



Ultra Electronics

EMS Development Corporation

MSI/DNE Products

Supplier Quality Manual

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ULTRA ELECTRONICS
EMS DEVELOPMENT CORPORATION
MSI/DNE PRODUCTS

SUPPLIER QUALITY MANUAL

INTRODUCTION:

EMS Development Corporation's MSI/DNE Products develops, designs, produces and services Human Machine Interface (HMI) and Human Systems Interfaces (HSI) products for Military and Commercial Applications. We take great pride in our commitment to excellence in quality products and service to all of our customers. In the rapidly changing technology of today's environment, MSI/DNE Products is constantly facing new opportunities. Today's customers not only expect, but demand high quality, high reliability and on-time deliveries.

MSI/DNE Products recognizes the importance of a strong Supply Chain to provide customers with quality products, delivered on time and at a competitive price. Continuous improvements must be implemented year after year to remain ahead of the competition and achieve the desired growth expectations. Improvements within MSI/DNE Products and our Supply Base can only be achieved with clear and concise communication throughout the business process.

Please read and understand the MSI/DNE Products Supplier Manual that has been designed to explain the quality assurance and purchase order requirements, required by our customers, which must be flowed down throughout the Supply Base. The execution of these requirements is critical to insure the end customer receives the product and all associated documentation and certification to their specifications.

MSI/DNE Products looks forward to sharing the future growth expectations and the successes with our Supply Base. If you have any questions or comments, please contact me or anyone from the MSI/DNE Products team.

Thank you,

President:



EMS Development Corporation



ABOUT MSI/DNE PRODUCTS:

MSI/DNE Products - Since September 2014, Measurement Systems Inc. (MSI) has been an operating division of the Ultra Electronics EMS Development Corporation (EMS) that is located in Yaphank, NY. DNE Technologies (DNE) was merged into the MSI business in July of 2014, but we continue to retain both Company Names and Cage Codes as to not lose their brand identity.

Since 1963, MSI has been providing "State of the Art" technical solutions in the Human Machine Interface (HMI) arena for every commercial, industrial, defense and military application imaginable. That is over five decades of Human Factors Engineering experience, ranging from simple joystick designs to complex military systems. Our "Hands on Technology" summarizes our inventive and innovative design atmosphere, which promotes customized designs to meet our customer's HMI challenges.

With the introduction of our Human Systems Integration (HSI) Business Unit within MSI in 2010, we also have the capability to design, develop and deliver total system solutions that provide performance improvements in terms of size, weight and power (SWaP) and portability, as well as best value, in meeting mission capability needs.

For over fifty years, DNE Technologies has been providing communications devices to the US Department of Defense, Homeland Security, and telecommunication providers. DNE manufactures networking equipment that economizes bandwidth and extends the drive distances of tactical communications devices. This equipment is used worldwide to support the transition to IP networking, particularly in areas where bandwidth-intense network traffic is restricted by a single satellite or leased circuit.

DNE has also been providing technical solutions in the design and manufacturing of Ice Detectors, Aerial Refueling Amplifiers, Switching Units, Audio Warning Devices and Dimmers for the Aerospace Industry.

We have thousands of existing product variations. MSI and DNE products can be found in planes, trains, automobiles, tanks, submarines, destroyers, helicopters, space shuttles, ROVs, UAVs, wheelchairs, construction equipment, blimps and amusement park rides.

The greatest assets at MSI/DNE Products are all of our employees. We strive to cultivate an environment that empowers our team to add value to every aspect of their responsibilities so that our customers receive the best product and customer service available. MSI/DNE Products quality extends far beyond our products to everything we do, as our quality reflects everything we are.

MSI/DNE Products is registered as an AS9100 certified company. This International Standard will be maintained as the basic standard for our Quality Management System.

Consistently satisfying all the requirements and expectations of our customers defines our Quality Policy. To achieve this goal, we must "**Do it right the first time...every time**" and to succeed, we need the cooperation of all our suppliers.



MSI/DNE Product's Quality Assurance Department must approve all suppliers whether the supplier manufactures the part or is a distributor. To ensure that only qualified Suppliers are used, the Quality Assurance Department will perform periodic Supplier Surveys. All Suppliers must undergo this process and be given an acceptable rating to be an approved Supplier.

MSI/DNE PRODUCTS QUALITY POLICY:

**“Quality Excellence is the foundation for the growth, management and success of our business.
“Excellence is Expected...”**

- In our pursuit to consistently provide and satisfy the Requirements and Expectations of our Customers, Ultra Electronics and Our own high standards of performance
- In the design and manufacture of products to defined requirements and delivered on-time.
- As we continually improve:
 - The Quality Management System
 - The proficiency of our people by providing them with the training, tools, and procedures to do their jobs right, without waste or error.



1 PURPOSE:

The purpose of the Supplier Quality Manual is to define the Quality System Requirements imposed, in whole or in part, on the suppliers, vendors and subcontractors providing materials, products and/or services to Ultra Electronics – EMS Development Corporation MSI/DNE Products. In addition, general information considered being of a helpful nature to the MSI/DNE Products Suppliers is included. Revisions of the Supplier Quality Manual are furnished to all active Suppliers when the change is deemed significant and warrants re-issue.

2 SCOPE:

This Supplier Quality Manual identifies the Quality Requirements that are imposed on the Suppliers, Vendors and Sub-Contractors of MSI/DNE Products who provide materials, products and/or services for incorporation of contract deliverable products to MSI/DNE Products.

3 RESPONSIBILITY:

As a Supplier of Human Machine Interface (HMI), Human System Interface (HSI) products, communications and telecommunications products and Ice Detectors, Air Refueling Amplifiers and other related aerospace equipment, MSI/DNE Products bear the responsibility of insuring the quality of all products supplied to our customers. These products are subject to incoming inspection by MSI/DNE Products customers to verify compliance to all quality requirements as identified on their purchase orders.

MSI/DNE Product's Quality Assurance Program is based on AS9100 and ISO 9001, Quality Systems – Model for quality assurance in design, development, production, installation and servicing, both of which require the establishment of procedures for the selection of suppliers and for periodic review and assessment of the control of purchased material and services furnished by suppliers. Based on this assessment, emphasis will be placed on using suppliers who deliver products and/or services that meet the MSI/DNE Products requirements outlined and described in this manual which is directed at assisting MSI/DNE Products Suppliers in meeting those performance goals.

3.1 QUALITY SYSTEM REQUIREMENTS

Our Suppliers have the primary responsibility to develop and maintain a quality system which meets the MSI/DNE Products requirements. After October 1, 2009, all new Suppliers' quality system shall be certified to the requirements of ISO9001 or AS9100. All existing Supplier's quality system should be patterned to the requirements of ISO 9001 or AS9100. For existing Suppliers, while certification to the standards by a third party is very desirable, it is not required.

3.2 TRAINING

The supplier shall establish a method for assessing, training and documenting the competency of personnel performing activities that affect quality.

Training, including any required qualification of personnel, shall be conducted as needed for technical skills, regulatory requirements and special processes. Training requirements shall be reviewed to ensure the supplier has the necessary skills and qualifications to perform to requirements. Records related to training shall be retained.



4 **REQUIREMENTS:**

4.1 **SUPPLIER CONTACT POINT**

The Supplier contact point at MSI/DNE Products is **always the Buyer**. All questions, problems or requests for information should always be directed initially to the Buyer. Do not accept any changes to the technical requirements, quantity due dates, revision level and/or quality requirements unless authorized via purchase order change notice or revised purchase order issued by the MSI/DNE Products Buyer.

The Supplier is responsible for notifying MSI/DNE Products when requirements of this manual and/or purchase order cannot be met. Should a conflict take place between this manual and the purchase order, the Supplier shall contact MSI/DNE Products for proper disposition.

4.2 **DISTRIBUTORS, BROKERS, MANUFACTURE'S REPRESENTATIVES**

Distributors, Brokers and Manufacturer's Representatives accepting MSI/DNE Products purchase orders must recognize that all purchase order requirements apply to them as well as to the material manufacturer. As the direct Supplier to MSI/DNE Products and as a representative to the manufacturer, it is your responsibility to assure that you, as well as your Suppliers, meet all of the MSI/DNE Products purchase order requirements.

4.3 **SURVEY/AUDIT FORMAT**

The MSI/DNE Product's Quality Assurance Program requires MSI/DNE Products use and control of "Approved Suppliers". To meet this requirement a list of Approved Suppliers is prepared, used and updated regularly. New Suppliers are added to the list based on surveys with approved results, while existing Suppliers are subject to periodic reviews to determine the need for audit, resurvey and/or re-audit.

The actual survey/audit will be performed by the MSI/DNE Products Quality Assurance personnel or their authorized agents. The guidelines for characteristics reviewed during general surveys/audits are listed below; however, it should be noted that applicability to your facility may vary in accordance with the product, service or operations to be supplied and/or the Supplier's specialty or capability as applicable.

GUIDELINES FOR CHARACTERISTICS TO REVIEW DURING SURVEYS/AUDITS

1. Manufacturing facilities
2. Quality of inspection planning, controls, capability and management
3. Product/commodity visibility and defect prevention program
4. Product/commodity performance characteristics
5. Past experience with the type of product to be supplied
6. Capability/condition of the manufacturing equipment
7. Control of Engineering drawings and changes



8. Control and maintenance of inspection equipment and production tools used as a media of inspection
9. Control of personnel certification
10. Material storage and handling
11. Control of special processes
12. Control of nonconforming supplies
13. Corrective action program
14. Shop floor discipline and employee aptitude
15. Calibration capability and resources
16. Review of any Open/Closed SCARS since last audit.

Upon completion of the survey/audit, the auditor will summarize the results noting Approved, Disapproved or Conditional with any additional comments. The Auditor will then complete the

Supplier Quality System Survey listing all identified deficiencies, if any. The Auditor and Supplier will review and come to an agreement on the noted deficiencies and agree to the corrective action to be taken.

4.4 PURCHASE ORDER

The purchase order is a documented agreement (contract) between the Buyer and Seller that conveys what is to be supplied and the administrative, technical and quality requirements to be met. Suppliers are advised to read the Terms and Conditions imposed by the purchase order since they are responsible for the compliance thereto.

The Supplier is required to flow down to sub-tier Suppliers the applicable requirements in the purchasing documents, including key characteristics where required and provide notification of any nonconforming products (before and after delivery). All purchase orders shall be acknowledged for price, delivery and terms and conditions back to your MSI/DNE Products Buyer,

4.5 PURCHASE ORDER NOTES

This section of the purchase order contains items of an informational nature only which do not constitute mandatory requirements.

4.6 ORDER OF PRECEDENCE

In the event of conflict in the definitions of requirements, the order of precedence is:

1. Procuring document (Purchase Order)
2. Applicable engineering drawing
3. Associated process specifications
4. Other referenced specifications

Contact your MSI/DNE Products Buyer for further information and to advise him and/or her that such a conflict exists.



4.7 FLOW DOWN OF REQUIREMENTS

The Supplier is responsible to ensure that all applicable requirements are flowed down to sub-tier Suppliers. Where a sub-tier Supplier controls processes, characteristics or features, the Supplier is responsible for control of sub-tier Suppliers and assuring that the sub-tier Supplier meets purchase order requirements. The Supplier is responsible to ensure that the sub-tier Supplier is using the latest process/drawing revision.

Customer specific flow downs for MSI/DNE Products specific for DNE Technologies' purchase orders can be found at: <http://www.ultra-dne.com/Home/About-Us/Suppliers.aspx>.

Lockheed Flow Downs:	F-840-011
F-18 (Northrop Grumman Flow Down):	F-840-012
Military Flow Downs:	F-840-013

Included in the flow down requirements, all suppliers and sub-tier suppliers must ensure that persons are aware of:

- Their contribution to product or service conformity;
- Their contribution to product safety;
- The importance of ethical behavior.

4.8 RIGHT TO ACCESS

The Supplier shall reserve the right of entry for MSI/DNE Products, MSI/DNE Product's customers and regulatory agency personnel, for access to any and all facilities where work is being performed or is scheduled to be performed, including those facilities of Supplier's sub-tier Suppliers, in order to perform inspections, surveys or system surveillance as part of verification to conformance to the requirements. Supplier's denial of access may result in disqualification of future procurement with MSI/DNE Products. The Supplier shall include the provisions of these facility access requirements in its purchase orders with sub-tier Suppliers. This access shall provide MSI/DNE Products, MSI/DNE Product's customers or regulatory agencies suitable facilities at Supplier's and sub-tier Supplier's manufacturing location to perform inspections, surveys or surveillance.

4.9 DOCUMENT REVISION LEVELS

Unless otherwise specified in the purchase order, drawings and specifications shall be of the latest revision in effect as of the date of the purchase order.

4.10 SOURCE CONTROL DRAWINGS (SCDs)

Source Control Drawings (SCDs) are identified as such in the title block of the drawing, are MSI/DNE Product's Engineering's way of controlling the identity of the manufacturer and restricts permission to manufacture the SCD item to those entities specifically authorized by MSI/DNE Product's Engineering. Other identities receiving a purchase order for such an item must ensure through their procurement that the actual manufacturer of the item was authorized by the SCD and must maintain records supporting such proof. Only those entities named in the SCD may



manufacture the SCD item unless explicit written exception is granted by MSI/DNE Products Engineering through the MSI/DNE Product's Buyer and such exception is noted within the body of the MSI/DNE Products purchase order.

MSI/DNE Products drawings are the property of MSI/DNE Products and shall not be reproduced or distributed without the authorization by MSI/DNE Products

4.11 SPECIFICATIONS/PROCEDURES

Supplier must maintain a viable procedure for reviewing purchase orders, drawings, specifications and other related documents and ensure only current documents are in use during the manufacturing, inspection and distribution of parts to MSI/DNE Products.

4.12 SPECIAL REQUIREMENTS AND KEY CHARACTERISTICS

All MSI/DNE Products drawings with critical diamond dimensions require 100% Supplier inspection and submittal of a detailed inspection report for each delivery. Suppliers are encouraged to implement process controls for these characteristics. This requirement does not apply to Suppliers in which MSI/DNE Products supplies the components to assemble the products.

4.13 FOREIGN OBJECT DEBRIS/DAMAGE (FOD) PREVENTION PROGRAM

Suppliers must have a FOD program for the prevention, detection and removal of foreign objects. FOD prevention must be implemented in all areas where MSI/DNE Product is produced and/or stored. Records of FOD awareness training must be retained.

4.14 MATERIALS

Whenever, the drawing calls out for a specific material, there will be "NO" material substitutions without MSI/DNE Products formal engineering approval, via an engineering change order or a Supplier Deviation Form ([F-870-081](#)), reference paragraphs 4.17 and 4.18:

Material Categories:

- Chemicals – adhesives, paints, silicone & rubber cement
- Metal Stock – metal, sheet, plate, bar, foil and extrusions
- Synthetic/Composite Stock – plastic, rubber, composites: sheet, rod and extrusions

Materials from these categories require manufacturers' material certifications.

Additional material categories may also require manufacturers' material certifications. In those cases, additional requirements will be called out on the MSI/DNE Product's purchase order.

If you require further clarification, you are instructed to contact the responsible MSI/DNE Product's purchasing representative and on the Supplier's behalf, they will initiate an Engineering review of the material(s) in question.



4.15 SAFETY DATA SHEETS (SDS):

In accordance with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS) and the Ultra Electronics Safety Requirements, all chemicals are to be labeled with GHS pictograms and each shipment is to be accompanied with a copy of the Safety Data Sheet (SDS).

4.16 MSI/DNE PRODUCTS SUPPLIED MATERIAL

If materials are provided by MSI/DNE Products to the Supplier for the performance of work, the Supplier, by acceptance of the material and subsequent delivery of product warrants that no commingling of any such MSI/DNE Products supplied material with other material (either acquired by the Supplier or provided by other customers to the supplier, etc.) has occurred.

4.17 USE AND CONTROL OF SPECIAL PROCESS SUB-TIER SUPPLIERS

MSI/DNE Products requires any special process required by the purchase order to be performed by an MSI/DNE Products approved special processor and/or a Supplier's approved sub-tier special processor. A list of approved suppliers for DNE Technologies can be found at: <http://www.ultra-dne.com/Home/About-Us/Suppliers.aspx>.

Suppliers must include a copy of the special processor's certificate of conformance with each shipment.

4.18 TECHNICAL SUPPORT AND AVAILABILITY OF TRAINING

If there are technical aspects of the contract that exceed the capabilities of the supplier, there may be technical support that can be provided by MSI/DNE Products. This may include Engineering expertise, clerical support, manufacturing and administrative liaisons, etc. In addition, training may be provided to help your personnel understand and carry out their responsibilities under MSI/DNE Products contracts. This can include machine operations, etc. Your MSI/DNE Products purchasing representative can provide more information.

4.19 FLIGHT CRITICAL TRACEABILITY REQUIREMENTS

Only applies if supplying Flight Critical components to MSI/DNE Products. Those products will be clearly identified and stamped Flight Critical.

MSI/DNE Products manufactures products that are used in critical applications such as military aircraft. Parts for these products are identified with special drawings that have a prefix "FC" in the drawing number (FC361957). The purchase order will also be marked "**Flight Critical**". When identified as Flight Critical, the following requirements must be adhered to without exception.

1. **Traceability** – The Supplier shall provide a detailed certificate of compliance (C of C's) as stated in section 4.27, ensuring that all materials, products or services are defect free and are produced to the required specifications. The documentation shall include copies of all material certifications, mill reports, chemical and physical analysis reports, lot or batch numbers, shelf life requirements, heat-treating temperature data on all materials,



electrical, electronic and electromechanical assemblies and/or subassemblies delivered. The Supplier must be able to trace back the material and processes used to manufacture a specific part ordered on a specific purchase order. The absence of complete material certification with traceability shall be considered reason for rejecting material.

4.20 DEVIATIONS

When it is known by the Supplier prior to the start of production that there is some product feature that may have a requirement that is desirable to deviate from, either because of manufacturing ease, lead-time or cost reduction, or some other benefit either to the Supplier or to MSI/DNE Products, the Supplier must obtain written approval for such deviation from the MSI/DNE Products Buyer prior to implementing any change. The request must be in writing and contain (as a minimum):

1. Purchase order number, item and revision level
2. Part number, revision level, revision date and name
3. Specification or drawing requirement (include page number or print location)
4. Actual condition that is being proposed.

4.21 DISCREPANCY REPORTING

Any departure from drawings, specifications or other procurement requirements shall be submitted to MSI/DNE Products purchasing for review and consideration using the “**Supplier Deviation Form**” [F-870-081](#), or on their approved Non-Conformance Form. Disposition must be approved by MSI/DNE Products **BEFORE** shipment of the product, unless otherwise directed by MSI/DNE Products purchasing. One reproducible copy of the approved Supplier Deviation Form shall accompany each affected shipment.

Submission of nonconforming material on a Supplier Deviation Form does not guarantee MSI/DNE Products acceptance or approval. MSI/DNE Products acceptance and approval of the Supplier Deviation Form and authorization to ship is applicable only to the nonconformance’s noted on the Supplier Deviation Form and the applicable material lot(s) thereon noted, and **DOES NOT** constitute acceptance or approval of additional lots of the material with the same or other discrepancies.

4.22 CALIBRATION

Supplier shall be responsible for the calibration, accuracy validation and maintenance of any equipment, tooling or gauges utilized by the Supplier to produce, inspect or test articles to be delivered to MSI/DNE Products. Seller’s calibration system shall be in accordance with one (1) of the three following requirements:

1. MIL-STD-45662A
2. ANSI/NCSL Z540-1
3. ISO 10012

The Supplier’s signed certification must state (1) traceability to the National Institute of Standards and Traceability, (2) tool or gage number and (3) contract number.



External/Commercial/Independent laboratory facilities used for inspection, test or calibration services by the supplier shall be accredited to ISO/IEC 17025 or national equivalent.

4.23 SAMPLING

Each supplier shall implement a sampling plan, such that the quality level of product shipped to MSI/DNE Products is not jeopardized. Historical records may be used as justification for the sampling plan. Detection of a nonconforming characteristic will require 100% screening for the defective characteristic, until the supplier can demonstrate process control for the characteristic.

Suppliers shall maintain sampling records in sufficient detail to show objective evidence that the sampling conducted is representative and required tests and verifications were performed. Records shall be available to MSI/DNE Products personnel upon request and with sufficient notice. Copies of sampling records shall be furnished upon request.

4.24 FIRST ARTICLE INSPECTION REPORT (FAIR)

Only applies to suppliers of raw materials and components. This does not apply to sub-contract assembly product, as MSI/DNE Products supplies product for contracted work.

A First Article Inspection Report (FAIR) is required upon initial production to verify conformance of all physical, chemical and test requirements specified as part of the MSI/DNE Products purchase order. The first article shall be done on one piece, representative of the production lot and be documented on a report in the latest AS9102 format. The report, which shall be packaged separately and identified for Quality Assurance FAIR, shall include actual dimensions and verification of all dimensions, drawing notes, bill of material requirements, processes and characteristics contained on the engineering drawing. If an onsite visit is required, a (5) five day notice shall be required for scheduling verification.

First article inspection approval is considered extended by MSI/DNE Products from one purchase order to another provided that:

1. No configuration changes have occurred
2. The part is manufactured at the same facility.
3. The manufacturing process has stayed the same.
4. There has been no more than (2) two year break in production
5. No formal corrective action has been required
6. The sub-tier Suppliers and special processors have not changed.

MSI/DNE Products Quality Assurance must be notified if any of the above conditions cannot be met. Objective evidence must be maintained demonstrating the above.

4.25 STATISTICAL TECHNIQUES

STATISICAL PROCESS CONTROL (SPC)

Suppliers are encouraged to use SPC as a tool for process control, providing objective evidence of process capability and/or process improvement.



4.26 CHANGE APPROVAL

No changes in materials, processes, procedures, design interfaces or software which affects the form, fit or function, safety, weight, maintainability, service life reliability, replaceability or interchangeability of the items to be delivered to MSI/DNE Products shall be made without prior written approval/acknowledgement from the MSI/DNE Products quality department. Prior to implementing such a change, the Supplier shall submit a formal Supplier change request notifying MSI/DNE Products of the impending change.

Listed are examples (not all inclusive) of events which the supplier shall evaluate for product impacts as defined above.

- Plant Relocation
- Material Change
- Equipment Relocation
- Design Change
- Sub-Tier Supplier Change
- New Equipment
- Name/Cage Code Change
- Process Change
- Drawing Conflict

It is the Supplier's responsibility to fully comply with all of the instructions listed on the MSI/DNE Products purchase order. Supplier must get written approval from MSI/DNE Products to comply with the purchase order.

Lack of written approval shall not relieve the Supplier of the responsibility to fully comply with all of the requirements of the purchase order. The supplier shall not receive compensation in any form from MSI/DNE Products for unauthorized activity.

4.27 ITEM IDENTIFICATION

The Supplier shall ensure that all items are legibly marked in accordance with the MSI/DNE Products engineering drawing or applicable specification requirements. Identification requirements may include the following as specified by purchasing or other MSI/DNE Products documents: *part number and revision level; manufacturers' identification; lot or date code; serial number (if applicable); and quantity (if identifying the packaging)*. The following exceptions apply:

- Items too small or of a configuration or material prohibiting individual marking are to be package in suitable labeled containers.
- Raw material is identified in accordance with the procuring specification (i.e. ASTM, AMS, Federal Specification, etc.) and meets any applicable industry standard color-coding.



- Material that the Supplier receives from MSI/DNE Products is identified upon return to MSI/DNE Products with the MSI/DNE Products information supplied on the purchase order and the shipper that originally transferred the material to the Supplier.

4.28 IDENTIFICATION OF LIMITED LIFE (SHELF LIFE) AND TEMPERATURE SENSITIVE MATERIAL

Applies only to suppliers/distributors of limited life (shelf life) and temperature sensitive materials to MSI/DNE Products

Cure or manufacturing dates, assembly dates, expiration dates, temperature limits, compound number and manufacturing identification will be recorded on the Certificates of Conformance and shipping documents, as appropriate. Items with less than 80% of shelf life remaining shall be cause for rejection unless otherwise specified on the MSI/DNE Products purchase order. For rubber goods, a remaining shelf life of 85% or greater is required unless otherwise specified on the MSI/DNE Products purchase order. The MSI/DNE Products Buyer must be contacted in person the day any temperature sensitive materials are shipped from a Supplier's facility.

4.29 SOURCE INSPECTION AND SURVEILLANCE

All items specified by the purchase order are subject to surveillance by MSI/DNE Products, the government, or MSI/DNE Products customer representatives. This includes review, verification, examination, test and/or analysis of the Supplier's manufacturing and associated systems, procedures and processes. If necessary, such generalized activity shall be coordinated by MSI/DNE Products personnel in advance.

If MSI/DNE Products inspection is required at the source of manufacture ("Source Inspection"), as noted on the MSI/DNE Products purchase order) the following activities must take place:

- Upon completion of the parts, the Supplier must contact the MSI/DNE Products Purchasing Representative noted on your purchase order. The Supplier must allow **48 hours** for such coordination.
- The Supplier's own inspection of the completed articles must be complete, including all certifications and other paperwork.
- The Supplier must make available any required drawings, specifications or other related documents.
- The Supplier must make available any tools, gages or other inspection instruments necessary to establish conformance to the articles. This includes personnel with the requisite skills to operate such devices.
- Any deviations from the design data must be approved by a completed Supplier Deviation Form as described in section 4.20 & 4.21 of this manual.



4.30 PACKING AND PACKAGING

Newsprint **shall not** be used for wrapping of parts or as dunnage due to its acidic nature. The Supplier shall ensure that all items are adequately packed and packaged to prevent damage or contamination during the normal course of shipment to assure acceptance by common carrier. Best commercial practice may be used unless otherwise specified in the purchase order. The Supplier shall also assure that any special packaging and preservation considerations contained within the product or function specification such as for Electro Static Discharge (ESD) sensitive parts are complied with.

4.31 ELECTROSTATIC SENSITIVE DEVICES

All electrostatic sensitive devices shall be packaged, marked and handled in compliance with ANSI/ESD S20.20-2014.

4.32 CERTIFICATIONS

All purchase orders require the contracted Supplier's Certificate of Compliance, which list the material and special processors certifications and they must be referenced on the contracted Supplier's Certificate of Compliance (all paperwork must coincide with each other) and include the following minimum elements:

1. **Lot specific** – the certificate must make specific reference to the part number (or process specification number, if a process), the MSI/DNE Products purchase order number and the quantity of units so that it cannot be confused with another lot of parts.
2. **Statement of Quality** – a statement to the effect that the parts are of the required configuration, have been manufactured or processed to meet the requirements of the referenced order, specification, etc. must be present. This can take many forms of using various words, but the essence of the statement must be that the parts **DO** conform to the applicable requirements. Where tests are required to be performed in accordance with the purchase order, simply stating test values or results is insufficient.
3. **Dated Signature** – the certificate must be signed (a reproduction, stamp or printed facsimile of a specific individual's signature is acceptable), and the signature dated. Often the date will appear elsewhere on the page which is acceptable. Certifications that do not display a signature with a date are unacceptable.
4. **Deviations** – Any deviations to the purchase order, drawing or specifications must be reported on a Supplier Deviation Form ([F-870-081](#)) prior to shipment and reference the approved assigned deviation number on the Certificate of Compliance, refer to paragraph 4.20 & 4.21.
 - **Any non-compliance to the above mentioned requirements could result in the Supplier product/service being rejected and adversely affecting the Suppliers' quality rating with MSI/DNE Products.**



4.33 QUALITY ESCAPEMENTS

In the event the contracted Supplier or their sub-tier Supplier identifies a Quality Escapement “PART(s) NONCONFORMING”, after the product has been delivered to MSI/DNE Products, the supplier must submit a formal notification to MSI/DNE Products Vice President of Operations. It must contain the following pertinent information: responsible supplier name, part number, purchase order number, ship date(s), quantity and description of the nonconforming condition. A root cause statement and a corrective & preventative action statement, including effectivity date(s), must be included in the Quality Escapement Notification.

4.34 RECORD RETENTION

Only applies to suppliers of raw materials and components. This does not apply to sub-contract assembly product as MSI/DNE Products supplies product for contracted work.

All records of manufacturing, test and inspection results, and administrative quality documentation required by contract or subordinate specifications (quality records) shall be retained by the Supplier for a period of not less than (10) ten years after creation of the record unless a longer period is specified on the MSI/DNE Products purchase order. If the Supplier subcontracts the record creation (for example: the Supplier sending a part out for radiography), the Supplier shall impose the same record retention period on their subcontractor.

4.35 SUPPLIER PERFORMANCE MONITORING

MSI/DNE Products maintains a Quality and Delivery Rating System to track Supplier conformance to the requirements of purchase orders. Any nonconformance with purchase order requirements will affect your rating and possibly your approval status. In addition, a nonconformance may result in a Supplier Corrective Action Request (SCAR) being issued to you from MSI/DNE Products. You are responsible to issue corrective action requests to your Suppliers as applicable.

Your response to the SCAR must be complete, acceptable and within the allotted time frame. Failure to meet any conditions will result in your being placed in a “**CONDITIONAL**” status with limitations. Suppliers placed in a Conditional status will be permitted to complete their existing Purchase Orders with no increases in quantity, but will not be issued any new Purchase Orders pending resolution of the SCAR(s) which caused the status change. Suppliers failing to adequately perform to any purchase order requirement, without sufficient corrective action measures, may be disapproved and removed from the MSI/DNE Products approved Supplier status.

4.36 SUPPLIERS QUALITY PERFORMANCE

In the rapidly changing technology of today’s environment, all of us constantly face new challenges. Today’s customer expects high quality, high reliability and most of all, on time deliveries. Meeting these goals requires the dedicated efforts of MSI/DNE Products employees and Suppliers both individually and collectively.



Therefore, to achieve our customers' quality performance expectations, MSI/DNE Products Quality Department periodically reviews the quality and delivery performance requirements. All MSI/DNE Products Suppliers with "Approved" and "Conditional" approval status are expected to maintain a minimum year-to-date (YTD) of (**98%**), which is based on quantity received versus quantity rejected and the on-time delivery of hardware, in a rolling (3) three month period.

In the event a Supplier does not maintain the expected year to date minimum quality performance, the following step(s) could be initiated, as indicated below:

- Step I: Issue notification letter, informing the Supplier of the current (___ %) Quality Performance and that they failed to maintain the expected (**98%**) minimum, year to date quality and/or delivery performance.
- Step II: If the Supplier's quality and/or delivery performance continues to decline or show no improvement within the next (**60**) sixty days, from the date of the notification letter, MSI/DNE Products quality department may issue a Supplier Corrective Action Request (SCAR), [F-1020-001](#).
- Step III: In the event the Supplier's quality and/or delivery performance has not improved (**90**) ninety days from the date of the notification letter, an on-site Supplier audit may be conducted.

4.37 REFERENCED FORMS

Forms that are referenced within this manual may be obtained by contacting your MSI/DNE Products purchasing representative.

4.38 ELECTRICAL WORKMANSHIP STANDARDS (REFERENCES)

- IPC/EIA J-STD-001 Class 3 - Requirements for Soldering Electrical and Electronic Assemblies
- IPC-A-610 Class 3 - Acceptability Standard of Electronic Assemblies
- IPC/WHMA-A-620 Class 3 - Requirements and Acceptance of Cable and Wire Harness Assemblies

4.39 NEW AND AUTHENTIC PARTS

Supplier represents and warrants that only new and authentic components, subcomponents, parts material and supplies are procured, used incorporated into and/or delivered in performance of all MSI/DNE Products purchase orders. No other material, part or component other than new or authentic part is to be used unless approved in advance in writing by MSI/DNE Products.

Authentic shall mean: (A) genuine; (B) from the legitimate source claimed or implied by the marking and design of the product offered; and (C) manufactured by, or at the behest and to the standards of, the manufacturer that has lawfully applied its name and trademark for that model/version of the material.



“Independent Distributor” shall mean a person, business, or firm that is neither authorized nor franchised by an Original Component Manufacturer (OCM) to sell or distribute the OCM’s products. Independent Distributors are also referred to as unfranchised distributors, unauthorized distributors and/or brokers.

“OCMs” means Original Component Manufacturer

“OEMs” means Original Equipment Manufacturer

To mitigate the possibility of the inadvertent use of Counterfeit Parts or Counterfeit Work, Supplier shall only purchase authentic parts/components/products to be delivered or incorporated as work to Buyer directly from the OCM/OEM, or through an OCM/OEM authorized distributor chain. Work shall not be acquired from independent distributors or brokers unless approved in advance in writing by MSI/DNE Products Quality organization.

4.40 COUNTERFEIT PARTS/COUNTERFEIT WORK PROHIBITION

Suppliers shall agree and ensure that Counterfeit Parts and/or Counterfeit Work shall not be delivered to or incorporated into any work performed for MSI/DNE Products. The intentional or unintentional use, incorporation, or delivery of Counterfeit parts or Counterfeit work is strictly prohibited. This includes it being provided either as an end item deliverable or as a component or subcomponent of an end item deliverable under a subcontract/purchase order/letter contract.

The intentional or unintentional use, incorporation, or delivery of Counterfeit Parts or Counterfeit Work is strictly PROHIBITED.

“**Counterfeit Parts**” shall mean a part, component, module or assembly whose origin, material, source of manufacture, performance, or characteristics are misrepresented. This term includes, but is not limited to, (A) parts that have been (re)marked to disguise them or falsely represent the identity of the manufacturer, (B) defective parts and/or surplus material scrapped by the original manufacturer, and (C) previously used parts pulled or reclaimed and provided as new.

“**Counterfeit Work**” for the purpose of this clause, work consists of those parts delivered under any contract that are the lowest level of separately identifiable items (e.g. articles, components, goods and assemblies). Counterfeit Work means work that is or contains items misrepresented as having been designed and/or produced under an approved system or other acceptable method. The term also includes approved work that has reached a design life limit or has been damaged beyond possible repair, but is altered and misrepresented as acceptable.

Counterfeit Parts and Counterfeit Work are Non- Conforming regardless of their otherwise acceptable condition, quality, performance, functionality and/or suitability for purpose.

Providing of Counterfeit Parts and/or Counterfeit Work shall constitute a material breach of the purchase order and MSI/DNE Products may, at MSI/DNE Product’s sole discretion, terminate the purchase order for the default of the Supplier.



4.41 NOTIFICATION REQUIREMENT OF COUNTERFEIT PARTS AND/OR WORK

Supplier shall immediately notify MSI/DNE Products in writing with the pertinent facts if Supplier becomes aware or suspects that it has furnished Counterfeit Parts and/or Counterfeit Work. When requested by MSI/DNE Products, the Supplier shall provide OCM/OEM documentation that authenticates traceability of the affected items to the applicable OCM/OEM.

Supplier shall immediately notify MSI/DNE Products in writing if it cannot purchase or acquire authentic components, subcomponents, parts, materials and supplies from directly from the OCM/OEM or through an authorized OCM/OEM authorized distribution chain.

Supplier shall also immediately notify MSI/DNE Products in writing if it or its subcontractors at any tier cannot maintain tracking of the supply chain back to the OCM/OEM.

4.42 EXCLUSION OF MERCURY BASED PRODUCTS

Functional mercury and mercury contamination prohibited notwithstanding any other provisions of any purchase order or specifications referenced herein, material furnished by the Supplier under any purchase order shall not contain functional mercury unless specific written approval has been obtained from MSI/DNE Products.

4.43 CONTRACT COMPLIANCE AND AWARENESS OF MALPRACTICE PREVENTION

Suppliers (Management and Employees) are contractually obligated and expected to meet all purchase order requirements. Suppliers are required to inform sub-tier Supplier's hired by the Supplier that they are likewise contractually obligated and expected to meet all purchase order requirements.

Suppliers and sub-tier Suppliers shall be aware and vigilant for Malpractice and Fraud and Falsification (F & F), as it affects contract compliance. All parties associated with product and services destined for ultimate delivery to MSI/DNE Products must be aware that Malpractice and/or F & F are grave and serious matters. The act of Malpractice and/or F & F has the potential for severe and costly damages.

It is the responsibility of all parties to avoid the slightest possibility or appearance of impropriety or malpractice and to report known or suspected occurrences to the proper authorities. All personnel working within the program must be aware of malpractice and fraud and falsification, methods to eliminate potential situations and MSI/DNE Product's expectations of Suppliers, their employees and subcontractors.

Consequences of malpractice and fraud and falsification could involve functional failure of product in operation on land or at sea, causing loss of equipment and life. Consequences also include severe dollar loss to MSI/DNE Products, the Government and the Supplier due to lengthy investigations, possible disqualification from future contracts, production shutdown and loss of employment. Acts of malpractice or fraud and falsification will result in purchase order contractual action and will also be subject to federal criminal prosecution for violations of law under Title 18 of the U. S. Code, Chapter 47, Section 1001.



Suppliers must ensure that employees and sub-tier suppliers are provided documentation and information necessary to perform assigned and contracted work correctly. Employees and sub-tier suppliers must follow established work procedures and contract documents to perform best possible effect within the program.



5 ADDITIONAL PURCHASE ORDER TERMS & CONDITIONS:

The following Terms & Conditions are included as part of the MSI/DNE Products Purchase Order. The Federal Acquisition Regulations – 48 CFR Chapter 1 (FAR) and the Department of Defense FAR Supplemental – 48 CFR Chapter 2 (DFARS) clauses and provisions included herein, are also incorporated into the Purchase Order with the same force and effect as if the clauses were provided in full text.

5.1 INCORPORATED IN PURCHASE ORDERS AT ALL DOLLAR LEVELS AND SUPPLIERS:

- FAR 52.203-3 Gratuities;
- FAR 52.203-16 Preventing Personal Conflicts of Interest;
- FAR 52.208-8 Required Sources for Helium and Helium Usage Data;
- FAR 52.211-5 Material Requirements;
- FAR 52.211-15 Defense Priority and Allocation Requirements;
- FAR 52.222-1 Notice to the Government of Labor Disputes;
- FAR 52.222-26 Equal Opportunity;
- FAR 52.222-36 Affirmative Action for Workers with Disabilities;
- FAR 52.223-3 Hazardous Material Identification and Material Safety Data;
- FAR 52.204-10 Reporting Executive Compensation and First-Tier Subcontract;
- FAR 52.219-8 Utilization of Small Business Concerns;
- FAR 52.222-26 Equal Opportunity (April 2015);
- FAR 52.223-11 Ozone Depleting Substances (Applies if the Work contains or is manufactured with ozone-depleting substances.);
- FAR 52.224-1 Privacy Act Notification;
- FAR 52.224-2 Privacy Act;
- FAR 52.232-39 Unenforceability of Unauthorized Obligations;
- FAR 52.239-1 Privacy or Security Safeguards;
- FAR 52.244-6 Subcontracts For Commercial Items;
- FAR 52.245-1 Government Property;
- FAR 52.246-15 Certificate of Conformance;
- FAR 52.249-8 Default (Fixed Price Supply and Service);
- DFARS 252.203-7002 Requirement to Inform Employees or Whistleblower Rights;
- DFARS 252.203-7004 Display of Fraud Hotline Poster(s);
- DFARS 252.204-7009 Limitations on the Use and Disclosure of Third Party Contractor Reported Cyber Incident Information;
- DFARS 252.204-7012 Safeguarding Covered Defense and Cyber;
- DFARS 252.204-7008 Requirements for Contracts Involving Export-Controlled Items.
- DFARS 252.208-7000 Intent to Furnish Precious Metals as Government Furnished Material
- DFARS 252.211-7006 Passive Radio Frequency Identification



- DFARS 252.215-7000 Pricing Adjustments
- DFARS 252.216-7009 Allowability of Legal Costs Incurred in Connection with a Whistleblower;
- DFARS 252.219-7003 Small Business Subcontracting Plan (DOD Contracts);
- DFARS 252.219-7004 Small Business Subcontracting Plan (Test Program);
- DFARS 252.225-7001 Buy American and Balance of Payments Program;
- DFARS 252.225-7008 Restriction on Acquisition of Specialty Metals;
- DFARS 252.225-7009 Restriction on Acquisition of Certain Articles Containing Specialty Metals;
- DFARS 252.225-7012 Preference for Certain Domestic Commodities;
- DFARS 252.225-7014 Preference for Domestic Specialty Metals and Alternate I;
- DFARS 252.225-7021 Trade Agreements;
- DFARS 252.225-7027 Restriction on Contingent Fees for Foreign Military Sales;
- DFARS 252.225-7028 Exclusionary Policies and Practices of Foreign Governments;
- DFARS 252.227-7015 Technical data – Commercial Items;
- DFARS 252.227-7019 Validation of Asserted Restrictions – Computer Software;
- DFARS 252.227-7037 Validation of Restrictive Markings on Technical Data;
- DFARS 252.245-7001 Tagging, Labeling, and Marking of Government-Furnished Property;
- DFARS 252.245-7004 Reporting, Reutilization, and Disposal;
- DFARS 252.246-7007 Contractor Counterfeit Electronic Part Detection and Avoidance System;
- DFARS 252.246-7008 Source of Electronic Parts
- DFARS 252.247-7024 Notification of Transportation of Supplies by Sea
- AFFARS 5352.223-9000 Elimination of Use of Class I Ozone Depleting Substances (ODS).

5.2 **INCORPORATED IN PURCHASE ORDERS EXCEEDING \$100,000:**

- FAR 52.203-5 Covenant Against Contingent Fees;
- FAR 52.203-6 Restrictions on Subcontractor Sales to the Government;
- FAR 52.203-7 Anti-Kickback Procedures. Less paragraph c (1) which is deleted;
- FAR 52.203-10 Price or Fee Adjustment for Illegal or Improper Activity;
- FAR 52.203-12 Limitation on Payments to Influence Certain Federal Transactions;
- FAR 52.215-2 ALT I – Alternate I – Audits and Records – Negotiation;
- FAR 52.222-4 Contract Work Hours and Safety Standards Act-Overtime Compensation;
- FAR 52.222-35 Affirmative Action for Disabled Veterans and Veterans of the Vietnam Era;



- FAR 52.227-2 Notice and Assistance Regarding Patent and Copyright Infringement;
- FAR 52.242-13 Bankruptcy;
- DFARS 252.247-7023 Transportation of Supplies by Sea.

5.3 INCORPORATED IN PURCHASE ORDERS EXCEEDING \$550,000:

- FAR 52.215-10 Price Reduction for Defective Cost or Pricing Data;
- FAR 52.215-12 Subcontractor Cost or Pricing Data;
- FAR 52.215-18 Reversion or Adjustment of Plans for Post-Retirement Benefits (PRB) Other than Pensions;
- FAR 52.215-19 Notification of Ownership Changes;
- FAR 52.215-21 Requirements for Cost or Pricing Data or Information Other Than Cost or Pricing Data – Modifications;
- FAR 52.219-9 Small Business Subcontracting Plan and Alternate II;
- DFARS 252.249-7002 Notification of Anticipated Contract Termination or Reduction.



INTERNATIONAL TRAFFIC IN ARMS REGULATIONS (ITAR):

The technical data that accompanies the Purchase Order may be EXPORT CONTROLLED. If the Supplier determines that disclosure of this information to foreign persons, in whole or in part, is necessary in the performance of the work delineated herein, the Supplier shall ensure that such disclosure is in accordance with applicable International Traffic in Arms Regulations (ITAR) and Export Administration Regulations (EAR). Additionally, the Supplier shall provide MSI/DNE Products advanced notification of such disclosure and shall flow the substance of this notice to all subcontractors where technical data is provided. Further, by acceptance of this Purchase Order, the Supplier agrees to treat this information in confidence and will not use it or disclose to others in whole or in part for any purpose except as authorized in writing by MSI/DNE Products.

6 MSI/DNE PRODUCTS RESPONSIBILITY:

MSI/DNE Products is committed to improving the Supply Chain, growing the business and will be available to assist the Supply Base when applicable. Supplier partnerships, agreements and continuous improvements will strengthen our business execution and improve our products design, performance, delivery, or cost.

- MSI/DNE Products is committed to respond to Supplier questions or concerns promptly.
- MSI/DNE Products will ensure that Suppliers are provided with proper documentation to complete purchase order requirements accordingly.
- MSI/DNE Products will monitor and inform the Suppliers of their Quality and Delivery performance and work with them to achieve the desired goals.



Revision History

Rev	Date	Section	Paragraph	Summary of change	Authorized by
A	07/07/2017	All	All	Initial Issue	Larry Falco
B	10/16/2018	All	All	Required Updates	Larry Falco