

# **GROUP QA PROCEDURE No: 06-04**

# SUPPLIER QUALITY REQUIREMENTS

Document 'SQR-1'

Issue 13 Date: July 2021

**Ipeco Holdings Limited** Aviation Way, Southend on Sea, Essex. SS2 6UN. England. Registered in England No 672443 Registered office as above



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APPROVED BY: - VP - Quality & Planning

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#### AMENDMENTS

| CURRENT ISSUE | DATE OF CHANGE            |
|---------------|---------------------------|
| 1             | 09/01/2003 Original Issue |
| 2             | 01/02/2004                |
| 3             | 14/03/2005                |
| 4             | 20/07/2006                |
| 5             | June2008                  |
| 6             | July 2009                 |
| 7             | June 2011                 |
| 8             | February 2012             |
| 9             | March 2013                |
| 10            | October 2014              |
| 11            | February 2016             |
| 12            | June 2019                 |
| 13            | July 2021                 |
|               |                           |

## Changes to previous issues are identified by a black line in the left-hand margin



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#### 6.1 **DEFINITIONS / ABBREVIATIONS**

- IHL = IPECO HOLDINGS LIMITED
- Ipeco = Any part of IHL
- NADCAP = National Aerospace and Defence Contractors Accreditation Program

# 6.2 SUPPLIER CATEGORIES

#### 6.2.1 A - Equipment Supplier

An organisation, who designs, fabricates, assembles and tests products using its own engineering specifications and drawings. This type of product will have a specific use on IHL equipment. This type of organisation is usually classified as an OEM.

#### 6.2.2 B - Sub-Contractor

An organisation who manufactures parts or assemblies working to drawings and/ or specifications supplied by either one of the IHL group of companies or its customers.

#### 6.2.3 C - Special Processor

An organisation contracted by IHL for the completion of one or more of the following activities:

- Heat Treatment
- Welding
- Chemical Processing
- Painting
- Destructive / Non-Destructive Testing

#### 6.2.4 D - Raw Materials Supplier

An organisation that supplies IHL with materials that conform to an internationally recognised standard.

#### 6.2.5 E - Stockist

An organisation that supplies catalogue parts that conform to a recognised standard.

#### 6.2.6 F - Manufacturer

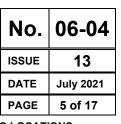
An organisation that manufactures and distributes standard catalogue parts.

#### 6.2.7 G - Repair Station

An organisation that is contracted by IHL for the repair and or overhaul of specific equipment to a recognised airworthiness standard.



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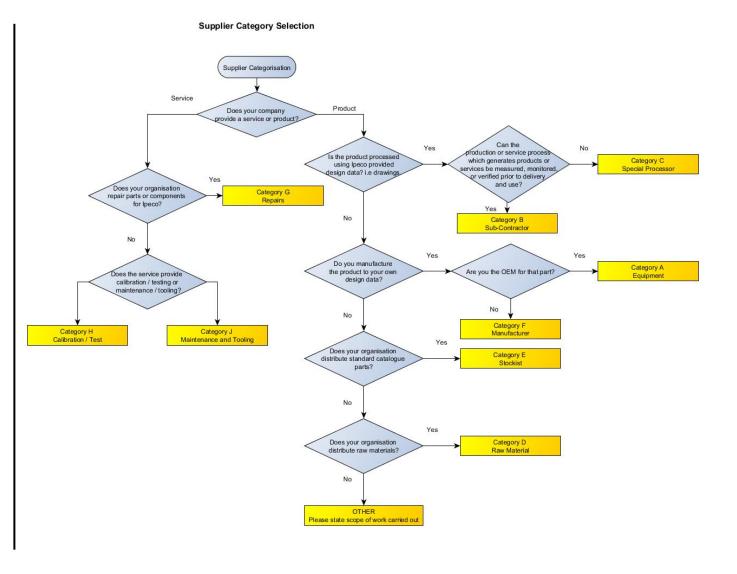
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#### 6.2.8 H - Calibration and/or Test Service Supplier

An organisation that supplies calibration and/or testing services for production equipment.

#### 6.2.9 J – Maintenance Service and/or Tooling Supplier

An organisation that supplies maintenance services and/or tooling for production equipment.





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#### 6.3 ASSOCIATED DOCUMENTS

#### 6.3.1 AS/EN 9100

Society of Automotive Engineers: Quality Management Systems - Requirements for Aviation, Space and Defense Organizations

#### 6.3.2 AS/EN 9102

Society of Automotive Engineers: Aerospace First Article Inspection Requirements.

#### 6.3.3 AS/EN 9120

Society of Automotive Engineers: Quality Management Systems - Aerospace Requirements for Stockist Distributors

#### 6.3.4 BS EN ISO 9001

Model for Quality Assurance in Design, Development, Production, Installation and Servicing.

#### 6.3.5 EASA Part 21 Sub-part 'G'

European Aviation Safety Agency requirements for an Approved Production Organisation

#### 6.3.6 EASA Part 145

European Aviation Safety Agency requirements for an Approved Maintenance Organisation.

#### 6.3.7 FAA FAR Part 145

United States of America, Federal Aviation Administration requirements for a Foreign Repair Station.

#### 6.3.8 ISO/IEC 17025

General requirements for the competence of testing and calibration laboratories

#### 6.3.9 AS5553

Counterfeit Electrical, Electronic, and Electromechanical (EEE) Parts: Avoidance, Detection, Mitigation, and Disposition



#### 6.4 INTRODUCTION

#### 6.4.1 Ipeco Holdings Ltd Policy

Ipeco Holdings policy requires assurance at all times of satisfactory product quality.

Airworthiness legislation and customer contractual requirements necessitate a positive and continued implementation of stringent quality disciplines. This document therefore establishes requirements designed to ensure that each Supplier working on behalf of IHL operates a Quality System that effectively controls all aspects of product quality. Suppliers who demonstrate and continue to maintain compliance with these requirements will be eligible to receive IHL orders.

#### 6.5 PROCEDURAL COMPLIANCE

This document defines the procedures for obtaining and maintaining IHL approval and specifies the requirements for an acceptable Quality System and adequate product/process control.

If any inconsistencies exist between the Contract/order or its general provisions and the requirements specified herein, the Contract/order and general provisions shall prevail.

This document will be issued to approved IHL's Suppliers; its content must be adhered to in furtherance of IHL Orders.

All communication in relation to IHL's Supply Chain shall be communicated in the English Language including but not limited to, Contractual documents, correspondence, invoices, notices and other documents.

#### 6.6 APPROVAL PROCEDURE

IHL Q.A. Department may conduct an on-site assessment to evaluate a Suppliers ability to comply with the requirements defined in this document. When satisfied that the Supplier satisfies IHL requirements, a formal confirmation of approval is issued stating an approval number and a defined Approval Scope.



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#### 6.7 SUPPLIER QUALITY MANAGEMENT SYSTEM REQUIREMENTS

|   |                 |                          |         | INTERNATIONAL / REGULATORY STANDARD |        |                                                    |                                                     |                  |        |
|---|-----------------|--------------------------|---------|-------------------------------------|--------|----------------------------------------------------|-----------------------------------------------------|------------------|--------|
|   | Supplier Ca     | ategory                  | ISO9001 | AS9100                              | AS9120 | (Applicable<br>Regulatory<br>Authority)<br>Part 21 | (Applicable<br>Regulatory<br>Authority)<br>Part 145 | ISO/IEC<br>17025 | NADCAP |
| А | Equi            | pment                    |         | х                                   |        | х                                                  |                                                     |                  |        |
| В | Sub-co          | ontractor                | х       |                                     |        |                                                    |                                                     |                  |        |
| С | Special         | Processor                | х       |                                     |        |                                                    |                                                     |                  | х      |
| D | Raw<br>Material | Manufacturer<br>Stockist |         | Х                                   | X      |                                                    |                                                     |                  |        |
| E |                 | ockist                   | Х       | Х*                                  | X*     |                                                    |                                                     |                  |        |
| F | Manu            | facturer                 | х       |                                     |        |                                                    |                                                     |                  |        |
| G | Repair          | Station                  |         | х                                   |        |                                                    | х                                                   |                  |        |
| н |                 | on and Test<br>vices     |         |                                     |        |                                                    |                                                     | х                |        |
| J |                 | ance and<br>Services     |         |                                     |        |                                                    |                                                     |                  |        |

\* Stockist for Boeing product must comply to AS9100 or AS9120

#### 6.8 MAINTENANCE AND AMENDMENT OF APPROVALS

IHL reserves the right to withdraw its approval at any time.

Continued approval is dependent upon evidence of continued compliance with these requirements and satisfactory product quality performance.

IHL Q.A. Department must be advised immediately in writing of any proposed changes, either to personnel named in the letter of approval and/or the approved scope of work.

IHL reserves the right to review continuance of approval as a result of any changes.

## 6.9 RIGHT OF ENTRY

IHL, its customers and Airworthiness and Regulatory Agencies shall be entitled to assess the Suppliers Quality System and processes, and the quality of supplied products or services at the Supplier's premises.

#### 6.10 QUALITY MANAGEMENT SYSTEM

In addition to the requirements of the recognised international and regulatory standards that are applicable to individual Supplier categories (see sect 6.7); the following are mandatory IHL specific requirements.



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#### 6.10.1 General Requirements

#### Applicable Supplier Categories – All

Compliance with this document is an integral part of achieving IHL Supplier Approval.

It forms part of the IHL procedurally documented Quality Management System associated with Supplier Control and as such supports IHL's International, National, Airworthiness Authorities and Customer Approvals.

#### 6.10.2 Documentation Requirements

#### Applicable Supplier Categories – All

Records shall be available for scrutiny by IHL representatives, Customers or relevant Airworthiness Authorities.

They shall be retained for a minimum of ten years or longer if required by contract and in no case are they to be disposed of without the prior approval of IHL Q.A. Department.

#### 6.10.3 Customer-Related Processes

#### Applicable Supplier Categories – All

Contract Review shall particularly include specific scrutiny of all IHL requirements, (e.g. drawing instructions, process specifications, purchasing requirements etc.) to ensure that appropriate controls are flowed down and incorporated into the Supplier's own documented Working Procedures.

The Supplier shall only undertake work covered by the scope of their IHL Approval.

#### 6.10.4 Change Requirements

#### Applicable Supplier Categories – All

Should there be any changes to the product realisation process IHL shall be informed in writing prior to any work commencing.

Written confirmation from both IHL Quality and Procurement is needed prior to any work commencing.



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#### 6.10.5 Purchasing Purchasing Process Purchasing Information Verification of Purchased Product

#### Applicable Supplier Categories – B, C, G, H, J

Suppliers will not subcontract any part of IHL purchase orders without IHL approval.

Where the Supplier utilises further sub-contract facilities (other than IHL), such facilities must meet the requirements defined in this SQR-1 document.

Where the Supplier purchases materials for use in parts and assemblies manufactured to IHL drawings and/or specifications and controlled by an IHL purchase order, those materials must be sourced from an IHL approved organisation.

Any deviation from this arrangement will only be accepted following written agreement with IHL Q.A. Department and IHL customer if required

Sub-tier Purchase Orders raised by the Supplier shall instruct their Supplier to certify in accordance with the terms of their IHL Approval and shall provide for right of access by representatives of IHL, its Customer or Airworthiness Authorities.

Unless otherwise stated in the main body of the purchase order, any reference to a national, international, military, defence, etc, specification or standard is intended to mean the latest revision of that standard

#### 6.10.6 Purchase Order Conditions

#### Applicable Supplier Categories - All

The following are IHL purchase order conditions that will be stipulated against specific parts / order requirements.

Any purchase order may contain more than one of the stated conditions.

These conditions are to be recognised by the Supplier and adhered to as part of acceptance of the IHL purchase order.

Failure to comply with the conditions assigned to any applicable purchase order will result in the associated parts being rejected.



#### 6.10.7 Purchase Order Conditions Text

110 Manufacturers mechanical and/or electrical test certificate

**112** Certificate of conformance showing shelf life date (A minimum of 75% shelf life remaining) or rubber cure date (To be less than two years)

120 Stockists Certificate of Conformity with batch traceability

131 EASA Form 1 or FAA 8130-3

**140** Stockists Certificate of Conformity without material traceability.

150 Manufacturers Certificate of Conformity without original Mill Certificate

162 Manufacturers Certificate of Conformity with original Mill Certificate

**170** Stockists Certificate of Conformance with original Manufacturers Certificate/Mill Certificate

**171** Manufacturers Certificate of Conformance to a Military Standard

**180** This Order is subject to inspection by us at our Works. Each delivery of goods to be supported by an Advice Note clearly marked with the IHL Order Number. Prior to delivery, the buyer, the buyers customers and Regulatory Agencies shall be entitled to inspect the vendors product and product organisation at the site of the vendors plant. In no case shall such an inspection imply acceptance of the product by the Buyer. *Where the option for source inspection is to be exercised, relevant terms and conditions are shown on the face of the order.* 

**185** This order is subject to inspection by Ipeco at your works. Acceptance of product does not imply acceptance of your QA System.

190 Special conditions apply. See body of Purchase order text

Standard Condition 13 - Sub contract by the Supplier

No work on the order may be sub-contracted by the Supplier, nor shall the Supplier assign any of its obligations hereunder without first obtaining the written approval of IHL. All subcontracts shall be the responsibility of the Supplier and shall where applicable be placed subject to the same terms and conditions of those contained in the order. Evidence of this condition shall be made available to IHL representatives on request.

**NOTE:** Standard Conditions 180 and 13 apply to all IHL purchase orders and are not stated on the main body of the order.

All Supplier Certificates of Conformity should include the following if applicable: Manufactures Name, Applicable Part Numbers, Applicable batch and date codes, C of C or advice note number, Distributors purchase order number

Ship to Stock Suppliers will submit work to Ipeco in accordance with the ship to stock Supplier agreement form H199 combined with any other Purchase Order requirements.



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#### 6.11 PRODUCTION AND SERVICE PROVISION

Control of Production and Service Provision Validation of Processes for Production and Service Provision Identification and Traceability Customer Property Preservation of Product

Applicable Supplier Categories – A, B, C, D, E, F, G

#### IHL Free Issue

Materials and Supplies provided by IHL shall be used only in fulfilment of the Contract / Order for which they were supplied, unless otherwise formally authorised by IHL's Q.A. Department.

It is the Supplier's responsibility to ensure that tooling supplied by IHL will produce parts that conform to drawing requirements.

#### 6.11.1 Traceability

Raw materials procured by the Supplier to fulfil an IHL order shall have batch traceability to source.

Batch and Serial Numbers and any other identification allocated by IHL to IHL supplied materials and parts shall be maintained.

#### 6.11.2 Process Planning

The Supplier shall ensure that all appropriate personnel are familiar with IHL drawings and process specifications for work undertaken and that controlled copy drawings and specifications are made available at the place of operation.

On receipt of IHL orders and prior to planning the work, the Supplier shall verify that all processes are within the approved scope of work defined in the formal confirmation of Approval. Where required by the specification only qualified equipment and/or operators shall be designated to perform the process.

#### 6.11.3 Special Processes

*Definition:* A special process is any production or service delivery process that generates outputs that cannot be measured, monitored, or verified until after the resulting products have been used or services have been delivered.

In order to prevent output deficiencies, these special processes must be validated in order to prove that they can generate planned results. Suppliers must therefore only use lpeco approved special process sources.

#### 6.11.4 Process Critical Parts

Any parts that are identified as being 'process critical' via either the applicable Ipeco engineering data or notations on the Ipeco Purchase Orders are prohibited from any changes being made to a previously approved Ipeco process control plan without prior written approval from the Ipeco Quality Assurance Department.



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#### 6.11.5 Identification

The Supplier shall ensure identification of product inspection status during production, by suitable means. Such as inspection stamp at each inspection stage.

The Supplier shall, within its organisation and it's supply chain, ensure that the use of Acceptance Authority Media (AAM) is clearly defined within its Quality Management System (QMS).

The Supplier shall, upon Ipeco request, be able to demonstrate evidence of communication to its employees and to its supply chain; use of AAM must be considered as a personal warranty of compliance and conformity. The Supplier shall maintain compliance to the AAM requirements by assessing its process and supply chain as part of its internal audit activities.

It is recognised that the extent to which inspection and test status are identified during manufacture will vary depending upon the size of the organisation and/or the nature of the product.

#### 6.11.6 Handling and Storage – This also applies to Category H Suppliers

The subcontractor shall use methods of handling product that prevents damage and deterioration.

Materials, Tools, patterns and any other items supplied by IHL must be handled and stored in safe, secure, dry conditions, where there is no risk of contamination or damage.

#### 6.11.7 Packaging, Preservation and Delivery – This also applies to Category H Suppliers

Packaging and preservation of product delivered into IHL must have sufficient protection from adverse atmospheric conditions, accidental damage as a result of handling and Electro Static Discharge (ESD).

All deliveries to IHL must go directly to Goods Inwards Inspection. On time delivery is essential.

If at any stage a job in progress is affected in a manner that may result in a delay, the IHL buyer must be informed immediately.

All materials and supplies must be released under cover of the correct form of Release Document, e.g. a Certificate of Conformity, Approved Certificate or Release Certificate as appropriate and/or agreed with IHL's QA Department.

#### 6.12 RISK MANAGEMENT

#### Applicable Supplier Categories – A, B, C, D, E, F, G

The Supplier shall take actions to identify and manage risks in order to avoid any impact on the quality and delivery of products supplied to IHL. Such actions will apply to risk identification, assessment, likelihood, consequences,

mitigation and acceptance.



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#### 6.13 CONFIGURATION MANAGEMENT

#### Applicable Supplier Categories – A

The Supplier will maintain a Configuration Management process that includes as appropriate to the product being supplied the following:

- Configuration Management Plan
- Configuration Identification
- Change Control Processes
- Configuration Status Accounting
- Configuration Auditing.

#### 6.14 OBSOLESCENCE MANAGEMENT

#### Applicable Supplier Categories – All

As part of the risk management process, the Supplier shall assess whether any of the products it supplies to IHL are in danger of becoming obsolete.

It is inappropriate to apply obsolescence management to all products supplied to IHL for use in Ipeco equipment. e.g. AGS, standard parts, raw materials and Ipeco designed parts are unlikely to become obsolete. However, there are numerous specialised products currently available which are supplied for use in Ipeco equipment. It is these products that should be identified and monitored for the risk of becoming obsolete. Any products which are about to become obsolete, or which are likely to become obsolete in the future, must be reported to an IHL purchasing representative as soon as possible after being identified.

#### 6.15 FOREIGN OBJECT DEBRIS/DAMAGE (FOD) PREVENTION

#### Applicable Supplier Categories – A, B, C, D, E, F, G, H

The Supplier shall take actions to prevent foreign objects from being present in products supplied to IHL. Such actions will apply to all aspects of product realisation including design considerations, manufacturing, handling, storage, packaging, preservation and delivery. The Supplier shall comply with the requirements of NAS 412 and / or AS9146.

#### 6.16 CONTROL OF MONITORING AND MEASURING DEVISES

#### Applicable Supplier Categories – All

The Supplier shall control, calibrate and maintain, inspection, measuring and test equipment which demonstrates traceability to national standards. (Including test software)



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#### 6.17 MEASUREMENT, ANALYSIS AND IMPROVEMENT

Monitoring and Measurement Monitoring and Measurement of Processes Monitoring and Measurement of Product

#### Applicable Supplier Categories – A, B, C, D, E, F, G

The Supplier shall maintain inspection and testing activities in order to verify that IHL purchase order requirements are met.

#### 6.18 FIRST ARTICLE INSPECTION

Applicable Supplier Categories – A, B, F.

#### First Article Inspection - AS/EN 9102 Definition

A complete independent and documented physical and functional inspection to verify that prescribed production methods have produced an acceptable item as specified by engineering drawings, planning, purchase order, engineering specifications, and/or other applicable design documents.

#### First Production Article Requirement - First Article Inspection Report (FAIR)

Objective evidence that the first production article conforms to the IHL purchase order specification must be provided with the first delivery of the product. This will be achieved via the completion of a First Article Inspection Report in accordance with AS/EN 9102 requirements.

**Category A, B, F Suppliers** The F.A.I.R. must be completed in a format that is compliant with AS/EN 9102 requirements. The report may be on the Supplier's format or on the IHL approved format (The IHL QA Department will provide a copy of the IHL F.A.I.R. Form H268 upon request).

- **NOTE 1:** First Article Inspection is to be carried out on a representative sample of the first production batch of a part or assembly.
- **NOTE 2:** A First Article Inspection Report is not to be confused with any other type of pre-production report (dimensional or otherwise) that a Supplier may submit in support of a contract, e.g. prototyping, tool proving, etc.
- **NOTE 3:** Any deviation to the First Article Inspection Report requirements stated above will only be accepted following written agreement with IHL QA department and IHL customer if required.

#### F.A.I.R Maintenance (Delta FAI)

All F.A.I.R.'s will be maintained in accordance with the following requirements:

• Engineering Change - F.A.I.R will capture the differences from the current approved configuration to the previously approved configuration.



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• Process Change - F.A.I.R will capture all design features affected by the process change.

Examples of process change are:

- Changes in manufacturing process(es)
- Changes in CNC Programs, including translation to another medium.
- Changes in source(s).
- Changes in Inspection method(s).
- Changes in location of manufacture.
- Changes in tooling and/or materials that have the potential to affect fit, form or function.
- Production Lapse -
- Any parts that have not been manufactured for a period of two years will be subjected to a full F.A.I.R. following the completion of any new manufacturing requirements.

# 6.19 CONTROL OF NON-CONFORMING PRODUCT

#### Applicable Supplier Categories – A, B, C, D, E, F, G

Non-conforming product shall not be submitted to IHL unless: -

- A production permit or concession has been applied for and granted by IHL.
- Permission to deliver has been obtained in writing from IHL Q.A. Department.

**Note:** The following definitions apply in the context of this document.

A PRODUCTION PERMIT is defined as authority to deviate from specified requirements BEFORE manufacturing has commenced. Such permits are restricted to the quantity/period quoted thereon and any extension that may be required must be subject to further application.

A CONCESSION is defined as authority to accept a limited quantity of material / parts already manufactured, that do not comply with specified requirements.

#### 6.20 POST DELIVERY - NON-CONFORMING PRODUCT

In the event that a Supplier identifies non-conformities in products or services that have already been delivered to IHL, the Supplier must take the following actions:

- Within 24 hours of the non-conformity being identified, the Supplier must inform the IHL Purchasing and Quality Assurance departments in writing on the nature of the issue and the delivered product / service that is affected.
- If not included within the first notification, then within 48 hours of the non-conformity being identified, a written report must be sent to the IHL Quality Assurance department stating the Supplier recommendation for any remedial action required.
- If not included within any of the above submissions, within 14 days of the nonconformity being identified, the Supplier shall submit to the Ipeco Quality Assurance department a formal Root Cause Analysis and Corrective Action Plan.



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#### 6.21 CORRECTIVE ACTION AND PREVENTIVE ACTION

#### Applicable Supplier Categories – All

When errors occur that are due to Supplier actions, the Supplier shall take action to correct the immediate problem and also to prevent recurrence of the error (Corrective Action).

The Supplier for future reference shall document both types of action to the IHL Quality Assurance department.

A system shall be in place that examines potential non-conformities in order to eliminate them before they become actual non-conformities (Preventative Action).

A system shall be in place that examines potential opportunities for improvement to the quality management system, the product and its manufacture and customer satisfaction.

To close out a Root Cause Corrective Action Report (RCCA) there are three stages that need to be carried out by the Supplier:

#### Immediate Correction/Containment Action:

State what actions are to be taken or have already been taken to minimise the effect of the non-conformity and to prevent escalation. Containment action would be a review of stock and current work in progress.

#### **Root Cause Analysis**

After the problem/event is contained, the causes must be identified to prevent recurrence. The direct cause is the source that directly results in the non-conformance. Contributing causes are those that left unchecked, bring about the direct cause but on their own, may not have sufficient power to result in the event taking place. Root Cause is simply the last logical cause in the chain and the fundamental systematic change necessary to prevent a recurrence.

#### **Root Cause Corrective Action**

States what action has been taken to prevent reoccurrence of the issue in the future.

#### **8D Report**

Ipeco will issue an 8D Report (Ipeco Form H281) alongside the RCCA request as mentioned in section 6.21. The 8D Report is to be completed using the information enclosed within Form H190 (Form H190 is for information only).



#### 6.22 Personnel Competence

The Supplier shall ensure that personnel performing work under its control are competent to perform the required activities, to meet Ipeco's purchase order requirements.

The Supplier shall ensure personnel working under its control are aware of the following:

- Their contribution to product or service conformity.
- Their contribution to product safety.
- The importance of ethical behaviour.

#### 6.23 Counterfeit parts

The Supplier shall comply with the requirements of AS5553 and / or AS6496, this is most applicable to manufacturers or distributors dealing in electrical, electronic, and electromechanical (EEE).

The Supplier should recognise the potential impact of counterfeit product on its supply chain and product. The Supplier shall develop and implement a risk-based counterfeit parts control plan that documents its processes used for risk identification, mitigation, detection, avoidance, disposition, and reporting of suspect counterfeit products.

Counterfeit avoidance and detection requirements shall be flowed down to applicable contractors and distributors including their supply chain as appropriate.