QUALITY MANUAL

FOR

KORRY ELECTRONICS CO.

Prepared by:
Korry Electronics Co.
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CAGE 81590

RECORD OF REVIEW AND HISTORY

REV	DESCRIPTION	APPROVED	
		DATE (YYYY-MM-DD)	BY (Finitial/Lname)
-	New Release. Supersedes Korry Electronics Company's AS9100 Quality Manual, PO910000 Rev. 12/19/2012. Per ECO0118315.	2013-03-25	J. Lee
A	Updated sections 2.3, 6.2.2, 7.5.1.4, 7.5.5 to reference current documentation numbers. Figures 1 and 2 were updated. Per ECO0120039.	2014-01-29	J. Lee
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C	Updated section 5.6.2. Per ECO0131576.	2015-03-04	J. Lee
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E	Combined PO700001 and rewritten to address ISO 9001:2015 and AS9100 Rev D requirements. Per ECO0143678.	2018-01-16	J. Lee
F	Updated to current practices based on changes due to transfer from Esterline to Transdigm. Per ECO0150785.	2019-06-15	S. Younger
G	Typos correction, remove CAAC certification from 4.2, obsolete document CI100 from section 4.4.2 figure 2, changed FAB WI reference in section 8.5.1.2, Product Support changed to repair station in Sec 8.5.5, QMSR frequency update in Sec 9.2.2, correction of job titles updated in Appendix A, and Update of 9.1.2 Customer Satisfaction. Per ECO0151399	2019-06-19	S. Younger

H	Update to Quality Manual to include PR-106057, PR-106478, PR-106488, and PR-106649. Document updated from EHS010 to PDP-0303 in section 4.2.2., and a few clerical issues throughout the document. Changes per ECO0156445.	2021-04-09	M. Gravert
J	Update section 10.1 and 10.3 to remove kaizen events and section 7.5.3.2b to add storage and preservation, including preservation of legibility to better align with AS9100 standard. Changes implemented per PR-106817. Appendix A update to include all sub-tier documents that get sent to FAA MIDO. Section 8.5.5 updated to align with FAA requirements. Changes per ECO0157617.	2021-10-11	M. Gravert
K	Update section 2. to remove reference to QA020. Update Quality Policy in section 5.2.1. Update 7.3 to remove the reference to Obeya area and change reference to QA050 instead of QA020. Minor updates for clarification. Changes per ECO0161562.	2023-04-07	F. Olney

See separate ECO for revision approvals.

Initiated by Lada Hekala, Lead Auditor Quality Assurance 2013-01-11

See separate release record for release approvals.

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1. INTRODUCTION

This is the Quality Manual for the Korry Electronics Co. Paragraph numbering and organization matches AS9100 revision D as an aid to mapping requirements from the Quality Management Systems standard.

2. DOCUMENTS

KORRY ELECTRONICS CO.

Korry Document	Title
D3.300	General Calibration Procedure for Measurement and Test Equipment
D33924	Configuration Management Plan
D46902	Quality Manual
D48055	Counterfeit Parts Control Plan
D49620	Enterprise Change Order Process
D49628	Record Control Plan
D49628-017	Approved Supplier Records
D49628-027	Evidence of Completed Steps
D49628-037	Customer of Government Owned Property
D49629	Non-Conforming (Discrepant) Material Procedure
D49631	Corrective Action (CA) Procedure
D49682	Auditing Process
D49926	Foreign Object Debris (FOD) Prevention Process
D50274	ESD Handling Procedure
D50322	Special Process Procedure
D51095	Engineering Service Request (ESR) Process
D51166	Product Development Process (PDP)
D51757	Fabrication, In-Process and Final Inspection Procedure
D51758	Korry First Article Inspection Procedure
D51759	Work Transfer Process for Buy to Buy Transfers
D51759-001	Work Transfer Checklist
D51760	Training Process
D52469	TSO Major/Minor Change Classification Procedure
D55255	Supplier Quality Manual
KWS09-1	Cosmetic Inspection of Paint Class 1
KWS09-2	Cosmetic Inspection of Paint Class 2
KWS09-3	Cosmetic Inspection of Paint Class 3
MP151	Resistance Spot Welding
MP237	Laser Welding Stainless Steel
MP248	Displays MFG Area Environment
MP287	General Application for Paint and Ink
PO700001	Organization
QA030	Notification of Release
QA050	QMS Documentation Procedure
SQE010	Purchase Order Quality
SQE030	Supplier Evaluation Approval and Maintenance
SQE080	Purchase of Parts from non-franchised or Authorized Distributors
SR-008	Shelf Life Control Policy and Procedure
STMP010	Inspection Stamp Control

CAL010	Calibration Work Instructions
CAL030	Processing an Out of Tolerance Report Work Instruction
CI200	Procedure for Risk Management
CS100	Customer Service WI & Reference Manual
PDP-0303	Reliability Maintainability Safety Analysis
PLAN130	Positive Recall Process
PLAN140	Job Order Process

COMMERCIAL STANDARDS

AS5553	Fraudulent/Counterfeit Electronic Parts; Avoidance, Detection, Mitigation, and Disposition
AS6174	Counterfeit Materiel; Assuring Acquisition of Authentic and Conforming Materiel
AS9100	Quality Management Systems – Requirements for Aviation, Space and Defense Organizations
AS9102	Aerospace First Article Inspection Requirement
AS9103	Aerospace Series – Quality Management Systems – Variation Management of Key Characteristics
AS9115	Quality Management Systems – Requirements for Aviation, Space and Defense Organizations – Deliverable Software

3. TERMS AND DEFINITIONS

For the purposes of this Quality Manual, the terms and definitions given in ISO 9000 apply.

Throughout the text of this Quality Manual, wherever the term “product” occurs, it can also mean “service”.

3.1 Risk

An undesirable situation or circumstance that has both a likelihood of occurring and a potentially negative consequence.

3.2 Special Requirements

Those requirements identified by the customer, or determined by the organization, which have high risks to being achieved, thus requiring their inclusion in the risk management process. Factors used in the determination of special requirements include product or process complexity, past experience and product or process maturity. Examples of special requirements include performance requirements imposed by the customer that are at the limit of the industry’s capability, or requirements determined by the organization to be at the limit of its technical or process capabilities.

3.3 Critical Items

Those items (e.g., functions, parts, software, characteristics, processes) having significant effect on the product realization and use of the product; including safety, performance, form, fit, function, produceability, service life, etc.; that require specific actions to ensure they are adequately managed. Examples of critical items include safety critical items, fracture critical items, mission critical items, key characteristics, etc.

3.4 Key Characteristic

An attribute or feature, identified by the customer or organization, whose variation has a significant effect on product fit, form, function, performance, service life or produceability, that requires specific actions for the purpose of controlling variation.

3.5 Product Lifecycle Management (PLM)

Korry’s PLM tool is ARAS Innovator which is used to manage the entire lifecycle of a product from its conception, through design and manufacture, to service and disposal. PLM integrates people, data, processes and business systems and provides a product information backbone for company and Korry’s extended enterprise.

3.6 Enterprise Resource Management (ERP)

Korry’s ERP tool is Infor SyteLine which is used collect financial data, transact contracts with customers and suppliers, track all inventory and plan all productions. It is linked to the PLM for design data.

3.7 Supplier

Throughout the text of this Quality Manual, whenever the term “supplier” occurs it can be construed to mean “external providers of processes, products and services”.

3.8 Parts Manufacturing Authorization (PMA) and Technical Standard Order (TSO)

Two different flightworthiness certification programs covered by 14 CFR part 21 for providing spare parts for aftermarket sustainment of commercial aircraft.

4. Context of the organization

4.1 Understanding the organization and its contexts

Korry Electronics Co. (Korry) is a specialized manufacturing company serving principally aerospace and defense markets.

Korry was established in 1937.

Korry produces filters, knobs, indicators, switches, panels, controls, and displays used primarily in the commercial and military aerospace markets.

The facility is located in Everett, WA, at the following location:

11910 Beverly Park Road
Everett, Washington
98204-3529 USA

Phone: 425-297-9700
Fax: (425) 297-9871

Website: http://www.korry.com/

Korry’s strategic direction is driven by the three Value Drivers: Profitable New Business, Productivity, Cost Improvement, and Value-Based Pricing. Korry continuously reviews and analyses its ability to achieve the intended results of the established quality management system. This requires an understanding of internal and external issues of concern to Korry and its interested parties (per 4.2 below). Such issues are monitored and updated as appropriate and discussed as part of management reviews and risk register reviews.

Examples of external issues:

- Legal requirements and their changes
- Regulatory, Statutory and Customers requirements and their changes
- Economic changes impact
- Market and competition factors
- Relationship with suppliers, contractors, and other external interested parties
- Technological changes

- Pandemic
- Environmental conditions

Examples of internal issues:

- Employees turnover
- Financial stability
- Company growth
- Capability and Capacity
- Innovation and knowledge
- Market strategy
- Korry's culture

4.2 Understanding the needs and expectations of interested parties

Korry has determined the following interested parties and how to monitor and review relevant information:

- **Customers:** (Original Equipment Manufacturers, System integrators, Airlines, Repair & Overhaul organizations); they expect Korry to meet contractual requirements, especially those involving quality and delivery. Korry monitors its on-time delivery, and quality escapes, and customer scorecards.

- **Suppliers**: they expect clear requirements and contracts as well as payment within agree-to terms. Korry monitors the performance of key suppliers and sends them monthly supplier scorecards covering their delivery and quality performance.

- Government **Regulatory authorities**: they expect Korry to comply with FAA and EASA requirements and maintain airworthy products at all times. Korry has established procedures to monitor the airworthiness of its civil certified products and maintains all required certifications.

In addition, they expect Korry to meet all applicable laws about the environment, employment, export compliance, health and safety, and fiscal responsibilities. Korry performs legal reviews of all environmental requirements at all government levels.

- **Transdigm:** expects Korry to follow a value-based operating strategy focused on 3 value drivers:
    - Generating profitable new business to support growth faster than the served market
    - Making steady improvements to our cost structure
    - Providing real value to our customers and pricing our products to reflect this value.

A monthly President letter, which includes monitoring and measurement results, is being generated and provided to Transdigm management.

- **Employees**: they expect a safe and motivating workplace. Korry monitors and ensures its work environment to be safe and appropriate to the nature of the work to be performed. Korry offers training and job opportunities within a continuous improvement framework.

Korry monitors information about these parties and their requirements. Associated issues are being reviewed during Monthly Reviews and during Management Reviews.

4.3 Determining the Scope of the Quality Management System

Korry developed and implemented a Quality Management System that is continuously maintained for effectiveness and process improvements in accordance with the requirements of ISO 9001, AS9100, AS9115, Nadcap AC7120, and 14CFR21.137. The means to achieve all applicable requirements are documented in this Quality Manual and associated procedures.

This Quality Management System Manual applies to all employees and is the Korry's quality system.

The quality system is also designed to assure conformance to 14 CFR part 21, "Certification Procedures for Products and Articles," Subpart K Parts Manufacturer Approvals, and Subpart L Technical Standard Orders.

The ISO 9001:2015 and AS9100D certification are valid for the following product or service ranges, defined as the organization's scope:

Design, Manufacture, and Repair of Electro-Optical, Control, and Display Systems and Components for the Aerospace/Defense Markets.

Exclusions:
Korry does not take any exclusion to the requirements of AS9100D.

This manual is available and maintained as the documented information defining the organizational scope of the Quality Management System.

4.4 Quality Management System (QMS) and Its Processes

4.4.1 QMS Processes

Korry establishes, implements, maintains, and continually improves a QMS with key processes, as shown in Figure 1 – Quality Management System Process Model.

Customer Process: Processes that directly interact with the customer such as Sales, Marketing, Proposals, Customer Service, Aftermarket Support, and Program Management.

Engineering Process: Processes that develop and manage design data for new product development and sustaining existing products.

Materials Process: Processes that provide production with planning, purchased materials and parts, and services as well as receiving, inventory management, and shipping. Included receiving inspection and supplier quality engineering.

Production Process: Processes that produce & inspect products, services, and provide production infrastructures such as facilities, tooling, and manufacturing engineering.

Management & Support Process: Processes to manage, plan, train, and continuously improve. Quality functions such as compliance, audit, calibration, quality engineering, and source inspection.

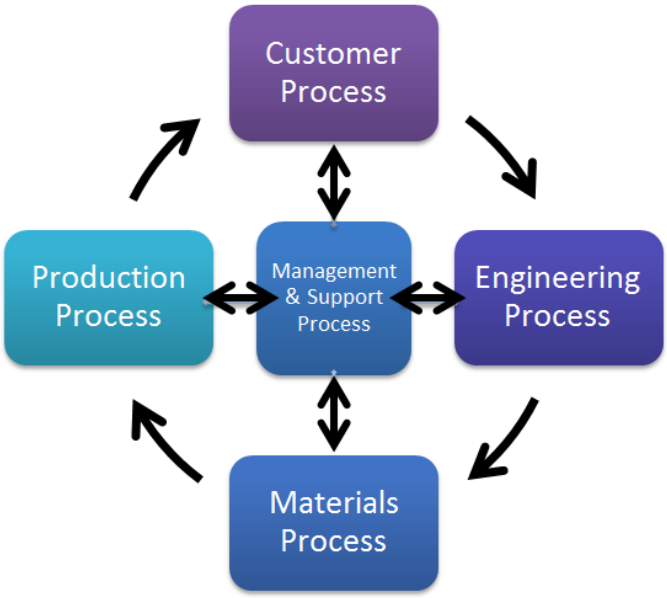

Figure 1 – Quality Management System Process Model

a) Inputs and Outputs for the main Korry Processes are recorded in the Quality Process Maps.

b) Sequence and Interaction of Korry Processes are shown in the Quality Management System Process Model

c) Effective operation and control of these processes are determined by the outputs of each Quality Process Map. Key Performance Indicators are reviewed during Monthly Reviews and during Management Review meetings and as determined necessary by management.

d) Determination of resources needed for each process is made by the President based on recommendations from the functional leaders.

e) Responsibilities and authorities for each process are assigned by the President and recorded in the Quality Process Maps.

f) Risks and Opportunities are determined by the senior management team in accordance with section 6.1 and section 8.1.1.

g) The processes are evaluated during Management review and as determined needed to ensure that these processes achieve their intended results. Changes are being made where needed.

h) Korry quality management system processes drive year over year improvements in business process results with defined or derived targets.

i) Documentation and systems necessary for FAA Repair Station compliance are documented in Repair Station Manual (RSM).

4.4.2 Quality Management System Documented Information

a. Documented Information is maintained as:

- ECO controlled documents stored in the PLM
- Signature controlled documents stored in department document folders
- Records retained automatically in the ERP
- Records stored/saved in digital folders
- Paper records are staged locally then archived in a remote safe storage site

ISO9001:2015 / AS9100D Requirement Reference	**Korry Document**
4.4.1 QMS Processes	D46902
7.5 Documented Information	D33924, D49620, D49628
5.2.1 Quality Policy	D46902
7.1.5 Measurement Traceability	D3.300
8.1 Transfer of Work	D51759
8.1.1 Risk Management	CI200
8.1.2 Configuration Management	D33924
8.1.3 Product Safety	PDP-0303
8.1.4 Counterfeit Prevention	D48055
8.3.1 Design and Development	D51166
9.2.2 Audit Program	D49682
10.2 Corrective Action	D49631

Table I. Level Two Quality Procedures

The Quality System Documentation consists of four levels;

1. Quality Manual with Policy Statement (level one),
2. Standard Quality Procedures (level two),
3. Work Instructions (level three), and
4. Records (level four).

Supplemental to these documents are the Inspection and Test Plans and quality system requirements from applicable regulatory authorities.

Customer and/or regulatory authority's representatives are granted access to all Quality Management System documentation. During customer audits, customers are shielded from other customers' proprietary data.

b. Documented information is retained in accordance with the Record Control Procedure – D49628. With the exception of temporary process control records, records are retained for over ten years or as defined in D49628.

4.5 Responsibilities as a PMA and TSO Product Approval Holder

The FAA has designated Korry as a product approval holder for both Parts Manufacturing Authority (PMA) and Technical Standard Order (TSO) articles. With this designation, Korry has the following responsibilities:

a. Amend the PO700001-Organization document as necessary to reflect changes in the organization and provide these amendments to the FAA;
b. Maintain the quality system in compliance with the data and procedures approved for the PMA and TSO authorization – see section 7.5
c. Ensure that each PMA and TSO article is in a condition for safe operation. Make sure that PMA articles conform to their approved design. Make sure TSO articles meet their TSO – see section 8.7
d. Mark the PMA article for which an approval has been issued – see section 8.5.2.1.1 Mark the TSO article for which an approval has been issued – see section 8.5.2.1.2
e. PMA Marking must be in accordance with part 45.11, including any critical parts – see section 8.5.2.1.1
f. Identify any portion of the PMA and TSO article (e.g., sub-assemblies, component parts, or replacement articles) that leave the manufacturer's facility as FAA approved with the manufacturer's part number and name, trademark, symbol, or other FAA approved manufacturer's identification – see section 8.5.2.1.1 and 8.5.2.1.2
g. Have access to design data necessary to determine conformity and airworthiness for each article produced under the PMA or TSO – see section 8.3.5 for design data, and see 8.6.1 for release of PMA and TSO articles.
h. Retain each document granting PMA or TSO authorization and make it available to the FAA upon request; and
i. Make available to the FAA information regarding all delegation of authority to suppliers.

5. LEADERSHIP

5.1 Leadership Commitment

5.1.1 General

a. Leadership is accountable for the effectiveness of the Korry Quality Management System (QMS).

b. Leadership uses this Quality Manual to establish the Quality Policy and provides the framework for setting Quality Objectives. Section 6.2 details the quality objective process.

c. Leadership uses this Quality Manual, documented procedures and work instructions, training, and direct supervision to integrate QMS requirements into Korry Electronics Co. business processes.

d. Leadership uses and promotes the use of risk-based thinking. This is defined further in sections 6.1 and 8.1.1.

e. Leadership ensures that the resources needed for the quality management system are available. Resources are assigned to meet regulatory and contractual customer requirements and in accordance with risk.

f. Communication and importance of meeting requirements are accomplished by management review meetings, department meetings, along with Quality Policy development.

g. Leadership ensures that the QMS achieves desired results by periodic management review (see section 9.3), actions to address risks and opportunities (see section 6.1), and through the process of improvement (see section 10).

h. Leadership engages, directs, and supports persons contributing to the effectiveness of the quality management system, promotes improvement, supports other relevant management roles as it applies to their areas of responsibility.

i. Leadership commits to the core values of reliability, respect, integrity, and compliance. They behave according to those principles and promote continuous improvement and success for all employees and for the future of our company and products.

j. Korry leadership supports other relevant management roles, e.g., organization hierarchy, trust, empowerment, responsible delegation, coaching, sharing knowledge, removing barriers, route to escalation. They accomplish those by:

Principles –

- Demonstrate commitment to the highest standards of ethics and compliance
- Always ensure a safe and healthy working environment
- Communicate and reinforce engagement to drive ever-improving value for our customers, shareholders, and employees

Tactics-

- Communicate and reinforce Korry QMS
- Effectively use QMS to drive Continuous Improvement in all areas of business
- Effectively use QMS and appropriate metrics
- Create a culture where training and development are the norms

Behaviors-

- Be visible and lead by example
- Demonstrate open, two-way communication to foster an environment of mutual respect and trust
- Display and expect accountability and ownership
- Lead/coach employees on Korry QMS
- Reward, recognize, and celebrate success.

5.1.2 Customer Focus

Korry establishes, implements, and maintains documented procedures for contract review and the coordination of related activities (CS100).

Requirements are determined and met with the aim of enhancing customer satisfaction.

It is the responsibility of the Korry Sales Department to review all tenders and contract offerings.

Customer quotations, inquiries, orders, and contracts are reviewed to ensure customer and applicable statutory and regulatory requirements are adequately defined, understood, documented, and can be met

Any changes or amendments to the contract are reviewed according to the procedures established by Sales, Marketing, and Customer Service.

Management determines and addresses the risks and opportunities that can affect the conformity of products and services and the ability to enhance customer satisfaction.

Management reviews product service conformity and on-time delivery performance during daily walkarounds and during scheduled Management Reviews, and actions are taken when planned results are not achieved or when there is a significant risk they will not be achieved.

5.2 Policy

5.2.1 Establishing the Quality Policy

Korry defines and documents its Policy for Quality, which provides the overall objectives for an effective Quality Management System. The Korry Policy is relevant to the Korry goals and the expectations of its customers.

The Korry Quality Policy is approved by the Management Representative.

As an Aerospace parts supplier, Korry is committed to meet customer requirements and continually improve our Quality Management System consistent with AS9100.

Our policy of Market Quality Products expresses our recognition of the importance and critical nature of our product application, primarily aircraft products.

Customer Satisfaction is meeting the customer's requirements and expectations, with the associated improvement of repeat business.

Continual Improvement is our ongoing process of meeting continuously changing customer needs and self-monitoring ourselves against improvement metrics, strategic plans, and goals.

On Time delivery is part of our policy as it is a primary customer desire and good business practice for Korry to manufacture more efficiently in today's lean environment.

Korry Quality Policy is

> **"Korry is committed to delivering superior quality products and services on time while meeting customer requirements and complying with all applicable regulatory statutes.**
>
> **All Korry employees are encouraged to promote quality by continuously challenging themselves to improve the quality management system to enhance product safety and eliminate defects."**

5.2.2 Communicating the Quality Policy

The quality policy is integrated into this Quality Manual and is available on the QMS webpage to all employees.

The quality policy is made available to non-employee interested parties by posting on the Korry website and upon request.

The quality policy is used by the employees as a guiding principle when making daily decisions and in evaluating if actions are appropriate and effective.

Korry employees and management are committed to assuring that this policy is implemented, understood, and maintained at all levels of the organization.

5.3 Organizational Roles, Responsibilities, and Authorities

The Accountable Manager ensures that responsibilities and authorities for relevant roles are assigned, communicated, and understood within the organization.

Specific assignments and structure are defined in a separate document, PO700001-Organization, for clarity and ease of maintenance.

PO700001-Organization identifies the specific leader assigned as Accountable Manager. The FAA / EASA Accountable Manager is responsible for the overall activities associated with the manufacturing process of parts, in compliance with applicable sections of the US Code of Federal Regulations. The Accountable Manager or Designee is the primary contact with the FAA.

a. The Accountable Manager has assigned responsibility and authority to the Management Representative to ensure that the QMS conforms to the requirements of the AS9100 quality standard.

The Management Representative is responsible for assuring that the Quality Management System is implemented at all levels of the organization. The Management Representative is a member of the management team with the necessary authority required to accomplish implementation.

b. The Accountable Manager assigns responsibility to their subordinates to ensure that their specific processes deliver intended outputs. The Management representative is responsible for assuring the processes conform to AS9100, but specific department leaders are responsible for ensuring that their departments meet Quality Objectives

c. Korry Top Management ensures that the responsibilities and authorities for relevant roles are assigned, communicated, and understood within the organization.

d. The Korry Management Representative communicates, promotes, and ensures awareness of customer requirements to all employees throughout the organization and has the organizational freedom to resolve all matters pertaining to quality.

e. The Accountable Manager ensures that the integrity of the QMS is maintained when changes are planned and implemented by the use of planning (section 6), and controls on documents (section 7.5.3), review (section 9.3), and improvement (section 10).

f. PMA Program Coordinator:
The PMA Program Coordinator is responsible for the review and approval of all PMA Data as required by the individual PMA. The Coordinator is responsible for all interfaces with the Type Certificate Holder and the FAA and for assigning the appropriate resources to support the PMA effort.

g. TSO Program Coordinator
The TSO Program Coordinator is responsible for the review and acceptance of all TSO Data as required by the individual TSO. The Coordinator is responsible for all interface with the FAA and for assigning the appropriate resources to support the TSO effort.

h. Subject Matter Experts

In general, Designated Engineering Representatives are used as Subject Matter Experts for review of the certification process and the artifacts generated to support certification. The criteria for selecting the subject matter expert is that the individual has at least two projects completed at or above the design assurance level of the planned project. Any deviations to this would be specified in a project-specific certification plan for the TSO effort and agreed to by the FAA.

6. PLANNING

6.1 Actions to Address Risks and Opportunities

6.1.1 Determine Risks and Opportunities

Korry Management determines the internal and external issues and the relevant requirements of their interested parties and how this may impact Korry's Quality Management System.

This is in order to provide confidence that the quality management system can

- Achieve its intended outcomes.
- Enhance desirable effects.
- Prevent, or reduce, undesired effects.
- Achieve improvement.

6.1.2 Planning for Risks and Opportunities

a. Leadership plans actions to address risks and opportunities. The leadership team is managing and monitoring a risk register and planning for mitigation actions.

   Pursuit of new customer programs and authorizations for new product development or research and development are forms of repetitive risk-taking, and each has its own authorization and control processes (see appropriate QMS process sections).

b. Leadership integrates and implements actions into the QMS and evaluates the effectiveness of these actions via controlled changes (7.5.3), review (9.3), and improvement (10).

Details of the risk management process are covered in section 8.1.1.

6.2 Quality Objectives and Planning to Achieve Them

6.2.1 Quality Objectives

The Korry President and the Senior Staff ensure quality objectives, including those needed to meet requirements for our products, are established at the appropriate departmental levels. Korry documents quality objectives, assures that they are measurable, and consistent with the Korry Quality Policy.

6.2.2 Planning to Achieve Quality Objectives

Senior management ensures that the Quality Objectives are consistent with the quality policy, are flowed down through the organization, and that the results against these objectives are measured and communicated to the organization. The results are reviewed at the Management Reviews (see section 9.3 Management Review) and actions determined as needed per established targets. Process KPIs are determined, measured, and monitored to support Quality Objectives. In the absence of any overriding contractual requirements, the safety and reliability of the product have been considered and addressed.

6.3 Planning of Changes

Korry's Quality Management System is documented and designed in order to guarantee that all products and processes meet all the requirements of our customers.

Satisfaction with specified requirements is achieved through the effective implementation of all processes and related Quality Management System Procedures and work instructions in day-to-day activities. The Quality System documentation is designed to achieve quality in the definition of the needs of the customer, in the planning and design of product realization, in the conformance to the product design, and the support throughout the product life cycle.

When planning for changes, Korry's team is required to ensure the integrity of QMS is maintained; resources are identified and made available; responsibilities and authorities are clearly defined and allocated as needed. It is achieved through the ECO process with review and approval workflows, where potential consequences of changes are being evaluated, and possible negative impacts are being mitigated.

7. SUPPORT

7.1 Resources

7.1.1 General

Korry President is responsible for determining the appropriate resource requirements and providing adequate resources for the organization. This includes assigning trained personnel to implement and maintain the Quality Management System and continually improve its effectiveness in regards to customer satisfaction and customer requirements. Korry defines “appropriate resources” as either meeting requirements or, when requirements are not met, sufficient resources to make progress in closing the gap.

7.1.2 People

Korry personnel are assigned as necessary to meet appropriate resource levels and as defined above.

7.1.3 Infrastructure

Korry determines the needs for each new project or significant change to an existing project. Consideration is given to the following:

a. Facilities and transportation services associated with the workspace

b. Equipment – hardware, software, and back-up

c. Workspace

d. Information Technology services.

The Infrastructure is determined and maintained to achieve conformity to product and development requirements.

7.1.4 Environment for the Operation of Processes

Korry establishes and maintains the appropriate work environment needed to achieve product quality requirements.

Korry determines, provides, and maintains the necessary infrastructure for the operation of its processes to achieve conformity of products and services.

Infrastructure includes:

a) Social (non-discriminatory, calm, non-confrontational)

b) Psychological (stress-reducing, burnout prevention, emotionally protective)

c) Physical (temperature, heat, humidity, light, airflow, hygiene, noise)

Support and related documentation: EH&S Department Documents.

7.1.5 Monitoring and Measuring Resources

7.1.5.1 General

The Calibration System is maintained to ensure that inspection, measuring & test equipment, and test software, which can affect product quality, are adequate to demonstrate the conformance of the product to specified requirements.

The calibration system defines the extent and frequency of calibration to ensure that all measuring and test equipment and measurement standards used for determining the conformity of production parts have the necessary controls and accuracy in performing the required measurements.

Equipment requiring calibration is identified and tracked through periodic recall and calibrated using documented procedures against certified equipment having a known valid relationship to National or International Standards. Safeguards are used to prevent adjustments and modifications that would invalidate the calibration settings.

Korry defines the calibration process in procedure D3.300.

Korry retains records of fitness for the purpose of monitoring and measuring equipment as defined in CAL010 – Calibration Work Instruction.

7.1.5.2 Measurement Traceability

Measurement traceability is required for all monitoring and measuring equipment used to accept products and services.

a. Equipment is calibrated or verified at specified intervals. Measurement standards are traceable to NIST. Measurement devices are calibrated and verified per D3.300.
b. Equipment is numbered with a K# per CAL010 for identification in the measurement traceability system.
c. Anti-tamper seals are used to prevent unauthorized adjustment. Damage and deterioration are prevented by good work practices and operator examination of the equipment prior to use.

D3.300 – General Calibration Procedure establishes, implements, and maintains the process for recall monitoring and measuring equipment requiring calibration or verification.

The register of monitoring and measuring equipment is a database. This database is described in CAL010. The database records equipment type, K# (unique identification), owning department (location), and the calibration or verification method, frequency, and acceptance criteria.

Equipment is utilized in environmental conditions suitable for the calibration, inspections, measurements, and tests being carried out and in a manner consistent with required measurement capability. Handling, transporting, and storing of measuring equipment is done in a manner so as to prevent abuse, misuse, damage, or change in dimensional or functional characteristics.

When monitoring and measuring equipment, equipment is found unfit for the intended purpose, and Out-of-Tolerance (OOT) case is created in the calibration database. Administration of the OOT case determines the validity of previous measurement results, takes appropriate corrective action, and notifies any affected customers. This process is summarized in D3.300 with detailed instructions in CAL030.

7.1.6 Organizational Knowledge

Korry Electronics, over its 85+ year history, has determined the knowledge necessary for the operation of its processes and to make conforming products and provide conforming services.

This knowledge is maintained by our staff where a significant proportion has worked here 20+ years. Knowledge is made available through the process described in the Korry Training Process – D51760.

Korry Electronics:

a) Determines and maintains the knowledge necessary for the operation of the organization's processes and to achieve conformity of products and services.
   - Intellectual property
   - Knowledge gained from experience
   - Lessons learned from failures and successful projects
   - Capturing and sharing undocumented knowledge and experience
   - Results of improvements in processes, products, and services

b) Safeguards the organization from loss of knowledge through:
   - Specialized training,
   - Documentation of processes and job sharing,
   - Having the older and more experienced workers serve as mentors and trainers,
   - Enlist the assistance of retirees to serve as mentors

c) Acquires new knowledge to address changing needs and trends by:
   - Monitoring changes in the market or technology and analyze the extent to which they influence the knowledge the organization requires,
   - Sending employees to external training
   - Hiring new employees with the needed know-how
   - Get training from a client or vendor on changes affecting products.
   - Newsletters, industry magazines, memberships in trade associations.
   - Benchmarking against the best organizations in our industry

7.2 Competence

a. The necessary competence for each person is defined by requirements for education, skills, training, and experience. These are found in the job descriptions maintained by the Human Resources department.

b. Korry Electronics ensures employees are competent through education, skill, training, and experience as necessary in order to effectively implement the Quality Assurance System Management requirements.

c. Necessary competence is acquired by either training current staff or by the hiring of new staff that already have the necessary competence. Cases triggering the need to acquire competence include insertion of a new process or new subsystems into an existing process and loss of competent staff. Management evaluates the effectiveness (whether the staff is competent) based on the results produced and takes action, including restraining and reassignment when quality objectives cannot be met as part of the spectrum of corrective action activity.

d. Formal training records are maintained by the Human Resources Department, including proof of certification for special processes, as applicable. Additional documented education and experience records are maintained in the employee personnel files.

The needs for training of personnel are identified, and documented procedures for providing that training are established and maintained. Appropriate training is provided to all levels of personnel within Korry performing activities affecting quality. All employees are aware of the importance of their activities and how they contribute to achieving quality objectives and product conformity. The qualifications of personnel performing specialized operations, processes, tests, or inspections are evaluated and documented.

Details of the process of managing competence may be found in the Training Process - D51760. Competence to perform on-the-job training tasks are handled in a Skills Matrix. Competence to perform soldering and soldering inspection, government and customer source inspection are handled by specialized training and certification. Competence to execute company systems and to meet general compliance requirements are administered through HR Information System.

7.3 Awareness

a. Korry personnel are made aware of the Quality Policy by multiple channels, including training, prominent posting on the quality web page, and signage within the facility.

b. Korry personnel are made aware of the Quality Objectives by multiple channels, including Korry Communication emails, prominent posting on the quality web page, monthly flow down of targets and results from the Management Business Review meetings, etc.

c. Korry personnel are made aware of the benefits of improving performance in general and their contribution in particular by the company Performance Share process and by an annual exercise conducted with their supervisor where each employee identifies specific Improvement Targets that they directly affect (such as cost, delivery, quality, and regulatory compliance).

d. Korry personnel are aware of the impact of failure to perform results in extra corrective action work.

e. Korry employees are made aware of the QMS through training during the onboarding process. Employees are made aware of QMS changes as documented in QA050 and QA030.

f. Korry provides training to all employees who have an impact on the product quality and how to report any non-conformity.

g. Korry also trains employees on how to report any escape or potential escape. The quality engineer evaluates these reports when reviewing MRB and RMA activity, including Reliability Engineering, if flight safety is affected.

h. Korry employees are trained annually regarding ethical behavior and the Code of Ethics.

7.4 Communication

Korry Electronics develops the annual communication plan based on requirements. The communications plan addresses what, when, with whom, how, and who communicates for internal communications.

Korry Electronics determines external communications plans based on regulatory and contractual requirements. See other sections of this manual for specific requirements for notification of change and nonconformity.

For routine external communication, Korry uses an external website where Quality Manual, all applicable certificates, and a document containing information usually requested by many customers are made available.

The primary means used to communicate internal and external feedback relevant to the QMS is by the Management Review (see section 9.3).

7.5 Documented information

7.5.1 General

The Korry Electronics Co. QMS includes the following documented information:

a. Documented information required by AS9100 includes this manual and the documents specified by the Process Maps for each key Korry process (Customer, Engineering, Materials, Production, and Management & Support).

b. Documented information in support of regulatory and customer requirements are also included in this manual and referenced procedures and work instructions. Examples include:

- FAA requirements from 14 CFR part 21 for PMA and TSO programs. (14CFR21.137).
- DoD requirements from MIL-PRF-22885 for QPL products.
- Customer-specific supplier quality programs

7.5.2 Creating and Updating

a. Documented information has identification/description in the form of title, date, author, or reference number.

b. Documented information is recorded in English or as numeric data. The approved version of documented procedures and work instructions are stored electronically in the designated location. The approved version of records is defined by D49628 and may be either electronic or paper. If paper versions are later scanned, then the scanned version becomes the official archive version.

c. Review and approval for suitability depending on the type of documented information:

- Company-wide procedures and drawings are reviewed and approved by the appropriate individuals per D49620 – ECO procedure.
- Department-specific work instructions and forms are reviewed and approved by the department manager per QA050.
- Records are reviewed and approved as defined by their controlling procedures and work instructions. Depending on the type of record, they may be “self-approving” (records that are system generated), creator approved, or require separate approval by a qualified authority (such as a final inspector or a source inspector when product conformity is being determined).

d. In accordance with 14CFR21.308, and .608 this manual must be approved by the FAA. In accordance with 14CFR21.320 and .620, all items listed in Appendix A of this manual must be submitted to the FAA for review when changed. In accordance with 14CFR21.307 and .607, Korry maintains a quality system that meets the requirements of 14CFR21.137.

7.5.3 Control of Documented Information (DI)

7.5.3.1 Documented Information required outcomes

Required DI is controlled to:

a. Assure availability for use.
b. Assure DI is protected from loss, misuse, or impairment.
c. Control the released version by D33924 and QA050
d. Retain and dispose of per D49628 (Note: retention is typically more than 10 years but depends on the specific record type.)
e. Prevent unintended use by controls on paper copies (electronic versions are controlled automatically by the system).

DI of external origin is maintained and controlled by Data Management.

DI evidence of conformity is protected per D49628
DI in electronic form is managed per D49628
DI control authority is defined by D33924

7.5.3.2 Documented Information required sub-processes

While controlling DI, Korry addresses the following DI processes:

a. Distribution, Access, Retrieval, and Use are handled
    i. by the PLM for DI controlled by D33924 and
    ii. by Department Documents folders by DI controlled by QA050
b. Storage and preservation, including preservation of legibility
    i. by the PLM for DI controlled by D33924 and
    ii. by Department Documents folders by DI controlled by QA050
c. Version control is handled
    i. by the ECO process (D49620) for DI controlled by D33924 and
    ii. by Manager approval for DI controlled by QA050
d. Retention and disposition is controlled
    i. by D49628 for quality records
    ii. by the ECO process (D49620) for DI controlled by D33924 and
    iii. by Manager archival of obsolete DI if controlled by QA050
e. Prevention of unintended use and controlled paper copies
    i. Normally, paper copies (if used at all) are only valid on the day printed.
    ii. In special cases, controlled paper copies are allowed to meet the needs of the organization (for example, the system is isolated from the network for IT systems and cut off from PLM).
    iii. When controlled paper copies are used, the following additional requirements apply:
        (a) The copy must have written approval by the work area Manufacturing Engineer.
        (b) The copy must have the revision verified prior to use each day in the PLM (up to the point when the document is removed from use).

7.5.3.3 Design Data Control for PMA and TSO Approvals

A current copy of all drawings for FAA-approved articles, products, and parts are controlled and made available to manufacturing and inspection personnel and made available upon request to the FAA.

During product development, all design data and documents are generated, reviewed, and approved per the Korry Configuration Management Process Plan D33924. This plan defines the processes necessary to ensure documentation is identified, controlled, released, and captured for traceability. All changes resulting in new product versions are tracked for approval and incorporation.

Korry uses the ARAS Innovator PLM tool to implement these processes and workflows. The ARAS Innovator PLM tool provides a strictly controlled workflow environment that ensures design traceability and ensures design data integrity is maintained. The ARAS Innovator PLM tool provides archival, retrieval, and release functions for design data while protecting against inadvertent changes.

Korry has a Document Center department that administers control over the configuration management process and ARAS Innovator PLM tool functions.

Released documents and data are made available to personnel through the ARAS Innovator PLM tool with limited permissions and electronic distribution of digital copies. Maintenance and protection of design data are according to established and documented practices for the backup and preservation of electronic files.

Design changes can result in a change to existing documentation or the generation of new documentation. Design change documentation is reviewed, approved, controlled, recorded, and released in accordance with the Korry Configuration Management Process Plan D33924 using the ARAS Innovator PLM tool. Controlled documents, which include drawings, test procedures, engineering change orders (ECOs), etc., are reviewed and approved prior to their initial release or revision. Changes to documents are coordinated with the customer and/or regulatory authorities when required by contract or regulatory requirements. Configuration management procedures are consistent with the following guidelines governing FAA PMA or TSO articles, products, and parts.

7.5.3.3.1 PMA Changes

A ‘‘minor change’’ to the design of an article, product, and part produced under a PMA is one that change has no appreciable effect on the weight, balance, structural strength, reliability, operational characteristics, other characteristics affecting the airworthiness or effect on the approval basis.

A ‘‘major change’’ to the design of an article, product, and part produced under a PMA is any change that is not minor.

Korry has obtained approval means by either identicality per 14 CFR § 21.303, licensing agreement between Korry Electronics and with the Type Certificate (TC) or Supplemental Type Certificate (STC) holder, or by means of Test reports and computations necessary to show that the design of the part meets the airworthiness requirements of the Federal Aviation Regulations applicable to the product on which the part is to be installed.

For changes to a product that has PMA approval means by identicality via licensing agreement with the Type Certificate holder, Korry must obtain approval of the change from the Type Certificate holder. This approval is maintained with the engineering change orders documentation. Korry must obtain the TC holder's approval before including it in the design of an article produced under a PMA.

For changes to a PMA product or design documentation that has approval means by Test reports and computations, Korry must obtain FAA approval of any changes before including them in the design of an article produced under a PMA.

In all cases, for minor changes Korry will provide substantiation showing that the changes have no effect on the weight, balance, structural strength, reliability, operational characteristics, and other characteristics affecting the airworthiness or effect on the approval basis.

7.5.3.3.2 TSO Design Changes

Korry shall determine Major/Minor classification of changes per Korry Document D52469 "TSO Change Classification Procedure." This document defines the process and procedures developed in collaboration with the Seattle Aircraft Certification Office (SACO) for determining Major/Minor change classification.

Korry may incorporate minor design changes without further approval by the FAA, as defined by 14 CFR 21.619 (a). In this case, the new article keeps the original model number (part numbers may be used to identify minor changes). For minor design changes, Korry will submit any necessary, revised data to the SACO within 180 days after release or as specified in the applicable TSO authorization letter.

For a major design change that requires a substantially complete investigation to determine compliance with a TSO, Korry must assign a new type or model designation to the article and apply for a new authorization under 14 CFR 21.603.OPERATION

8. OPERATION

8.1 Planning and Control

Korry plans, implements, and controls the processes needed to meet the requirements of the QMS and to implement the actions necessary to minimize risks and maximize success in pursuit of opportunities.

a. Korry determines the requirements for products and services while considering the following:

- Personal and product safety;
- Produceability and product safety;
- Reliability, availability, and maintainability;
- Suitability of parts and materials used in the product;
- Selection and development of embedded software;
- Product obsolescence;
- Prevention, detection, and removal of foreign objects;
- Handling, packaging, and preservation;
- Recycling or final disposal of the product at the end of its life.

Requirements are addressed as part of the proposal and bid process. Often some requirements remain undetermined at the time of contract win; these are resolved jointly between Korry and the customer during the product development process.

When mature products are reordered, customer service identifies new requirements associated with the order and has them reviewed and actioned by the affected departments as part of the order acceptance process.

b. Korry establishes criteria planned requirements:

1. Process requirements are determined by Design Engineering and updated by Sustaining Engineering when customer requirements evolve or when Manufacturing Engineering introduces new equipment.
2. Product and Service acceptance requirements are determined by Quality Engineering.
    - Design verification is accomplished by the development of qualification test plans.
    - Process control is accomplished by a mixture of statistical process control, quality control inspection, and testing. These are defined in inspection checklists, quality control plans, and acceptance test procedures.
    - Quality Engineering may also impose Inspection Alerts to add additional temporary acceptance requirements during problem investigations and correction.

c. Resources needed to achieve conformity and meet on-time delivery requirements are determined by the SIOP (sales inventory operations planning) process. SIOP is administered by Planning as an element of the broader Materials Process. SIOP is also used to determine the resources needed to address after-market requirements and to determine the supply chain resource requirements.

d. Processes are controlled by “MP” procedures developed by Manufacturing Engineering and by the tooling and equipment they select and deploy.

e. Korry determines, maintains, and retains documented information:

    1. Statistical Process Control and sample inspection are used to verify that processes are operating as intended. Records of SPC data are retained in analytical databases. Sample inspection records are retained by Receiving and Fabrication Inspection files. Other processes are verified to have been carried out based on the completed steps in production routers.

    2. Visual, photometric, and electrical test data is used to demonstrate conformity. Records are retained with product job orders.

f. When critical processes and controls are needed (such as to control Key Characteristics or to manage NADCAP certified processes), they are controlled by either addition of specific datasheets to measure and record results or by setting up a database with an associated measurement process.

g. and h.: see c.

h. Products and services obtained from external providers are determined based on several factors, including design requirements, strategic sourcing planning, and management make/buy decisions.

i. Controls to prevent delivery of nonconforming products and services are established by Quality Engineering as part of product development and sustainment.

The Program Management function assures the suitability of operations by coordinating the other functions. Changes are controlled as described in the Risk Management section (8.1.1). Externally provided processes are controlled (8.4). Work transfer is controlled (8.4 and 8.5).

8.1.1 Operational Risk Management

Korry plans, implements, and control a process for managing operational risks to the achievement of applicable requirements, which includes as appropriate to the organization and the products and services:

a. assignment of responsibilities for operational risk management;

b. definition of risk assessment criteria (e.g., likelihood, consequences, risk acceptance);

c. identification, assessment, and communication of risks throughout operations;

d. identification, implementation, and management of actions to mitigate risks that exceed the defined risk acceptance criteria;

e. acceptance of risks remaining after implementation of mitigating actions.

Risk Management is addressed as described in CI200 Procedure for Risk Management.

8.1.2 Configuration Management

Korry maintains a configuration management process that identifies and controls the physical and functional attributes throughout the product lifecycle to include:

a) configuration management planning,
b) product identity, traceability to requirements, including the implementation of identified changes.
c) ensures the document information is consistent with the actual attributes of the products and services.

8.1.3 Product Safety

Due to acknowledgment of increased safety requirements, Korry plans, implements, and controls the processes needed to assure product safety during the entire product life cycle, as appropriate to the organization and the product.

NOTES:

Product Design examples of these processes include:

- assessment of hazards and management of associated risks;
- management of safety-critical items;
- analysis and reporting of occurred events affecting safety;
- communication of these events and training of persons.

Environmental Health and Safety examples include:

- assessment and elimination, if possible, of high-risk materials (raw material, coatings, plating…)
- review and approval before use of all new materials (raw material, paints, adhesives…)
- review and approval before use of all-new manufacturing and assembly processes
- review and approval before use of all new machinery

8.1.4 Prevention of Counterfeit Parts

Korry has established a Counterfeit Parts Control Plan and Obsolescent Management Plan to prevent the use of counterfeit or suspect counterfeit parts and obsolete parts in our product. These plans include:

a) training of appropriate persons in the awareness and prevention of counterfeit parts;
b) application of a part obsolescent monitoring program
c) controls for acquiring externally provided products from original or authorized manufacturers, authorized distributors, or other approved sources;
d) requirements for assuring traceability of parts and components to their original or authorized manufacturers;
e) verification and test methodologies to detect counterfeit parts;

f) monitoring of counterfeit parts reporting from external sources;
g) quarantine and reporting of suspect or detected counterfeit parts.

The process to prevent the use of counterfeit parts is compliant with AS6174 and AS5553.

8.2 Requirements for Products and Services

8.2.1 Customer Communication

Korry's communication with customers includes:

a. providing information relating to products and services;
b. handling inquiries, contracts, or orders, including changes;
c. obtaining customer feedback relating to products and services, including customer complaints;
d. handling or controlling customer property;
e. establishing specific requirements for contingency actions, when relevant.

8.2.2 Determining the Requirements for Products and Services

When determining the requirements for the products and services to be offered to customers, Korry ensures that:

a. the requirements for the products and services are defined, including:
    1. any applicable statutory and regulatory requirements;
    2. those considered necessary by the organization;
b. the organization can meet the claims for the products and services it offers;
c. special requirements of the products and services are determined;
d. operational risks (e.g., new technology, ability and capacity to provide, short delivery time frame) have been identified.

Initially, new product and service discussions with customers are initiated by the Proposals team. If a customer accepts the Korry bid, then they are handed off to Contracts to negotiate detailed requirements. Returning customers operating under existing contracts work directly with Customer Service to place new orders.

8.2.3 Review of the Requirements for Products and Services

Korry ensures that it has the ability to meet the requirements for products and services to be offered to customers. Korry conducts a review before committing to supply products and services to the customer, to include:

a. requirements specified by the customer, including the requirements for delivery and post-delivery activities;
b. requirements not stated by the customer, but necessary for the specified or intended use, when known;

c. requirements specified by the organization;

d. statutory and regulatory requirements applicable to the products and services;

e. contract or order requirements differing from those previously expressed.

This review is conducted by Contracts or Customer Service using a Purchase Order Checklist. The review is coordinated with applicable functions at Korry by using a Technical Document Review form as required for new or changed requirements.

If, upon review, Korry determines that some customer requirements cannot be met or can only partially be met, Korry will negotiate a mutually acceptable requirement with the customer.

Korry ensures that contract or order requirements differing from those previously defined are resolved.

The customer requirements are confirmed by Korry before acceptance when the customer does not provide a documented statement of their requirements.

NOTE: In some situations, such as internet sales, a formal review is impractical for each order. Instead, the review can cover relevant product information, such as catalogs.

Korry retains documented information, as applicable:

a. on the results of the review;

b. on any new requirements for the products and services.

The scope of the work and all customer requirements and associated risks are fully understood by applicable functions of the organization and, if necessary, clarified with the customer as part of the tender submission process. Any discrepancies between the contract and the related tender are completely negotiated and resolved before the acceptance of a contract.

Amendments to contracts are reviewed in the same manner as the original contract with all affected and concerned parties.

Evidence of tender and contract reviews and associated documents, correspondence, and forms are maintained and controlled.

8.2.4 Changes to Requirements for Products and Services

Korry ensures that relevant documented information is amended and that relevant persons are made aware of the changed requirements when the requirements for products and services are changed.

8.3 Design and Development of Products and Services

8.3.1 General

Korry establishes, implement, and maintain a design and development process that is appropriate to ensure the subsequent provision of products and services.

The essential steps in product realization from planning through design and development are shown below:

Figure 2 – Product Realization Process

8.3.2 Design and Development Planning

Depending on the scope of a product's development, individual project plans may be created that vary in scope or complexity.

For new programs, Korry plans and controls the design and development of products per the Product Development Process for full-scale developments and configurable development

For full-scale developments during design and development, the design team determines:

a) The design and development stages,

b) Where appropriate, Korry divides the design and development effort into distinct activities and, for each activity, defines the tasks, necessary resources, responsibilities, design content, input and output data, and planning constraints. Due to complexity, planning may give consideration to the following activities:

   a. Structuring the design effort into significant elements based on the safety and functional objectives for the product in accordance with the customer, statutory, and regulatory requirements; and

   b. For each element, analyzing the tasks and the necessary resources for design and development. This analysis does consider an identified responsible person, design content, input data, planning constraints, and performance conditions. The input data specific to each element is reviewed to ensure consistency with requirements.

c) The review, verification, and validation, appropriate to each design and development stage.

d) The responsibilities and authorities for design and development.

e) The ability to produce, inspect, test, and maintain the product.

Development plans are maintained and updated as needed throughout the design and development process.

Interfaces between different groups are managed through a design team-staffing plan. For full-scale development, project engineers have the authority to assign responsibility within the project team. For configurable, responsibilities are systematized and documented in the work cells procedures.

Planning output is updated by the project team or project team leadership, as appropriate, as the design and development progresses. This is seldom necessary for configurable.

For configurable products, the planning is done per the Engineering Service Request (ESR) Process, D51095.

8.3.3 Design and Development Inputs

The design input requirements are defined either by the customer's Statement of Work, the customer's product specification, military and other governing specifications, and internal product specifications in the case of development projects and/or the contract.

The documents identify characteristics such as function, performance, reliability, physical constraints, spare capacity, and safety. Requirements are defined so that their achievement can be verified to ensure customer satisfaction. The design input is reviewed for adequacy. Any conflicting, incomplete, or ambiguous requirements are escalated to the Project/Program Manager for resolution and, where necessary, discussed with the customer.

Template documents supporting requirements capture are defined in the PDP (Product Development Process). For full-scale development, requirements are captured as defined in the PDP. For configurable products, captured requirements are documented per work cell procedures.

8.3.4 Design and Development Controls

8.3.4.1 Design and Development reviews

Project / Program leadership (Project Engineer, Project / Program Manager) ensures that formal hardware and/or software design reviews are conducted for each program. Reviews are supported by independent design review expertise as required to ensure the adequacy of the design to satisfy the contractual, quality, and productivity requirements of the end product. The design reviews identify problems and proposed necessary actions and authorize progression to the next stage.

Participants in such reviews include representatives of functions concerned with the design and development stage(s) being reviewed.

Records of the results of the reviews and any necessary actions are maintained in project folders, project data vault, or project server, depending on the need of the program; or per work cell procedures.

8.3.4.2 Design and Development Verification

Designs are verified to meet product/program (input) requirements through the design output documents preparation and approval process. The approval and release of the documents are evidence that the design meets the requirements of the specification. As an integral part of design verification, designs are verified through analysis, alternative calculations, tests, demonstration, and design similarity analysis.

The documented information (records) of the results of the verification is reviewed before being released and is maintained.

8.3.4.3 Design and Development Validation

Product function and performance are validated in accordance with the customer or internal SOW or product specification. These activities typically include standard and environmental condition tests, reliability and maintainability demonstrations, formal qualification testing, and acceptance testing.

The documented information (records) of the results of validation is maintained.

Note:

- Design and/or development validation follows the successful design and/or verification.
- Validation is normally performed under defined operating conditions.
- Validation is normally performed on the final product but may be necessary for earlier stages prior to product completion.
- Multiple validations may be performed if there are different intended uses.

At the completion of design and development, the organization ensures that reports, calculations, test results, etc., demonstrate that the product definition meets the specification requirements for all identified operational conditions Design and/or Development Verification and Validation Testing.

Where tests are necessary for verification and validation, these tests are planned, controlled, reviewed, and documented to ensure and prove the following:

a) Test plans or specifications identify the product being tested and the resources being used, defined test objectives and conditions, parameters to be recorded, and relevant acceptance criteria;

b) Test procedures describe the method of operation, the performance of the test, and the recording of the results;

c) The correct configuration standard of the product is submitted for the test;

d) The requirement of the test plan and the test procedures are observed;

e) The acceptance criteria are met.

8.3.4.4 Controlling Design and Development Monitoring and Measurement Devices

Monitoring and measuring devices used in Development activities are controlled per section 7.1.5.

8.3.5 Design and Development Outputs

The outputs of design and development are provided in a form suitable for verification against the design and development input and are approved prior to release.

Design and development outputs:

a) meet the input requirements for design and development,
b) provide appropriate information for purchasing, production, and for service provision,
c) contain or reference product acceptance criteria,
d) specify the characteristics of the product that are essential for its safe and proper use, and
e) specify, as applicable, any critical items, including key characteristics, and specific actions to be taken for these items.

Korry defines the data required to allow the product to be identified, manufactured, inspected, used, and maintained; including:

a) the drawings, parts lists, and specifications necessary to define the configuration and design features of the product, and
b) the material, processes, manufacturing, and assembly data needed to ensure conformity of the product.

The PDP defines common design outputs for Korry programs. For configurables, design outputs are standardized and described in work cell procedures.

NOTE: Information for production and service provision can include details for the preservation of the product.

8.3.6 Control of Design and Development Changes

Design changes can result in a change to existing documentation or the generation of new documentation. Design change documentation is reviewed, approved, controlled, recorded, and issued in accordance with established configuration management procedures by the same functions involved in the original issue. Controlled documents, which include drawings, test procedures, enterprise change orders (ECOs), etc., are reviewed and approved prior to their initial release or revision.

Changes to controlled documents are approved by either the same functions that reviewed and approved the original document or functions that authorized to approve the changes as defined in the configuration management plan.

The change control process provides for customer and/or regulatory authority approval of changes when required by contract or regulatory requirement.

Design and development changes are identified, and records are maintained. The changes are reviewed, verified, and validated as appropriate and approved before implementation. The review of design and development changes includes evaluation of the effect of the changes on the constituent parts and product already delivered.

The documented information (records) is maintained on:

- design and development changes,
- the results of reviews;
- the authorization of the changes;
- the actions are taken to prevent adverse impacts.

Design and development changes are controlled in accordance with the configuration management process.

8.4 Control of Externally Provided Processes, Products, and Services

8.4.1 General

Korry ensures that externally provided processes, products, and services conform to requirements.

Korry is responsible for the conformity of all products, sub-contracted processes, and services purchased from suppliers, including products from sources defined by the customer.

Korry uses customer-designated/approved providers when required. This includes special process providers.

The supplier's quality and delivery performance are reviewed at intervals consistent with the nature of the product, and the supplier has demonstrated performance and risk evaluation.

Korry ensures that suppliers apply appropriate controls to the supply base, including sub-tiers, to ensure that requirements are met. Korry determines the controls applied when the supplier's products and services are incorporated in Korry products, when the products and services are resold to Korry customers, and when a customer uses a supplier at Korry's direction.

Korry uses third-party QMS registration (AS9100 or ISO9001) and NADCAP accreditation as primary indicators of supplier suitability. Financial review based on rating agency reports, site survey based on google maps, business licensing are additional qualifiers. High-risk suppliers are audited prior to approval.

8.4.1.1 Korry does the following:

a. Korry defines the process responsibilities and authority for approval status and change of status decisions of suppliers in the Supplier Evaluation, Approval, and Maintenance work instruction - SQE030.

b. Korry maintains a register of its suppliers that includes approval status and the scope of the approval (e.g., product type, process family); this register is explained in D49628-017; the register itself is part of the ERP system data.

c. Results of supplier performance are documented and maintained. Results shall include the Incoming Inspection results, supplier surveys, evaluation of samples, first article inspections, and source inspections. The Supply Chain team maintains a supplier rating system covering all pertinent aspects of supplier performance.

d. SQE030 and the Nonconforming Material Procedure – D49629 define the necessary actions to take with a supplier that does not meet requirements.

e. Documented Information created and/or retained by a supplier is controlled by Supplier Quality Manual – D55255. This information also includes the requirements for reporting NOEs.

8.4.2 Type and Extent of Control

Korry ensures that suppliers do not adversely affect its ability to consistently deliver conforming products and services to its customers.

a. Korry ensures that externally provided processes are controlled by the Korry QMS,
b. Korry defines both controls on the supplier as well as the product or service output.
c. Korry takes into consideration:
    1. The impact of supplier's processes, products, and services on Korry's ability to consistently meet customer, statutory and regulatory requirements.
    2. The effectiveness of the controls applied by the supplier.
    3. The results of periodic review of supplier performance (8.4.1.1.c)
d. Korry determines the verification and other activities necessary to ensure that the supplier meets the requirements.

Verification activities for suppliers are based on the risks identified in SQE030.
The majority of suppliers are verified based on periodic testing and inspection per the Receiving Inspection procedure – D50350.
Select suppliers qualify for the Supplier Delegated Source program – D50118.
Specific delegations are recorded in the ERP system and in records maintained in accordance with the Stamp Control work instruction STMP010.
Supplies obtained through paths deemed at risk of counterfeit (example: sourcing from distributors not authorized by the manufacturer) are handled in accordance with the Counterfeit Parts Control Plan – D48055 and approved by management in accordance with the Purchase of Parts from non-Franchised or Authorized Distributors work instruction – SQE080.
Supplier audits are conducted per D53594.
First Article Inspections are conducted per D51758.

It is understood that customer verification activities do not absolve Korry from providing conforming products and services.

Supplier products released to production pending completion are identified to allow recall and replacement if subsequently found not to meet requirements. This is the Positive Recall process – PLAN130.

Delegated verification activities are defined by Supplier Delegated Source Program – D50118.

Material data reports for raw plastics and metals are used to accept supplier products.
Reports are periodically validated through audit testing per Receiving Inspection Plan – RI090.

8.4.3 Information for External Providers

Korry shall ensure the adequacy of requirements prior to their communication to the External Provider. Adequacy is assured by control of technical requirements per the Enterprise Change Order (ECO) Process – D49620 and by the ERP process, which calculates quantity and need dates.

Korry shall communicate to external providers its requirements for:

a. the processes, products, and services to be provided, including the identification of relevant technical data (e.g., specifications, drawings, process requirements, work instructions);
b. the approval of:

1. products and services;
2. methods, processes, and equipment;
3. the release of products and services;

c. competence, including any required qualification of persons;

d. the external providers' interactions with the organization;

e. control and monitoring of the external providers' performance to be applied by the organization;

f. verification or validation activities that the organization, or its customer, intends to perform at the external providers' premises;

g. design and development control;

h. special requirements, critical items, or key characteristics;

i. test, inspection, and verification (including production process verification);

j. the use of statistical techniques for product acceptance and related instructions for acceptance by the organization;

k. the need to:

1. implement a quality management system;
2. use customer-designated or approved external providers, including process sources (e.g., special processes);
3. notify the organization of nonconforming processes, products, or services and obtain approval for their disposition;
4. prevent the use of counterfeit parts (see 8.1.4);
5. notify the organization of changes to processes, products, or services, including changes of their external providers or location of manufacture, and obtain the organization's approval;
6. flow down to external providers applicable requirements, including customer requirements;
7. provide test specimens for design approval, inspection/verification, investigation, or auditing;
8. retain documented information, including retention periods and disposition requirements;

l. the right of access by the organization, their customer, and regulatory authorities to the applicable areas of facilities and applicable documented information, at any level of the supply chain;

m. ensuring that persons are aware of:

1. their contribution to product or service conformity;
2. their contribution to product safety;

3. the importance of ethical behavior.

Requirements are communicated to suppliers via purchase orders, long-term agreements, and contracts. These documents site technical requirements, terms & conditions, and quality notes.

ECMP requirements flowed down per Subcontractor Assembly Facility Requirements Flow-Down per Electronic Component Management Plan.

Support documentation:

SQE010 Korry PO Quality Notes

Purchase Order Terms and Conditions – Commercial Contracts

D35524-001 Subcontractor Assembly Facility Requirements Flow-down per ECMP Requirements

D55255 Supplier Quality Manual

8.5 Production and Service Provision

8.5.1 Control of Production and Service Provision

Korry plans and carries out production and service provisions under controlled conditions. Controlled conditions do include, as applicable:

a. the availability of documented information that defines:
    1. The characteristics of the products to be produced, the services to be provided, or the activities to be performed.

       The information that describes the characteristics of the product is provided through the Job Orders (JO). The JO package includes the customer order information, customer-specific special instructions, the quantity and schedule, routing, and a job Bill of Material (BOM). Supporting product definition information such as documents and instructions including the product drawing, Manufacturing Processes (MP), Assembly Instructions/Inspection record (AIR), General Test Procedure (GTP), or Acceptance Test Procedure (ATP) is accessed from the PLM system.
    2. the results to be achieved;
b. the availability and use of suitable monitoring and measuring resources;

The monitoring and measuring equipment are listed in the Acceptance Test Procedure (ATP).

c. the implementation of monitoring and measurement activities at appropriate stages to verify that criteria for control of processes or outputs, and acceptance criteria for products and services, have been met;

Acceptance Test Procedures and inspection work instructions identify the appropriate inspection, measuring, and test equipment to be used to be consistent with the required measurement accuracy and the type of measurement to be made.

Monitoring and measuring are maintained through General Calibration Procedure for Measurement and Test Equipment - D3.300.

1. ensuring that documented information for monitoring and measurement activity for product acceptance includes:
   - criteria for acceptance and rejection;
   - wherein the sequence verification operations are to be performed;
   - measurement results to be retained (at a minimum an indication of acceptance or rejection);
   - any specific monitoring and measurement equipment required and instructions associated with their use;
2. Ensuring that when sampling is used as a means of product acceptance, the sampling plan is justified based on recognized statistical principles and appropriate for use (i.e., matching the sampling plan to the criticality of the product and the process capability).

d. the use of suitable infrastructure and environment for the operation of processes;

The suitable infrastructure of the operation of processes is defined in the A.I.R. for products and setup sheets for fabricated components.

e. the appointment of competent persons, including any required qualification;

Competency is determined by supervision, and jobs are assigned accordingly. The Training Matrix (see section 7.2) is used as a guide to assess competence.

f. the validation, and periodic revalidation, of the ability to achieve planned results of the processes for production and service provision, where the resulting output cannot be verified by subsequent monitoring or measurement;

These processes are referred to as special processes (see 8.5.1.2).

g. the implementation of actions to prevent human error;

Actions are taken, including poke yoke design of tooling and specific work instructions, including illustrations/pictures in the A.I.R.

h. the implementation of release, delivery, and post-delivery activities;

Job Orders are updated in stages by routing operation and inspection step completion. Evidence of Operation step completion is identified by Operator sign-off and date. Evidence of QC acceptance and status is identified with a QC acceptance stamp impression placed on the job order next to the inspection step. Post Delivery is supported per section 8.5.5.

i. the establishment of criteria for workmanship (e.g., written standards, representative samples, illustrations);

Korry Workmanship Standards (KWS), Manufacturing Processes (MP), Assembly Inspection Records (AIR), General Test Procedures GTP, and Acceptance Test Procedures (ATP) all provide the criteria for workmanship.

Planning does consider as appropriate,

- establishing, implementing, and maintaining appropriate processes to manage critical items, including process controls where key characteristics have been identified,

The control of production and service provision is documented during the design & development of new program & design development phases.

Where possible, established processes are used. Process Control instructions are developed by Manufacturing Engineering or designee and are validated and approved for release. Once they are approved, they are added to the applicable BOM or Department Process instructions and are revision and configuration controlled. Manufacturing Engineering uses different methods for creating process instructions:

Manufacturing Processes (MP) are written to support a specific process or special process instructions. If needed, they can be referenced on an Item Master, on a Routing, or in an Assembly Inspection / Instruction record (AIR) to provide process controls and specific controlled instructions that support the product build plan.

Assembly Inspection/Instruction Records (AIR) are created to provide specific step-by-step instructions to clearly show how to build a final or sub-assembly in easy-to-follow steps. The AIR defines the equipment and can include specified customer instructions and process verification steps. AIRs are referenced on the Item Master of the product. The AIR is the process instructions that are performed when an Assembly step is listed on a job order routing.

j. the accountability for all products during production (e.g., parts quantities, split orders, nonconforming product);

Each item made or purchased is identified by a part number and a supporting order number. The order number is determined by the type of order. Types of orders are the job order, sales order and line item, purchase order and line item, and/or a receiver number.

The order number is the unique lot number for the product or material and quantity on order. The configuration of the product on order is verified and listed on the order. All material/product is identified with a specific lot number, quantity, date code, and part configuration, which are all listed on the job order. Quality Acceptance is recorded on the job order, and the QC accept tags. Inventory transactions and procedures maintain the lot traceability throughout manufacturing. Any Nonconforming conditions are processed and recorded per Non-Conforming Material Procedure D49629 and are recorded on the order and on a Rework or Discrepancy Report form, which is also recorded on the job order. Job Order status is maintained in the material planning operating system by electronic transactions; see Job Order Process – PLAN140.

k. the control and monitoring of identified critical items, including key characteristics, in accordance with established processes;

Key Characteristics can be flowed down from the customer or Engineering and can be set up and implemented by Manufacturing or Quality Engineering. Korry's processes of control and monitoring of key characteristics are in accordance with AS9103. When a Key Characteristic is required by the Customer or Korry Engineering, it is added to the drawing with a key flag and is supported by a Key Characteristics Control Plan (KCCP). When it is implemented by QE or ME, it may not be listed on the drawing but will have a supporting KCCP. When specified, Statistical Process Control (SPC) processes are developed to support the requirements.

- designing, manufacturing, and using tooling to measure variable data,

The instructions list the tools and equipment to be used for the specific process. Equipment used to measure Key Characteristics is calibrated per General Calibration Procedure for Measurement and Test Equipment D3.300. Korry's Key Characteristics' plans are developed per Variation Reduction / Statistical Process Control (SPC) / Key Characteristic Control Plan (KCCP).

- identifying in-process inspection/verification points when adequate verification of conformance cannot be performed at a later stage of realization, and

The identification of in-process verification points can be instructed and accomplished using a few methods. A step may be listed on the routing as a Reduced Inspection Operation Step. The inspector checks the SPC charts and verifies the data is current, and the process is stable and capable of showing no evidence of the process being beyond the established control limits and uses a QC or CPK stamp to record the verification on the job order next to the operation step.

l. the determination of methods to measure variable data (e.g., tooling, on-machine probing, inspection equipment);

   These methods are defined in ATPs and GTPs.

m. the identification of in-process inspection/verification points when adequate verification of conformity cannot be performed at later stages;

   These points are recorded on standard work instructions, in inspection plan checklists, and as sub-steps on job orders.

n. the availability of evidence that all production and inspection/verification operations have been completed as planned or as otherwise documented and authorized;

   Evidence of completed steps is documented in D49628-027.

o. the provision for the prevention, detection, and removal of foreign objects;

   Foreign Object Debris (FOD) Prevention D49926 procedure details the prevention, detection, and removal of foreign objects that all employees are trained to. Specific processes, such as the Cleanroom, are also supported by MP248.

p. the control and monitoring of utilities and supplies (e.g., water, compressed air, electricity, chemical products) to the extent they affect conformity to product requirements (see 7.1.3);

   These are processes controlled by the EH&S department because of safety considerations and but statutory and regulatory considerations.

q. the identification and recording of products released for subsequent production use pending completion of all required measuring and monitoring activities, to allow recall and replacement if it is later found that the product does not meet requirements.

   Provision to manage products released at risk is handled by the Positive Recall process – PLAN130.

8.5.1.1 Control of Production Equipment, Tools, and Software Programs

Production equipment, tools, and software programs used to automate and control/monitor product realization processes are validated prior to release for production and are maintained. They are also maintained and inspected periodically according to documented procedures.

Storage requirements, including preservation/condition checks, are being established for production equipment or tooling in storage.

Control of Production Equipment, Tools, and Numerical Control (NC) Machine Programs: Production equipment, tools, and programs are validated prior to use, maintained and inspected periodically. Validation prior to production use includes verification of the first article produced to the design data/specification. These are controlled by MP documents and by setup sheets.

8.5.1.2 Validation and Control of Special Processes

For processes where the resulting output cannot be verified by subsequent monitoring or measurement, the organization shall establish arrangements for these processes including, as applicable:

a. definition of criteria for the review and approval of the processes;
b. determination of conditions to maintain the approval;
c. approval of facilities and equipment;
d. qualification of persons;
e. use of specific methods and procedures for implementation and monitoring the processes;
f. requirements for documented information to be retained.

Special processes are controlled by MP documents. Additional records for NADCAP certified processes are recorded on process-specific work instructions.

Korry Special Processes	
Process	Validation Method
Laser Welding	MP237 laser Welding Stainless Steel
Welding	MP151 Resistance Spot Welding
J-STD Soldering	KWS Korry Workmanship Standard KWS03 Soldering J-STD-001 only
ESD Handling	D50274 ESD Handling Procedure
Painting	MP287 General Application for Paint and Ink KWS Korry Workmanship Standard KWS09-1 Cosmetic Inspection of Paint Class 1

	KWS09-2 Cosmetic Inspection of Paint Class 2 KWS09-3 Cosmetic Inspection of Paint Class 3

Supporting documentation:

D50322 Development of Special Processes

8.5.1.3 Production Process Verification

Korry implements production process verification activities to ensure the production process is able to produce products that meet requirements.

Korry uses a representative item from the first production run of a new part or assembly to verify that the production processes, production documentation, and tooling are able to produce parts and assemblies that meet requirements. This activity shall be repeated when changes occur that invalidate the original results (e.g., engineering changes, production process changes, tooling changes).

The documented information on the results of production process verification is maintained.

The First Article Inspection, compliant to AS9102, is performed in accordance with FAI Procedure - D51758

A Process Failure Mode and Effect Analysis is performed for all new processes and major changes to existing processes in order to identify and mitigate risks. Where appropriate, the outcome of risk assessment is documented in control plans.

8.5.2 Identification and Traceability

Korry uses configuration management as a means by which identification and traceability are maintained.

8.5.2.1 Identification

Korry maintains the identification of the configuration of the product in order to identify any differences between the actual configuration and the specified configuration.

Reference the Standard Configuration Management Plan – D33924 to determine the as-designed configuration. See Evidence of Completed Steps – D49628-027 for how as-built configuration is documented.

The identification of inspection and test status of products is maintained throughout receiving, production, installation, and servicing to ensure that only products having passed the required inspections and tests are released, used, or installed.

The inspection and status of the product is identified using suitable means in order to clearly distinguish between conforming and non-conforming products.

The indication of inspection and test status is traceable to the authorized individuals responsible for the verification of the product.
These records form a segment of the Job Order packet for each product produced.

8.5.2.1.1 PMA Article Part Marking

PMA articles: Korry will mark all PMA articles permanently and legibly with the following:

- Korry's name, trademark, symbol, or other FAA approved identification.
- Part number.
- The letters ''FAA–PMA''. (include on the separate tag if part too small to mark)

8.5.2.1.2 TSO Article Part Marking

TSO articles: Korry will mark all TSO articles permanently and legibly with the following:

Korry's name, trademark, symbol, or other FAA approved identification

Part number

The TSO number and letter of designation (include on the separate tag if part too small to mark)

All markings specifically required by the applicable TSO

The serial number or the date of manufacture of the article or both.

8.5.2.2 Traceability

The methods of product identification and serialization are established during the design stage or as specified in the contract or regulatory requirements. Every assembly, sub-assembly, and component is identified by a unique part number, which is maintained during all stages of production, delivery, and installation.

Traceability is maintained by the use of serial and/or line numbers, batch number, or date codes, in order to establish the configuration status of the delivered product and the source of the material used to build the product.

Appropriate records are retained in accordance in order to document the traceability of the delivered products. Modifications to the product subsequent to the original delivery are documented when incorporated by Korry, and the configuration records are updated accordingly.

Korry controls the unique identification of the outputs when traceability is a requirement and retains the documented information necessary to enable traceability.

NOTE: Traceability requirements can include:

1. the identification to be maintained throughout the product life;
2. the ability to trace all products manufactured from the same batch of raw material, or from the same manufacturing batch, to the destination (e.g., delivery, scrap);
3. for an assembly, the ability to trace its components to the assembly and then to the next higher assembly;

4. for a product, a sequential record of its production (manufacture, assembly, inspection/verification) to be retrievable.

All parts are issued with a lot number. Lot numbers are stored with incoming receipts. First In/First Out (FIFO) is adhered to for all parts except where noted.

Work instructions Job Order Process – PLAN140, and Serialization for Job Orders – PLAN080 document how Planning manages traceability. The work instruction series SR-XXX document how Stores manages traceability.

8.5.3 Property Belonging to Customers or External Providers

Korry exercises care with property belonging to customers or external providers while it is under its control or being used by the organization.

Customers' or external providers' property provided for use or incorporation into the products and services is identified, verified, protected, and safeguarded.

When the property of a customer or external provider is lost, damaged, or otherwise found to be unsuitable for use, Korry has provisions in place to report this to the customer or external provider and retain documented information on what has occurred.

Supporting documentation:
D49628-037 Customer/Government Property

8.5.4 Preservation

Korry preserves the outputs during production and service provision to the extent necessary to ensure conformity to requirements. Preservation includes identification, handling, contamination control, packaging, storage, transmission or transportation, and protection.

Preservation of outputs includes, when applicable in accordance with specifications and applicable statutory and regulatory requirements, provisions for:

a. cleaning: Cleaning applies to fabricated components to remove burrs, fines, & oils, and to circuit card assemblies after flux and solder operations. This process is controlled by the applicable MP.

b. prevention, detection, and removal of foreign objects; Foreign Object Debris (FOD) Prevention is defined in Korry document D49926, which details the prevention, detection, and removal of foreign objects which all employees are trained to.

c. special handling and storage for sensitive products; Korry maintains specific processes for the handling of sensitive products, such as the ESD Handling Procedure defined in Korry document D50274.

d. marking and labeling, including safety warnings and cautions; Marking and labeling are conducted per drawing notes and MPs.

e. shelf life control and stock rotation;

Shelf life material is assigned to the shelf life location. The expiration date of the material shall be clearly visible on the container, either on the label or on the container itself. The Supervisor/Manager of each area where shelf-life materials are used in the production, servicing, rework of a Korry product assigns an employee under their supervision to function as a Shelf Life Monitor who is responsible for:

- monitoring shelf life material expiration dates in their assigned areas.
- materials are stored in a manner to ensure the oldest stock on hand is used first (i.e., first in/first out).
- Supervisors shall ensure that all expired shelf life materials are immediately turned in to MRB along with a listing of the materials.
- Production Operators responsible for:
- verifying that any shelf life material they are using has not exceeded shelf life.
- shelf life materials transferred from their original containers into applicators such as syringes shall remain at the point of use and shall be used within the manufacturer's prescribed time frame, and shall be discarded within the work shift.
- turning in unused materials transferred into applicators to the shelf life monitor at the end of their work shift.

Reference Shelf life Control Policy and Procedures – SR-008.

f. special handling and storage for hazardous materials. Hazardous chemicals are handled per Korry's safety policies Chemical Hazard Communication Plan and Fire Prevention Plan. Korry also follows Federal and Washington State law requirements.

Korry ensures that documents required by the contract/order to accompany the product are present at delivery and are protected against loss and deterioration.

Material Manager ensures that:

- Inventory is maintained and controlled for use in production.
- Parts are received from outside vendors, internal production, and inspection-requiring special handling are identified and stored according to the special handling requirements in the Product Master file.
- All parts are cycle counted according to their ABC classification.
- Parts are issued upon receipt of required documentation.
- All parts are issued with a lot number. Lot numbers are stored with incoming receipts. First In/First Out (FIFO) is adhered to for all parts except where noted.
- The final product is shipped according to specifications.

Where applicable, special preservation methods are used to protect material during storage.

Packaging methods are documented to ensure the protection of the product for delivery and transportation. These documents shall include specified packing, preservation, and marking (including materials used) in accordance with contractual requirements.

Delivery methods and carriers are selected to ensure damage-free shipments and on-time delivery per contract specifications.

8.5.5 Post- Delivery Activities

The Korry Repair Station department provides post-delivery activities considering:

a) statutory and regulatory requirements.

b) potential undesired consequences associated with the products and services. Deficiencies are noted in the FRACAS system and addressed appropriately.

c) the nature, use, and intended lifetime of its products and services. Actual and Predicated failure rate data is recorded and deficiencies addressed through the FRACAS system.

d) customer requirements. Customer requirements are determined by Product Support Agreements, Returned Material Requests, and Customer Purchase Orders.

e) customer feedback. Customer feedback is captured in the FRACAS system.

f) collection and analysis of in-service data (e.g., performance, reliability, lessons learned); Data and analysis are addressed in the FRACAS system.

g) control, updating, and provision of technical documentation relating to product use, maintenance, repair, and overhaul; Documented Information is managed by Sustaining Engineering.

h) controls required for work undertaken external to the organization (e.g., off-site work); External work undertakings are controlled by the Contract Maintenance Provider List.

i) product/customer support (e.g., queries, training, warranties, maintenance, replacement parts, resources, obsolescence).

j) Product Support activity includes a review to assist the design approval holder of PMA and TSO certified articles if any changes are necessary to the Instructions for Continued Airworthiness.

When problems are detected after delivery, Korry takes appropriate action, including investigation and reporting.

NOTE: Post-delivery activities can include actions under warranty provisions, contractual obligations such as maintenance services, and supplementary services such as recycling or final disposal.

Return Merchandise Authorization (RMA): A customer may request an RMA before returning a product, or an RMA will be generated upon receipt of returned product.

Customer Communication: The Customer Returns Administrator follows section 7.2.

Teardown: Product is issued for Teardown and analyzed for warranty. If the product qualifies for a warranty, it is repaired, inspected, and returned to the customer. If the product does not qualify, a repair quote is sent.

Failure analysis: A failure analysis is performed when requested by the customer or at the discretion of the quality engineer (QE).

FAA Repair Station: All Federal Aviation Administration (FAA) Parts Manufacturer Approval (PMA) FAA-PMA or Technical Standard Order (TSO) products are processed per FAA requirements as defined in this quality manual as applicable.

Customer Returns Database: The results of each return are entered into the Customer Returns database.

Corrective action is issued for each warranty issue per the Corrective Action Procedure D49631.

8.5.6 Control of Changes

Production or service provision changes are controlled, documented, and approved by the authorized person and when applicable by the regulatory authority or the customer.

Results of these changes are assessed to confirm that the desired effect has been achieved without adverse effect on product conformity.

Changes to Manufacturing Processes (MP) and Assembly Inspection Records (AIR), Routings affecting processes are controlled per the configuration management process (see 8.1.2)

Changes to Routings on released job orders for rework or change incorporation are documented in the Process Planner training manual instructions. The instructions define the required signatures for the specific type of change. Changes to item routings are controlled by ECO in the PLM. Records of changes are kept.

The results of changes to production processes are assessed to confirm that the desired effect has been achieved without adverse effects on product conformity.

Manufacturing Engineering can use the design validation and verification methods and shall follow AS9102 FAI requirements when making changes to processes. Testing requirements for processes are detailed in the specific Manufacturing Process (MP) to assure changes do not have an adverse effect on product or quality compliance requirements.

Design changes can result in a change to existing documentation or the generation of new documentation. Design change documentation is reviewed, approved, controlled, recorded, and issued in accordance with established configuration management procedures by the same functions involved in the original issue. Controlled documents, which include drawings, test procedures, engineering change orders (ECOs), etc., are reviewed and approved prior to their initial release or revision.

Changes to controlled documents are approved by the same authorized functions/organizations that reviewed and approved the original document, unless specifically authorized otherwise by those functions/organizations, in accordance with the configuration management process (see 8.1.2).

The change control process provides for customer and/or regulatory authority approval of changes when required by contract or regulatory requirement.

Korry retains documented information describing the results of the review of changes, the person authorizing the change, and necessary actions from the review.

Change Notification:

Change notification for this Quality Manual and key Quality Procedures as per the following cases.

1. FAA – obtain acknowledgment prior to approving changes to documents as required by FAA.
2. Key customers – notify of Quality Manual changes as specified by contract.

8.6 Release of Products and Services

Korry implements planned arrangements at appropriate stages to verify that the product and service requirements have been met.

The release of products and services to the customer shall not proceed until the planned arrangements have been satisfactorily completed unless otherwise approved by a relevant authority and, as applicable, by the customer.

Korry retains documented information on the release of products and services. The documented information includes:

a. evidence of conformity with the acceptance criteria;

b. traceability to the person(s) authorizing the release.

When required to demonstrate product qualification, Korry ensures that retained documented information provides evidence that the products and services meet the defined requirements.

Korry ensures that all documented information required to accompany the products and services are present at delivery. This information is recorded and retained as part of the Job Order packet.

Product is released by a Shipper/Certificate of Conformance. These documents are generated per the Standard Steps for Shipping SH-002, and records are maintained per D49628-040.

Special provisions are made for articles requiring Source Inspection (which may be conducted by a customer representative, a third party, or delegated to Korry inspectors).

8.6.1 Special Release Provisions for PMA and TSO approved articles

8.6.1.1 Special Qualifications for Inspectors Certified to Prepare and Sign FAA Form 8130-3

This procedure establishes under 14 CFR 21.137(o) how personnel at Korry are qualified to issue 8130-3 tags.

Inspectors empowered to prepare and approve 8130-3 tags are given the title of Flightworthiness Inspectors.

The subsections below detail how Korry evaluates the individual's qualifications. The evaluation includes an assessment of their knowledge, background, experience, and training. Qualification as a Flightworthiness Inspector is commensurate with the complexity and type of article.

8.6.1.1.1 Selection

Inspectors currently certified by the FAA as DMIRs are automatically granted the title Flightworthiness Inspector per the Korry QMS.

Other inspectors may be selected for Flightworthiness Inspector if they meet the following requirements:

More than one year of experience performing final and first article inspections.

Recommended for selection by an existing Flightworthiness Inspector.

8.6.1.1.2 Appointment

Flightworthiness Inspectors are appointed by the Management Representative via the following steps:

Complete selection and training requirements.

Complete an interview with the Management Representative.

The Management Representative designates each Flightworthiness Inspector with a letter of appointment.

8.6.1.1.3 Training

Prospective Flightworthiness Inspectors must complete the following training steps:

Complete and pass the FAA online training course: Issuance of 8130-3 for Domestic and Export Approvals of Engines, Propellers, & Articles Only.

Prepare 20 separate 8130-3 tags under the supervision of an approved Flightworthiness Inspector.

Approved Flightworthiness Inspectors must complete the following recurrent training every 36 calendar months beginning from the date of completion of their last initial/recurrent training:

Complete and pass the FAA online training course: Issuance of 8130-3 for Domestic and Export Approvals of Engines, Propellers, & Articles Only.

8.6.1.1.4 Management

The Management Representative monitors the performance of approved flight worthiness inspectors on a continuous basis. The specific inspection assignments and assurance of adequate time for each inspection are the responsibility of the Management Representative. Day-to-day operations are typically delegated to an experienced inspector in the work cell designated as the “Lead.” The Lead Inspector keeps the Management Representative apprised of any issues that may develop that impact inspector performance or indicate discipline issues are developing.

8.6.1.1.5 Removal

Management Representative reviews the approved Flightworthiness Inspectors on an annual basis and determines if each individual continues to meet all requirements and if their special status continues to meet the needs of the company.

If activity rates are low and sufficient backup inspectors are available, the Management Representative will prune the list of approved Flightworthiness Inspectors. Inspectors removed from the approved list for reason of low activity can be immediately reinstated if the company needs change and they still meet the training requirements. If the interval of removal is greater than one year, they must first complete the training requirements required for Approved Flightworthiness Inspectors.

The Management Representative will review on an ongoing basis inspection effectiveness and employee discipline and will remove the approval status from any Flightworthiness Inspector if problems arise. Inspectors whose approval is removed for performance reasons will not be reinstated unless they first complete a formal Performance Improvement Plan (Human Resources process).

8.6.1.2 Procedures and Requirements to Prepare and Sign 8130-3 Tags

8130-3 tags are prepared and authorized under the requirements of 14 CFR 21.137(o) and pursuant to 14 CFR 43.3(j), and may only be performed at the Korry Electronics Company address of 11910 Beverly Park Road, Everett, Washington, 98204.

The Flightworthiness Inspector shall complete the FAA form 8130-3 tags per chapters 1, 2, and 4 of FAA Order 8130.21 (Procedures for Completion and Use of the Authorized Release Certificate, Airworthiness Approval Tag). The FAA AC-21-43A Appendix E provides additional guidance on issuing authorized release documents for articles.

When the 8130-3 tag is prepared for export purposes, the Flightworthiness Inspector shall ensure compliance with the applicable bilateral agreement. In addition, per 14 CFR 21.137(o), the Flightworthiness Inspector will verify compliance of the following:

Rules for new and used articles as specified in 14 CFR 21.331

Responsibilities for exporters as specified in 14 CFR 21.335.

Compliance with guidance in FAA AC 21-2 (Complying with the Requirements for Importing Countries or Jurisdictions When Exporting U.S. Products, Articles, or Parts).

Compliance with guidance in FAA AC 21-44 (Issuing of Export Airworthiness Approvals under 14 CFR part 21 subpart L).

8.7 Control of Nonconforming Outputs

8.7.1 Control of Nonconforming Outputs to prevent unintended delivery

Korry ensures that outputs that do not conform to their requirements are identified and controlled to prevent their unintended use or delivery.

NOTE: The term “nonconforming outputs” includes nonconforming products or services generated internally, received from an external provider, or identified by a customer.

Korry takes appropriate action based on the nature of the nonconformity and its effect on the conformity of products and services. This shall also apply to nonconforming products and services detected after delivery of products, during, or after the provision of services.

Korry’s nonconformity control process is maintained as documented information and includes provisions for:

- defining the responsibility and authority for the review and disposition of nonconforming outputs and the process for approving persons making these decisions;
- taking actions necessary to contain the effect of the nonconformity on other processes, products, or services;
- timely reporting of nonconformities affecting delivered products and services to the customer and relevant interested parties. These are termed ‘escapes’;
- defining corrective actions for nonconforming outputs detected after delivery as appropriate to their impacts (see 10.2).

NOTE: Interested parties requiring notification of nonconforming products and services can include external providers, internal organizations, customers, distributors, and regulatory authorities.

Korry shall deal with nonconforming outputs in one or more of the following ways:

a. correction;
b. segregation, containment, return, or suspension of the provision of products and services;
c. informing the customer;
d. obtaining authorization for acceptance under concession by a relevant authority and, when applicable, by the customer.

Dispositions of use-as-is or repair for the acceptance of nonconforming products shall only be implemented:

- when Korry has MRB authority, either inherently or delegated;
- after authorization by the customer, if the nonconformity results in a departure from the contract requirements.

Product dispositioned for scrap shall be conspicuously and permanently marked or positively controlled until physically rendered unusable.

Counterfeit, or suspect counterfeit, parts shall be controlled to prevent re-entry into the supply chain.

Conformity to the requirements shall be verified when nonconforming outputs are corrected. This process is documented in the Nonconforming Material Procedure – D49629. Records are maintained in a database, and materials are positively controlled in an MRB area administered per NC010.

8.7.2 Documented Information pertaining to nonconformance

a. The nonconformity is recorded in the nonconformance database per D49629.
b. The actions for containment, disposition, and correction are recorded in the database.
c. Concessions obtained are recorded in the base when applicable.
d. The authority for deciding the action in respect of conformity is per D49629. Administrative details are addressed in NC010.

8.7.3 Reporting of Escapes

Escapes are defined as any scenario where nonconforming material is inadvertently released to a customer. Scenarios defined as escapes include

- Defects not detected by inspection or test
- Latent reliability problems discovered after product shipped
- Designs that are determined to not meet requirements

Customers typically expect near-immediate reporting of escapes. See D49629 for specific instructions.

8.7.3.1 FAA requirement to report failures, malfunctions, and defects

In accordance with 14 CFR 21.3:

a. The holder of a PMA or a TSO authorization must report any failure, malfunction, or defect in any product or article manufactured by it that it determines has caused anything listed in paragraph (c) of this section.
b. The holder of a PMA or a TSO authorization must report any defect in any product or article manufactured by it that has left its quality system and that it determines could cause anything listed in paragraph (c) of this section.
c. The following occurrences must be reported to the FAA:
    (1) Fires caused by a system or equipment failure, malfunction, or defect.
    (2) The accumulation or circulation of toxic or noxious gases in the crew compartment or passenger cabin.

(3) Any abnormal vibration or buffeting caused by a structural or system malfunction, defect, or failure.

(4) Any structural or flight control system malfunction, defect, or failure which causes an interference with normal control of the aircraft or which derogates the flying qualities.

(5) A complete loss of more than one electrical power generating system or hydraulic power system during a given operation of the aircraft.

(6) A failure or malfunction of more than one attitude, airspeed, or altitude instrument during a given operation of the aircraft.

d. The requirements of paragraph (a) of this section do not apply to--

(1) Failures, malfunctions, or defects that the holder of a PMA, TSO authorization determines--

(i) Were caused by improper maintenance or use;

(ii) Were already reported to the FAA or the NTSB

e. Each report required by this section--

(1) Must be made to the Seattle Aircraft Certification Office within 24 hours or the next business day after it has determined that a paragraph c. event has occurred.

(2) Must be transmitted in a manner and form acceptable to the FAA and by the most expeditious method available; and

(3) Must include as much of the following information as is available and applicable:

(i) Aircraft serial number.

(ii) If associated with an article approved under a TSO authorization, the article serial number and model designation.

f. If an accident investigation or service difficulty report shows that a product or article manufactured under this part is unsafe because of a manufacturing or design data defect, Korry will report to the FAA the results of its investigation and any action taken or proposed Korry to correct that defect. If action is required to correct the defect in an existing article, Korry must send the data necessary for issuing an appropriate airworthiness directive to the Seattle aircraft certification office.

9. PERFORMANCE EVALUATION

9.1 Monitoring, Measurement, Analysis, and Evaluation

9.1.1 General

Korry shall determine:

a. what needs to be monitored and measured;

b. the methods for monitoring, measurement, analysis, and evaluation needed to ensure valid results;

Korry product quality plans are used, when necessary, for planning and defining the necessary monitoring and measurement techniques, including statistical techniques (reference sections 8.1, quality plan, statistical techniques, and determining process capability). Implementation occurs according to the defined plans, the resulting data is analyzed, and improvements are pursued (reference sections 9.1.3).

c. when the monitoring and measuring shall be performed;

At all times, production travelers are established, and they document all the required steps, including test and inspection. The records of all inspection and test steps are maintained in a database. Process trends are analyzed, when applicable, at failure review CAB meetings.

The processes are monitored in order to ensure their continuing ability to achieve the planned results. Conformity is also monitored toward the legal requirements and other requirements applicable to the company.

d. when the results from monitoring and measurement shall be analyzed and evaluated.

If the planned results are not achieved, correction and corrective action are taken.

In the event of process nonconformity, appropriate actions are taken to correct the nonconforming process, evaluate whether the process nonconformity has resulted in product nonconformity, and determine if the process nonconformity is limited to a specific case or whether it could have affected other processes or products. If product nonconformity has resulted this product is identified.

Korry establishes the monitoring and measurement process to be applied to the realization processes necessary to achieve customer requirements, such as Internal Quality Audit (see section 9.2) and Statistical Techniques (see section 9.1.3).

Korry retains appropriate documented information as evidence of the results.

9.1.2 Customer Satisfaction

Korry monitors customers' perceptions of the degree to which their needs and expectations have been fulfilled. Monitored and evaluated information includes, but is not limited to, product and service conformity, on-time delivery performance, customer complaints/feedback, and corrective action requests. Additional means could be used based on customer requirements. Korry has developed and implemented plans for customer satisfaction improvement that address deficiencies identified by these evaluations and assess the effectiveness of the results.

An efficient method of handling customer inquiries is established to provide a rapid response to Korry's customers who have an urgent need for assistance or a complaint, which would adversely affect customer satisfaction.

The customer satisfaction evaluation is performed at least monthly during the preparation of the President's Letter. Results are summarized, reported, and discussed in the President's Letter and at Quality Management Review meetings.

9.1.3 Analysis and Evaluation

Korry analyzes and evaluates appropriate data and information arising from monitoring and measurement.

NOTE: Appropriate data can include information on product and service problems reported by external sources (e.g., government/industry alerts, advisories).

The results of the analysis are used to evaluate:

a. conformity of products and services;
b. the degree of customer satisfaction;
c. the performance and effectiveness of the quality management system;
d. if planning has been implemented effectively;
e. the effectiveness of actions taken to address risks and opportunities;
f. the performance of external providers;
g. the need for improvements to the quality management system.

NOTE: Methods to analyze data can include statistical techniques.

Analysis and evaluation are done as part of the Management Review and Monthly reviews.

9.2 Internal Audit

9.2.1 Internal audits are conducted at planned intervals to provide information on whether the QMS:

a. conforms to:
    1. the organization's own requirements for its quality management system;
    These include customer and applicable statutory and regulatory quality management system requirements.

2. the requirements of AS9100 standard;

b. is effectively implemented and maintained.

NOTE: When conducting internal audits, performance indicators can be evaluated to determine whether the quality management system is effectively implemented and maintained.

9.2.2 Korry shall:

a. plan, establish, implement, and maintain an audit program(s) including the frequency, methods, responsibilities, planning requirements, and reporting, which shall take into consideration the importance of the processes concerned, changes affecting the organization, and the results of previous audits;

b. define the audit criteria and scope for each audit;

c. select auditors and conduct audits to ensure objectivity and the impartiality of the audit process;

d. ensure that the results of the audits are reported to relevant management;

e. take appropriate correction and corrective actions without undue delay;

f. retain documented information as evidence of the implementation of the audit program and the audit results.

NOTE: See ISO 19011 for guidance.

The internal audits assess compliance with processes and related procedures, approaches, and deployment, identify any non-conformances, opportunities for improvements, and initiate preventive and corrective action where required. The internal audit process is reviewed as required to ensure that it is effective and that all contractual and regulatory requirements are met.

The internal audits are conducted according to an established schedule. An audit plan is maintained to ensure that all aspects of the Quality Management System are properly addressed and to define the audit criteria and scope. The frequency and the scope of the audits take into consideration the significance of the process and results of previous audits. The process is documented into procedure D49682 Audits.

The auditors are selected to ensure the objectivity and impartiality of the audit process. This is achieved by selecting a team of auditors from cross-functional departments who have received the appropriate training in the auditing process.

The audit is conducted according to a documented Internal Audit procedure and to ensure that timely corrective actions are implemented to correct any deficiencies found. The results of the audits are recorded and distributed to the personnel having responsibility in the area audited and management. Audit results become part of the quality records.

The results of the internal quality audits are reviewed during Management Review meetings.

The tools and techniques used are detailed in the D49682 Audits procedure.

The Management responsible for the area being audited ensures that any necessary corrections and corrective actions are taken without undue delay to eliminate detected nonconformities and their causes. Follow-up activities shall include the verification of the actions taken and the reporting of verification results.

9.3 Management Review

9.3.1 General

Korry Senior Leader Management reviews the organization's quality management system at planned intervals to ensure its continuing suitability, adequacy, effectiveness, and alignment with the strategic direction of the organization.

9.3.2 Management Review Inputs

The management review is planned and carried out taking into consideration:

a. the status of actions from previous management reviews;

b. changes in external and internal issues that are relevant to the quality management system;

c. information on the performance and effectiveness of the quality management system, including trends in:

    1. customer satisfaction and feedback from relevant interested parties;
    2. the extent to which quality objectives have been met;
    3. process performance and conformity of products and services;
    4. nonconformities and corrective actions;
    5. monitoring and measurement results;
    6. audit results;
    7. the performance of external providers;
    8. on-time delivery performance;

d. the adequacy of resources;

e. the effectiveness of actions taken to address risks and opportunities (see 6.1);

f. opportunities for improvement.

9.3.3 Management Review Outputs

The outputs of the management review include decisions and actions related to:

a. opportunities for improvement;

b. any need for changes to the quality management system;

c. resource needs;

d. risks identified.

Korry performs Management Review at least once a year. Korry retains documented information as evidence of the results of management reviews.

10. IMPROVEMENT

10.1 General

Korry determines and selects opportunities for improvement and implements any necessary actions to meet customer requirements and enhance customer satisfaction.

These includes:

a. improving products and services to meet requirements as well as to address future needs and expectations;

b. correcting, preventing, or reducing undesired effects;

c. improving the performance and effectiveness of the quality management system.

Korry is committed to continuous improvement. At Korry, continuous improvement is:

- A part of the quality policy
- Reflected in the quality objectives
- A part of the actions taken upon audit results
- Driven by opportunities surfacing from data analysis
- A result of corrective action when the action taken corrects a new problem
- Reduced undesired effects
- A required output from management review
- Innovation
- Re-organization

Korry uses mainly the Lean and Lean/Six Sigma methodology for continuous improvements to monitor the implementation of improvement activities and evaluate the effectiveness of the results.

10.2 Nonconformity and Corrective Action

10.2.1 Korry shall:

a. react to the nonconformity and, as applicable:

   1. take action to control and correct it;
   2. deal with the consequences;

b. evaluate the need for action to eliminate the cause(s) of the nonconformity, in order that it does not recur or occur elsewhere, by:

   1. by reviewing and analyzing the nonconformity
   2. determining the causes of the nonconformity, including as applicable, those related to human factors
   3. determining if similar nonconformities exist or could potentially occur

c. implement any action needed;

d. review the effectiveness of any corrective action taken;

e. update risks and opportunities determined during planning, if necessary;

f. make changes to the quality management system, if necessary;

g. flow down corrective action requirements to an external provider when it is determined that the external provider is responsible for the nonconformity;

h. take specific actions when timely and effective corrective actions are not achieved.

Corrective actions are appropriate to the effects of the nonconformities encountered.

Korry maintains documented information that defines the nonconformity and corrective action management processes.

Records, clearly identifying the product, the nature and extent of nonconformance, the approved disposition, and corrective action is taken are maintained per the Corrective Action Procedure D49631.

When required, non-conformities are flowed down to external providers, and the need for corrective actions is determined based on the severity and the occurrence of the non-conformity.

Corrective action trends are reviewed at CAB meetings.

10.3 Continuous Improvement

Korry continually improves the suitability, adequacy, effectiveness of its Quality Assurance Management System through the various processes described in previous sections such as, but not limited to; Management Review, Corrective Actions, Internal Audits, Productivity Committee, etc.

Non-conformances are analyzed to determine the preventive actions needed, a review of the effectiveness is performed to avoid their occurrence. The analysis may include the review of the dispositions taken on nonconforming products, observations during internal and customer audits, trends in rejection reports and product returns, and customer complaints.

Continuous Improvement (CI) – Continual elimination of waste and variation from all aspects of our business

To stay competitive, Korry must be able to provide customers with the highest quality and lowest cost product when the customer requires the product or service. It is aligned with the 3 Values of TransDigm and cascaded through Korry's QMS by Senior Leadership to all levels of the organization.

By achieving a Lean Business Process, Korry improves the Quality of its products and services, eliminates wasteful activities that eat up time and resources but provide no value to the organization or the customer, reduces lead times, reduces total cost. Those factors will help to maintain Korry competitive in the aerospace and defense market.

Korry considers continual improvement as the drive to achieve the highest levels of customer satisfaction while achieving superior business results and Operational Excellence.

APPENDIX A – Quality System Mapping to applicable FAA PMA and FAA TSO requirements

Requirement from 14 CFR	**D46902 QM paragraph**	**Compliance**	**Responsibility**
§**21.137 Quality System** (a) *Design data control.*	7.5.3.3	D33924 – CMP Plan D49620 – ECO Procedure D52469 – TSO Change	VP of Engineering and Quality
§**21.137 Quality System** (b) *Document control.*	7.5.2	D33924 – CMP Plan D49620 – ECO Procedure	Sr. Quality Manager
§**21.137 Quality System** (c) *Supplier control.*	8.4	D46902 – Quality Manual	Supply Chain Manager
§**21.137 Quality System** (c) (1)	8.4.1	D46902 – Quality Manual D55255 – Supplier QM	Supply Chain Manager
§**21.137 Quality System** (c) (2)	8.4.1.1	D55255 – Supplier QM D49628-017 – Approved Supplier Records	Supply Chain Manager
§**21.137 Quality System** (d) *Manufacturing process control.*	8.5	D3.300 – Cal Procedure D33924 – CM Plan D49628-027 – Completed Steps D49629 – Nonconforming Material D49628-037 – Customer/Government Property D49631 – CA Procedure D49926 – FOD Procedure D50274 – ESD Handling D50322 – Development of Special Processes D51758 – FAI Procedure	VP of Operations
§**21.137 Quality System** (e) *Inspecting and testing.*	9.1.1	D51757 – FAB, In-process Inspection	Sr. Quality Manager
§**21.137 Quality System** (e) (1)	N/A to Korry.	---	---
§**21.137 Quality System** (e) (2)	N/A to Korry.	---	---
§**21.137 Quality System** (f) *Inspection, measuring, and test equipment control.*	8.5.1.c, k	D3.300 – Cal Procedure	Sr. Quality Manager

§**21.137 Quality System** (g) *Inspection and test status.*	8.5.1.j	D51757 – FAB, In-process Inspection D50350 – Receiving Inspection D49629 – Nonconforming Material Procedure	Sr. Quality Manager
§**21.137 Quality System** (h) *Nonconforming product and article control.*	8.7	D49629 – Nonconforming Material	Sr. Quality Manager
§**21.137 Quality System** (h) (1)	8.7.1, 8.7.2		Sr. Quality Manager
§**21.137 Quality System** (h) (2)	8.7.1		EH&S Manager
§**21.137 Quality System** (i) *Corrective and preventive actions.*	10.2	D49631 – CA Procedure	Sr. Quality Manager
§**21.137 Quality System** (j) *Handling and storage.*	8.5.4	D49926 – FOD Prevention D50274 – ESD Handling Procedure	VP of Operations
§**21.137 Quality System** (k) *Control of quality records.*	7.5.3.1	D49628 – Record Control Plan	Sr. Quality Manager
§**21.137 Quality System** (l) *Internal audits.*	9.2	D49682 – Auditing Process	Sr. Quality Manager
§**21.137 Quality System** (m) *In-service feedback.*	8.5.5	D49631 – CA Procedure	VP of Engineering and Quality
§**21.137 Quality System** (m) (1)	8.5.5		VP of Engineering and Quality
§**21.137 Quality System** (m) (2)	8.5.5.j		VP of Engineering and Quality
§**21.137 Quality System** (n) *Quality escapes.*	8.7.1	D49629 – Nonconforming Material	Sr. Quality Manager
§**21.137 Quality System** (o) *Issuing authorized release documents*	8.6.1	D46902 – Quality Manual	Sr. Quality Manager
§21.305, 605 Organization	5	PO700001 – Organization	President
§21.307, 607 Quality System	4.4	D46902 – Quality Manual	Sr. Quality Manager
§21.308, 608 Quality Manual	all	D46902 – Quality Manual	Sr. Quality Manager
§21.309, 609 Location or manufacturing	8.4 8.5	D51759 – Work Transfer Process D51759-001 – Work Transfer Checklist	Sr. Quality Manager

process change notification			
§21.310, 610 Inspections and tests	8.5.1j	D49629 – Nonconforming Material Procedure	Sr. Quality Manager
§21.316, 616 Responsibility of holder	4.5	PO700001 – Organization	Sr. Quality Manager
§21.319, 619 Design changes	8.3.6	D46902 – Quality Manual	VP of Engineering and Quality
§21.320, 620 Changes in quality system	8.5.6	D46902 – Quality Manual	Sr. Quality Manager
§21.3 Reporting of failures, malfunctions, and defects	8.7.2	D49629 – Nonconforming Material Procedure	Sr. Quality Manager
§45.15 Marking requirements for PMA articles, TSO articles, and Critical parts.	8.5.2.1	D33924 – Configuration Management Plan D49628-027 – Evidence of Completed Steps	Sr. Quality Manager

Table II. – Quality System Mapping of PMA/TSO-specific information