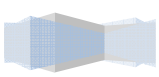
Supplier Quality

Requirements Manual



Revision Tracking		
Revision Level:	Date:	Change Description:
B	15DEC10	Addition of verbiage requirements per input of GS Engineering Management Review
C	4JAN11	Changed document retention duration from 10 years to 7 years.
D	20JAN11	(1.1) Revised verbiage to supply more clarity per input of GS Engineering Management Review (2.4) Revised Quality Rating to match section 2.2 Quality Rating of 97%
E	27APR11	Revision to the entire document in multiple areas for clarity and definition of requirements prior to re-release to all current suppliers.
F	16JAN14	Revision to the entire document in multiple areas for clarity and definition of requirements.

1.0 INTRODUCTION

1.1 SCOPE

This manual defines the essential elements of the GS Engineering "Supplier Quality System" and the requirements to assure the quality and on-time delivery of products supplied to GS Engineering by our suppliers.

This document provides a guide to suppliers but is not intended to supersede any applicable contract or specification requirements established in other specifications, standards, contracts or drawings.

When conflicts do occur the order of precedence shall be:

1. The contract/purchase order
2. The engineering drawing
3. The Supplier Quality Requirements Manual

1.2 SUPPLIER'S RESPONSIBILITY

It is the supplier's responsibility to understand and comply with the requirements of the purchase order/contract, engineering drawings, and of this manual. Supplier assumes full responsibility for the quality, delivery and reliability of all materials and services provided to GS Engineering. If the supplier is unable to meet the requirements or has questions about the requirements of this manual, they shall immediately notify the GS Engineering Quality Manager.

1.3 GS ENGINEERING'S VISITATION RIGHTS TO THE SUPPLIER

GS Engineering shall have the right to conduct pre-award and periodic post-award assessments / surveys at suppliers and supplier's subcontractors and to temporarily assign GS Engineering personnel at a supplier's plant to ensure continued compliance to quality system and product specifications. Except where a supplier documents proprietary products or processes and GS Engineering agrees to the proprietary nature of these products or processes, the supplier and the supplier's subcontractor's facilities, contracted products, procedures, and records shall be made available upon request to the GS Engineering Quality Manager or an authorized representative to verify that the system or product conforms to the Purchase Order, Engineering Drawing and Specification requirements. The supplier is responsible to answer corrective action requests resulting from assessments and surveys by the date stipulated on the corrective action request.

2.0 GS ENGINEERING APPROVED SUPPLIER PROGRAM PROCESS

2.1 APPROVED SUPPLIERS

When the supplier is approved, GS Engineering will monitor the supplier's responsiveness, quality, and on-time delivery.

GS Engineering reserves the right to interventional actions when quality or on-time delivery ratings fall below GS Engineering expectations. These interventions include but are not limited to; in-process continual system improvement, on-site process evaluation assessments, on-site quality system assessments, written corrective action plans by the supplier, supplier performance plan, and supplier meetings with the GS Engineering Quality Manager.

2.2 SUSPENSION OR LOSS OF APPROVED SUPPLIER STATUS

Occurrence of any of the following could result in suspension or loss of the approved supplier's status:

- Failure to comply with requirements of the GS Engineering Supplier Quality Manual or contract/purchase order requirements.
- Quality system survey findings warranting disapproval as a GS Engineering Supplier.
- Unauthorized submittal of non-conforming hardware, products or services.
- Inability to demonstrate process control or implement required process improvement plans (if imposed).
- Rejections during GS Engineering assembly process or field use, if directly attributed to supplier's product non-conformance.
- Have reoccurring or failure to address requested SCAR from GS Engineering.

The supplier who has lost their approved supplier status may be considered for reacceptance upon completion and implementation of applicable corrective actions and/or a review by assigned GS Engineering personnel. GS Engineering reserves the right to place a supplier under the provisions of a specified performance plan which will layout in detail the steps and procedures required for said supplier to re-attain an approved status.

3.0 REQUESTS FOR QUOTATION

The supplier shall review all requirements related to the inquiry. By providing a quotation, unless specifically noted otherwise, it is implied that the product and/or service requirements are clearly defined and understood by the supplier. It is

also implied by this criteria that the supplier has the ability to meet print or engineering specifications and purchase order requirements in all areas including manufacturing, outside services, special processes and inspection (including reports), and delivery.

If during this review it is found that there are requirements or specifications that are either not applicable or cannot be met, the supplier shall provide documented exceptions to those requirements. The GS Engineering Quality Manager OR assigned Program Manager will then determine course of action by either accepting the exceptions as is, issuing a temporary deviation, or commencing a design change to alleviate the exceptions.

4.0 PURCHASE ORDERS & CONTRACTING

The GS Engineering Purchase Order or Contract is an important document that the supplier must be thoroughly familiar with and completely understand. It is the criteria to which all work must comply. Failure to meet any purchase order or contract requirements without prior approval shall be reason for rejection of the product and delay of payment to the supplier. If product requirements are changed, the supplier shall ensure that relevant documents are amended and that affected personnel are made aware of the changed requirements. The purchase order may contain or make reference to additional documentation, which specifies standard requirements for the order such as:

- Special supplier instructions, this document can be amended to the P.O. and contains specific instructions regarding the manufacture, inspection and test of the specified part number.
- Special quality requirements or clauses as directed by GS Engineering customer such as ITAR, DFAR or other additional requirements.
- Nonconforming Product requirements that provide guidance on quarantine and disposition of parts that are not in conformance to requirements.
- Engineering Change Proposal (ECP) and/or Engineering Release Record (ERR) that documents a change to the engineering drawing or specifications and must be incorporated into the product per the effective date on the ECP. Products already in manufacturing that cannot reflect the change must be identified and resolved with the Quality Manager or Buyer at GS Engineering for direction and disposition.
- First Article Inspection requirements.
- Statistical Process Control (SPC) or part specific statistical data reporting requirements.
- Packaging Requirements when they differ from the industry standard.
- When a special process for sub-tier suppliers is restricted to approved GS Engineering Supplier's.

- Critical components that need to be qualified if it is not called out on the engineering drawing, supplier instructions, statement of work, or engineering memorandum.

5.0 MANUFACTURING

5.1 PART INSPECTION AND QUALIFICATION REQUIREMENTS

First piece inspection, in process inspection, and outside testing/certification to be performed on all product per drawing requirements and/or as specified on purchase order or contract. Records of these inspections and certifications must be either provided or made available as required by purchase order or contract. All sample plans and formats to be approved by GS Engineering prior to execution of purchase order or contract.

5.2 CRITICAL CHARACTERISTICS

Specified critical characteristics require GS Engineering approval of inspection method. Selected critical parts must be qualified or accepted by assigned criteria for each part number. These parts include but not limited to; extrusions, piece parts, assemblies, gears, bearings, identified heat treatments, coatings and critical machined parts. Refer to the engineering drawing, Purchase Order, Supplier Instruction, Statement of Work or Engineering Information Memorandum for ***"critical"*** component call outs.

5.3 MANUFACTURING METHOD

Following initial qualification approval of a critical component by GS Engineering or successful submission of the First Article Inspection Documentation and approval, the supplier shall not change manufacturing method, manufacturing sequence, site location, or sub-suppliers involved without providing notification of the change and prior written approval from GS Engineering. A final decision relative to the assignment as a critical component or controlled process rests with GS Engineering. Supplier questions concerning critical components and controlled process shall be referred to GS Engineering Quality Manager.

5.4 PROCESS DOCUMENT CONTROL

The supplier shall provide documentation control, including document change management of process documentation, manufacturing records, and inspection / test records to preclude unauthorized changes and provide adequate verification of accuracy.

5.5 TRACEABILITY

The supplier shall establish a positive system for identification and status of raw material, products in process and finished inventory. Manufacturing and inspection status may be indicated by methods such as part markings, part travelers or routers, marked containers or inspection records. Additionally, traceability for all products to the certifications, test records, lots, raw materials and outside processed products such as heat treat and plating must be maintained to support recall of products in the event that nonconforming or defective products are identified. This traceability must be considered "cradle to grave" for any inspection and test reports and material certifications. The supplier shall provide product identification and traceability to specific revision levels of drawings supplied by GS Engineering.

6.0 PACKAGING

The supplier shall package parts in accordance with drawing and purchase order requirements. In the absence of specific packing requirements the supplier shall assure parts are packaged as to maintain product integrity. Packaging containers shall be appropriate to the product and prevent product damage during shipping and handling. Refer to purchase order or contract if special packaging is required.

7.0 NON-CONFORMANCE

7.1 QUARANTINE

The supplier's Quality System shall have a documented procedure to ensure that product which does not conform to engineering and/or specification requirements is identified and controlled to prevent its unintended use or delivery. The supplier's system must address the root cause of the non-conformance and identify and implement corrective action to eliminate cause of non-conformance. **Due to the negative impact non-conforming product has on GS Engineering's business, non-conforming shipments or product presented for GS Engineering inspection and found to be non-conforming, will result in costs being charged back to the supplier and will also negatively impact the supplier rating.**

7.2 DEVIATION

The supplier may submit a documented request for deviation to the GS Engineering Quality Manager or assigned Program Manager when a non-conformance is discovered prior to the product shipment. The supplier shall state the engineering characteristic being deviated and quantify the actual non-

conforming condition. The supplier shall not ship the non-conforming product without **an approved and documented** disposition status by the GS Engineering Quality Manager or assigned Program Manager, and if applicable, Defense Contract Management Agency (DCMA) representative. The supplier shall segregate and properly identify the non-conforming product. The approved request for deviation must be maintained as a quality record for the specific project by the supplier. GS Engineering reserves the right to reject any deviation request based on internal risk analysis, without publishing the results of that analysis.

7.3 REWORK AND REPAIR

The supplier's Quality System shall contain a documented procedure and process that ensures that characteristics that may be affected by rework or repair operations are re-inspected after these operations. Repair operations (operations which are outside the scope of the engineering drawing or specification) shall not be implemented without prior written approval from the GS Engineering Quality Manager, assigned Program Manager, and if applicable, Defense Contract Management Agency (DCMA). Suppliers should be aware that many significant engineering requirements can be adversely be affected by inappropriate rework methods. Records of the rework and re-inspection must be maintained and made available to GS Engineering on request for approval.

7.4 CORRECTIVE AND PREVENTATIVE ACTION

The supplier's Quality System shall include a documented procedure that identifies root causes, identifies and implements corrective and preventative actions, and can validate the preventative actions. It is the supplier's responsibility to document and maintain the Corrective and Preventative Actions. The supplier shall make these documents available upon GS Engineering's request. Corrective and Preventative Actions may be initiated from:

- Internal non-conforming reports
- GS Engineering Inspections
- Customer complaints
- Customer quality and delivery rating reports
- Internal audits
- Customer audits
- Third party audits
- Failure Mode Effects Analysis Process

8.0 SUB CONTRACTORS

8.1 FLOW DOWN REQUIREMENTS

The supplier, in all applicable purchasing documents to all sub-tier suppliers and subcontractors, shall flow down the GS Engineering purchase order requirements and the GS Engineering supplier quality requirements specified on the GS Engineering purchase order or contract. This is applicable for all materials, outsourced processes, inspection and testing, packaging and shipping as well as documentation and records related to the GS Engineering purchase order or contract and any quality clauses or standards required by the GS Engineering Customer. The direct supplier to GS Engineering remains fully responsible to ensure all flow down requirements are communicated in the purchasing documentation including current revision levels as applicable for standards and specifications and all requirements are satisfied in products and services.

8.2 SPECIAL PROCESSES

The list of GS Engineering approved special process suppliers is available from the GS Engineering Quality Manager and these identified suppliers shall be used as directed in purchase order or contract.

9.0 GS ENGINEERING PROPERTY

The supplier shall exercise care with GS Engineering's supplied property while it is under the suppliers control or being used by the supplier. Upon receipt, the supplier shall inspect for identification, general condition, completeness, and proper quantity, type, size or grade. The supplier will perform functional testing where applicable prior to further processing or installation to ensure conformance to specifications for any material supplied by GS Engineering. The supplier shall immediately report damaged, malfunctioning or otherwise unacceptable items to the GS Engineering Quality Manager in writing.

10.0 SPECIFICATIONS, STANDARDS, AND GUIDELINES

The supplier shall be responsible for obtaining applicable Government and Industry specifications (e.g. Military Specifications, Material Specifications, American National Standards, etc.) including necessary documents for use by sub-tiers, from their respective sources. GS Engineering Specifications or other applicable GS Engineering data stipulated on the GS Engineering Purchase Order that have not been previously furnished shall be promptly requested from the GS Engineering Quality Manager or point of contact. It is the supplier's responsibility to ensure the latest revision or specified revision level of applicable documents is in use.

11.0 DRAWINGS

The supplier shall control all GS Engineering drawings, engineering changes, and other product control data and specifications. Supplier shall ensure that product produced for GS Engineering is processed in accordance with latest approved level/revision, unless otherwise specified.

Control considerations applicable based on order requirements:

- Control all drawings received from GS Engineering to ensure the correct revision is in use at the supplier.
- Recall or obtain all obsolete or past revisions of drawing in the supplier's possession and the supplier's sub-contractors possession.
- Ensure that the drawings to the correct revision level are available at the point of use within the suppliers manufacturing operations.
- Return all obsolete drawings as required by GS Engineering.
- Conform to all specified ITAR or confidentiality requirements.

12.0 MEASUREMENT AND TESTING

12.1 GAGE CALIBRATION & MEASUREMENT DEVICES

Measuring and test equipment (gauges) shall:

- Be calibrated or verified at specified intervals, or prior to use, against measurement standards traceable to NIST or international standards.
- Alternate methods of calibration used must be approved by the GS Engineering Quality Manager.
- Be identified to enable the calibration status to be determined.
- Be safeguarded from adjustments that would invalidate the measurement result.
- All certification of standards, masters and outsourced calibration work must be performed by a third party accredited laboratory certified to the latest edition of ISO/IEC 17025 Quality System Standard or the OEM for the equipment.

12.2 CALIBRATION RECORDS

Records of calibration shall be maintained and traceable to the gage identified in the inspection reports and records. When a gage or device is found not to conform to requirements, the supplier will take appropriate action to certify the equipment and will notify the GS Engineering Quality Manager of shipped

product, which may have been affected. Should a calibration error require reworking or delayed delivery to GS Engineering, a cost recovery will be initiated.

13.0 RECORD RETENTION

13.1 CONFORMITY DOCUMENTS

Records, either electronic or hard copy which provide evidence of conformity to requirements and the effective operation of the quality management system, shall be maintained for a minimum of fifteen (15) years unless otherwise specified by the purchase order or regulatory requirement following completion of the order. Records shall ***be fully completed*** and must remain legible, readily identifiable and retrievable. Records include radiographic film and documents that indicate the quality requirements on which the suppliers final acceptance of the product is based and those documents that record completion and / or results of inspections / tests which satisfy each of the quality requirements. Evidence of "white out", correction tape, or any other means used to alter the document from its original state shall invalidate the record. Inspection records must be in conformance with the criteria addressed in section 5.5 of this manual.

13.2 TIMELY ACCESSIBILITY

The supplier shall retrieve and make available records requested by GS Engineering within twenty four (24) hours after the request.

14.0 INTERNAL AUDITS

The suppliers Quality System will include a documented procedure for the conduct of internal audits at planned intervals to determine whether the quality management system conforms to the planned arrangements, the requirements of this manual, and to any other requirements established by the supplier. All internal audits must be conducted by certified auditors or trained internal auditors that have been trained according to the latest level ISO-19011 standard requirements by qualified training sources. Records or certificates of the auditor training and the training source must be maintained and made available to GS Engineering or our customer on request.

15.0 TRAINING

The supplier's Quality System will include a process for training of all personnel in the organization. The process must include identification of training, provision of the training and evaluation of competency for personnel. Records of the training must be maintained by the supplier.

16.0 ACKNOWLEDGEMENT

The undersigned, a representative of _____ (Company Name), hereafter referred to as "the Supplier", hereby acknowledges receipt of the GS Engineering Supplier Quality Manual and by signature agrees to all requirements of the manual unless specifically waived by an Authorized Representative of GS Engineering.

Signed:

_____	_____
Supplier Representative (print)	Supplier Representative (signature)
_____	_____
Company Name (print)	Date

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Send to the attention of the GS Engineering Quality Manager

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