SQP-002

Supplier Quality Requirements

Issue	Date	Details of Change	Changed By	Authorised By
1	03/09/19	Initial Implementation	N/a	Rob Digby
2	11/06/20	Overall review – Section 3.10 and 3.11 added	Dom Adams	Rob Digby
3	21/09/2020	CSR and product safety added along with minor wording changes 4.6 Added - CAD	Dom Adams	R Digby
4	25/11/2020	4.7 – Added for NPI and FAIR info	Dom Adams	R.Digby

Document Controlled Copies			
Copy Number	Location	Owner	Date Issued
1	On Company Common Drive	Robert Digby	25/11/2020

Contents

1.0 - Scope and Purpose

1.1 – Purpose

To ensure suppliers are aware of and conforming to the required standards of Sigma-ASL Limited and the organisations interested parties. Standards and requirements set by Sigma-ASL are to ensure its customer requirement and satisfaction is achieved.

1.2 – Scope

This Quality Requirement Procedure stands for both products and services that are supplied to Sigma-ASL. This Procedure is based upon the international standard AS9100 plus additional Sigma-ASL requirements including the requirements of interested parties.
The supplier shall adhere to all requirements outlined unless permission is given by Sigma-ASL.

2.0 - Authorities and Responsibilities

The Sub-Contractor shall be responsible for adhering to the requirements outlined in this procedure. This shall be declared on a form which will be supplied by Sigma-ASL (Yearly per Section 3.3)

Sigma-ASL shall be responsible for ensuring that all information and documentation communicated to the Sub-Contractor is correct, concise and conforming. Sigma-ASL shall also be responsible for instigating assessments and audits which shall be organised with the Sub-Contractors Quality Representative.

Sigma-ASL maintains the right to be allowed access to the Sub-Contractors manufacturing site within 48 hours of said request or notice.

3.0 – General Information

Once an order or contract has been accepted, the Sub-Contractor is responsible for complying with all the necessary requirements (drawings, specifications etc.). If there are any conflicting requirements between the supplied data, the drawing will always take precedence, unless otherwise specified.
If Sub-Contractors then use a sub-tier supplier, they shall be responsible for flow down of all the necessary requirements that are imposed in the orders or contract from Sigma-ASL.
The terms and conditions supplied with each purchase order will be adhered to at all times and will override any conflicting information in this documented procedure.

3.1 – Certification/Accreditation Requirements

Sub-Contractors shall have and maintain a Quality Management System that is suitable to the product / service that is being supplied.
Sub-Contractors must have the appropriate third-party certification for the product / service they are providing.
Sigma-ASL requires suppliers to have ISO9001 or AS9100 unless otherwise agreed. For special

processes Sub-Contractors are required to have NADCAP Accredited processes unless otherwise agreed with Sigma's Customer.

3.1.1 – Certificate of Conformity (C of C)

Unless otherwise stated in the contract a C of C (Certificate of Analysis when a material analysis has been carried out) will be required with each shipment. Someone who is designated to the supplier's internal requirements (Approved Signatory) must sign off the relevant documentation and ensure conformity in line with section 4.0.2 of this procedure, where applicable.
Declaration of Conformity (D of C) is an acceptable alternative to a C of C but shall follow the same requirements.

When releasing parts to Sigma ASL's customer the supplier will add a statement on the CofC stating that the parts are being released on behalf of Sigma ASL.

3.2 - Record Retention

All manufacturing records relating to Sigma-ASL products must be retained by the Sub-Contractor. These records shall not be disposed of without Sigma-ASL's prior permission. The records must be stored in a manner that they are retrievable within 24 hours upon request and that it reduces any degradation that may occur.

3.3 – Vendor Assessment

Sigma-ASL require all suppliers to fill out a "Vendor Assessment Questionnaire" and supply copies of any current formal approvals. These shall be completed yearly and within 2 working weeks of receipt.
It is possible for Sigma-ASL to use a supplier without any of these third-party accreditations. This will have to be approved with an audit by Sigma ASL or by the end user; approval will be given in writing and/or certification.

3.4 - Foreign Object Debris / Damage / Detection (FOD) Policy

Sub-Contractors should have a FOD policy and procedure for the detection, prevention and removal of foreign debris (This is a mandatory requirement for SC's that are manufacturing Aerospace product). The FOD policy shall be used in all operations/areas within the Sub-Contractor's Organisation. Appropriate training and documentation shall be available to all staff involved in the process of Sigma-ASL parts and product.
Any special packaging supplied or used to pack castings (I.e. plastic caps and purpose made boxes) by Sigma-ASL must be maintained and kept clean by the Sub-Contractor. These will also be used by the Sub-Contractor to despatch back the relevant products to Sigma-ASL to the same standard in which it was received.

3.5 - Counterfeit Material

All materials, products and services provided to Sigma-ASL are subject to counterfeit/Conflict material control.

1 Counterfeit materials can include but are not limited to;

i) An item that is used/refurbished when it is stated as new
ii) An item that is an illegal copy of an OEM (Original Equipment Manufacturer)
iii) An item that has labels stating conformity e.g. CE stamp, but is however not conforming to such requirements
iv) An item that has failed testing, but the seller/manufacturer has stated that it has passed the requirements

2 Sub-Contractors are responsible for establishing full traceability of all parts/materials provided. They must be responsibly sourced and not contain any conflict minerals.

3 Raw Ingot shall be provided with a chemical analysis report and material dabs. This is then to be verified by the relevant sub-contractor with a chemical analysis test.

4 Non-Conforming Product shall be quarantined and subject to be rejected back to the relevant Sub-Contractor. Additional charges may be incurred at Sigma-ASL's discretion. This will include coverage for time wasted, additional resources used and any other factors which affect Sigma-ASL. Further actions will be in line with section 3.6 of this procedure.

3.6 - Non-Conforming Product

If products arrive without a relevant C of C/release documentation, Sigma-ASL reserves the right to reject the products back to the Sub-Contractor.
If the product received is not to the required standard or drawing requirement then all product/batch may be rejected back to the supplier. From this Sigma-ASL will decide if credit is required or if additional penalties have been incurred i.e. transport, time wasted etc. If not the Sub-Contractor shall rework or replace the product in question, it is at Sigma-ASL's discretion as to which.
If deemed necessary by Sigma-ASL, a Root Cause Analysis (RCCA/CAPA) will be required to be completed to resolve why the non-conformance occurred and to prevent it occurring again. If further analysis is required, an 8D report or equivalent report will be requested to be completed for an in-depth analysis of the problem. This shall be at Sigma-ASL's discretion also.

Product recall shall be required if a supplier suspects they have sent out non-conforming parts to an interested party. The Sigma ASL quality department shall be informed immediately of any requirement for product recall. From this Sigma ASL will work with the supplier to carry out the recall in a methodical manor to ensure all suspected product is accounted for.

Sigma ASL's supply chain shall not knowingly send non-conforming product or product that does not fully met requirements to another interested party without written consent (Concession) from either Sigma ASL.

3.7 – Change Control

The Sub-Contractor may not make any changes to any Sigma-ASL product once a process has been Frozen or approved through the FAIR process.
Any significant changes to the Sub-Contractors organisation, including changes in, but not limited to;

- Top Management changes/restructure
- Premises/Manufacturing Location
- Anything that affects the Fit, Form or Function of Sigma Product.
- Relevant Contact Details
- Any repairs or maintenance carried out to Sigma-ASL owned equipment or tooling.

Where the supplier wishes to make a change to either the manufacturing process or the supply chain, they must first inform the Sigma ASL quality department. The request will then be processed and either an approval will be given or rejected for the proposed change. Under no circumstance will suppliers change the agreed manufacture process without approval of Sigma ASL quality.

3.8 - Delegated Supplier Quality Representative (DSQR)

For Logistical purposes, a Sub-Contractor may be approved as a DSQR. This will involve the Sub-Contractor inspecting and supplying the part direct to Sigma-ASL's end customer. Prior to receiving this approval, an audit/assessment will take place to ensure the feasibility and capability of the Sub-Contractor. The sub-contractor shall nominate competent personnel for DSQR. The Sub-Contractor will provide copies of the Approved signatories and/or stamps for Sigma-ASL's records.
DSQRs are required to send copies of the completed CofC for Sigma-ASL to review and produce an overall CofC for each batch of product. Both C of Cs will be returned to the Sub-Contractor which will then be sent to the end customer.

Sigma ASL acts as DSQR for its Clients and reserves the right for access to the organisations site for source inspection and other reasons where required.

3.9 - Supplier Performance

The On-time delivery target (OTD/OTIF) set by Sigma-ASL for Sub-Contractors is 97%.
The Quality performance target is set at 99%.
These two targets are analysed by Sigma ASL and a monthly score card will be sent to suppliers identified by Sigma ASL.
Targets are set around Sigma-ASL customers' minimum requirements.
A monthly "Performance Scorecard" shall be communicated to relevant staff at the Sub-Contractors Organisation. This will score the Quality Performance and OTD/OTIF and any other comments from Sigma-ASL.

If targets are not achieved consistently Sigma-ASL shall request that Corrective Actions are carried out in a manner as per Section 3.6 Paragraph 3. Further Actions may be taken if no improvement is evident at the discretion of Sigma-ASL.

3.10 - Control of supplied tooling

- Supplier who receives the tool is to inspect it for damage and conformity. If there is any discrepancy this shall be reported back to Sigma ASL quality who will inform the customer immediately.
- Unless otherwise informed by Sigma ASL, the supplier is to allocate the tooling an identification number. This shall be permanently marked on the tooling by the supplier in an appropriate area using a suitable method.
- The supplier shall store the tooling in such a way as to prevent degradation / damage to the tool. It shall be easily retrievable.
- Tooling shall be checked by the supplier for damage prior to use. Any non-conformance found either before or during production relating to the tolling shall be immediately reported to Sigma ASL quality who shall inform the customer.
- Tooling identified for calibration shall be have calibration carried out at the supplier or returned to Sigma for verification or 3rd party for verification.
- When transporting tooling, sub-contractors shall ensure adequate packaging and transport as to ensure the integrity / conformity of the tool.

3.11 - Traceability

The sub-contractor shall always maintain full traceability throughout and after manufacturing / processing of Sigma ASL products. Identification is to be traceable back to the raw material.

3.12 – CSR (Corporate social responsibility)

All suppliers agree to follow the CSR goals of Sigma ASL that follow,

- Ethics – Carry out business in an ethical way such as being transparent with all interested parties and striving for balance in social, environmental, and economic sectors to ensure a responsible and sustainable process.

- Anti-Slavery – Sigma ASL expects its supply chain to have a suitable anti-slavery and human trafficking policy. We have a zero-tolerance approach to Slavery and expect all our supply chain to share our values.

- Anti-Bribery - Sigma ASL expects its supply chain to adhere to an anti-bribery mentality. Bribery is the act of offering, giving, promising, or soliciting something of value to have influence on decisions. There is a zero tolerance to bribery either with Sigma ASL or any other interested parties.

- Counterfeit material – As detailed in section 3.5 of this specification

3.13 – Product safety

Product safety will be considered in context with each individual companies' entire operation. Each suppliers will;

- Asses any hazards and manage the risks of any process they are carrying out including the outgoing parts.

- Manage any safety critical items as detailed by the customer.

- Analyse and report any occurrence where product safety is compromised. This will encompass the preventative actions including training of staff / suppliers etc.

4.0 – Process Specific Requirements

4.0.1 – General

For Aerospace product, Sub-Contractors are required to be Nadcap approved for special processes unless otherwise authorised. These are indicated in the titles below with "(Special)" to Highlight this.
The requirements stated in the sub sections below refer to Aerospace requirements only. If product is manufactured for other sectors (Automotive, Waterworks etc) then the relevant Quality Management System i.e. ISO9001, IATF 16949 etc shall apply unless requested by Sigma-SL.

4.0.2 – Overall C of C requirements

Certificate of Conformity information shall be as below, but is not limited to;

- Declaration of Conformity i.e. "Manufactured in accordance with AS9100" etc
- Reference and conformation to Sigma-ASL purchase order number, Part number, Part Drawing Issue number, Quantity Conforming and Non-Conforming, Serial Numbers if applicable and other unique information i.e. Internal Report Numbers.
- Unique reference number used (Test report number)
- Date

A copy of the C of C and other documentation shall be placed inside the packaging with the product.

4.0.3 - FOD Prevention - Cleanliness and Packaging

All product shall be free from any adhering or loose sand and debris prior to packing, also any packing material shall be clean and free from debris. Packaging in accordance with SQP-017.
On Completion of the manufacturing process, product shall not be stored or packaged with any

potential for component to component contact (Impact and Handling Damage) and shall be protected from dirt, debris and any moisture.

4.1 - Sand, Gravity and Investment Castings

Sub-Contractors providing this product for Sigma-ASL are required to be AS9100 accredited.

4.1.1 – Data Collection

Data recording is essential for Process Control. The following areas must have specific information recorded for future reference, Product Approval (FAIR/PPAP) and subsequent process audits from Sigma-ASL and other Interested parties.

- Cast Metal Temperatures
- Atmospheric Temperature and Humidity
- Furnace and Mould Temperature (Investment and Gravity)
- Percentage of Virgin Ingot and Revert (Runners, Risers and untainted scrap)
- Information shall be recorded under a unique reference number

4.2 - Heat Treatment (Special)

Sub-Contractors providing this process shall have a QMS accredited to AS9100 and the relevant Nadcap Process accreditation.

All product and test bars shall be heat treated to the required state as shown in drawings and the Sigma-ASL Purchase Order.

A hardness test is required by the Sub-Contractor to ensure conformity prior to despatch.

Non-Conforming product shall be marked up using a tag or label and shall be sent back to Sigma-ASL. The Sub-Contractor shall not dispose of the product.

4.2.1 – Additional C of C Requirements

C of C's for the Heat treatment Process shall also include, as a minimum requirement, information on;

- Heat Treatment state detail (T6, T71 etc)
- Test Bars – Quantity
- Nadcap Process Specification i.e. AC7*** etc.
- Hardness result / test report
- Heat Treatment Graphs

4.3 - NDT Processes (Special)

Sub-Contractors providing this process shall have a QMS accredited to AS9100 and the relevant Nadcap Process accreditation.

Non-Conforming product shall be marked up using a tag or label and shall be sent back to Sigma-ASL. The Sub-Contractor shall not dispose of the product.

Conforming product shall have any indication marking (Shot Identification) removed prior to despatch. Photographs may be included in the report to show any relevant areas of the product.

4.3.1 - Additional C of C Requirements

C of C's for any NDT Process shall also include, as a minimum requirement, information on;

- Report reference (Report Number)
- Relevant photographs if necessary
- Nadcap Process Specification i.e. AC7*** etc.

4.4 - Surface Protection/Plating/Painting (Special)

Sub-Contractors providing this process shall have a QMS accredited to AS9100 and the relevant Nadcap Process accreditation.

4.5 – Hot Isostatic Pressing HIP (Special)

Sub-Contractors providing this process shall have a QMS accredited to AS9100 and the relevant Nadcap Process accreditation.

4.5.1 – Additional C of C Requirements

C of C's for the HIP Process shall also include information on;

- Process temperatures or Specification details
- Test Bars – Quantity
- Nadcap Process Specification i.e. AC7*** etc.

4.6 – CAD (Computer Aided Design)

Sub-Contractors providing CAD services shall have a QMS accredited to ISO9001.

4.7 – New part introduction including FAIR

New part introduction will be managed by both Sigma ASL and the Supplier. All proposed manufacturing processing routes and parameters will be identified and shared between both parties. This will include the intended use of sub tier suppliers. Information on the proposed use of sub tier suppliers will be given to Sigma-ASL. This will include but is not limited to;

- Suppliers name and address.
- Accreditations held by the supplier.

Once the supplier route has been agreed between Sigma ASL and the supplier this will remain fixed. If the supplier identifies that the route must change, and other sub-tier suppliers are required this will first be communicated with Sigma ASL who will formally accept or reject the proposal. This also ensures that Sigma ASL have full visibility on Suppliers / Sub suppliers throughout the project / manufacturing process.

FAIR / LAIR's must be conducted in accordance with AS9102 and / or specific customer specification requirements relating to the FAIR process. This will be carried out in full with all supporting information accompanying the FAIR/LAIR. Including but not limited to;

- Completed FAIR forms (1,2,3) etc
- CofC's from the supplier along with CofC's received from any sub tier suppliers
- Test reports where required such as dimensional verification, Mechanical, NDT etc.
- Process route / flow diagram (Including supplier / sub supplier names and input)

Once a FAIR has been completed by the supplier this will be submitted to Sigma ASL for review and submission to the customer. Once approved the manufacturing process route which consists of the order of processing and the suppliers / sub suppliers used will remain fixed and will not deviate without written permission from Sigma ASL.