

I. General Requirements

Facility Access

Hunt Valve reserves the right to have access to your facility for the purpose of a quality survey and/or source inspection. If either is required, you will be notified by separate correspondence.

Packaging

Packaging for shipment shall be best commercial practice and will conform to the applicable transportation regulations. Additional requirements may be required by the specific material specifications with which you are complying. All finished machined parts shall be individually packaged in a manner which will protect all surfaces during shipment.

Procedure Approval

You are required to notify your applicable buyer and obtain approval of any change in your process, procedures (all NDT, welding as well as specific/unique process etc., procedures must be approved prior to performing work), and design or any deviation from the purchase order requirements including standard clauses, drawings and invoked specifications. Hunt Valve notice and approval is required in all instances prior to shipment. **Failure to notify the buyer of changes/deviations may be a violation of Federal Law.**

All NDT, alloy identity, welding and brazing used on Hunt Valve orders shall be to procedures submitted to and approved by Hunt Valve and/or its customer(s). The vendor shall not use these procedures on Hunt Valve contract items until the approval is received.

CERTIFICATIONS

SOME FORM OF CERTIFICATION (THE LEVEL OF WHICH SHALL BE SPECIFIED BY STANDARD CLAUSES) IS REQUIRED FOR ALL SHIPMENTS. THESE CERTIFICATIONS ARE ESSENTIAL TO ACCEPTANCE OF THE MATERIAL AND MUST BE RECEIVED PRIOR TO RECEIPT OF THE ITEMS TO WHICH THEY CORRESPOND. IF THE REQUIRED CERTIFICATIONS ARE NOT RECEIVED, THE SHIPMENT WILL BE REJECTED AND YOUR INVOICE WILL NOT BE PAID. ALL CERTIFICATIONS WILL REQUIRE THE SIGNATURE, TYPED NAME, AND TITLE OF THE PERSON RESPONSIBLE FOR THE INFORMATION PROVIDED ON THE CERTIFICATION. PRIOR TO SHIPPING THE PRODUCT, FAX THE CERTIFICATIONS TO 330-337-1044.

Correcting Certifications-Reference Electric Boat Specification 2678

When making corrections to certifications the following method shall be used:

- a. Draw a single line through the incorrect entry. Erasure or obliterations, including "whiteout", of information is prohibited. Enter the corrected information in a legible fashion. Initial and date each correction. If person making correction is different from original signer, initials or signature along with typed or printed name and title must be provided.
- b. When a certification is revised to make corrections or add information, in portion or completely, the certification shall be identified as a corrected copy and all changes shall be identified using an asterisk * with an explanation of the correction/addition stated on the certification. The original date of issuance must remain along with date of correction. If person making correction is different from original signer, initials or signature along with typed or printed name and title must be provided.
- c. When a person, other than the one who performs the inspection or test activity, signs a quality document, they must indicate for whom they are signing. Example: "J.W. Brown (alternate signature) for D.W. Smith" (printed).
- d. Certifications and permanent test and inspection records shall be complete signed and dated. Data shall not be annotated by ditto marks or left blank. When appropriate the use of N/A or none should be used.

NOTE: CORRECTIONS/ADDITIONS CANNOT BE MADE TO ANOTHER ORGANIZATION'S CERTIFICATION.

Contractor Code of Business Ethics and conduct- FAR Clause 52.203.13

This is a requirement when the value of the contract exceeds \$5,000,000 and the period of performance is 120 days or more.

Subcontractors must conduct themselves with the highest degree of integrity and honesty. Subcontractors are required to have a written Code of Business Ethics and Conduct. The subcontractor must provide a copy of the code to each employee engaged in the performance of the contract, have employee ethics and compliance training program and have an internal control system. This awareness program should periodically communicate standards, procedures and other aspects of business ethics.

DPAS - Defense Priorities and Allocation System

This order may have a DoD Priority Rating and be noted as such on the purchase order. If this order is a rated order, certified for national defense use, you are required to follow the provisions of the Defense Priorities and Allocation System (15 CFR Part 700). This means any order for product, service or material will require preferential treatment. The DPAS provides that DoD contracts are assigned priority ratings to assure that these contracts are afforded production priorities for delivery ahead of unrated orders including commercial orders.

The vendor is obligated to accept the rated order to schedule production operations to satisfy delivery requirements of each rated order and to extend the priority rating to sub-vendors to assure that the item is delivered in the timeframe requested.

EQUAL OPPORTUNITY REQUIREMENTS

Acceptance of this purchase order indicates that the seller agrees to comply with the following requirements, which are required by Federal Law, regulations and/or Executive Orders.

1. **NONDISCRIMINATION**: Seller agrees to comply with all provisions of Executive Order 11246, as amended by Executive Order 11375 and all rules, regulations and relevant orders of the Secretary of Labor related to equal employment opportunity as in effect on the date of this order. FAR 52.222.26 also applies to this purchase order.
2. **DISABLED VETERANS AND VETERANS OF THE VIETNAM ERA**: In the event this order exceeds \$10,000, Seller agrees to comply with all provisions of the Vietnam Era Veterans Readjustment Assistance Act of 1974 (38 USC 2012) and all rules, regulations and relevant orders related to employment of Vietnam veterans as in effect on the date of this order.
3. **HANDICAPPED**: In the event this order exceeds \$2,500, Seller agrees to comply with all provisions of the Rehabilitation Act of 1973, as amended and all rules, regulation and relevant orders related to employment of handicapped individuals as in effect on the date of this order.
4. **In addition**, if the purchase order exceeds \$10,000, you agree by acceptance of this purchase to comply with the following:
 - a. Certification of Nonsegregated facilities (FAR 52.222.21)
 - b. Previous contracts and compliance reports (FAR 52.222.22)
 - c. Notify Hunt Valve if the seller does not have any Affirmative Action Program and compliance (FAR 52.222.23 and 41 CFR 60.4). Acceptance of this purchase order is indication of compliance. Notify your buyer if you do not have an Affirmative Action Program and the order is over \$10,000. Sellers with less than 50 employees may be exempt from this requirement.
5. **Clean air and water certification** (FAR52.223.2). This is required for orders, which exceed \$100,000.

6. **Executive Order 13201 Notice of Employee Rights Concerning Payment of Union Dues or Fees:** In the event this order exceeds \$100,000 and was entered into on or after April 28, 2004, seller agrees to comply with all provisions of Executive Order 13201 (reference 29 CFR Part 470).
7. **Certification and Disclosure Regarding Payments to Influence Certain Federal Transactions (Reference FAR 52.203-11)**

In the event this order exceeds \$100,000 the vendor is required to certify the following:

1. No Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence in the extension, continuation, renewal, amendment of modification of any Federal contract, grant, loan or cooperative agreement.
2. If any funds other than Federal appropriated funds, the vendor shall submit and disclose this information accordingly to Hunt Valve.

SUMMARY: All of the requirements of this Equal Opportunity Requirement section shall be passed down to sub contract/vendors as applicable.

Protecting the Governments Interest When Subcontracting with Contractors Debarred, Suspended or Proposed for Debarment FAR Clause 52.209-6

Hunt Valve Company, Inc. is a contractor for the United States Government. The FAR Clause 52.209-6 prohibits Hunt Valve Company from doing business with a debarred, suspended or proposed for debarment subcontractor without notifying and obtaining approval from the Department of the Navy-Navy Suspension Authority. Hunt Valve is required to verify every subcontractor for debarment, suspension or proposal for debarment on the web-based Excluded Parties List System (EPLS). In the event the subcontractor becomes debarred, suspended or proposed for debarment, the vendor shall notify Hunt Valve immediately. The vendor is also prohibited from doing business with debarred, suspended or proposed debarment subcontractors. The vendor shall comply with FAR clause 52.209-6.

Export Control of Technical Data

Documentation associated with our product (including but not limited to drawings, sketches, specifications etc.) discussions, telecons or any other transfer of information whether verbal or written are considered to be technical data. This order is subject to ITAR (International Traffic in Arms Regulations). ITAR is the control of Defense Related Articles which restricts the release of technical data to only US Citizens in or out of USA and Technical data as outlined in Title 22 Code of Federal Regulations Subchapter M. See part 120 ET AL.

II. Part Specific Information

O-Rings & Other Synthetic Rubber Products

Certifications are required when O-rings, or other synthetic rubber products, are being supplied as a part of the purchase order.

- A certification which includes a cure date, specification, revision, class and grade.
- SHELF LIFE
 - All O-rings and molded seals must be purchased with a minimum of 1/2 its shelf life still active, or as specified in the purchase order upon receipt.
 - Shelf life of these items will be as defined in SAE ARP5316, MIL-HDBK-695, or MIL-STD-1523A.
- Packaging and labeling shall be in accordance with SAE ARP5316, or as agreed upon with the buyer.
- If certifications are not received prior to your shipment, it will be cause for rejection and your invoice will not be paid.
- Products will be manufactured from a source that is listed on the Qualified Products List for material/specification for which they are supplying.

Weld Wire

All weld wire used on military orders must be from a vendor that is listed on the Qualified Products List for material/specification for which they are supplying. Submit a copy of the certification to Hunt Quality Assurance Department for review and approval prior to use.

Seamless Pipe & Tubing Only

Unless specifically authorized in the Purchase Order, only seamless pipe and tubing shall be used in the items or components supplied to Hunt Valve. The vendor's material control must maintain segregation of seamed pipe and tubing from seamless pipe and tubing so that they cannot become mixed. **This requirement must be passed down to the vendor's mill or sub-tier suppliers.**

Tube and pipe shall be marked per MIL-STD-792 and shall not be marked with die stamps or vibro etched.

Fasteners

Centers are not permitted in machined fasteners. Vendor must notify Hunt Valve Company prior to purchase if internal fastener threads are manufactured by any other method than cutting. Cold forming of internal threads is not allowed.

Markings

All markings are to be performed in accordance with MIL-STD-792, para 4.1, Type I-IX unless otherwise specified on the purchase order.

The use of Electric Arc Marking Pencil is strictly prohibited.

Reference Section III – Standard Clauses – Standard Clause A.4 for more information regarding markings.

Modification to Purchases of K-monel, QQ-N-286

If any NiCuAl (K-monel) Material is utilized for this order, it must be in accordance with one of the following modifications:

- A) QQ-N-286 Revision F, dated 29 November 1990, and have been produced only by Special Metals Corporation (formerly Inco Alloys International/Huntington Alloys Inc.) with a production (pour) date later than December 21, 1976.

Test reports are required showing actual results of all chemical analyses, mechanical property tests, and Mechanical Testing required by the specification for each heat and lot of material furnished.

First Article Testing per paragraph 3.1 of QQ-N-286 revision F is required for all heats produced after February 19, 2001. Special Metals Corporation was exempt from First Article Testing for all heats produced prior to February 19, 2001.

Additionally, The following Special Metals Corporation heat numbers are not permitted to be used.

M00J6KG	M00J7KG	M01J1KG	M02J8KG
M02J9KG	M03J8KG	M04J2KG	M04J6KG
M04J7KG	M06J5KG	M06J8KG	M11J2KG
M11J3KG	M11J4KG	M11J5KG	M15J6KG
M17J2KG	M17J3KG	M17J4KG	M18J7KG
M19J7KG	M21J2KG	M22J7KG	M22J8KG
M23J2KG	M24J5KG	M26J8KG	M26J9KG
M27J9KG	M28J4KG	M30J9KG	M31J9KG
M33J7KG	M34H4KG	M35H0KG	M35J0KG
M35J7KG	M35H8KG	M36H7KG	M36J2KG
M36J3KG	M37J4KG	M39J3KG	M41J1KG
M41J2KG	M41H3KG	M41J3KG	M41J7KG
M41J8KG	M44J4KG	M44J6KG	M45J2KG
M45J8KG	M45J9KG	M46J7KG	M52H9KG
M61J8KG	M61J9KG	M62J5KG	M64J4KG
M64J5KG	M64J6KG	M67H2KG	M67J4KG
M69J1KG	M70J6KG	M73J4KG	M76H6KG
M80H2KG	M80H3KG	M84H9KG	M85H0KG
M88H6KG	M88H7KG	M89H5KG	M89H6KG
M92H0KG	M95H7KG	M97H8KG	M99H3KG

- B) Revision G, with the following modifications:

Revise paragraph 4.2.2.2 of QQ-N-286G as follows:

4.2.2.2 Slow Strain Rate Tensile Tests. Three Specimens shall be prepared and tested per lot. Specimens shall be taken after the final heat treatment. When material is shipped in the annealed condition, specimens may be taken after the final anneal and shall be heat treated in accordance with 4.3.6.1.

4.2.2.2.1 Bar Rod and Forgings. Slow Strain Rate Tensile Test specimens shall be taken from one end of a bar, rod, or forging at the quarter diameter (half radius) and in the longitudinal direction. Bars, rods, or forgings too small to have a Slow Strain Rate Test specimen taken from the quarter diameter that are taken from a lot (See 4.2.1.3) that does not have any larger sizes shall have the specimens taken from the center and in the longitudinal direction. Bars, Rods, or Forgings too small to have a Slow Strain Rate Test specimen taken from the center that are taken from a lot (See 4.2.1.3) that does not have any larger sizes shall be taken from the heat at the latest intermediate rolling or forging step that a Slow Strain Rate Test specimen can be taken from the mid-radius and heat treated using the same heat treatment procedures used on the production heat.

4.2.2.2.2 Wire. Slow Strain Rate Tensile Test specimens shall be taken from the heat at the latest intermediate rolling or forging step that a Slow Strain Rate Test specimen can be taken from the mid-radius and heat treated using the same heat treatment in accordance with 4.3.6.1.

4.2.2.2.3 Sheet and Plate. Slow Strain Rate Tensile Test specimens shall be taken from one end of a plate at the quarter thickness and in the longitudinal direction. Plate too small to have a Slow Strain Rate Test specimen taken from the quarter thickness may have the specimens taken from the center and in the longitudinal direction. Sheet and plate too small to have a Slow Strain Rate Test specimen taken from the center may have the specimens taken at the latest intermediate rolling step that a slow strain rate test specimen can be taken from the quarter thickness.

Revise paragraph 4.3.6.4.4 of QQ-N-286G as follows:

4.3.6.4.4 Testing Laboratory: Slow Strain Rate Tensile Testing shall be performed by a NAVSEA approved test laboratory. The following is a listing of the currently approved test laboratories, any one of which may be used at the vendor's discretion.

Huntington Alloys, A Special Metals Company
Attn: Frank Veltry
3200 Riverside Drive
Huntington, WV 25705

Metallurgical Consultants, Inc,
Attn: W.M. Buehler
4820 Caroline
P.O. Box 88046
Houston, TX 77288-0046

Naval Surface Warfare Center, Carderock Div.
Attn: Charles Roe
Code 614
9500 MacArthur Blvd.
West Bethesda, MD 20817-5700

Teledyne Allvac
Attn: Dr. W.D. Cao
2020 Ashcraft Ave.
Monroe, NC 28110

Mannesmann Röhrenwerke
Mannesmann Forschungsinstitut (MFI)
Attn: Dr. Weiss
Postfach 251160
47251 Duisburg
Germany

Westmoreland Mechanical Testing & Research, Inc.
Old Route 30, Westmoreland Drive
PO Box 388 Westmoreland Drive
Youngstown, PA 15696-0388

Revise paragraph 6.2 as follows:

- S) The laboratory conducting the Slow Strain Rate Testing shall be one approved by NAVESA (see 4.3.6.4.4)

Note: First Article Testing invoked elsewhere in this purchase order does not apply to material produced in accordance with revision G of QQ-N-286.

Special Requirements for NiCu, NiCuAl and CuNi Alloy Parts

The sulfur content of the gas and oil fuels used in firing furnaces for forging, extruding, or other hot working processes and for heat treatment of NiCu(N04400), NiCuAl (N05500), CuNi (C70600 and C71500), and other nickel or nickel base alloys shall be limited as follows:

1. GAS: 30 Grains per 100 cu ft. maximum
2. OIL : 0.5% by weight maximum

Electronic Signatures

Hunt Valve will not accept any certifications with Electronic Signatures.

III. Outside Services Quality Requirements

Definition – As used in this section. “Outside Service” means any subcontractor performing but not limited to Machining, Heat Treatment, Non-Destructive Testing, Plating, etc.

No Welding Permitted

Should an error occur, return the component to HVC for evaluation. HVC will either replace the material at the sub-contractors expense or perform qualified weld repair.

Traceable Identification Markings

- Traceable markings are identified as:
 - Bar Stock and Forgings: 3 or 4 alpha digit as assigned by HVC i.e. ABC, ABC-1, XABV, XABV-1, W-9, W9-1
 - Castings: casting manufacturer's heat number i.e. 88978, J4035 and RT Number i.e. WP697, 68410 and RLS Number: RLS 10985 when applicable.
- Restore all traceable identification markings after machining.
- All material with different traceable identification markings are to be segregated during machining.
- Should traceability be lost notify Manufacturing Engineering immediately. DO NOT ATTEMPT TO ESTABLISH TRACEABILITY ON YOUR OWN.

Reidentification may be accomplished by

- Apply the traceability identification with a Dykem High Purity Black pen supplied by Hunt Valve.
- If material is too small to mark with the Dykem pen, tie a wire tag or bag and tag the material with the identity securely to the material.
- Vibro Etching the identity in a non-working area to maximum depth of .010 inches-only if approved by Hunt Valve prior to etching.

Do Not Substitute any HVC Supplied Material

Should scrapping material supplied by HVC become necessary, notification to HVC is required. HVC will replace the material at the vendors expense.

Stockpiling of HVC Material is Prohibited

If HVC has issued more material than what is needed for a job, return all excess material.

Note: The excess material must bear all original identification.

Subcontracting of Supplied Material is not Permitted without prior HVC Approval

If outside processing is required any sub-tier operations must first be approved by HVC prior to placement of the material with a vendors subcontractor. When clause A.8 is invoked all contract requirements must be passed down to the sub-contractor.

Sufficiently Protect Machined Surfaces During Transport, Damaged Items due to Improper Packaging or Handling shall be Liable to the Vendor.

Inspection

ALL MACHINED COMPONENTS MUST HAVE 100% INSPECTION PERFORMED. THE INSPECTION REPORTS SHALL BE MAINTAINED AT YOUR FACILITY AND MADE AVAILABLE TO HVC UPON REQUEST. THE INSPECTION DOCUMENTS SHALL INCLUDE ACCEPTANCE CRITERIA, PART NUMBER, PURCHASE ORDER NUMBER, HVC WORK ORDER NUMBER, QUANTITY AND TRACE CODE/HEAT CODE MARKINGS AS APPLICABLE.

FAILURE TO COMPLY WITH THESE REQUIREMENTS WILL BE CAUSE FOR HUNT VALVE TO DISQUALIFY THE VENDOR AS AN APPROVED MACHINING SUBCONTRACTOR

NON-CONFORMING PRODUCT RETURNED TO HUNT FOR EVALUATION MUST BE INDIVIDUALLY MARKED.

NON-CONFORMANCES IDENTIFIED DURING HVC RECEIPT INSPECTION WILL INITIATE BACKCHARGES FOR ALL HVC MACHINING AND MATERIAL COSTS. THESE BACKCHARGES SHALL BE DIRECTLY CHARGED TO THE OFFENDING VENDOR

Hole Tolerance Chart

Unless otherwise specified, dimensional tolerances for all round holes shall be controlled by the Hole Tolerance Chart as it appears on the applicable drawing regardless of whether the hole was drilled, bored, EDM'd, or machined by some other means. This includes counter bores.

Threads

All threads shall be in accordance with FED-STD-H28.

IV STANDARD CLAUSES

The following Standard Clauses form a part of this Purchase Order, **WHEN SPECIFICALLY INVOKED**. Acceptance of this Purchase Order indicates that you will comply with the invoked Standard Clauses. All inspections or tests invoked by the Purchase Order, drawings, or invoked specification must be performed. Objective Quality Evidence (records) of the required inspection/test must be maintained.

Test records shall be retained for a period of seven years after completion of purchase order. HVC reserves the right to inquire or request additional information on past purchase orders.

MATERIAL CERTIFICATION

Clause A.1 A Certificate of Conformance (C of C) is required. The specification and revision, when required, along with class/grade and condition of material are required on the Certificate of Conformance. The country of origin of the raw material (melt source) must be listed. When a Revision Date is not cited on the Purchase Order, the actual-Revision Date used for the required Specification **MUST** be supplied on the Certificate of Conformance. The HVC purchase order number, part number, part number description, work order number when applicable, and quantity must appear on Certificate of Conformance. The Certificate of Conformance must bear a signature, with a typed or printed name and title of an authorized representative of the vendor. No material substitutions shall be made without written authorization from HVC. Material substitutions not authorized by HVC shall be subject to rejection. Statements on certification documents must be positive and unqualified. Words such as "to the best of our knowledge" or "we believe the information contained herein is true" are not acceptable. All markings are to be performed in accordance with MIL-STD-792 para. 4.1, Type I-IX. Electric Arc Marking is strictly prohibited.

All corrections to official documents shall be performed in accordance with Electric Boat Specification 2678.

Clause A.2 This material requires complete chemical and mechanical Heat Lot traceability to the original mill.

a. A true and exact copy of the original mill certification, along with the original melt certification, if applicable, is required. **This mill certification must bear the typed or printed name and title, along with the signature of an authorized representative of the original mill. All certifications must be in English.** Any transposition of test results from the original mill cert to your, or any other letterhead, is NOT ACCEPTABLE. Statements on certification documents must be positive and unqualified. Words such as "to the best of our knowledge" or "we believe the information contained herein is true" are not acceptable. Each certification must bear the specification number and the revision date. When a Revision Date is not cited on the Purchase Order, the actual Revision Date used for the required specification must be supplied. The original Mill Certification documents must include a statement "The reported results represent the actual attributes and indicate full compliance of the material furnished with all applicable specifications." This statement is applicable to all material produced and tested on and after January 1, 2007.

If the material furnished has been worked, i.e. forged, cast, cold formed, or heat-treated, resulting in changes to its mechanical properties, the mechanical properties shall be re-determined and the material shall be uniquely re-identified to provide traceability to the final heat treatment and mechanicals certified for that material in its final condition.

All corrections to official documents shall be performed in accordance with Electric Boat Specification 2678.

- b. Certification and certified test reports are essential to acceptance of the material and must be received prior to receipt of the hardware items to which they correspond, or the shipment will be rejected and the invoice will not be paid.

Clause A.3 All parts shipped shall be controlled by Heat Lot and/or unique trace code number and marked individually with that mark.

Clause A.4 Material Marking

Each shipment of material must be clearly identified to its Documentation Traceability as pertains to raw material heat number and a heat treat lot number (if applicable) or a unique trace code number. In all cases, the traceability marking utilized shall be unique in that given only the traceability marking, the Vendor shall be able to provide all Objective Quality Evidence associated with the processing of that item, including heat treat.

LEVEL 1 COMPONENTS

- Material Marking Techniques for Level 1 Components, Component Parts or Piping must be in accordance with one of the Permanent Marking methods per MIL-STD-792, para. 4.1, Type I-IX, unless otherwise specified.

RAW MATERIAL

- Material Marking Techniques for Barstock and other forms of Raw Material must be in accordance with the *applicable material specification*. The following methods are acceptable to HVC:
- Permanent Marking methods per MIL-STD-792, para. 4.1, Type I-IX, as applicable.
- Or, recognized Temporary Marking methods such as:
 - Bundle-and-Wrap of each line item with Shrink Wrapped Identification Tag.
 - Wire-Tag affixed to item/bundle
 - Paint Stick identification on each piece/bundle
- Or, recognized Other Alternate Methods
 - Items too small to mark or items that cannot be marked, i.e. non-metallic material can be controlled by bags, tags and/or boxes

Clause A.5 Casting Certifications

Certification of material requirements (chemical and mechanical properties) must bear as a minimum:

- Specification, Revision, Type, Grade, Class, Condition etc.
When a Revision Date is not cited on the Purchase Order, the actual Revision Date used for the required specification must be supplied on the Certificate of Conformance.
- The Signature, Typed or Printed Name and Title of the Person responsible for the testing. Chemical and Mechanical properties reported on certifications shall meet the specification exactly.
- Any weld and NDT procedures used in the process of material must be documented on certifications. Weld Rod certifications must be submitted with certifications.
- Statements on certification documents must be positive and unqualified. Words such as "to the best of our knowledge" or "we believe the information contained herein is true" are not acceptable.

Marking requirements:

Each shipment of material must be clearly identified to its certifications as pertains to heat numbers, heat codes and/or unique trace code number. Unless otherwise specified, Material Marking Techniques must be in accordance with MIL-STD-792. Die Stamping is not a preferred method. If Die Stamping is utilized only round bottom, low stress Die Stamps are permitted and shall be applied on low stress area's such as a flange rim, boss, or an integral pad.

Clause A.5 (continued)

Casting Visual Examination (a.k.a. "VT") requirements:

- All castings received from an approved vendor require certification for compliance to MIL-STD-278F, Section 12, Casting Inspection, or S9074-AR-GIB-010/278, as dictated by the Purchase Order.
- Certifications showing the results of Visual Inspection IAW MIL-STD-278 or S9074-AR-GIB-010/278 are required. The Procedure Number, Title, and Revision level that was used shall be referenced on the Certification.
- Marking to confirm Visual Examination
"VT" is to be vibro-etched on the casting to confirm Visual Examination. Blue layout ink shall be applied first to high-light the marking.

Requirements for Radiography of Castings:

When Casting Radiographic examination is required by the Purchase Order or Specification, the Radiographic Technique requirements of MIL-STD-271F or T9074-AS-GIB-010/271 are supplemented by the following:

- EB S/C 76-24: The requirements contained herein shall apply to the seller's and any sub-tier supplier's NDT activity performing radiography of castings used in fulfilling the requirements of this purchase order.
 - 1) All radiography of castings (RSSS), when invoked by this purchase order or any sub-tier documents (i.e., fabrication and material specifications, drawings, etc.) must be performed in accordance with an RSSS, which shows film placements and radiation directions to assure adequate radiographic coverage as specified by the Engineering drawing.
 - 2) The contractor or activity performing the radiography shall prepare the RSSS, which shall be validated by a signature of a certified radiographic inspector. The RSSS may be developed independently on a first article casting or as part of the production inspection process. As a minimum, the requirements of 3.4.14 of T9074-AS-GIB-010/271 provides specific detailed requirements which shall be contained on the RSSS.
 - 3) The seller shall forward to the buyer the RSSS, as well as all qualifying radiographs via a properly completed vendor procedure approval request (VPAR, EB Form 84-01-2974 or NGSB equivalent). The buyer must approve the RSSS prior to shipment of hardware. All radiographs required to approve the RSSS at the buyer's facility must be sent to the attention of the buyers purchasing department.
 - 4) Radiography of more than one casting per film is prohibited.
 - 5) The following identification shall appear on each radiograph, as a result of exposure of the film:
 - A) RT serial number for the particular casting
 - B) Film location markers
 - 6) Date of exposure shall appear on each radiograph (either by exposure or by punching)
 - 7) Identification of the organization making the radiographs. This shall also appear on the reports accompanying the radiograph submittal.

- 8) Radiography of a repaired area shall be in accordance with the same technique as used for original radiography. Radiographs shall be identified with the same serial number used for original radiographs followed by the letter R and a numeral 1, 2, etc., to indicate the number of times the area involved has been repaired. (Note: only one RT number per casting).
- 9) Revisions to radiographic standard shooting sketches (RSSS) to reflect use of NAVSEA Technical Publication T9074-AS-GIB-010/271 or NAVSEA Technical Publication T9074-AR-GIB-010/278 are not mandatory.
- 10) Deviations from an RSSS, except for the permissible variations as noted below, shall be submitted to the buyer for re-approval. Permissible variations are either a substitution for, or a change in the following:
 - A) Source strength
 - B) Film quantity and size, provided intended thickness range and areas are shown.
 - C) Film type provided applicable quality level is obtained.
 - D) Penetrameter size (smaller than approved only).
 - E) Reduction of source-to-film distance, if within the limitation of the required specification invoked by the purchase order.
 - F) Source type, if allowed by source substitute table below:

Source shown on RSSS	Allowable substitutes (See Note 2)
Cobalt-60	Iridium-192, X-ray (any voltage), Betatron
Betatron	Iridium-192, X-ray (any voltage), Cobalt-60
Iridium-192	Cobalt-60, X-ray 400 KV maximum (Note 1)
X-ray, 400 KV Maximum	Iridium-192
X-ray, over 400 KV	Iridium-192, X-ray (any voltage), Cobalt-60, Betatron

Notes:

- a) If the approved RSSS allows 4T sensitivity for Iridium-192, this allowance does not apply to the source substituted.
 - b) Where a substitute source is used, the material thickness versus energy ranges used must be consistent with those required by Figures 1, 2 and 3 of T9074-AS-GIB-010/271.
- 11) Permissible variations, including recording the actual material thickness when using a penetrameter larger than specified on the radiographic shooting sketch, must be identified on a suitable form and accompany the radiograph.
- a. Chemical Composition Certification:
- Re-melted Master Process-After de-oxidation, the heat pour from a re-melted master heat ingot shall be assigned the same heat number as the master heat for certification of the chemical composition.
 - Continuous Cast Process-When continuous cast, or pour, processes are used, test reports shall be of representative samples taken at least twice for each eight (8) to ten (10) hours of operation.
 - Statements on certification documents must be positive and unqualified. Words such as "to the best of our knowledge" or "we believe the information contained herein is true" are not acceptable.

b. Mechanical Property Certification:

- All castings shall be heat treated in accordance with the applicable specification (e.g. ASTM A744 and ASTM A296 Table 1 of specification).
- ASTM A216 or ASTM A217 shall be furnished as specified by the purchase order.
- Test bars must be heat treated with the castings they represent.
- Certification of mechanical properties shall be determined from material representing each heat treatment lot.
 - The definition of a lot: Castings originated from the same master heat, size, and configuration and heat treated in the same furnace charge.
 - Heat Treatment Certification is required and shall specify, as a minimum:
 - time and temperature of the heat treatment
 - date performed
 - name of company performing heat treatment
 - resulting hardness, if specified in the material specification
- Statements on certification documents must be positive and unqualified. Words such as "to the best of our knowledge" or "we believe the information contained herein is true" are not acceptable.

All corrections to official documents shall be performed in accordance with Electric Boat Specification 2678 paragraph 2.2.

Clause A.6 Material Certification Format

- The format for all certifications, for Material, must be in accordance with Data Item DI-MISC-81020, a copy of which can be obtained through Hunt Valve Company or accessed through our website. This format must be followed for ALL Level One material and Non-Level One (excluding chemical and mechanicals).

Clause A.7 Mercury-Free Certification

Material requires Mercury-Free Certification with each shipment. Material furnished under this purchase order shall not contain, nor have been in contact with, mercury in any form. If you suspect external mercury contamination (i.e. caused by mercury bearing instruments and/or equipment broken in the vicinity), you will contact Hunt Valve Company, Inc., purchasing department for instructions immediately. Do not ship prior to contact.

Clause A.7Mod Mercury-Free Commodities

Material furnished under this purchase order shall not contain, nor have been in contact with, mercury in any form. If you suspect external mercury contamination (i.e. caused by mercury bearing instruments and/or equipment being broken in the vicinity), you will contact Hunt Valve Company, Inc., purchasing department for instructions immediately. Do not ship prior to contact.

Clause A.8 Sub-Tier Passdown of Requirements

All clauses required by the Purchase Order and Purchase Order Continuation Sheet, (except B.2, Government Source Inspection) shall be imposed on each sub-vendor who performs work, tests, or supplies material to meet the terms of this contract.

Clause A.9 Calibration and Quality System Requirements

All measuring and test equipment used to inspect, measure, gauge, test, or control a process to establish or assure compliance to this Purchase Order and/or its invoked drawings/specifications must be calibrated. Calibration shall comply with Mil-Std-45662 at a minimum. Comparable industry standards such as “ISO” will be considered as an alternative. Evidence of these calibrations and their traceability to National Institute of Standards and Technology (NIST) must be maintained and be available for review by Hunt Valve or its customer. This Purchase Order requires a Quality System that complies with Mil-I-45208 at minimum. Comparable industry standards such as “ISO” will be considered as an alternative.

Clause B.1 Facility Access

The supplies furnished hereunder may be subject to Buyer and/or Government Source Inspection upon the premises of the vendor. Vendor, without additional cost, shall provide all reasonable facilities and assistance for the convenience and safety of such Inspectors, if required by the buyers and/or government.

Clause B.2 Government Source Inspection (GSI)

Government inspection is required prior to shipment from your plant or sub-vendor’s plant, when specified.

- Upon receipt of this Order, promptly notify the Government Representative who normally services your plant so that appropriate planning for Government Inspection can be accomplished.
- On receipt of this Order, promptly furnish a copy to the Government Representative who normally services your plant or, if none, to the nearest Army, Navy, Air Force, or Defense Supply Agency inspection office.
- In the event the representative or office cannot be located, our Purchasing Manager shall be notified immediately.
- Hunt shall provide a copy of Purchase Orders with contract number to our in-house DCMA representative.
- Note: Government inspection/verification at the Vendors:
 - ✓ **Is not, nor can be used as, evidence of effective control of quality by the Vendor**
 - ✓ **Does not absolve the Vendor of responsibility to provide adequate product**
 - ✓ **Does not preclude Subsequent Rejection at HVC, if a Non-Conformance is later identified.**
- Proof of GSI acceptance must be documented on certifications prior to receipt of material at HVC.

Clause B.3 Submarine/Ship Safe Material

These materials or articles are essential to the ship’s mission, failure of which, due to nonconformance to specification requirements, would jeopardize personnel safety, vital to shipboard systems or the ship itself. All non-conformances and deviations must be issued to HVC in writing using form Q4.6C prior to shipment unless otherwise authorized. Issues will be addressed by HVC Engineering as appropriate and returned to vendor with disposition.

Clause B.4 Foreign Sourcing Restrictions

- Only domestic raw material (bar, hex, plate, etc.) of US manufacture or alternate material per qualifying countries listed in The Defense Federal Acquisition Regulation Supplement Part 225-Foreign Acquisition, para 225-.872-1 is acceptable. Any other material will not be accepted. For suppliers of Specialty Metals reference Defense Acquisition Regulation Supplement Part 252.225-7008 and 252.225-7009 as applicable. Reference prior clause 252.225-7014.
- Objective Quality Evidence (OQE) shall be provided at time of shipment to validate only domestic raw material was used per this clause and applicable FAR clauses.
- Restriction on Ball and Roller Bearings and Components shall be manufactured in the United States or Canada per DFAR 252.225-7016. HVC shall be notified prior to shipment if these requirements cannot be met.
- Restrictions on certain foreign purchases as per Far Clause 52.225-13 also applicable.
HVC SHALL BE NOTIFIED PRIOR TO SHIPMENT IF THESE REQUIREMENTS CANNOT BE MET.

Clause B.5 Deleted --- 3/13/02 --- no longer used.

Clause B.6 Deleted – 03/13/02 – no longer used.

Clause B.7 Welding Requirements

- Production welding and/or weld repair shall be in accordance with MIL-STD-278 or S9074-AR-GIB-010/278, as applicable.
- Weld procedures and personnel shall be qualified in accordance with MIL-STD-248 or S9074-AQ-GIB-010/248, as applicable.
- Nondestructive testing (NDT) shall be in accordance with MIL-STD-271 or T9074-AS-GIB-010/271, as applicable.
- Approval of procedures and qualification data is required from Hunt Valve and HVC's customer. Provide a copy of any previous approvals (VPAR) from Electric Boat, Northrop Grumman Shipbuilding, NAVSEA or DSCC.
- All repair welds require HVC approval, prior to performing repair. (Minor and nominal of castings)
- All repair welding shall be documented on a detailed repair sketch provided to HVC.
- All repair weld records shall be provided for information with final certifications.
- Special Repair Welds and weld repair to forgings require advance approval from HVC and /or HVC Customer, prior to performing the repair and will only be considered on high value material.
- Any violation of Purchase Order requirements or invoked specifications will be cause for rejection.
- Vendor invoice will not be processed for payment unless all requirements of the Purchase Order are in compliance.

Clause B.8 Deleted 11/23/05 Clause incorporated with Clause A.9

Clause B.9 Deleted 1/10/06 Special Requirements defined in body of Purchase Order