



Supplier Quality Training Manual

Procurement

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Part 1 – General Information

Section 1 – Quality

- The quality of supplier products and / or services is a major concern to BIW and will figure significantly in our success during the competitive years ahead.
- BIW's Quality Policy is to "Provide the customer a product that reflects the level of quality specified in the contract through implementation of quality objectives and a commitment to continual improvement."
- Procurement Quality Objective is to " Procure fully compliant product from responsible suppliers employing techniques that meet corporate, division, and regulatory policies."
- Suppliers shall establish and maintain a Quality Assurance Program that is subject to audit and approval.

Section 2 – Delivery

- On-time delivery is crucial to our mutual success.
- Early delivery burdens BIW with additional carrying cost, while late deliveries may impact our contract delivery performance.
- It is an absolute requirement that suppliers consistently deliver to the prescribed schedule in the BIW purchase order or delivery order.
- When shipping, suppliers should properly package to ensure safe delivery and contain proper identification of BIW purchase orders / delivery orders. BIW catalog number/NSN, and line item number is required for timely deliveries.
- All shipments for material under 70 lbs shall be shipped UPS Collect
- All shipments for material over 70 lbs shall be shipped by BIW approved carrier as stated on the purchase order / delivery order. Failure to do so may result in the supplier being back charged for any additional cost incurred by BIW.
- Shipments delivered directly by the supplier shall be during regular business hours unless otherwise directed by the Purchasing Representative.
- Items shall be delivered to the location(s) indicated on the orders and are FOB Destination Collect unless otherwise specified.
- Questions pertaining to any shipments should be addressed with your BIW Purchasing Representative or with the BIW Traffic Manager.

Section 3 – BIW Standard Terms and Conditions

- It is the procurement policy that all contracts, subcontracts and purchase orders awarded by BIW shall incorporate BIW standard terms and conditions unless otherwise stated in the contract.
- BIW standard terms and conditions are located on the Internet at BIW Purchasing home page at:
<http://www.gdbiw.com/purchasing/forms/appendices>
- BIW's terms and conditions:
 - Appendix A, Form E-2352 – General & Raw Material
 - Appendix A, Form E-2353 – General & Raw Material
 - Appendix A, Form E-2353COM – General & Raw Material Commercial
 - Appendix A, Form E-2357 – Purchase Specification
 - Appendix A, Form E-2386 – Capital Acquisitions
 - Appendix A, Form E-2386HAZ – Environmental Services
 - Appendix A, Form E-2357LCS – Purchase Specification for LCS

Section 4 – Compliance with Government Laws and Regulations

- As a Government Prime Contractor, BIW is subjected to a variety of complex laws and regulations that have a significant impact on business decisions, actions, and conduct.
- It is the procurement policy to operate within the law, and to comply with those laws that govern the conduct of our business.
- The supplier shall comply with all applicable Federal, State and local laws, and regulations in performing on contracts, subcontracts, purchase orders, and delivery orders.

Section 5 – Export Compliance

- Domestic suppliers for military programs are required to be registered with the State Department, Office of Defense Trade Controls, and all suppliers for military programs are required to comply with the International Traffic In Arms Regulations (ITAR), the Export Administration Act (EAA), the trading with Enemy Act (TWEA), and the International Economic Emergency Powers Act (IEEPA).
- ITAR regulations restrict often prohibit the disclosure of technical data by BIW and U.S. supplier's to foreign entities and foreign nationals without a license or other approval from the State Department under the ITAR.
- It is also the responsibility of each and every supplier to ensure that they are aware of and are in compliance with ITAR directives at all times when dealing with non U.S. citizens whether in the United States or conducting business abroad.

Section 6 – Gifts and Gratuities Policy

- BIW's business transactions must be free from even the slightest perception that one supplier is receiving more favorable treatment than another.
- The acceptance of gifts, favors, hospitality (including meals), entertainment or other similar gratuities having more than a nominal value may give the appearance of impropriety, thereby adversely impacting the integrity of BIW's acquisition system and damaging BIW's professional business relations with its suppliers.
- It is procurement's policy that no employee may accept gifts other than routine advertisement or promotional material from suppliers or customers of BIW or hospitality other than occasion meals at which business is conducted.

Section 7 – Work on BIW Premises – Safety and Security

- BIW is sincerely committed to ensuring the safety of its employees and all visitors while on company property.
- BIW Environmental, Health and Safety Regulation handbook shall apply to all BIW employees, all subcontractors, visitors, Supervisor of Shipbuilding (SUPSHIP) personnel, military personnel, or others on BIW property for any purpose, at all times. It is available upon request at BIW Visitor Control or through the Purchasing Representative.
- Hard hats and ANSI approved safety glasses with side shields or safety goggles shall be worn at all times. Also, ear protection if so designated.
- Substantial footwear is required. Avoid fabric or open-toed/heeled shoes, high heels, sandals, sneakers (cloth & leather), loafers, moccasins, or rubber boots. In all production areas, including on-board ship, .29 CFR 1910 (Code of Federal Regulation) requires a protective toe cap of steel, composite, or fiberglass.
- Shorts and sleeveless shirts are prohibited. It is recommended that you avoid loose, flopping clothing or skirts (especially if touring onboard ship).
- Please walk in properly designated walkways, avoid cutting through "High-Risk" areas and always observe safety signs and barricades. Running is prohibited.
- Be careful when speaking to operators of equipment while the equipment is in use.
- Cameras are prohibited. Cell phones with picture capabilities are also prohibited.
- Please be attentive to warning signals for loads passing overhead and any mobile equipment being operated around you.
- Address any questions regarding safety to your escort.

Section 8 – Novations & Change of Name

- A novation agreement is a legal instrument executed by a subcontractor (transferor), a successor in interest (transferee), and a contractor (BIW), by which the transferor guarantees performance of a contract, and the contractor recognizes the transfer and related assets.
- BIW utilizes novation agreements whenever another company buys a company, division, or subsidiary of a company that BIW has a subcontract with. The agreement assures that the “acquiring” company takes responsibility for performance of the subcontract. Novation Agreements should not be initiated when all equipment is delivered, warranty period expired, or the subcontract is closed.
- BIW utilizes Change-of-Name Agreements to legally recognize a subcontractor’s name change when there is no change of assets (the subcontract) involved; i.e., the division or subsidiary is not sold, only the name changes.
- Since both of the above procedures are legalist in nature, it is not always a simple contract modification.
- It is the responsibility of the supplier to formally notify the Purchasing Representative of the novation/name change in writing to ensure all the necessary paper work is processed in a timely manner. This will prevent delays in the payment of invoices.
- Another good approach is to send the Corporate Charter. This will explain what has taken place. The Corporate Charter is on file in the state that the Corporation exists.

Section 9 – Invoices

- Invoices shall be prepared and submitted in triplicate, unless otherwise specified.
- All original invoices are to be sent directly to the Invoice Audit Section specified on the orders and not the Purchasing Representative unless specific direction is otherwise given in the order.
- The supplier's name and address (in particular, the remittance address - where to send the payment) should be on the invoice.
- The supplier’s name and address on the invoice must match the name and address on the order for payment to be processed.
- Include invoice date and supplier’s invoice number.
- Invoices shall include the order number, order line item number, material number (BIW catalog number and/or NSN), description of supplies and services, quantity, unit of measure, unit price, and extended total. If applicable, the purchase spec number and Hull/DDG number can be provided.
- Include name, title, phone number and address of person to be notified in the event of a defective invoice.
- BIW shall promptly notify the supplier of any discrepancy or alleged discrepancy in the supplier's invoice.

Section 10 – Confidentiality

- Confidential business plans, trade secrets, technical data, drawings, designs, financial information, and other proprietary information developed, owned, or acquired by BIW are extremely valuable assets of the company.
- Safeguarding against the unauthorized use or disclosure of such confidential information is important to the well-being of BIW.
- The supplier and BIW knows that information disclosed to and/or acquired by each other may be confidential and/or proprietary for which disclosure to a third party could be harmful.
- The receiving parties shall hold all information of a proprietary nature in strict confidence.
- Each individual has a responsibility to protect information against disclosure.

Section 11 – Marking & Packaging Requirements

- Packing List Requirements.

Order Number – examples: Purchase or Delivery Order #

Order Line Item Number – examples: 00100, 00200

Material Number – examples: BIW Catalog Number, NSN, Part Number

Items Shipped – Quantity and Unit of Measure

QPL Source (if applicable)

MSDS Number (if applicable)

Shelf Life (if applicable)

Heat Number (if applicable)

- Marking Requirements. Shipments shall be marked in the following manner:

Markings shall be on the face of each container, examples: crates, boxes, cartons.

Packing List shall be securely fastened to the exterior of the container or readily available on the inside.

Each Line Item shall be readily identifiable with tags/labels.

If there are multiple containers for a given shipment, packing lists and containers should be identified as “1 of 2”, “2 of 2” etc.

- Packaging Requirements. Shipments shall be packaged in the following manner:

Within each container, each Line Item shall be segregated; examples: bagged, boxed, layered, and partitioned.

Items must be packaged to prevent damage.

Unless otherwise specified, material must be packaged to meet or exceed ASTM D3951-95.

When shipping on pallets, material or equipment must be adequately secured to meet ASTM D3951-95, Part 5.1.5 Unitization.

Section 12 – Technical Appendices

- BIW technical appendices are located on the Internet at BIW Purchasing home page at:

<http://www.gdbiw.com/forms/appendices>

- BIW's technical appendices:

General Technical Requirements, Appendix B

Electromagnetic Interference Requirements, Appendix E

Flange and Valve Face Covers, Appendix F

Supplemental Requirements for General Material, Appendix G

General Requirements for Noise Testing and Reporting, Appendix N

Progress Payments, Appendix P

High Impact Shock Qualification Requirements, Appendix S

Vibration Qualification Requirements, Appendix V

Part 2 – Purchase Specification

Section 1 – Equipment

- P/S – Purchase Specification
- The main intent of this P/S section is to provide a brief introduction to what the P/S equipment is.
- The quantity of units per hull.
- P/S contains all the performance, design and test requirements.
- Unless specified as “furnished by the Buyer,” all assemblies, subassemblies, and components identified in the P/S shall be furnished by the supplier.
- This includes any additional equipment necessary for proper operation of the P/S equipment.

Section 2 – Applicable Documents

- Unless otherwise specified, the effective issue date for referenced documentation is January 01, 1984.
- For documents whose initial revision is dated after January 01, 1984, the initial issue is the effective issue.
- Approval is required for the use of earlier or later revisions of referenced documents.
- The P/S takes precedence in the case of a conflict between the P/S and a referenced document.
- The listed documents form a part of the P/S only to the extent specified within, i.e., all documents listed in this section are directly invoked, whole or in part, somewhere in the body of the P/S, and only the portions invoked are applicable.
- The supplier is responsible for gathering the applicable documents and familiarizing themselves with them. Suppliers are required to thoroughly read the referenced documentation to avoid non-compliance issues down the road.
- Suppliers should become familiar with Appendix B – General Technical Requirements. Many general technical requirements are invoked in Appendix B.

Section 3 – Design Requirements

3.1 – Item Definitions

- Pay particular attention to the interface connections described in this section. The interface connections detail how the equipment will interface with the ship design and it is critical that the ship design is correctly modified to accept the supplier equipment.
- Any interface design issues must be worked out early in the procurement of a new piece of equipment. The supplier must ensure they are providing what is required, and to promptly notify BIW of any changes to interfaces.

3.2 – Characteristics

- The deliverable must meet the form, fit, and function of the equipment, such as overall size and weight, and the basic performance and major component characteristics.
- The equipment must meet the performance requirements in this section. Equipment not meeting the requirements will be rejected.

3.3 – Design and Manufacturing

3.3.1 – Workmanship

- This is a general paragraph that requires the overall quality construction of the equipment.
- The equipment and all accessories shall be free from damage and any other defects that will adversely affect the performance, reliability, safety, durability, or appearance of equipment.

3.3.2 – Casting Requirements

- Casting shall be in accordance with Appendix B – General Technical Requirements.
- Follow the requirements of the material specification.
- Follow the requirements of the fabrication drawing which will invoke MIL-STD-1689 or MIL-STD-278, identify casting Subcategory/Classification, include NDT requirements, and provides dimensional requirements and tolerances.
- VT casting for surface quality and soundness issues (SPEC driven, may require surface comparator) could include heads and gates removed, all sand/scale removed (including deep pockets, sharp radiuses, etc), fins removed, excessive rough spots removed by mechanical means; casting markings (heat, BIW Cat No, Material Spec) are legible and not obscured by cleaning, and are in proper location; free of tears, cracks, porosity, sand inclusion, folded metal/laps, cold shuts, shrinkage cavities/depressions, blow holes, unfused chaplets/chills, and unfused core support areas.
- Perform dimensional checks on casting to include interface dimensions, thickness, adequate radii, and web alignment. This may involve fitting to mock/template batten check, coordinate measuring machine (CMM), or Photogrammetry.
- Provide chemical test report showing chemical composition for melt within limits for material spec.
- Provide physical test report showing mechanical properties are above the minimums for material spec.
- Ensure approved casting weld procedure including minor repairs and nominal repairs are available.

- Ensure approved fabrication/weld procedure including site map/photos and pre/post inspection records of fab weld areas are available.
- If special repairs are required on a specific casting, ensure approved casting specific special weld repair/build-up procedures including site map/photos are available. Do not do work prior to receiving approval from the Purchasing Representative.
- Ensure approved NDT radiography inspection procedures are in accordance with MIL-STD-271 and radiography shooting sketches identifying inspection areas per drawing are available.
- Ensure written NDT magnetic particle or penetrant test inspection procedures are available in accordance with MIL-STD-271 including site map identifying inspected surface areas within 3" of BIW welds or other required surfaces.
- Ensure NDT records are maintained/provided, including pre/post inspection records. Nominal and special repairs must be specifically addressed by location. RT film forwarded for review.
- Ensure Welder and NDT Personnel Certification Records are available. For pressure containing casting, hydrostatic or leak testing will be required.

3.3.3 – Welding Requirements

- The supplier must understand the SDRL E11 requirements (including Block 10).
- An SDRL E11 must be submitted and approved prior to the start of fabrication.
- If the supplier has Navy approval letters for any procedure, they should submit them accordingly as part of the SDRL E11.
- Welding and inspection shall be in accordance with Appendix B – General Technical Requirements.
- The supplier must have copies of the applicable MIL-STD's (22, 248 & 278), and must fully understand the requirements, including NDT.
- Ensure NDT records are maintained/provided, including pre/post inspection records.
- If commercial standards are involved, the supplier must fully understand the requirements.
- Suppliers who understand the requirements usually provide correct weld information and it speeds up the Navy approval process.

3.3.4 – Painting

- Painting requirements quite often are invoked in Appendix B – General Technical Requirements.
- Appendix B painting requirements are based on the DDG Ship Specs.

- Alternative painting schemes can be recommended by the supplier for approval if a particular requirement is not compatible with the supplier's operation.

3.3.5 – Piping

- Piping requirements are typically invoked on PPD 802-5959353, the same document the Navy invokes on BIW for piping requirements.
- The PPD is broken down in categories by system, set up in a series of tables, and a particular category will be invoked in a P/S.
- The PPD has an extensive general notes section prior to the specific system tables. The suppliers must familiarize themselves with this section, and must comply with these notes, as applicable.
- Gauge piping requirements are not governed by PPD 802-5959353, but are contained in a separate Navy drawing. Gauge piping requirements are invoked in the P/S via Appendix B.

3.3.6 – Drawings

- There must be a clear understanding of what level of drawings are invoked in the P/S. Some P/S's will require a complete set of detailed construction drawings (level 3), and others will only require interface drawings (level 1).
- Exceptions to providing a full set of drawings due to proprietary reasons, must have been identified prior to signing the contract.
- BIW Engineering does review supplier-drawing submittals. Approval of the submittals by BIW does not relieve the supplier of compliance with the P/S.
- The main purpose of the review conducted by BIW is to confirm correct interfaces with the ship design and compliance with basic physical requirements in the P/S.
- The supplier is solely responsible for the equipment design, and if a problem is discovered after the drawings are approved, it is still the supplier's responsibility to correct the problem.

Section 4 – Testing and Quality Assurance Provisions

4.1 – Responsibility for Inspection

- The supplier shall review all product inspection requirements and confirm that they will have facilities necessary to perform needed inspections.

4.2 – Quality Conformance Inspections

4.2.1 – First Article Tests

- The supplier shall carefully review all first article, production test requirements, and confirm that facilities to perform these tests are available.

- The supplier shall successfully test the initial Shipset of ordered equipment, hereinafter referred to as “First Article” prior to delivery and as required by the specifications. The supplier shall notify BIW, in writing, of the time and location of the testing.
- The supplier may deliver the approved First Article as part of the contract quantity, if the equipment meets all Contract requirements for acceptance.
- The supplier shall prepare and submit the First Article Test Report in accordance with the SDRL requirements. Regardless of approval, disapproval, or conditional approval of test results, the supplier is not relieved from complying with all requirements of the specifications and all other terms and conditions of the contract.
- If the First Tests are not approved, the supplier shall repeat any and all First Article tests necessary for successful First Article test completion. All costs related to these tests are to be borne by the supplier.
- It is the supplier’s responsibility to ensure all First Article requirements are completed on schedule in order to meet material required in-yard need dates for BIW’s production schedule.

4.2.2 – Noise Test Requirements

- Noise requirements shall be in accordance with Appendix N – General Requirements for Noise Testing and Reporting.
- The supplier shall understand the SDRL’s T5 (noise test procedure) & T6 (noise test report) requirements.
- An SDRL T5 (noise test procedure) shall be submitted and approved prior to the start of noise testing.
- Prior to conducting noise test, ensure noise test equipment has been laboratory calibrated within 6 months of test date.
- For airborne noise testing, the supplier is required to ensure ambient noise levels are at least 10 dB less than the specified noise levels.
- Upon completion of noise testing, the supplier is required to ensure equipment meets the specified noise levels in the test procedure. If unit exceeds noise specification, a determined cause of the overage shall be made and corrective action to resolve the overage is required. If further guidance is necessary, the supplier is advised to contact their Purchasing Representative.
- The unit shall not be shipped prior to the SDRL T6 (noise test report) approval by the buyer.
- Noise critical equipment shall be properly packaged and the resilient mounts will be properly loaded prior to shipment of unit.
- All noise critical equipment shall meet the shipping requirements of Appendix N (i.e., shipping crate properly labeled).

4.2.3 – Shock Test Requirements

- Shock qualification requirements shall be in accordance with Appendix S- High Impact Shock Requirements, DDG 51 Class Guided Missile Destroyer (Rev D is current issue). The specification invokes MIL-S-901D.
- Equipment requiring shock qualification will be required to meet Grade A or B shock qualification requirements as defined in the purchase specification. The method of qualification, i.e. test or extension, is not defined in the purchase spec or equipment ECP (Engineering Change Proposal). The supplier must determine how they will meet the specified requirement.
- Shock testing is a non-recurring test unless the equipment is modified and requires another shock test.
- The exact scope of a shock test qualification effort is often not determinable when a purchase order is placed. How an item is tested is dependent on several factors, including equipment design, whether or not resilient mounts are used, and the exact location and mounting orientation on the ship.
- An extension from previous test(s) of similar (or identical) equipment may not be acceptable. Caution is advised when a supplier is proposing qualification by extension for new procurements.
- Suppliers that intend to qualify their equipment by test are required to submit shock test procedures in accordance with SDRL T11/DID T11A prior to testing. Shock Procedures are required to be approved prior to testing. Test procedure review and approval cycles may require up to 90 days or more depending on response time from the Navy.
- After completion of all testing, the supplier shall submit shock test and post shock test reports in accordance with SDRL T12/DID T12A.
- Any similar extensions will be based on previous shock tests and identical extensions will be based on prior approved shock tests or extensions. Shock test extensions shall be submitted in accordance with SDRL T13/DID T13A.
- Post baseline changes that affect the configuration of the equipment will require re-qualification for shock. The supplier shall determine how they intend to re-qualify their equipment.

4.2.4 – Vibration Test Requirements

4.2.4.1 - Vibration Type I

- Vibration Type I requirements shall be in accordance with Appendix V- Vibration Qualification Requirements DDG-51 Class Guided Missile Destroyer (Rev. C current issue). This specification invokes MIL-STD-167-1.

- Equipment requiring vibration Type I qualification is required to meet the environmental test requirements from 4 to 15 Hz as defined in the purchase specification. Vibration Type I testing is a non-recurring test.
- Equipment is normally qualified by testing. The supplier may attempt qualification by extension for equipment items that are similar or identical to those previously tested.
- Suppliers that intend to qualify their equipment by test shall submit vibration test procedures in accordance with SDRL/DID T27 prior to testing. The test procedure must be approved prior to testing.
- After completion of all testing, the supplier shall submit vibration test reports in accordance with SDRL/DID T28.
- Suppliers that intend to qualify their equipment by extension, shall submit a request for vibration Type I extension in accordance with SDRL/DID T9.
- Post baseline changes that affect the configuration of the equipment will require re-qualification for vibration. The supplier shall determine how they intend to re-qualify their equipment.

4.2.4.2 - Vibration Type II

- Vibration Type II requirements shall be in accordance with Appendix V - Vibration Qualification Requirements.
- The supplier shall understand the SDRL T7 (Vibration Type II Test Procedure) and T8 (Vibration Type II Test Report) requirements.
- SDRL T7 shall be submitted and approved prior to the start of Vibration Type II testing.
- Vibration Type II testing is a production test and must be performed on each piece of equipment.
- Prior to conducting Vibration Type II testing, ensure the test equipment has been laboratory calibrated within 1 year of test date.
- After Vibration Type II testing is completed, the supplier shall verify the equipment meets the requirements of Mil-Std-167-1 for Type II vibration.
- The equipment shall not be shipped prior to approval of the test report by the buyer.

4.2.5 – Electromagnetic Interference Test (EMI) Requirements

- EMI requirements shall be in accordance with Appendix E – Electromagnetic Interference Requirements.
- The supplier is required to understand the SDRL's T14 (EMI test plan) & T15 (EMI test report) requirements.

- The SDRL T14 (EMI test plan) shall be submitted and approved prior to the start of EMI testing.
- The supplier is required to conduct EMI testing before shock / vibe testing. If the equipment needs to be modified to pass EMI, a supplier may have to conduct shock / vibe testing again.
- The supplier shall correct any EMI test failures in order to bring the equipment into compliance.
- If the equipment cannot be brought into compliance, the supplier shall identify the cause of the failure; provide details of any attempts to correct the failure; provide rationale as to why the equipment cannot be brought into compliance.
- The SDRL T15 (EMI test report) shall contain details of any modifications to the equipment during EMI testing.
- The EMI test report shall be for the equipment configuration as delivered.

4.2.6 – Environmental Stress Screening (ESS) And / Or Reliability. Development Growth Test (RDGT) Requirements

- This testing is for surveillance and evaluation of the supplier's program for conducting reliability tests.
- Plans and procedures are developed by the supplier and approved by the Navy. The plans and the procedures identify exactly how the respective test is to be conducted.
- SDRL R3 (ESS and/or RDGT) is the plan document for both SDRL R6 test report (RDGT) and SDRL R10 test report (ESS).
- Should both RDGT and ESS be invoked on a given purchase specification, separate test plans (R3) are required to be submitted for each requirement.
- A common problem is that the R3 (ESS and/or RDGT) test plans are not expedited from the supplier in sufficient time to gain approval before the supplier wants to start the tests in order to meet schedules. If the tests are conducted without approval, waivers may result. Costs of waivers may be passed on to the suppliers. Plan accordingly.
- RDGT (Reliability Development Growth Test)---Provides documentation of short-term reliability (500 to 5000 hours). SDRL R6 shall be submitted by the supplier to document test results.
- ESS (Environmental Stress Screening)---Documents compliance with ESS requirements expose electronic components to various stresses in an effort to induce infant mortality prior to installation in a piece of equipment. SDRL R10 shall be submitted by the supplier to document test results.

- A large number of comments generated from the review of the R6 (RDGT) and R10 (ESS) test reports are the result of the lack of attention to detail on the part of the supplier in preparing the reports. Please pay attention.
- Suppliers shall not deviate from the approved R3 (ESS and/or RDGT) test plan in performing testing and/or preparing the reports.
- The prime vendor must take care not to change the test sub-vendor who injects unapproved standards or utilizes different test report format from that identified in the approved test plan.
- If there is a need to deviate from the approved plan, the supplier must resubmit the R3 (ESS and/or RDGT) test plans for review and approval of the changes, prior to implementing the change.

4.2.7 – Performance Test Requirements

- Performance test requirements apply to all other tests whose procedures and tests are not separately required like noise, shock, vibration, and EMI.
- The performance test is a method for a supplier to determine acceptability and compliance with specification requirements.
- The data will be evaluated to improve the state of the art, if necessary.
- Tests to be conducted are specified in the purchase specification.
- The suppliers are required to understand the SDRL's T1 (performance test procedure) & T3 (performance test report) requirements.
- The procedure(s) shall cover in detail the plan and the procedures for accomplishment of the test specified in the purchase specification.
- An SDRL T1 (performance test procedure) must be submitted and approved prior to the start of testing.
- The reports shall cover all tests performed, the results of these test (including those that did not comply with spec requirements), corrective action required, to comply with specification requirements and recommendation.
- The test report shall include all preventative and corrective maintenance action taken during the test.
- Prior to shipping the unit, it is the supplier's responsibility to ensure the SDRL T3 (performance test report) has been approved.
- The supplier shall conduct performance testing before shock / vibe testing. If the equipment needs to be modified to pass the performance testing, the supplier may be required to conduct shock / vibe testing again.
- The supplier shall correct any performance test failures in order to bring the equipment into compliance with the purchase specification.

4.3 – Rejection

- It is incumbent on the supplier to meet all purchase specification requirements.
- Failure of the equipment or any of its components to pass any of the examinations or tests identified in the specification, or failure to meet any of the performance or other requirements identified in this specification, until the reason for the failure is identified and corrected shall be cause for rejection.

Section 5 – Shipments

- Shipments shall be made in accordance with contract requirements.
- BIW's Traffic Manager will make shipping arrangements. If a supplier ships using a carrier not specified by BIW, they could be responsible for the freight cost difference if BIW could have found a less expensive carrier.
- Use supplier pre-delivery inspection checklist (if applicable).
- When possible, the supplier will provide the buyer with the shipment tracking number in order to monitor shipment.

Section 6 – Reliability and Maintainability (R & M) Program

- The R&M program is dictated by Ships Specification 076. Requirements for each specification that require R&M products are listed on Table 1 in Ship Specification 076. One or all of the following Reliability products may be invoked on a specific Purchase Specification.
- It should be noted that the BIW Reliability Group is designated to review and assist the supplier in the pursuit of Navy approval of their products. It is in the supplier's best interest to utilize the BIW Reliability Engineers assistance in the development of products.

6.1 – Failure Mode, Effects and Criticality Analysis (FMECA) Report

- Identifies failure modes, assigns criticality levels to those failure modes & recommends areas that need improvement or redesign. Invoked on the supplier as SDRL R1.
- This is important for mission success, performance, personnel safety, and maintainability.

6.2 – Reliability & Maintainability Program Plan

- SDRL R5 may in some cases be invoked on supplier to support the overall Reliability Program document. The SDRL R5 documents the supplier's specific reliability requirements and explains how the supplier will achieve these invoked requirements.

6.3 – Reliability & Maintainability Allocation Assessment & Analysis (RMAAA) Reports

- Analysis to predict ability of equipment to meet specified MTBF (mean time before failure) & MTTR (mean time to repair) requirements of the Ship Specification 076. SDRL R7 shall be submitted by the supplier for this requirement.

6.4 – Malfunction Summary Report

- Initial supplier failure reports during any testing of their equipment are required prior to shipment of equipment to the buyer. This report provides a description and analysis of each malfunction occurring during test and operation of the equipment. The failure information required is contained in SDRL R8A.
- Suppliers are required to report equipment failures in accordance with the requirements.

6.5 – Detailed Failure Investigation Report

- This report provides a detailed analysis of a failure, its cause, effect and proposed long-term corrective action. The report generated provides a seller's analysis of the returned item, as well as any recommended remedial actions proposed to prevent recurrence.
- The failure analysis report is prepared and required upon request of the Purchasing Representative.
- The period of performance shall be from equipment delivery to the Buyer through end of Ship's warranty period. This information is documented on SDRL R9A.

6.6 – M-DEMO (Maintainability Demonstration Test Report)

- Documents that equipment meets MTTR (mean time to repair) requirements. Government designated specialist performs maintenance during such test. BIW R&M Engineer controls developed by the supplier and approved by the Navy that identifies exactly how the respective test is to be conducted.
- SDRL R4 test plan will be submitted by the supplier for Navy approval prior to start of test.
- The R4 test plan shall be received from the supplier in sufficient time to gain approval prior to the start of testing. If the test is conducted without approval, waivers may result. Plan accordingly.
- Submittal of SDRL R2 test report is required after the test is complete in accordance with the number of days required after testing.

6.7 – Protection and Preventative Maintenance Requirements during Ship Construction

- An SDRL L8A shall be submitted in accordance with the requirements.
- This information is critical to ensure the protection of the supplier's equipment.
- There are three main areas of interest to address in the submittal. Identify how to maintain while in storage, while on ship not energized, and while on ship after being energized.

Section 7 – Integrated Logistics Support (ILS)

7.1 – Tech Manual

- A supplier is required to understand the applicable TMCR (Tech Manual Contract Requirements) document that is invoked on a given specification.
- A tech manual is developed in different stages requiring separate SDRL submittals over time (L10 (plan), L13 (manuscript), L14 (prelim), and L15 (final)). SDRL L12 (change pages) is used for changes. SDRL L21 is used for commercial manuals.
- Tech manual submittals should not be made until the equipment design has been established.
- The tech manual will not conflict with the drawings and provisioning information submitted separately.
- The tech manual process requires many reviews. Each time there is a review comments are generated for incorporation in the next submittal. Disapprovals are often a result of not incorporating previous comments. Suppliers need to address all comments during the tech manual development.
- For DDG 77AF, all NEW tech manuals (SDRL L13, L14, L15) require electronic SGML tagging at the final SDRL L15 stage. Suppliers are required to be aware of this requirement, as it is detailed in the applicable TMCR's. A quick reference guide can be provided upon request.
- Timeliness of tech manual submittals is critical for the shipbuilders in order to support BIW's formal data submittals to the Navy, provide interim support for ships, support first time test and activation of equipment, and support crew training. A supplier is required to meet the shipbuilder's production schedule and plan accordingly.
- When changes are being processed to a piece of equipment a supplier is required to ensure that the L12 change page submittals take into account dual configuration, due to the fact not all changes roll back to the lead ship. Tech manuals must address the older designs still on some ships and new design on future ships.
- Typical problems with tech manual change page mark-ups are deleting support of pre-ECP equipment, identification of changes by ships' hull instead of ECP number, mark-ups which do not show all that the drawings show or agree with ECP description, and incomplete and/or late information.
- Complete and timely information is essential to support the entire tech manual new development and changes during the ECP process and thereby best support the Navy.

7.2 – Provisioning Parts List

- There are two significant parts involved in generating the SDRL L001 provisioning parts list when an Allowance Parts List (APL) does not exist.
- The first part is the Provisioning Parts List (PPL). The PPL shall contain all items subject to wear or failure and other items required for maintenance throughout the expected life cycle

of the end item. A PPL shall list the parts in the equipment in a top down breakdown sequence. The data elements required to be given for the PPL are annotated on the Logistic Management Information (LMI) summary worksheets.

- The second part is the Engineering Data for Provisioning (EDFP). The EDFP is technical data used to describe parts and their relationship to one another in an equipment/system. Drawings from the manufacturer must contain technical data used to describe piece parts and their relationships to one another in the equipment. The data required for EDFP is approved drawing, parts list and catalog pages to the installed equipment/system configuration.
- The rejection rate for the SDRL L001 submittal is high. The most common reason for rejection is missing drawings. All parts considered maintenance significant, that do not have a national stock number assigned, must have the manufacturer's drawing, price and production lead time. If this information is considered proprietary information then a letter must be submitted stating so.
- Suppliers must understand the information needed to avoid problems receiving drawings from their subcontractors.
- The Navy will only accept approved drawings. In most cases this means an unstable design.

7.3 – Statement of Prior Submission

- This SDRL L002 is invoked when a valid Allowance Parts List exists and the supplier can certify that there have been no changes to the equipment.
- This SDRL is satisfied by the submittal of an E50 Certificate Of Identity (COI).
- Required data elements the COI shall have is purchase order, line item, BIW catalog number, drawing number, drawing rev level, manufacturer name, manufacture part number, APL or NSN, previous purchase order, pervious line item.
- The supplier is responsible to list the drawing and rev level on the COI, and identify where there has been an update to that drawing.

7.4 – Design Change Notice

- An SDRL L005 is used to identify approved changes to previously delivered Provisioning Technical Documentation (PTD). The DCN will add, delete or modify items that have been approved for incorporation into an end item equipment/system configuration.
- The same data that is provided for an L001 applies to an L005. The difference is only the information that is being updated is required.
- The biggest reason for rejection would be because of missing drawings. Note: Process time is greatly reduced if a clear understanding of the change is known.

7.5 – Tools and Test Equipment

- An SDRL L006 is used to help identify all tools and test equipment required for all types of maintenance to the prime equipment/system.
- This supplier's tools and test equipment list will help in determining what is required on-board ship to support the equipment/system. If specific equipment related special tools are required for on-board maintenance and/or repair, these items should be included in the provisioning parts list (PPL) during the SDRL L001 submittal.
- Occasionally a supplier doesn't always understand what is required for this SDRL. The SDRL Data Item Description (DID) clearly describes what the requirements are, although some suppliers feel that, if no (special tools) are required, then they do not need to identify and/or submit anything.
- A supplier is required to understand the SDRL requirement and always ensure that the L006 submittal coincides with the equipment/system tech manual.

Section 8 – Software Data Requirements List (SDRL)

- All software requirements are required to be in accordance with Appendix D – Data Item Description (DID) and/or a unique SDRL package generated specifically for a given purchase specification.
- Delivery of software is of equal importance as hardware requirements.
- The supplier shall ensure that the appropriate number of copies required for each submittal is delivered.
- Each SDRL document will have a unique BIW number assigned for tracking purposes. It is called a VFID # (Vendor Furnished Information Document).
- SDRL's may be non-recurring and/or recurring in nature.
- All submittals must be accompanied with a transmittal letter identifying the package.
- All transmittal letters are required to have key information – example: supplier name, order #, purchase spec #, SDRL #, VFID # (if applicable), hull #, COO # (if applicable).
- All SDRL submittals shall be mailed direct to the Documentation Center at BIW. The address for the Documentation Center will be on the purchase / delivery orders.
- Please ensure that all disapproved SDRL's, where a resubmittal is required, incorporates all comments that were generated during the review process.

- SDRL categories:

C – On-line SDRLS

E – Engineering

L – Integrated Logistics Support (ILS)

R – Reliability / Maintainability (R & M)

T – Test and Evaluation

Q – Quality Assurance

Section 9 – Miscellaneous

9.1 – BIW Source Inspection

9.1.1 - Notification of Source Inspection

- Provide 21-day advance notice as required by contract

9.1.2 - Assure that equipment is ready

- Complete, with no shortages (or)
- A supplier responsible internal waiver must be submitted and approved

9.1.3 - Assure that the required testing is complete and documented

9.1.4 - Assure that the required documentation is complete and available

- Include a Supplier Pre-Delivery Inspection Check List, if required

9.1.5 - Provide the necessary assistance to complete the inspection

- A copy of the appropriate drawings and any special tools

9.2 – Government Source Inspection (GSI) / PQA Procurement Quality Assurance

- GSI/PQA may be invoked on highly critical equipments: to reduce risk of failure once installed aboard ship, a new supplier with unknown history, when heavy weight shock tests are required, and post shock inspection when light or medium weight shock tests are required.
- BIW buyer ensures GSI/PQA is invoked on orders for equipments identified by U.S. Navy, including the appropriate glossary containing instructions / address (es).
- When the Navy receives a copy of the BIW order reflecting GSI/PQA, a letter of delegation is sent to the DCMA QA representative responsible for that supplier.
- The supplier is responsible to notify the GSI rep in their area that normally services the plant that GSI/PQA is invoked, and make the appropriate arrangements.

- Once the Government representative has performed their required actions, they will sign-off the shipping documents and stamp. It is the supplier's responsibility to ensure this is done prior to shipment of material. Material received without the proper GSI documentation will not be accepted.
- Whenever Government PQA will be performed at an address different from that indicated on the orders, the inspection point must be documented.

9.3 – Progress / Milestone Billing

- All progress / milestone billing shall be in accordance with Appendix P – Progress Payments.

9.3.1 – Each progress payment request should contain:

- Supplier's name
 - Date
 - Description of Equipment
 - Invoice #
 - Purchase Order # and Spec
 - Hull
 - Contract Amount
 - Amount of the Contract subject to Progress Payment
 - Percentage of Value Earned
 - Cumulative Dollar Value of Milestones Earned
 - % of Earned Value (usually 90% until material is delivered)
 - Incurred Cost
 - Amount Eligible for Billing
 - Previous Progress Billing
 - Value of Present Request.
- Each billing request requires an Affidavit of No Lien and a Certificate of Inspection.
 - Each progress billing should contain an invoice, a progress payment request, an Affidavit of No Lien and a Certificate of Inspection. Each billing should contain an original plus two copies.

9.4 – CSE (Class Standard Equipment) ECP's (Engineering Change Proposal)

- CSE ECP's shall be in accordance with Configuration Management Procedure CSE-003.
- All ECP's shall be submitted when due. The Navy allows a 160-day schedule from start to finish. Submitting on time to schedule is important for a supplier due to Navy perception of that supplier.
- Unless given advance authorization or final approval to proceed with change, the supplier is not authorized to move out with the change.
- A Complete ECP shall include:
 - Complete 1692 forms: pages 1692, 1692-1, 1692-2, and 1692-3 a must.
 - All Drawing markups and/or other documentation defining change.
 - Tech Manual Markups, inclusive of exact/recommended verbiage for change.
 - Address how shock and vibration qualification requirements will be met if applicable.
 - Address impact to provisioning data, either PPL or DCN markup. This may be “not applicable” for some changes.
 - Address impact to R&M requirements if applicable.
 - Retrofit kit installation instructions, lead-time for retrofit kit, installation time, and supplier services required.
 - Pricing: Recurring and Non-recurring. Recurring identified by specific hull numbers. Pricing shall address unexercised options in contractual base dollars.
 - Hull applicability: What is the earliest hull a change can be cut into production at a supplier's facility. Identify anticipated contractual authority date needed.
 - Electronic submittals of ECP's are in a PDF format. If not electronic, paper copies are required to LYS, exclusive of one copy each to both Shipbuilder's Procurement Officer.

Part 3 – General Materials

Section 1 – Products

- All material shipped for General Material or Commodity procurements are to be in accordance with the BIW Catalog Specification information.
- Suppliers cannot deviate from the specification listed on the BIW Catalog Specification. Should the supplier identify an error or have a question pertaining to the specification, the supplier should notify their BIW Purchasing Representative.

Section 2 – Supplemental Data Requirements

- Some products require supplemental data as outlined in Appendix G – Supplemental Requirements for General Material located on the Internet at BIW Purchasing home page at:

<http://www.gdbiw.com/orms/appendices>

- Any questions or interpretation of Appendix G should be addressed with the BIW Purchasing Representative.
- The schedule for shipment of the supplemental data will be outlined in either your contract or on the purchase order.

Section 3 – Shipments

3.1 – Identification of Material

- Identification of incoming material is essential. Suppliers are required to ensure that the packing slip matches with the products shipped.
- Shipments need to include identification information pertinent to BIW such as the Purchase Order number, the catalog number, and the line item number.
- Multiple boxes must be labeled as 1 of _. This will ensure that BIW receives the correct number of boxes that the supplier ships.

3.2 – Partial Shipments

- BIW encourages that all shipments for a Purchase Order or Delivery Order be shipped as ordered with the correct quantity contracted. Should a supplier have a situation where shipment cannot be made complete, the supplier is required to contact the BIW Purchasing Representative to advise them of a partial shipment.

3.3 – Drop Shipments

- It is the sole responsibility of the supplier to ensure that all material that is shipped for a facility, other than the supplier's, contain all of the required packing and marking requirements as outlined in the Contract.

3.4 – Back Order Material

- In the event that material is not available at the time of shipment, the balance of the material required should contain all of the packaging and shipping requirements and identify the shipment as a back order.

3.5 - HazMat

- No hazardous material, including but not limited to those listed in CFR 355 & 372, shall be shipped to BIW without approval by the Purchasing Representative. The BIW Purchasing Representative will work with the Safety Department to obtain approval to bring in the product. All products that are shipped to BIW will have a MSDS# and will be clearly labeled on fluorescent orange MSDS labels that must be applied on all packing slips, containers and packing containers.

3.6 – Shelf Life

- Some products procured have a shelf life. The BIW shelf life requirements are identified on the BIW Catalog Specification Pages. The supplier should ensure that the product shipped meets the specification requirements. Any questions pertaining to shelf life should be addressed with your BIW Purchasing Representative.

Section 4 – Miscellaneous

4.1 – Samples or trial products

- Sample or trial products MUST go through your Purchasing Representative. No sample or trial products are to be given to BIW Production without consent from the Purchasing Department. If you are unsure who the Purchasing Representative is for the product you wish to introduce call the general BIW phone number, and ask to be transferred to Purchasing. The Purchasing Representative will assist to connect you to the Purchasing Representative handling your product line.
- It is the responsibility of the supplier to identify to the BIW Purchasing Representative if the sample or trial product contains Safety Data Sheets or any Hazmat components.

Part 4 – COSAL

Section 1 – Products

- COSAL - Coordinated Shipboard Allowance List
- All material shipped for COSAL Spares procurements is to be in accordance with the National Stock Number technical characteristic data and cross referenced to the part number(s) specification.
- Suppliers cannot deviate from the specification/characteristic data identified to the National Stock Number. Should the Supplier identify an error or have a question pertaining to the specification, the Supplier should notify their BIW Purchasing Representative.

Section 2 – Supplemental Data Requirements

- Some items may require supplemental data be furnished with the material such as Supplier's Material Safety Data Sheet, a Seal and Certificate of Calibration, and a Date of Manufacture.
- The requirement for this supplemental data will be outlined in either your contract and/or on the purchase order/delivery order.

Section 3 – Shipments

3.1 – Identification of Material

- Identification of incoming material is essential. Suppliers are required to ensure that the packing slip matches with the products shipped.
- Shipments need to include identification information pertinent to BIW such as the Purchase Order/Delivery Order number, the National Stock Number and/or Part Number, and the line item number.
- Multiple boxes must be labeled as 1 of __. This will ensure that BIW receives the correct number of boxes that the Supplier ships.

3.2 – Marking & Packing Requirements

- Markings shall be on the face of each container (i.e., crates, boxes, cartons, etc.) or securely tagged to soft-sided containers.
- Within each container, each National Stock Numbered item shall be segregated (i.e., bagged, boxed, layered or partitioned) and readily identifiable with tags/labels reflecting information in 3.1 above. If multiple line items are required to fulfill one National Stock Number, mark one item per 3-1 and all the remaining items shall be marked as part of the National Stock Number.
- The packing list(s) shall be secured to the external surface of each container or readily accessible upon entry to each container.
- Multiple Purchase Orders/Delivery Orders shall not be shipped within a single container.

3.3 – Partial shipments

- BIW encourages that all shipments for a Purchase Order or Delivery Order be shipped as ordered with the correct quantity contracted. Should a Supplier have a situation where shipment cannot be made complete, the Supplier is required to contact the BIW Purchasing Representative to advise of a partial shipment. Partial Shipments at a line item level are discouraged.

3.4 – Drop Shipments

- It is the sole responsibility of the Supplier to ensure that all material that is shipped for a facility other than the Suppliers contain all of the required packing and marking requirements as outlined in the Purchase Order/Delivery Order.

3.5 – Back Order Material

- In the event that material is not available at the time of shipment, the balance of the material required should contain all of the packaging and shipping requirements.

3.6 – HazMat

- At the time of shipment, the supplier will provide the product as identified on the Delivery Order/Purchase Order along with the current MSDS sheets NO SUBSTITUTION IS ACCEPTABLE. If a product has been repackaged to meet the required unit of issue, there shall be an original manufacturer's label identifying the product and the manufacturer. All material shall be labeled to show the BIW Purchase Order Number/Delivery Order Number, the Line Item Number, the National Stock Number and/or part number and the date of manufacture if required. The material as identified in the PO/DO, the product shipped and the MSDS must all match.
- If a product as identified in the Requirements Contract or Purchase Order is no longer available, the Seller will submit a request to the BIW Purchasing Representative for the use of an alternate product along with a current MSDS for that material. The Purchasing Representative will forward the MSDS to the COSAL Receiving Representative to ensure that there is a DOD number assigned to that product. After notice of the acceptability of that product from the Purchasing Representative, the seller will ship the material at that time with the appropriate MSDS. No substitutes will be accepted.

3.7 – Shelf Life

- Some products procured have a shelf life. The shelf life requirements are specific to the National Stock Number. The Supplier should ensure that the product shipped meets the shelf life criteria listed in the Delivery Order/Purchase Order. The date of manufacturer (cure date) must be provided and clearly identified to the material at receipt. Any questions pertaining to shelf life should be addressed with your BIW Purchasing Representative.