



Supplier Quality Manual

Printed versions of this manual and other GKN supplier documents shall be for reference only and shall be subject to change without notice. It is the responsibility of all suppliers to verify the hardcopy version against the electronic version on the GKN website www.gknwa.com.

APPROVALS

Director of Procurement

A handwritten signature in black ink that reads 'Darryl Mann'.

Darryl Mann

Approval Date: 9/12/2008

Current Revision Level: **A**

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GKN Supplier Quality Manual

1. Introduction

Welcome to GKN Aerospace Alabama (hereafter referred to as GKN). GKN is a company in a competitive environment always seeking to minimize costs, deliver the best services and products with the highest quality to its customers.

In order for GKN to meet and surpass the needs of its customers, GKN demands high performance from its suppliers. In return GKN establishes long-term relationships that continue well into the future.

The purpose of this document is to communicate the information the supplier will need in order to allow GKN to receive products and services in a way that meets or exceeds the needs of GKN's business and therefore allows GKN's customers to Expect More.

2. References

- a. AS9102 website (www.sae.org)
- b. ENG 1.2.2
- c. GKN T&C's
- d. NIST website (www.nist.gov)
- e. PUR 1.1.2
- f. PUR 1.3.3.1
- g. PUR 1.9.1.2
- h. PUR 1.9.1.3

3. Contracting

The supplier is responsible for adhering to the Terms and Conditions of GKN, the Vendor Instruction Sheet (VIS), the Quality Clauses, and any other instructions cited on the Purchase Order.

The supplier shall assume total responsibility for all sub-contract activity and flow down of specified requirements.

The supplier must carry out a review of the requirements related to the product and ensure that all information required to manufacture the part is obtained from GKN or suitable source.

4. New Supplier Approval

Suppliers must achieve an Approved status on GKN's Approved Supplier List (ASL) in order to be made an authorized supplier to GKN. Approved status is awarded to a supplier demonstrating their quality system meets GKN standards. GKN will approve new suppliers through any of the following means:

- a. Registered, but not limited to, ISO 9000, AS 9100, Nadcap, or other industry standards as applicable. Suppliers will be required to provide evidence of compliance with this certification.

Fig 1. Industry Standards

Industry Standard	Scope
ISO 9000	The international reference for quality management requirements in business-to-business dealings
AS 9100	The quality system requirements for suppliers with specific requirements critical for the aerospace industry.
Nadcap	Certification for the industry-managed program for special processes in the aerospace industry

- b. If the supplier currently is contracted to GKN and considered in "Good Standing" they may carry out work on other GKN Purchase Orders.
- c. Directed for use by a customer mandate with written approval by the customer.
- d. GKN will request that the supplier complete the GKN Supplier Survey Questionnaire (PUR 1.9.1.2) regardless of Industry Standard certification. If the supplier does not have an industry standard, is unable to demonstrate a pre-existing supplier relationship, and is not customer mandated the supplier must seek approval through GKN Supplier Survey Questionnaire prior to the start of production.
- e. If GKN chooses to perform an on-site assessment, the supplier will be assessed along many metrics included within the GKN Supplier Process Assessment (PUR 1.9.1.3). The supplier must pass the Supplier Process Assessment in order to be approved or to continue to remain on the ASL.

5. Maintaining Approval

Several aspects of each supplier's performance will be continuously monitored. The supplier must maintain a performance score that GKN considers to be appropriate in order to remain on the Approved Supplier's Listing.

The supplier must be re-approved through the new supplier approval process if not used within a two-year time span.

GKN may conduct on-site assessments of its suppliers. When an on-site assessment is required, the supplier must pass the on-site evaluation.

Failure to comply with the following stipulations may result in loss of approved status as a GKN supplier.

- a. Corrective Action Requests may be issued to suppliers for various reasons. The supplier shall respond positively to Corrective Action Requests within 30 business days.
- b. The supplier shall notify GKN of customer exposure within 48 hours of non-conformance identification.
- c. The supplier must notify GKN of loss of ISO, AS, Nadcap, or other applicable industry certification immediately upon decertification.

Approval is granted with the understanding that GKN may discontinue approval at any time.

6. First Articles of Inspection

All GKN suppliers will perform First Articles of Inspection on all characteristics using the AS9102 standards (Ref www.sae.org) and associated forms, unless otherwise specified by GKN contractual document.

Fig 2. FAI and Delta FAI Needs

Suppliers shall perform FAI's under the following circumstances:
New part, detail, subassembly, or fabrication/assembly
Changes required by AS9102
Changes with potential to affect fit, form or function
Changes in manufacturing source or process
Requested by GKN's Quality Department
When required as part of a Corrective Action Request

Packages with FAI's must be clearly marked stating "FAI enclosed" visible on the outside of the package. All paperwork must be placed inside an envelope within the shipping container clearly identified stating "FAI documentation enclosed".

All suppliers must adhere to details outlined in Procurement Quality Clause 16 regarding FAI's.

When a drawing, model, tool, mylar (etc.) is needed to make the FAI and the supplier has it in their possession, the supplier must send the appropriate material with the First Article part, detail, subassembly (etc.). After GKN has accepted the FAI, the material will be promptly returned if requested.

When requested by GKN the supplier must send the appropriate tooling, drawing, etc.

7. Corrective Action Request

If GKN finds a non-conformance in the supplier's product, a Corrective Action Request will be issued. Notification of containment for non-conformances is required within 48 hours from the supplier. GKN requires the supplier to formally respond to the Corrective Action Request within 10 business days.

Upon receiving the Corrective Action Request, the supplier will conduct an investigation to determine the root-cause of the non-conformance.

Failure to respond to the Corrective Action Request could result in loss of approval status, suspension of all deliveries, and further evaluation of contract continuation.

8. Request for Deviation

No substitution of material specification, size, or any other attribute will be allowed except by the amendment of the Purchase Order.

If a deviation from the Purchase Order specification is necessary, a request for technical support must be submitted in writing. The supplier must complete GKN's Supplier Technical Support Request (Reference PUR 1.3.3.1). The STSR will then be assessed, and approved or not approved, thus allowing the deviation to be permitted.

9. Certificate of Conformance

After the FAI has been submitted and approved, a Certificate of Conformance (COC) must be sent with every shipment of the applicable part.

The COC will be attached to the packing list.

The COC must contain the following information at a minimum:

Fig 3. Information for Certificate of Compliance

COC Mandatory Information
GKN Part and revision number
Quantity shipped
Purchase Order Number and Line Number
Part description
Supplier name and address
Name of person completing form
Title of person completing form
Original signature (in blue ink)
Date of signature
Lot traceability

10. Performance Monitoring

GKN expects its suppliers to continuously perform at a top level providing GKN materials that are of the highest quality and delivered when needed. Supplier's performance will be monitored and measured on the following metrics:

Fig 4. Scoring for Supplier Performance

Percentage of Score	Metric
15	Initial Survey Score
60	Inspection Score
10	Delivery Score
15	Corrective Action Responses

Quality Performance is the percentage of parts and materials that pass inspection based on customer requirements.

Delivery Performance is the percentage of Purchase Order line items that were received on time compared to their date due at dock. Current tolerance allows shipments to be received zero days late and up to 10 business days early.

GKN will monitor the cost the supplier charges for its product. Based on the increase/decrease of cost to GKN, the company will subjectively issue the supplier a customer cost score.

Customer Service is a subjective measurement from the individual buyers that interact with each specific supplier. Buyers are expected to receive immediate responses from each supplier regarding status of parts and materials, quotes, and Return Material Authorizations (RMA's).

Response to a Corrective Action Request is expected to be on time and of acceptable content. Forty-eight hours is allowed for an explanation of containment, and 10 business days is allowed for a positive formal response to the Corrective Action Request.

Corrective Actions will be scored as follows: Full points will be awarded if adequate response is received within 10 business days. If no response or an unacceptable response is received within 10 business days, no points will be awarded. If multiple Corrective Actions have been issued, an average score will be issued.

11. Cost Recovery

GKN loses approximately \$250 every time a non-conforming batch of material goes through the plant because of lost time in quality, engineering, and management. In order for GKN to recover this financial loss, GKN will charge the supplier \$100 for the time that was lost as a result of the non-conforming batch.

With the exception of FAI parts and batches, finance will deduct the fee from payment to the supplier as part of accounts payable of the next billing/payment cycle.

12. Authority

Access is required for purposes of auditing and, if necessary, source inspection on the supplier's premises or their sub-contractor's site. The supplier will be informed in advance of audits and source inspection.

13. Software

The supplier must complete and submit an Audit Data Route Questionnaire (ENG 1.2.2) before GKN will release any data to the supplier.

The supplier shall maintain effective revision control and ensure adequate security of electronic data and media.

The supplier must adhere to Procurement Quality Clause 22 (Reference PUR 1.1.2) regarding software.

14. Communication

GKN Procurement will be notified of all changes within the supplier's systems that affect quality.

GKN Procurement has the sole authority to modify any aspect of a Purchase Order that affects cost, delivery schedule, or quantity.

15. Health and Safety

All potentially hazardous materials must be sent with a Material Safety Data Sheet (MSDS).

Domestic deliveries must abide by Occupational Safety & Health Administration (OSHA) regulations; European international materials must abide by European Union (EU) and/or other relevant regulations. All part and material deliveries must be marked, labeled, and packaged abiding by United States Department of Transportation regulations.

Material Safety Data Sheets must include the Volatile Organic Compound (VOC) content. VOC content should preferably be in lbs/gallon.

16. Stamps and Tags

All parts received must have positive traceability to inspection status. Tags and stamps must identify the individual inspector and be unique to the individual supplier.

17. Part Markings

All materials must be identified with part markings that are traceable to original certification. In-process material traceability must begin with raw material and continue to final product inspection.

Markings must be transferable during and after operations that remove markings. Markings must be unique and prevent duplication. Markings must be traceable to test data and be unique to the individual supplier.

18. Scrap, Rejects, Non-Conformances

In production, all scrap and rejected parts must be identified, documented and quarantined to prevent mixing with acceptable products. Quarantined area must be of limited access.

19. Work Orders

All processes and manufacturing procedures must be accompanied with applicable work orders. Work instructions must define specific requirements in order to complete each process.

20. Gauges

Gauges and tools used during inspection and special processes must be calibrated and traceable to NIST Standards. (Reference www.nist.gov)

21. GKN Supplier Materials

GKN provided materials such as drawings, tools, or models, must be controlled and identified.

22. Housekeeping

Supplier facilities are expected to be safe and clean work environments. Appropriate personal protective equipment is expected to be used as applicable. Controlled areas must have objective evidence of control.

23. Environmental Management – GKN is committed to protecting the environment and expects all suppliers to partner with us in a commitment to a safe and eco-friendly workplace. Our goals are to reduce consumption of water, energy, solid waste and eliminate VOC emissions. We expect our suppliers to share these primary goals and provide information that might be related to a supplied product that would be a significant aspect to meeting these goals or have a negative impact on the environment.

24. Terms and Conditions

All suppliers are required to read and adhere to GKN's Terms and Conditions (Reference GKN T&C.doc)

25. GKN Procurement Quality Clauses

All suppliers are required to read and adhere to any and all Procurement Quality Clauses that are called out in the GKN Purchase Order. (Reference PUR 1.1.2)