Quality Requirements ("Q" Notes) for FMH Suppliers

"Q" Notes 1 through 15 are mandatory on all purchase orders for products and/or services provided to FMH. "Q" Note (R) shall be flowed down on all Purchase Orders at all times. (A) – (Q) and (S) - (Y) below apply only when one or more of those letters appear in the purchase order's "Q" notes text. Failure by the supplier to comply with any "Q" note listed on the purchase order shall be cause for rejection, and return of articles at the supplier's risk and expense. All External Providers (sub tier suppliers) are subject to verification inspection by the supplier's customer or regulatory agency.

Note: All certifications and articles of record must be clear quality and reproducible.

(1) Certificate of Compliance FMH Aerospace is a manufacturer of highly engineered Bellows, Ducting, Flexible Metal Hoses and Sheet Metal components and assemblies for the Aerospace, Defense, Space and Industrial Gas Turbine markets. Our products range from non-critical to safety-of-flight and require the same level of ethical behavior and product safety requirements of our external provider partners as our customers require of us. Your contribution to product conformity, safety, and ethical behavior is paramount to the overall Quality goals of FMH. As such, your certificate of compliance /conformance will:

A. Affirm that the products/services released and provided to FMH conform to all purchase order requirements, including those contained in its referenced specifications and bear the dated signature and title of a supplier representative.
B. Contain the following information, as applicable: 1) Title and specification number (including revision letter) of the process, 2) Name and address of facility, 3) Date C of C is issued, 4) Purchase order part number, 5) Quantity accepted/rejected, 6) Signature/stamp and title of authorized quality agent, 7) Fracture durability classification or serialization when required, and 8) Prime contractor assigned processor number, when one is assigned.
C. Affirm or state that your system meets or exceeds all of your internal Quality System requirements.
D. State whether or not sub-tier external providers were used (i.e. Sub-tier suppliers were / were not used in the performance of this Purchase Order.)

(2) Material Substitutions No substitutions of material composition, size or specification is allowed; unless authorized by the FMH buyer by means of an amended purchase order. Control of Counterfeit parts and/or materials shall be strictly enforced using applicable elements of AS 5553 and / or AS6174.

(3) Deviations / Nonconformance's Any proposed deviation, any existing nonconformance, or any departure from the drawing, specifications or other requirement of the purchase order must be reported with root cause and corrective/preventive action in writing to FMH for consideration. The buyer's approval must be received in writing prior to shipment. In no case do verbal conversations alter the requirements of the purchase order.

(4) Corrective Action Upon Buyer notice that material/services furnished were found non-compliant at FMH, the supplier must promptly investigate and provide written response listing the root cause and corrective action taken to prevent recurrence.

(5) Quality System The supplier must maintain a Quality System that complies with NADCAP, AS9100 (Latest Rev.), or to the end item customers' requirements as applicable to the work being performed which assures that all products or services provided under this purchase order comply 100% to the drawing specification and/or requirements. Records of all inspections performed must be kept on file for FMH review. Only AS9102 will be acceptable for the performance of First Article Inspections. All measurement and test equipment used in the supplier's inspection system must be subjected to periodic calibration and be traceable to N.I.S.T.

(6) Sub-tier Flow Down: The supplier must pass down to their direct and sub-tier external provider(s) the applicable portions of this purchase order to ensure that requirements are met. All special processes must be FMH and FMH's customer approved sources.

(7) Rights of Access FMH, Government/Customer or customer's representative reserves the right of access to the supplier's or its sub-tier facilities at any time during or after the performance under this order for the purpose of inspecting any or all of the material included in this order, to verify that subcontracted product conforms to specified requirements including records associated with the material or having given reasonable notice for the purpose of auditing the supplier's quality system. This verification does not indicate evidence of effective control of quality by the subcontractor and does not absolve the supplier of the responsibility to provide acceptable product, nor shall it preclude subsequent rejection by FMH and/or its customer.

(8) F.O.D. The supplier must maintain a system to prevent Foreign Object Debris (F.O.D.) as related to FMH hardware, which shall be defined as any object or material that is not included on the FMH purchase order or in referenced drawings or specifications. This system shall be designed as determined appropriate by the supplier, and shall be subject to audit by FMH and/or its customers. Supplier is responsible for assuring that the material processed or supplied is free of F.O.D.

(9) Purchase Orders The supplier must maintain a copy of all purchase orders and make these available for review by FMH and/or its customer.

(10) Part Protection Parts must be suitably wrapped, boxed or racked to guard against processing and handling damage.

(11) Specification Identification Specification title(s), number(s) and revision level(s), and drawing(s) requirement(s) and revision level shall be identified in documentation returned to FMH.

(12) Notification of changes in product and/or process definition Supplier shall notify FMH in writing of changes to processes, products, or services, including changes of your external providers or location of manufacture. Changes shall be approved by FMH and/or its customer prior to implementation.

(13) Records All records related created in order to satisfy this order shall be stored for a minimum of ten (10) years, or the life of the end use vehicle, whichever is greater. At the end of the 10-year retention period contact Ametek for disposition if documents will no longer be retained.

(14) ODS Prohibition The supplier must certify that Class I Ozone Depleting Substances (ODS), as defined in 40 Code of Federal Regulations (CFR), Part 82, Subpart A, Appendix F, are not used in the manufacturing, maintenance or disposal of hardware or components. The supplier must similarly certify that Class II ODS, materials included on the EPA 17 List, and materials included in 40 CFR, Part 372, Subpart D, Emergency Planning and Community Right to Know Act (EPCRA) Section 313 are not used; or if they are used, are identified, justified, substituted, reduced or eliminated.

(15) ITAR Compliance Notice: This Purchase Order may contain information that may be subject to International Traffic in Arms (ITAR) or export
Administration Regulations (EAR) Controls and may not be disclosed to any foreign person or firm, including foreign persons employed by or associated with your firm, without first complying with all requirements of the ITAR, 22 CFR 120-130, and the EAR, 15 CFR 730-774, including the requirement for obtaining an export license if applicable.

(A) Material Certifications The supplier shall provide raw material mill certifications to FMH showing the source of the material, the conformance specification(s), and applicable information sufficient for FMH to validate the material against the purchase order requirements and the governing specification(s) indicated on the purchase order. It must identify the mill source and list the mill chemical and physical tests an analysis of the material, plus any other data required to be reported by the specification.

(B) Special Process Certification and Test Report
B1 - A test report must accompany each lot of material.
B2 - Supplier shall provide a certificate of conformance that itemizes any/all special process specifications per blueprint requirements. Supplier shall also provide a certificate of conformance on all process materials which denotes applicable specification, bath/lot/heat numbers, shelf life, etc.

(C) Non-Destructive Testing (NDT) Reports An NDT report must identify by part number, quantity, and applicable serial number(s) the items tested and must list the NDT method, process specification, including revision, specification and revision that defines accept/reject criteria, type of NDT inspection performed (i.e. Penetrant Type Ivc), inspectors identification (Name or Stamp Number) and level of certification, actual test results, NDT technique and revision, evidence of customer/government source inspection (when required), traceability to material inspected (part number, serial numbers, lot number, etc. (if applicable)), and must be signed by a Level II. The radiographic film must accompany the test reports, and the test report must be signed by the inspector. When a procedure approved by FMH's customer is used, the procedure number and revision shall be included on the certification.

(D) Material Identification All raw material must be identified with the applicable heat/lot number and material type. When delivered into small cut pieces, the container must bear the required identification.

(E) Material Origin FMH will not accept materials manufactured/processed from foreign countries (DFAR Compliant) unless otherwise specified. Mill certifications must indicate that mill source is a U.S. based company and must indicate the heat number. Material test reports, in the absence of mill certifications, are not acceptable under any circumstances. Material shall meet the requirements defined in 2010 United States Legislation, Dodd-Frank Wall Street Reform and Consumer Protection Act, Section 1502 (e) (4) (i.e. Conflict Free Sourcing Initiative.)

(F) Traceability The supplier must maintain an effective system for material traceability by heat/lot/batch number back to its mill source, including any intermediate sub-tier suppliers. Control of Counterfeit parts and/or materials shall be strictly enforced using applicable elements of AS 5553 and / or AS6174.

(G) FMH Furnished Material The supplier must affirm that all products supplied under this order were fabricated only from material furnished by FMH.

(H) Special Process Certification Required for each special process (welding, brazing, surface treatment, non-conventional machining such as EDM, ECM laser, etc.) performance under this order. It must identify by part number, quantity and, if applicable, customer part number and serial number the items processed, and the name of the agency which performed the special process, if other than the supplier. When a procedure approved by FMH's customer is used, the procedure number and revision shall be included on the certification.

(I) Inspection Requirements The supplier must furnish a report based on the following criteria:
I1 - Final inspection report for each lot - 100% inspection required per furnished blueprint dimensions.
I2 - Final inspection report (sampling) for each lot using FMH approved sampling plans.
I3 - SPC Control Charts and analysis on key characteristics.

(J) Shelf Life Certification Container(s) of age sensitive materials furnished, must list the cure or the manufacturing date, and the shelf life or expiration date. FMH will not accept material with less than 75% of shelf life remaining upon receipt.

(K) Weld Wire Each individual rod must be “Flag Tag” identified on one end with the material type and certification of actual.

(M) Test Sample In addition to the applicable special process certification(s), the supplier must submit with shipment two (2) test samples for any plating, heat treat coupons, peening or non-conventional machining (EDM, ECM, laser, etc.) performed under this order.

(N) Source Inspection Items under this order are subject to FMH inspection prior to shipment from your facilities. FMH Q.A. Department must be notified, via buyer, 48 hours in advance of the time the items or process will be ready for source inspection or FMH’s customer source inspection.

(O) First Article The supplier must submit a first article report with the first lot of items furnished under this order. The report must identify the individual part in the lot which was inspected 100% for all applicable drawing characteristics and record the variable data (actual dimensions) obtained. Only AS9102 will be acceptable for the performance of First Article Inspections.

(P) Approved Sources All material furnished or process performed by a sub-tier supplier under this order must be from or by a source approved by FMH or its customer. Contact the buyer prior to placement of the sub-tier order. For NDT processing suppliers; only those customer approved sources listed on the attachment shall be used for processing NDT. No other sources of service shall be used without the express consent of FMH Corp.

(Q) Calibration Certification The supplier shall perform calibration on FMH M&T equipment in accordance with ISO 10012-1. The calibration certificate must clearly state that the service was performed per ISO 10012-1 using equipment traceable to N.I.S.T; list the actual environmental (temperature and humidity) conditions under which the calibration was performed; provide any adjustments made to the equipment, if applicable, and contain a unique certification number. Notify FMH Corp of any out-of-tolerance condition and provide test data as applicable. Form 40-009 Std Calibration Interval & Tolerance to be used.

(R) Manned Space Flight Requirements If used in human space flight; materials, manufacturing, and workmanship of highest quality standards are essential to Astronaut safety. If you are able to supply the desired item with a higher standard quality than that of the items described or proposed, you are requested to bring this fact to the immediate attention of the purchaser.”

(S) Packaging Materials or parts intended to be shipped to FMH must be properly packed (if required individually) to protect from damage such as nicks, scratches, deformation and exposure to foreign materials that can cause deterioration during shipping and handling. No metal-to-metal contact.

(T) Acromag Testing Material must be 100% alloy type verified using a thermoelectric tester (acromag)

(U) Qualification of Personnel: Personnel performing work shall be qualified in accordance with the referenced specification(s)

(V) Digital Product Definition (DPD) / Model Based Definition (MBD) The supplier shall conform to document D6-51991 "Quality Assurance Standard for Digital Product Definition at Boeing Suppliers" and obtain FMH approval as DPD Capable if the supplier receives, downloads, and/or uses Buyer’s DPD geometry in any format.

- If supplier receives Buyer’s DPD geometry in MBD format, supplier is required to obtain FMH approval as MBD-capable.
- If supplier provides Buyer’s DPD geometry to Seller’s subcontractors in any format, supplier shall impose Buyer’s document D6-51991 as a requirement and is responsible for its subcontractor’s conformance.
- If supplier provides Buyer’s DPD geometry in any format to supplier’s subcontractors, the supplier shall comply with all applicable export laws.

FMH Corp has adopted this standard as our benchmark. A copy of document D6-51991 and associated documents can be obtained at the following URL or are available through Buyer’s Authorized Procurement Representative.
http://www.boeing.com/companyoffices/doingbiz/dpd.html

(X) Use Domestic Specialty Metals DFAR 252.225-7014 applies to this order. Flow down to your sub-tier supplier is required.

(Y) Special Use Tooling All tooling received shall be properly controlled in accordance with applicable sections of FMH Corp. QCIP-71, Tooling Inspection and Control and suppliers internal tool control procedures.