



# QUALITY MANUAL

## QM-01


IN ACCORDANCE WITH THE REQUIREMENTS OF AS  
9100D

Revision F

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## Introduction

Hess Aerospace and Defense has implemented a Quality Management System (QMS) in order to document and continually improve the company's business practices, better understand and satisfy the requirements and expectations of its customers and to improve the overall performance of the company.

Hess Aerospace and Defense QMS complies with the requirements of International Standard SAE AS9100D. This system addresses the development, production, and servicing of the company's products and services.


The manual is divided into sections that correlate to the QMS sections of SAE AS9100D.

This manual describes the QMS and the Responsibilities, Authorities and Interrelationship between Hess Aerospace and Defense Personnel. The manual also provides procedures and references for activities ensuring compliance to the requirements of the standard.

This manual is used internally to guide the company's Employees through the various requirements of the SAE AS9100D Standard and the Company's best business practices.

These practices are dynamic and are maintained in order to ensure Customer Satisfaction and Continuous Improvement.

This manual may also be used externally to introduce our QMS to Customers and other external organizations or individuals. The manual is used to familiarize them with the Controls that have been implemented and to assure them that the integrity of the QMS is maintained and that Hess Aerospace and Defense is focused on Customer Satisfaction and Continuous Improvement.


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### Quality Manual Distribution Policy

Hess Aerospace and Defense QMS documentation, Quality Manual, Procedures, Process Flows and Quality Forms are on-line documents. The most current revision of each document is the On-line version. All paper copies of the QMS documents are considered to be “Reference only” and their current revision level shall be verified before use.

Training on how to access the QMS documentation will be provided to all employees as part of their employee orientation. Employee training records are kept for all permanent employees of Hess Aerospace and Defense.

Access to this manual is provided to the Customer and/or Regulatory Agencies upon request or where appropriate to satisfy contractual obligation or compliance to our Customer’s Internal Quality System.

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## Section 1: Scope

### 1.1 General

This Quality Manual outlines the Policies, Procedures and Requirements of the Hess Aerospace and Defense Quality Management System (QMS). The system is structured to meet the requirements of the conditions set forth in the International Standard ISO 9001:2015 and AS9100D.


#### The Quality Management System scope:

Hess Aerospace and Defense specializes in:

**Machining, assembly and modification of parts for the defense, aeronautics and industrial fields.**

The organization performs fabricating and machining and inspection of micro, small & medium sized components for the aerospace and defense sectors since 1962. Milling and turning in a wide variety of metals and plastics. Sheet metal, punching and bending. Production and full assembly service including hardware installation, coil thread inserts, plating, paint, silkscreen. Engineering support to help with cost reduction. Prototype, housing and heat sink specialists

Hess Aerospace and Defense is a multi-faceted service and production organization with a wide range of Customers. To assure all Customer needs are met, we have defined a system for determining the required levels of Documentation and Quality Control for each Customer Job. This Quality Control Level is identified by the Production Manager / Quality Manager during the initial Contract Review and Work Order input.

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## Section 2: Normative References


### Section 2: Quality Management System References

The following documents were used as reference during the preparation of the Quality Management System:

ISO 9001:2015 Quality Management Systems

SAE International Aerospace Standard AS9100D



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### Section 3: Terms and Definitions

#### 3.0 Quality Management System Definitions

**Contract Review / Proposal** – The response to a customer’s work scope requests. This is where the intent to meet specific customer requirements is initiated and documented.

**Customer Owned Property** - Any type of instrumentation, accessories, manuals, or shipping containers that belong to a customer.

**Customer Supplied Product** - Any type of service or material supplied by the customer to be utilized in the manufacture, modification or repair of customer-owned property.

**Job Folder**- The job folder is the final collection point for all paperwork associated with a specific job that serves as the historical documentation for the work performed. All pertinent documents will be contained in the folder, drawings, work order routers, material certifications, inspection sheets, etc. The job folder is considered the historical record of note for each job.

**Material Review**- Material Review is the activity performed by the Material Review Board (MRB) to determine the disposition of products that do not meet specification. This activity is performed by Shop Management and Quality Personnel and may be rework, repair, scrap or Use as is any component under their review.

**Network Job Folder** – This refers to the Directory created on the Hess Aerospace and Defense Computer Network for each Job. All data in the Physical Job Folder is saved in E2 folder for easier access to all and for simple storage.

**Flow Diagrams or Forms** - These are also considered support documentation for this manual.


**Hess Procedures** - These are also considered support documentation for this manual.

**Process Control Procedures.** These are standard procedures that Hess Aerospace and Defense had developed for recurring and/or specialized work. These procedures are referenced in the Work Order Routers as required for additional process control.

**Product** – The end item result of meeting all contract terms and conditions (manufactured goods, merchandise, services etc.)

**Quality Records** – Documentation of those activities where records must be maintained – this will be specified in the procedure or work instruction level documents, as applicable.

**Source Inspection**- An agreement made with the customer, government or their designee, to verify conformance of a product at Hess Aerospace and Defense or at one of its supplier’s premises.

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**Traveler-** The traveler (Router) is the printed document package that defines the sequence of operations to be performed in the execution of a specific Work Order, including inspection points. This package contains the appropriate inspection forms, material certs and other data gathered as the Job progresses towards completion.

**WIP** – The “Work in Process” status for the operations performed on a project.

### 3.1 Counterfeit Part

An unauthorized copy, imitation, substitute, or modified part (material, part, component), which is knowingly misrepresented as a specified genuine part of an original or authorized manufacturer. May include: false identification of marking or labeling, grade, serial number, date code, documentation or performance characteristics.

### 3.2 Critical Items

Those items (functions, parts, software, characteristics, processes) having significant effect on the product realization and use of the product; including safety, performance, form, fit, function, manufacturability, 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.

### 3.3 Key Characteristic


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

### 3.4 Product Safety

The state in which a product is able to perform to the designed or intended purpose without causing unacceptable risk of harm to persons or damage to property.

### 3.5 Special Requirements

Those requirements identified by the customer, or determined by Hess Aerospace and Defense, which have high risks to being achieved, thus requiring their inclusion in the risk management 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 Hess Aerospace and Defense’s capacity, or

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requirements determined by Hess Aerospace and Defense to be at the limit of its technical or process capabilities.

### 3.6 Risk

Risk is defined as an undesirable situation or circumstance that has both a likelihood of occurring and a potentially negative consequence.

## Section 4: Context of the Organization

### 4.1 Understanding the Organization and its Context

Hess Aerospace and Defense has a Customer base encompassing the following industries: Aerospace & Defense.

There are many Competitors in this industry and we have and strive to keep the good reputation that keeps us competitive.

There are many challenges in dealing with these industries and providing the variety of Services that we do. Training Employees to use all of the Equipment and to understand the specialized Processes is expensive and time consuming.

Quality and customer service remain at the heart of our business. From prototype to production run, we focus on meeting our customers' precise requirements. Our more than 59 years in business has allowed us to develop a solid and reliable supplier base. It also ensures that we can deliver machined components and complete assemblies on time and according to our clients' specifications. We offer personalized service and work in partnership with our clients to find a solution adapted to their needs.

Our decades of success demonstrate our firm commitment to quality, innovation and continuous improvement. Years of hands-on machining experience enables us to reduce production times and costs, facilitates product development and promotes innovation. Our dedicated team possesses the skills, experience, and values to ensure our clients benefit from unmatched service and response to their requirements, all at a competitive cost.

In addition, Hess Aerospace and Defense identifies its internal and external issues on a yearly basis, in order to ensure that its QMS always takes into consideration these issues.

### 4.2 Needs and Expectations of Interested Parties

All of our Customers are interested that we have a Quality Control System used in performing their work. Most, however, do not provide input or requirements that dictate how we run our Quality System.

- 1) Customers that work with us because of our AS9100D or ISO 9001:2015 certifications require that we maintain that certification during the time their work is being completed. They expect us to provide all required Quality-related paperwork and for us to include them in Dispositions of any Nonconforming work. Some require that we pass their own Audits. They expect their work to be done On Time, per their Specifications and at the price they agreed to.
- 2) The Regulatory Body (registrar) certifying that Hess Aerospace and Defense conforms to AS9100D and ISO 9001:2015 is definitely interested in our Quality System and how it is implemented. The registrar expects that we pass yearly external audits.

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- 3) Hess Aerospace and Defense Employees expect that they will be given clear work instructions and adequate Job training. They expect their paychecks to be correct and on time. They expect to have a safe and proper work environment.
- 4) Our Suppliers (Vendors) expect their Purchase Orders to be accurate. They also expect to be paid in a timely manner.
- 5) Hess Aerospace and Defense Managers at all levels expect to follow an approved Management System to achieve results. They expect to have required resources and to have access to competent Workers. They also expect to have Company Expectations written down and followed.
- 6) Local City (Municipal), Federal and Provincial Bodies have an interest in production and environmental, legal and safety issues.

#### 4.3 Scope of the Quality Management System (QMS) –

##### **Machining, assembly and modification of parts for the defense, aeronautics and industrial fields.**

Fabricating and machining and inspection of micro, small & medium sized components for the aerospace and defense sectors since 1962. Milling and turning in a wide variety of metals and plastics. Sheet metal, punching and bending. Production and full assembly service including hardware installation, coil thread inserts, plating, paint, silkscreen. Engineering support to help with cost reduction. Prototype, housing and heat sink specialists.

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In practice, the Customer Purchase Order defines expected delivery, level of Quality Documentation and Inspection Reporting required. If it doesn't, our Production Manager must define these requirements.

#### 4.3.1 Applicability of Standards requirements

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Hess Aerospace and Defense has determined that the following requirement is not applicable to the organization's Quality Management System.

**Requirement 8.3 Design and development of products and services of the AS9100 standard is not applicable to Hess Aerospace and Defense Quality Management System.**

Hess Aerospace and Defense does not design nor develop any of the products and services it offers. Hess Aerospace and Defense is primarily a Manufacturing facility ( Build to Print). Customers furnish specifications, CAD data, and/or drawings for components they want produced.

#### 4.4 Quality Management System and its Processes

Hess Aerospace and Defense has established, documented and implemented a Quality Management System (QMS) to meet the requirements of SAE AS9100D.

The system is maintained and continually improved by using the Quality Policy and Quality Objectives and Targets. Audit Results, Corrective Actions and Management Reviews help monitor progress towards the Targets. Hess Aerospace and Defense QMS will adhere to all Customer and applicable statutory and regulatory QMS requirements.

Hess Aerospace and Defense QMS is composed of the following Main Documents:

QMS-001 Quality Manual

**Hess Aerospace and Defense Procedures:**

- PS-01 Management responsibility
- PS-02 Quality System
- PS-03 Document control
- PS-04 Customer-related processes
- PS-05 Purchasing
- PS-06 Production
- PS-07 Calibration
- PS-08 Corrective actions
- PS-09 Internal Audit
- PS-10 Human resources
- PS-11 Maintenance
- PS-12 Communication

There are other documents used, including:

JPs – Job Descriptions

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MFs – Forms and Flow Charts  
PCs – Process Procedure Controls  
QFMs – Quality Forms

Each document is Revision Controlled. Documents are to be reviewed to assure that they are relevant and up to date. This is the responsibility of the Quality Manager with the help of others as necessary.

System-Level Procedure documents are written to help implement the Procedures in day to day operations, including the following clarifications:

- 1) Inputs and Outputs expected from the process
- 2) Interaction with other processes
- 3) Criteria and Methods (including monitoring, measurement and related performance indicators)  
    Needed to ensure effective operation and process control.
- 4) Resources needed to carry out the process
- 5) Assignment of Responsibility and Authority for the process
- 6) Address Risks and Opportunities
- 7) How to evaluate the process and implement Changes to achieve intended results
- 8) Steps to improve the process and the QMS
- 9) Documentation required to support the operation of the process
- 10) What documentation must be retained to show process is being carried out as planned.

#### 4.4.1 Quality Manual

This Quality Manual has been prepared to describe the Hess Aerospace and Defense Quality Management System (QMS). The scope of the QMS is described in Section 1.


Documentation was developed to show the QMS Process Interactions. This document defines the QMS Processes.

Ref Annex A.

#### 4.4.2 Control of Documents

All of the QMS Documents are controlled according to Document Control Procedure PS-03as follows:

- Approving documents for adequacy prior to issue
- Reviewing and updating as necessary and re-approving documents
- Ensuring that changes and current revision status of documents are identified
- Ensuring that relevant versions of applicable documents are available for use
- Ensuring that documents remain legible and readily identifiable

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- Ensuring that external documents are identified and their distribution controlled

Preventing the unintended use of obsolete documents and to apply suitable identification to them if they are retained for any purpose. Hess Aerospace and Defense coordinates document changes with customers and/or regulatory authorities in accordance with contract or regulatory requirements.


Ref: PS-03

#### 4.4.3 Control of Quality Records

Hess Aerospace and Defense Quality Records are maintained to provide evidence of conformity to QMS requirements. Quality Records are maintained according to **PS-03** Control of Records. This procedure requires that Quality Records remain legible, readily identifiable and retrievable. The procedure defines the controls needed for identification, storage, protection, retrieval, retention time and disposition of Quality Records.

Ref: PS-03 "Document Control"



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## Section 5: Leadership

### 5.1 Leadership and Commitment

Hess Aerospace and Defense is managed with a very hands-on approach by the Company President.

The President and the Staff are actively involved in implementing the Quality Management System (QMS). This Team provides the vision and strategic direction for the QMS, established Quality Objectives and the Quality Policy.

Ref: PS-01

#### 5.1.1 Management Responsibility

To provide leadership and show commitment to the improvement of the QMS, Top Management will do the following:

- Take accountability for the effectiveness of the QMS
- Establish the Quality Policy and Quality Objectives
- Ensure the QMS integration into the organization's business processes
- Promote the use of the Process Approach and Risk-Based Thinking
- Ensure the availability of Resources for QMS
- Communicate the importance of effective Quality Management
- Communicate the importance of conforming to the QMS requirements
- Ensure that the QMS achieves its intended results
- Conduct Management Reviews as required to achieve planned results
- Promote improvement
- Support those in Management Roles to demonstrate their Leadership


Ref: PS-01 "Management Responsibility"

#### 5.1.2 Customer Focus

Hess Aerospace and Defense strives to identify current and future customer needs, to meet Customer Requirements and exceed Customer Expectations.

- Top Management shall demonstrate Leadership and Commitment by assuring that:
- Customer and Statutory/ Regulatory requirements are met
- Risks and Opportunities affecting Product and Service Conformity are addressed
- Focus on enhancing Customer Satisfaction is maintained
- Support those in Management Roles to develop their Leadership abilities
- Product and Service Conformity and On-Time delivery performance are measured and appropriate action taken if planned results are not, or will not be achieved.

Ref: PS-01 "Management Responsibility"

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## 5.2 Quality Policy

Hess Aerospace and Defense specializes in machining, assembling and modification of high precision components for the military, aeronautic and industrial fields.

In order to attain the self-imposed high quality standards, management commits itself to respect the requirements of its clients, including technical specifications, on time delivery and customer service. Furthermore, Hess Aerospace and Defense is committed to the continuous improvement of its quality management system.

Management commits to involve its employees as well as suppliers and subcontractors to reach its goals. Implementation of this quality policy is secured by the management's leadership to make certain this policy is understood by every employee.

All the activities relative to the quality management system are located at 801 Kenney/William road, Hemmingford, Quebec, Canada.

To support this Policy, we work to continually improve our People, Technology and Processes in the following manner:

- People: Hess Aerospace and Defense will always provide a secure and safe work environment. We encourage personal growth by providing opportunities for learning and improvement. We foster stewardship in our employees by requiring reporting and accountability.
- Technology: Hess Aerospace and Defense procures and applies the latest technology and tooling to enhance our productivity, capability and scope of Services that we provide to our Customers.
- Processes: Hess Aerospace and Defense develops processes and procedures and then measures results to continually improve our Products and Services. Our Leadership commits to comply with our Quality Management System requirements and works to continually improve this System.

### 5.2.1 Establishing the Quality Policy


Top management ensures that the Quality Policy:

- Is appropriate to the purposes of Hess Aerospace and Defense
- Includes a commitment to comply with requirements and continually improve the effectiveness of the QMS
- Provides a framework for establishing and reviewing Quality Objectives
- Is communicated, understood and applied within the organization

### 5.2.2 Communicating the Quality Policy

Processes are established for communicating the Quality Policy within Hess Aerospace and Defense.

These include: Management Reviews.

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The Quality Policy shall:

- Be available and maintained as Documented Information
- Be communicated, understood and applied within Hess Aerospace and Defense
- Be available to relevant interested parties, as appropriate

Ref: PS-12 “Communication”

## 5.3 Organizational Roles, Responsibilities and Authorities

### 5.3.1 Responsibility and Authority

An organization chart has been established to show the interrelation of Personnel at Hess Aerospace and Defense. Job functions and the organizational chart are reviewed and approved by Top Management for adequacy. This chart is available in this Quality Manual to help employees understand lines of authority within the Organization.


Ref: Annex B

### 5.3.2 Management Representative

The Quality Manager has been appointed by the President as the Management Representative.

As Management’s Representative, the Quality Manager has the following responsibilities and authority:


- Ensure that the Quality Management System conforms to the requirements of the International Standards for AS9100 and ISO9001;
- Ensure that the work processes are delivering their intended outputs;
- Report to Top Management on the performance of the QMS and note opportunities for improvement;
- Promote awareness of Customer Requirements throughout Hess Aerospace and Defense and Defense;
- Act as a liaison with external parties such as Customers or Auditors on matters relating to the QMS;
- Assist with Training regarding new procedures and revisions to existing procedures;
- Ensure that the integrity of the QMS is maintained when changes to the QMS are planned and implemented;
- Resolve matters pertaining to Quality or the departure from Quality Standards;
- Has the organizational freedom and unrestricted access to Top Management to resolve Quality Management issues;
- Fully responsible for implementing the Calibration Program at Hess Aerospace and Defense.

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This includes defining the extent of the Program, maintaining compliance to all procedures, and improving the Program based on Customer needs.

- In charge of Quality Management System Records Retention
- Product Warranties
- Root Cause Analysis and associated Corrective Actions
- Continuous Improvement throughout the company

Ref: PS-01 "Management Responsibility"

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## Section 6: Planning

### 6.1 Actions to Address Risks and Opportunities

#### 6.1.1 Determine Risks and Opportunities

We need to determine the Risks and Opportunities that need to be addressed to:

- Give assurance that the QMS can achieve its intended results
- Enhance desirable effects
- Prevent or reduce undesired effects
- Achieve improvement.

Risks and opportunities are determined as per procedure PS-01. They are reviewed at the Management review.

#### 6.1.2 Taking Action on Risks and Opportunities

We need to plan for the following actions regarding Risks and Opportunities:

- Integrate and implement the actions into our QMS
- Evaluate the effectiveness of these actions.

Options to address Risks can include; avoiding risk, taking risk in order to pursue an opportunity, eliminating the risk source, changing the likelihood or consequences, sharing the risk or retaining risk by informed decision. Opportunities can lead to the adoption of new practices, launching new products, opening new markets, addressing new customers, building partnerships, using new technology and other desirable and viable possibilities to address Hess Aerospace and Defense or its Customer's needs.

Risks and opportunities are determined as per procedure PS-01. They are reviewed at the Management review.


### 6.2 Quality Objectives and Planning to Achieve Them

#### 6.2.1 Quality Objectives

Quality Objectives are established to support our Quality Policy. They are reviewed at least annually for suitability. Objectives have been established for the following:

- Customer Satisfaction with Products and Services –

We strive for 100% Customer Satisfaction and measure this by a combination of Surveys and input from our Salesmen who are in contact with these Customers.

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- Tracking On-time Delivery –

Based on historical data, we think that 85% on-time delivery is achievable. Due to the nature of our business, there is continual scope change and delivery date changes for many reasons. The on-time delivery date is based on the final date negotiated with the Customer.

- Product Quality –

We think we can reach a level of 85% of Jobs without nonconformance. Based on written NCRs.

- Safety –

A safe work environment is required to provide quality work. We also strive to have Zero Lost Time Accidents. This will ensure our Employees will be safe while completing the necessary projects.

These Quality Objectives are consistent with the Quality Policy, measurable, monitored and discussed at Management Review Meetings.

The Quality Manager shall maintain documented information relating to the Quality Objectives and shall also ensure the Objectives are updated, relevant and communicated to all within the Company.

### 6.2.2 Quality Management System Planning


The Hess Aerospace and Defense QMS has been planned and implemented to meet Company Quality Objectives and the requirements of the AS9100D standard.

The integrity of the QMS shall be maintained when changes to the QMS are planned and implemented.

When planning how to achieve the Quality Objectives, the organization shall determine:

- What will be done
- What resources will be required
- Who will be responsible
- When it will be completed
- How the results will be evaluated

Ref: PS-01 “Management Responsibility”


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### 6.3 Planning of Changes

When Hess Aerospace and Defense determines the need for changes to the Quality Management System, the changes shall be carried out in a planned manner, considering the following:

- Purpose of the Changes and their potential consequences;
- Integrity of the Quality Management System;
- Availability of Resources;
- Allocation or reallocation of Responsibilities and Authorities.

Ref: PS-01 "Management Responsibility"

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## Section 7: Support

### 7.1 Resources

#### 7.1.1 General

Hess Aerospace and Defense has implemented a QMS that complies with AS9100D and ISO9001:2015 standards. This was achieved with Management Commitment to provide sufficient resources and to effectively maintain and continually improve the system.

#### 7.1.2 People

To ensure competence of our Personnel, new Employees are hired based on their education, skills and experience within applicable industries. New Employees are given an orientation by their Area Manager, which includes a copy of the Quality System documentation. The Area Manager provides on-the-job training to the new Employee and evaluates the new Employee's performance to determine their competence.

Employee qualifications are reviewed before hire, when an employee changes positions or when the requirements for a position change. If any differences between the employee's qualifications and the requirements for the job are found, training or other action is taken to provide the employee with the necessary competence for the job.

#### **Detailed Job Descriptions are available for all Work Positions.**

An evaluation of the training and its effectiveness will be done before the employee is deemed competent to perform work affecting conformity to product requirements. All employees are trained on the relevance and importance of their activities and how they contribute to the achievement of the Quality Objectives. Appropriate records of education, training, skills and experience will be maintained as applicable (Process - Training Acknowledgement Form).

Ref: PS-10 "Human Resources"

#### 7.1.3 Infrastructure


To meet Quality Objectives and Product Requirements, Hess Aerospace and Defense Management has determined the infrastructure required. The infrastructure includes: buildings, workspace, utilities, process equipment (both hardware and software).

As new infrastructure requirements arise, they will be documented in the Management Review and or regular Staff Meetings. Existing infrastructure is maintained as required (Process PS-11,FO-1101 Maintenance Repair Form).

Ref: PS-11 "Maintenance"

#### 7.1.4 Work Environment



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A work environment suitable for achieving product conformance is maintained. Job requirements are determined during the Contract Review. Data from the Quality System is evaluated to determine if the Work Environment is sufficient for achieving Product Conformance or if a Corrective Action related to the work environment is required.

Work environment factors include: temperature, lighting, cleanliness, etc. They also include social (non-discriminatory, non-confrontational, etc.) and psychological (stress- reducing, burnout prevention, etc.) components.

Ref: PS-11 “Maintenance”

## 7.1.5 Monitoring and Measuring Resources

### 7.1.5.1 Validation of Processes for Products and Services

Hess Aerospace and Defense validates any processes for production and services where the resulting output will not be verified by subsequent monitoring or measurement. Validation demonstrates the ability of these processes to achieve planned results. The validation requirements are defined as required in the Work Order Router (**PS-06 “Production”**). This also includes any processes that are performed at a sub-contract level or where deficiencies may become apparent only after the product is in use.


Appropriate Documented Information shall be retained as evidence of fitness for purpose of the Monitoring and Measurement Resources.

Process validation may include the following:

- Defined criteria for review and approval of the processes;
- Use of specific methods and procedures;
- Compliance to all customer required standards of manufacturing quality or process control;
- Customer or specification approval of equipment, processes and qualifications of personnel;
- Control of the significant operations and parameters of special processes in accordance with documented process specifications;
- Requirements for records and documentation control;
- First article inspections if required;
- Revalidation of nonconforming products.

### 7.1.5.2 Measurement Traceability

Hess Aerospace and Defense will determine the monitoring and measurements to be undertaken during the manufacture of each component as specified in the Work Order Router.

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Monitoring and measuring devices needed to provide evidence of product conformity have been identified and are contained on the Calibration Tool List (located in the Quality Network Folder). Calibration is performed in accordance with process PS-07.

Hess Aerospace and Defense maintains a register of standard monitoring and measuring devices and has defined the process employed for their calibration, including: details of equipment type, unique identification, location, frequency of checks, check method and acceptance criteria.

**NOTE:** Monitoring and measuring devices include, but are not limited to: test hardware, test software and automated test equipment. It also includes personally owned and customer supplied equipment used to provide evidence of product conformity.

Hess Aerospace and Defense ensures that environmental conditions are suitable for the calibrations, inspections, measurements and tests being carried out. Where necessary to ensure valid results, measuring equipment is:

- Calibrated or verified or both at specified intervals, or prior to use, against measurement standards traceable to international or national measurement standards; where no such standards exist, the basis used for calibration or verification shall be recorded;
- Adjusted or re-adjusted as necessary;
- Identified to enable the calibration status to be determined;
- Safeguarded from adjustments that would invalidate the measurement result;
- Protected from damage and deterioration during handling, maintenance and storage;
- Hess Aerospace and Defense has implemented and maintains a process for the recall of monitoring and measuring equipment requiring calibration or verification. In addition, during each calibration interval, if a tool is found to be out of calibration, Hess Aerospace and Defense takes appropriate action on the equipment and any product affected.

Records of the results of calibration and verification are maintained.


Ref: PS-07 “Control of Measuring Equipments”

### 7.1.6 Organizational Knowledge

Hess Aerospace and Defense shall determine the knowledge necessary for the operation of its processes and to achieve conformity of products and services.

When addressing changing needs and trends, the company shall consider its current knowledge and determine how to acquire or access any necessary additional knowledge or required updates.

Organizational knowledge is specific to the company and is generally gained by experience. It can be based on:

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- Internal Sources – Intellectual property, experience, lessons learned, things learned by employees through any method, and results gathered from improvements in processes, products and services.
- External Sources – Standards, schools, conferences, customers, vendors etc.

The organization uses different means to ensure that organizational knowledge is determined and documented. The organization also ensures that proper training is provided to ensure proper operation of the processes and quality of the products and services it offers.

Ref: PS-01 “Management Responsibility” and PS-10 “Human Resources”

## 7.2 Competence

Hess Aerospace and Defense shall:

- Determine the necessary competence of Workers that affect the performance and effectiveness of the Quality Management System;
- Ensure that these Workers are competent on the basis of appropriate education, training or experience;
- Where applicable, take actions to acquire the necessary competence and evaluate the effectiveness of the actions taken;
- Retain appropriate documentation as evidence of competence;
- Periodically review the necessary competence;
- Take action to train, mentor or reassign employees as necessary;
- Hire or Contract with the necessary competent people.

Ref: PS-10 “Human Resources”


## 7.3 Awareness

Hess Aerospace and Defense shall make sure that Employees are aware of:

- The Quality Policy
- Relevant Quality Objectives
- Their contribution to the effectiveness of the Quality Management System, including the benefits of improved performance
- The implications of nonconforming with the QMS requirements
- Relevant QMS documented information and changes there to
- Their contribution to Product or Service conformity and Safety
- Their contribution to Safety in the Workplace
- The importance of Ethical Behavior

Ref: PS-12 “Communication”

## 7.4 Communication

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Hess Aerospace and Defense shall determine the internal and external communications relevant to the Quality Management System including: (PS-12 “Communication”)

- On what it will Communicate
- When to Communicate
- With whom to Communicate
- How to Communicate
- And Who Communicates

External communication requirements may include suppliers and sub contract services and comprise of for example: Quality Policy, Contracts terms and conditions, service level agreements, order fulfilment, performance reporting etc.

Communication should include internal and external feedback relevant to the QMS.

## 7.5 Documented Information

### 7.5.1 General

Hess Aerospace and Defense’s QMS shall include:

- Documented information required by AS9100D Standard;
- Documented information determined by Hess Aerospace and Defense to be necessary for QMS effectiveness.

The extent of this documented information shall remain based on the organization size, type of activities, processes, products and services. It shall also be based on the complexity of processes and their interactions as well as the competence of current Employees.


### 7.5.2 Creating and Updating Documented Information

When creating and updating documented information, we shall ensure appropriate:

- Identification and Description (title, date, author, reference number, etc.)
- Format (language, software version, graphics) and media (paper, electronic, etc.)
- Review and approval for suitability and adequacy.

Authorized persons and approval methods are to be identified for the relevant types of documented information. Document history is tracked using directly on the forms. Control of documents follows standards in PS-03 “Document Control”.

### 7.5.3 Control of Documented Information

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Documented information required for the QMS and AS9100D standard shall be controlled to ensure:

- It is available and suitable for use, where and when it is needed;
- It is adequately protected (from loss of confidentiality, improper use, or loss of integrity);

For the control of documented information, Hess Aerospace and Defense and Defense shall address the following activities as applicable:

- Distribution, access, retrieval and use (see RE-0706 “Documents and Records Register”)
- Storage and preservation, including preservation of legibility
- Control of changes (version control)
- Retention and disposition
- Prevention of the unintended use of obsolete documented information by removal or by application of suitable identification or controls if kept for any purpose.


Documented information of external origin, which has been determined to be necessary for the planning and operation of the QMS, shall be identified as appropriate and be controlled.

Documented information retained as evidence of conformity shall be protected from unintended alterations.

When documented information is managed electronically, data protection processes shall be defined (protection from loss, unauthorized changes, unintended alteration, corruption, physical damage, etc.)

Ref:PS-03 “Document Control”

## Section 8: Operation

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## 8.1 Operational Planning and Control

Hess Aerospace and Defense shall plan for and implement the following actions, to the extent required for each individual Job:


- a) Determine the requirements for the product or service, including;
  - Product and personal safety;
  - Producibility and inspectability;
  - Reliability, availability and maintainability;
  - Manufacturability and ease of inspection;
  - Suitability of parts and material used in the product;
  - Product obsolescence;
  - Prevention, detection and removal of foreign objects (FOD);
  - Handling, packaging and preservation;
  - Recycling or final disposal of the product at the end of its life.
- b) Establish criteria for:
  - Processes;
  - Product and service acceptance.
- c) Determine the Resources needed to achieve conformity to requirements and to meet on-time delivery;
- d) Control of the Processes in accordance with the criteria;
- e) Determine, maintain and retain documented information sufficient to have confidence the process has been carried out as planned and to demonstrate the conformity to requirements;
- f) Determine the Processes and Controls needed to manage critical items, including production process controls when Key Characteristics have been identified;
- g) Engage Area Managers for Operational Planning and Control;
- h) Determine the Process and Resources to support the use and maintenance of the Products and Services;
- i) Determine the Products and Services to be obtained from Vendors and ensure that outsourced processes are controlled as necessary;
- j) Establish controls to prevent the delivery of nonconforming Products to the Customer.

- Configuration Management appropriate to the product;

- Establish, implement and maintain a Process to Plan and Control the temporary or permanent transfer of work, and ensure work transfer impacts and risks are understood and managed.

Planning output shall be in conformance with PS-06 "Production".

Planning documents specifying Processes and/or QMS, and the resources to be applied to a specific product, project or contract, can be referred to as a Quality Plan. This Quality Plan should travel with the Work Order Router.

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### 8.1.1 Operational Risk Management

Hess Aerospace and Defense shall plan, implement and control a process for managing Operational Risks (PS-06 “Production”) to achieve applicable requirements that may include;

- Assignment of responsibilities for Operational Risk Management
- Definition of risk assessment criteria (likelihood, consequences, risk acceptance)
- Identification, assessment and communication of risks throughout operations
- Identification, implementation and management of actions to mitigate risks that exceed the defined risk acceptance criteria
- Acceptance of risks remaining after implementing mitigating actions

Risk is generally expressed in terms of the likelihood of occurrence and the severity of consequences.

A document has been made to show possible Risks and Opportunities associated with the Production/ Services Process (Risks & Opportunity Analysis). This shows an approach to better understand this Process.

Operational risks shall be identified before accepting orders (new technology, ability and capacity to provide results, short delivery time, etc.). We need to know that we can meet the claims we make for the products and services offered.

### 8.1.2 Configuration Management

Hess Aerospace and Defense shall plan, implement and control a Configuration Management Process that ensures the identification and control of physical and functional attributes throughout the product lifecycle. This process shall:

- Control Product Identity and Traceability, including the implementation of identified changes, and;
- Ensure that the Documented Information (requirements, design, verification, acceptance documentation and validation) is consistent with the actual attributes of the Products and Services.

Ref: PS-06 “Production”

### 8.1.3 Product Safety

Hess Aerospace and Defense shall plan, implement and control the Processes needed to assure product safety during the entire product life cycle, as appropriate to the product.

This may include:

- Assessment of hazards and management of associated risks;
- Management of Safety Critical items;
- Analysis and reporting of events that have occurred affecting safety;

- Communication of these events and training of employees using IAQG product safety presentation

Hess being a build to print company : ( A build to print shop has to do exactly that, build to print, and do so diligently including paying attention to special requirements identified by the customer or by the organization. Their obligation to product safety pretty much ends there. They can't do any more. Hess has verified the need for product safety and have decided the nature of these parts do not require any further awareness than what is on the customer drawings.)

Ref: PS-06 "Production"

### 8.1.4 Prevention of Counterfeit Parts

Hess Aerospace and Defense shall plan, implement and control processes appropriate to the Product, for the prevention of counterfeit or suspected counterfeit part use and their inclusion in products delivered to the customer.

Counterfeit part prevention should consider:

- Employees will receive training regarding prevention of counterfeit parts using IAQG presentation
- Controls for acquiring externally provided product from OEMs, authorized distributors or other approved sources;
- Requirements for assuring traceability of parts and components to their original or authorized manufacturers.
- Any other measure that makes sense for the types of products we deal with.

Ref: PS-06 "Production"

## 8.2 Requirements for Products and Services

### 8.2.1 Customer Communication

Hess Aerospace and Defense is always in close contact with its Customers. As an order progresses thru the manufacturing cycle, the Customer is kept up to date on progress and problems.


Regular communication with the Customer is maintained in the following areas:

- Product and Service information
- Inquiries, contracts and order handling, including changes or amendments
- Customer feedback, including Customer complaints
- Handling or Controlling Customer Property
- Establishing requirements for contingency actions, when relevant.

Ref: PS-12 "Communication"

### 8.2.2 Determining Requirements for Products and Services



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Hess Aerospace and Defense determines Customer Requirements before acceptance of an order.

Product or Service Requirements may include:

- Statutory and regulatory requirements related to the product
- Those requirements considered necessary by Hess Aerospace and Defense
- Those requirements requested by the customer
- Customer specifications or other standards
- Any special requirements

### 8.2.3 Review of Requirements for Products and Services

Hess Aerospace and Defense has a process in place for the review of requirements related to the product and services we provide (PS-05 "Purchasing").

The review is conducted before the order is accepted. The process ensures that:

- Customer requirements are reviewed;
- Statutory and Regulatory requirements are identified and planned for
- Contract or order requirements differing from those previously expressed are resolved
- Hess Aerospace and Defense has the ability to meet the defined requirements
- Special requirements of the product are determined
- Risks (new technology, short delivery time frame) have been identified.
- Known risks have been adequately identified and planned for along with assessment of other risks such as new technology implementations or process and/or schedule changes.


Records are maintained showing the results of the review and any actions arising from the review. Where a Customer does not provide a documented statement of requirement, the Customer requirements shall be confirmed before acceptance.

### 8.2.4 Changes to Requirements for Products and Services

When product requirements are changed, Hess Aerospace and Defense shall communicate changes to relevant personnel and amend relevant documents.

Ref: PS-06 "Production", PS-12 "Communication"

### 8.3 Design and Development of Products and Services – NOT APPLICABLE

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## 8.4 Control of Vendor Processes, Products and Services

### 8.4.1 Purchasing Process

A documented Control Procedure for Purchasing (PS-05 “Purchasing”) is followed to ensure that purchased product conforms to the specified requirements. The procedure outlines the extent of control required for Vendors and the purchased product or service.

Hess Aerospace and Defense is responsible for the Quality of Products purchased from all Vendors, including customer-designated sources.

Vendors are evaluated and selected based on their ability to supply product in accordance with requirements. Criteria for selection, evaluation and re-evaluation are documented. Records of the evaluation and any necessary actions are maintained.

Hess Aerospace and Defense will do the following:

- Maintain a register of approved suppliers (RE-0700) that includes the approval status (approved, conditional, disapproved) and the scope of the approval (product type or process family);
- Require that Vendors apply appropriate controls to their direct and sub-tier external providers to ensure that requirements are met
- Periodically review supplier performance (including process, product and service conformity, and on-time delivery performance) and retains documented information from these reviews; records of these reviews are used as a basis for establishing the level of controls implemented;
- Define the necessary actions to take when dealing with suppliers that do not meet requirements;
- Ensure where required that both Hess Aerospace and Defense and all Vendors use Customer approved special process sources;
- Define the process, responsibilities and authority for the approval status decision, changes of the approval status and conditions for a controlled use of suppliers depending on the supplier’s approval status;
- Determine and manage the risk when selecting and using suppliers;
- Define requirements for controlling documentation created by and/or retained by our Vendors.

**NOTE:** One factor that can be used during supplier selection and evaluation is Quality Data from objective and reliable external sources (information from an accredited QMS or certification bodies, for example ISO-9001 accreditation).

Ref: PS-05 “Purchasing”

### 8.4.2 Type and Extent of Control

Procedure PS-05 “Purchasing” describes the processes used to verify that purchased product meets specified requirements.

Hess Aerospace and Defense will do the following:

- Ensure that externally provided processes remain within our QMS;
- Define controls applied to Vendors and to output from those Vendors;
- Consider the impact of Vendor products or services on meeting our Customer's requirements
- Consider the effectiveness of Controls applied by our Vendors
- Determine the verification necessary to ensure Vendor supplied products and services meet our requirement. This is based on any risks identified, and may include inspection or testing;
- Obtain and review objective evidence of the quality of the product from Vendors (accompanying documentation, certificate of conformity, test reports, statistical records and process control);
- Inspect and audit our Vendors (FO-1207 "Supplier Self-Audit Questionnaire") and review the results. Inspect Vendor premises as deemed necessary by the Purchasing Manager;
- Inspect products from Vendors upon receipt;
- Review any required Product Verifications delegated to our Vendors.

When purchased product is released for production before completion of all required verification, it shall be identified and recorded to allow recall and replacement if it is subsequently found that the product did not meet requirements.

Customer verification activities do not absolve Hess Aerospace and Defense of its responsibility to provide acceptable product and comply with requirements.

When Hess Aerospace and Defense utilizes test reports to verify purchased product, we shall evaluate the data in those reports to make sure it meets our Customer's requirements.

Hess Aerospace and Defense shall periodically validate test reports of raw material if any potential risk has been identified.

If Hess Aerospace and Defense delegates verification activities to a Vendor, the requirements for delegation are defined and a register of delegations shall be maintained.

Ref: PS-05 "Purchasing", PS-06 "Production"

### **8.4.3 Information provided to Vendors**

Purchasing Documents are to be reviewed to ensure the adequacy of requirements before orders are placed with a Supplier.

Purchasing information shall describe the product or service to be purchased, including where appropriate:

- Identification of relevant technical data (specifications, drawings, process requirements, work instructions, etc.);
- Requirements for approval of product, processes, equipment and services;
- Requirements for Qualification of Personnel (if relevant);
- Any special requirements for Vendor interactions with Hess Aerospace and Defense;

- Any special Vendor controls or Hess Aerospace and Defense or its Customer may need to perform at the Vendor's premises;
- Any special requirements, critical items or key characteristics;
- Requirements for design, test, inspection, verification (including production process verification), use of statistical techniques for product acceptance, and related instructions for acceptance by Hess Aerospace and Defense and Defense;
- The need to implement a Quality Management System;
- The need to use approved external providers (if necessary);
- Requirements to notify Hess Aerospace and Defense of nonconforming product, obtain Hess Aerospace and Defense approval for nonconforming product, notify Hess Aerospace and Defense of changes in product and/or process, changes of suppliers, changes of manufacturing facility location and, where required, obtain Hess Aerospace and Defense approval and, flow down to the supply chain the applicable requirements, including customer requirements;
- Requirements for test specimens (production method, number, storage conditions) for design approval, inspection, investigation or auditing;
- Record retention requirements.
- Right of access by Hess Aerospace and Defense, its customer, and regulatory authorities to all facilities involved in the order and to all applicable records.
- Reminder to the Vendor of their contribution to product or service conformity, safety, and of the importance of ethical behavior.

Ref. PS-05 "Purchasing"

## 8.5 Production and Service Provision

### 8.5.1 Control of Production and Service Provision

Hess Aerospace and Defense implements Production and Service Provision under controlled conditions. Controlled conditions may include, as applicable:

- The availability of information that describes the characteristics of the product, services to be provided, activities to be performed and the results to be achieved. This information may include; drawings, parts lists, materials and process specifications. It may also include; process flow charts, control plans, production documents (Manufacturing Plans, Travelers, Routers, Work Orders, etc.)
- The availability and use of monitoring and measuring devices;
- The implementation of monitoring and measurement to verify that criteria for control of processes or outputs, and acceptance criteria for products and services, have been met, including;
  - Criteria for acceptance and rejection
  - Where in the sequence verification operations are to be performed
  - Measurement results to be retained (at least acceptance or rejection)
  - Any specific equipment required and instructions for their use

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- The use of suitable infrastructure and environment for the operation of processes (jigs, fixtures, software, etc.)
- The use of competent persons, including any required qualifications
- Validation of the ability to achieve planned results – where resulting output cannot be verified by subsequent monitoring or measurement
- Implementation of actions to prevent Human Error
- The implementation of product release, delivery and post-delivery activities
- Criteria for workmanship (acceptance or rejection), which shall be stipulated in the clearest practical manner (written standards, representative samples or illustrations)
- Accountability for all product during manufacture (parts quantities, split orders, nonconforming product)
- Establishing, implementing and maintaining appropriate processes to manage critical items, including process controls where key characteristics have been identified
- Determination of methods to measure variable data (tooling, on-machine probing, inspection equipment, etc.)
- The identification of in-process verification points when adequate verification of conformance cannot be performed at a later stage of realization
- Evidence that all manufacturing and inspection operations have been completed as planned, or as otherwise documented and authorized
- Provision for the prevention, detection, and removal of foreign objects
- Monitoring and control of utilities and supplies such as water, compressed air, electricity and chemical products to the extent they affect conformity to product requirements and,
- Identification and recording of products released for subsequent production before completion of all required measuring activities. This allows recall and replacement if it is later found that the product does not meet requirements.

Ref: PS-07 “Control of Measuring Equipment”


#### **8.5.1.1 Control of Equipment, Tools and Numerical Control (NC) Programs (software)**

Production equipment, tools and software programs used to automate and control/monitor product realization processes are validated prior to release and are maintained and inspected periodically according to documented procedures. Validation prior to production use includes verification of the first article produced to the design data/specification.

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

Ref: PS-07 “Control of Measuring equipment”

#### **8.5.1.2 Validation and Control of Special Processes**

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Special processes are subcontracted to qualified subcontractors. For processes where the resulting output cannot be verified by subsequent monitoring or measurement, Hess Aerospace and Defense shall make arrangements for these processes including, as applicable:

- Clear communication to the subcontractors for the provision of documentation to support the special process
- Definition of criteria for the review and approval of the processes
- Determination of conditions to maintain the approval
- Approval of facilities and equipment
- Qualification of personnel
- Use of specific methods and procedures for implementation and monitoring the processes
- Requirements for documented information to be retained.

Ref: PS-04 “Customer Process”, PS-05 “Purchasing”, PS-06 “Production”

### **8.5.1.3 Production Process Verification**

Hess Aerospace and Defense will use 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 capable of producing parts and assemblies that meet requirements.

This process shall be repeated when changes occur that invalidate the original results (engineering changes, manufacturing process changes, tooling changes). This activity is often referred to as First Article Inspection. Documented information shall be retained showing the results of the Production Process Verification.


Ref: PS-06 “Production”, PS-03 “Document Control”

### **8.5.2 Identification and Traceability**

Hess Aerospace and Defense identifies the product throughout product realization in accordance with PS-06 “Production”. The Work Order Router is the primary document for identifying all identification requirements and capturing all traceability needs.

Hess Aerospace and Defense maintains the identification of the configuration of the product in order to identify any differences between the actual configuration and the required configuration.

Hess Aerospace and Defense identifies the product status with respect to monitoring and measurement requirements throughout product realization.

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Hess Aerospace and Defense controls, records and retains the unique identification of the product wherever traceability is a contract-specified requirement. The specific method of identification will be determined on a case-by-case basis and will be defined in the Work Order Router.

When acceptance authority media are used (stamps, passwords, etc.) Hess Aerospace and Defense shall establish appropriate controls for the media.

According to the level of traceability required by contract, regulatory or other established requirement, Hess Aerospace and Defense's system provides for:

- Identification to be maintained throughout the product life
- All the products manufactured from the same batch of raw material or from the same manufacturing batch to be traced, as well as the destination (delivery, scrap) of all products of the same batch.
- For an assembly, the identity of its components and those of the next higher assembly to be traced.
- For a given product, a sequential record of its production (manufacture, assembly, inspection) to be retrieved.

Ref: PS-06 "Production"

### 8.5.3 Customer or Vendor Property

Hess Aerospace and Defense exercises care with customer property while it is under Hess Aerospace and Defense control or use.

Control of Customer property is outlined in the following procedures: PS-07 "Control of measuring Equipment", PS-03 "Document Control" and PS-06 "Production"

If any customer property is lost, damaged or otherwise found to be unsuitable for use, this is reported to the customer and records maintained.


NOTE: Customer property can include intellectual property, including customer furnished data used for design, production and/or inspection and personal data.

### 8.5.4 Preservation of Product

Hess Aerospace and Defense preserves the outputs during production and service provision, to the extent necessary to ensure conformity to requirements.

This preservation may include; identification, contamination control, handling, packaging, storage, transmission or transportation and protection.

Preservation of product may include:

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- Cleaning
- Prevention, detection and removal of foreign objects
- Special handling for sensitive products
- Marking and labeling including safety warnings
- Shelf-life control and stock rotation
- Special handling for hazardous materials

Hess Aerospace and Defense shall ensure that documents required by the contract to accompany the product are present at delivery and are protected against loss and deterioration.

Ref: PS-05 "Purchasing", PS-06 "Production"

### 8.5.5 Post-Delivery Support

Hess Aerospace and Defense shall meet requirements for post-delivery activities associated with Products and Services. In determining the extent of post-delivery support, the following shall be considered:

- Statutory and Regulatory requirements;
- Potential undesired consequences associated with the Products and Services;
- Nature, use and intended lifetime of the Products and Services;
- Customer Requirements;
- Customer Feedback;
- Collection and analysis of in-service data (performance, reliability, lessons learned)
- The control and updating of technical documentation relating to product use, maintenance, repair and overhaul;
- Controls required for work undertaken external to the organization (off-site work);
- Product / Customer Support (queries, training, warranties, maintenance, replacement parts, resources, obsolescence, etc.)

When problems are detected after delivery, Hess Aerospace and Defense shall take appropriate action including investigation and reporting.


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

Ref: PS-05 "Purchasing", PS-06 "Production"

### 8.5.6 Control of Changes

Hess Aerospace and Defense shall review and control changes for production or services, to the extent necessary to ensure continuing conformity with requirements (PS-06 "Production").



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Persons authorized to approve changes to production shall be identified.

Hess Aerospace and Defense shall retain documented information describing the results of the review of changes, the people authorizing the change and any actions arising from the review.

## 8.6 Release of Products and Services

Hess Aerospace and Defense shall make planned arrangements to verify that the product and service requirements have been met.

The release of Products and Services to the Customer shall not proceed until these arrangements have been completed, unless otherwise approved by a relevant authority or the Customer (see ---- Shipping Authorization).

Hess Aerospace and Defense shall retain documented information on the release of Products and Services. This shall include:

- Evidence of Conformity with the acceptance criteria
- Traceability to the person authorizing the release

Hess Aerospace and Defense shall ensure that retained documents provide the evidence required to show product Conformity. All required documentation shall be present at delivery.

Ref:PS-06 "Production"

## 8.7 Control of Nonconforming Outputs

### 8.7.1 Identification of Nonconforming Outputs

Hess Aerospace and Defense ensures that products which do not conform to product requirements are identified and controlled to prevent their unintended use or delivery. The controls and related responsibilities and authorities for dealing with nonconforming product are defined in PS-06 "Production".

**NOTE:** The term «Nonconforming Product » includes: nonconforming product or service generated internally, received from a Vendor or identified by a customer.

Hess Aerospace and Defense's documented procedure defines the responsibility for review and authority for the disposition of nonconforming product and the process for approving personnel making these decisions.

Hess Aerospace and Defense deals with nonconforming product in one or more of the following ways:

- By taking action to correct the detected nonconformity

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- By authorizing its use, release or acceptance under concession by a relevant authority and, where applicable, by the customer
- By segregating, containing, returning or suspending products or services
- By informing the Customer
- By taking action appropriate to the effects, or potential effects, of the nonconformity when nonconforming product is detected after delivery or use has started
- Hess Aerospace and Defense's nonconforming product control process provides for timely reporting of delivered non-conforming product: Note: Parties requiring notification of
- nonconforming product can include suppliers, internal organizations, customers, distributors and regulatory agencies.
- By taking actions necessary to contain the effect of the nonconformity on other processes or products.

Hess Aerospace and Defense does not use dispositions of use-as-is or repair unless it is approved by an authorized representative of the organization responsible for the design.

Note: Authorized representative includes; personnel having delegated authority from the design organization.

Hess Aerospace and Defense does not use dispositions of use-as-is or repair unless specifically authorized by the customer, if the nonconformity results in a departure from the contract requirements.

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

Records of the nature of nonconformities and any subsequent action taken, including concessions obtained, are maintained.

When nonconforming product is corrected it is subject to re-verification to demonstrate conformity to the requirements.

Counterfeit, or suspected counterfeit parts, shall be controlled to prevent reentry into the Supply Chain.

### 8.7.2 Documentation of Nonconforming Output

Hess Aerospace and Defense shall retain documented information that:

- Describes the Nonconformity
- Describes the Actions taken
- Describes any Concessions obtained

- Identifies the authority deciding the action in respect to the nonconformity

Ref: PS-06 “Production”, PS-03 “Document Control”

## Section 9: Performance Evaluation

### 9.1 Monitoring, Measurement, Analysis and Evaluation

#### 9.1.1 General

Hess Aerospace and Defense shall determine:

- What needs to be monitored and measured
- Methods for monitoring, measurement, analysis and evaluation needed to ensure valid results;
- When the monitoring and measuring shall be performed;
- When the results from monitoring and measurements shall be analyzed and evaluated.

Hess Aerospace and Defense shall evaluate the performance and effectiveness of the QMS.

Hess Aerospace and Defense shall retain appropriate Documented Information as evidence of the results.

Ref: PS-03 “Document Control”, PS-06 “Production”, PS-07 “Control of Measuring Equipment”

#### 9.1.2 Customer Satisfaction

Hess Aerospace and Defense shall monitor information relating to Customer perception as to whether Hess Aerospace and Defense has fulfilled Customer requirements.

Information that is monitored and used for the evaluation of Customer satisfaction includes; product and service conformity, on-time delivery performance, Customer complaints and corrective action requests.

Monitoring customer perception may include obtaining input from sources such as: Customer satisfaction surveys, Customer data on delivered product quality, user opinion surveys, Hess Aerospace and Defense Salesmen feedback, compliments, warranty claims and dealer reports. We do have a standardized email survey to be used for Customer feedback.


Hess Aerospace and Defense shall develop and implement plans for Customer satisfaction improvement that addresses deficiencies identified by the above evaluations and assess the effectiveness of the results.

REF: PS-04 “Customer Process”, PS-12 “Communication”

#### 9.1.3 Analysis and Evaluation

The data gathered shall be analyzed and evaluated. The results of the analysis shall be used to evaluate:

- Conformity of Products and Services
- Degree of Customer Satisfaction

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- Performance and effectiveness of the QMS
- Whether planning has been implemented effectively
- Effectiveness of actions taken to address Risks and Opportunities
- Performance of Vendors
- Need for Improvements to the QMS

## 9.2 Internal Audit

### 9.2.1 Audit Intervals

Hess Aerospace and Defense conducts internal audits at planned intervals to determine whether the QMS:

- Conforms to Hess Aerospace and Defense own Requirements for the QMS
- Conforms to the AS9100D Standard
- Is effectively implemented and maintained
- Performance indicators show the QMS is effectively implemented and maintained.

### 9.2.2 Audit Details

An Audit Program has been designed and implemented PS-09 “Internal Audit”.


This procedure includes the following items:

- Plan, establish, implement and maintain an Audit Program 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 (PS-09 “Internal Audit”)
- Define the audit criteria and scope for each audit
- Select Auditors and conduct audits to ensure objectivity and the impartiality of the audit process
- Ensure that the results of the audits are reported to relevant Management
- Take appropriate correction and corrective actions without undue delay
- Retain documented information as evidence of the implementation of the audit program and the audit results

Auditors shall not audit their own work. Records of the audits and their results are to be maintained.

## 9.3 Management Review

Top Management reviews the QMS at Management Review Meetings held twice a year. This review assesses the continuing QMS suitability, adequacy and effectiveness, identifying opportunities for improvement and needed changes, including the Quality Policy and Quality Objectives. Records shall be maintained for each Management Review Meeting.

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Ref: PS-01 “Management Responsibility”

### 9.3.1 General

Top Management shall review 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 (see Management Review Agenda)

### 9.3.2 Management Review Inputs

Management Review shall be 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.

Ref: PS-01 “Management Responsibility”

### 9.3.3 Management Review Output


During these review meetings, Management will identify appropriate decisions to be made and actions to be taken regarding the following:

- a. opportunities for improvement;
- b. any need for changes to the quality management system;
- c. resource needs;
- d. risks identified.

Responsibilities for required actions are assigned to members of the staff in attendance.

Any decisions made during the meeting, assigned actions, and their due dates are recorded in the Management Review minutes. This document shall be retained.

Ref: PS-01 “Management Responsibility”, PS-03 “Document Control”

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## Section 10: Improvement

### 10.1 General

Hess Aerospace and Defense shall determine and select opportunities for improvement and implement any necessary actions to meet Customer requirements and enhance satisfaction by:

- Improving Products and Services to meet requirements as well as to address future needs and expectations
- Correcting, preventing or reducing undesired effects
- Improving the performance and effectiveness of the QMS

**NOTE:** Improvement could include; Correction, Corrective Action, Continual Improvement, Breakthrough Change, Innovation and Re-organization.

### 10.2 Nonconformity and Corrective Action

Hess Aerospace and Defense takes action to eliminate the cause of nonconformities in order to prevent recurrence. Corrective actions are appropriate to the effects of the nonconformities encountered (ECI JoBOSS2).

Ref: PS-06 "Production"


#### 10.2.1 Nonconformity Actions Required

When nonconformity occurs, the Organization shall:

- Review Nonconformities (including customer complaints)
- React to the Nonconformity and take Action to control and correct it
- Deal with and manage the Consequences
- Review and Determine the causes of Nonconformity
- Evaluate causes related to Human Factors
- Determine if similar Nonconformities exist or could potentially occur
- Evaluate the need for action to ensure that Nonconformities do not recur
- Determine and implement actions needed
- Record the results of Corrective Actions taken
- Update Risks and Opportunities determined during planning, if necessary Flow down Corrective Action requirements to a Vendor, when it is determined that the Vendor is responsible for the Nonconformity
- Take actions when timely and effective Corrective Actions are not achieved

Documentation of the Nonconformity and Corrective Action process shall be maintained.

Ref: PS-06 "Production" ,PS-08 "Corrective Action"

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### 10.2.2 Documentation Required

When nonconformity occurs, we shall retain Documentation as evidence of:

- Nature of the Nonconformities and any subsequent Actions taken
- Results of any Corrective Action

### 10.3 Continual Improvement

Hess Aerospace and Defense shall continually improve the suitability, adequacy and effectiveness of the QMS.

Hess Aerospace and Defense shall consider the results of analysis and evaluation, and the outputs from Management Reviews, to determine if there are needs or opportunities that shall be addressed as part of Continual Improvement.

Hess Aerospace and Defense shall monitor the implementation of Improvement Activities and evaluate the effectiveness of the results.

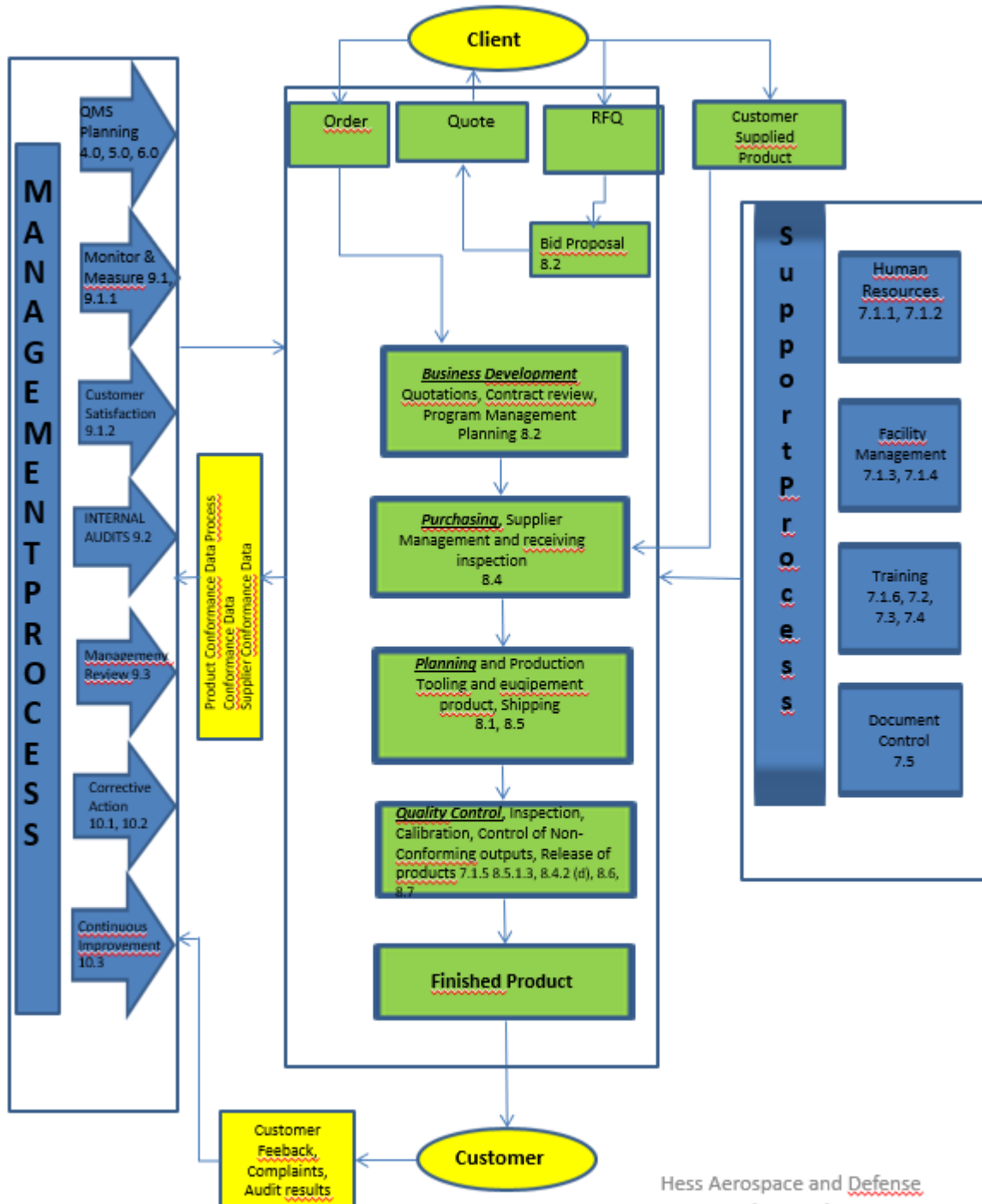
NOTE: Continual Improvement opportunities can include; lessons learned, problem resolutions and the benchmarking of best practices.

Ref:PS-01,PS-12

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### REVISION HISTORY

Revision Level	Revision Date	Description
A	19-Sept- 2019	Initial issue
B	18-June-2021	Corrections
C	28-AUG-2022	Change of Quality Manager
D	05-OCT-2022	Change of diagram in section 4.4.1
E	29-NOV-2023	Add Annex A + Annex B. Modify 8.4.1 & 8.4.2 (RE-0700 , FO-1207)
F	October 07, 2024	Add document names



Hess Aerospace and Defense  
Annexe A  
Flow Down of process Diagram  
QM-AN-A Rev A



