Special Processes Institute



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2. Introduction

Effective supplier quality management is fundamental to ensuring that externally provided processes, products and services consistently meet applicable requirements.

Organisations increasingly depend upon complex supply chains involving multiple suppliers, subcontractors, distributors, specialist manufacturers and special process providers. Consequently, product conformity cannot be assured solely through inspection of delivered products or reliance upon supplier certification.

A structured approach is required to establish supplier capability, communicate requirements, manage risks, verify conformity and monitor performance throughout the supply chain.

Clause 8.4 of the 9100 aerospace, defence and space quality management standard builds upon the supplier control principles established by ISO 9001, introducing additional requirements intended to address the increased complexity, criticality and risks associated with aerospace, defence and space products.

This guide explains those requirements and provides practical recommendations for their implementation. It distinguishes between:

- Requirements established by ISO 9001.
- Additional or enhanced aerospace and defence requirements.
- Responsibilities of the purchasing organisation.
- Responsibilities of suppliers and sub-tier providers.
- Recommended implementation methods and tools.
- Examples of good practice and objective evidence.

The guide also explains how aerospace and defence specific requirements may become applicable to suppliers that hold ISO 9001 certification but are not certified to the 9100 series.

2.1. Understanding the Terminology

For clarity, the following terminology is used throughout this publication.

- **Customer**: The organisation purchasing a product, process or service.
- **Supplier**: The organisation providing a product, process or service to the customer.
- **Sub-tier supplier**: An organisation providing products, processes or services to another supplier within the supply chain.
- **External provider**: The general term used within management-system standards for organisations providing externally sourced products, processes or services.
- **Flow-down**: The communication and contractual application of relevant requirements to organisations performing activities within the supply chain.
- **9100 requirements**: Aerospace, defence and space specific quality management requirements associated with the applicable edition of AS9100, EN9100 or IA9100.

An organisation may simultaneously act as both supplier and customer. For example, a machining company supplying components to an aerospace manufacturer is a supplier to that manufacturer. When the machining company purchases heat treatment from a specialist processor, it becomes the customer of that processor.

This distinction is fundamental to understanding supply chain responsibilities.

3. Quality Management System Certification

Quality management system (QMS) certification is widely used by organisations to establish confidence in the capability of their suppliers.

3.1. Minimum Requirement

ISO 9001 certification is frequently specified as a minimum requirement for organisations supplying products, processes and services to aerospace, defence, automotive, medical, engineering and other quality-critical industries. However, not all certificates claiming conformity with ISO 9001 provide the same level of assurance.

3.2. Accredited vs Non-Accredited QMS Certification

An organisation may possess a certificate bearing the ISO 9001 designation without having undergone an independently accredited certification process.

Some certification providers operate comprehensive audit programmes but do not hold recognised accreditation. Others offer simplified assessments, document reviews or consultancy-based certification services. At the least credible end of the market, certificates may be purchased online with little or no meaningful assessment of the organisation's quality management system.
Although these certificates may appear similar, the level of independent assurance supporting them can vary considerably.

Consequently, purchasing organisations should not assume that possession of an ISO 9001 certificate automatically demonstrates that the supplier has undergone a recognised, independently accredited certification process.

For the purposes of this guidebook, references to ISO 9001 certification mean valid, accredited ISO 9001 certification issued by a certification body operating under recognised accreditation arrangements.

Non-accredited certificates are not considered equivalent to accredited ISO 9001 certification for the purposes of establishing the minimum supplier quality management system requirement recommended in this publication.

This distinction does not mean that every non-accredited certification provider is incompetent or dishonest. It means that the independent assurance provided by recognised accreditation has not been demonstrated.

3.3. Understanding Certification and Accreditation

Certification and accreditation are related but fundamentally different activities.

3.3.1. Certification

Certification is the process through which an independent certification body assesses an organisation against specified requirements and, following a satisfactory assessment and certification decision, issues a certificate of conformity.

For ISO 9001, the assessment concerns the organisation's quality management system. Certification provides evidence that the organisation has been assessed against the applicable standard within the stated certification scope. It does not certify that every product manufactured by the organisation is conforming, nor does it guarantee that nonconformities will never occur.

3.3.2. Accreditation

Accreditation is the independent assessment and formal recognition of a certification body's competence, impartiality and ability to perform specified certification activities.

In simple terms: **Certification assesses the organisation. Accreditation assesses the organisation performing the certification.**

An accredited certification body must demonstrate that its certification processes meet applicable international requirements.

For management system certification, the principal accreditation requirements include **ISO/IEC 17021-1**, together with relevant competence and scheme-specific requirements.

Accreditation provides an additional level of independent oversight of the certification process.

3.3.3. The Accreditation and Certification Structure

The recognised management system certification framework operates through several distinct levels.

Level	Organisation	Principal responsibility
1	International recognition framework	Establishes arrangements for international recognition of accreditation.
2	National or recognised accreditation body	Assesses and accredits certification bodies for specified activities.
3	Accredited certification body	Audits and certifies organisations against applicable management system standards.
4	Certified organisation	Establishes, implements and maintains the certified management system.
5	Customer or purchasing organisation	Determines whether certification and other supplier assurance evidence satisfy purchasing requirements.

For example, in the United Kingdom: The United Kingdom Accreditation Service (UKAS) is the national accreditation body.

UKAS assesses certification bodies against applicable accreditation requirements. A UKAS-accredited certification body may subsequently assess and certify an organisation against ISO 9001, provided ISO 9001 certification is included within its accredited scope.

The organisation receives an ISO 9001 certificate from the certification body, not from UKAS.

The organisation is certified. The certification body is accredited.

This distinction is important because expressions such as "UKAS-certified company" are technically incorrect when referring to ordinary ISO 9001 management system certification. The correct description is an organisation holding ISO 9001 certification issued by a UKAS-accredited certification body.

3.4. International Recognition of Accreditation

3.4.1. International Accreditation Forum

The International Accreditation Forum (IAF) established an international framework for the recognition of accredited conformity assessment activities.

A central element of this framework is the Multilateral Recognition Arrangement (MLA). The arrangement provides a mechanism through which accreditation bodies demonstrate the equivalence of their accreditation activities through independent peer evaluation.

Accreditation bodies participating in the relevant recognition arrangements are assessed against internationally established requirements. For management system certification, this provides a basis for recognising accredited certificates issued in different countries.

For example, an organisation purchasing products from an overseas supplier should not necessarily insist upon UKAS-accredited certification. A certificate issued by a certification body accredited by another appropriately recognised accreditation body may provide equivalent assurance.

The important consideration is whether the accreditation body participates in the relevant international recognition arrangements and whether the certification body holds the appropriate accreditation.

3.4.2. IAF Membership

It is important to distinguish between membership of an international accreditation organisation and recognition under the applicable multilateral arrangement. An accreditation body may be a member of an international organisation without holding recognition for every accreditation activity. Recognition must therefore be considered against the relevant scope.

For ISO 9001 management system certification, the purchasing organisation should establish that the accreditation arrangement covers the applicable quality management system certification activities.

A generic statement that an organisation is "internationally accredited" is insufficient evidence.

3.5. National Accreditation Bodies

National accreditation bodies provide independent assessment and oversight of certification bodies operating within their recognised scope. Examples include:

Country	Accreditation body
United Kingdom	United Kingdom Accreditation Service (UKAS)
United States	ANSI National Accreditation Board (ANAB)
Germany	Deutsche Akkreditierungsstelle (DAkkS)
France	Comité Français d'Accréditation (COFRAC)
Italy	Accredia
Australia and New Zealand	Joint Accreditation System of Australia and New Zealand (JASANZ)
India	National Accreditation Board for Certification Bodies (NABCB)
Japan	Japan Accreditation Board (JAB)

The presence of an accreditation body's name on a certificate should not be treated as sufficient evidence of recognition. The purchasing organisation should verify the accreditation body's status and the certification body's accredited scope.

3.6. Important Distinction: Accreditation Recognition

An organisation describing itself as an accreditation body does not automatically possess the same standing as a nationally recognised accreditation body operating within the applicable international recognition arrangements.

Some commercial organisations provide their own accreditation or approval services. These arrangements may involve genuine assessments, but they should not automatically be regarded as equivalent to recognised national accreditation. Purchasing organisations should establish the authority, recognition and scope of the accreditation arrangements before accepting certification evidence.

3.7. Accredited ISO 9001 Certification

Accredited ISO 9001 certification involves a structured assessment and certification process performed by a competent certification body operating under independent accreditation oversight.
The certification process normally includes the following activities.

3.7.1. Initial Certification

The certification body evaluates the organisation's quality management system through a structured assessment process. This normally involves a Stage 1 audit, followed by a Stage 2 audit.

The Stage 1 audit considers the organisation's readiness for certification, including its understanding of the applicable requirements and the establishment of necessary management system arrangements.

The Stage 2 audit evaluates the implementation and effectiveness of the quality management system.
The audit examines objective evidence demonstrating whether the organisation's processes satisfy applicable requirements.

3.7.2. Certification Decision

Following the audit, the certification body evaluates the audit results and determines whether certification may be granted. Certification decisions are subject to defined processes and impartiality requirements.
The certification body must ensure that relevant nonconformities have been appropriately addressed before certification is granted.

3.7.3. Surveillance

Certification is not intended to be a one-off assessment. Accredited management system certification normally operates through a three-year certification cycle incorporating periodic surveillance audits.
These activities provide ongoing assessment of the organisation's management system.

3.7.4. Recertification

Before certification expires, the organisation must undergo the applicable recertification process to demonstrate continued conformity. The certification body may suspend, withdraw or reduce the scope of certification where applicable requirements are not satisfied.

3.7.5. Independent Oversight

The certification body's activities are themselves subject to assessment by its accreditation body.
This oversight may include assessment of certification processes, auditor competence, impartiality arrangements, records and witnessed audit activities.

The resulting assurance is therefore supported by more than the certification body's own declaration of competence.

3.8. Non-Accredited ISO 9001 Certification

Non-accredited certification describes certification issued outside the recognised accreditation framework applicable to the certification activity. Non-accredited certification is not necessarily unlawful, and the absence of accreditation does not automatically establish that a certification body is incompetent.

However, there is no equivalent independent confirmation through the recognised accreditation framework that the certification body meets the applicable competence, impartiality and operational requirements.
Non-accredited certification providers may operate using substantially different approaches.
The following categories illustrate the range of arrangements that purchasing organisations may encounter.
These categories are descriptive examples rather than formally recognised classifications.

3.8.1. Category A – Online Certificate Purchasing Services

At the least credible end of the market are services offering ISO 9001 certificates through an online purchasing process. An applicant may be required to provide little more than:

- Organisation name.
- Business address.
- Description of activities.
- Contact details.
- Payment information.

Following payment, a certificate may become available for immediate download. In some cases, there may be no meaningful assessment of the organisation's quality management system. No audit may have taken place.

There may be no verification that the organisation has implemented the requirements of ISO 9001.

Such documents may resemble legitimate management system certificates while providing little or no independent assurance.

A purchased certificate without meaningful conformity assessment should not be accepted as evidence of ISO 9001 certification for supplier approval purposes.

The risk is particularly significant where suppliers use these certificates to satisfy customer purchasing requirements.

3.8.2. Category B – Self-Assessment-Based Certification Services

Some providers issue certificates following completion of a questionnaire or self-assessment.
The applicant may answer questions concerning documented procedures, management responsibilities, risk management, internal audits and corrective actions.

The certification provider may review the responses before issuing a certificate.

Although this approach may provide a basic indication of the organisation's understanding of quality management requirements, it does not necessarily establish that the management system has been effectively implemented.

For example, an organisation may declare that it maintains a corrective action process. Without examining actual nonconformities, investigations, corrective actions and effectiveness records, the assessment cannot establish whether that process operates effectively.

Self-assessment can be a useful improvement tool. However, it should not be confused with independently accredited third-party certification.

3.8.3. Category C – Document-Review Certification

Some non-accredited providers assess an organisation primarily through its documented quality management system. The organisation may submit:

- Quality policies.
- Process descriptions.
- Procedures.
- Organisation charts.
- Internal audit reports.
- Management review records.
- Other documented information.

The provider reviews these documents and may issue certification based upon their apparent alignment with ISO 9001. This approach may be more substantial than a simple questionnaire. However, documentation alone cannot establish whether the organisation consistently implements its stated processes.

A supplier may possess a well-written purchasing procedure while routinely purchasing from unapproved sources. Similarly, a documented inspection procedure does not demonstrate that inspection is performed correctly or that nonconforming products are effectively controlled.

The distinction between documented arrangements and demonstrated implementation is fundamental to effective quality auditing.

3.8.4. Category D – Consultancy-Led Certification

Some organisations provide quality management consultancy services and subsequently issue certificates to the same clients.

For example, a consultancy may develop an organisation's quality manual, procedures and management system arrangements before assessing those arrangements and issuing certification. This creates a potential conflict of interest.

The organisation issuing the certificate may be evaluating work it has itself developed. Recognised accreditation requirements establish controls intended to protect certification impartiality and manage conflicts of interest.

A consultancy-led certification arrangement may lack equivalent independent safeguards.
This does not mean consultancy is inherently inappropriate.
Consultants can provide valuable assistance when organisations establish or improve their quality management systems. However, the independence of the subsequent certification assessment is an important consideration.

An organisation should not confuse assistance in developing a management system with independent confirmation that the system satisfies the applicable requirements.

3.8.5. Category E – Non-accredited certification bodies conducting audits

Some non-accredited certification bodies undertake genuine audits. These may include:

- Initial certification assessments.
- On-site audits.
- Remote audits.
- Interviews with personnel.
- Review of manufacturing and operational records.
- Identification of nonconformities.
- Corrective action follow-up.
- Periodic surveillance visits.

Such organisations may employ experienced and competent auditors. Their assessments may provide useful information about the maturity and effectiveness of a supplier's quality management system. However, without recognised accreditation, the certification body's competence, impartiality and certification arrangements have not been independently confirmed through the applicable accreditation framework.

The purchasing organisation therefore has less independent assurance concerning the consistency and credibility of the certification process. An audit conducted by a competent individual is not automatically equivalent to accredited management system certification.

3.8.6. Category F – Certification Bodies Accredited Through Unrecognised Arrangements

Some certification providers claim accreditation from organisations that do not participate in the relevant international recognition arrangements. The certification body may display an accreditation logo and reference an accreditation certificate. This can create the impression that the certification is internationally recognised. However, the accreditation may not have been granted by a recognised national accreditation body or through an arrangement equivalent to the applicable IAF MLA framework.

Purchasing organisations should therefore verify the accreditation organisation itself. An accreditation logo does not independently establish the credibility of the accreditation.

3.9. Comparison of Certification Arrangements

Certification arrangement	Independent audit	Recognised accreditation oversight	International recognition through applicable accreditation arrangements	Recommended treatment
Accredited ISO 9001 certification	Required	Yes	Yes, where covered by the applicable recognition arrangement	Acceptable as evidence of accredited certification, subject to verification.
Non-accredited CB conducting audits	May be provided	No	Not established	May provide supplementary assurance but does not satisfy an accredited certification requirement.
Consultancy-led certification	Varies	No recognised oversight of the certification activity	Not established	Assess independence and conflicts of interest; do not treat as accredited certification.
Document-review certification	Limited to documentation	No	Not established	Insufficient as standalone evidence of effective implementation.
Self-assessment certification	May not involve independent auditing	No	Not established	Treat as self-declared or limited-assessment evidence, not accredited certification.
Online certificate purchasing	May involve no meaningful audit	No	Not established	Do not accept as evidence of accredited ISO 9001 certification.
Certification under unrecognised accreditation	Varies	Not independently established through the recognised framework	Not established	Verify accreditation status and scope before making an approval decision.

3.10. Risks Associated with Improper Certification

The acceptance of certificates that have not been adequately verified can introduce significant risks into the supply chain. These risks are particularly important where products are safety-critical, difficult to inspect, subject to special processes or intended for long operational service lives.

3.10.1. False Confidence in Supplier Capability

A purchasing organisation may accept a certificate as evidence that the supplier operates an effective quality management system. If the certification process has not adequately assessed implementation, the organisation may possess an unjustified level of confidence in the supplier.

This may result in reduced supplier surveillance, insufficient verification or approval of suppliers without adequate capability assessment.

3.10.2. Ineffective Process Control

An improperly assessed quality management system may contain significant weaknesses in areas such as:

- Contract review.
- Production planning.
- Process validation.
- Inspection and testing.
- Calibration.
- Traceability.
- Nonconforming product control.
- Corrective action.
- Supplier management.

These weaknesses may remain undetected until nonconforming products are delivered.

3.10.3. Undetected Systemic Nonconformities

Effective management system auditing should consider whether processes operate consistently and achieve their intended results. Where assessments are superficial, systemic problems may remain unidentified.

For example, an organisation may repeatedly experience dimensional nonconformities because its manufacturing process is incapable of consistently meeting specified tolerances. A documentation-based assessment may establish that an inspection procedure exists without identifying the underlying process capability problem.

3.10.4. Inadequate Auditor Competence

Auditor competence is particularly important when evaluating complex manufacturing and engineering activities. An auditor assessing a supplier involved in special processes should understand the limitations of product inspection and the importance of process validation.

Without appropriate competence, an auditor may fail to recognise weaknesses in processes where conformity cannot be fully established through subsequent inspection.

Accredited certification provides an established framework for evaluating and maintaining auditor competence. Non-accredited arrangements may or may not provide equivalent controls.

3.10.5. Conflicts of Interest

Certification decisions should be impartial. Where the certification provider has a commercial interest in the successful outcome of the assessment, there is a risk that certification decisions may be influenced by considerations unrelated to conformity.

Examples include arrangements where certification is closely linked to consultancy services or where certificates are marketed primarily as commercial products.

Independent accreditation introduces additional controls intended to protect impartiality.

3.10.6. Weak Surveillance Arrangements

An organisation's quality management system can deteriorate after initial certification. Changes in personnel, equipment, management, ownership, production volume or subcontracting arrangements may affect process effectiveness.

Without adequate surveillance, these changes may not be identified. Some non-accredited certification arrangements may not include meaningful periodic assessment.

Consequently, the certificate may remain in circulation without providing current assurance of management system effectiveness.

3.10.7. Supply Chain and Contractual Risks

Where accredited ISO 9001 certification is contractually required, a non-accredited certificate does not satisfy that requirement merely because it references ISO 9001. Accepting such certification without appropriate authorisation may create a purchasing or supplier approval nonconformity. Potential consequences include:

- Approval of an ineligible supplier.
- Failure to satisfy customer quality requirements.
- Contractual disputes.
- Increased inspection and verification costs.
- Product containment or recall.
- Supplier corrective action.
- Audit findings against the purchasing organisation.
- Loss of customer confidence.

In aerospace and defence supply chains, these consequences can extend beyond commercial inconvenience to affect product safety, reliability and operational availability.

3.11. Recognising Potentially Misleading Certification

A certificate should not be accepted solely because it appears professional. Certificates can contain official-looking logos, registration numbers, signatures, holograms and references to international standards without being supported by recognised accreditation.

Purchasing organisations should be alert to the following indicators.

Indicator	Potential concern	Recommended action
Certificate issued immediately following online payment	No meaningful assessment may have occurred.	Establish what assessment was undertaken.
No identifiable accreditation body	Certification may be non-accredited.	Verify accreditation directly.
Accreditation body not recognised for the applicable scope	Accreditation may not provide the required international recognition.	Check the relevant recognition arrangements.
Certification body cannot be found in the accreditation body's directory	Accreditation may be absent, expired or outside the claimed scope.	Contact the accreditation body.
Certificate has no defined certification scope	Activities covered by certification are unclear.	Obtain the complete certificate and scope.
No identifiable certified locations	The relevant manufacturing site may not be covered.	Verify certified locations.
No evidence of surveillance arrangements	Certification may not be subject to ongoing assessment.	Confirm the certification cycle and current status.
Certification provider also developed the management system	Potential impartiality concerns.	Examine the independence of the certification arrangement.
Certificate claims to be issued directly by ISO	Misrepresentation of the certification process.	Verify the issuing organisation and reject unsupported claims.
Accreditation logos or claims cannot be authenticated	Potentially misleading accreditation representation.	Seek confirmation from the relevant accreditation body.

3.12. Why 9100 Certification Requires Recognised Accreditation

The aerospace 9100 series differs from ISO 9001 in an important respect. ISO 9001 certification can be offered outside an accredited certification arrangement, although such certification does not provide the independent assurance associated with recognised accreditation.

The recognised aerospace certification scheme, however, establishes additional requirements governing the organisations and individuals involved in certification.

The International Aerospace Quality Group operates the Industry Controlled Other Party (ICOP) certification scheme. The scheme establishes requirements intended to provide consistency, competence and confidence in aerospace quality management system certification. Recognised certification to the aerospace 9100 series require participation in the applicable scheme.

4. Understanding ISO 9001 and 9100 Requirements

ISO 9001 establishes requirements for a quality management system applicable to organisations across industries.

The aerospace, defence and space 9100 series incorporates the ISO 9001 quality management framework and introduces additional requirements addressing the needs of aerospace, defence and space.

These additional requirements strengthen controls in areas such as supplier management, product safety, traceability, special processes, configuration management, counterfeit prevention and verification.

However, an important distinction must be maintained between:

- Requirements imposed directly upon an organisation through its own quality management system certification.
- Requirements imposed through contracts, purchase orders, specifications and other agreed purchasing documentation.

These are not necessarily the same.

4.1. Requirement Classification

The following classifications are used throughout the implementation matrices.

Classification	Description	Interpretation
ISO 9001	Common requirement	A requirement substantially established by ISO 9001.
9100+	Additional aerospace, defence and space requirement	An explicit 9100 obligation beyond the corresponding ISO 9001 requirement.
9100↑	Enhanced aerospace, defence and space requirement	An ISO 9001 obligation made more specific or subject to additional controls by the 9100 standard.

These classifications support understanding and implementation. They are not formal classifications defined by the standards organisations.

4.2. Important Implementation Principle

The presence of an aerospace, defence and space specific requirement does not automatically mean that every supplier in the supply chain must hold 9100 quality management system certification.

The purchasing organisation must determine the applicable supplier requirements and communicate them appropriately.

A supplier's obligations depend upon the applicable contractual, statutory, regulatory and agreed technical requirements.

5. Control of Externally Provided Processes, Products and Services [8.4]

5.1. Clause 8.4.1 – General Supplier Control Requirements

Clause 8.4.1 establishes the overall framework for controlling externally provided processes, products and services.

The purchasing organisation is responsible for ensuring that externally provided outputs satisfy applicable requirements.

This responsibility extends to activities performed by external providers, including those selected or designated by customers.

5.1.1. Practical Implementation Matrix

Clause	Standard	Requirement explained	Customer responsibilities	Supplier and sub-tier responsibilities	Recommended methods and objective evidence
8.4.1	**ISO 9001**	Externally provided outputs must meet applicable requirements.	Establish supplier assurance arrangements covering purchased products, processes and services.	Review requirements, establish controls and demonstrate conformity.	Supplier quality procedures, contract review, inspection plans and conformity records.
8.4.1	**9100+**	Responsibility extends to customer-designated suppliers.	Maintain appropriate assurance of customer-directed sources.	Ensure conformity of subcontracted activities, including nominated sources.	Supplier risk assessments, source approvals and verification records.
8.4.1	**9100+**	Mandatory approved sources must be used where specified.	Identify and communicate approved-source restrictions.	Use authorised sources and impose applicable restrictions upon sub-tier suppliers.	Approved process-source lists, purchase order controls and approval verification.
8.4.1	**9100↑**	Risks associated with supplier selection and continued use must be managed.	Assess supplier capability, operational risks and performance trends.	Identify and manage risks associated with subcontracting and external provision.	Supplier risk registers, PFMEA, capability assessments and business continuity reviews.
8.4.1	**9100+**	Applicable requirements must reach relevant sub-tier providers.	Identify requirements requiring flow-down and establish contractual controls.	Communicate applicable requirements to sub-tiers and verify their implementation.	Requirements matrices, subcontract purchase orders and flow-down verification.
8.4.1	**9100+**	Suppliers must apply appropriate controls to their own providers.	Define expectations for supplier management and subcontractor oversight.	Establish approval, monitoring and verification arrangements for relevant sub-tier suppliers.	Sub-tier supplier registers, assessments, audits and performance reviews.
8.4.1	**ISO 9001**	Controls are required for purchased outputs, direct-to-customer provision and outsourced processes.	Identify externally provided activities and establish suitable controls.	Control subcontracted activities and verify their outputs.	Process maps, outsourced-process registers and verification plans.
8.4.1	**ISO 9001**	Suppliers must be evaluated, selected, monitored and re-evaluated using defined criteria.	Establish supplier approval and monitoring processes.	Demonstrate capability and maintain applicable approval conditions.	Supplier evaluations, scorecards, audits and approval records.

5.1.2. Good Practice – Supplier Certification and Capability

A supplier holding ISO 9001 or 9100 certification has demonstrated conformity of its assessed quality management system to the relevant certification requirements. However, certification does not necessarily demonstrate that the supplier possesses the technical capability to manufacture every type of product or perform every process. For example, a supplier may be certified to AS9100 for precision machining activities but subcontract chemical processing, heat treatment and non-destructive testing.

The purchasing organisation should establish whether these subcontracted processes are adequately controlled and whether the selected providers hold any approvals required by the contract or applicable specifications.

Good practice: Supplier approval should identify both management-system status and the specific technical scope for which the supplier has been assessed and accepted.

5.2. Clause 8.4.1.1 – Supplier Approval and Performance Management [9100]

The aerospace, defence and space specific supplier management provisions introduce greater prescription concerning approval status, supplier registers, performance reviews, corrective actions and documented information.

5.2.1. Practical Implementation Matrix

Clause	Standard	Requirement explained	Customer responsibilities	Supplier and sub-tier responsibilities	Recommended methods and objective evidence
8.4.1.1(a)	**9100+**	Supplier approval decisions must follow defined responsibilities and authority.	Define approval authority, approval conditions and processes for changing status.	Observe approval restrictions and establish suitable sub-tier approval arrangements.	Approval procedures, RACI matrices and authorised approval records.
8.4.1.1(b)	**9100+**	Maintain a register identifying supplier approval status and scope.	Maintain a controlled approved supplier register.	Maintain evidence of approval and appropriate sub-tier supplier records.	Approved Supplier List, approval certificates and ERP controls.
8.4.1.1(c)	**9100↑**	Periodically review supplier conformity and delivery performance.	Monitor quality, delivery and adverse trends.	Monitor performance and address deterioration, including relevant sub-tier performance.	PPM, OTD, concession trends, supplier scorecards and performance reviews.
8.4.1.1(d)	**9100↑**	Establish defined responses to supplier performance failures.	Define containment, escalation, corrective action and approval-status review arrangements.	Investigate failures, implement corrective actions and verify effectiveness.	SCAR, 8D RCCA, containment records and effectiveness reviews.
8.4.1.1(e)	**9100+**	Control supplier-generated and supplier-retained documented information.	Specify required records, retention periods, accessibility and disposition.	Maintain records and impose applicable requirements on sub-tiers.	Retention schedules, document control procedures and retrieval verification.

5.2.2. Good Practice – Supplier Performance Management

Supplier monitoring should not be limited to counting rejected parts or measuring delivery performance.
An effective supplier performance system considers leading and lagging indicators. Leading indicators may include:

- Process capability deterioration.
- Increasing corrective action ageing.
- Repeated requests for concessions.
- Significant changes in personnel or equipment.
- Increasing dependence upon subcontractors.
- Failure to complete scheduled process validation activities.

Lagging indicators may include:

- Delivered nonconformities.
- Customer escapes.
- Late deliveries.
- Product returns.
- Repeated corrective action failures.

The purchasing organisation should use this information to determine whether supplier assurance activities remain appropriate.

A supplier demonstrating deteriorating process capability may require increased surveillance before defective products are delivered.

5.3. Clause 8.4.2 – Type and Extent of Supplier Control

Clause 8.4.2 requires organisations to determine appropriate controls over external providers and their outputs. The extent of control should reflect the potential consequences of failure, supplier capability and the effectiveness of existing controls.

5.3.1. Practical Implementation Matrix

Clause	Standard	Requirement explained	Customer responsibilities	Supplier and sub-tier responsibilities	Recommended methods and objective evidence
8.4.2	**ISO 9001**	External provision must not compromise conformity.	Establish appropriate supplier and output controls.	Maintain process controls and demonstrate conformity.	Supplier assurance plans and verification arrangements.
8.4.2(a)	**ISO 9001**	Outsourced processes must remain controlled within the QMS.	Identify outsourced processes and define controls.	Maintain appropriate oversight of subcontracted activities.	Process mapping, subcontractor controls and process audits.
8.4.2(b)	**ISO 9001**	Define controls over suppliers and their outputs.	Determine supplier surveillance and product verification requirements.	Implement required process controls and provide conformity evidence.	Control plans, process audits and inspection plans.
8.4.2(c)	**9100↑**	Supplier control decisions must consider relevant risks and performance.	Evaluate product criticality, supplier control effectiveness and performance history.	Provide evidence of process effectiveness and address identified risks.	PFMEA, supplier risk assessments, performance reviews and process capability studies.
8.4.2(d)	**ISO 9001**	Determine necessary verification activities.	Define acceptance and verification arrangements.	Perform applicable verification and provide supporting records.	Inspection, testing, FAI and document review.
8.4.2	**9100+**	High-risk external provision requires appropriate additional verification.	Establish enhanced verification where risk warrants it, including counterfeit risks.	Support verification and maintain required traceability.	Independent testing, material verification and counterfeit prevention controls.
8.4.2	**9100+**	Products released before verification completion require traceability and recall controls.	Establish conditional release controls.	Maintain identification and records supporting containment or recall.	ERP status controls, traceability and conditional release records.
8.4.2	**9100+**	Delegated verification must be formally controlled.	Define delegation scope, maintain a register and monitor performance.	Perform only authorised verification and retain objective evidence.	Delegated verification procedures, authorisation records and surveillance.
8.4.2	**9100+**	Supplier test reports must be evaluated, with additional validation for significant-risk raw materials.	Establish test-report review and appropriate validation arrangements.	Provide accurate, traceable test evidence and supporting records.	Material certificate review, independent testing and laboratory verification.

5.3.2. Good Practice – Verification Based on Risk

A risk-based approach avoids applying identical verification arrangements to every purchased item. For example:

- **Low-risk purchased product**: A standard commercial component obtained through an established approved supply route may justify documentation review and appropriate sampling.
- **High-criticality machined component**: A component performing a safety-critical function may require enhanced dimensional verification, material traceability, production process verification and supplier process surveillance.
- **Special process output**: A component undergoing chemical processing, heat treatment or non-destructive testing may require verification of process-source approval, process qualification, personnel competence, periodic testing and process records.

The objective is not simply to increase inspection. It is to establish confidence that the supplier's processes consistently produce conforming outputs.

5.4. Clause 8.4.3 – Information for External Providers

Clause 8.4.3 concerns the requirements communicated to suppliers before work is undertaken. The purchasing organisation must establish that requirements are sufficiently defined and suitable for communication. The aerospace, defence and space additions introduce more explicit expectations concerning technical controls, product safety, counterfeit prevention, changes, subcontracting and access rights.

5.4.1. Practical Implementation Matrix

Clause	Standard	Requirement explained	Customer responsibilities	Supplier and sub-tier responsibilities	Recommended methods and objective evidence
8.4.3	**ISO 9001**	Purchasing requirements must be adequate before communication.	Review requirements for completeness and consistency.	Review requirements before acceptance and resolve ambiguities.	Contract review and requirements checklists.
8.4.3(a)	**ISO 9001**	Define purchased processes, products and services.	Provide appropriate specifications and acceptance requirements.	Confirm capability and communicate applicable requirements to sub-tiers.	Purchase orders, drawings and specifications.
8.4.3(b)	**ISO 9001**	Define applicable approval requirements.	Specify required product, process, equipment and release approvals.	Obtain required approvals and maintain evidence.	Process qualification, FAI and approval records.
8.4.3(c)	**ISO 9001**	Define competence requirements.	Communicate applicable qualifications and competency requirements.	Ensure personnel and relevant sub-tier personnel are competent.	Competency matrices and qualification records.
8.4.3(d)	**ISO 9001**	Define supplier interaction arrangements.	Communicate required interfaces and escalation routes.	Maintain agreed communication arrangements.	Communication plans and escalation matrices.
8.4.3(e)	**ISO 9001**	Define performance monitoring arrangements.	Communicate supplier monitoring and control expectations.	Support reviews and provide required performance information.	Supplier scorecards and review meetings.
8.4.3(f)	**ISO 9001**	Communicate planned verification and validation activities.	Identify applicable customer verification arrangements.	Provide required access, resources and evidence.	Source inspection and audit plans.
8.4.3(g)	**9100+**	Communicate applicable design and development controls.	Define design responsibilities, approval arrangements and change controls.	Apply relevant design controls and flow down applicable obligations.	Design reviews, verification, validation and configuration management.
8.4.3(h)	**9100+**	Identify special requirements, critical items and key characteristics.	Communicate applicable classifications and control expectations.	Identify affected operations and establish appropriate controls.	PFMEA, control plans, KC management and SPC.
8.4.3(i)	**9100↑**	Communicate detailed inspection, testing and production verification requirements.	Define acceptance criteria and required verification evidence.	Perform required activities and retain records.	Inspection plans, FAI and production verification.
8.4.3(j)	**9100+**	Communicate applicable statistical acceptance requirements.	Define approved statistical methods and acceptance criteria.	Apply specified methods and retain results.	SPC, capability studies and approved sampling plans.
8.4.3(k)	**9100+**	Communicate additional supplier quality obligations.	Define applicable QMS, source approval, notification, change, counterfeit and record requirements.	Implement applicable requirements and flow down relevant obligations.	Supplier Quality Requirements Manual and contractual quality clauses.
8.4.3(l)	**9100+**	Establish access rights throughout the supply chain.	Define contractual rights of access.	Provide access and communicate applicable obligations to sub-tiers.	Contract clauses and audit access arrangements.
8.4.3(m)	**9100↑**	Communicate personnel awareness expectations concerning conformity, safety and ethics.	Define applicable awareness requirements.	Ensure relevant personnel understand their responsibilities.	Training, induction and awareness records.

6. Application of 9100 Requirements to ISO 9001 Certified Suppliers

6.1. The Fundamental Distinction

An organisation certified to the 9100 quality management standard is responsible for implementing the applicable requirements of that standard within its own quality management system. However, this does not automatically mean that every supplier providing products or services to that organisation must also be certified to 9100.

A supplier certified only to ISO 9001 may be acceptable, provided that the purchasing organisation has determined the supplier is suitable and that the necessary controls are established.

The purchasing organisation must identify which additional requirements are applicable to the purchased products, processes or services and communicate them appropriately.

Once incorporated into an accepted contract, purchase order or other binding agreement, those requirements become contractual obligations for the supplier. This distinction is essential.

A supplier does not automatically become subject to the entire 9100 standard merely because its customer holds 9100 certification. However, the supplier must comply with applicable 9100 derived requirements that form part of its contractual obligations.

6.2. Example – ISO 9001 Certified Machining Supplier

Consider an aerospace manufacturer certified to AS9100 purchasing machined components from a supplier certified only to ISO 9001.
The aerospace manufacturer requires:

- Full material traceability.
- First Article Inspection in accordance with AS9102.
- Notification of nonconforming products.
- Customer approval before implementing specified changes.
- Use of approved special process providers.
- Retention of manufacturing and inspection records.
- Flow-down of applicable requirements to subcontractors.
- Defined access rights for audits and verification.

The supplier is not necessarily required to obtain 9100 certification. However, where these requirements are contractually imposed, the supplier must establish arrangements sufficient to comply with them.
This may require the supplier to introduce additional procedures, controls and records beyond those normally used within its ISO 9001 quality management system.

For example, the supplier may need to introduce formal first article inspection arrangements, enhanced configuration control, additional traceability or specific customer change-approval procedures.

The absence of 9100 certification does not remove these contractual obligations. Equally, the existence of a 9100-certified customer does not, by itself, impose every 9100 specific requirement upon the supplier.

6.3. Flow-Down

Does the customer need to flow down every 9100 requirement? Not necessarily. The purchasing organisation should identify requirements applicable to the external provider and the work being performed. Some requirements relate primarily to the purchasing organisation's internal quality management system.

For example, maintaining its own supplier approval register is a responsibility of the purchasing organisation. That does not necessarily mean every supplier must operate an identical register. However, where a supplier subcontracts activities, the purchasing organisation may require the supplier to establish appropriate controls over those sub-tier providers. The supplier must then implement the controls necessary to satisfy the contractual requirement.

The objective is effective control of the supplied product, process or service, rather than imposing unnecessary duplication of the customer's internal management system.

When does a 9100 requirement become mandatory for a supplier? A 9100-derived requirement may become mandatory for a supplier through several mechanisms.

Mechanism	Explanation	Example
Contractual requirement	The supplier accepts a contract containing specific quality obligations.	Mandatory first article inspection.
Purchase order requirement	The purchase order incorporates applicable quality clauses.	Customer approval required before changing manufacturing location.
Technical specification	A drawing or specification establishes additional process controls.	Use of an approved heat-treatment source.
Supplier Quality Requirements Manual	The contract incorporates an applicable supplier quality document.	Mandatory nonconformity notification and record retention.
Regulatory requirement	Applicable legislation or regulation imposes an obligation.	Product-specific regulatory traceability requirements.
Supplier certification commitment	The supplier independently holds certification to a management-system standard.	An AS9100-certified supplier must maintain its own applicable QMS conformity.

Requirements should be clearly identified and communicated before contractual acceptance. Ambiguous or conflicting requirements should be resolved through contract review.

What if the customer does not flow down the additional requirements? This creates an important distinction between customer and supplier responsibility.

If the aerospace customer fails to communicate an applicable requirement, the supplier may not be contractually obligated to implement that requirement unless it is established through another applicable source. However, the purchasing organisation remains responsible for meeting its own applicable 9100 requirements and ensuring conformity of externally provided outputs.

Consequently, failure to communicate necessary supplier requirements may constitute a deficiency within the customer's purchasing and supplier management arrangements.

For example, an aerospace manufacturer may require its supplier to obtain approval before changing a manufacturing location. If this requirement is not communicated or contractually established, the supplier may relocate production without breaching its agreed obligations, assuming no other applicable requirement prohibits the change.

The aerospace manufacturer may nevertheless have failed to establish adequate supplier change-control arrangements. This illustrates why effective flow-down is essential.

An organisation cannot rely upon its own certification requirements to create supplier obligations that have not been adequately communicated and established.

Does flow-down mean imposing the entire 9100 standard? Flow-down should normally be based upon applicability.

For example, a supplier manufacturing a simple noncritical component may not require the same controls as a supplier manufacturing a safety-critical flight component.

Similarly, a distributor may require different controls from a special process provider. The purchasing organisation should consider:

- Product and process criticality.
- Customer-specific requirements.
- Regulatory obligations.
- Supplier capability.

- Risks associated with nonconformity.
- Subcontracting arrangements.
- Verification and traceability needs.

Where the customer explicitly requires full compliance with *9100, the scope and meaning of that contractual obligation should be established.

Compliance with a standard and holding accredited certification to that standard are different matters.
A supplier may contractually commit to compliance without holding certification, unless certification itself is expressly required.

7. Understanding the Supplier Quality Problem

7.1. Quality Begins Before the Purchase Order is Accepted

Supplier quality is not primarily a final-inspection activity. Many expensive escapes are created when a quotation is accepted without confirming capability, ambiguous technical data are left unresolved, subcontracted processing is assumed to be controlled or a customer-specific deliverable is overlooked. The objective is to make uncertainty visible while options remain available.

7.2. A Simple Lifecycle Model

Stage	Decision / evidence	Failure to prevent
Enquiry and quotation	Requirements and feasibility review; clarification log	Unpriced tests, unachievable features, hidden special processes
Contract acceptance	Approved requirement matrix and owners	Missing quality clauses or AQAP obligations
Planning	Process flow, risk assessment, controls and subcontract plan	Generic PFMEA disconnected from operations
First production	Process verification, FAI/FAIR and readiness decision	Paper FAI masking unstable production
Routine manufacture	Controlled changes, monitoring and records	Drift, process escapes, undocumented deviations
Release and support	Traceability, certification, escalation and feedback	Inaccurate CoC, late disclosure and recurring defects

7.3. Supplier / Customer Responsibilities

The supplier remains responsible for understanding and delivering the accepted requirements and for controlling its own supply chain. The customer should supply coherent technical data, identify special requirements, resolve technical queries promptly and avoid contradictory quality clauses. Where responsibility is unclear, agree it in writing before work proceeds.

8. Common Failure Modes and How to Prevent Them

8.1. Contract Review: The Most Effective Prevention Control

- **COMMON FAILURE**: Sales accepts an order without technical and quality review; requirements sit across a purchase order, drawing, specification, portal and separate supplier manual.
- **PREVENTION**: Use a multidisciplinary acceptance gate. Identify applicable revisions, deliverables, approval gates, special processes, records, retention, traceability, source inspection, AQAP and flow-down. Assign owners and record unresolved exceptions.
- **OBJECTIVE EVIDENCE**: Signed review or electronic approval; contract-requirements matrix; clarification and assumption log; acceptance conditions.
- **ESCALATION / LIMIT**: No manufacture against unresolved safety-, fit-, function- or compliance-critical ambiguity.

8.2. Design for Manufacture and Technical Clarification

- **COMMON FAILURE**: An unrealistic tolerance, inaccessible plating surface, sharp internal corner or incomplete drawing is treated as a production problem instead of a design issue.
- **PREVENTION**: Conduct manufacturability reviews with design authority involvement; evaluate capability, measurement access, special-process constraints and production rate. Propose controlled alternatives with technical justification.

- **OBJECTIVE EVIDENCE**: DFM review; capability evidence; technical query; approved design change or deviation.
- **ESCALATION / LIMIT**: Never silently reinterpret a drawing or substitute a process/material.

8.3. Concessions, Deviations and Production Permits

- **COMMON FAILURE**: Concessions become a substitute for process control; requests omit affected quantities, serial numbers, actual measured condition or technical risk.
- **PREVENTION**: Distinguish advance permission to depart from requirements from acceptance of an already-existing nonconformity, according to contractual definitions. Contain affected product; identify exact departure, population, configuration, technical justification, safety impact, proposed disposition and prevention action.
- **OBJECTIVE EVIDENCE**: Numbered request, objective data, affected-product list, authorised decision, traceable release and trend analysis.
- **ESCALATION / LIMIT**: Do not ship or continue unauthorised departures where customer approval is required.

8.4. RCCA and Customer Corrective Action Responses

- **COMMON FAILURE**: Containment is described as root cause; operator error is used without systemic analysis; response dates are missed and customer requested corrective actions age.
- **PREVENTION**: Acknowledge quickly; protect the customer; agree a realistic response plan. Separate occurrence cause, escape cause and systemic cause; use evidence-based 5 Why and 8D as appropriate. Verify implementation and sustained effectiveness.
- **OBJECTIVE EVIDENCE**: Containment records, cause evidence, corrective-action plan, owners, dates and effectiveness sample.
- **ESCALATION / LIMIT**: Escalate missed dates before the due date; do not confuse closure paperwork with demonstrated effectiveness.

See SPI-03 8D RCCA Problem Solving Guidebook

8.5. Competence and Organisational Capability

- **COMMON FAILURE**: A supplier holds ISO 9001 certification but lacks the engineering, metrology or process expertise needed for the particular contract.
- **PREVENTION**: Match work packages to a competence matrix; confirm technical authority, training, mentoring, independent verification and external specialist support. Review competence when work scope changes.
- **OBJECTIVE EVIDENCE**: Skills matrix, authorisations, training and witnessed proficiency, subcontractor qualification.
- **ESCALATION / LIMIT**: Certification alone is not proof of technical capability for every product or process.

8.6. Different Customer Assurance and Documentation Demands

- **COMMON FAILURE**: One customer requests an AS9102 FAIR, another a bespoke data pack and another a deliverable quality plan; the supplier relies on a single fixed template.
- **PREVENTION**: Maintain one controlled evidence backbone, with a contract-specific output matrix and mapping of source records to customer deliverables. Agree format, submission route and acceptance criteria at contract review.
- **OBJECTIVE EVIDENCE**: Deliverable register; record index; customer-specific data pack checklist.
- **ESCALATION / LIMIT**: Do not manufacture first and discover missing mandatory records at shipment.

8.7. Engineering Anomalies and Timely Escalation

- **COMMON FAILURE**: Personnel find conflicting dimensions or missing notes and proceed using an assumed intent.
- **PREVENTION**: Give operators and planners a stop-and-query route. Record technical queries with product identity, revision, risk, requested decision and required-by date. Protect schedules through early communication.

- **OBJECTIVE EVIDENCE**: Technical query register, hold tags, approved response and updated planning.
- **ESCALATION / LIMIT**: A verbal conversation does not replace required design-authority approval.

8.8. PFMEA, Process Flow and Control Plan

- **COMMON FAILURE**: A business-level risk register is offered as a PFMEA for a machined, bonded or plated part. Risks are not linked to operations or control plans.
- **PREVENTION**: Start with the actual manufacturing process flow. Evaluate operation-specific failure modes, causes and prevention/detection controls; prioritise actions and carry them into the control plan, job cards and verification. Revisit after changes and escapes.
- **OBJECTIVE EVIDENCE**: Linked **process flow → PFMEA → control plan → work instruction → evidence**.
- **ESCALATION / LIMIT**: ISO 9001 does not explicitly mandate PFMEA for all suppliers; use it when contractual or risk needs justify it. **AS13004** or other invoked standards may set further expectations.

See SPI-06 Process Failure Mode and Effects Analysis (PFMEA) Guidebook

8.9. Special Processes and Validation

- **COMMON FAILURE**: A coating, welding, heat treatment, bonding, NDT or encapsulation process is judged solely by final inspection even though conformity cannot be fully verified afterwards.
- **PREVENTION**: Identify special processes during quotation. Define validation evidence, qualified personnel, approved equipment and parameters, monitoring, periodic revalidation, change triggers and sub-tier approvals. Recognise process limitations and define how they are managed.
- **OBJECTIVE EVIDENCE**: Qualification/validation records, approved process specification, parameter logs, periodic tests, sub-tier evidence.
- **ESCALATION / LIMIT**: A good final inspection cannot substitute for an unvalidated special process.

See SPI-01 Special Processes Guidebook

8.10. Certification, Accreditation and Scope

- **COMMON FAILURE**: An impressive certificate is accepted without checking accreditation status, certification body, expiry, site or scope.
- **PREVENTION**: Verify certification using recognised accreditation/certification registers where practical. Distinguish ISO 9001 QMS certification from ISO/IEC 17025 laboratory accreditation and from specific process approval. Verify that scope and location cover the work.
- **OBJECTIVE EVIDENCE**: Certificate, scope, validity check, risk-based capability approval.
- **ESCALATION / LIMIT**: Do not assume “ISO compliant”, “certified” and “accredited” mean the same thing.

8.11. Sub-tier Control and Flow-Down

- **COMMON FAILURE**: A subcontracted processor receives a drawing but not key process, traceability, certification or change-notification requirements.
- **PREVENTION**: Define approval and selection criteria, approved sources where required, clear purchase-order flow-down, monitoring, performance review and verification. Extend oversight through lower tiers based on risk.
- **OBJECTIVE EVIDENCE**: Approved supplier list, sub-tier PO, scope/approval check, certificates, audit and performance evidence.
- **ESCALATION / LIMIT**: Supplier responsibility does not disappear because the customer nominated a source; resolve any contractual allocation explicitly.

8.12. AQAP 2110, 2310 and the Deliverable Quality Plan

- **COMMON FAILURE**: Suppliers assume ISO certification automatically covers all NATO contractual expectations or treat a quality plan as a generic QMS manual.
- **PREVENTION**: At contract review identify the invoked AQAP edition and any GQA requirements. AQAP 2110 supplements ISO 9001; AQAP 2310 addresses aviation, space and defence and builds on 9100; AQAP 2105 defines contract-specific quality-plan content. Map requirements to actual controls and deliverables.

- **OBJECTIVE EVIDENCE**: Contract applicability matrix, AQAP gap review, tailored deliverable quality plan, approval/communication record.
- **ESCALATION / LIMIT**: Do not state that AQAP 2105 always applies: it must be invoked by contract. Government quality assurance and right-of-access arrangements must follow the agreed contract.

8.13. Certificates of Conformity and Release Data

- **COMMON FAILURE**: A certificate of conformity (CoC) simply states "goods conform" without linking the declaration to an order, part revision, quantity, serial/batch or approved departures.
- **PREVENTION**: Build a standard release checklist with fields tailored to the contract and applicable standards (for example AS9163 or DEFCON 627 where invoked). Match the declaration to the actual released configuration and supporting evidence.
- **OBJECTIVE EVIDENCE**: Signed authorised CoC; order, part/revision, quantity, traceability, referenced concessions and relevant supporting reports.
- **ESCALATION / LIMIT**: A CoC is an **accountable declaration**, not a substitute for missing verification.

8.14. First Article Inspection and Production Process Verification

- **COMMON FAILURE**: A FAIR is compiled retrospectively, uses obsolete drawings or fails to represent the production route.
- **PREVENTION**: Verify the first production run against the planned manufacturing process, tooling, personnel, materials, special-process routes and inspection methods. Link AS9102 FAIR evidence to process readiness and subsequent changes.
- **OBJECTIVE EVIDENCE**: Ballooned characteristics, objective results, material/process certs, traceability, approved FAIR, re-FAI decision record.
- **ESCALATION / LIMIT**: A completed FAIR does not by itself establish long-term process capability.

See SPI-09 First Article Inspection Guidebook

8.15. From Prototype to Repeatable Production: Production Readiness

A successful prototype demonstrates that a solution can work; it does not demonstrate that it can be manufactured repeatedly, at the required rate, cost and quality. During development, a supplier may rely on expert intervention, extensive inspection, manual adjustment, repeated trials and exceptional resources. Those arrangements may be unavailable when routine production begins.

- **THE FAILURE MODE**: Production is launched without a formal readiness decision. Yield improvement and cost reduction then drive changes to materials, tooling, process parameters, inspection, operators or sub-tier sources. The delivered product gradually diverges from the proven configuration; defects may be undetectable at release and emerge only in service.

8.15.1. Prototype approval is not production approval

The customer and supplier should distinguish proof of concept, design verification, process qualification, first article inspection and approval for sustained production. Evidence for one decision cannot automatically substitute for the others. A prototype made by a senior engineer using bespoke tooling and 100% inspection may conceal an unstable process.

8.15.2. Production Readiness Review (PRR): A Decision Gate

Before production release, conduct a proportionate, cross-functional PRR involving engineering, manufacturing, quality, supply chain and the customer where contractually required. Review the approved design baseline, production volumes and takt, capacity, facilities, tooling, competence, sub-tier readiness, material availability, process flow, PFMEA, control plan, work instructions, inspection/test capability, special process validation, configuration control, FAIR/production process verification, traceability, nonconformities and open risks.

A PRR is not simply a meeting or a checklist: record evidence, unresolved actions, risk ownership, acceptance criteria and an explicit go / conditional go / no-go decision by authorised personnel. Conditional release

requires defined restrictions and containment; significant unresolved safety, conformity or validation risks should prevent unrestricted release.

8.15.3. Yield Improvement without Uncontrolled Design Drift

Yield, throughput and cost may be improved, but changes must be evaluated against the validated process and approved product configuration before implementation. Establish a change-control trigger for altered materials, methods, suppliers, equipment, software, settings, inspection frequency and acceptance criteria. Update PFMEA and control plan, requalify or revalidate where necessary, repeat FAI when applicable, and seek customer approval where required.

- **WHAT GOOD LOOKS LIKE**: The supplier demonstrates stable output at intended production conditions; identifies the differences between prototype and production arrangements; has capability evidence for key characteristics; closes or formally controls readiness risks; and retains an approved production baseline against which subsequent improvements are assessed.
- **PRACTICAL LESSON**: A prototype proves possibility. Production readiness proves repeatability. Neither cost pressure nor improved yield authorises a change that compromises the agreed requirements.

8.16. Quality Culture and Speaking Up

- **COMMON FAILURE**: Schedule pressure discourages questions, bad news is hidden and operators are blamed for systemic weaknesses.
- **PREVENTION**: Leaders reward early escalation, explain customer impact, protect stop-work decisions and review learning without blame. Measure repeat escapes and overdue actions rather than only inspection counts.
- **OBJECTIVE EVIDENCE**: Escalation records, leadership reviews, lessons learned, competence actions.
- **ESCALATION / LIMIT**: A “zero defects” slogan without usable reporting channels is not a quality culture.

8.17. Audit Readiness and Cooperation

- **COMMON FAILURE**: Audit requests sit unanswered, key staff are unavailable and evidence is assembled on the day.
- **PREVENTION**: Nominate a supplier audit coordinator, acknowledge requests, agree scope and agenda, confirm confidentiality and access constraints, prepare a current evidence index and track findings to verified closure.
- **OBJECTIVE EVIDENCE**: Audit correspondence, agenda, evidence pack, findings/action log.
- **ESCALATION / LIMIT**: Timely cooperation matters, but site access and protected information must respect contract and security rules.

See SPI-10 Quality Auditing & Verification Guidebook

8.18. Process Limitations and Realistic Acceptance Criteria

- **COMMON FAILURE**: A customer treats predictable variation in electroplating thickness over complex geometry as an unexplained defect because the supplier never communicated current-density effects.
- **PREVENTION**: Document the process envelope: geometry restrictions, achievable uniformity, measurement location, tolerances, validation assumptions and mitigation options. Agree the acceptance method with design authority before manufacture.
- **OBJECTIVE EVIDENCE**: Process capability/limitation statement, test coupons or trials, agreed drawing notes and inspection plan.
- **ESCALATION / LIMIT**: A process limitation does not authorise nonconforming product; it triggers clarification, redesign or approved acceptance criteria.

8.19. Configuration, Traceability and Counterfeit Prevention

- **COMMON FAILURE**: Mixed revisions, split lots, material substitutions or untraceable distributor purchases obscure product history.
- **PREVENTION**: Link purchase order, manufacturer, batch/serial, design revision, operations, special processes and release. Apply counterfeit avoidance controls appropriate to material and EEE component risk.

- **OBJECTIVE EVIDENCE**: Traceability map, original manufacturer evidence, receiving checks, change approvals and retained records.
- **ESCALATION / LIMIT**: Never assume a distributor CoC alone proves original-source traceability.

8.20. Change Management, Work Transfer and Product Safety

- **COMMON FAILURE**: An apparently minor relocation, chemical change, tooling replacement or new subcontractor alters the validated process without customer notification.
- **PREVENTION**: Classify change triggers before implementation; review impact on product, validation, FAI, approval, configuration and safety. Notify and seek authorisation when required.
- **OBJECTIVE EVIDENCE**: Change assessment, approvals, revised PFMEA/control plan, revalidation/re-FAI record.
- **ESCALATION / LIMIT**: Escalate suspected safety impact and potential escapes immediately using contractual channels.

9. Practical Worked Examples

9.1. Electroplated Housing with Complex Geometry

A drawing specifies minimum coating thickness but does not identify measurement zones. A deep recess experiences lower current density than an exposed edge. Before quotation, the supplier identifies the concern, proposes reference areas or alternative process/design provisions, and obtains written design-authority agreement. The control plan specifies locations and periodic process checks. The supplier does not unilaterally redefine acceptance.

9.2. Machining Supplier and an Incomplete Contract Review

A machine shop accepts a purchase order for a critical component. The drawing invokes a specialist finish, full material traceability and first article inspection, but the sales review covers only price and lead time. The preventive solution is a one-page requirements matrix reviewed by sales, manufacturing, quality and procurement before acceptance; open requirements become named actions and the first build is held until the plan is agreed.

9.3. Ageing or Outstanding Supplier Corrective Action Request

A customer requests corrective action within an agreed timeframe. The supplier provides a containment statement but misses the root-cause date. Better practice is a response schedule with named milestones, a clear distinction between occurrence and escape causes, early escalation of barriers, and objective effectiveness checks after implementation. Interim updates preserve transparency; they do not replace the final evidence.

9.4. Multi-Customer Quality Data

One controlled record set includes purchase order requirements, characteristics, inspection results, batch traceability and process certifications. Customer A receives a FAIR package; customer B receives a contract-defined data pack. Each output is generated from the same evidence, with an approved customer-specific checklist.

10. Applying the Right Level of Assurance

10.1. Risk-Based Application

Risk tier	Typical work	Proportionate assurance
Baseline	Low-complexity, low-consequence supply	Contract review, traceability appropriate to product, release checks, sub-tier control
Enhanced	Complex machining, electronics, multiple special processes	Formal process flow/PFMEA or equivalent risk analysis, control plan, FAI, defined change gates
Critical / contract-specific	Safety-critical, flight/mission-critical, NATO/GQA contracts	Customer-defined approvals, AQAP mapping, deliverable quality plan, source/witness points and increased surveillance

These tiers are illustrative and do not replace contract-specific classification, key characteristics, critical items or customer approval rules.

10.2. What the Supplier Should Ask Before Accepting Work

- Do we have all technical data, revisions, acceptance criteria and customer quality clauses?
- Can we manufacture, inspect and test every characteristic with demonstrated capability?
- Which operations are special processes, and who is qualified/approved to perform them?

- What records, CoCs, FAIRs, quality plans, test reports and retention periods are required?
- What approval, witness, hold, change and concession routes apply?
- Can our sub-tier suppliers satisfy the same relevant requirements?
- Who answers technical questions and how quickly must issues be escalated?

11. Requirement Examples

11.1. Contract Review and Clarification
The supplier shall review and resolve applicable technical, quality and delivery requirements before acceptance and shall retain evidence of review and agreed exceptions.

11.2. Competence and Capability
The supplier shall confirm resources, process capability and competent personnel appropriate to the contracted work.

11.3. External Provider Control
The supplier shall determine, communicate and verify relevant requirements at each applicable sub-tier and retain appropriate oversight evidence.

11.4. Design and Process Anomalies
The supplier shall raise unresolved technical inconsistencies and obtain required authorisation before proceeding with affected work.

11.5. Manufacturing Risk and Control
The supplier shall establish production controls proportionate to risk and implement any contractually required PFMEA, control plan or equivalent method.

11.6. Special Process Assurance
The supplier shall identify processes requiring validation and retain evidence of initial and continued control, including sub-tier processing.

11.7. First Article Inspection and Process Verification
Where invoked, the supplier shall perform First Article Inspection (FAI) to the specified standard and verify the production process and configuration represented.

11.8. Production Readiness and Transition Control
Before commencing repeat production, the supplier shall assess and document production readiness appropriate to product and process risk. The review shall address differences from prototype arrangements, production capacity and competence, process capability, sub-tier readiness, approved configuration, manufacturing controls, verification/FAI, special process validation and outstanding risks. Changes introduced to improve yield, cost or throughput shall be evaluated, controlled and approved as required before use; affected validation, control plans and verification evidence shall be updated.

11.9. Concessions and Nonconformity
The supplier shall identify, contain and control nonconforming product and obtain required approvals for deviations, concessions or dispositions before release.

11.10. Corrective Action and Disclosure
The supplier shall respond to customer corrective-action requests to agreed dates and promptly disclose known or suspected delivered-product escapes.

11.11. Traceability and Certification
The supplier shall maintain specified traceability and issue accurate, authorised release documentation identifying applicable configurations and approved departures.

11.12. Change Notification
The supplier shall assess and obtain required approvals for changes to design, source, location, materials, processes or inspection arrangements.

11.13. Audit and Access
The supplier shall support agreed verification, audit and access arrangements, including relevant sub-tiers, subject to contractual security controls.

11.14. Customer Deliverables
The supplier shall maintain a register of contract-specific quality documents, formats, due dates, approvals and retention obligations.

11.15. NATO Quality Assurance
Where contractually invoked, the supplier shall comply with the stated editions of AQAP 2110 and/or AQAP 2310 and produce an AQAP 2105 quality plan when required.

11.16. Process Limitations
The supplier shall communicate known process constraints affecting conformity or verification and obtain written agreement to any revised acceptance criteria.

11.17. Product Safety and Counterfeit Risk
The supplier shall implement controls proportionate to safety and counterfeit risks and notify the customer of relevant suspected impacts.

11.18. Certification and Approval
The supplier shall maintain required certification/accreditation/approvals within their relevant scope and promptly report changes affecting eligibility.

Requirement family	Baseline	Enhanced	Critical / NATO	Activation rule
Contract review, CoC, nonconformity	Yes	Yes	Yes	Unless explicitly excluded
PFMEA / control plan	Risk-based	Normally	Normally	Explicitly define method and outputs
AS9102 FAIR	If invoked	If invoked	If invoked	Specify applicability and submission
Special process approvals	As applicable	As applicable	As applicable	Name approved sources/standards
AQAP 2110 / 2310	No default	No default	Only if invoked	Specify edition and applicability
AQAP 2105 quality plan	No default	If invoked	If invoked	Specify review/acceptance milestones
GQA / right of access	Contract-specific	Contract-specific	Contract-specific	Define parties, notification and security

12. Deliverable Quality Plan Requirements and Practical Implementation

12.1. The AQAP-2105 Deliverable Quality Plan
A Deliverable Quality Plan (DQP) is a contract-specific document describing how a supplier will plan, implement, control, verify and demonstrate conformity with applicable contractual quality requirements. Within NATO defence procurement, AQAP-2105 establishes the requirements for preparing, submitting, implementing, reviewing and maintaining Quality Plans.

AQAP-2105 is intended for use alongside AQAP-2110, AQAP-2310 and, where applicable, AQAP-2210.
The term Deliverable Quality Plan is commonly used where the Quality Plan is a contractual deliverable. AQAP-2105 itself uses the term Quality Plan.

A DQP should not simply describe the supplier's existing Quality Management System (QMS). It must explain how that system will be applied to the specific contract, product, programme and associated supply chain.

The fundamental purpose of a DQP is to demonstrate how contractual requirements will be achieved, not to redefine, reduce or negotiate those requirements.

An effective DQP provides assurance that the supplier has:
- Understood the contractual and technical requirements.
- Identified the activities necessary to achieve conformity.
- Established appropriate responsibilities and authorities.
- Identified product, process and supply chain risks.
- Allocated adequate resources.
- Established suitable manufacturing and verification controls.
- Identified and controlled applicable sub-tier suppliers.

- Established arrangements for customer and Government Quality Assurance (GQA) access.
- Defined the records necessary to demonstrate conformity.
- Established arrangements for monitoring, reviewing and improving performance.

The DQP should be sufficiently detailed to demonstrate that these arrangements are practical, controlled and capable of implementation.

12.2. Applicability and Contractual Requirements

AQAP-2105 applies when invoked by the contract.

It defines requirements for Quality Plans used in conjunction with applicable NATO quality assurance requirements.

Where AQAP-2105 is contractually invoked, the supplier must establish a Quality Plan satisfying its applicable requirements, subject to any arrangements formally agreed within the contract.

The supplier should establish whether the contract also invokes:

- AQAP-2110 – NATO Quality Assurance Requirements for Design, Development and Production.
- AQAP-2310 – NATO Quality Assurance Requirements for Aviation, Space and Defence Suppliers.
- AQAP-2210 – NATO Supplementary Software Quality Assurance Requirements.
- Other contractual, statutory, regulatory or customer-specific requirements.

A supplier holding ISO 9001 or 9100 certification is not automatically exempt from preparing a DQP.

Management system certification demonstrates conformity with the applicable management system standard within the certified scope. It does not replace the requirement to establish contract-specific arrangements where these are contractually required.

Similarly, an existing company Quality Manual or generic Quality Plan should not be submitted as a DQP without establishing that it addresses the particular contract.

12.3. Preparing the Deliverable Quality Plan

12.3.1. Contract Review

Preparation should begin with a comprehensive review of the contract.
AQAP-2105 requires the supplier to review contractual requirements and identify risks before preparing the Quality Plan. The supplier should examine:

- Contractual terms and conditions.
- Purchase orders and associated schedules.
- Applicable drawings and specifications.
- Supplier Quality Requirements.
- AQAP requirements.
- Product safety and critical characteristics.
- Design and configuration requirements.
- Manufacturing and special process requirements.
- Inspection, testing and acceptance criteria.
- First Article Inspection requirements.
- Production readiness requirements.
- Traceability and record retention.
- Sub-tier supplier requirements.
- Customer and GQAR access arrangements.
- Delivery and release documentation.

The review should establish what must be achieved, how conformity will be demonstrated and which organisational processes will be used.

Any uncertainty, conflict or inability to meet a requirement should be identified and resolved through the appropriate contractual process.

12.4. Requirements Compliance Matrix

Best practice is to prepare a contract-specific requirements compliance matrix before drafting the DQP.
The matrix should identify each applicable requirement and its corresponding implementation arrangements.
A recommended format is:

Reference	Requirement	Applicable	Implementation method	Evidence	DQP Section
AQAP-2105 4.6	Customer and GQA access	Yes	Contract access procedure	Access arrangements	7
AQAP-2105 4.8	Risk management	Yes	Programme risk procedure	Risk register	9
AQAP-2105 4.10.7	External provider control	Yes	Supplier approval and surveillance procedures	Approved supplier records	13
AQAP-2105 4.10.8	Production control	Yes	Manufacturing control plan	Production records	14

The matrix should demonstrate how requirements are addressed rather than merely stating that the supplier complies. For example:
Insufficient: Supplier complies with AQAP-2105.
Better: Supplier quality risks are identified during contract review, recorded in the programme risk register and reviewed monthly by the Programme Manager and Quality Manager. Risks exceeding the defined threshold are escalated to the programme governance board.

The compliance matrix should be maintained throughout the contract lifecycle.

12.5. Identifying Contract-Specific Risks

The supplier should assess risks associated with the product, manufacturing processes, supply chain and contractual obligations. These may include:

- Unproven manufacturing processes.
- Inadequate production capacity.
- New or inexperienced suppliers.
- Single-source dependencies.
- Special processes requiring validation.
- Product characteristics that cannot be fully verified by inspection.
- Configuration changes.
- Inadequate measurement capability.
- Unresolved technical requirements.
- Production transfer between facilities.
- Obsolescence and long-term supply.

Risk management activities should be proportionate to the complexity and criticality of the contract.

The DQP should identify the applicable risk management arrangements, responsibilities, review frequency and escalation process.

12.6. The DQP Must Not Be Used to Introduce Deviations or Substitutions

A Deliverable Quality Plan must not be used as a mechanism for introducing deviations, substitutions, exclusions or reductions to contractual requirements. This is a fundamental principle of effective contractual quality assurance.

The DQP describes how the supplier intends to satisfy the contract. It is not an alternative contract, a concession request or a means of obtaining approval for noncompliance. For example, the following

statements would be inappropriate within a DQP unless the underlying contractual requirements had already been formally amended:

- The contract requires First Article Inspection, but the supplier will not undertake this activity.
- The customer requires an approved special process source, but the supplier intends to use an alternative unapproved provider.
- The contract requires specified inspection records, but the supplier does not intend to retain them.
- The customer requires access to sub-tier suppliers, but the supplier will not permit such access.
- The contract requires a particular standard, but the supplier proposes applying a different standard instead.

Such statements identify potential noncompliance rather than arrangements for achieving conformity.

12.6.1. Correct Management of Deviations

Where a supplier cannot meet a contractual requirement, the matter should be managed through an appropriate, separately controlled process. Depending on the circumstances, this may involve:

- Contractual clarification.
- Formal contract amendment.
- Engineering change request.
- Approved deviation or waiver.
- Concession request.
- Authorised substitution.
- Other customer-approved contractual arrangements.

The appropriate mechanism depends upon the nature of the requirement and the contractual arrangements. A supplier should not assume that approval of the DQP constitutes approval of a deviation.

Approval of a DQP must not be interpreted as acceptance of a departure from contractual requirements. Where a deviation has been formally authorised, the DQP may reference the applicable approval and describe the resulting authorised controls.

The DQP should not itself constitute the approval mechanism.

12.6.2. Contractual Applicability and Exclusions

AQAP-2105 recognises that requirements may be subject to agreement documented as part of the contract. Consequently, requirements should not be declared inapplicable merely because the supplier considers them unnecessary.
Where a requirement genuinely does not apply, the supplier should establish the contractual basis for that determination.

Where a contractual requirement is to be excluded or modified, the necessary agreement must be obtained through the appropriate contractual authority.

Best practice: The customer should reject or return for correction any DQP that attempts to introduce unauthorised deviations, substitutions or exclusions.

12.7. Recommended DQP Content

The following structure provides a practical template aligned with the subject areas addressed by AQAP-2105. It is an illustrative structure rather than a mandatory NATO template. Suppliers must ensure that all applicable AQAP-2105 requirements are addressed, including requirements not explicitly identified in the example.

12.7.1. Document Control and Approval

Include:

- Document title and reference.
- Supplier name.

- Customer name.
- Contract reference.
- Programme or project.
- Product identification.
- Document revision and issue date.
- Supplier preparation, review and approval.
- Customer/GQAR submission and evaluation status.
- Revision history.

The DQP should be controlled within the supplier's document management arrangements.

12.7.2. Purpose, Scope and Project Description
Describe the contract, products, services and activities covered. Identify relevant manufacturing locations, subcontracted activities and contractual boundaries. The scope should clearly establish which activities are covered by the DQP.

12.7.3. Applicable Requirements and Referenced Documents
Identify the applicable contractual documents, standards, specifications, procedures and supporting plans. Explain their relationships and contractual order of precedence. Include document references and applicable revisions.

12.7.4. Quality Management System Arrangements
Describe how the supplier's QMS will be applied to the contract. Identify the relevant processes, their sequence and interaction, applicable controls and associated records. The DQP may reference existing procedures rather than reproduce them. However, references must be sufficiently specific to establish how the contractual activities are controlled.

12.7.5. Organisation, Responsibilities and Authorities
Identify the personnel responsible for contract quality assurance. Include:

- Programme management.
- Quality management.
- Engineering.
- Manufacturing.
- Procurement and supplier quality.
- Configuration management.
- Inspection and testing.
- Product release.

Explain reporting relationships, decision-making authority and the independence of personnel assigned quality responsibilities.

12.7.6. Customer and Government Quality Assurance Access
Describe how the supplier will provide the access and support required by the contract. This should include arrangements for access to:

- Supplier facilities.
- Relevant personnel.
- Manufacturing and inspection activities.
- Applicable records.
- Sub-tier suppliers and external process providers.

Access to sub-tier suppliers must not be omitted.

AQAP-2105 explicitly requires the Quality Plan to describe provisions and support for access to the supplier and external providers. The DQP should explain how relevant access requirements are flowed down and implemented throughout the supply chain.

Access arrangements should account for applicable security, safety and confidentiality requirements without introducing unauthorised restrictions.

12.7.7. Risk Management
Describe the contract-specific risk management arrangements. Identify responsibilities, assessment methods, risk registers, mitigation activities, review frequency and escalation criteria. Explain how risks influence manufacturing planning, supplier controls and verification activities.

12.7.8. Resource and Competence Management
Explain how the supplier will ensure adequate personnel, equipment, infrastructure and manufacturing capacity. Identify competence and qualification requirements. Describe how resource limitations will be identified and addressed.

12.7.9. Monitoring and Measuring Resources
Describe the arrangements for ensuring measurement capability. Include calibration, verification, equipment control, measurement processes and traceability. Identify how unsuitable equipment and potentially invalid measurement results will be managed.

12.7.10. Requirements Management and Contract Review
Describe how requirements are identified, reviewed, allocated, traced, verified and validated. Reference the requirements compliance matrix. Explain how contractual ambiguities and changes are managed.

12.7.11. Design and Development Control
Where applicable, describe design planning, reviews, verification, validation, approval and change control. Identify the associated engineering authorities and records. Where design is outside the supplier's scope, establish the contractual basis for that determination.

12.7.12. Configuration Management
Describe how product configuration is established, identified, controlled and verified. Include applicable configuration baselines, drawing revisions, engineering changes and configuration records. Reference the Configuration Management Plan where appropriate.

12.7.13. External Provider and Supply Chain Control
Describe how suppliers and sub-tier providers are evaluated, selected, approved, monitored and reassessed. Include:

- Supplier approval arrangements.
- Requirements flow-down.
- Approved special process sources.
- Sub-tier surveillance.
- Product conformity verification.
- Counterfeit prevention.
- Supply chain risk management.
- Customer/GQAR access.
- Supplier corrective action.

The DQP should explain how these controls apply to the actual supply chain supporting the contract.

12.7.14. Manufacturing and Process Control
Describe the sequence of manufacturing operations and associated controls. Include:

- Manufacturing planning.

- Work instructions.
- Process flow.
- PFMEA and control plans where applicable.
- Equipment and tooling.
- Process qualification.
- Special process validation.
- In-process inspection.
- Identification and traceability.
- Production records.
- Storage and handling.

Where production readiness reviews, APQP or PPAP are required, identify the relevant activities and approval arrangements.

12.7.15. Inspection, Testing and Product Release

Explain how conformity will be demonstrated before delivery. Include applicable inspection and test arrangements, acceptance criteria, records, release authority and certification documentation. Describe the control of nonconforming products and the arrangements for preventing unauthorised release.

12.7.16. Nonconformity and Corrective Action

Describe the processes for:

- Identifying nonconformities.
- Containment.
- Customer notification.
- Disposition.
- Root cause investigation.
- Corrective action.
- Effectiveness verification.
- Response timescales for root cause corrective action activities

Explain how contractual concession and deviation processes are managed separately from the DQP.

12.7.17. Performance Monitoring and Improvement

Identify relevant quality objectives and performance indicators. Describe how performance is monitored, analysed and reviewed. Include supplier performance, manufacturing quality, corrective action effectiveness and continual improvement activities.

12.7.18. Internal Auditing

Describe how the supplier will audit the implementation and effectiveness of the DQP. Identify the audit programme, responsibilities, records and corrective action arrangements. The audit programme should verify that the activities described in the DQP are actually being implemented.

12.7.19. Document and Record Control

Describe the arrangements for document approval, revision, distribution, retention, retrieval and disposition. Identify contract-specific retention requirements and arrangements for making records available to authorised customer and GQA representatives.

12.7.20. DQP Review and Change Control

Explain how the DQP will be reviewed and revised. Identify review triggers, responsible personnel, approval arrangements and submission requirements. The DQP should be reviewed throughout the contract lifecycle and at relevant development and production phases.

12.7.21. Software Quality Assurance

Where software quality planning is required, describe or reference the applicable software quality assurance arrangements. Ensure the relevant requirements of AQAP-2210 and AQAP-2105 Chapter 5 are addressed where contractually applicable.

12.8. Customer Review and Formal Approval

12.8.1. Customer Responsibility

A DQP should not be treated as an administrative deliverable that is merely received, registered and filed. The customer has an important assurance responsibility to evaluate whether the proposed arrangements adequately address the contractual requirements. AQAP-2105 requires supplier-authorised Quality Plans to be submitted to the GQAR and/or Acquirer for evaluation before work begins, unless otherwise agreed. It also establishes the right of the GQAR or Acquirer to reject a Quality Plan or revision that does not comply with applicable requirements.

The standard does not universally prescribe a separate formal customer approval signature. However, where the contract requires customer approval, that approval must be obtained.

As best practice, the purchasing organisation should establish a formal, documented DQP review and acceptance process, with explicit approval authority and a recorded decision.

This is particularly important for complex, safety-critical or high-risk defence contracts.

12.8.2. Recommended Customer Review Process

The customer should establish a structured review process involving appropriate representatives from:

- Supplier Quality Assurance.
- Programme Quality.
- Engineering.
- Manufacturing or Industrialisation.
- Procurement or Commercial.
- Configuration Management.
- Other relevant technical functions.

The review should determine whether:

- The DQP addresses all applicable AQAP-2105 requirements.
- The contractual scope is correctly identified.
- Applicable requirements are accurately represented.
- Responsibilities and authorities are defined.
- Manufacturing and verification arrangements are appropriate.
- Supply chain and sub-tier controls are adequate.
- Customer and GQA access arrangements are established.
- Risks are identified and appropriately controlled.
- Supporting procedures and plans are identified.
- The DQP contains no unauthorised deviations, substitutions or exclusions.
- Proposed arrangements are practical and capable of implementation.
- The document has been authorised by the supplier.

The customer should not accept generic statements of compliance as sufficient evidence where the contract requires specific arrangements.

12.8.3. Formal Review Outcomes

A recommended approval system is:

Status	Meaning
Approved	DQP satisfies the applicable review and approval criteria
Approved with conditions	Permitted only where contractually authorised, with clearly defined conditions
Returned for revision	Further information or correction required
Rejected	DQP does not satisfy applicable requirements

Any conditional approval must not authorise noncompliance with contractual requirements.

Where the contract requires approval before commencement of work, activities subject to that approval should not begin until the required authorisation has been obtained.

12.8.4. Formal Approval Record

The customer should retain a controlled record identifying:

- DQP document number and revision.
- Contract reference.
- Review participants.
- Applicable review criteria.
- Review findings and required actions.
- Disposition of review comments.
- Approval status.
- Approval authority.
- Date of decision.
- Conditions, where formally permitted.

Approval should be issued through an authorised, traceable communication or controlled document system. Verbal agreement or informal correspondence should not replace the required formal approval process.

12.8.5. Approval Does Not Transfer Responsibility

Customer approval of a DQP does not remove the supplier's responsibility for contractual conformity. Similarly, approval does not automatically authorise:

- Changes to specifications.
- Alternative manufacturing processes.
- Unapproved suppliers.
- Reduced inspection.
- Unauthorised product deviations.
- Changes to contractual acceptance criteria.

Such matters must be managed through their appropriate approval mechanisms.

12.9. Implementation and Ongoing Assurance

A DQP must be implemented, not simply written. The supplier should ensure that personnel understand their responsibilities and that referenced processes are available and operating effectively. Implementation should be verified through:

- Internal audits.
- Manufacturing process reviews.
- Supplier surveillance.
- Performance monitoring.
- Contract reviews.
- Production readiness reviews.
- Management reviews.
- Customer or GQA surveillance where applicable.

The DQP should remain aligned with the actual manufacturing and supply chain arrangements. Where significant changes occur, the supplier should review the DQP and determine whether revision and resubmission are required. Relevant changes may include:

- Manufacturing relocation.
- Introduction of new suppliers.
- Significant process changes.
- Changes in organisational responsibility.
- New product configurations.
- Changes to inspection arrangements.
- Changes to contractual requirements.

The DQP should remain a current representation of how the supplier controls contractual quality throughout the contract lifecycle.

12.10. Common DQP Weaknesses

Weakness	Consequence	Recommended improvement
Generic QMS description	Contract-specific arrangements are unclear	Identify actual programme controls
Statements of compliance without explanation	Implementation cannot be evaluated	Describe methods, responsibilities and evidence
Missing sub-tier access provisions	Customer/GQA access may be obstructed	Establish contractual flow-down and access arrangements
Incomplete requirements review	Contractual obligations may be overlooked	Maintain a compliance matrix
Unauthorised deviations within the DQP	Risk of implied contractual acceptance	Manage separately through authorised processes
No supplier risk assessment	Assurance activities may be inadequate	Establish contract-specific risk management
Missing special process validation	Process capability may be unproven	Define qualification and validation arrangements
No customer review evidence	DQP acceptance status is unclear	Maintain a formal review and approval record
Outdated procedure references	DQP no longer reflects actual controls	Maintain document and revision control
No implementation verification	DQP becomes a paper exercise	Audit implementation and effectiveness

12.11. Practical DQP Template

The following template may be adapted for individual contracts.

12.11.1. Document Identification

- Document title: Deliverable Quality Plan
- Document number: [Reference]
- Revision: [Revision]
- Supplier: [Organisation]
- Customer: [Organisation]
- Contract: [Reference]
- Programme: [Programme]
- Product: [Product description]
- Applicable AQAP: [AQAP references]
- Supplier prepared by: [Name / Position / Date]
- Supplier approved by: [Name / Position / Date]
- Customer review status: [Status]
- Customer approval reference: [Reference, where required]

12.11.2. Template Sections

No.	Section	Information to provide
1	Purpose and scope	Contract, product, activities and locations
2	Applicable requirements	Contractual documents, standards and precedence
3	Project description	Programme and product overview
4	QMS arrangements	Contract-specific processes and interactions
5	Organisation and responsibilities	Organisation chart, roles and authorities
6	Customer/GQA access	Access to facilities, records and sub-tier suppliers
7	Risk management	Risk methodology, register and mitigation
8	Resource management	Personnel, competence, equipment and capacity
9	Measurement management	Calibration and measurement controls
10	Requirements management	Contract review and compliance matrix
11	Design and development	Applicable design controls and verification
12	Configuration management	Configuration identification and change control
13	Supply chain control	Supplier approval, flow-down and surveillance
14	Production control	Manufacturing planning and process validation
15	Product verification	Inspection, testing and acceptance
16	Product release	Release authority and certification
17	Nonconformity control	Containment, disposition and notification
18	Corrective action	RCCA and effectiveness verification
19	Performance evaluation	KPIs, analysis and improvement
20	Internal audit	DQP implementation and effectiveness audits
21	Document control	Records, retention and revision control
22	DQP maintenance	Reviews, amendments and resubmission
23	Software quality assurance	Applicable software controls
24	Supporting documents	Procedures, plans and evidence references

12.11.3. Recommended Supporting Appendices

- **Appendix A** – Requirements Compliance Matrix: Identify contractual and AQAP requirements, implementation methods and objective evidence.
- **Appendix B** – Organisation and Responsibility Matrix: Identify responsible personnel, reporting relationships and approval authorities.
- **Appendix C** – Risk Register: Identify programme, product, process and supply chain risks.
- **Appendix D** – Manufacturing Process Flow: Identify the manufacturing sequence, critical operations, inspection points and special processes.
- **Appendix E** – Supplier and Sub-tier Control Matrix: Identify external providers, their activities, approval requirements, flow-down obligations and surveillance arrangements.
- **Appendix F** – Verification and Validation Matrix: Identify product and process verification activities, acceptance criteria and records.
- **Appendix G** – DQP Review and Approval Record: Record supplier authorisation, customer evaluation, review comments and formal approval where required.

12.12. Final Guidance

A well-prepared Deliverable Quality Plan should provide a clear, credible and verifiable explanation of how a supplier intends to achieve contractual conformity. It should be sufficiently detailed to support customer evaluation and sufficiently practical to guide the personnel responsible for implementing the contract.
The DQP should not be unnecessarily complex. Existing procedures and supporting plans may be referenced where they adequately address the applicable requirements.

However, the use of referenced documents must not obscure responsibilities, omit contractual obligations or prevent effective evaluation. The purchasing organisation should establish a disciplined review and approval process, ensuring that the DQP provides meaningful assurance before the relevant contractual activities commence. Above all, the DQP must remain a plan for achieving conformity.

It must never become a substitute for contractual compliance, a vehicle for unauthorised deviations or a mechanism for transferring responsibility from the supplier to the customer.

13. Example Supplier Quality Requirement Document

Guidance on Using This Supplier Quality Requirements Template

This section of the publication has been developed as a practical, best-practice example of a Supplier Quality Requirements (SQR) document, intended to assist organisations in establishing, reviewing or improving their own supplier quality requirements.

Organisations are encouraged to use the content as a foundation for developing a supplier-facing document tailored to their specific operational needs, products, services, industry sectors and contractual obligations.

The text may be copied, adapted, expanded or modified to reflect individual organisational requirements. This includes incorporating company-specific procedures, quality management system requirements, applicable standards, regulatory obligations, customer requirements and supplier assurance arrangements.

When adapting the template, organisations should:

- Review each requirement to determine its relevance and applicability to the products, processes and services being procured.
- Modify the wording to align with organisational policies, procedures, contractual arrangements and established quality management practices.
- Identify applicable standards and specifications, ensuring that referenced documents and revision levels are appropriate.
- Define supplier responsibilities clearly, including requirements for sub-tier suppliers, verification activities, documented information and the flow-down of contractual obligations.
- Apply a risk-based approach, ensuring that the extent of supplier quality controls is proportionate to product criticality, process complexity and the potential consequences of nonconformity.
- Remove or amend requirements** that are not applicable, avoiding unnecessary obligations that may introduce complexity without improving product or service conformity.
- Include additional requirements where necessary to address specific technical, regulatory, programme or customer needs.

The objective is not to create an unnecessarily complex or restrictive supplier quality document, but to establish a clear, proportionate and enforceable set of requirements that suppliers can readily understand, implement and demonstrate compliance with. Supplier quality requirement documentation should remain relevant, simple and concise.

A well-structured Supplier Quality Requirements document should support effective communication between customers and suppliers, establish consistent expectations throughout the supply chain and promote the prevention of nonconformities rather than reliance on inspection and corrective action after problems occur.

Important: This template is provided as an example of industry best practice and should not be adopted without appropriate technical, quality and contractual review. Each organisation remains responsible for ensuring that its published supplier quality requirements are suitable for their intended application and consistent with applicable statutory, regulatory and contractual obligations.

SUPPLIER QUALITY REQUIREMENTS

1. Introduction

1.1 Product and Service Assurance

The customer relies on its external providers to deliver products and services that are safe, conforming, reliable and available when required. Quality is to be established through competent planning and controlled execution rather than dependence on final inspection. The supplier remains accountable for the integrity of everything it delivers, including activities carried out by its sub-tier network.

1.2 Supplier Quality Engagement

Supplier Quality and Procurement provide a route for clarifying technical expectations, addressing emerging risks, agreeing assurance activities and supporting effective corrective action. Supplier engagement does not transfer responsibility for conformity from the supplier to the customer.

2. Scope and Interpretation

2.1 Purpose

This document defines baseline supplier assurance expectations for externally provided processes, products and services. It supplements, but does not replace, the applicable contract, purchase order, technical definition and statutory obligations.

2.2 Communication and flow-down

The direct supplier shall identify which requirements apply to each purchase and communicate those requirements to affected functions and sub-tier providers. The supplier shall verify that lower-tier controls remain effective and retain evidence of the flow-down.

2.3 Terminology

“Shall” establishes a binding requirement when this document is contractually invoked; “should” identifies recommended practice; “may” indicates an option. “Customer” means the issuing organisation. “Supplier” includes the contracting external provider and, where applicable, its sub-tiers.

2.4 Conflicting Requirements

Conflicts shall be raised for written resolution before work proceeds. As a model hierarchy, apply legislation and regulatory obligations first, then the contract and special conditions, approved design definition and authorised deviations, statement of work, and this document. The issuing organisation shall approve the final hierarchy.

3. Supplier Approval and Minimum Controls

3.1 Quality Management System

Suppliers providing quality-affecting products or services shall operate a documented QMS suitable for their scope. As a model entry requirement, hold ISO 9001 certification issued by a certification body accredited by UKAS or another appropriate IAF-recognised accreditation body, with the relevant scope and sites covered. Sector-specific certification or additional contractual controls may also apply. A certificate issued outside a recognised accreditation arrangement shall not be treated as equivalent without a documented customer decision.

3.1.1 Certification status

Provide current certification, schedules and scope on request; notify the customer promptly of expiry, suspension, withdrawal, material scope changes or loss of accreditation. The customer may require a recovery plan or reassessment.

3.2 Information and Cyber Security

Protect customer technical, commercial and personal information according to its classification, the contract and applicable law. Access shall be restricted to authorised personnel; secure storage, transfer, incident

reporting and subcontractor controls shall be established. Cyber Essentials or equivalent assurance may be required when stated in the contract.

3.2.1 Restricted Information
Sensitive data shall only be shared with approved persons and approved sub-tiers under suitable confidentiality and security arrangements. Obtain prior permission for onward disclosure.

3.2.2 Security Assurance
Where work involves controlled information or facilities, complete any required security assessment before receipt of the information and maintain ongoing compliance.

3.2.3 Meetings and automated tools
Do not activate meeting recording, transcription, generative-AI note-taking or other automated content-processing services for customer information without prior documented authorisation.

3.3 Quality Verification
The customer may carry out planned or reactive verification using desk-based reviews, document checks, product audits, manufacturing-process audits, special-process assessments, test witnessing, source inspection or quality reviews. The scope and frequency shall reflect product criticality, process complexity, delivery history and emerging risk.

3.4 Externally Provided Activities
The supplier shall select, approve, monitor and periodically reassess sub-tier providers using defined criteria. Maintain approved-source controls where specified; assess changes in sources and capabilities; and confirm that requirements, traceability and relevant records extend through the supply chain.

3.5 Right of Access
Subject to applicable security, safety and legal controls, the supplier shall arrange reasonable access for the customer, its customer, authorised government quality representatives and regulators to relevant premises, sub-tier locations, personnel, equipment and documented evidence. Include corresponding access rights in subcontracts.

4. Purchase order quality categories
4.1 Defence and NATO-related supply — Category 1
When Category 1 is invoked, all applicable requirements in this document apply together with the precise AQAP, defence and customer requirements cited in the contract. Where AQAP 2110, AQAP 2310 or AQAP 2210 applies, the supplier shall identify and implement the relevant obligations; applicability shall not be inferred solely from the end-use of the product.

4.1.1 Quality Plans
When called for, prepare and submit a contract-specific quality plan aligned with the invoked edition of AQAP 2105. The plan shall describe scope, organisational interfaces, assurance arrangements, external-provider controls, verification, risks, records and change management. Customer review or acceptance shall be obtained where required.

4.2 Other quality-critical supply — Category 2
Category 2 covers products and services affecting customer deliverables without automatically invoking NATO-specific obligations. The supplier shall comply with this document and the technical and sector standards expressly stated in the order.

4.3 Indirect business supplies — Category 3
Category 3 covers supplies with no identified effect on deliverable product conformity. The purchase order, safety, legal and service requirements still apply; QMS certification is required only where separately specified.

4.4 Testing and Calibration Services

Use competent laboratories with measurement traceability and defined methods. Where contractually specified, testing or calibration shall be within the laboratory's **ISO/IEC 17025** accredited scope; any OEM calibration exception requires documented customer acceptance.

5. Traceability, Configuration and Release Evidence

5.1 Traceability

Maintain a traceable chain linking received materials and components to their origin, process history, inspection results and delivered items. Identify quantities, lots, serials, splits, merges, rework, scrap and transfers as applicable. Traceability shall remain recoverable through sub-tier records.

5.1.1 Traceability by commodity

Raw materials: identify heat or batch and applicable material test report. Manufactured items: connect raw material, routing, inspection and finished lot or serial. COTS: preserve authentic OEM and distributor pedigree. Modified COTS: retain original pedigree and records of modification. EEE items: maintain manufacturer part number, lot/date code and procurement source.

5.2 Configuration management

Establish and maintain a baseline for drawings, specifications, software, bills of material and other configuration items. Verify the correct revision at every stage; record approved changes; and reconcile as-built or as-maintained status against the authorised definition. No unauthorised substitution is permitted.

5.3 Release Certificates and Test Reports

Provide an authorised declaration of conformity for delivered product unless the order expressly specifies a different release record. Calibration and test reports shall identify the item, method, results, acceptance criteria, traceability and any required uncertainty or deviations.

5.3.1 Certificate Content

A model certificate includes: unique certificate identifier; supplier and customer; issue date; purchase order and line; part description and number; drawing/specification revision; quantity; serial/lot identifiers; approved deviation references; explicit conformity statement; and the identity and signature or controlled electronic approval of the authorised release person. Apply **AS9163** or **DEFCON 627** requirements.

5.4 Records Retention

Retain records needed to demonstrate conformity, process history and product pedigree for the contractual period. An illustrative default is ten years after contract completion, subject to longer legal, customer, safety or programme requirements. Preserve legibility, integrity, retrieval and secure disposal.

5.5 Serialisation

Where serial numbers are required, use unique, controlled identifiers that cannot be reused. Sequential numeric numbering may be imposed by the purchase order or design definition. Link each serial to production, verification, release and deviation records.

6. Counterfeit Prevention and Obsolescence

6.1 Counterfeit and suspect items

Implement a risk-based counterfeit prevention programme covering authorised sourcing, purchasing controls, incoming verification, quarantine, reporting, investigation and disposition. Unapproved salvaged, altered or falsely represented items shall not enter conforming stock. Consider **DEF STAN 05-135** where specified.

6.2 Electrical, Electronic and Electromechanical parts

For EEE components, establish sourcing and authentication controls appropriate to risk and apply **AS5553** when contractually invoked. Purchases from non-authorised channels require enhanced assessment and approval before use.

6.2.1 Obsolescence

Monitor component life-cycle status, single-source dependencies and diminishing supply. Notify the customer of foreseeable obsolescence and propose authorised mitigation before changes are implemented.

7. Production Readiness and Process Assurance

7.1 Contract and capability review

Before acceptance, review the complete requirement set, delivery obligations, design maturity, raw material availability, capacity, process capability, inspection/test resources, external providers, regulatory constraints and required data deliverables. Record issues and obtain resolution before commitment.

7.1.1 Quality Engagement at Launch

For high-risk or technically complex work, invite the customer's Supplier Quality representative to an early review of requirements, production approach and assurance evidence.

7.1.2 Competence

Personnel performing work affecting conformity shall be trained, competent and aware of product-safety and ethical obligations. Maintain evidence of qualifications, authorisations and periodic reassessment.

7.1.3 Business Continuity

Establish continuity arrangements appropriate to the risk of disruption, including critical people, utilities, equipment, IT, materials and sub-tier dependencies. **ISO 22301** may be used as a framework where appropriate.

7.1.4 Production Readiness Review

Before transferring a prototype or development solution into repeat production, assess whether the production route can consistently reproduce the approved design without relying on exceptional prototype resources. Review capacity, tooling, skills, process validation, yield, PFMEA, control plan, inspection, supply-chain capability and configuration. Cost or yield improvements shall be evaluated as controlled changes, not informal departures from the validated baseline.

7.2 DFMEA and PFMEA

Evaluate design and manufacturing failure modes where relevant. PFMEA in accordance with **AS13004** shall follow the actual production sequence and identify prevention and detection controls, not merely generic business risks. Translate significant risks into the control plan, work instructions, inspection and process monitoring. Review the analysis after escapes, process changes or new learning. See guidance here.

7.3 Controlled Production Information

Use approved travellers, route cards, process specifications, set-up parameters, control plans and inspection instructions at point of use. Identify hold points, critical characteristics, acceptance criteria, equipment, personnel authorisation and objective records.

7.4 First Article Inspection

Where invoked, demonstrate that the production method and its documented controls can produce conforming output. Submit an **AS9102** first article inspection report when required and repeat the relevant full or partial assessment after applicable changes. See guidance here.

7.5 Special Processes

Where output cannot be completely verified by later inspection, validate the process before use and periodically revalidate it. Define equipment, qualified personnel, methods, operating limits, monitoring, test coupons, revalidation triggers and record retention. Customer or Nadcap approval shall be obtained where specified. Information on special processes can be reviewed here.

7.5.1 Welding

Control welding procedures, procedure qualification, personnel competence, consumables, equipment and inspection. Obtain any required customer source or process approval before production.

7.5.2 Surface Engineering and Chemical Processing

Specify substrate preparation, bath or process chemistry, process parameters, coating thickness, corrosion resistance, hydrogen-embrittlement controls where applicable, adhesion and visual acceptance. Substitutions in chemistry or passivation shall be formally approved.

7.5.3 Painting and Coating Adhesion

Validate surface preparation, environmental conditions, application and cure. Use representative coupons and a documented periodic adhesion programme. Apply ISO 2409 or ASTM D3359 test methods and acceptance limits as a minimum.

7.5.4 Surface finish

Define appearance and functional acceptance criteria for blisters, peeling, corrosion, stains, cracks, pits, scratches, excessive contact marks and other unacceptable discontinuities.

7.5.5 Electronic Assemblies and Harnesses

Apply contractual workmanship and acceptance classes. Commonly referenced documents include **IPC J-STD-001** for soldering, **IPC-A-600** for printed boards, **IPC-A-610** for assemblies, **IPC/WHMA-A-620** for harnesses and **IPC-A-630** for enclosures. **Class 3** shall be applied for all IPC standards.

7.5.6 Solder Alloy Control

Identify the approved solder alloy and any lead-free restrictions. Changes to solder chemistry or assembly process shall be assessed for reliability, compatibility and customer approval before implementation.

7.6 Product Preservation

Protect product from contamination, damage, corrosion, degradation and misidentification during manufacturing, storage and shipment.

7.6.1 Shelf Life

Identify manufacture and expiry dates for life-limited materials. An illustrative minimum remaining shelf life at delivery is 80%, unless a different contractual threshold is approved.

7.6.2 Packaging and Handling

Use packaging, labelling and transport controls suitable for the item, including moisture, shock, temperature, humidity, hazardous substances and corrosion protection. Identify special conditions on the dispatch documentation.

7.6.3 Electrostatic Discharge

Handle sensitive devices within a controlled ESD programme; use appropriate protective packaging and marking. Apply **ANSI/ESD S20.20**.

7.6.4 Foreign Object Debris

Implement FOD prevention and detection including housekeeping, tool accountability, area access, lost-item escalation and inspection before closing inaccessible areas. **AS9146** or **NAS412** may provide useful guidance.

7.6.5 Controlled and Hazardous Articles
Where firearms, weapon components, explosives or other controlled goods are involved, comply with all applicable licences, transport, security and advance-notification requirements; the contract shall specify any additional controls.

8. Deviations and Departures
8.1 Production permit
Request a production permit before intentionally departing from the approved definition or process. Include the proposed change, reason, affected items, technical assessment and supporting evidence. Work shall not proceed under the departure until written authorisation is obtained.

8.2 Concession
A concession is a request to accept an already produced nonconforming item. Segregate and identify affected stock, assess risk and obtain written customer disposition before release. A concession does not amend the design baseline or waive corrective action.

8.3 Submission Requirements
Each request shall identify supplier and contact; purchase order; item and revision; quantities and serial/lot; exact unmet requirement; proposed disposition; technical and safety impact; containment; root cause and prevention plan where appropriate; supporting drawings or test results; and the customer's approval record.

9. Nonconformity and Corrective Action
9.1 Nonconforming Output
Identify, contain and control nonconforming items to prevent unintended use or shipment. Assess affected work in progress, stores, transit, sub-tier inventory and prior deliveries. Rework, repair, scrap or use-as-is dispositions shall be authorised as required.

9.1.1 Root Cause Corrective Action
Investigate the problem using evidence and a causal chain that distinguishes the immediate failure, contributing factors and systemic causes. Corrective actions shall remove or control the causes and include objective verification of effectiveness.

9.2 Supplier Corrective Action Requests
Respond to a customer SCAR using a structured method such as 8D. As illustrative service levels, acknowledge and provide initial containment within 5 working days, then submit a completed investigation within a further 25 calendar days unless otherwise agreed. Include team, problem definition, containment, cause, actions, effectiveness, recurrence prevention and lessons learned.

9.3 Supplier Performance
The customer may assess product conformity, delivery, responsiveness, repeat issues, corrective action quality and improvement trends. Supplier performance may affect surveillance frequency, development plans and future sourcing decisions.

9.4 Post-Delivery Disclosure
Notify the customer promptly in writing upon discovering a potentially nonconforming delivered item. State the failure, affected parts and traceability, shipped quantities and destinations, risk and safety implications, containment, inspection instructions, recovery actions, investigation status and responsible contact. Do not delay notification pending full root cause confirmation.

9.5 Warranty and Latent Defects
A product issue identified after a commercial warranty period may still require investigation and corrective action if it indicates an original manufacturing or supply defect. Contractual and legal liability remains governed by the applicable agreement and law.

10. Technical Alerts

10.1 Regulatory Chemical Changes

Monitor REACH and other applicable chemical restrictions, including substances of very high concern and authorisation conditions. Changes from chromate-containing to alternative treatments require technical evaluation and approval where they affect the specified configuration or performance.

10.2 Coating Adhesion

Poor coating adhesion can result from contamination, inadequate preparation, incompatible materials, incorrect cure or uncontrolled environmental conditions. Verify the full process and periodic test evidence rather than relying solely on final appearance.

10.3 Defence and Technical Standards

Maintain legitimate access to the editions of standards required by the contract. Raise gaps or conflicting editions before quotation or manufacture.

10.4 Electroplating Coatings and RoHS

Do not equate RoHS compliance or trivalent passivation with automatic conformity to a specified coating system. Confirm coating designation, thickness, corrosion performance and any hydrogen-embrittlement requirements.

10.5 Support and Continual Improvement

Suppliers should communicate risks early, share recurring failure mechanisms and use lessons learned to update risk assessments, process controls, training and sub-tier assurance.

11. Practical Supplier Evidence Checklist

☐ Valid accredited QMS certificate and scope
☐ Contract review and requirement flow-down
☐ Approved sub-tier register and monitoring records
☐ Current configuration baseline and change approvals
☐ Material pedigree and end-to-end traceability
☐ FAI, process validation and special process approvals
☐ PFMEA, control plan and production readiness evidence
☐ Calibration, inspection and test records
☐ Certificate of conformity and delivery pack
☐ Deviation, corrective action and post-delivery disclosure records
☐ Records retention and security controls

14. Document Revision Control

Rev	Date	Change	Author
1	15 Oct 2026	Established the Supplier Quality & Supply Chain Assurance Guidebook	Konrad Burgoyne

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