropriate documentation. This documentation must clearly identify the substitution that was made, identify the affected individual piece part number(s), and provide the following certification: "The Contractor hereby certifies that the material provided is in the same form and meets the same mechanical property and material composition requirements as would have been the case had the material been procured to the effective revision of the specification with any invoked additional ordering requirements. Furthermore, neither the number nor the scope of any required destructive or non destructive tests or other inspections were reduced, or the acceptance criteria degraded, by this substitution."

## **3. REQUIREMENTS**

### ***3.1. DESIGN QUALIFICATION TESTING***

Equipment furnished under this specification shall be products which have satisfactorily completed the tests specified herein. Onboard repair parts and stocked spare parts ordered for valves built to this specification shall be subject to the same requirements and tests (drawings, quality control, non-destructive tests, etc.) as the original equipment.

### ***3.2. MATERIAL***

The MOPV is subject to the preference for domestic specialty metals, 48 CFR 252.225-7014. The MOPV shall be designed and manufactured to exclude the use of lapped surfaces to prevent scoring from grit. The valve internals shall be fabricated from a corrosion resistant material. The valve body shall be fabricated from a material that is compatible with the valve internals and connecting copper-nickel pipe. Compatible materials are defined as those that do not result in galvanic corrosion or premature wear of the materials due to differences in physical or chemical properties.

### 3.2.1. *CORROSION RESISTANCE*

Materials used in the construction of the valve, actuator, and associated equipment shall be corrosion resistant materials suitable for use in a seawater environments. Coatings shall not be credited for providing corrosion resistance.

### 3.2.2. *ACCEPTABLE MATERIALS*

The following section provides examples of acceptable materials for use in the MOPV. This list is not exclusive and only serves as a foundation for applicable materials. All materials used that are not listed or specified in this document shall be approved by NSWCCD.

#### 3.2.2.1. *VALVE BODY*

- (a) 70/30 CuNi alloy in accordance with ASTM-B122, ASTM-B369, MIL-C-15726F with Amendment 1, MIL-C-24679, or equivalent.
- (b) 90/10 CuNi alloy in accordance with ASTM-B122, MIL-C-15726F with Amendment 1, MIL-C-24679, or equivalent.
- (c) Bronze in accordance with ASTM-B61, ASTM-B62, ASTM-B584, MIL-B-24480A, or equivalent.
- (d) Brass in accordance with ASTM-B21, ASTM-B36, ASTM-B121, ASTM-B453, ASTM-B584, FED QQ-B-639B with Amendment 1, or equivalent.
- (e) Stainless Steel in accordance with ASTM-A240, ASTM-A314, ASTM-A582, or equivalent.
- (f) Nickel-Copper-Aluminum in accordance with QQ-N-286G.

#### 3.2.2.2. *VALVE INTERNALS*

- (a) 6Al-4V ELI Titanium in accordance with MIL-T-81556A with Amendment 1, or equivalent.
- (b) Nickel-Cobalt alloy in accordance with MIL-C-24689B, MIL-C-24252D, ASTM-B168, SAE-AMS5380/5382/5385/5537/5608/5759/5772, or equivalent.
- (c) Stainless Steel in accordance with ASTM-A240, ASTM-A314, ASTM-A582, or equivalent.
- (d) Monel in accordance with MIL-N-24106, MIL-N-24549, ASTM-B127, or equivalent.
- (e) Nickel-Plated Bronze in accordance with ASTM-B689, or equivalent.
- (f) Nickel-Copper-Aluminum in accordance with QQ-N-286G.

#### 3.2.2.3. *ELASTOMERIC POLYMER BASED COMPONENTS: SEALS, SEATS, O-RINGS, ETC.*

- (a) Nitrile Butadiene Rubber (NBR or Buna-N) in accordance with Applicable SAE-AMS3200 or AMS7200 series, or equivalent, or Hydrogenated NBR (HNBR or Therban).
- (b) Ethylene Propylene Diene Monomer (EPDM) in accordance with ASTM-D4637, SAE-AMS3249, SAE-AMS3260, or equivalent.
- (c) Polytetrafluoroethylene (PTFE) in accordance with MIL-P-24396A, SAE-AMS3666, or equivalent.

### 3.2.3. **HAZARDOUS MATERIALS**

Hazardous materials shall not be used unless suitable substitutes are not available. The contractor shall specifically identify to and obtain approval from NSWCCD for any hazardous material which the contractor determines is necessary. Rationale for use of the hazardous material shall be provided.

Materials that are capable of producing hazardous gases or other harmful effects under conditions encountered in naval shipboard service, and maintenance and repair shall not be used unless specifically approved by NSWCCD.

A hazardous material review shall be performed and shall be addressed in the Design Report.

### 3.2.4. **DETRIMENTAL MATERIALS**

The following materials shall not be used.

- (a) Magnesium alloy
- (b) Cast Iron
- (c) Cadmium plating
- (d) Aluminum and zinc castings
- (e) Mercury
- (f) Lead
- (g) Beryllium

### 3.2.5. **NOXIOUS FUMES**

Instruments, equipment, fittings, paint, insulation, adhesives or other items containing material compounds that would give off noxious fumes at the ambient temperatures as specified in Section 3.3.6, or at any temperature below 200°F, shall not be installed or applied. For paint and adhesives, the requirement applies after drying or curing is complete.

### 3.2.6. **LUBRICANTS AND COMPOUNDS**

All lubricants and compounds for valve assembly shall be specified on the valve drawing. This requirement does not apply to lubricants and compounds used only in the manufacturing process.

## **3.3. DESIGN**

The design requirements are defined below. The Contractor shall not deviate from the requirements unless modifications are approved by NSWCCD.

### 3.3.1. **IDLE PERIODS**

The MOPV shall operate satisfactorily after an idle period of one year without any prior maintenance or repair.

### 3.3.2. **DESIGN LIFE**

The MOPV design life shall be 10,000 actuation cycles (one cycle is defined as one full actuation stroke, and one return actuation stroke) occurring at irregular intervals over a period of 50 years with a minimum of servicing. The valve shall be designed to withstand the design temperatures and pressures specified in Sections 3.3.5.2, 3.3.6, and

3.3.7. The valve shall comply with the requirements of Section 3 and shall pass the tests of Section 4. Where wear or erosion is unavoidable, the parts subjected to such wear or erosion shall be of the best materials available for the purpose in order to reduce these detrimental effects to a minimum. The design life of such materials shall be identified in the drawings and manuals. A compact valve design is preferred and shall meet reliability requirements, as well as requirements defining accessibility for repair or replacement and resistance to wear or corrosion. The requirements set forth shall not be construed or interpreted as a warranty requirement, nor shall it otherwise affect the manufacturer's warranty.

### 3.3.3. ***MAINTENANCE AND OPERATION***

The MOPV shall operate a minimum of 500 times between scheduled preventive maintenance periods for minor adjustment or alignment. This minor adjustment or alignment shall not require any disassembly of the MOPV. The time between maintenance activities that require the valve to be disassembled shall be no less than 60 months (5 years); this includes any indicator lights (if provided). The number of cycles between maintenance activities that require the valve to be disassembled shall be no less than 1000 cycles; this includes any indicator lights (if provided). The equipment specified herein will be operated, maintained, and repaired on board Navy ships. Attention is directed to the following service conditions: high equipment density in shipboard machinery spaces, maintenance and repair will be made underway in heavy seas, equipment will operate unattended, and maintenance personnel may not be experienced mechanics. The requirements for maximum reliability directly relate to the preceding shipboard environmental and service conditions, and shall be fully considered in the valve design. The design shall minimize the possibility of failure through improper operation and maintenance, and shall preclude personnel safety hazards.

### 3.3.4. ***RELIABILITY***

The requirements of this specification are imposed exclusively to obtain equipment of utmost reliability for the service intended. The assurance of maximum reliability shall be the paramount controlling principle in the design, fabrication, assembly, and testing of this equipment. Contractors are encouraged to advise NSWCCD of any findings related to the requirements or lack of requirements in this specification, whereby improvement of equipment reliability can be achieved.

### 3.3.5. ***FLUID MEDIUM***

The fluid medium for this valve is seawater. The MOPV shall operate without seat leakage when exposed to incoming seawater containing contaminants, including inorganic and organic debris such as salt, sand, grit, barnacles, etc.

#### 3.3.5.1. ***FLOW RATE***

The MOPV shall provide a minimum flow rate of 1.5 gallons per minute of seawater at a supply pressure of 150 psig.

#### 3.3.5.2. ***FLUID TEMPERATURE***

Operating seawater temperature:

- (a) Maximum: 100°F
- (b) Nominal: 70°F
- (c) Minimum: 28°F

### **3.3.5.3. ENTRAINED PARTICLES**

Particle sizes (e.g., sand) of up to 0.093 inches entrained in the respective fluid shall not damage or inhibit operation of any component in the MOPV.

### **3.3.5.4. MARINE GROWTH**

The MOPV shall be resistant to the effects of marine growth and fouling.

### **3.3.6. ENVIRONMENTAL CONDITIONS**

Environmental conditions experienced by the MOPV shall be as listed below:

- (a) Ambient Temperature: The MOPV shall operate under temperatures nominally at 70°F, but varying between 32°F and 150°F
- (b) Humidity: The MOPV shall operate under humidity varying between 0% and 100%, with the expectation of condensation forming in and on the MOPV.
- (c) Spray: The MOPV shall operate with occasional seawater mist or spray directed onto the valve.

The MOPV shall operate satisfactorily during and after being subjected to the Environmental Stress Screening (ESS) Temperature Cycling delineated in Section 4.3.5. Moreover, the stress screening program shall include screening of semi-conductors and integrated circuits at the equipment or component Contractor's facility to prevent introduction of defective parts in the manufacturing process by performing the tests delineated in Section 4.3.5.

### **3.3.7. PRESSURE CONDITIONS**

The valve shall operate at 50 to 185 psig.

Pressure boundary design and test pressure shall be as listed below:

- (a) Casing design pressure: 250 psig
- (b) Casing test pressure: 375 psig

The maximum pressure drop across the pilot valve shall not exceed 7.4 psid at a flow rate through the valve of 1.5 gpm when tested as described in Section 4.3.1.1(b).

### **3.3.8. POWER**

#### **3.3.8.1. SHIP SUPPLIED AC**

The MOPV shall operate with 120 VAC single phase power in accordance with MIL-STD-1399 Section 300B. The MOPV shall not use or be provided with an energy storage device (e.g., battery, capacitor, etc).

#### **3.3.8.2. CURRENT DRAW**

The maximum steady state current draw of the valve operator shall not exceed three (3) amps. The maximum surge current draw shall not exceed 12 amps.

### 3.3.9. *VALVE ACTUATOR*

#### 3.3.9.1. *ACTUATION TORQUE*

The actuator for the MOPV shall provide, at a minimum, a torque sufficient to cycle the valve at end of life (10,000 actuation cycles), with fouled and worn internals.

#### 3.3.9.2. *ACTUATION COMPLETION RATE*

The valve shall successfully complete all 1,000 actuation cycles with no loss of functionality and no leakage during the Dirty Water Life Cycle Testing in Section 4.3.1.1 (d).

#### 3.3.9.3. *STROKE TIME*

Valve opening and closing (reset) time shall be such that the stroke of the MOPV is completed and the desired internal flow path is established within two seconds of receiving an actuation signal as demonstrated during the Functional Testing in Section 4.3.1.1 (b).

#### 3.3.9.4. *ACTUATOR CONTROL SIGNAL*

The MOPV actuator shall open and close on a momentary single phase 120 VAC control signal. See Section 3.3.9.7 for more information.

#### 3.3.9.5. *LIMIT SWITCHES*

The valve actuator shall include limit switches which indicate the position of the valve. Connections to these limit switches shall be provided on the terminal board as specified in Section 3.3.9.6. Alternatively, a combination terminal board and limit switch external enclosure may be provided with the valve. Each limit switch shall be designed for a 440 VAC, 15A signal. Proper functionality of the limit switches shall be demonstrated during the Functional Testing in Section 4.3.1.1 (b).

#### 3.3.9.6. *ACTUATOR TERMINAL BOARD*

The MOPV actuator shall include terminal boards in accordance with A-A-59125/2 for connections identified in Section 3.3.9.7. Each terminal board provided shall be labeled consecutively. Each terminal shall be labeled to identify the function of that terminal. Wiring pairs shall not be split across multiple terminal boards.

Figure 1 is a conceptual idea of a two terminal board configuration. See Section 3.3.9.7 for more information on MOPV actuation.

	TB-2	TB-1
Terminal	LSC	LSO
	LSC1	LSOC
	LSC	LSO
	LSC2	LSOC2
	LSC	LSO
	LSC3	LSOC
	PB	PWR IND
	PBC	PWR IND
	PB	120VAC Supply
Terminal 10	PBO	120VAC Supply

Key: LSXX – Limit Switch  
 PBXX – Push Button  
 O or OC- Open/Open Common  
 C or CC – Closed/Closed Common

Figure 1: Conceptual MOPV Terminal Board Labeling (Two ten-terminal terminal boards shown for example only.)

**3.3.9.7. MOPV CONTROLS AND OPERATION**

The following inputs shall be provided: 120 volt AC power for operation of the MOPV; an input for a momentary push button to open the valve; and an input for a momentary push button to close the valve. The following outputs shall be provided: a minimum of three (3) electrically isolated outputs for indication of fully open valve status; a minimum of three (3) electrically isolated outputs for indication of fully closed valve status; and one (1) output to indicate loss of 120 volt AC power at the MOPV. The MOPV shall actuate when single phase 120 VAC is applied to the open push button input and shall return to the standby position when single phase 120 VAC is applied to the close push button input. Open and close push button operations shall be electrically isolated from each other. Contacts of “open position” limit switches shall be closed when the valve is in the fully open position. Contacts of “closed position” limit switches shall be closed when the valve is in the fully closed position.

### **3.3.9.8. OVER-TEMPERATURE PROTECTION**

The MOPV will be opened and closed by separate pushbuttons (not supplied by the MOPV contractor) that may be accidentally held closed or may fail in the closed position, resulting in extended current applied to the valve actuator. The valve actuator shall include features to protect against over-temperature damage caused by extended applied current.

### **3.3.10. COUPLING BETWEEN VALVE AND ACTUATOR**

#### **3.3.10.1. ELECTRO-MECHANICAL SYSTEM ALIGNMENT**

There shall be no misalignment between the mechanical and electrical components of the MOPV during and upon completion of the 1,000 test cycles of the Dirty Water Life Cycle Testing, Section 4.3.1.1 (d).

#### **3.3.10.2. MODE PRIORITY**

In the event that the valve is operated manually due to a loss of power, restoration of power shall not change the manually selected position. When the MOPV is manually actuated, all internal switches shall change position automatically, such that the valve is correctly re-aligned upon restoration of power. The reliance on power to hold the MOPV in the desired position shall be prohibited.

#### **3.3.10.3. VALVE AND ACTUATOR INTERCONNECTION**

The MOPV valve and actuator shall provide simplicity in interconnection to allow replacement of either component with minimal time and effort. The interconnection design shall minimize the possibility of misalignment during assembly and re-assembly by maintenance personnel.

### **3.3.11. INCORRECT ASSEMBLY**

Individual valve parts shall be self-aligning and nonreversible, unless parts are reversible with no affect on the valve function or performance.

### **3.3.12. END CONNECTIONS**

The MOPV shall be provided with 3/8-inch male union fittings that are capable of accommodating a 3/8-inch nut in accordance with MIL-F-1183.

### **3.3.13. VALVE MOUNTING**

The MOPV shall operate when mounted in any orientation. Successful operation of the valve shall not rely on orientation or be impacted by gravity. The valve shall include a mounting device that is compatible with the existing mounting configuration aboard ship. Figure 2 depicts the existing mounting configuration with the critical dimensions. Figure 2A is an example of acceptable and unacceptable connections to the MOPV.

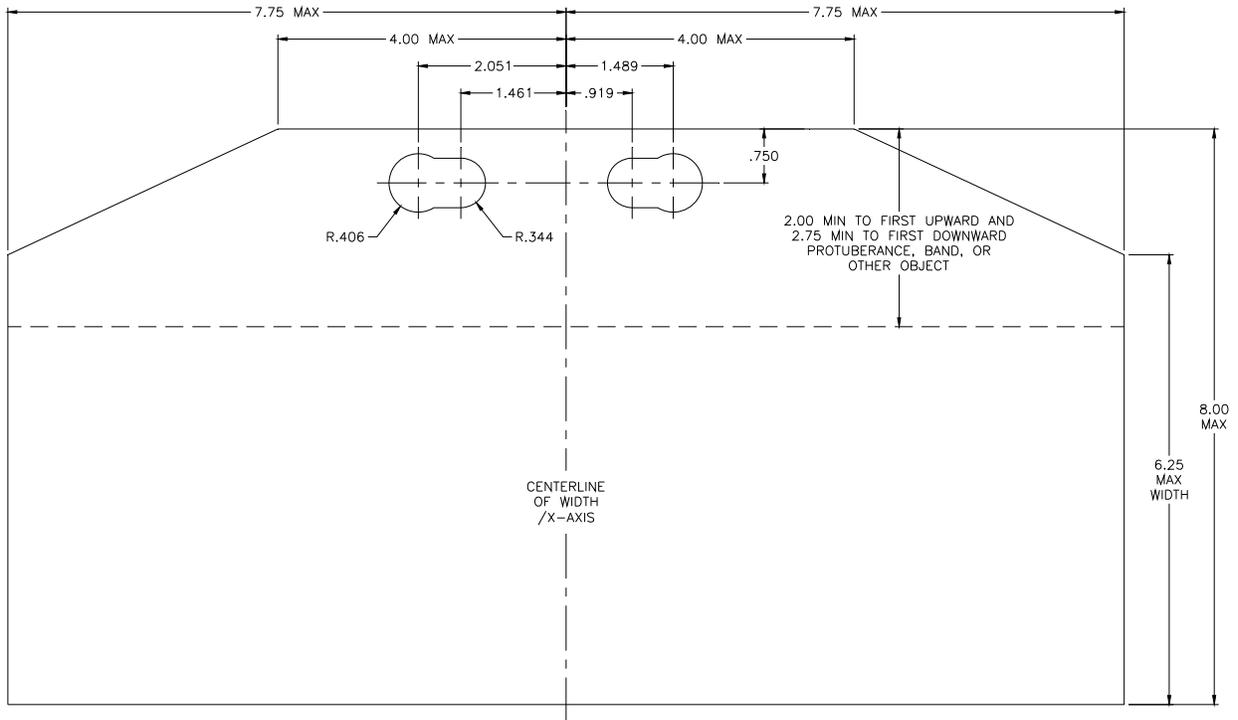
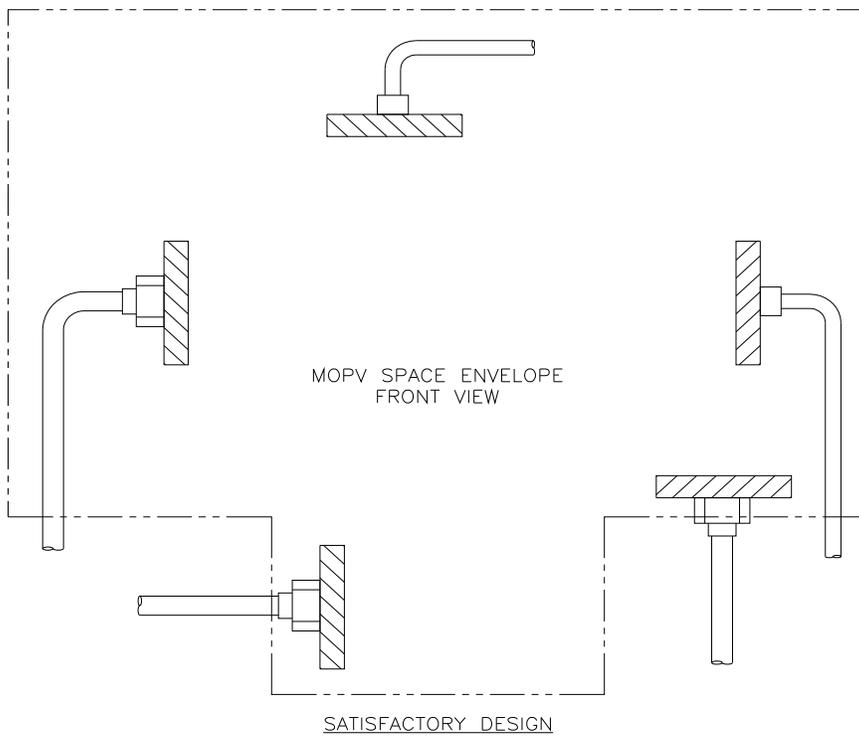
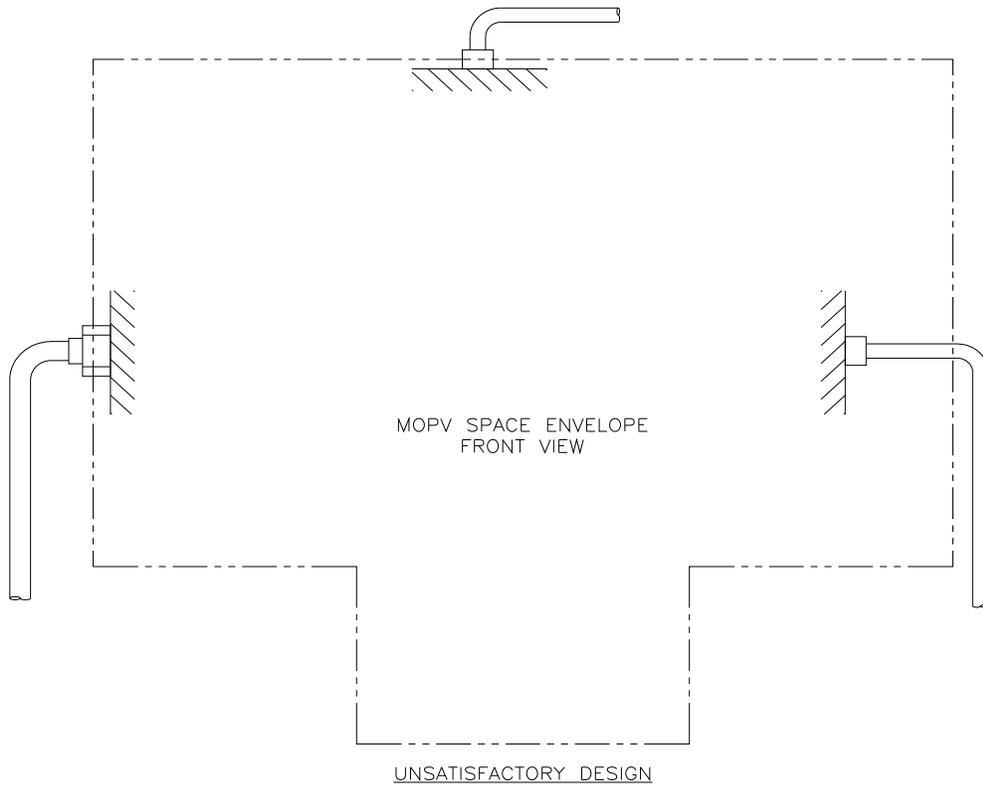


Figure 2: MOPV Mounting Configuration



**Figure 2A: MOPV Connection Configuration**

**3.3.13.1. WEIGHT AND CENTER OF GRAVITY**

The Contractor shall provide a calculated weight and center of gravity with the Design Report. The actual dry and wet weight and center of gravity shall be stated on the valve drawing. The MOPV wet weight shall not exceed 28 lbs.

### 3.3.14. *SPACE ENVELOPE*

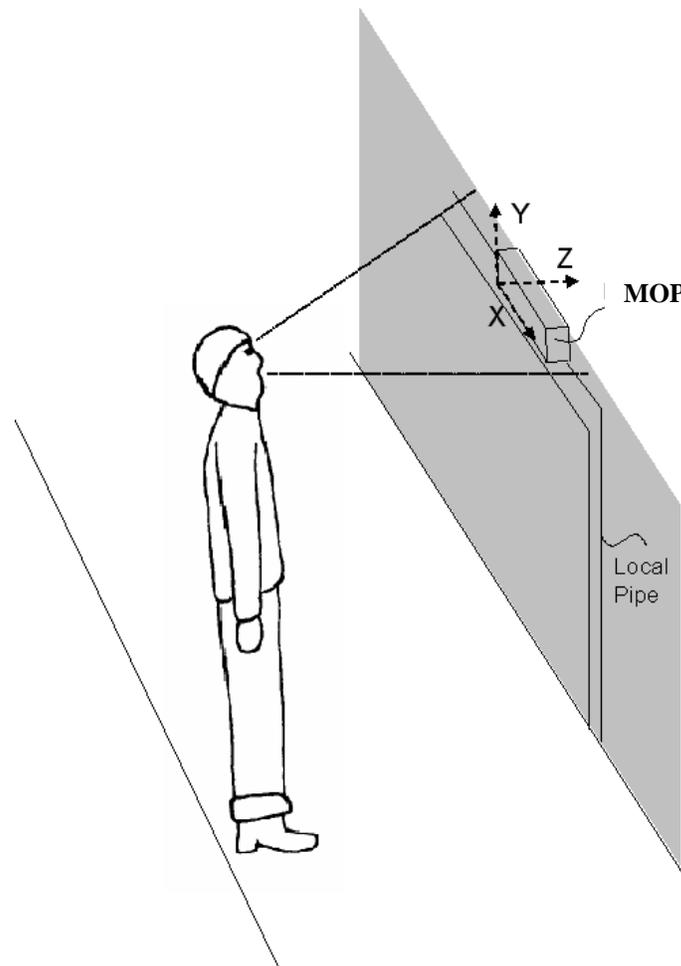
#### 3.3.14.1. *REFERENCE FRAME*

The MOPV shall have a fixed body reference frame with axis defined in relationship to specified dimensions as follows:

- (a) Width along the x-axis
- (b) Height along the y-axis
- (c) Depth along the z-axis

The body reference frame is defined as follows and shown in Figure 3:

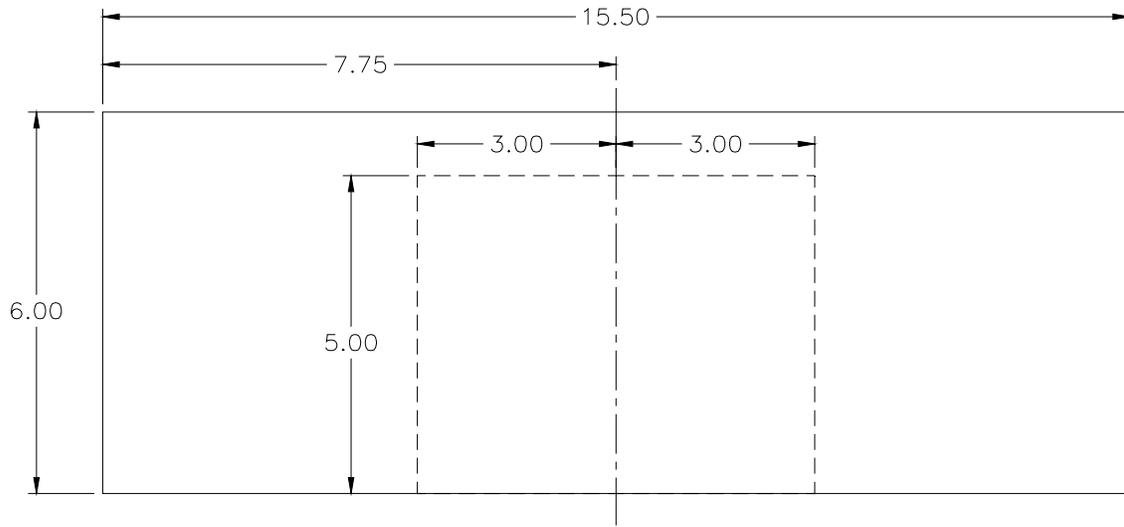
- (a) The x-z plane shall be parallel to deck.
- (b) The x-y plane shall be parallel to the local bulkhead where valve is mounted.



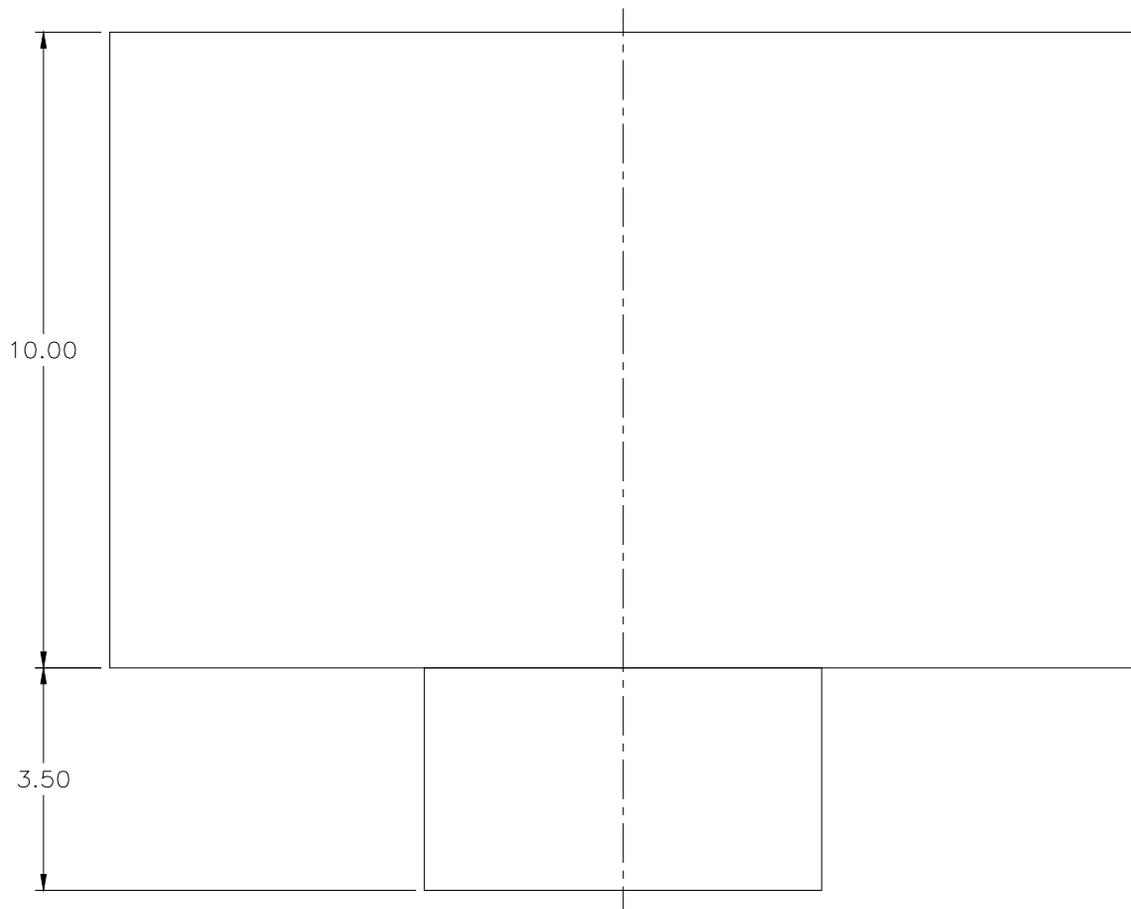
**Figure 3: Reference frame of MOPV with Line of Sight**

**3.3.14.2. SINGLE UNIT ENVELOPE**

The MOPV space envelope shall be within the dimensions shown in Figure 4.



TOP VIEW



FRONT VIEW

**Figure 4: MOPV Space Envelope**

### **3.3.14.3. MAINTENANCE ENVELOPE**

The maintenance envelope for minor adjustment or alignment of the MOPV shall fit in the space envelope shown in Figure 4.

### **3.3.15. FASTENERS**

Fasteners shall be as follows:

- (a) Bolts shall be in accordance with ASME B18.2.1.
- (b) Nuts shall be in accordance with ASME B18.2.2.
- (c) Cap screws shall be in accordance with ASME B18.3.
- (d) Studs shall be in accordance with MIL-DTL-1222J.
- (e) All fasteners shall be made from corrosion resistant materials for the specified environment.
- (f) The Grade 410, 416/416Se, and 431 corrosion resistant steel fasteners shall not be used.
- (g) Inspection of fasteners, threads, and threaded parts shall be in accordance with FED-STD-H28/20B with Notice 1, System 21 unless otherwise specified by the applicable fastener specification.
- (h) As a minimum, fasteners joining valve parts that form the pressure boundary shall be torqued to maintain the leak tightness of the valve under all design pressures.
- (i) Threaded fasteners of normal stock length and standard diameters shall be used unless approved by NSWCCD. Male threads on threaded fasteners, after being installed, shall protrude between one to five threads beyond the top of the nut or plastic-locking element. Washers shall not be used to reduce thread protrusion. The method of determining the required length of thread engagement shall be in accordance with FED-STD-H28A.
- (j) Nickel-copper-aluminum (GRADE 500) fasteners shall be in accordance with MIL-DTL-1222J.

### **3.3.16. OPERATING ORIENTATION**

The MOPV shall meet all performance requirements with the valve installed in any orientation.

### **3.3.17. BEARING SURFACES**

Bearing surfaces of valve parts that contact with nuts and bolt heads shall be machined to a 63  $\mu$ m roughness average.

### **3.3.18. LOCKING DEVICES**

All threaded fasteners and threaded machine parts internal to the valve, actuator and moving parts shall be secured using locking devices which are in accordance with SAE J2280. Staking, set screws, split lock washers, and snap-rings shall not be used. If self-locking fasteners are used, they shall be in accordance with MIL-F-8961A with Amendment 1.

### **3.3.19. POSITION INDICATOR**

Visual indication of MOPV valve stem position shall be provided through a non-powered mechanical indicator. Position indication shall be visible to the normal eye at a distance of at least three feet. Position indication shall be viewable from the line of sight shown in Figure 3. Visual indications shall comply with Section 5 of MIL-STD-

1472F with Notice 1. Compliance with the MOPV valve stem position requirements shall be assessed during the Functional Testing in Section 4.3.1.1 (b).

### 3.3.20. **FIRST ARTICLES**

The first three MOPVs produced shall be first articles. The first articles shall be produced prior to the production of the other units on the contract. The first articles shall be subject to design evaluation, inspection, and testing as specified in Section 4.3. Table 1 shows the inspections/tests to be performed on each of the first article samples. The inspections/tests for each sample shall be performed in the order shown in the table.

**Table 1. First Article Samples and Inspections/Tests Performed on Each**

<b>First Article Sample</b>	<b>Inspection/Test 1 (Applicable Section)</b>	<b>Inspection/Test 2 (Applicable Section)</b>	<b>Inspection/Test 3 (Applicable Section)</b>	<b>Inspection/Test 4 (Applicable Section)</b>
1	Visual and Dimensional Inspection (4.2.8)	Initial Inspection (4.3)	Environmental Stress Screening (4.3.5)	Electro-Magnetic Interference (4.3.4)
2	Visual and Dimensional Inspection (4.2.8)	Spraytightness Test (4.3.1.3)	Normal Operation Tests (4.3.1.1)	Failure Mode Test (4.3.1.2)
3	Visual and Dimensional Inspection (4.2.8)	Vibration Test (4.3.3)	Shock Test (4.3.2)	-

### 3.3.21. **4-PORT VALVE**

The selected port design (size and area) shall not restrict seawater flow, thus ensuring that the MOPV will satisfy operational flow requirements. The MOPV shall be a 4-port valve as specified below with alignments, including open and closed positions, as shown in Figure 5.

#### **3.3.21.1. SUPPLY PORT**

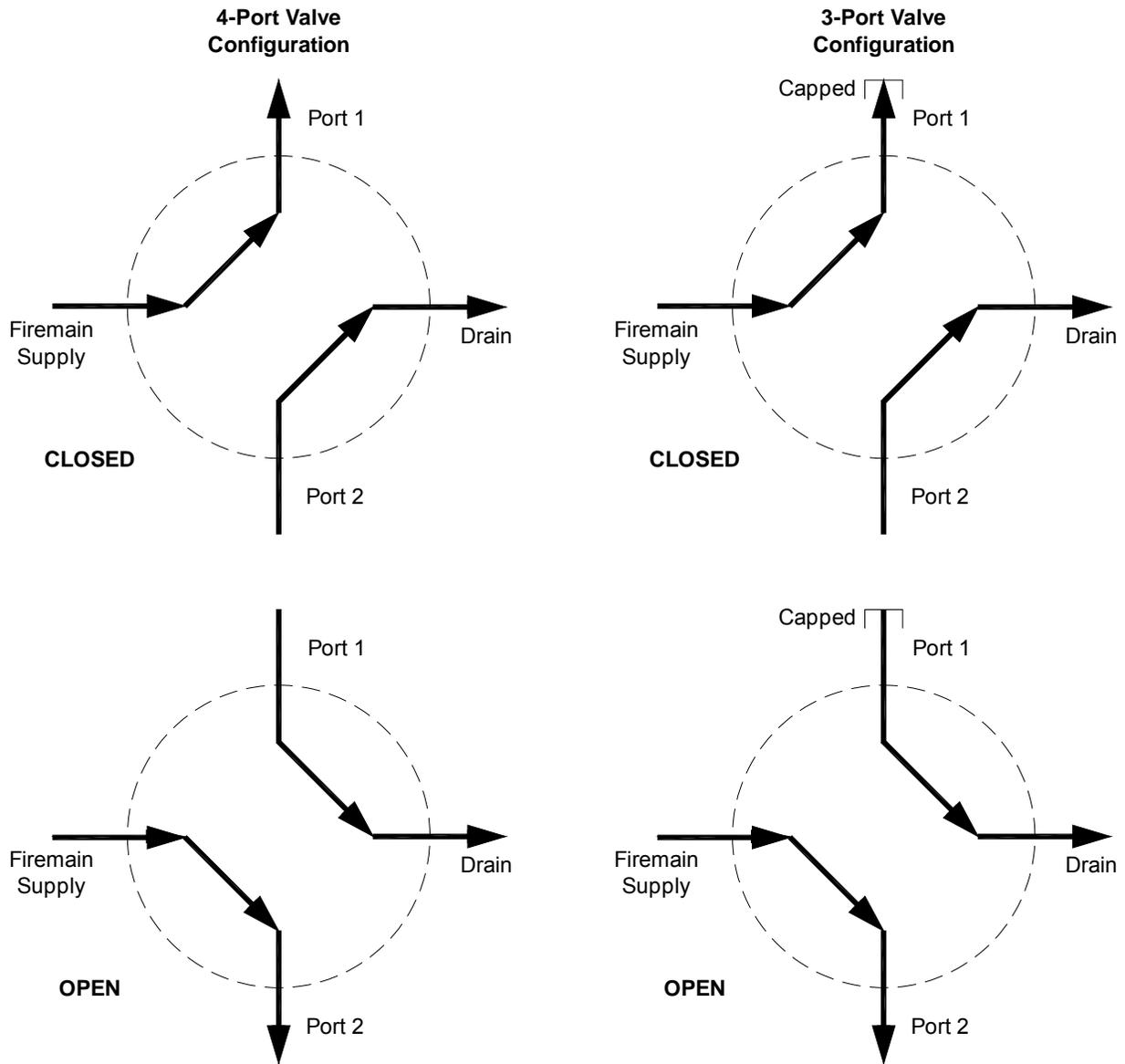
The MOPV shall be supplied with one supply port.

#### **3.3.21.2. DRAIN PORT**

The MOPV shall be supplied with one drain port.

#### **3.3.21.3. OUTLET PORT**

The MOPV shall be supplied with two outlet ports. The MOPV shall function as a 3-port valve when either outlet port is capped, as shown in Figure 5, which also shows the open and closed positions.



**Figure 5: MOPV Port and Flow Configurations**

**3.3.22. FABRICATION**

Fabrication shall be performed such that all parts manufactured to the same drawings shall be interchangeable.

**3.3.22.1. WELDING AND INSPECTION**

Welding and inspection shall be in accordance with the requirements defined in NAVSEA Technical Publication S9074-AR-GIB-010/278.

### **3.3.22.2. CASTINGS**

Castings shall be free of adhering sand, hard spots, excessive shrinkage, cracks, or scale. Castings shall be smooth and well cleaned both inside and out, and all fins and roughness shall be removed. Unacceptable visual surface discontinuities, including cracks, tears, shrinkage, inclusions, gas holes, and other potentially harmful defects, shall be removed and their removal shall be verified by visual examination of the resultant surface. Castings shall not be repaired, plugged, impregnated, brazed, burned in or peened except as approved by NSWCCD.

### **3.3.23. UNIT PAINTING**

#### **3.3.23.1. VALVE BODY AND INTERNALS**

The valve body and valve internals of the MOPV shall not be painted.

#### **3.3.23.2. ACTUATOR**

The actuator shall be painted as follows:

- a. If the actuator is made of corrosion resistant materials, as listed in Section 3.2.1.1, for the specified ambient conditions, no painting is required.
- b. If the actuator is not made of corrosion resistant materials listed in Section 3.2.1.1, the actuator casing shall be thoroughly cleaned and painted in accordance with MIL-DTL-24441D. The final color shall be gray, color number 16187 in accordance with FED-STD-595C with Change Notice 1, or shall be approved by NSWCCD.

### **3.3.24. GREASE FITTINGS**

The MOPV shall not rely on grease for lubrication nor contain any grease fittings. Lubrication for assembly purposes is acceptable.

### **3.3.25. SHOCK**

The MOPV shall be tested and conform to MIL-S-901D shock requirements. The MOPV shall be tested as Lightweight, Grade A, Class I, Type A.

### **3.3.26. VIBRATION**

The MOPV shall be tested and conform to MIL-STD-167-1A, Type I vibration requirements. The MOPV shall be designed so that they will not be damaged or caused to malfunction either by internal excited vibrations, or by the environmental vibrations specified in MIL-STD-167-1A for the frequency range specified.

### **3.3.27. ELECTRO-MAGNETIC INTERFERENCE**

The electromagnetic interference (EMI) tolerance of the MOPV shall be tested and conform to the requirements of CE101, CE102, CS101, CS106, CS114, CS116, RE101, RE102, RS101, and RS103 of MIL-STD-461F for Internal Installations on Surface Ships. The MOPV shall also comply with MIL-STD-464C paragraph 5.11, electrical bonding, as applicable.

### 3.3.28. **TIGHTNESS**

The MOPV (valve and actuator) exterior, including the electrical box (combination terminal board and limit switch external enclosure) permitted by Section 3.3.9.5, shall be spraytight in accordance with MIL-STD-108E with Notice 1, when tested as described in Section 4.3.1.3.

### 3.3.29. **MANUAL OPERATION**

#### 3.3.29.1. **MANUAL OPERATION MODE**

A manual operation mode shall be provided for the MOPV in the event of electrical failure or signal loss. Manual operation mode shall provide the user with a reasonable means of mechanically changing the valve position. The preferred method for manual operation is via a lever operator, similar to the illustration in Figure 6, using a mechanism that a small person can grip with the entire hand, with thumb overlapping fingers. Manual operation shall not require opening, disassembly, or temporary modification of the MOPV. The manual operator shall be readily accessible to personnel standing in front of the MOPV, with the front being the view as described in Section 3.3.14.1.

#### 3.3.29.2. **DURATION AND TORQUE**

The manual operator shall be designed to minimize the time it takes to fully stroke the valve in manual mode. Manual operation of the valve shall not exceed 5 seconds to transition the valve from one position to the other when tested in accordance with Section 4.3.1.1 (f). The torque required to fully stroke a valve using a lever operator for manual operation as described in Section 3.3.29.1 shall not exceed 19.9 lb-in when testing in accordance with Section 4.3.1.1 (f).



Figure 6 – Example of Level Operator

#### 3.3.29.3. **ELECTRICAL SHOCKS**

Personnel shall not be exposed to shock hazard from the MOPV while manually operating the MOPV.

#### 3.3.29.4. **POSITIVE STOP CONSTRUCTION**

The MOPV shall have positive stop(s) to insure that the valve is not opened or closed too far when manually operated.

### 3.3.30. **FAILURE MODE**

The valve shall fail in the as-is position under all operating modes. If the valve is unable to fail mid-stroke due to the design or manufacturing of the valve, the valve shall fail to the last commanded position.

### 3.3.31. **ANTI-TAMPER DEVICES**

Anti-tamper devices shall be provided to deter personnel from inadvertently operating the MOPV. The anti-tamper device shall be easily visible when observed from a position indicated in Figure 3.

### 3.3.32. *LEAKAGE*

#### 3.3.32.1. *ALLOWABLE LEAKAGE*

The valve shall be designed and constructed to allow zero seawater leakage along the valve stem and stem seal.

#### 3.3.32.2. *LEAKAGE FLOW ISOLATION*

The valve shall be designed such that leakage resulting from malfunction or mechanical failure cannot reach electrical components of the MOPV.

### 3.4. *BODY MARKING AND IDENTIFICATION PLATES*

Valve bodies shall have the pressure rating or Class and the Contractor's name or trademark permanently marked or affixed to the valve body. Marking shall be in accordance with MIL-STD-792F. The valve drawing shall identify the valve body marking and location on the valve body.

The valve identification plate shall be in accordance with MIL-DTL-15024F, type A, B, C, D, or L. The valve drawing shall identify the identification plate information and location on the valve body. The identification plate shall include the following data:

- (a) Contractor's name or trademark.
- (b) Contractor's commercial and government entity (CAGE) code.
- (c) Drawing number and revision.

The ports shall be clearly identified with 1, 2, S (Supply), and D (Drain). The markings shall be impression stamped or cast with 0.25 inch high gothic style characters in accordance with MIL-STD-130.

### 3.5. *TOOLS*

#### 3.5.1. *ORDINARY TOOLS*

Ordinary tools are those which are available in the Federal Supply Catalog (FSC). Special tools are defined as those tools not listed in the FSC. The MOPV shall require no special tools for installation and maintenance. Copies of the FSC may be consulted in the office of the Defense Contract Management Command (DCMC).

### 3.6. *TECHNICAL DATA*

Technical data shall be prepared in accordance with ordering data included in the contract and as specified herein. All technical data shall be submitted to NSWCCD for approval.

#### 3.6.1. *DESIGN REPORT*

A design report with supporting calculations and a material list shall be submitted to NSWCCD for approval prior to valve manufacturing including first article manufacturing.

#### 3.6.2. *PROCEDURES AND REPORTS*

The Contractor shall forward all required procedures to NSWCCD for approval. The Contractor shall not perform tasks described in a procedure until the procedure has been approved by NSWCCD. All reports shall be submitted to NSWCCD for approval.

### 3.6.3. ***DRAWINGS***

The Contractor shall develop engineering drawings for the MOPV sufficient to fully and clearly delineate the design, construction and performance capabilities, and to permit Shipbuilder and Naval personnel, in conjunction with technical manuals, to install, operate, maintain, and repair the equipment. Drawings may be combined if specifically approved by NSWCCD. The level of drawing detail shall provide engineering definitions sufficiently complete to enable a competent Contractor the ability to produce and maintain quality control of items to the degree that physical and performance characteristics, interchangeable with those of the original design, are obtained without resorting to additional product design effort, additional design data, or recourse to the original design activity. Drawings shall be in accordance with ASME Y14.100 and the requirements specified herein. Drawing size and basic format shall be in accordance with ASME Y14.1. Drawing identification shall be in accordance with Appendix D to ASME Y14.100. Revisions to drawings and associated documentation shall be in accordance with ASME Y14.35M. Dimensioning and tolerances shall use English units and be in accordance with ASME Y14.5.1. The MOPV component drawings shall include part lists, lists of materials, and material specifications in accordance with ASME Y 14.34M. These drawings shall:

- (a) Reflect the end-product.
- (b) Provide the engineering data that supports production of the MOPV.
- (c) In conjunction with other related re-procurement data, provide the necessary data to permit competitive procurement of items substantially identical to the original item(s).

Drawings shall include the following:

- (a) Details of unique processes, i.e., not published or generally available to industry, when essential to design and manufacture;
- (b) Performance ratings;
- (c) Dimensional and tolerance data;
- (d) Critical manufacturing assembly sequences;
- (e) Input and characteristics;
- (f) Diagrams;
- (g) Mechanical and electrical connections;
- (h) Physical characteristics, including form and finish;
- (i) Details of material identification;
- (j) Inspection, test, and evaluation criteria;
- (k) Calibration information; and
- (l) Quality control data.

#### ***3.6.3.1. DETAIL DRAWINGS***

The Contractor shall provide detail drawings for the MOPV in accordance with ASME Y14.24 and the requirements specified herein for all parts and subassemblies necessary for evaluation of the equipment, and parts necessary for maintenance and overhaul of equipment. Detail drawings shall include all manufacturing details, including surface

finishes and welding requirements and symbols. Subassemblies whose parts cannot be procured or serviced individually shall be shown as a single part and so indicated. Multiple detail drawings are preferred, but single detail drawings may be used. Drawings are not required for those parts which are in common commercial use and can be referenced to a commercial standard. The following guidelines apply to detail drawings:

- (a) Procedures referenced on drawings are considered to be an extension of that drawing and shall be submitted with the drawing when presented for approval. Drawing approval will not be granted until all referenced procedures have been received. Once drawings are approved, procedures shall not be changed without concurrence from NSWCCD. This does not apply to procedures that require approval by other documents (e.g., weld procedures) which shall take precedence.
- (b) All Non-Destructive Testing requirements shall be identified on the applicable manufacturing detail drawings. This applies to inspection of base material, repair welds, fabrication welding, etc. The layers of a weld that are to be penetrant inspected (when required) shall be identified. Applicable procedures, inspection class and/or category acceptance criteria shall be identified. The drawings may not merely reference a military standard or Contractor welding or inspection procedure for this information except for the details of acceptance criteria.
- (c) Detail drawings and lists of materials shall reference the specifications actually followed in each case, and shall include the class, type, or grade of material used in each case, as applicable. The use of designations by the American Iron and Steel Institute (AISI) alone is not acceptable.

### **3.6.3.2. ASSEMBLY DRAWING**

The Contractor shall provide assembly drawings for the MOPV components in accordance with ASME Y14.24 and the requirements specified herein. Assembly drawings shall contain the information required for installation drawings and mechanical schematic diagrams as specified in ASME Y14.24. Tightening torques and thread lubrication requirements for threaded fasteners shall be shown on the assembly drawings.

### **3.6.3.3. WIRING LIST AND DIAGRAM**

The Contractor shall provide a wiring list and diagram in accordance with ASME Y14.24.

### **3.6.4. LOGISTIC SUPPORT DOCUMENTATION**

Prior to completion of valve first article manufacturing, the Contractor shall provide integrated logistics support products to NSWCCD as noted below.

Provide all logistic data in electronic format to be further defined at the time of transfer. If graphics are created in a computer file, a copy of the native format file shall be provided. The logistics support products required are described in the following Sections.

### **3.6.5. ENGINEERING DATA PACKAGE**

The Contractor shall prepare and submit to NSWCCD an engineering data package for the valve design. The Contractor shall provide the following data, as applicable, for the valve:

- (a) Contractor's model number of the equipment.
- (b) Contractor's recommended disassembly procedures keyed to part numbers and names of parts on applicable drawings.
- (c) Contractor's recommended normal and emergency operating instructions.
- (d) Unique safety precautions necessary for the protection of the equipment and the personnel installing, operating, and maintaining it.

- (e) Contractor's specifications for installation, testing, overhaul, and repair, including but not limited to the following, as applicable:
1. Crated and uncrated dimensions, weights, volumes.
  2. Lifting points.
  3. Critical clearances.
  4. Critical dimensions and tolerances.
  5. Insulation resistance values.
  6. Alignments and adjustments that must be observed.
  7. Performance curves.
  8. Environmental limitations such as temperature and humidity.
  9. Support equipment required.
  10. Storage requirements.
- (f) Contractor's recommended lubricants for assembly.
- (g) Contractor's preventative maintenance requirements, procedures and recommended frequencies with identification of those service procedures and frequencies that are considered absolute (not just recommended).
- (h) Contractor's troubleshooting procedures including fault logic diagrams, as applicable.
- (i) Contractor's detailed parts lists including part numbers, model number, quantity per assembly, and source detail drawing.
- (j) Contractor's recommended repair parts.
- (k) Contractor's recommended preventative maintenance before the valve is initially installed (if any).
- (l) Functional characteristics, rated outputs, and capabilities and limitations including, but not limited to the following, as applicable:
1. Power (W or hp)
  2. Valve pressure rating
  3. Actuator pressure rating
  4. Wattage, voltage (single-phase, 3-phase, or DC), frequency and amperage
  5. Flow rate
  6. Leakage rate
- (m) Provide the following data if available, but do not develop:
1. MTBF (mean-time-between-failure) – Include the source, i.e., prediction or actual use.
  2. MTTR (mean-time-to-repair) – Include the source, i.e., prediction or actual use.

### 3.6.6. **TECHNICAL MANUAL**

The Contractor shall provide NSWCCD with a technical manual comprising all pertinent information related to the MOPV as well as instructions for assembly and disassembly. The technical manual shall include, but shall not be limited to, all engineering data in Section 3.6.5.

### 3.6.7. **TECHNICAL MANUAL VALIDATION**

NSWCCD will perform a validation of the valve technical manual as provided by the Contractor. The validation will consist of reviewing the manual and performing all procedures in the manual. At the completion of the validation, NSWCCD will provide corrections to the Contractor. After NSWCCD has verified the corrections have been accomplished by the Contractor, then NSWCCD will provide a letter stating the manual has been validated. Technical manual changes subsequent to validation shall follow Navy technical manual change processes.

### 3.7. **WEIGHT CONTROL**

The total weight of the valve and actuator shall not exceed 28 lbs. Prior to testing the valve, the Contractor shall weigh the unit and provide the weight of the both valve and actuator assembly together and separately. If a separate is used, its weight shall be provided separately and with the total weight of the valve and actuator. The following information about the weighing device used shall be submitted with the weights:

- (a) Brief description
- (b) Type and make
- (c) Accuracy
- (d) Sensitivity
- (e) Date of last calibration

## 4. **QUALITY ASSURANCE**

### 4.1. **QUALITY ASSURANCE**

The Contractor shall establish and maintain a quality assurance program in accordance with ISO 9001-2000 or a set of equivalent guidelines under the American Society for Quality Control (ASQC) format.

The Contractor's quality control program shall be reviewed and approved by NSWCCD.

### 4.2. **INSPECTION REQUIREMENTS**

#### 4.2.1. **CLASSIFICATION OF INSPECTIONS**

The inspection requirements specified herein are classified as follows:

- (a) First article inspection (see Section 4.3).
- (b) Conformance inspection (see Section 4.4).

#### 4.2.2. **TEST PLAN**

The Contractor shall submit a test plan to NSWCCD for review and approval prior to the commencement of testing. The MOPV Contractors test plan shall identify all test procedures, test facilities, sequence of testing, instrumentation, and data to be collected. The test plan shall provide sufficient detail to completely convey how testing will be accomplished. The test plan, as a minimum, shall include a subsection containing a detailed plan for each of the inspections and tests specified in Sections 4.3 through 4.4 or as otherwise cited throughout this specification.

#### 4.2.3. **RESPONSIBILITY FOR INSPECTION AND TESTING**

Unless otherwise specified in the purchase order, the Contractor shall perform of all inspection and testing requirements specified herein. Except as otherwise specified, the Contractor may use their own facilities or any commercial laboratory acceptable to NSWCCD for conducting required inspections.

#### 4.2.4. **RESPONSIBILITY FOR COMPLIANCE**

All items shall meet all requirements of Section 3. The inspections set forth in this specification shall become part of the Contractor's inspection system and quality program. The Contractor is not relieved of any requirements which are not covered by inspections or tests throughout this document. Sampling inspection, as part of the manufacturing operations, is an acceptable practice to ascertain conformance to requirements. However, this does not authorize submission of known defective material, either indicated or actual, nor does it commit NSWCCD to accept defective material. Failure to meet the requirements of the specifications and tests shall be cause for rejection. Identification of potential defects or misalignment shall also be cause for rejection.

#### 4.2.5. **NAVY INSPECTIONS**

The Navy and designated representatives reserve the right to perform or witness the inspections and tests set forth in this specification and applicable referenced documents where such inspections are deemed necessary to ensure conformance with the prescribed requirements. The Contractor shall notify NSWCCD regarding the starting date of inspections and tests as soon as the date is determined. A minimum of two (2) working weeks advanced notice of test dates is required.

#### 4.2.6. **REJECTED PARTS**

Rejected parts may be repaired and resubmitted for inspection, except as indicated elsewhere in this specification.

#### 4.2.7. **NOTIFICATION OF TEST FAILURE**

If during the performance of any portion of the qualification testing, any operating parameter or measurement is out of specification or any abnormality is noted relating to the fundamental operability of the valve, the test shall stop, the reason noted, and NSWCCD notified within 24 hours of the failure. Testing shall not proceed until NSWCCD has evaluated the abnormality and given permission to resume testing. Any abnormalities or corrections relating to the test set-up or facility which are easily correctable and not paramount to the operability of the valve, shall be fixed and noted without necessitating a stop in testing.

#### 4.2.8. **VISUAL AND DIMENSIONAL INSPECTIONS**

Prior to testing, the MOPV shall be visually and dimensionally inspected in accordance with NAVSEA T9074-AS-GIB-010/271 and defined as follows:

- (a) The MOPV shall be visually inspected for quality of workmanship.
- (b) The MOPV shall be dimensionally inspected for conformance to the MOPV drawing. A complete list of all critical dimensions shall be recorded. NSWCCD shall approve pre and post test dimensions and properties selected for measurement via the test plan as specified in Section 4.2.2.

#### 4.2.9. **VERIFICATION ALTERNATIVES**

The manufacturer may propose alternative test methods, techniques, or equipment, including the application of statistical process control, tool control, or cost effective sampling procedures to verify performance. All verification alternatives shall be approved by NSWCCD.

### ***4.3. FIRST ARTICLE INSPECTION AND TESTING***

The MOPV shall be manufactured from the design drawings and shall be qualified by testing in accordance with the following Sections. The initial inspection shall conform to NAVSEA T9074-AS-GIB-010/271 for non-destructive methods of inspection. Inspection shall cover, but is not limited to, the following parameters:

- (a) All nuts, bolts, screws and locking devices are tightly and securely fastened in accordance with intended design.
- (b) Separate component for manual operation mode (as applicable) shall be connected to the valve via chain or cable so as to produce a single entity component.
- (c) All materials are non-ferrous.
- (d) Valve dimensions are in accordance with design drawings.
- (e) All valve components are included as defined in design drawings.
- (f) Valve interior and exterior surfaces are clean and free of nicks, scratches, burs, and debris from the manufacturing process.
- (g) Valve meets weight specifications.

#### ***4.3.1. PERFORMANCE TESTING***

The MOPV shall undergo tests to verify the component's performance under design and off-design conditions. Substitute ocean water (without heavy metals) per ASTM D 1141 may be used in lieu of actual seawater. The tests shall be conducted in a sequence that reduces the possibility of re-engineering and re-manufacture. Any necessary component modifications for data recording during testing shall be described in the test plan. For each test, the setup configuration shall simulate the worst possible case of shipboard configuration and include repeated tests of multiple configurations, when required. A detailed procedure for each test (with setup, sketches, and data sheets) shall be developed and submitted to NSWCCD for approval as part of the test plan. NSWCCD reserves the right to witness all testing. The technical point of contact shall be notified of each test at least two weeks prior to performance of the test. Testing shall not be performed prior to approval of the procedure. All testing shall be performed on the completed MOPV. Following successful completion of first article tests, the first article samples shall be shipped to NSWCCD. These units will not be used as production units.

#### **4.3.1.1. NORMAL OPERATION TESTS**

The series of tests in this Section are not inclusive of all operating scenarios but are intended to demonstrate the performance within the defined design conditions. The following normal operation tests shall be performed in the order in which they are listed:

- (a) Hydrostatic Leak Test: The valve shall be tested under hydrostatic pressure at  $240 \pm 10$  psig using clean fresh water. The test pressure shall be applied to each outlet port (per Figure 5, port 1 and port 2), with all other ports plugged. The test shall be performed with the valve in all possible alignment configurations. The duration of pressure application in each configuration is a minimum of ten minutes. No leakage, sweating, or visible deformation at any point on the valve surface shall be permitted.
- (b) Functional Testing: The MOPV shall be tested for basic functional capability, which consists of 50 electrically-actuated valve cycles. This test shall be performed with clean water. A test pressure of  $150 \pm 10$  psig shall be applied to the supply port during the tests. While the flow path is available, a flow rate through the valve of  $1.5 \pm 0.5$  gpm shall be maintained during this test. Each cycle consists of one full actuation stroke, and one return actuation stroke. During this test, the stroke time requirement of Section 3.3.9.3, the limit switch functionality requirements of Section 3.3.9.5, the position indication requirements of Section 3.3.19 shall be met and, if provided, any powered visual indications shall be assessed and shall work properly. Additionally, the maximum pressure drop across the valve shall meet the requirements of Section 3.3.7 with a flow rate through the valve of 1.5 gpm.
- (c) Dirty Water Life Cycle Testing: The MOPV shall be cycled by electrical operation 1,000 times. Each cycle consists of one full actuation stroke, and one return actuation stroke. The test fluid represents “dirty seawater,” which for the test shall be simulated using clean seawater, or substitute ocean water (without heavy metals) per ASTM D1141, with 1,000 ppm of 50 to 300  $\mu\text{m}$  silicon dioxide ( $\text{SiO}_2$ ) particles with a size distribution equivalent to that shown in Table 2. During the entire course of the test, the test fluid shall be constantly agitated to ensure homogeneous dispersion of the silicon dioxide particles. A test pressure of  $150 \pm 10$  psig shall be applied to the supply port during the tests. While the flow path is available, a flow rate through the valve of  $1.5 \pm 0.5$  gpm shall be maintained during this test to provide a supply of debris-laden water to the valve. There shall be a pause of  $13 \pm 5$  seconds between each stroke, resulting in two pauses per cycle (i.e., actuation stroke, pause, return stroke, pause). The valve shall successfully complete all cycles with no loss of functionality and no leakage, as required by Section 3.3.9.2, and with no misalignment between the mechanical and electrical components, as required by Section 3.3.10.1.

**Table 2. Size and Distribution of Debris Used for Dirty Water Life Cycle Testing**

Sieve Number	Weight Percent
50 (300 $\mu\text{m}$ )	0.5
70 (210 $\mu\text{m}$ )	5.5
100 (150 $\mu\text{m}$ )	22.3
140 (110 $\mu\text{m}$ )	37.9
200 (70 $\mu\text{m}$ )	26.4
270 (50 $\mu\text{m}$ )	7.1
Total	99.7

- (d) Seat Leakage Test: The valve shall be tested for tightness of seats and seals after Dirty Water Life Cycle testing. A test pressure of  $150 \pm 10$  psig shall be applied to the valve supply port, with all other ports unplugged. The valve shall be set in all possible alignment configurations for a minimum of three minutes per configuration. There shall be no leakage from the stem seals and any ports where the configuration is designed to have no flow.
- (e) Seat Leakage Test at reduced Pressures: The Seat Leakage Test is repeated at a reduced pressure of  $50 \pm 10$  psig. There shall be no leakage from the stem seals or any ports where the configuration is designed to have no flow.
- (f) Manual Operation Test: The MOPV shall be manually cycled 50 times. Each cycle consists of one full actuation stroke, and one return actuation stroke. The test fluid represents “dirty seawater,” which for the test shall be simulated using clean seawater, or substitute ocean water (without heavy metals) per ASTM D1141, with 1,000 ppm of 50 to 300  $\mu\text{m}$  silicon dioxide ( $\text{SiO}_2$ ) particles with a size distribution equivalent to that shown in Table 1 as used in the Dirty Water Life Cycle Testing above. During the entire course of the test, the test fluid shall be constantly agitated to ensure homogeneous dispersion of the silicon dioxide particles. A test pressure of  $150 \pm 10$  psig shall be applied to the supply port during the tests. While the flow path is available, a flow rate through the valve of  $1.5 \pm 0.5$  gpm shall be maintained during this test to provide a supply of debris-laden water to the valve. The time duration and torque needed to complete each stroke of each cycle shall be measured. The valve shall successfully complete the test with no failures of the manual operator. The time duration shall meet the requirements of Section 3.3.29.2. Refer to Section 3.3.29.2 for torque requirements.
- (g) Stagnant Water Test: The MOPV shall be tested to ensure no loss of performance due to an accumulation of particulates at the inlet of the valve from stagnant fluid. The test consists of cycling the valve once every 10 days for 30 days. Each cycle consists of one full actuation stroke, and one return actuation stroke. The test fluid represents “dirty seawater,” which for the test shall be simulated using clean seawater, or substitute ocean water (without heavy metals) per ASTM D1141, with 1,000 ppm of 50 to 300  $\mu\text{m}$  silicon dioxide ( $\text{SiO}_2$ ) particles with a size distribution equivalent to that shown in Table 1 as used in the Dirty Water Life Cycle Testing above. During any part of the test in which flow passes through the valve, the test fluid shall be constantly

agitated to ensure homogeneous dispersion of the silicon dioxide particles. A test pressure of  $150 \pm 10$  psig shall be applied to the supply port during the tests. While a flow path through the MOPV is available, a flow rate through the valve of  $1.5 \pm 0.5$  gpm shall be maintained during this test to provide a supply of debris-laden water to the valve. The valve shall successfully complete all cycles with no loss of functionality and no leakage.

- (h) Maintainability. All maintenance procedures shall be demonstrated in accordance with the Technical Manual or draft thereof.
- (i) Supply power Tolerance and Transients. The MOPV shall be tested for tolerance (107 to 123 V and 58.2 to 61.8 Hz) and transients ( $\pm 20\%$  V, and  $\pm 5.5\%$  Hz) performance as specified in MIL-STD-1399, Section 300B.

#### **4.3.1.2. FAILURE MODE TEST**

The test in this Section is not indicative of an expected normal operating condition, but is intended to help operators predict behavior due to an abnormal event.

- (a) Power Loss Test: While the MOPV is operating, the supply power shall be secured. Power shall then be restored after 8 seconds. The response shall be measured and reported to verify the failure performance and resumption of operation after power restoration. Acceptable failure modes for valve position shall be failure in the "as is" position or continuation of stroke to the last commanded position.

#### **4.3.1.3 SPRAY TIGHT TEST**

The MOPV shall be tested for spraytightness in accordance with Section 4.10 of MIL-STD-108E with Notice 1.

#### **4.3.1.4. PERFORMANCE TEST SUB-REPORT**

Following testing, a detailed first article test report shall be developed and forwarded to NSWCCD for approval. The test report shall include the following:

- (a) Describe test setup including photographs.
- (b) Describe test sequence and report findings.
- (c) Data recorded during testing using graphs where appropriate.
- (d) Any failures, omissions, or retests shall be explained or justified in the first article test report.
- (e) A table listing the tests performed, acceptance criteria, result of test, and a statement of pass or fail for each test.
- (f) The test procedure.

### **4.3.2. SHOCK TEST REQUIREMENTS**

A shock test of the MOPV shall be performed in accordance with MIL-S-901D and MIL-STD-798 with Notice 1. Following testing, the MOPV shall be capable of operation in accordance with this specification.

#### **4.3.2.1. SHOCK CLASSIFICATION**

MIL-S-901D classifications are provided below:

- (a) Title, Number, and Date: Shock Tests, H.I. (High Impact) Shipboard Machinery, Equipment and Systems, Requirements for; MIL-S-901D; dated March 17, 1989.

- (b) Issue of DoDISS: In accordance with effective date specified in Section 2.2.
- (c) Shock Grade: Grade A
- (d) Equipment Class: Class I
- (e) Shock Test Type: Type A
- (f) Equipment Mounting Location Aboard Ship: Unrestricted
- (g) Equipment Mounting Plane: 'Other'
- (h) Equipment Mounting Orientation: Unrestricted
- (i) Method of Mounting: Mounting shall be essentially identical to shipboard installation.
- (j) Method of Simulating Shipboard Connections: Simulate shipboard piping with dummy masses in accordance with paragraph 3.1.7.1 of MIL-S-901D.
- (k) Equipment Operating Modes: Equipment shall be energized and pressurized (as applicable), in normal and manual operating modes with no requirement for flowing fluid.
- (l) Acceptance Criteria: As specified herein.
- (m) Acceptance Authority: NAVSEA

#### **4.3.2.2. SHOCK TEST PROCEDURE**

The Contractor shall develop a shock test procedure in accordance with MIL-S-901D and MIL-STD-798 with Notice 1. The procedure shall be forwarded to NSWCCD for approval prior to performing the shock test, via the test plan as specified in Section 4.2.2.

#### **4.3.2.3. SHOCK TEST ACCEPTANCE CRITERIA**

The following criteria apply to the MOPV during and following testing.

- (a) No deformation, visible yielding, cracking, or permanent change that is detrimental to the MOPV is permitted.
- (b) Evidence of continuous leakage from any pressure containing boundary shall be cause for failure.
- (c) Evidence of continuous leakage from any valve seat shall be cause for failure.
- (d) Any part which comes adrift shall be cause for failure.
- (e) No threaded connections shall be tightened during the test.
- (f) After each blow the MOPV shall undergo and pass the Functional Testing in Section 4.3.1.1 (b) but only tested for 10 cycles vice 50 cycles (except for after the last blow which shall be tested for the full 50 cycles), and testing of the pressure drop across the valve need not be accomplished.
- (g) At the conclusion of the shock test, the MOPV shall undergo and pass the Normal Operation Tests in Tests Sections: 4.3.1.1. (a) (Hydrostatic Leak Test), (c) (Dirty Water Life Cycle Testing but only tested for 50 cycles vice 1,000 cycles), (d) (Seat Leakage Test) , (e) (Seat Leakage Test at Reduced Pressure), (and (j) (Manual Operation Test)

#### **4.3.2.4. SHOCK TEST SUB-REPORT**

Following testing, the Contractor shall submit to NSWCCD for approval a detailed test report in accordance with MIL-S-901D and include the following:

- (a) Description of the test sequence and report findings.
- (b) Any failures, omissions, or retests shall be explained and justified in the report.
- (c) Add the completed, reviewed, and signed data sheets and test log.
- (d) Include photographs of the MOPV mounted on the shock fixture in each shock test orientation.
- (e) Sketches of any nonstandard test fixtures.
- (f) Test procedure.

#### 4.3.3. ***VIBRATION TEST REQUIREMENTS***

A vibration test of the MOPV shall be performed in accordance with MIL-STD-167-1A. Following testing, the MOPV shall be cycle tested in accordance with this specification.

##### 4.3.3.1. ***VIBRATION CLASSIFICATION***

The MIL-STD-167-1A classification is Type I, Environmental Vibration.

##### 4.3.3.2. ***VIBRATION TEST PROCEDURE***

The Contractor shall develop a vibration test procedure in accordance with MIL-STD-167-1A. The procedure shall provide the definition of response prominence. The procedure shall be submitted to NSWCCD for approval prior to performing the vibration test via the test plan as specified in Section 4.2.2.

##### 4.3.3.3. ***VIBRATION TEST ARRANGEMENT***

A detailed sketch of the arrangement for testing shall be provided in the procedure and test report. Requirements of the arrangement shall be as follows:

- (a) The setup shall reflect the actual or planned shipboard installation as accurately as possible.
- (b) The foundation shall be rigid to prevent any motion induced by the foundation.

##### 4.3.3.4. ***VIBRATION TEST***

The exploratory test and variable frequency test shall be performed up to 21 Hz. If a response prominence is found during the exploratory test, the endurance test shall be performed at that frequency. If no response prominence is found, the endurance test shall be performed at 21Hz.

##### 4.3.3.5. ***VIBRATION TEST ACCEPTANCE CRITERIA***

The following criteria apply to the MOPV during and following testing.

- (a) No major deformation, visible yielding, cracking, or permanent change that is detrimental to the MOPV is permitted.
- (b) Evidence of continuous leakage from any pressure containing boundary shall be cause for failure.
- (c) Evidence of continuous leakage from any valve seat shall be cause for failure.
- (d) Any part which comes adrift shall be cause for failure.

- (e) No threaded connections shall be tightened during the test.
- (f) Equipment remains operational and passes the following Normal Operation Tests Sections: 4.3.1.1. (a) through (c) (Hydrostatic Leak Test, Functional Testing but without testing the pressure drop across the valve, Dirty Water Life Cycle Testing but only tested for 50 cycles vice 1,000 cycles), 4.3.1.1 (d) (Seat Leakage Test), (e) (Seat Leakage Test at Reduced Pressure), and (j) (Manual Operation Test) at the conclusion of all vibration testing.

#### **4.3.3.6. VIBRATION TEST SUB-REPORT**

Following testing, the Contractor shall submit to NSWCCD for approval a detailed test report in accordance with MIL-STD-167-1A paragraph 5.1.2.5 and include the following:

- (a) Describe the test sequence and report all findings.
- (b) Any failures, omissions, or retests shall be explained and justified in the report.
- (c) A table listing the tests performed, acceptance criteria, result of test, and a statement of pass or fail for each test
- (d) Add the completed, reviewed, and signed data sheets and test log.
- (e) Include photographs of the MOPV mounted on the fixture in each test orientation.
- (f) Test procedure.

#### **4.3.4. ELECTRO-MAGNETIC INTERFERENCE**

The Contractor shall perform electro-magnetic interference (EMI) tests in accordance with the requirements of Section 3.3.27.

#### **4.3.5. ENVIRONMENTAL STRESS SCREENING (ESS)**

Environmental Stress Screening (ESS) shall be conducted on one of the First Articles in accordance with MIL-STD-883H, Method 1010.8, Temperature Cycling using the following test conditions:

Number of Temperature Cycles: 10

Temperature Range: -55°C to 85°C (Test Condition A of Method 1010.8)

Temperature Rate of Change: 5°C – 20°C per minute

Temperature Dwell Time: Start the next temperature ramp when internal parts are within 2°C of the specified temperature (after the First Article is tested as described immediately below). However, the dwell time shall not be less than 10 minutes.

The First Article tested shall be energized during temperature cycling. Each time a specified temperature is reached (when internal parts are within 2°C of the specified temperature), the First Article shall be operated for two cycles using electrical actuation. Upon successful completion of the 10 temperature cycles, the First Article shall undergo and pass the testing specified in Section 4.3.1(b) (Functional Testing) but without testing the pressure drop across the valve.

In the event of failure, requisite corrective action shall be taken and the test repeated.

The stress screening program shall include screening of semi-conductors and integrated circuits at the equipment or component Contractor's facility to prevent introduction of defective parts in the manufacturing process. The following tests shall be performed:

- (a) Electrical test at +25C and +125C (Static, Dynamic and Functional) with exceptions reviewed on a case by case basis.

- (b) Particle Impact Noise Detection (PIND) test on all hybrids and all unglassivated semi-conductors with cavities in accordance with MIL-STD-883H.
- (c) Destructive physical analysis on a selective basis.

#### ***4.4. CONFORMANCE INSPECTION***

Testing shall ensure that each production unit is produced in accordance with the approved drawings and that its performance is identical to that of the first article unit. The following tests shall be performed:

- (a) Visual and Dimensional Inspection, in accordance with Section 4.2.8
- (b) Functional test of each component, in accordance with Section 4.3.1.1(b)
- (c) Hydrostatic Leak Test, in accordance with Section 4.3.1.1(a).

#### ***4.5. FIRST ARTICLE TEST REPORT***

A complete package of test reports shall be provided at the conclusion of first article testing. The test report package shall contain all reports for the tests conducted on an individual MOPV, as required by this specification. All separate tests as defined throughout Section 4, shall be separate sections of the test report and be able to exist independent of the test report. Reports of all inspections and tests shall be complete and assembled in an organized, indexed format. Reports shall be certified by the Contractor and shall substantiate the fact that all required tests and examinations have been conducted and that all the requirements of the specification have been satisfied and are consistent with the Contractor's quality assurance program (see Section 4.1). Reports shall identify the applicable MOPV by contract or purchase order number (as applicable), Contractor serial number, and procuring activity, as a minimum.

#### ***4.6. INSPECTION REPORTING***

A complete package of Conformance Inspection reports shall be provided with each MOPV. Reports shall be certified by the Contractor and shall substantiate the fact that all required tests and examinations have been conducted and that all the requirements of the specification have been satisfied and are consistent with the Contractor's quality assurance program (see Section 4.1). Reports shall identify the applicable MOPV by contract or purchase order number (as applicable), Contractor serial number, and procuring activity, as a minimum.

### **5. PREPARATION FOR DELIVERY**

#### ***5.1. PACKAGING AND SHIPPING***

Packaging shall be sufficient to provide adequate protection against corrosion, deterioration, and physical damage during shipment. The Contractor shall clean the MOPV and all components prior to packaging and shipping. The Contractor shall prepare and submit to NSWCCD a shipping procedure that includes the following information:

- (a) Type of shipping container.
- (b) Method of cleaning.
- (c) Method of crating and handling, including packing material, and special handling gear (if required).
- (d) Method of mounting the equipment in the shipping container.
- (e) Preservation materials.

- (f) Means of transportation.

The shipping procedure shall be submitted no later than 60 calendar days prior to shipment.

### **5.2. PACKING**

Packing shall be accomplished in a manner that will insure acceptance by common carrier and will protect against physical damage during shipment. The shipping container or method of packing shall conform to the Uniform Freight Classification Rules and Regulations as applicable to the mode of transportation. The use of masonite as a protective, sealing or packaging material is prohibited. In addition, the use of plywood, cardboard or other similar materials that will splinter, flake or crumble is prohibited as a protective covering for inlets and outlets on valves. Corrosion resistant steel, aluminum sheet 0.050 inch in thickness or greater, or suitable plastic, is the only acceptable material for capping, sealing or protecting openings and machined surfaces unless otherwise approved by NSWCCD. The use of Styrofoam for sealing or protecting openings is prohibited.

### **5.3. MARKING**

Shipping labels and marking information shall be provided on interior packages and exterior shipping containers in accordance with the purchase order. In the event that the Contractor is to ship directly to the Government, all shipping markings shall be in accordance with MIL-STD-129P with Change 4. The information shall include nomenclature, National Stock Number or Contractor's part number, contract or purchase order number, Contractor's name, and destination.

### **5.4. CERTIFICATION**

The Contractor shall certify that the equipment, as delivered to NSWCCD, has all surfaces in a clean, dry condition, free from grease, oil, slag, or other foreign objects and foreign extraneous material except for preservative and protective coatings if required and that all the requirements of the purchase order and design drawings have been met.

## **6. ORDERING DATA**

### **6.1. PROCUREMENT DOCUMENTS**

Procurement documents shall specify the following (as a minimum):

- (a) Title, number, and date of this specification.
- (b) Item Description.

### **6.2. INVITATIONS FOR WAIVERS**

Should the Contractor's bid be based on an existing valve that has been tested in accordance with the test requirements stated in Sections 4.3 and 4.4, the Contractor may request a waiver of performing the tests at the time of the bid. The Contractor shall provide evidence of tests performed and approval of the tests as part of the waiver request.

HQ C-1-0001 ITEM(S) \_0001-0006, 0008-0010\_\_\_\_\_ - DATA REQUIREMENTS (NAVSEA) (SEP 1992)

The data to be furnished hereunder shall be prepared in accordance with the Contract Data Requirements List, DD Form 1423, Exhibit(s) A, attached hereto.

HQ C-2-0008 ASSIGNMENT AND USE OF NATIONAL STOCK NUMBERS (NAVSEA) (MAY 1993)

To the extent that National Stock Numbers (NSNs) or preliminary NSNs are assigned by the Government for the identification of parts, pieces, items, subassemblies or assemblies to be furnished under this contract, the Contractor shall use such NSNs or preliminary NSNs in the preparation of provisioning lists, package labels, packing lists, shipping containers and shipping documents as required by applicable specifications, standards or Data item Descriptions of the contract or as required by orders for spare and repair parts. The cognizant Government Contract Administration Office shall be responsible for providing the Contractor such NSNs or preliminary NSNs which may be assigned and which are not already in possession of the Contractor.

HQ C-2-0026 FIRST ARTICLE (CONTRACTOR TESTING) (NAVSEA)(SEP 1990)

- (a) For the purpose of this contract, the "First Article" is synonymous with the terms "preproduction model(s) and "preproduction equipment".
- (b) The First Article shall conform in every respect to the requirements of this contract and shall be fully tested by the Contractor at its own expense to determine compliance with said requirements. The production equipment shall be manufactured with tools, material and methods which are the same as or representative of the tools, material and methods which were used to manufacture the First Article.
- (c) Pursuant to paragraph (e) of the clause entitled "FIRST ARTICLE APPROVAL--CONTRACTOR TESTING" (FAR 52.209-3), the First Article shall not be delivered as part of the production quantity.\*

(End of Text)

\* Optional paragraph which may be tailored.

HQ C-2-0062 WAIVER OF FIRST ARTICLE REQUIREMENTS (NAVSEA)(SEP 1990)

If the First Article is waived by the Government, the Contractor shall deliver supplies that are identical or substantially identical to those previously accepted by the Government under the following contract(s):

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(Offeror to fill in contract number(s), as applicable. See Section M)

Section D - Packaging and Marking

CLAUSES INCORPORATED BY FULL TEXT

HQ D-1-0001 DATA PACKAGING LANGUAGE

All unclassified data shall be prepared for shipment in accordance with best commercial practice.

Classified reports, data, and documentation shall be prepared for shipment in accordance with National Industrial Security Program Operating Manual (NISPOM), DOD 5220.22-M dated 28 February 2006.

CLAUSES INCORPORATED BY FULL TEXT

HQ D-2-0008 MARKING OF REPORTS (NAVSEA) (SEP 1990)

All reports delivered by the Contractor to the Government under this contract shall prominently show on the cover of the report:

- (1) name and business address of the Contractor
- (2) contract number
- (3) contract dollar amount
- (4) whether the contract was competitively or non-competitively awarded
- (5) sponsor:

\_\_\_\_\_  
(Name of Individual Sponsor)

\_\_\_\_\_  
(Name of Requiring Activity)

\_\_\_\_\_  
(City and State)

## Section E - Inspection and Acceptance

## INSPECTION AND ACCEPTANCE TERMS

Supplies/services will be inspected/accepted at:

CLIN	INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
0001	Destination	NSWCCD CODE 688 PERSONNEL	Destination	NSWCCD CODE 688 PERSONNEL
0002	Destination	NSWCCD CODE 688 PERSONNEL	Destination	NSWCCD CODE 688 PERSONNEL
0003	Destination	NSWCCD CODE 688 PERSONNEL	Destination	NSWCCD CODE 688 PERSONNEL
0004	Destination	NSWCCD CODE 688 PERSONNEL	Destination	NSWCCD CODE 688 PERSONNEL
0005	Destination	NSWCCD CODE 688 PERSONNEL	Destination	NSWCCD CODE 688 PERSONNEL
0006	Destination	NSWCCD CODE 688 PERSONNEL	Destination	NSWCCD CODE 688 PERSONNEL
0007	Destination	NSWCCD CODE 688 PERSONNEL	Destination	NSWCCD CODE 688 PERSONNEL
0008	Destination	NSWCCD CODE 688 PERSONNEL	Destination	NSWCCD CODE 688 PERSONNEL
0009	Destination	NSWCCD CODE 688 PERSONNEL	Destination	NSWCCD CODE 688 PERSONNEL
0010	Destination	NSWCCD CODE 688 PERSONNEL	Destination	NSWCCD CODE 688 PERSONNEL
0011	Destination	NSWCCD CODE 688 PERSONNEL	Destination	NSWCCD CODE 688 PERSONNEL
0012	Destination	NSWCCD CODE 688 PERSONNEL	Destination	NSWCCD CODE 688 PERSONNEL
0013	Destination	NSWCCD CODE 688 PERSONNEL	Destination	NSWCCD CODE 688 PERSONNEL
0014	Destination	NSWCCD CODE 688 PERSONNEL	Destination	NSWCCD CODE 688 PERSONNEL
0015	Destination	NSWCCD CODE 688 PERSONNEL	Destination	NSWCCD CODE 688 PERSONNEL

## CLAUSES INCORPORATED BY REFERENCE

52.246-2	Inspection Of Supplies--Fixed Price	AUG 1996
52.246-16	Responsibility For Supplies	APR 1984
252.246-7000	Material Inspection And Receiving Report	MAR 2008

## CLAUSES INCORPORATED BY FULL TEXT

52.246-11 HIGHER-LEVEL CONTRACT QUALITY (FEB 1999)

The Contractor shall comply with the higher-level quality standard selected below.

IAW THE TECHNICAL SPECIFICATIONS FOUND IN SECTION 'C'.

(End of clause)

CLAUSES INCORPORATED BY FULL TEXT

HQ E-1-0001 INSPECTION AND ACCEPTANCE LANGUAGE FOR DATA

Inspection and acceptance of all data shall be as specified on the attached Contract Data Requirements List(s), DD Form 1423.

## Section F - Deliveries or Performance

## DELIVERY INFORMATION

CLIN	DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
0001	30 dys. ADC	1	IAW DD FORM 1423 FOB: Destination	N65540
0002	30 dys. ADC	1	IAW DD FORM 1423 FOB: Destination	N65540
0003	90 dys. ADC	1	IAW DD FORM 1423 FOB: Destination	N65540
0004	90 dys. ADC	1	IAW DD FORM 1423 FOB: Destination	N65540
0005	90 dys. ADC	1	IAW DD FORM 1423 FOB: Destination	N65540
0006	135 dys. ADC	1	IAW DD FORM 1423 FOB: Destination	N65540
0007	135 dys. ADC	1	NAVAL SURFACE WARFARE CENTER CARDEROCK SCOTT TWEEDIE 4700 BROAD STREET PHILADELPHIA PA 19112 215-897-1463 FOB: Destination	N65540
0008	150 dys. ADC	1	IAW DD FORM 1423 FOB: Destination	N65540
0009	150 dys. ADC	1	IAW DD FORM 1423 FOB: Destination	N65540
0010	14 dys. ADC	1	IAW DD FORM 1423 FOB: Destination	N65540
0011	15 dys. ADC		NAVAL SURFACE WARFARE CENTER CARDEROCK SCOTT TWEEDIE 4700 BROAD STREET PHILADELPHIA PA 19112 215-897-1463 FOB: Destination	N65540
0012	15 dys. ADC		(SAME AS PREVIOUS LOCATION) FOB: Destination	N65540
0013	15 dys. ADC		(SAME AS PREVIOUS LOCATION) FOB: Destination	N65540

0014	15 dys. ADC	(SAME AS PREVIOUS LOCATION) FOB: Destination	N65540
0015	15 dys. ADC	(SAME AS PREVIOUS LOCATION) FOB: Destination	N65540

## CLAUSES INCORPORATED BY REFERENCE

52.211-8	Time of Delivery	JUN 1997
52.211-17	Delivery of Excess Quantities	SEP 1989
52.242-15	Stop-Work Order	AUG 1989
52.242-17	Government Delay Of Work	APR 1984

Section G - Contract Administration Data

CLAUSES INCORPORATED BY REFERENCE

52.213-2                      Invoices    APR 1984

CLAUSES INCORPORATED BY FULL TEXT

CAR-G09 PAYMENT INSTRUCTIONS FOR MULTIPLE ACCOUNTING CLASSIFICATION CITATIONS (OCT 2005)

The payment office will make payment in sequential ACRN order within the contract, exhausting all funds in the previous ACRN before paying from the next ACRN using the following sequential order: alpha/alpha; alpha/numeric; numeric/alpha; and numeric/numeric.

(End of Clause)

CLAUSES INCORPORATED BY FULL TEXT

HQ G-2-0002 CONTRACT ADMINISTRATION DATA

Enter below the address (street and number, city, county, state and zip code) of the Contractor's facility which will administer the contract if such address is different from the address shown on the SF 26 or SF 33, as applicable.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

CLAUSES INCORPORATED BY FULL TEXT

HQ G-2-0007 INVOICE INSTRUCTIONS (NAVSEA) (JAN 2008)

(a) In accordance with the clause of this contract entitled "ELECTRONIC SUBMISSION OF PAYMENT REQUESTS" (DFARS 252.232-7003), the Naval Sea Systems Command (NAVSEA) will utilize the DoD Wide Area Workflow Receipt and Acceptance (WAWF) system to accept supplies/services delivered under this contract. This web-based system located at <https://wawf.eb.mil> provides the technology for government contractors and authorized Department of Defense (DoD) personnel to generate, capture and process receipt and payment-related documentation in a paperless environment. Invoices for supplies/services rendered under this contract shall be submitted electronically through WAWF. Submission of hard copy DD250/invoices may no longer be accepted for payment.

(b) It is recommended that the person in your company designated as the Central Contractor Registration (CCR) Electronic Business (EB) Point of Contact and anyone responsible for the submission of invoices, use the online training system for WAWF at <http://wawftraining.com>. The Vendor, Group Administrator (GAM), and sections



(e) Before closing out of an invoice session in WAWF, but after submitting the document(s), you will be prompted to send additional email notifications. Click on “Send More Email Notification” and add the acceptor/receiver email addresses noted below in the first email address block, and add any other additional email addresses desired in the following blocks. This additional notification to the government is important to ensure that the acceptor/receiver is aware that the invoice documents have been submitted into WAWF.

Send Additional Email Notification To:
SCOTT.TWEEDIE@NAVY.MIL

(f) The contractor shall submit invoices/cost vouchers for payment per contract terms and the government shall process invoices/cost vouchers for payment per contract terms. Contractors approved by DCAA for direct billing will submit cost vouchers directly to DFAS via WAWF. Final voucher submission will be approved by the ACO.

(g) The WAWF system has not yet been implemented on some Navy programs; therefore, upon written concurrence from the cognizant Procuring Contracting Officer, the Contractor is authorized to use DFAS’s WInS for electronic end to end invoicing until the functionality of WInS has been incorporated into WAWF.

(h) If you have any questions regarding WAWF, please contact the WAWF helpdesk at the above 1-866 number or the NSWC-CD WAWF P.O.C.s Thomas Evans at (301) 227-0589 or LaShawn Fortson at (301) 227-5419.

## Section I - Contract Clauses

## CLAUSES INCORPORATED BY REFERENCE

52.202-1	Definitions	JUL 2004
52.203-3	Gratuities	APR 1984
52.203-5	Covenant Against Contingent Fees	APR 1984
52.203-7	Anti-Kickback Procedures	OCT 2010
52.203-8	Cancellation, Rescission, and Recovery of Funds for Illegal or Improper Activity	JAN 1997
52.203-10	Price Or Fee Adjustment For Illegal Or Improper Activity	JAN 1997
52.203-12	Limitation On Payments To Influence Certain Federal Transactions	OCT 2010
52.203-13	Contractor Code of Business Ethics and Conduct	APR 2010
52.204-4	Printed or Copied Double-Sided on Recycled Paper	AUG 2000
52.204-7	Central Contractor Registration	APR 2008
52.204-10	Reporting Executive Compensation and First-Tier Subcontract Awards	JUL 2010
52.209-6	Protecting the Government's Interest When Subcontracting With Contractors Debarred, Suspended, or Proposed for Debarment	DEC 2010
52.209-8 (Dev)	UPDATES OF INFORMATION REGARDING RESPONSIBILITY MATTERS (DEVIATION)(OCT 2010)	OCT 2010
52.211-5	Material Requirements	AUG 2000
52.211-15	Defense Priority And Allocation Requirements	APR 2008
52.215-2	Audit and Records--Negotiation	OCT 2010
52.215-8	Order of Precedence--Uniform Contract Format	OCT 1997
52.215-14	Integrity of Unit Prices	OCT 2010
52.219-6	Notice Of Total Small Business Set-Aside	JUN 2003
52.219-8	Utilization of Small Business Concerns	JAN 2011
52.219-14	Limitations On Subcontracting	DEC 1996
52.222-3	Convict Labor	JUN 2003
52.222-19	Child Labor -- Cooperation with Authorities and Remedies	JUL 2010
52.222-20	Walsh-Healey Public Contracts Act	OCT 2010
52.222-21	Prohibition Of Segregated Facilities	FEB 1999
52.222-26	Equal Opportunity	MAR 2007
52.222-35	Equal Opportunity For Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans	SEP 2010
52.222-36	Affirmative Action For Workers With Disabilities	OCT 2010
52.222-37	Employment Reports on Veterans	SEP 2010
52.222-40	Notification of Employee Rights Under the National Labor Relations Act	DEC 2010
52.222-54	Employment Eligibility Verification	JAN 2009
52.222-99 (Dev)	Notification of Employee Rights under the National Labor Relations Act (DEVIATION 2010-O0013)	JUN 2010
52.223-6	Drug-Free Workplace	MAY 2001
52.223-14	Toxic Chemical Release Reporting	AUG 2003
52.223-18	Contractor Policy to Ban Text Messaging While Driving	SEP 2010
52.225-13	Restrictions on Certain Foreign Purchases	JUN 2008
52.227-1	Authorization and Consent	DEC 2007
52.227-2	Notice And Assistance Regarding Patent And Copyright Infringement	DEC 2007
52.229-3	Federal, State And Local Taxes	APR 2003
52.232-1	Payments	APR 1984
52.232-8	Discounts For Prompt Payment	FEB 2002

52.232-9	Limitation On Withholding Of Payments	APR 1984
52.232-11	Extras	APR 1984
52.232-17	Interest	OCT 2010
52.232-23 Alt I	Assignment of Claims (Jan 1986) - Alternate I	APR 1984
52.232-25	Prompt Payment	OCT 2008
52.232-33	Payment by Electronic Funds Transfer--Central Contractor Registration	OCT 2003
52.233-1	Disputes	JUL 2002
52.233-3	Protest After Award	AUG 1996
52.233-4	Applicable Law for Breach of Contract Claim	OCT 2004
52.242-13	Bankruptcy	JUL 1995
52.243-1	Changes--Fixed Price	AUG 1987
52.244-6 Alt I	Subcontracts for Commercial Items (Oct 2010) Alternate I	JUN 2010
52.246-24	Limitation Of Liability--High-Value Items	FEB 1997
52.247-63	Preference For U.S. Flag Air Carriers	JUN 2003
52.248-1	Value Engineering	OCT 2010
52.249-2	Termination For Convenience Of The Government (Fixed- Price)	MAY 2004
52.249-8	Default (Fixed-Price Supply & Service)	APR 1984
52.252-4	Alterations in Contract	APR 1984
52.252-6	Authorized Deviations In Clauses	APR 1984
52.252-6	Authorized Deviations In Clauses	APR 1984
52.253-1	Computer Generated Forms	JAN 1991
252.203-7000	Requirements Relating to Compensation of Former DoD Officials	JAN 2009
252.203-7001	Prohibition On Persons Convicted of Fraud or Other Defense-DEC 2008 Contract-Related Felonies	
252.203-7002	Requirement to Inform Employees of Whistleblower Rights	JAN 2009
252.203-7003	Agency Office of the Inspector General	SEP 2010
252.204-7000	Disclosure Of Information	DEC 1991
252.204-7002	Payment For Subline Items Not Separately Priced	DEC 1991
252.204-7003	Control Of Government Personnel Work Product	APR 1992
252.204-7004 Alt A	Central Contractor Registration (52.204-7) Alternate A	SEP 2007
252.204-7008	Export-Controlled Items	APR 2010
252.205-7000	Provision Of Information To Cooperative Agreement Holders	DEC 1991
252.209-7004	Subcontracting With Firms That Are Owned or Controlled By The Government of a Terrorist Country	DEC 2006
252.211-7008	Use of Government-Assigned Serial Numbers	SEP 2010
252.222-7006	Restrictions on the Use of Mandatory Arbitration Agreements	DEC 2010
252.223-7004	Drug Free Work Force	SEP 1988
252.225-7001	Buy American Act And Balance Of Payments Program	JAN 2009
252.225-7002	Qualifying Country Sources As Subcontractors	APR 2003
252.225-7006	Quarterly Reporting of Actual Contract Performance Outside the United States	OCT 2010
252.225-7009	Restriction on Acquisition of Certain Articles Containing Speciaity Metals	JUL 2009
252.225-7012	Preference For Certain Domestic Commodities	JUN 2010
252.225-7013	Duty-Free Entry	DEC 2009
252.225-7021	Trade Agreements	NOV 2009
252.226-7001	Utilization of Indian Organizations and Indian-Owned Economic Enterprises, and Native Hawaiian Small Business Concerns	SEP 2004
252.227-7013	Rights in Technical Data--Noncommercial Items	NOV 1995
252.227-7016	Rights in Bid or Proposal Information	JAN 2011
252.227-7030	Technical Data--Withholding Of Payment	MAR 2000
252.227-7037	Validation of Restrictive Markings on Technical Data	SEP 1999

252.232-7003	Electronic Submission of Payment Requests and Receiving Reports	MAR 2008
252.232-7010	Levies on Contract Payments	DEC 2006
252.243-7001	Pricing Of Contract Modifications	DEC 1991
252.243-7002	Requests for Equitable Adjustment	MAR 1998
252.244-7000	Subcontracts for Commercial Items and Commercial Components (DoD Contracts)	NOV 2010
252.246-7003	Notification of Potential Safety Issues	JAN 2007
252.247-7023	Transportation of Supplies by Sea	MAY 2002
252.249-7002	Notification of Anticipated Contract Termination or Reduction	OCT 2010
CAR-I06	Written Orders (Indefinite Delivery Contracts)	DEC 1999

#### CLAUSES INCORPORATED BY FULL TEXT

##### 52.203-14 DISPLAY OF HOTLINE POSTER(S) (DEC 2007)

(a) Definition.

United States, as used in this clause, means the 50 States, the District of Columbia, and outlying areas.

(b) Display of fraud hotline poster(s). Except as provided in paragraph (c)--

(1) During contract performance in the United States, the Contractor shall prominently display in common work areas within business segments performing work under this contract and at contract work sites--

(i) Any agency fraud hotline poster or Department of Homeland Security (DHS) fraud hotline poster identified in paragraph (b)(3) of this clause; and

(ii) Any DHS fraud hotline poster subsequently identified by the Contracting Officer.

(2) Additionally, if the Contractor maintains a company website as a method of providing information to employees, the Contractor shall display an electronic version of the poster(s) at the website.

(3) Any required posters may be obtained as follows:

Poster(s) Obtain from:

[http://www.dodig.mil/hotline/poster\\_download.cfm](http://www.dodig.mil/hotline/poster_download.cfm)

of fraud hotline poster (Contracting Officer shall insert—

(i) Appropriate agency name(s) and/or title of applicable Department of Homeland Security fraud hotline poster); and

(ii) The website(s) or other contact information for obtaining the poster(s).)

(c) If the Contractor has implemented a business ethics and conduct awareness program, including a reporting mechanism, such as a hotline poster, then the Contractor need not display any agency fraud hotline posters as required in paragraph (b) of this clause, other than any required DHS posters.

(d) Subcontracts. The Contractor shall include the substance of this clause, including this paragraph (d), in all subcontracts that exceed \$5,000,000, except when the subcontract--

(1) Is for the acquisition of a commercial item; or

(2) Is performed entirely outside the United States.

(End of clause)

#### CLAUSES INCORPORATED BY FULL TEXT

##### 52.209-3 FIRST ARTICLE APPROVAL--CONTRACTOR TESTING (SEP 1989)

(a) The Contractor shall test 3 unit(s) of Lot/Item 0007 as specified in this contract. At least 14 calendar days before the beginning of first article tests, the Contractor shall notify the Contracting Officer, in writing, of the time and location of the testing so that the Government may witness the tests.

(b) The Contractor shall submit the first article test report within 135 calendar days from the date of this contract to [scott.tweedie@navy.mil](mailto:scott.tweedie@navy.mil) marked "FIRST ARTICLE TEST REPORT: Contract No., Lot/Item No. 0006" Within 14 calendar days after the Government receives the test report, the Contracting Officer shall notify the Contractor, in writing, of the conditional approval, approval, or disapproval of the first article. The notice of conditional approval or approval shall not relieve the Contractor from complying with all requirements of the specifications and all other terms and conditions of this contract. A notice of conditional approval shall state any further action required of the Contractor. A notice of disapproval shall cite reasons for the disapproval.

(c) If the first article is disapproved, the Contractor, upon Government request, shall repeat any or all first article tests. After each request for additional tests, the Contractor shall make any necessary changes, modifications, or repairs to the first article or select another first article for testing. All costs related to these tests are to be borne by the Contractor, including any and all costs for additional tests following a disapproval. The Contractor shall then conduct the tests and deliver another report to the Government under the terms and conditions and within the time specified by the Government. The Government shall take action on this report within the time specified in paragraph (b) above. The Government reserves the right to require an equitable adjustment of the contract price for any extension of the delivery schedule, or for any additional costs to the Government related to these tests.

(d) If the Contractor fails to deliver any first article report on time, or the Contracting Officer disapproves any first article, the Contractor shall be deemed to have failed to make delivery within the meaning of the Default clause of this contract.

(e) Unless otherwise provided in the contract, and if the approved first article is not consumed or destroyed in testing, the Contractor may deliver the approved first article as part of the contract quantity if it meets all contract requirements for acceptance.

(f) If the Government does not act within the time specified in paragraph (b) or (c) above, the Contracting Officer shall, upon timely written request from the Contractor, equitably adjust under the changes clause of this contract the delivery or performance dates and/or the contract price, and any other contractual term affected by the delay.

(g) Before first article approval, the acquisition of materials or components for, or the commencement of production of, the balance of the contract quantity is at the sole risk of the Contractor. Before first article approval, the costs thereof shall not be allocable to this contract for (1) progress payments, or (2) termination settlements if the contract is terminated for the convenience of the Government.

(h) The Government may waive the requirement for first article approval test where supplies identical or similar to those called for in the schedule have been previously furnished by the offeror/contractor and have been accepted by the Government. The offeror/contractor may request a waiver.

(End of clause)

#### CLAUSES INCORPORATED BY FULL TEXT

##### 52.216-18 ORDERING. (OCT 1995)

(a) Any supplies and services to be furnished under this contract shall be ordered by issuance of delivery orders or task orders by the individuals or activities designated in the Schedule. Such orders may be issued from **AWARD DATE THROUGH 60 MONTHS THERE AFTER.**

(b) All delivery orders or task orders are subject to the terms and conditions of this contract. In the event of conflict between a delivery order or task order and this contract, the contract shall control.

(c) If mailed, a delivery order or task order is considered "issued" when the Government deposits the order in the mail. Orders may be issued orally, by facsimile, or by electronic commerce methods only if authorized in the Schedule.

(End of clause)

#### CLAUSES INCORPORATED BY FULL TEXT

##### 52.216-19 ORDER LIMITATIONS. (OCT 1995)

(a) Minimum order. When the Government requires supplies or services covered by this contract in an amount of less than **\$10,000.00** the Government is not obligated to purchase, nor is the Contractor obligated to furnish, those supplies or services under the contract.

(b) Maximum order. The Contractor is not obligated to honor:

(1) Any order for a single item in excess of **\$10,000,000.00**;

(2) Any order for a combination of items in excess of **\$10,000,000.00** or

(3) A series of orders from the same ordering office within **30**days that together call for quantities exceeding the limitation in subparagraph (1) or (2) above.

(c) If this is a requirements contract (i.e., includes the Requirements clause at subsection 52.216-21 of the Federal Acquisition Regulation (FAR)), the Government is not required to order a part of any one requirement from the Contractor if that requirement exceeds the maximum-order limitations in paragraph (b) above.

(d) Notwithstanding paragraphs (b) and (c) above, the Contractor shall honor any order exceeding the maximum order limitations in paragraph (b), unless that order (or orders) is returned to the ordering office within **30**days after issuance, with written notice stating the Contractor's intent not to ship the item (or items) called for and the reasons. Upon receiving this notice, the Government may acquire the supplies or services from another source.

(End of clause)

## CLAUSES INCORPORATED BY FULL TEXT

## 52.216-22 INDEFINITE QUANTITY. (OCT 1995)

(a) This is an indefinite-quantity contract for the supplies or services specified, and effective for the period stated, in the Schedule. The quantities of supplies and services specified in the Schedule are estimates only and are not purchased by this contract.

(b) Delivery or performance shall be made only as authorized by orders issued in accordance with the Ordering clause. The Contractor shall furnish to the Government, when and if ordered, the supplies or services specified in the Schedule up to and including the quantity designated in the Schedule as the "maximum". The Government shall order at least the quantity of supplies or services designated in the Schedule as the "minimum".

(c) Except for any limitations on quantities in the Order Limitations clause or in the Schedule, there is no limit on the number of orders that may be issued. The Government may issue orders requiring delivery to multiple destinations or performance at multiple locations.

(d) Any order issued during the effective period of this contract and not completed within that period shall be completed by the Contractor within the time specified in the order. The contract shall govern the Contractor's and Government's rights and obligations with respect to that order to the same extent as if the order were completed during the contract's effective period; provided, that the Contractor shall not be required to make any deliveries under this contract after **60 MONTHS ADC**

(End of clause)

## CLAUSES INCORPORATED BY FULL TEXT

## 52.219-4 NOTICE OF PRICE EVALUATION PREFERENCE FOR HUBZONE SMALL BUSINESS CONCERNS (JAN 2011)

(a) Definitions. See 13 CFR 125.6(e) for definitions of terms used in paragraph (d).

(b) Evaluation preference. (1) Offers will be evaluated by adding a factor of 10 percent to the price of all offers, except--

(i) Offers from HUBZone small business concerns that have not waived the evaluation preference; and

(ii) Otherwise successful offers from small business concerns.

(2) The factor of 10 percent shall be applied on a line item basis or to any group of items on which award may be made. Other evaluation factors described in the solicitation shall be applied before application of the factor.

(3) A concern that is both a HUBZone small business concern and a small disadvantaged business concern will receive the benefit of both the HUBZone small business price evaluation preference and the small disadvantaged business price evaluation adjustment (see FAR clause 52.219-23). Each applicable price evaluation preference or adjustment shall be calculated independently against an offeror's base offer.

These individual preference amounts shall be added together to arrive at the total evaluated price for that offer.

(4) When the two highest rated offerors are a HUBZone small business concern and a large business, and the evaluated offer of the HUBZone small business concern is equal to the evaluated offer of the large business after considering the price evaluation preference, award will be made to the HUBZone small business concern.

(c) Waiver of evaluation preference. A HUBZone small business concern may elect to waive the evaluation preference, in which case the factor will be added to its offer for evaluation purposes. The agreements in paragraphs (d) and (e) of this clause do not apply if the offeror has waived the evaluation preference.

\_\_\_ Offeror elects to waive the evaluation preference.

(d) Agreement. A HUBZone small business concern agrees that in the performance of the contract, in the case of a contract for

(1) Services (except construction), at least 50 percent of the cost of personnel for contract performance will be spent for employees of the concern or employees of other HUBZone small business concerns;

(2) Supplies (other than procurement from a nonmanufacturer of such supplies), at least 50 percent of the cost of manufacturing, excluding the cost of materials, will be performed by the concern or other HUBZone small business concerns;

(3) General construction. (i) At least 15 percent of the cost of contract performance to be incurred for personnel will be spent on the prime contractor's employees;

(ii) At least 50 percent of the cost of the contract performance to be incurred for personnel will be spent on the prime contractor's employees or on a combination of the prime contractor's employees and employees of HUBZone small business concern subcontractors;

(iii) No more than 50 percent of the cost of contract performance to be incurred for personnel will be subcontracted to concerns that are not HUBZone small business concerns; or

(4) Construction by special trade contractors. (i) At least 25 percent of the cost of contract performance to be incurred for personnel will be spent on the prime contractor's employees;

(ii) At least 50 percent of the cost of the contract performance to be incurred for personnel will be spent on the prime contractor's employees or on a combination of the prime contractor's employees and employees of HUBZone small business concern subcontractors;

(iii) No more than 50 percent of the cost of contract performance to be incurred for personnel will be subcontracted to concerns that are not HUBZone small business concerns.

(e) A HUBZone joint venture agrees that the aggregate of the HUBZone small business concerns to the joint venture, not each concern separately, will perform the applicable percentage of work requirements.

(f)(1) When the total value of the contract exceeds \$25,000, a HUBZone small business concern nonmanufacturer agrees to furnish in performing this contract only end items manufactured or produced by HUBZone small business concern manufacturers.

(2) When the total value of the contract is equal to or less than \$25,000, a HUBZone small business concern nonmanufacturer may provide end items manufactured by other than a HUBZone small business concern manufacturer provided the end items are produced or manufactured in the United States.

(3) Paragraphs (f)(1) and (f)(2) of this section do not apply in connection with construction or service contracts.

(g) Notice. The HUBZone small business offeror acknowledges that a prospective HUBZone awardee must be a HUBZone small business concern at the time of award of this contract. The HUBZone offeror shall provide the Contracting Officer a copy of the notice required by 13 CFR 126.501 if material changes occur before contract award that could affect its HUBZone eligibility. If the apparently successful HUBZone offeror is not a HUBZone small business concern at the time of award of this contract, the Contracting Officer will proceed to award to the next otherwise successful HUBZone small business concern or other offeror.

(End of clause)

#### 52.219-28 POST-AWARD SMALL BUSINESS PROGRAM REREPRESENTATION (APR 2009)

(a) Definitions. As used in this clause--

Long-term contract means a contract of more than five years in duration, including options. However, the term does not include contracts that exceed five years in duration because the period of performance has been extended for a cumulative period not to exceed six months under the clause at 52.217-8, Option to Extend Services, or other appropriate authority.

Small business concern means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the criteria in 13 CFR part 121 and the size standard in paragraph (c) of this clause. Such a concern is "not dominant in its field of operation" when it does not exercise a controlling or major influence on a national basis in a kind of business activity in which a number of business concerns are primarily engaged. In determining whether dominance exists, consideration shall be given to all appropriate factors, including volume of business, number of employees, financial resources, competitive status or position, ownership or control of materials, processes, patents, license agreements, facilities, sales territory, and nature of business activity.

(b) If the Contractor represented that it was a small business concern prior to award of this contract, the Contractor shall rerepresent its size status according to paragraph (e) of this clause or, if applicable, paragraph (g) of this clause, upon the occurrence of any of the following:

(1) Within 30 days after execution of a novation agreement or within 30 days after modification of the contract to include this clause, if the novation agreement was executed prior to inclusion of this clause in the contract.

(2) Within 30 days after a merger or acquisition that does not require a novation or within 30 days after modification of the contract to include this clause, if the merger or acquisition occurred prior to inclusion of this clause in the contract.

(3) For long-term contracts--

(i) Within 60 to 120 days prior to the end of the fifth year of the contract; and

(ii) Within 60 to 120 days prior to the date specified in the contract for exercising any option thereafter.

(c) The Contractor shall rerepresent its size status in accordance with the size standard in effect at the time of this rerepresentation that corresponds to the North American Industry Classification System (NAICS) code assigned to this contract. The small business size standard corresponding to this NAICS code can be found at <http://www.sba.gov/services/contractingopportunities/sizestandardsttopics/>.

(d) The small business size standard for a Contractor providing a product which it does not manufacture itself, for a contract other than a construction or service contract, is 500 employees.

(e) Except as provided in paragraph (g) of this clause, the Contractor shall make the rerepresentation required by paragraph (b) of this clause by validating or updating all its representations in the Online Representations and Certifications Application and its data in the Central Contractor Registration, as necessary, to ensure that they reflect the Contractor's current status. The Contractor shall notify the contracting office in writing within the timeframes specified in paragraph (b) of this clause that the data have been validated or updated, and provide the date of the validation or update.

(f) If the Contractor represented that it was other than a small business concern prior to award of this contract, the Contractor may, but is not required to, take the actions required by paragraphs (e) or (g) of this clause.

(g) If the Contractor does not have representations and certifications in ORCA, or does not have a representation in ORCA for the NAICS code applicable to this contract, the Contractor is required to complete the following rerepresentation and submit it to the contracting office, along with the contract number and the date on which the rerepresentation was completed:

The Contractor represents that it ( ) is, ( ) is not a small business concern under NAICS Code - assigned to contract number .

(Contractor to sign and date and insert authorized signer's name and title).

(End of clause)

#### 52.252-2 CLAUSES INCORPORATED BY REFERENCE (FEB 1998)

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at this/these address(es):

<http://farsite.hill.af.mil/VFFARA.HTM>

(End of clause)

#### 252.211-7003 ITEM IDENTIFICATION AND VALUATION (SEP 2010)

(a) Definitions. As used in this clause'

Automatic identification device means a device, such as a reader or interrogator, used to retrieve data encoded on machine-readable media.

Concatenated unique item identifier means--

(1) For items that are serialized within the enterprise identifier, the linking together of the unique identifier data elements in order of the issuing agency code, enterprise identifier, and unique serial number within the enterprise identifier; or

(2) For items that are serialized within the original part, lot, or batch number, the linking together of the unique identifier data elements in order of the issuing agency code; enterprise identifier; original part, lot, or batch number; and serial number within the original part, lot, or batch number.

Data qualifier means a specified character (or string of characters) that immediately precedes a data field that defines the general category or intended use of the data that follows.

DoD recognized unique identification equivalent” means a unique identification method that is in commercial use and has been recognized by DoD. All DoD recognized unique identification equivalents are listed at [http://www.acq.osd.mil/dpap/pdi/uid/iuid\\_equivalents.html](http://www.acq.osd.mil/dpap/pdi/uid/iuid_equivalents.html).

DoD unique item identification means a system of marking items delivered to DoD with unique item identifiers that have machine-readable data elements to distinguish an item from all other like and unlike items. For items that are serialized within the enterprise identifier, the unique item identifier shall include the data elements of the enterprise identifier and a unique serial number. For items that are serialized within the part, lot, or batch number within the enterprise identifier, the unique item identifier shall include the data elements of the enterprise identifier; the original part, lot, or batch number; and the serial number.

Enterprise means the entity (e.g., a manufacturer or vendor) responsible for assigning unique item identifiers to items.

Enterprise identifier means a code that is uniquely assigned to an enterprise by an issuing agency.

Government's unit acquisition cost means--

(1) For fixed-price type line, subline, or exhibit line items, the unit price identified in the contract at the time of delivery;

(2) For cost-type or undefinitized line, subline, or exhibit line items, the Contractor's estimated fully burdened unit cost to the Government at the time of delivery; and

(3) For items produced under a time-and-materials contract, the Contractor's estimated fully burdened unit cost to the Government at the time of delivery.

Issuing agency means an organization responsible for assigning a non-repeatable identifier to an enterprise (i.e., Dun & Bradstreet's Data Universal Numbering System (DUNS) Number, GS1 Company Prefix, or Defense Logistics Information System (DLIS) Commercial and Government Entity (CAGE) Code).

Issuing agency code means a code that designates the registration (or controlling) authority for the enterprise identifier.

Item means a single hardware article or a single unit formed by a grouping of subassemblies, components, or constituent parts.

Lot or batch number means an identifying number assigned by the enterprise to a designated group of items, usually referred to as either a lot or a batch, all of which were manufactured under identical conditions.

Machine-readable means an automatic identification technology media, such as bar codes, contact memory buttons, radio frequency identification, or optical memory cards.

Original part number means a combination of numbers or letters assigned by the enterprise at item creation to a class of items with the same form, fit, function, and interface.

Parent item means the item assembly, intermediate component, or subassembly that has an embedded item with a unique item identifier or DoD recognized unique identification equivalent.

Serial number within the enterprise identifier means a combination of numbers, letters, or symbols assigned by the enterprise to an item that provides for the differentiation of that item from any other like and unlike item and is never used again within the enterprise.

Serial number within the part, lot, or batch number means a combination of numbers or letters assigned by the enterprise to an item that provides for the differentiation of that item from any other like item within a part, lot, or batch number assignment.

Serialization within the enterprise identifier means each item produced is assigned a serial number that is unique among all the tangible items produced by the enterprise and is never used again. The enterprise is responsible for ensuring unique serialization within the enterprise identifier.

Serialization within the part, lot, or batch number means each item of a particular part, lot, or batch number is assigned a unique serial number within that part, lot, or batch number assignment. The enterprise is responsible for ensuring unique serialization within the part, lot, or batch number within the enterprise identifier.

Unique item identifier means a set of data elements marked on items that is globally unique and unambiguous. The term includes a concatenated unique item identifier or a DoD recognized unique identification equivalent.

Unique item identifier type means a designator to indicate which method of uniquely identifying a part has been used. The current list of accepted unique item identifier types is maintained at [http://www.acq.osd.mil/dpap/pdi/uid/uii\\_types.html](http://www.acq.osd.mil/dpap/pdi/uid/uii_types.html).

(b) The Contractor shall deliver all items under a contract line, subline, or exhibit line item.

(c) Unique item identifier.

(1) The Contractor shall provide a unique item identifier for the following:

(i) All delivered items for which the Government's unit acquisition cost is \$5,000 or more.

(ii) The following items for which the Government's unit acquisition cost is less than \$5,000:

NONE

(iii) Subassemblies, components, and parts embedded within delivered items as specified in Attachment Number ----

(2) The unique item identifier and the component data elements of the DoD unique item identification shall not change over the life of the item.

(3) Data syntax and semantics of unique item identifiers. The Contractor shall ensure that--

(i) The encoded data elements (except issuing agency code) of the unique item identifier are marked on the item using one of the following three types of data qualifiers, as determined by the Contractor:

(A) Application Identifiers (AIs) (Format Indicator 05 of ISO/IEC International Standard 15434), in accordance with ISO/IEC International Standard 15418, Information Technology--EAN/UCC Application Identifiers and Fact Data Identifiers and Maintenance and ANSI MH 10.8.2 Data Identifier and Application Identifier Standard.

(B) Data Identifiers (DIs) (Format Indicator 06 of ISO/IEC International Standard 15434), in accordance with ISO/IEC International Standard 15418, Information Technology--EAN/UCC Application Identifiers and Fact Data Identifiers and Maintenance and ANSI MH 10.8.2 Data Identifier and Application Identifier Standard.

(C) Text Element Identifiers (TEIs) (Format Indicator 12 of ISO/IEC International Standard 15434), in accordance with the Air Transport Association Common Support Data Dictionary; and

(ii) The encoded data elements of the unique item identifier conform to the transfer structure, syntax, and coding of messages and data formats specified for Format Indicators 05, 06, and 12 in ISO/IEC International Standard 15434, Information Technology--Transfer Syntax for High Capacity Automatic Data Capture Media.

(4) Unique item identifier.

(i) The Contractor shall--

(A) Determine whether to--

(1) Serialize within the enterprise identifier;

(2) Serialize within the part, lot, or batch number; or

(3) Use a DoD recognized unique identification equivalent; and

(B) Place the data elements of the unique item identifier (enterprise identifier; serial number; DoD recognized unique identification equivalent; and for serialization within the part, lot, or batch number only: original part, lot, or batch number) on items requiring marking by paragraph (c)(1) of this clause, based on the criteria provided in the version of MIL-STD-130, Identification Marking of U.S. Military Property, cited in the contract Schedule.

(ii) The issuing agency code--

(A) Shall not be placed on the item; and

(B) Shall be derived from the data qualifier for the enterprise identifier.

(d) For each item that requires unique item identification under paragraph (c)(1)(i) or (ii) of this clause, in addition to the information provided as part of the Material Inspection and Receiving Report specified elsewhere in this contract, the Contractor shall report at the time of delivery, either as part of, or associated with, the Material Inspection and Receiving Report, the following information:

(1) Unique item identifier.

(2) Unique item identifier type.

(3) Issuing agency code (if concatenated unique item identifier is used).

(4) Enterprise identifier (if concatenated unique item identifier is used).

(5) Original part number (if there is serialization within the original part number).

(6) Lot or batch number (if there is serialization within the lot or batch number).

(7) Current part number (optional and only if not the same as the original part number).

(8) Current part number effective date (optional and only if current part number is used).

(9) Serial number (if concatenated unique item identifier is used).

(10) Government's unit acquisition cost.

(11) Unit of measure.

(e) For embedded subassemblies, components, and parts that require DoD unique item identification under paragraph (c)(1)(iii) of this clause, the Contractor shall report as part of, or associated with, the Material Inspection and Receiving Report specified elsewhere in this contract, the following information:

- (1) Unique item identifier of the parent item under paragraph (c)(1) of this clause that contains the embedded subassembly, component, or part.
- (2) Unique item identifier of the embedded subassembly, component, or part.
- (3) Unique item identifier type.\*\*
- (4) Issuing agency code (if concatenated unique item identifier is used).\*\*
- (5) Enterprise identifier (if concatenated unique item identifier is used).\*\*
- (6) Original part number (if there is serialization within the original part number).\*\*
- (7) Lot or batch number (if there is serialization within the lot or batch number).\*\*
- (8) Current part number (optional and only if not the same as the original part number).\*\*
- (9) Current part number effective date (optional and only if current part number is used).\*\*
- (10) Serial number (if concatenated unique item identifier is used).\*\*
- (11) Description.

\*\* Once per item.

(f) The Contractor shall submit the information required by paragraphs (d) and (e) of this clause in accordance with the data submission procedures at [http://www.acq.osd.mil/dpap/pdi/uid/data\\_submission\\_information.html](http://www.acq.osd.mil/dpap/pdi/uid/data_submission_information.html).

(g) Subcontracts. If the Contractor acquires by subcontract, any item(s) for which unique item identification is required in accordance with paragraph (c)(1) of this clause, the Contractor shall include this clause, including this paragraph (g), in the applicable subcontract(s).

(End of clause)

#### CAR-I10 AUTHORIZED CHANGES ONLY BY THE CONTRACTING OFFICER (JUN 1996) (NSWCCD)

(a) Except as specified in paragraph (b) below, no order, statement, or conduct of Government personnel who visit the Contractor's facilities or in any other manner communicates with Contractor personnel during the performance of this contract shall constitute a change under the "Changes" clause of this contract.

(b) The Contractor shall not comply with any order, direction or request of Government personnel unless it is issued in writing and signed by the Contracting Officer, or is pursuant to specific authority otherwise included as a part of this contract.

(c) The Contracting Officer is the only person authorized to approve changes in any of the requirements of this contract and notwithstanding provisions contained elsewhere in this contract, the said authority remains solely the Contracting Officer's. In the event the contractor effects any change at the direction of any person other than the Contracting Officer, the change will be considered to have been made without authority and no adjustment will be made in the contract price to cover any increase in charges incurred as a result thereof. The address and telephone number of the Contracting Officer is:

**Robert Colot**  
**5001 South Broad Street**  
**Philadelphia, PA 19112-1403**  
**215-897-7060**  
[Robert.Colot@navy.mil](mailto:Robert.Colot@navy.mil)

Section J - List of Documents, Exhibits and Other Attachments

EXHIBIT A: DD FORM 1423 CDRL'S

## CONTRACT DATA REQUIREMENTS LIST

Form Approved  
CMB No. 0704-0188

*Public reporting burden for this collection of information is estimated to average 110 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-2302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503. Please DO NOT RETURN your form to either of these addresses. Send completed form to the Government Issuing Contracting Officer for the Contract. PR No. listed in Block E.*

<b>A. Contract Line Item No.</b> 0001	<b>B. Exhibit</b> A	<b>C. Category</b> TDP <input checked="" type="checkbox"/> TM _____ OTHER _____
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<b>D. System/Item</b> MOPV	<b>E. Contract/PR NO.</b>	<b>F. Contractor</b>
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<b>1. Data Item No.</b> A001	<b>2. Title of Data Item:</b> DESIGN REPORT	<b>3. Subtitle:</b>
---------------------------------	--	---------------------

<b>4. Authority (Data Acquisition Document No.)</b>	<b>5. Contract Reference</b> SPEC PARA- 3.6.1	<b>6. Requiring Office</b> NSWCCD 668
---	--	--

<b>7. DD 250 Req DD</b>	<b>9. Dist Statement Required</b>	<b>10. Frequency ONE/R</b>	<b>12. Date of First Submission</b>	<b>14. Distribution</b> SEE BLK 16				
<b>8. APP Code</b>	B	<b>11. As of Date</b>  30 ADC	<b>13. Date of Subsequent Submission</b>	<b>a. Addressee</b>		<b>b. Copies</b>		
						<b>Draft</b>	<b>Final</b>	
							<b>Reg</b>	<b>Repro</b>

<b>16. REMARKS</b>  ITEMS SHOULD BE SENT TO: NSWCCD CODE 668 ATTN: S. TWEEDIE 4700 S. BROAD STREET PHILADELPHIA, PA 19112-1403  NAVSEA 05P5 ATTN: BRIAN BERCHTOLD 1333 ISAAC HULL AVE SE WASHINGTON NAVY YARD, DC 20376-5149  FINAL VERSION SHALL BE SUBMITTED IN PAPER AND MS WORD FORMAT.									
	NSWCCD 668	1	1						
	NAVSEA 05P5	1	1						
	<b>15. TOTAL</b>	<b>2</b>	<b>2</b>					<b>0</b>	

<b>A. Contract Line Item No.</b> 0002	<b>B. Exhibit</b> A	<b>C. Category</b> TDP <input checked="" type="checkbox"/> TM _____ OTHER _____
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<b>D. System/Item</b> MOPV	<b>E. Contract/PR NO.</b>	<b>F. Contractor</b>
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<b>1. Data Item No.</b> A002	<b>2. Title of Data Item:</b> FIRST ARTICLE TEST PLAN	<b>3. Subtitle:</b>
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<b>4. Authority (Data Acquisition Document No.)</b>	<b>5. Contract Reference</b> SPEC - PARA 4.2.2	<b>6. Requiring Office</b> NSWCCD 668
---	---	--

<b>7. DD 250 Req DD</b>	<b>9. Dist Statement Required</b>	<b>10. Frequency ONE/R</b>	<b>12. Date of First Submission</b>	<b>14. Distribution</b> SEE BLK 16				
<b>8. APP Code</b>	B	<b>11. As of Date</b>  30 ADC	<b>13. Date of Subsequent Submission</b>	<b>a. Addressee</b>		<b>b. Copies</b>		
						<b>Draft</b>	<b>Final</b>	
							<b>Reg</b>	<b>Repro</b>

<b>16. REMARKS</b>  ITEMS SHOULD BE SENT TO: NSWCCD CODE 668 ATTN: S. TWEEDIE 4700 S. BROAD STREET PHILADELPHIA, PA 19112-1403  NAVSEA 05P5 ATTN: BRIAN BERCHTOLD 1333 ISAAC HULL AVE SE WASHINGTON NAVY YARD, DC 20376-5149  FINAL DOCUMENT SHALL BE SUBMITTED IN PAPER AND MS WORD FORMAT.									
	NSWCCD 668	1	1						
	NAVSEA 05P5	1	1						
	<b>15. TOTAL</b>	<b>2</b>	<b>2</b>					<b>0</b>	

<b>G. PREPARED BY</b>	<b>H. DATE</b>	<b>I. APPROVED BY</b>	<b>J. DATE</b>
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# CONTRACT DATA REQUIREMENTS LIST

Form Approved  
CMB No. 0704-0188

*Public reporting burden for this collection of information is estimated to average 110 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-2302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503. Please DO NOT RETURN your form to either of these addresses. Send completed form to the Government Issuing Contracting Officer for the Contract. PR No. listed in Block E.*

<b>A. Contract Line Item No.</b> 0003				<b>B. Exhibit</b> A		<b>C. Category</b> TDP <input checked="" type="checkbox"/> TM _____ OTHER _____												
<b>D. System/Item</b> MOPV					<b>E. Contract/PR NO.</b>			<b>F. Contractor</b>										
<b>1. Data Item No.</b> A003		<b>2. Title of Data Item:</b> ASSEMBLY DRAWING					<b>3. Subtitle:</b>											
<b>4. Authority (Data Acquisition Document No.)</b>					<b>5. Contract Reference</b> SPEC - PARA 3.6.3.2			<b>6. Requiring Office</b> NSWCCD 668										
<b>7. DD 250 Req DD</b>	<b>9. Dist Statement Required</b>		<b>10. Frequency ONE/R</b>	<b>12. Date of First Submission</b>			<b>14. Distribution SEE BLK 16</b>											
<b>8. APP Code</b>	B		<b>11. As of Date</b> 90 ADC	<b>13. Date of Subsequent Submission</b>			<b>a. Addressee</b>		<b>b. Copies</b>									
<b>16. REMARKS</b>  ITEMS SHOULD BE SENT TO: NSWCCD CODE 668 ATTN: S. TWEEDIE 4700 S. BROAD STREET PHILADELPHIA, PA 19112-1403  NAVSEA 05P5 ATTN: BRIAN BERCHTOLD 1333 ISAAC HULL AVE SE WASHINGTON NAVY YARD, DC 20376-5149  FINAL VERSION SHALL BE SUBMITTED IN PAPER AND MS WORD FORMAT.								NSWCCD 668	1	1								
												NAVSEA 05P5	1	1				
<b>15. TOTAL</b>	2	2	0															

<b>A. Contract Line Item No.</b> 0004				<b>B. Exhibit</b> A		<b>C. Category</b> TDP <input checked="" type="checkbox"/> TM _____ OTHER _____												
<b>D. System/Item</b> MOPV					<b>E. Contract/PR NO.</b>			<b>F. Contractor</b>										
<b>1. Data Item No.</b> A004		<b>2. Title of Data Item:</b> DETAIL DRAWINGS					<b>3. Subtitle:</b>											
<b>4. Authority (Data Acquisition Document No.)</b>					<b>5. Contract Reference</b> SPEC - PARA 3.6.3.1			<b>6. Requiring Office</b> NSWCCD 668										
<b>7. DD 250 Req DD</b>	<b>9. Dist Statement Required</b>		<b>10. Frequency ONE/R</b>	<b>12. Date of First Submission</b>			<b>14. Distribution SEE BLK 16</b>											
<b>8. APP Code</b>	B		<b>11. As of Date</b> 90 ADC	<b>13. Date of Subsequent Submission</b>			<b>a. Addressee</b>		<b>b. Copies</b>									
<b>16. REMARKS</b>  ITEMS SHOULD BE SENT TO: NSWCCD CODE 668 ATTN: S. TWEEDIE 4700 S. BROAD STREET PHILADELPHIA, PA 19112-1403  NAVSEA 05P5 ATTN: BRIAN BERCHTOLD 1333 ISAAC HULL AVE SE WASHINGTON NAVY YARD, DC 20376-5149  FINAL DRAWING SHALL BE SUBMITTED IN PAPER AND AUTOCAD FORMAT.								NSWCCD 668	1	1								
												NAVSEA 05P5	1	1				
<b>15. TOTAL</b>	2	2																

# CONTRACT DATA REQUIREMENTS LIST

Form Approved  
CMB No. 0704-0188

*Public reporting burden for this collection of information is estimated to average 110 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-2302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503. Please DO NOT RETURN your form to either of these addresses. Send completed form to the Government Issuing Contracting Officer for the Contract. PR No. listed in Block E.*

A. Contract Line Item No. <b>0005</b>				B. Exhibit <b>A</b>		C. Category TDP <input checked="" type="checkbox"/> TM _____ OTHER _____				
D. System/Item <b>MOPV</b>					E. Contract/PR NO.			F. Contractor		
1. Data Item No. <b>A005</b>		2. Title of Data Item: <b>WIRING LIST AND DIAGRAM</b>					3. Subtitle:			
4. Authority (Data Acquisition Document No.)				5. Contract Reference <b>SPEC - PARA 3.6.3.3</b>			6. Requiring Office <b>NSWCCD 668</b>			
7. DD 250 Req <b>DD</b>	9. Dist Statement Required <b>B</b>		10. Frequency <b>ONE/R</b>	12. Date of First Submission		14. Distribution <b>SEE BLK 16</b>				
8. APP Code			11. As of Date <b>90 ADC</b>	13. Date of Subsequent Submission		a. Addressee		b. Copies		
16. REMARKS  ITEM SHOULD BE SENT TO:  NSWCCD CODE 668 ATTN: S. TWEEDIE 4700 S. BROAD STREET PHILADELPHIA, PA 19112-1403  NAVSEA 05P5 ATTN: BRIAN BERCHTOLD 1333 ISAAC HULL AVE SE WASHINGTON NAVY YARD, DC 20376-5149  FINAL DOCUMENT SHALL BE SUBMITTED IN PAPER AND ELECTRONIC (AUTO CAD/MS WORD) FORMAT.						NSWCCD 668		1	1	
						NAVSEA 05P5		1	1	
						<b>15. TOTAL</b>		<b>2</b>	<b>2</b>	
A. Contract Line Item No. <b>0006</b>				B. Exhibit <b>A</b>		C. Category TDP <input checked="" type="checkbox"/> TM _____ OTHER _____				
D. System/Item <b>MOPV</b>					E. Contract/PR NO.			F. Contractor		
1. Data Item No. <b>A006</b>		2. Title of Data Item: <b>FIRST ARTICLE TEST REPORT</b>					3. Subtitle:			
4. Authority (Data Acquisition Document No.)				5. Contract Reference <b>SPEC PARA 4.5</b>			6. Requiring Office <b>NSWCCD 668</b>			
7. DD 250 Req <b>DD</b>	9. Dist Statement Required <b>B</b>		10. Frequency <b>ONE/R</b>	12. Date of First Submission		14. Distribution <b>SEE BLK 16</b>				
8. APP Code			11. As of Date <b>135 ADC</b>	13. Date of Subsequent Submission		a. Addressee		b. Copies		
16. REMARKS  ITEMS SHOULD BE SENT TO:  NSWCCD CODE 668 ATTN: S. TWEEDIE 4700 S. BROAD STREET PHILADELPHIA, PA 19112-1403  NAVSEA 05P5 ATTN: BRIAN BERCHTOLD 1333 ISAAC HULL AVE SE WASHINGTON NAVY YARD, DC 20376-5149  FINAL PACKAGE SHALL BE SUBMITTED IN PAPER AND MS WORD FORMAT.						NSWCCD 668		1	1	
						NAVSEA 05P5		1	1	
						<b>15. TOTAL</b>		<b>2</b>	<b>2</b>	



# CONTRACT DATA REQUIREMENTS LIST

Form Approved  
CMB No. 0704-0188

*Public reporting burden for this collection of information is estimated to average 110 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-2302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503. Please DO NOT RETURN your form to either of these addresses. Send completed form to the Government Issuing Contracting Officer for the Contract. PR No. listed in Block E.*

<b>A. Contract Line Item No.</b> 0010			<b>B. Exhibit</b> A		<b>C. Category</b> TDP <u>  X  </u> TM _____ OTHER _____			
<b>D. System/Item</b> MOPV				<b>E. Contract/PR NO.</b>		<b>F. Contractor</b>		
<b>1. Data Item No.</b> A009		<b>2. Title of Data Item:</b> STATUS REPORTS				<b>3. Subtitle:</b>		
<b>4. Authority (Data Acquisition Document No.)</b>				<b>5. Contract Reference</b>		<b>6. Requiring Office</b> NSWCCD 668		
<b>7. DD 250 Req DD</b>	<b>9. Dist Statement Required B</b>	<b>10. Frequency BI-WEEKLY</b>	<b>12. Date of First Submission 14 ADC</b>		<b>14. Distribution SEE BLK 16</b>			
<b>8. APP Code</b>		<b>11. As of Date 14 ADC</b>	<b>13. Date of Subsequent Submission 14 DAYS</b>		<b>a. Addressee</b>	<b>b. Copies</b>		
						<b>Draft</b>	<b>Final</b>	
							<b>Reg</b>	<b>Repro</b>
<b>16. REMARKS</b>  STATUS REPORTS MUST PROVIDE PROMPT REPORTING OF ANY ISSUES WITH SCHEDULE OR NON-CONFORMING TEST RESULTS.  ITEMS SHOULD BE SENT TO: NSWCCD CONTRACTING CODE, AND NSWCCD 668 ATTN: SCOTT TWEEDIE INCLUDING EMAIL REPORT TO <a href="mailto:scott.tweedie@navy.mil">scott.tweedie@navy.mil</a>					NSWCCD-668		1	
					<b>15. TOTAL</b>		1	
<b>G. PREPARED BY</b>				<b>H. DATE</b>		<b>I. APPROVED BY</b>		<b>J. D</b>

## Section K - Representations, Certifications and Other Statements of Offerors

## CLAUSES INCORPORATED BY REFERENCE

52.225-20	Prohibition on Conducting Restricted Business Operations in Sudan--Certification	AUG 2009
52.225-25	Prohibition on Engaging in Sanctioned Activities Relating to Iran--Certification.	SEP 2010
252.209-7001	Disclosure of Ownership or Control by the Government of a Terrorist Country	JAN 2009
252.209-7002	Disclosure Of Ownership Or Control By A Foreign Government	JUN 2010
252.227-7028	Technical Data or Computer Software Previously Delivered to the Government	JUN 1995

## CLAUSES INCORPORATED BY FULL TEXT

## 52.204-8 ANNUAL REPRESENTATIONS AND CERTIFICATIONS (JAN 2011)

(a)(1) The North American Industry Classification System (NAICS) code for this acquisition is 332912.

(2) The small business size standard is 500.

(3) The small business size standard for a concern which submits an offer in its own name, other than on a construction or service contract, but which proposes to furnish a product which it did not itself manufacture, is 500 employees.

(b)(1) If the clause at 52.204-7, Central Contractor Registration, is included in this solicitation, paragraph (d) of this provision applies.

(2) If the clause at 52.204-7 is not included in this solicitation, and the offeror is currently registered in CCR, and has completed the ORCA electronically, the offeror may choose to use paragraph (d) of this provision instead of completing the corresponding individual representations and certifications in the solicitation. The offeror shall indicate which option applies by checking one of the following boxes:

Paragraph (d) applies.

Paragraph (d) does not apply and the offeror has completed the individual representations and certifications in the solicitation.

(c)(1) The following representations or certifications in ORCA are applicable to this solicitation as indicated:

(i) 52.203-2, Certificate of Independent Price Determination. This provision applies to solicitations when a firm-fixed-price contract or fixed-price contract with economic price adjustment is contemplated, unless--

(A) The acquisition is to be made under the simplified acquisition procedures in Part 13;

(B) The solicitation is a request for technical proposals under two-step sealed bidding procedures; or

(C) The solicitation is for utility services for which rates are set by law or regulation.

(ii) 52.203-11, Certification and Disclosure Regarding Payments to Influence Certain Federal Transactions. This provision applies to solicitations expected to exceed \$150,000.

- (iii) 52.204-3, Taxpayer Identification. This provision applies to solicitations that do not include the clause at 52.204-7, Central Contractor Registration.
- (iv) 52.204-5, Women-Owned Business (Other Than Small Business). This provision applies to solicitations that--
- (A) Are not set aside for small business concerns;
  - (B) Exceed the simplified acquisition threshold; and
  - (C) Are for contracts that will be performed in the United States or its outlying areas.
- (v) 52.209-5, Certification Regarding Responsibility Matters. This provision applies to solicitations where the contract value is expected to exceed the simplified acquisition threshold.
- (vi) 52.214-14, Place of Performance--Sealed Bidding. This provision applies to invitations for bids except those in which the place of performance is specified by the Government.
- (vii) 52.215-6, Place of Performance. This provision applies to solicitations unless the place of performance is specified by the Government.
- (viii) 52.219-1, Small Business Program Representations (Basic & Alternate I). This provision applies to solicitations when the contract will be performed in the United States or its outlying areas.
- (A) The basic provision applies when the solicitations are issued by other than DoD, NASA, and the Coast Guard.
  - (B) The provision with its Alternate I applies to solicitations issued by DoD, NASA, or the Coast Guard.
- (ix) 52.219-2, Equal Low Bids. This provision applies to solicitations when contracting by sealed bidding and the contract will be performed in the United States or its outlying areas.
- (x) 52.222-22, Previous Contracts and Compliance Reports. This provision applies to solicitations that include the clause at 52.222-26, Equal Opportunity.
- (xi) 52.222-25, Affirmative Action Compliance. This provision applies to solicitations, other than those for construction, when the solicitation includes the clause at 52.222-26, Equal Opportunity.
- (xii) 52.222-38, Compliance with Veterans' Employment Reporting Requirements. This provision applies to solicitations when it is anticipated the contract award will exceed the simplified acquisition threshold and the contract is not for acquisition of commercial items.
- (xiii) 52.223-1, Biobased Product Certification. This provision applies to solicitations that require the delivery or specify the use of USDA-designated items; or include the clause at 52.223-2, Affirmative Procurement of Biobased Products Under Service and Construction Contracts.
- (xiv) 52.223-4, Recovered Material Certification. This provision applies to solicitations that are for, or specify the use of, EPA-designated items.
- (xv) 52.225-2, Buy American Act Certificate. This provision applies to solicitations containing the clause at 52.225-1.
- (xvi) 52.225-4, Buy American Act--Free Trade Agreements—Israeli Trade Act Certificate. (Basic, Alternate I, and Alternate II) This provision applies to solicitations containing the clause at 52.225-3.
- (A) If the acquisition value is less than \$25,000, the basic provision applies.

(B) If the acquisition value is \$25,000 or more but is less than \$50,000, the provision with its Alternate I applies.

(C) If the acquisition value is \$50,000 or more but is less than \$67,826, the provision with its Alternate II applies.

(xvii) 52.225-6, Trade Agreements Certificate. This provision applies to solicitations containing the clause at 52.225-5.

(xviii) 52.225-20, Prohibition on Conducting Restricted Business Operations in Sudan--Certification. This provision applies to all solicitations.

(xix) 52.225-25, Prohibition on Engaging in Sanctioned Activities Relating to Iran--Certification. This provision applies to all solicitations.

(xx) 52.226-2, Historically Black College or University and Minority Institution Representation. This provision applies to--

(A) Solicitations for research, studies, supplies, or services of the type normally acquired from higher educational institutions; and

(B) For DoD, NASA, and Coast Guard acquisitions, solicitations that contain the clause at 52.219-23, Notice of Price Evaluation Adjustment for Small Disadvantaged Business Concerns.

(2) The following certifications are applicable as indicated by the Contracting Officer:

(Contracting Officer check as appropriate.)

-----(i) 52.219-22, Small Disadvantaged Business Status.

----- (A) Basic.

----- (B) Alternate I.

----- (ii) 52.222-18, Certification Regarding Knowledge of Child Labor for Listed End Products.

----- (iii) 52.222-48, Exemption from Application of the Service Contract Act to Contracts for Maintenance, Calibration, or Repair of Certain Equipment Certification.

----- (iv) 52.222-52 Exemption from Application of the Service Contract Act to Contracts for Certain Services-- Certification.

----- (v) 52.223-9, with its Alternate I, Estimate of Percentage of Recovered Material Content for EPA-Designated Products (Alternate I only).

----- (vi) 52.223-13, Certification of Toxic Chemical Release Reporting.

----- (vii) 52.227-6, Royalty Information.

----- (A) Basic.

----- (B) Alternate I.

----- (viii) 52.227-15, Representation of Limited Rights Data and Restricted Computer Software.

(d) The offeror has completed the annual representations and certifications electronically via the Online Representations and Certifications Application (ORCA) website at <http://orca.bpn.gov>. After reviewing the ORCA database information, the offeror verifies by submission of the offer that the representations and certifications

currently posted electronically that apply to this solicitation as indicated in paragraph (c) of this provision have been entered or updated within the last 12 months, are current, accurate, complete, and applicable to this solicitation (including the business size standard applicable to the NAICS code referenced for this solicitation), as of the date of this offer and are incorporated in this offer by reference (see FAR 4.1201); except for the changes identified below (offeror to insert changes, identifying change by clause number, title, date). These amended representation(s) and/or certification(s) are also incorporated in this offer and are current, accurate, and complete as of the date of this offer.

FAR Clause	Title	Date	Change
-----	-----	-----	-----

Any changes provided by the offeror are applicable to this solicitation only, and do not result in an update to the representations and certifications posted on ORCA.

(End of Provision)

52.209-7 INFORMATION REGARDING RESPONSIBILITY MATTERS (APR 2010)

(a) Definitions. As used in this provision--

Administrative proceeding means a non-judicial process that is adjudicatory in nature in order to make a determination of fault or liability (e.g., Securities and Exchange Commission Administrative Proceedings, Civilian Board of Contract Appeals Proceedings, and Armed Services Board of Contract Appeals Proceedings). This includes administrative proceedings at the Federal and State level but only in connection with performance of a Federal contract or grant. It does not include agency actions such as contract audits, site visits, corrective plans, or inspection of deliverables.

Federal contracts and grants with total value greater than \$10,000,000 means--

- (1) The total value of all current, active contracts and grants, including all priced options; and
- (2) The total value of all current, active orders including all priced options under indefinite-delivery, indefinite-quantity, 8(a), or requirements contracts (including task and delivery and multiple-award Schedules).

(b) The offeror ( ) has ( ) does not have current active Federal contracts and grants with total value greater than \$10,000,000.

(c) If the offeror checked “has” in paragraph (b) of this provision, the offeror represents, by submission of this offer, that the information it has entered in the Federal Awardee Performance and Integrity Information System (FAPIIS) is current, accurate, and complete as of the date of submission of this offer with regard to the following information:

(1) Whether the offeror, and/or any of its principals, has or has not, within the last five years, in connection with the award to or performance by the offeror of a Federal contract or grant, been the subject of a proceeding, at the Federal or State level that resulted in any of the following dispositions:

- (i) In a criminal proceeding, a conviction.
- (ii) In a civil proceeding, a finding of fault and liability that results in the payment of a monetary fine, penalty, reimbursement, restitution, or damages of \$5,000 or more.
- (iii) In an administrative proceeding, a finding of fault and liability that results in--

(A) The payment of a monetary fine or penalty of \$5,000 or more; or

(B) The payment of a reimbursement, restitution, or damages in excess of \$100,000.

(iv) In a criminal, civil, or administrative proceeding, a disposition of the matter by consent or compromise with an acknowledgment of fault by the Contractor if the proceeding could have led to any of the outcomes specified in paragraphs (c)(1)(i), (c)(1)(ii), or (c)(1)(iii) of this provision.

(2) If the offeror has been involved in the last five years in any of the occurrences listed in (c)(1) of this provision, whether the offeror has provided the requested information with regard to each occurrence.

(d) The offeror shall enter the information in paragraphs (c)(1)(i) through (c)(1)(iv) of this provision in FAPIIS as required through maintaining an active registration in the Central Contractor Registration database at <http://www.ccr.gov> (see 52.204-7).

Principal means an officer, director, owner, partner, or a person having primary management or supervisory responsibilities within a business entity (e.g., general manager; plant manager; head of a division or business segment; and similar positions).

(End of provision)

#### 52.225-18 PLACE OF MANUFACTURE (SEP 2006)

(a) Definitions. As used in this clause--

Manufactured end product means any end product in Federal Supply Classes (FSC) 1000-9999, except--

- (1) FSC 5510, Lumber and Related Basic Wood Materials;
- (2) Federal Supply Group (FSG) 87, Agricultural Supplies;
- (3) FSG 88, Live Animals;
- (4) FSG 89, Food and Related Consumables;
- (5) FSC 9410, Crude Grades of Plant Materials;
- (6) FSC 9430, Miscellaneous Crude Animal Products, Inedible;
- (7) FSC 9440, Miscellaneous Crude Agricultural and Forestry Products;
- (8) FSC 9610, Ores;
- (9) FSC 9620, Minerals, Natural and Synthetic; and
- (10) FSC 9630, Additive Metal Materials.

Place of manufacture means the place where an end product is assembled out of components, or otherwise made or processed from raw materials into the finished product that is to be provided to the Government. If a product is disassembled and reassembled, the place of reassembly is not the place of manufacture.

(b) For statistical purposes only, the offeror shall indicate whether the place of manufacture of the end products it expects to provide in response to this solicitation is predominantly--

(1) ( ) In the United States (Check this box if the total anticipated price of offered end products manufactured in the United States exceeds the total anticipated price of offered end products manufactured outside the United States); or

(2) ( ) Outside the United States.

(End of provision)

#### 252.204-7003 CONTROL OF GOVERNMENT PERSONNEL WORK PRODUCT (APR 1992)

The Contractor's procedures for protecting against unauthorized disclosure of information shall not require Department of Defense employees or members of the Armed Forces to relinquish control of their work products, whether classified or not, to the contractor.

(End of clause)

#### 252.211-7007 REPORTING OF GOVERNMENT-FURNISHED EQUIPMENT IN THE DOD ITEM UNIQUE IDENTIFICATION (IUID) REGISTRY (NOV 2008)

(a) Definitions. As used in this clause--

2D data matrix symbol means the 2-dimensional Data Matrix ECC 200 as specified by International Standards Organization/International Electrotechnical Commission (ISO/IEC) Standard 16022: Information Technology--International Symbology Specification--Data Matrix.

Acquisition cost, for Government-furnished equipment, means the amount identified in the contract, or in the absence of such identification, the item's fair market value.

Concatenated unique item identifier means--

(1) For items that are serialized within the enterprise identifier, the linking together of the unique identifier data elements in order of the issuing agency code, enterprise identifier, and unique serial number within the enterprise identifier; e.g., the enterprise identifier along with the contractor's property internal identification, i.e., tag number is recognized as the serial number; or

(2) For items that are serialized within the original part, lot, or batch number, the linking together of the unique identifier data elements in order of the issuing agency code; enterprise identifier; original part, lot, or batch number; and serial number within the original part, lot, or batch number.

Equipment means a tangible item that is functionally complete for its intended purpose, durable, nonexpendable, and needed for the performance of a contract. Equipment is not intended for sale, and does not ordinarily lose its identity or become a component part of another article when put into use.

Government-furnished equipment means an item of special tooling, special test equipment, or equipment, in the possession of, or directly acquired by, the Government and subsequently furnished to the Contractor (including subcontractors and alternate locations) for the performance of a contract.

Item means equipment, special tooling, or special test equipment, to include such equipment, special tooling, or special test equipment that is designated as serially managed, mission essential, sensitive, or controlled inventory (if previously identified as such in accordance with the terms and conditions of the contract).

Item unique identification (IUID) means a system of assigning, reporting, and marking DoD property with unique item identifiers that have machine-readable data elements to distinguish an item from all other like and unlike items.

IUID Registry means the DoD data repository that receives input from both industry and Government sources and provides storage of, and access to, data that identifies and describes tangible Government personal property.

Material means property that may be consumed or expended during the performance of a contract, component parts of a higher assembly, or items that lose their individual identity through incorporation into an end item. Material does not include equipment, special tooling, or special test equipment.

Reparable means an item, typically in unserviceable condition, furnished to the Contractor for maintenance, repair, modification, or overhaul.

Sensitive item means an item potentially dangerous to public safety or security if stolen, lost, or misplaced, or that shall be subject to exceptional physical security, protection, control, and accountability. Examples include weapons, ammunition, explosives, controlled substances, radioactive materials, hazardous materials or wastes, or precious metals.

Serially managed item means an item designated by DoD to be uniquely tracked, controlled, or managed in maintenance, repair, and/or supply systems by means of its serial number.

Special test equipment means either single or multipurpose integrated test units engineered, designed, fabricated, or modified to accomplish special purpose testing in performing a contract. It consists of items or assemblies of equipment including foundations and similar improvements necessary for installing special test equipment, and standard or general purpose items or components that are interconnected and interdependent so as to become a new functional entity for special testing purposes. Special test equipment does not include material, special tooling, real property, or equipment items used for general testing purposes, or property that with relatively minor expense can be made suitable for general purpose use.

Special tooling means jigs, dies, fixtures, molds, patterns, taps, gauges, and all components of these items, including foundations and similar improvements necessary for installing special tooling, and which are of such a specialized nature that without substantial modification or alteration their use is limited to the development or production of particular supplies or parts thereof or to the performance of particular services. Special tooling does not include material, special test equipment, real property, equipment, machine tools, or similar capital items.

Unique item identifier (UII) means a set of data elements permanently marked on an item that is globally unique and unambiguous and never changes, in order to provide traceability of the item throughout its total life cycle. The term includes a concatenated UII or a DoD recognized unique identification equivalent.

Virtual UII means the UII data elements assigned to an item that is not marked with a DoD compliant 2D data matrix symbol, e.g., enterprise identifier, part number, and serial number; or the enterprise identifier along with the Contractor's property internal identification, i.e., tag number.

(b) Requirement for item unique identification of Government-furnished equipment. Except as provided in paragraph (c) of this clause--

(1) Contractor accountability and management of Government-furnished equipment shall be performed at the item level; and

(2) Unless provided by the Government, the Contractor shall establish a virtual UII or a DoD recognized unique identification for items that are--

(i) Valued at \$5,000 or more in unit acquisition cost; or

(ii) Valued at less than \$5,000 in unit acquisition cost and are serially managed, mission essential, sensitive, or controlled inventory, as identified in accordance with the terms and conditions of the contract.

(c) Exceptions. Paragraph (b) of this clause does not apply to--

- (1) Government-furnished material;
- (2) Reparables;
- (3) Contractor-acquired property;
- (4) Property under any statutory leasing authority;
- (5) Property to which the Government has acquired a lien or title solely because of partial, advance, progress, or performance-based payments;
- (6) Intellectual property or software; or
- (7) Real property.

(d) Procedures for establishing UIIs. To permit reporting of virtual UIIs to the DoD IUID Registry, the Contractor's property management system shall enable the following data elements in addition to those required by paragraph (f)(1)(iii) of the Government Property clause of this contract (FAR 52.245-1):

- (1) Parent UII.
- (2) Concatenated UII.
- (3) Received/Sent (shipped) date.
- (4) Status code.
- (5) Current part number (if different from the original part number).
- (6) Current part number effective date.
- (7) Category code ("E" for equipment).
- (8) Contract number.
- (9) Commercial and Government Entity (CAGE) code.
- (10) Mark record.
  - (i) Bagged or tagged code (for items too small to individually tag or mark).
  - (ii) Contents (the type of information recorded on the item, e.g., item internal control number).
  - (iii) Effective date (date the mark is applied).
  - (iv) Added or removed code/flag.
  - (v) Marker code (designates which code is used in the marker identifier, e.g., D=CAGE, UN=DUNS, LD=DODAAC).
  - (vi) Marker identifier, e.g., Contractor's CAGE code or DUNS number.
  - (vii) Medium code; how the data is recorded, e.g., barcode, contact memory button.

(viii) Value, e.g., actual text or data string that is recorded in its human readable form.

(ix) Set (used to group marks when multiple sets exist); for the purpose of this clause, this defaults to "one (1)".

(e) Procedures for updating the DoD IUID Registry. The Contractor shall update the DoD IUID Registry at <https://www.bpn.gov/iuid> for changes in status, mark, custody, or disposition of items--

(1) Delivered or shipped from the Contractor's plant, under Government instructions, except when shipment is to a subcontractor or other location of the Contractor;

(2) Consumed or expended, reasonably and properly, or otherwise accounted for, in the performance of the contract as determined by the Government property administrator, including reasonable inventory adjustments;

(3) Disposed of; or

(4) Transferred to a follow-on or other contract.

(End of clause)

#### CAR-K01 ELECTRONIC DISTRIBUTION OF CONTRACT DOCUMENTS (APR 2006)

(a) The DoD Electronic Document Access (EDA) provides World Wide Web access to documents used to support the procurement, contract administration, bill paying, and accounting processes. EDA is being used by the Naval Surface Warfare Center, Carderock Division to electronically distribute all contract award and contract modification documents, including task and delivery orders. The contractor will be sent a notification email when a contractual document has been uploaded for distribution. The contractor will be required to register as a vendor on the EDA web site (<http://eda.ogden.disa.mil>) in order to view/download their company's contractual documents. The files posted are in .pdf format and may be accessed using Adobe Acrobat Reader. Adobe Acrobat Reader is a free software that may be downloaded at <http://www.adobe.com/products/acrobat/readstep.html>.

(b) Offerors must provide the following information that will be used to make electronic distribution for any resultant contract.

Name of Point of Contact \_\_\_\_\_

Phone Number for Point of Contact \_\_\_\_\_

E-mail Address for Receipt of Electronic Distribution \_\_\_\_\_

## Section L - Instructions, Conditions and Notices to Bidders

## CLAUSES INCORPORATED BY REFERENCE

52.214-34	Submission Of Offers In The English Language	APR 1991
52.214-35	Submission Of Offers In U.S. Currency	APR 1991
52.215-1	Instructions to Offerors--Competitive Acquisition	JAN 2004
52.215-20 Alt I	Requirements for Certified Cost or Pricing Data or Information Other Than Certified Cost or Pricing Data (Oct 2010) - Alternate I	OCT 2010
52.252-5	Authorized Deviations In Provisions	APR 1984
252.227-7017	Identification and Assertion of Use, Release, or Disclosure Restrictions	JUN 1995

## CLAUSES INCORPORATED BY FULL TEXT

## 52.211-2 AVAILABILITY OF SPECIFICATIONS, STANDARDS, AND DATA ITEM DESCRIPTIONS LISTED IN THE ACQUISITION STREAMLINING AND STANDARDIZATION INFORMATION SYSTEM (ASSIST) (JAN 2006)

(a) Most unclassified Defense specifications and standards may be downloaded from the following ASSIST websites:

- (1) ASSIST (<http://assist.daps.dla.mil>);
- (2) Quick Search (<http://assist.daps.dla.mil/quicksearch>);
- (3) ASSISTdocs.com (<http://assistdocs.com>).

(b) Documents not available from ASSIST may be ordered from the Department of Defense Single Stock Point (DoDSSP) by--

- (1) Using the ASSIST Shopping Wizard (<http://assist.daps.dla.mil/wizard>);
- (2) Phoning the DoDSSP Customer Service Desk (215) 697-2179, Mon-Fri, 0730 to 1600 EST; or
- (3) Ordering from DoDSSP, Building 4, Section D, 700 Robbins Avenue, Philadelphia, PA 19111-5094, Telephone (215) 697-2667/2179, Facsimile (215) 697-1462.

(End of provision)

## 52.211-14 NOTICE OF PRIORITY RATING FOR NATIONAL DEFENSE, EMERGENCY PREPAREDNESS, AND ENERGY PROGRAM USE (APR 2008)

Any contract awarded as a result of this solicitation will be  DX rated order;  DO rated order certified for national defense, emergency preparedness, and energy program use under the Defense Priorities and Allocations System (DPAS) (15 CFR 700), and the Contractor will be required to follow all of the requirements of this regulation. [Contracting Officer check appropriate box.]

(End of provision)

## 52.216-1 TYPE OF CONTRACT (APR 1984)

The Government contemplates award of a FFP IDIQ contract resulting from this solicitation.

(End of provision)

## 52.233-2 SERVICE OF PROTEST (SEP 2006)

(a) Protests, as defined in section 33.101 of the Federal Acquisition Regulation, that are filed directly with an agency, and copies of any protests that are filed with the Government Accountability Office (GAO), shall be served on the Contracting Officer (addressed as follows) by obtaining written and dated acknowledgment of receipt from

Robert Colot  
Naval Surface Warfare Center, Carderock Division  
5001 South Broad Street, Building 4  
Philadelphia, PA 19112-1403  
215-897-7060  
[robert.colot@navy.mil](mailto:robert.colot@navy.mil)

(b) The copy of any protest shall be received in the office designated above within one day of filing a protest with the GAO.

(End of provision)

## 52.252-1 SOLICITATION PROVISIONS INCORPORATED BY REFERENCE (FEB 1998)

This solicitation incorporates one or more solicitation provisions by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. The offeror is cautioned that the listed provisions may include blocks that must be completed by the offeror and submitted with its quotation or offer. In lieu of submitting the full text of those provisions, the offeror may identify the provision by paragraph identifier and provide the appropriate information with its quotation or offer. Also, the full text of a solicitation provision may be accessed electronically at this/these address(es):

<http://www.arnet.gov/far>

<http://farsite.hill.af.mil>

(End of provision)

## CAR-L02 SINGLE AWARD FOR ALL ITEMS (JUN 1996) (NSWCCD)

Due to the interrelationship of supplies and/or services to be provided hereunder, the Government reserves the right to make a single award to the offeror whose offer is considered in the best interest of the Government, price and other factors considered. Therefore, offerors proposing less than the entire effort specified herein may be determined to be unacceptable.

## CAR-L11 PROPOSAL PREPARATION REQUIREMENT (JUL 2007) (NSWCCD)

It is requested that offerors prepare their proposals in accordance with the following organization, content and format requirements to assist the government in making a complete and thorough evaluation of all proposals. Proposals shall be submitted as three separate documents, as follows:

Documents	Original	Copies
Solicitation, Offer and Award Document (SF-33)	1	0
Technical Proposal	1	5

The "originals" shall be clearly identified as the "ORIGINAL", and bear the original signature(s) of the offeror. The "copies" shall be complete and clearly identified as "COPY" or "DUPLICATE".

**The proposal documents SHALL NOT be embellished with any cover or binding. The five (5) copies of the technical proposal shall be printed double-sided.**

**In order to facilitate the evaluation process, it is requested that offerors also submit their cost proposal spreadsheets on compact disk or .pdf via e-mail (in addition to the hard copy requirements stated above).** It is requested that spreadsheet files be compatible with Microsoft Windows 2000 Professional, and Microsoft Office Excel 2003 or 2007. The submission of spreadsheet files on compact disk or via e-mail in no way relinquishes the offeror's responsibility to provide hard copies of the cost proposal.

## (1) SOLICITATION, OFFER AND AWARD DOCUMENTS (SF-33 RFP)

This document, which may be used as part of the contract award document, shall be fully executed and returned as a separate document from the technical and cost proposals. Special attention should be taken to accurately enter the prices required in Section B, complete all Representations and Certifications in Section K and ensure that an authorized person signs the offer in Block 17 of Page 1.

*If the offeror makes any qualifications to any provisions in the RFP, all such qualifications shall be listed in a cover letter to the proposal. Qualifications may also be annotated on the Solicitation, Offer and Award document, if such annotation is necessary to clarify the qualifications.*

## (2) TECHNICAL PROPOSAL

The technical/management proposal should be written so that management and engineering oriented personnel can make a thorough evaluation and arrive at a sound determination as to whether the proposal meets the requirements of this solicitation. To this end, the technical proposal shall be so specific, detailed and complete as to clearly and fully demonstrate that the prospective contractor has a thorough understanding of the technical requirements contained in Section C of this solicitation.

Statements such as "the offeror understands," "will comply with the statement of work," "standard procedures will be employed," "well known techniques will be used" and general paraphrasing of the statement of work are considered inadequate. The technical proposal shall provide details concerning what the contractor will do and how it will be done. This includes a full explanation of the techniques, disciplines, and procedures proposed to be followed.

The technical proposal shall not contain any reference to cost; however, information concerning labor allocation and categories, consultants, travel, materials, equipment and any information of interest to technical reviewers shall be contained in the technical proposal in sufficient detail so that the offeror's understanding of the scope of the work may be adequately evaluated. The technical proposal shall be page numbered, contain a table of contents, be organized in the following sections, and shall address in detail the information identified below.

It is noted that the entire technical proposal shall not exceed **twenty two (22) pages** in length (not including resumes, subcontracting plan, if applicable, and the report of the Operational Test of Valve, which shall not exceed **ten (10) pages** in length).

**INTRODUCTION (Maximum: 2 pages)**

This section shall provide any necessary background information and an overview of the proposal which the offeror believes will assist in the understanding and accurate evaluation of the proposal.

**SECTION 1****FACTOR 1A – OPERATIONAL TEST OF VALVE**

Offerors shall accomplish the Operational Test of Valve indicated below prior to submission of proposals and include a report of the tests as appendix A of the proposal. The report shall include test procedures, location of tests, test report, and the exact configuration of the valve tested, including differences between this configuration and the configuration of the offered MOPV. This report of the tests does not count against the proposal page limit, but shall not exceed ten pages in length. At a minimum, the valve being tested shall consist of the following components: the valve body, valve internals, and any seals, seats, and/or O-rings to demonstrate the hydraulic portion of the MOPV. Seating surfaces and seals in the valve being tested shall consist of the same material as in the MOPV being offered. The valve being tested does not have to include the motor actuator or any other electrical components of the MOPV being offered.

**Operational Test of Valve**

The series of tests in this section are not inclusive of all operating scenarios but are intended to demonstrate the performance within the defined design conditions. The following operation tests shall be performed:

a. Hydrostatic Leak Test: The valve shall be tested under hydrostatic pressure at  $240 \pm 10$  psig using clean water. The test pressure shall be applied to each outlet port (per Figure 5 of the Technical Specification, Section C of the solicitation), port 1 and port 2, with all other ports plugged. The test shall be performed with the valve in all possible alignment configurations. The duration of pressure application in each configuration is a minimum of ten minutes. Report any leakage, sweating, or visible deformation at any point on the valve surface during and/or upon completion of the test.

b. Dirty Water Life Cycle Testing: The MOPV shall be cycled by electrical operation 1,000 times. Each cycle consists of one full actuation stroke, and one return actuation stroke. The test fluid represents “dirty seawater,” which for the test shall be simulated using clean seawater, or substitute ocean water (without heavy metals) per ASTM D1141, with 1,000 ppm of 50 to 300  $\mu\text{m}$  silicon dioxide ( $\text{SiO}_2$ ) particles with a size distribution equivalent to that shown in Table 2. During the entire course of the test, the test fluid shall be constantly agitated to ensure homogeneous dispersion of the silicon dioxide particles. A test pressure of  $150 \pm 10$  psig shall be applied to the supply port during the tests. While the flow path is available, a flow rate through the valve of  $1.5 \pm 0.5$  gpm shall be maintained during this test to provide a supply of debris-laden water to the valve. There shall be a pause of  $13 \pm 5$  seconds between each stroke, resulting in two pauses per cycle (i.e., actuation stroke, pause, return stroke, pause). Report any loss of functionality and/or leakage that occurs during and/or upon completion of the test.

**Size and Distribution of Silicon Dioxide Particles for Dirty Water Life Cycle Testing**

<b>Sieve Number</b>	<b>Weight Percent</b>
50 (300 $\mu\text{m}$ )	0.5
70 (210 $\mu\text{m}$ )	5.5
100 (150 $\mu\text{m}$ )	22.3
140 (110 $\mu\text{m}$ )	37.9
200 (70 $\mu\text{m}$ )	26.4
270 (50 $\mu\text{m}$ )	7.1
Total	99.7

c. **Seat Leakage Test:** The valve shall be tested for tightness of seats and seals after the Dirty Water Life Cycle Testing. A test pressure of  $150 \pm 10$  psig shall be applied to the valve supply port, with all other ports unplugged. The valve shall be set in all possible alignment configurations for a minimum of three minutes per configuration. Report any leakage from the stem seals, or any ports where the configuration is designed to have no flow, that occurs during and/or upon completion of the test.

d. **Seat Leakage Test at Reduced Pressure:** The Seat Leakage Test is repeated at a reduced pressure of  $50 \pm 10$  psig. Report any leakage from the stem seals, and/or any ports where the configuration is designed to have no flow, that occurs during and/or upon completion of the test.

e. **Stagnant Water Test:** The valve shall be tested to ensure no loss of performance due to an accumulation of particulates at the inlet of the valve from stagnant fluid. The test consists of cycling the valve once every 10 days for 30 days. Each cycle consists of one full actuation stroke and one return actuation stroke. The test fluid represents dirty seawater, which for the test shall be simulated using clean water with 1,000 ppm of 50 to 300  $\mu\text{m}$  silicon dioxide particles as used in the Dirty Water Life Cycle Testing above. During any part of the test in which flow passes through the valve, the test fluid shall be constantly agitated to ensure homogeneous dispersion of the silicon dioxide particles. A test pressure of  $150 \pm 10$  psig shall be applied to the supply port during the tests. While a flow path through the MOPV is available, a flow rate through the valve of  $1.5 \pm 0.5$  gpm shall be maintained during this test to provide a supply of debris-laden water to the valve. Report any loss of functionality and/or leakage that occurs during and/or upon completion of the test.

**SECTION 2****FACTOR 1B - INTERFACE, DESIGN, AND PERFORMANCE CHARACTERISTICS**

The offeror shall provide details on how the offered MOPV will meet the requirements of the specification, Section C of the contract. Of major importance is the ability to reliably perform, to fit in the defined space, and to adapt and connect to the existing components. Documented conditions, such as previously fielded proven design, shall be provided. This includes experience in achieving qualification of similar equipment for the military shock, vibration, electromagnetic interference requirements invoked in the Technical Specification (Section C). The offeror shall also provide information on the overall strategy for compliance with the requirements of the Technical Specification, and shall make the distinction between documented conditions and plans for achieving compliance with the requirements of the Technical Specification. The Government reserves the right to modify or reject unsubstantiated data.

**SECTION 3****FACTOR 1C - LIFE CYCLE MAINTENANCE COSTS**

Offerors shall provide information on the maintenance costs for 50 years of operation. Operation is defined as continuously supplied with power and 200 actuation cycles per year occurring at irregular intervals. Each cycle consists of one full actuation stroke, and one return actuation stroke. The maintenance information will include scheduled maintenance and scheduled overhaul timelines with a projected service life for the MOPV. The scheduled maintenance information will include projected preventative/scheduled maintenance required to ensure the satisfactory operation of the MOPV. The frequency and duration of such maintenance actions shall be clearly defined, as well as the level of expertise needed for their performance. Data, including mean time between failures or field parts repair rates, mean time to repair, mean time to restart after maintenance, and mean time for scheduled maintenance, will be provided. All costs associated with maintenance shall also be provided, with respect to material cost (in current year dollars) and Labor (in hours). An overhaul shall consist of the MOPV and all other critical components. Maintenance schedules should be based on operating hours and the approximate time and cost associated with the overhaul/replacement shall be provided with respect to material cost (in current year dollars) and Labor Hours. If the overhaul can be accomplished in the field by field personnel (in this case, members of a ship's crew), the level of field/ship's crew expertise needed shall also be identified. Part(s) and tools required for the various maintenance actions shall be identified. Incomplete data may not be considered.

**SECTION 4****FACTOR 1D - CORPORATE EXPERIENCE/RESOURCES**

In this section, the offeror shall provide information on experience in navy, other marine, and commercial MOPV's. Manufacturing, production, technical equipment, facilities, and other resources, or the ability to obtain them, including access to test facilities, for use in performance of this contract will be addressed in the proposal. Additionally, the offeror shall provide information on the offeror's quality or inspection system, processes and/or procedures, which will be used to ensure compliance with the requirements contained in the Technical Specification. This will include the means, methods, and controls to be employed during purchasing, manufacturing, production, assembly, testing and inspection of the producer.

**SECTION 5****FACTOR 1E - LOGISTICS SUPPORT AND TRAINING SUPPORT**

The offeror shall provide information on the ability to sustain repair and replacement parts. Mean delivery time on spare and replacement parts shall be provided. Locations of parts available for purchase (i.e., stocking dealers) shall be identified in the United States and abroad. The average monetary value of parts stocked per dealership shall be provided, as will previous experience with Federal supply agencies. Commonality with commercial applications shall be identified, and the number of MOPV's in use of similar designs for commercial applications shall be provided. The plan and resources for training Navy Subject Matter Experts in the installation, operation, and maintenance of the MOPV shall be provided.

**SECTION 6  
FACTOR 2 – PAST PERFORMANCE**

For evaluation of Past Performance the Government intends to use information contained in the Past Performance Information Retrieval System (PPIRS). The Government will evaluate the Past Performance of the Prime offeror and subcontractors proposed to perform a major portion of the requirement.

In the event the Government cannot obtain adequate past performance information from PPIRS, the Government may review other relevant past performance information from other sources. Therefore, offerors should provide all relevant past performance information for similar or related work under contracts completed during the last three years. Each offeror has the opportunity to provide in its proposal any information regarding its past performance of contracts similar to the Government's requirement that it would like the Government to consider. Such information may be in the nature of additional information to that which the Government has readily available, or which is already included in PPIRS, or which the offeror considers essential to the Government's evaluation or explanatory information of substandard or poor performance and the corrective actions taken to prevent a recurrence. The Government reserves the right to verify statements and representations made in an offeror's proposal. The offeror may include Federal, State and Local Government and private sector contracts.

Offerors should provide the following information:

1. Contract Number
2. Customer/Agency
3. Contracting Officer and Technical Point of Contact (names and telephone numbers)
4. Brief description of the scope of work
5. Contract type
6. Award Price
7. Total Labor-Hours of Effort
8. Period of Performance
9. Contract Deliverables

To obtain information, the Government may contact the points of contact listed by offerors, however the Government is not required to contact all points of contact provided by offerors and may limit the number of references it decides to contact. The Government is also free to contact references other than those provided by the offeror to evaluate past performance of offerors. The Government may also obtain past performance information from other sources, such as, the SBA, better Business Bureaus, etc.

**SECTION 7  
FACTOR 3 - PRICE PROPOSAL**

In this section, offerors are required to submit prices for all line items included in Section B of this solicitation. Failure to submit a price for any line items may result in the offer being rejected as unacceptable.

## Section M - Evaluation Factors for Award

## CLAUSES INCORPORATED BY FULL TEXT

## CLAUSES INCORPORATED BY FULL TEXT

## CAR-M02 AGENCY SPECIFIC PROVISION - EVALUATION OF PROPOSALS (OCT 2003) (NSWCCD)

(a) **General.** Careful, full and impartial consideration will be given to all offers received pursuant to this solicitation, and the evaluation will be applied in a similar manner. Factors against which offers will be evaluated (e.g. Technical Capability, Past Performance, and Cost) are set forth below and parallel the solicitation response called for elsewhere herein.

(b) **Initial Evaluation of Offers.** An evaluation plan has been established to evaluate offers pursuant to the factors set forth in (g) below and all offers received will be evaluated by a team of Government personnel in accordance with the plan. Award will be made to the offeror whose proposal is determined to represent the best value based on a tradeoff of technical factors, Past Performance, and cost. All evaluation factors other than cost or price, when combined, are significantly more important than cost or price. The Government intends on making a single award resulting from this request for proposal.

(c) **Evaluation Approach.** The following evaluation approach will be used:

(1) *Technical Proposal.* Each proposal will be evaluated against the evaluation criteria set forth in the solicitation. Proposals will not be compared to each other or to criteria which are not identified in the solicitation; similarly, each proposal will be evaluated for every factor and sub-factor identified. The degree to which the offeror's proposal satisfies these factors and sub-factors shall be the basis on which the adjectival ratings are assigned and risk assessed. The evaluators will prepare a narrative description and assign an adjectival rating for each technical evaluation factor. All evaluation factors other than cost will be combined into an adjectival merit rating of Outstanding, Good, Acceptable or Unacceptable based on an integrated assessment of the evaluation factors of Technical and Past Performance (and applicable subfactors).

(2) *Price Proposal.*

(i) Although price is not scored, numerically weighted, or combined with the other evaluation factors to establish a merit rating, it will be evaluated for magnitude and realism. The determination of the magnitude of the price will be based on the total of all proposed price. Cost realism is a determination of the probable price of performance for each offeror. In those evaluations where all other evaluation factors, when combined, are significantly more important than price, the degree of importance of the price factor will increase with the degree of equality of the proposals in relation to the other factors on which selection is to be based.

(ii) Proposals which are unrealistic in terms of technical or schedule commitments or unrealistically high or low in price may be deemed reflective of an inherent lack of technical competence, or indicative of a failure to comprehend the complexity and risks of the proposed work, and may be grounds for rejection of the proposal. If the proposed contract requires the delivery of data, the quality of organization and writing reflected in the proposal will be considered to be an indication of the quality of organization and writing which would be prevalent in the proposed deliverable data. Subjective judgment on the part of the Government evaluators is implicit in the entire process. Throughout the evaluation, the Government will consider "correction potential" when a deficiency is identified.

**(d) Competitive Acquisition Instructions.**

(1) If the provision FAR 52.215-1, "Instructions To Offerors--Competitive Acquisition" is included in Section L of this solicitation, the Government intends to evaluate proposals and award a contract without discussions with offerors (except clarifications as described in FAR 15.306(a)). Therefore, the offeror's initial proposal should contain the offeror's best terms from a cost or price and technical standpoint. However, the Government reserves the right to conduct discussions if the Contracting Officer later determines them to be necessary.

(2) If the provision at FAR 52.215-1 is used with its Alternate I, the Government intends to evaluate proposals and award a contract after conducting discussions with offerors whose proposals have been determined to be in the competitive range.

(3) In either of the above two situations, if the Contracting Officer determines that the number of proposals that would otherwise be in the competitive range exceeds the number at which an efficient competition can be conducted, the Contracting Officer may limit the number of proposals in the competitive range to the greatest number that will permit an efficient competition among the most highly rated proposals.

**(e) Discussion/Final Proposal Revisions.** The Contracting Officer shall indicate to, or discuss with, each offeror still being considered for award, significant weaknesses, deficiencies, and other aspects of its proposal (such as cost, price, technical approach, past performance, and terms and conditions) that could, in the opinion of the Contracting Officer, be altered or explained to enhance materially the proposal's potential for award. The scope and extent of discussions are a matter of Contracting Officer judgment. At the conclusion of discussions, each offeror still in the competitive range shall be given an opportunity to submit a final proposal revision. A final cut-off date for receipt of final proposal revisions will be established by the Contracting Officer.

**(f) Basis for Contract Award.** The basis for award of a contract(s) as a result of this solicitation will be an integrated assessment by the Contracting Officer of the results of the evaluation based on the evaluation factors and their importance as indicated below. The integrated assessment may include consideration of the strengths and weaknesses of the proposals, and, if deemed necessary by the Contracting Officer, consideration of various types of mathematical models comparing technical points and cost. Ultimately, the source selection decision will take into account the offeror's capability to meet the requirements of this solicitation on a timely and cost effective basis. The Government reserves such right of flexibility in conducting the evaluation as is necessary to assure placement of a contract in the Government's best interest. Accordingly, the Government may award any resulting contract to other than the lowest priced offeror, or other than the offeror with the highest evaluation rating.

(1) The contract resulting from this solicitation will be awarded to that responsible offeror whose offer, conforming to the solicitation, is determined most advantageous to the Government, cost and other factors considered.

(2) All evaluation factors other than cost or price, when combined, are significantly more important than cost or price.

**(g) Evaluation Factors:**

## 1. Technical

Subfactor 1A – Operational Test of Valve

Subfactor 1B – Interface, Design, and Performance Characteristics

Subfactor 1C – Life Cycle Maintenance Costs

Subfactor 1D – Corporate Experience/Resources

Subfactor 1E – Logistics Support and Training Support

## 2. Past Performance

## 3. Price

**Order of Importance**

The importance for each of the Technical Evaluation Factors used in evaluating and determining the offer which represents the best value to the Government is listed below:

Factor (1), Technical, is more important than Factor (2), Past Performance, which is more important than Factor (3) Price (i.e., the Factors are listed in descending order of importance). Within the Technical Factor, the subfactor Operational Test of Valve is the most important subfactor, followed by Interface, Design, and Performance Characteristics; Life Cycle Maintenance Costs; Corporate Experience/Resources; and Logistics Support and Training Support (i.e., the subfactors are listed in descending order of importance). All evaluation factors other than Factor (3) Price, when combined, are significantly more important than Factor (3) Price.

**Evaluation Factor Criteria****FACTOR 1 - TECHNICAL:**

The Government will evaluate each offeror's technical capability to perform the requirements in the solicitation, considering the offeror's Operational Test of Valve; Interface, Design, and Performance Characteristics; Life Cycle Maintenance Costs; Corporate Experience/Resources; and Logistics Support and Training Support as specified in Section L of the solicitation.

**Subfactor 1A – Operational Test of Valve** – An evaluation of the test results will be made by the Government as follows:

- a. Hydrostatic Leak Test: Leakage, sweating, or visible deformation at any point on the valve surface during and/or upon completion of the test shall be reason for rejection of the offer.
- b. Dirty Water Life Cycle Testing: Loss of functionality and/or evidence of leakage at any time during and/or upon completion of the test shall be reason for rejection of the offer.
- c. Seat Leakage Test: Leakage from the stem seals and/or any ports where the configuration is designed to have flow during and/or upon completion of the test shall be reason for rejection of the offer.
- d. Seat Leakage Test at Reduced Pressure: Leakage from the stem seals, and/or any ports where the configuration is designed to have flow, during and/or upon completion of the test shall be reason for rejection of the offer.
- e. Stagnant Water Test: Loss of functionality and/or evidence of leakage during and/or upon completion of the test shall be reason for rejection of the offer.

In addition, the configuration of the valve used in the Operational Test of Valve will be evaluated by the Government and compared to the configuration of the MOPV being offered. Differences between the tested valve's configuration of the valve body, valve internals, and any seals, seats and/or O-rings that were required to demonstrate the hydraulic portion of the valve, and the corresponding components in the MOPV being offered may be reason for rejection of the offer. Any differences in seating surface material or seals between the tested valve and the MOPV being offered shall be reason for rejection of the offer.

**Subfactor 1B- Interface, Design, and Performance Characteristics:** An evaluation will be made by the Government with respect to these characteristics as defined by the specification, Section C of the contract. Of major importance is the ability to reliably perform, to fit in the defined space, and to adapt and connect to the existing components. Failure to meet any of these requirements will result in rejection of the offer. The remaining requirements of the Technical Specification will also be analyzed and reviewed in this category. Documented conditions, such as previously fielded proven design, will be rated higher than theoretical conditions. This includes experience in achieving qualification of similar equipment for the military shock, vibration, and/or electromagnetic interference requirements invoked in the Technical Specification. The Government reserves the right to modify or reject unsubstantiated data.

**Subfactor 1C - Life Cycle Maintenance Costs:** An analysis of life cycle maintenance costs will be conducted by the Government based on the information submitted in the proposal in accordance with Section L. For this evaluation, this will consist of the maintenance costs for 50 years of operation. Operation is defined as continuously powered and 200 actuation cycles per year occurring at irregular intervals. Evaluation of the maintenance information will include scheduled maintenance and scheduled overhaul timelines with a projected service life for the MOPV. The scheduled maintenance information will include projected preventative/scheduled maintenance required to ensure the MOPV operates satisfactorily. The frequency and duration of such maintenance actions shall be assessed, as well as the level of expertise needed for their performance. Data including mean time between failures or field parts repair rates, mean time to repair, mean time to restart after maintenance, and mean time for scheduled maintenance will be evaluated. All costs associated with maintenance shall also be evaluated, in terms of material cost (in current year dollars) and Labor Hours. An overhaul schedule shall also be provided. An overhaul shall consist of the MOPV and all other critical components. The schedule should be based on operating hours and the approximate time and cost associated with the overhaul/replacement shall be provided with respect to material cost and Labor Hours. Based on information in the proposal, determine if the overhaul can be accomplished in the field by field personnel (in this case, members of a ship's crew) and, if so, identify the level of field/ship's crew expertise needed. Part(s) and tools required for the various maintenance actions shall be identified.

**Subfactor 1D - Corporate Experience/Resources:** The offeror's experience in navy, other marine, and commercial MOPV's will be evaluated. Manufacturing, production, technical equipment, facilities, and other resources, or the ability to obtain them, including access to test facilities, for use in performance of this contract will be evaluated. The offeror's quality or inspection system, processes and/or procedures, which will be used to ensure compliance with the requirements contained in the Technical Specification, will be evaluated. This will include the means, methods, and controls to be employed during purchasing, manufacturing, production, assembly, testing and inspection of the producer.

**Subfactor 1E – Logistics Support and Training Support:** The ability to sustain repair and replacement parts will be evaluated. Mean delivery time on spare and replacement parts will be assessed. Locations of parts available for purchase (i.e., stocking dealers) will be identified in the United States and abroad based on the information in the proposal, as will the average monetary value of parts stocked per dealership. Previous experience with Federal supply agencies will be evaluated. Commonality with commercial applications will be assessed. Greater value will be given to an MOPV which shares components with MOPV's in commercial applications. The number of MOPV's in use of similar designs for commercial applications will be evaluated. The ability to provide training to Navy Subject Matter Experts in the installation, operation, and maintenance of the MOPV will also be evaluated.

**FACTOR 2 - PAST PERFORMANCE:**

Past Performance will evaluate the offeror's response based on the relevance of the prior performance as well as the level of customer satisfaction and compliance with contract requirements in the areas of quality of product/service, adherence to contract schedule, cost control, business relations and history of reasonable and cooperative behavior, management of key personnel, commitment to providing quality service at fair and reasonable prices, and past compliance. For this factor, the Navy intends to review the Past Performance Information Retrieval System (PPIRS) of an offeror's performance of relevant contracts. In the event the Navy cannot obtain adequate PPIRS rating information regarding a particular offeror, the Navy may review other relevant past performance information from sources other than those identified by the offeror. Information utilized by the Government may be obtained from other sources, such as the SBA and Better Business Bureaus, etc. General trends in contractor's performance will be considered. If the offerors intend to use subcontractors, their past performance shall also be evaluated.

**FACTOR 3 – PRICE:**

Offerors are required to submit prices for all line items included in the solicitation. Failure to submit a price for all line items may result in the offer being rejected as unacceptable. The base and future year pricing will be included in the price evaluation. Pricing will be reviewed for the following:

- a. Completeness - All pricing information required by the solicitation has been provided, all mathematic computations are correct and the pricing application understood, prices are on an "all or none" basis, and failure to submit a price on an item or a number of items may cause this factor and the entire offer to be determined unacceptable.
- b. Realism - Prices are compatible with proposal scope; i.e., prices are neither excessive nor insufficient for the effort to be accomplished.
- c. Reasonableness - Price analysis comparisons indicate the offered price to be fair and reasonable and balanced across years.

The Government will be evaluating offers for award purposes by adding the total price for all CLINs utilizing STEPLADDER PRICING EVALUATION. The prices will be compared to the Government estimate, other offers received and/or other independent price and cost information.

**STEPLADDER PRICING EVALUATION** Stepladder pricing shall be evaluated by computing a weighted average unit price for each line item. The weighted average unit price will be computed based upon the price offered for each stepladder quantity times the upper quantity in that particular stepladder, divided by the sum of the “upper quantity” units. The weighted average unit price computed for that line item will then be multiplied by the “evaluated quantity” (EQ) identified for that line item to derive a total evaluated line item price. Please note that regardless of the stepladder price under which the EQ falls, the EQ will be multiplied only by the weighted average unit price derived for that particular CLIN and not by the actual price that corresponds to that quantity within Section B/Schedule of Supplies/Services.

**Example:** Evaluated Quantity (EQ): 200

<u>Stepladder Qty</u>	<u>Price x Upper Qty</u>	<u>Total</u>
301 – 400	\$100 x 400 =	\$40,000
201 – 300	\$120 x 300 =	\$36,000
100 – 200	\$150 x <u>200</u> =	<u>\$30,000</u>
	Total = 900	\$106,000

Weighted Average Unit Price = \$106,000/900 = \$117.78

Total Evaluated Line Item Price = \$117.78 x 400 = \$47,112

The “Total Evaluated Line Item Price” for each CLIN/SUBCLIN will be added together to arrive at the “Total Evaluated Stepladder Price”.

The EQ to be used for each CLIN/SLIN under this solicitation shall be as follows:

**The EQ is 300 for all Step Ladder Priced CLINs.**

Offerors are hereby advised that the “EQ” in no way restricts the Government as to the number of units it may order under each line item. It is used solely for evaluation purposes. The Government reserves the right to order ANY quantity within a stepladder subject to the availability of funding at time of initial award or option exercise. Offerors should note that price breaks given for each stepladder within a CLIN are to apply to all units within that and lower stepladders.

**BEST VALUE & TRADE-OFF ANALYSIS:** In determining the best value offer, the Contracting Officer may consider elements of a technical proposal that exceed the stated requirements, and are deemed to be of value to the Government. Offers will be evaluated on the basis of the best value to the Government; that is, selection of the best value offeror is to be based on a trade-off analysis and risk assessment, which takes into consideration the relative benefits of technical, past performance, and cost/price. Evaluations will consider benefits associated with strengths and risks associated with weaknesses. Risk assessment is the identification of potential risk to the Government. Technical understanding and capability and performance risk, based upon the technical understanding and capability and past performance evaluations, will be considered along with any associated cost risk. Inherent in the trade-off analysis process is the assessment of risk, and its impact on contract performance. Using trade-off analysis the Government will determine the offeror that provides the best value to the Government. The Government reserves the right to award to other than the highest rated technical offeror and may award to a lower rated technical offeror with a lower evaluated cost/price. No award will be made at other than a fair and reasonable price.

**EVALUATION METHODOLOGY:** General Information The Government reserves the right to reject any or all offerors at any time prior to award; to negotiate with any or all offerors; to award the contract to other than the offeror submitting the lowest total price; to award to other than the offeror submitting the highest technically rated proposal; and to award to the offeror submitting the proposal determined by the Government to be the best value to the Government. Offerors shall be advised that an award may be made without discussion or without any contact concerning the proposal received. Offerors should not assume that they would be contacted or afforded an opportunity to qualify, discuss, or revise their proposals. However, the Government reserves the right to clarify certain aspects of proposals or conduct discussions providing an opportunity for the offeror to revise its proposal. Offers will be evaluated on the basis of best value to the Government; that is, selection of the best value contractor will be based on a trade-off analysis and risk assessment, which takes into consideration the relative benefits of technical capability/quality, past performance, and price. Evaluation statements will consider benefits associated

with strengths and risks associated with weaknesses. Risk assessment is the identification of potential risk to the Government. In performing the trade-off analysis, as one factor is determined more equal among offerors, the other factors grow more important in making the award selection. Although price is important, it is NOT the most important evaluation factor. Offers will be evaluated and award will be based upon the best value to the Government. In making this determination, the Government is concerned with striking the most advantageous balance between technical, past performance, and price factors. No award will be made at other than a fair and reasonable price.