Quality Manual

Based on

"IATF16949: 2016"

Address

Musashi Auto Parts India Pvt. Ltd.
Sy No. 52/1,52/2P,53P,54/1P,55,56,61/1,61/2, 61/3, 62/1 & 62/2
Doddaballapur
Industrial Area, 3rd phase, village
Raghunathpura (vi), Kasaba , Bangalore - 562163,
Rural Hobali, karnataka India
I N D I A

Tel No.: +918396918404
masahito.Sawada@map-id.com
e-mail.: MASAHITO_SAWADA@mm.musashi.co.jp
Web Site: www.musashi.co.in

Approved By: (Masahito Sawada)
Director

1.1 FOREWORD

This manual describes the quality management system as adopted by the organization in accordance with IATF 16949:2016 standard

The various sections of this manual define the way in which the organization addresses each requirement of the standard.

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The various sections of this manual define the way in which the organization addresses each clause of the standard.

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1.1.1 Issue & Change control system

The Quality Manual prepared by Management Representative/s is issued under the authority of the Director. Details of issue and changes are to be recorded in the Amendment Record.

The first issue will bear Issue Number as 1 and a Revision Number as 0. When any page is revised, the pertinent page will have the Revision Number incremented and dated. When the full manual is revised, and re-issued, the issue number will be incremented but all pages will commence with Revision 0. For changes in Revision / issue number the Amendment Record shall be updated.

Distribution of Controlled copies will be as per distribution list in this manual. When Revision / Issue is changed, all the controlled copies in existence shall be updated. The "CONTROLLED COPY IF IN RED", status will be identified on the title page.
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Management Representative(s) are permitted to keep spare copies without status identification to facilitate issue (as appropriate).

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Note: Requirement section number are aligned with clause numbers of IATF 16949:2016

1.3 Amendment / Revision Record

Issue		Revision		Sheet No.	Reason for Change
No.	Date	No.	Date		
01	1st June 2014	00	1st June 2014	All	New Release
01	1st June 2014	01	28th Nov'2014	All	As per stage – 1 audit corrected & clause no. updated
01	1st June 2014	02	31st Jan'2015	IMS1	Communication Matrix Annex. B included
01	1st June 2014	03	02nd May'2016	IMS5	As per top management change Quality Policy revised.
02	8th May 2017	00	8th May 2017	All	New Release of Integrated system to include IATF 16949:2016 & ISO 14001:2015
02	8th May 2017	01	28th Jan 2020	Scope (5)	Remote Location details added as per IATF Auditor advice
03	25th June 2020	00	25St Jun 2020	All	Revised the Manual in Line with MSI & HMSI SQM requirements and also EHS requirements Manual made separate Updated the Organization chart of Vice President
04	20th Nov 2021	01	20th Nov 2021	5.2	Quality Policy revised as per MSI Global Policy guideline.

1.4 Document Distribution

S. No.	Copy No.	Copy Holder	Copy Type
1	Master	MR	Master Copy
2	Control Copy	Director	Controlled
3	Remote Location	MAP-ID	PDF Copy

Note : Controlled copy in the form of PDF is uploaded in Common Drive or Navision & is available for reference for all

List of Annexure:

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1	QMS Manual Adoption of Management Principle	Annex. I
2	Process Interaction	Annex. II-a/b
3	List of Process Owners	Annex. III
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1.5 Abbreviations Used

1	APQP	Advanced Product Quality Planning
2	FMEA	Failure Mode & Effect Analysis
3	MAP-ID	Musashi Auto Parts India Private Limited
4	No.	Number
5	PE	Process Engineering
6	ME	Manufacturing Engineering
7	PQCS / PQCT	Process Quality Control Sheet / Process Quality Control Table
8	QA	Quality Assurance
9	Refer.	Reference
10	PAD	Process Approach Diagram
11	IMS	Integrated Management System
12	EHS	Environment, Health & Safety
13	QMS	Quality Management System
14	OH&S	Occupational Health & safety
15	IATF	International Automotive Task Force
16	Annex.	Annexure

2.0 Scope of Certification

Exclusions:

IATF 16949:2016 Standard's Clause No. 8.3 - Design & Development is not applicable for Product Design and Development since products are manufactured as per customer given product design.

Sl No	IATF 16949:2016 Clause Ref. No	Title	Reasons for non-applicability
1	8.3.2.2, 8.3.2.3, 8.3.3.1, and 8.3.5.1	**Product design skills, Development of products with embedded software,** Product design input and Design and development outputs	MAP-ID is only responsible for manufacturing process design based on customer design requirements.

Scope :

"Manufacturing of gears, Transmission, Sub-assemblies, Connecting rods & Cam shaft for Automotive Industries"

Manufacturing Location:
(MAP-ID -2 BLR)
Musashi Auto Parts India Pvt. Ltd.
Sy No. 52/1,52/2P,53P,54/1P,55,56,61/1,61/2, 61/3, 62/1 & 62/2 Doddaballapur Industrial Area, 3rd phase, village
Raghunathpura (vi), Kasaba , Bangalore - 562163,
Rural Hobali, karnataka India
I N D I A , Tel No.: +918396918404 , e-mail.: MASAHITO_SAWADA@mm.musashi.co.jp
Web Site: www.musashi.co.in

Remote Location: Address:	**Support:**
Musashi Auto Parts India Pvt. Ltd. Plot No. 33-35 & 46-60,Sector-7, Industrial Growth Center, Bawal District, Rewari, Haryana Pin - 123501 **I N D I A** Tel No. : 91 1284-268200 Fax No.: 01284-268299 E-mail : gulshan.wadhwa@map-id.com	**Marketing, Contract review**

Customer Specific Requirements:

List of Customers requirements (CSR Matrix) as per Annexure XVI & XVIII.

3. Company Profile

Musashi Auto Parts India Private Limited, Bangalore (hereinafter referred as MAP-ID), a member of Musashi Group, Japan who are pioneers in the automotive component Manufacturing Sector. MAP-ID commenced operations in India in 2013 & presently manufactures & supplies Engine & Transmission components, for domestic markets, for a wide range of Two wheelers,

As conceptualized, The Focus of MAP-ID is as follows

- We aim to build an Enthusiastic Enterprise in the Global market with Creative Technology
- We, as Specialists, aim to create Talented Professionals who respect humanity and can take pride in society.
- We are confident of our state-of-the-art Technology achieved globally through Kaizens.
- We supply products with best quality and high Technology to satisfy Customers.
- We Target an Enterprise Growing together with the regional society while paying significant attention to the global environment.

Customers

MAP-ID is catering to domestic markets, presently focusing on the Two-Wheeler market.
Present domestic customer base of MAP-ID includes HMSI, TVS, Exedy, Endurance etc.

Product Range

Engine & Transmission Components including
Gears, Shafts, Cam Shafts.
Connecting Rods Automotive Components Assemblies & Subassemblies

Facilities

The facilities in the Plant include Cold Forging ,Hot forging, CNC Vertical Machining Centers, Turning Centers, Gear Hobbing, Gear Shaping, Gear Shaving, Grinding, Spline Rolling, Broaching Machines, Sealed Quench furnaces, Continuous carburizing Furnace Induction Hardening Machines, Annealing m/c, Center lapping m/c and straightening m/c's shot blasting m/c's & Various other Special Purpose Machines etc. The Quality Control equipment include Gear testers, Surface Roughness Tester, Roundness Measuring Machine, Contour Tracer, Linear height Gauge measuring Instrument, Microscope, Cam Shaft Tester, 3 Co-ordinate measuring machine etc.

For Self reliability in Power, MAP-ID has total captive generation with 4 DG sets with a total installed capacity of 5250KVA. Additionally, six screw Air Compressors, Electronic Weigh Bridge, Pressurized Shop floor for Dust control, Reverse Osmosis Water Purification Plant, fully automatic DM water plant, Underground HSD storage & 2 LPG Bullets are available

3.1 Purpose of the manual

The purpose of the manual is:

a. To describe the Policy and outline the Quality management System adopted by MAP-ID in the following areas of the organization.

- Machine Shop
- HT & Forging
- Engineering
- Factory Control
- Purchase
- Systems
- Process Engineering
- Quality Assurance
- Human Resource & GA
- Finance & Accounts
- Sales
- Manufacturing Engineering

b. To provide a reference document for the implementation and maintenance of Systems in line with IATF 16949: 2016

c. Throughout the manual, the straight fonts are utilized to document the processes followed in line with IATF16949:2016 requirements.

The Manual is supported by a set of Process Approach Diagram, Integrated system Procedures and Work Instructions developed on Risk Management Based Approach

PURPOSE:

To establish a documented QMS to meet the requirement of IATF -16949:2016 including identification of key elements like context, issues, compliance obligation, Risk ,interested parties and scope of the organization. By identifying the key elements herein, the full context of the organization can be understood, and thus communicated to employees, customers, regulators and other third parties. This helps the Top management to guide the company through the use of an informed strategic direction.

SCOPE:

This covers entire Quality Management System established in MAP-ID

RESPONSIBILITY:

Top Management & Management Representative (System Co-Ordinator) and all process owners.

4 CONTEXT OF THE ORGANIZATION

4.1 Understanding the organization and its context

The organization determines external and internal issues that are relevant to its purpose and its strategic direction and that affect its ability to achieve the intended result of its quality management system. The organization monitors and reviews information about these external and internal issues.

Note 1 Issues include positive and negative factors or conditions for consideration.

Note 2 Understanding the external context is facilitated by considering issues arising from legal, technological, competitive, market, cultural, social and economic environments, whether international, national, regional or local.

Note 3 Understanding the internal context is facilitated by considering issues related to values, culture, knowledge and performance of the organization.

4.2 Understanding the needs and expectations of interested parties

Due to their effect or potential effect on the organization's ability to consistently provide products and services that meet customer and applicable statutory and regulatory requirements, the organization determines:

a) the interested parties that are relevant to the quality management system;

b) the requirements of these interested parties that are relevant to the quality management system.

The organization monitors and reviews information about these interested parties and their relevant requirements.

4.3 Determining the scope of the quality management system

The organization determines the boundaries and applicability of the quality management system to establish its scope. When determining this scope, the organization considers:

a) External and internal issues referred to in 4.1;

b) Requirements of relevant interested parties referred to in 4.2;

c) Products and services of the organization.

The organization applies all the requirements of IATF 16949:2016 & ISO 9001:2015 if they are applicable within the determined scope of its quality management system.

The scope of the organization's quality management system is available and is maintained as documented information. The scope states the types of products and services covered and provide justification for any requirement of IATF 16949:2016 & ISO 9001:2015 that the organization determines is not applicable to the scope of its quality management system.

Conformity to this International Standard is only claimed if the requirements determined as not being applicable do not affect the organization's ability or responsibility to ensure the conformity of its products and services and the enhancement of customer satisfaction.

4.3.1 Determine the scope of Quality management system - Supplemental

Supporting functions, whether on-site or remote are included in the scope of the Integrated Management System

The only permitted exclusion is related to the product design and development requirements. The exclusions are justified and maintained as documented information.

4.3.2 Customer-specific requirements

The organization identifies applicable Customer-specific requirements. All applicable requirements are evaluated and included in the scope of the organization's quality management system.

4.4 Quality management system and its processes

4.4.1 The organization establishes, implements, maintains and continually improve a quality management system, including the processes needed and their interactions, in accordance with the requirements of IATF 16949:2016 & ISO 9001:2015
The organization determines the processes needed for the quality management system and their application throughout the organization, and:

a) determines the inputs required and the outputs expected from these processes;

b) determines the sequence and interaction of these processes;

c) determines and applies the criteria and methods (including monitoring, measurements and related performance indicators) needed to ensure the effective operation and control of these processes;

d) determines the resources needed for these processes and ensure their availability;

e) assigns the responsibilities and authorities for these processes;

f) addresses the risks and opportunities as determined in accordance with the requirements of 6.1;

g) evaluates these processes and implement any changes needed to ensure that these processes achieve their intended results;

h) improves the processes and the quality management system.

4.4.1.1 Conformance of products and processes

Organization ensures conformance of all products and processes, and those that are outsourced.

4.4.1.2 Product safety

Product safety controls are applicable only for the packaging, dispatch & manufacturing process.

Refer: ISP-PE-05 Product & Process Safety.

4.4.2 To the extent necessary, the organization:

a) maintains documented information to support the operation of its processes;

b) retains documented information to have confidence that the processes are being carried out as planned.

CROSS REFERENCES

S. No.	DESCRIPTION	REFERENCE
1	Procedure for Document and Data Control	ISP-QA-001
2	Procedure for Control of Records	ISP-QA-002
3	Procedure for New Product Development	ISP-PE-002
4	Procedure for Corrective & Preventive Action	ISP-MS-001
5	List of Procedures	Annexure
6	Internal and External Issues	Annexure
7	Needs and Expectations of Interested Parties	Annexure
8	Scope of Integrated Management System	QM 2
9	Process Identification and Interaction	Annexure
10	Risk Analysis Procedure	ISP-QA-019
11	Risk Analysis Register	Annexure
12	Safety Requirements Identification (S. No. 8 of procedure)	ISP-PE-002
13	Contract review checklist	ISF-SA-004
14	Regulation on Risk Response	Regulation 02/09-10
15	Product/Process Safety Process	ISP-PE-05
16	Procedure for Context of the organization	ISP-QA-020

PURPOSE:

To establish a documented QMS to meet the requirement of IATF 16949:2016 including identification of key Process owners in each process to perform their duties as per requirement of Top management which are in line with new QMS standards

SCOPE:

This covers all process as per QMS standard.

RESPONSIBILITY:

Top Management & all process owners

5 LEADERSHIP

5.1 Leadership and commitment

5.1.1 General

Top management demonstrates leadership and commitment with respect to the quality management system by:

a) taking accountability for the effectiveness of the quality management system;

b) ensuring that the quality policy and quality objectives are established for the quality management system and are compatible with the context and strategic direction of the organization;

c) ensuring the integration of the quality management system requirements into the organization's business processes;

d) promoting the use of the process approach and risk-based thinking;

e) ensuring that the resources needed for the quality management system are available;

f) communicating the importance of effective quality management and of conforming to the quality management system requirements;

g) ensuring that the quality management system achieves its intended results;

h) engaging, directing and supporting persons to contribute to the effectiveness of the quality management system;

i) promoting improvement;

j) supporting other relevant management roles to demonstrate their leadership as it applies to their areas of responsibility.

5.1.1.1 Corporate responsibility

Organization defines and implements corporate responsibility policies, including at a minimum an anti-bribery policy, an employee code of conduct, and an ethics escalation policy ("whistle-blower policy").

Refer:

Business Gift Policy	MAP-ID/HR/10/03-04/Pol No. 01
Policy for Ethics and Values	MAP-ID/HR/06/06-07/Pol No. 22
Punishment Guidelines	MAP-ID/HR/11/08-09/Pol No. 26
Grievance Handling	MAP-ID/HR/11/08-09/Pol No. 27
Prevention on Sexual harassment Policy	MAP-ID/HR/06/06-07/POL NO 21
Guidelines for Prevention of Fraud and Misconduct	MAP-ID/HR/08/12-13/Pol No. 40
Regulation of Internal Control	Regulation 03/09-10
Whistle Blower Policy	MAP-ID/FN/ Pol No. 016

5.1.1.2 Process effectiveness and efficiency

Top management reviews the effectiveness and efficiency of the quality management system to evaluate and improve the organization's quality management system. The results of the process review activities are included as input to the management review (see Section 9.3.2.1.).

1. KPIs are reviewed in monthly MIS and reviewed in quarterly Business plan
2. Reference Doc/procedure /process: Procedure for Management Review Meeting Management (ISP-QA-004) & function business plan(KPIs).

5.1.1.3 Process owners

Top management identifies the process owners who are responsible for managing the organization's processes and related outputs. Process owners understand their roles and are competent to perform those roles

Refer:

1. List of Process Owner.
2. Process chart
3. Process Flow
4. Risk Analysis
5. MRM Minutes
6. R&A Matrix
7. Quality Policy and Objectives

5.1.2 Customer focus

Top management demonstrates leadership and commitment with respect to customer focus by ensuring that:

a) customer and applicable statutory and regulatory requirements are determined, understood and consistently met;

b) the risks and opportunities that can affect conformity of products and services and the ability to enhance customer satisfaction are determined and addressed;

c) the focus on enhancing customer satisfaction is maintained.

Refer:

1. Customer Feedback and Complaints
2. Risk Analysis
3. MRM Minutes
4. Training Attendance sheet (ISF-AD-004)

5.2 Policy

5.2.1 Developing the quality policy

Top management establishes, implements and maintains a quality policy that:

a) is appropriate to the purpose and context of the organization and supports its strategic direction;

b) provides a framework for setting quality objectives;

c) includes a commitment to satisfy applicable requirements;

d) includes a commitment to continual improvement of the quality management system.

5.2.2 Communicating the quality policy

The quality policy is:

a) available and maintained as documented information;

b) communicated, understood and applied within the organization;

c) available to relevant interested parties, as appropriate.

The Quality Policy of MAP–ID is expressed as follows:

MUSASHI AUTO PARTS INDIA PVT LTD QUALITY POLICY

"We accurately understand needs of our customers worldwide, build a progressive corporate structure, and provide top level products that contribute to the realization of a sustainable society from Quality, Cost, Delivery, Morale, Safety, and Environment perspectives."

1st Oct 2021 — Masahito Sawada

Issue 04 Rev.00 — Director

Original Release: 1st June 2014

5.3 Organizational roles, responsibilities, and authorities

Top management ensures that the responsibilities and authorities for relevant roles are assigned, communicated, and understood throughout the organization. Top management assigns the responsibility and authority for:

a) ensuring that the quality management system conforms to the requirements of this International Standard;

b) ensuring that the processes are delivering their intended outputs;

c) reporting on the performance of the quality management system and on opportunities for improvement (see 10.1) to top management;

d) ensuring the promotion of customer focus throughout the organization;

e) ensuring that the integrity of the quality management system is maintained when changes to the quality management system are planned and implemented.

5.3.1 Organizational roles, responsibilities and authorities -supplemental

Top management assigns personnel with the responsibility and authority to ensure that customer requirements are met. These assignments are documented. This includes but is not limited to the selection of special characteristics, setting quality objectives and related training, corrective and preventive actions, product design and development, capacity analysis, logistics information, customer scorecards, and customer portals.

For an effective function of QMS, the management has clearly defined roles, responsibilities and authorities to concerned person. The management has given the job descriptions to define responsibilities and authorities. The management has ensured that these aspects are properly assigned, communicated and understood.

There is a clear expectation for consistent and appropriate ownership from top to bottom within the organization. The top management has actively engaged with the QMS.

The Top management has appointed process owners in their respective processes, and they are accountable for that.

Responsibility of Process owners:

Process owners have the responsibility & authority to establish, document, implement, maintain and improve effectively the QMS of their related processes by commitment.

The top management has assigned responsibility and authority throughout the processes keeping customer focus in mind and striving towards it with continual improvement.

Refer: Annexure- Responsibility & Authority.
List of Process Owner QM Annexure III
HR Policy REGULATION NO: 01/08-09 (Role of Division)

MAP-ID determines & provides infrastructure, which include human resources and specialized skills, organizational infrastructure, technology and financial resources, needed

a) To implement and maintain the Quality management system and continually improve its effectiveness, and
b) To enhance customer satisfaction in meeting customer requirements.

Management will provide resources essential to the implementation and control of the Quality Management System. The resources include Human Resources, natural resources, infrastructure, Technology and Financial resources.

5.3.2 Responsibility and authority for product requirements and corrective actions

Top management ensures that:

a) personnel responsible for conformity to product requirements have the authority to stop shipment and stop production to correct quality problems;

NOTE: At times, it might not always be possible to stop production immediately. In this case, the affected batch is contained and shipment to the customer prevented.

b) personnel with authority and responsibility for corrective action are promptly informed of products or processes that do not conform to requirements to ensure that nonconforming product is not shipped to the customer and that all potential nonconforming product is identified and contained;

c) production operations across all shifts are staffed with personnel in charge of, or delegated responsibility for, ensuring conformity to product requirements.

MAP-ID is headed by Managing Director. The operations of MAP-ID are being carried out as per below mentioned organization structure. Major functions of Top Management related to Quality roles are given below.

The Responsibility and Authority delegation is referenced further in the Responsibility and Authority Procedure ISP-QA-011 and in the various Procedures and Work Instructions.
The roles, responsibilities & authorities of the personnel who manage, perform & verify activities having an effect on the QMS risks of MAP-ID activities, facilities & processes are defined, documented & communicated in order to facilitate QMS management.
This covers all personnel who manage, perform and verify work-affecting quality.

Refer:

1. Procedure for Roles & Responsibility (ISP-QA-011)
2. Document: Responsibility for Responsibility & Authority (ISD-XX-12)

XX refer departmental Code.

MANAGEMENT REPRESENTATIVE

MAP-ID has identified the Management Representative who take care of Quality systems.

The Responsibility and Authority of Management Representative irrespective of other responsibilities shall be as detailed below.

- Ensure that processes needed for the Quality Management System are established, implemented and maintained in accordance with IATF 16949:2016. Ensure promotion of awareness of customer requirements throughout the Organization. Plan and conduct

internal audits. Liaison with external agencies on matter relating to the MAP-ID Quality Management system.

The organizational structure of MAP-ID listing the functions is as below.

Refer:

MR & Dy. MR Letter.

CROSS REFERENCE

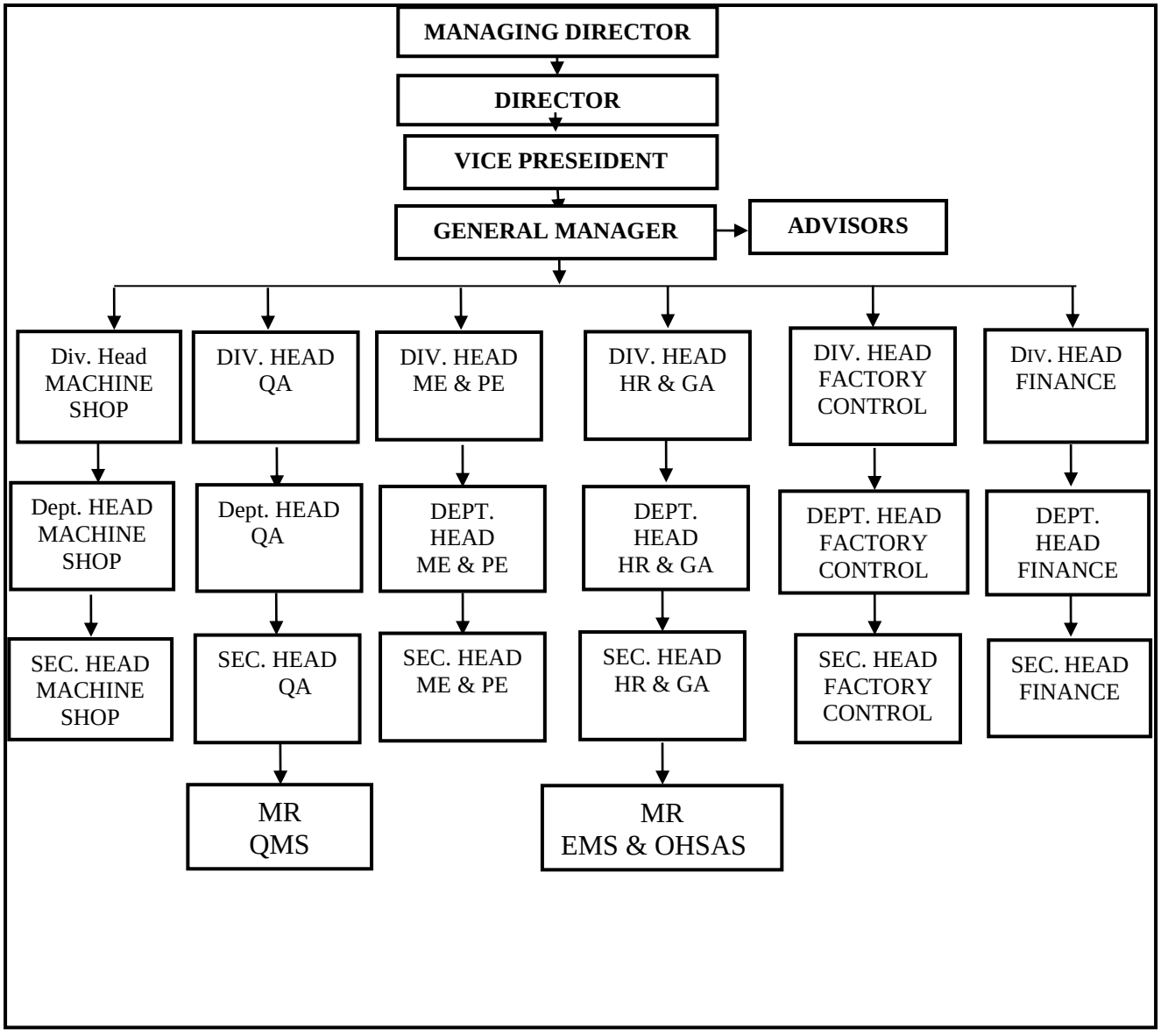
S. No.	DESCRIPTION	REFERENCE
1	Procedure for Management Review	ISP-QA-004
2	Procedure for Responsibility and Authority	ISP-QA-011
3	Business Gift Policy	MAP-ID/HR/10/03-04/Pol No. 01
4	Policy for Ethics and Values	MAP-ID/HR/06/06-07/Pol No. 22
5	Punishment Guidelines	MAP-ID/HR/11/08-09/Pol No. 26
6	Grievance Handling	MAP-ID/HR/11/08-09/Pol No. 27
7	Prevention on Sexual harassment Policy	MAP-ID/HR/06/06-07/POL NO 21
8	Guidelines for Prevention of Fraud and Misconduct	MAP-ID/HR/08/12-13/Pol No. 40
9	Regulation of Internal Control	Regulation 03/09-10
10	Whistle Blower Policy	MAP-ID/FN/ Pol No. 016
11	Process Approach Digram for Each Process	
12	Business Plan for Each Department	
13	List of Process Owner.	ISF/QA/90
14	Role of Division	HR Policy REGULATION NO: 01/08-09
15	Procedure for Management Review Meeting	ISP-QA-004
16	Procedure for Responsibility and Authority	ISP-XX-011 Where XX Deptt. Code
17	Procedure for Customer Satisfaction	ISP-SA-01
18	Dy. Management Representative Letter	QM Annex. XII
19	Management Representative Letter	QM Annex. XI

MAP-ID Bangalore Organization Chart:

MAP-ID Organization Chart available on MAP-ID Portal at below link.

http://portal.map-id.com/Communication.aspx (Bawal)

The organizational structure of MAP-ID listing the functions is as below.



PURPOSE:

To establish a systematic planning throughout the supply chain to get the desired result as per the customer requirement.

SCOPE:
This covers all process as per QMS standard requirement.

RESPONSIBILITY:

Top Management & all process owners

6. PLANNING

6.1 Actions to address risks and opportunities

6.1.1 When planning for the quality management system, the organization considers the issues referred to in 4.1 and the requirements referred to in 4.2 and determine the risks and opportunities that need to be addressed to:

a) give assurance that the quality management system can achieve its intended results

b) enhance desirable effects

c) prevent, or reduce, undesired effects

d) achieve improvement

6.1.2

MAP-ID has developed the process to address the Risk throughout its supply chain with the help of related process owners with actions and to evaluate the effectiveness of these actions. Actions taken to address risks and opportunities are reviewed and evaluated as per required frequency so that there will not any potential impact on the conformity of products and services

Refer:
Risk & Opportunities Annexure

The results of these assessments are documented and kept up to date & efforts of these controls are considered while setting the QMS objectives.

The organization plans:

a) actions to address these risks and opportunities;
b) how to:
1) integrate and implement the actions into its quality management system processes (see 4.4);
2) evaluate the effectiveness of these actions.

Actions taken to address risks and opportunities are proportionate to the potential impact on the conformity of products and services.

Note 1 Options to address risks 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.

Note 2 Opportunities lead to the adoption of new practices, launching new products, opening new markets, addressing new clients, building partnerships, using new technology and other desirable and viable possibilities to address the organization's or its customers' needs.

6.1.2.1 Risk analysis

MAP-ID has developed process flow throughout its supply chain and identified risk in each process to meet customer specific requirement by considering following. It has documented the same with result as an evidence.

a) Complaints
b) Field returns & Rework
c) Lessons learnt from Product recalls
d) Audit results
e) Scrap and rework
f) New development
g) Abnormal conditions
h) Potential emergency situations as per EHS emergency plan.

The organization includes in its risk analysis, at a minimum, lessons learned from product recalls, product audits, field returns and repairs, complaints, scrap, and rework. The organization retains documented information as evidence of the results of risk analysis.

Refer: 1. Procedure for Risk analysis (ISP/QA/019)
2. Risk analysis Annexure

6.1.2.2 Preventive action

The organization determines and implements actions to eliminate the causes of potential non-conformities in order to prevent their occurrence. Preventive actions are appropriate to the severity of the potential issues

The organization has established a process to lessen the impact of negative effects of risk including the following:
a) determining potential nonconformities and their causes;
b) evaluating the need for action to prevent occurrence of nonconformities:
c) determining and implementing action needed;
d) documented information of action taken;
e) reviewing the effectiveness of the preventive action taken;
f) utilizing lessons learned to prevent recurrence in similar processes

Refer:

1. Procedure for Corrective & Preventive Action (ISP-MS-001)
2. Rule - Daily Q Report route and countermeasure (DOC.NO:-ISD-QA-035)
3. Rule Customer Complaint – Countermeasure (ISD-QA-016)
4. Rule MUSASHI Global Quality Assurance. (M2041-35)

6.1.2.3 Contingency plan

The organization:
a) identifies and evaluates internal and external risks to all manufacturing processes and infrastructure equipment essential to maintain production output and to ensure that customer requirements are met;

b) defines contingency plans according to risk and impact to the customer;

c) prepares contingency plans for continuity of supply in the event of any of the following: key equipment failures (also see Section 8.5.6.1.1); interruption from externally provided products, processes and services; recurring natural disasters; fire; utility interruptions; cyber-attacks on information technology systems; labour shortages; or infrastructure disruptions.

d) includes as a supplement to the contingency plans, a notification process to the customer and other interested parties for the extent and duration of any situation impacting customer operations;

e) periodically tests the contingency plans for effectiveness (e.g., simulations, as appropriate);

f) conducts contingency plan reviews (at a minimum annually) using a multidisciplinary team including top management, and updated as required;

g) documents contingency plans and retains documented information describing any revisions, including the person who authorized the changes.

The contingency plans include provisions to validate that the manufactured product continues to meet customer specifications after the re-start of production following an emergency in which production was stopped and if the regular shutdown processes were not followed.

MAP-ID reviews contingency plan at six months interval for each function by respective process owner & report is submitted to Director In-charge Factory Control. Contingency plan status is reviewed in every Quality System MRM.

Refer:
Contingency Plans & Review(ISF-FC-30)

6.2 Quality objectives and planning to achieve them

6.2.1 The organization established quality objectives at relevant functions, levels and processes needed for the quality management system.

The quality objectives are:

a) consistent with the quality policy;

b) measurable;

c) take into account applicable requirements;

d) relevant to conformity of products and services and to enhancement of customer satisfaction;

e) monitored;

f) communicated;

g) updated as appropriate.

The organization maintains documented information on the quality objectives.

KPIs are reviewed in monthly MIS and quarterly.

6.2.2 When planning how to achieve its quality objectives, the organization determines:

a) what is to be done;

b) what resources are required;

c) who is responsible(Each function process owner is responsible for function KPIs);

d) when it will be completed;

e) how the results are evaluated.

6.2.2.1 Quality objectives and planning to achieve them-supplemental

Top management ensures that quality objectives to meet customer requirements are defined, established, and maintained for relevant functions, processes, and levels throughout the organization.

The results of the organization's review regarding interested parties and their relevant requirements are considered when the organization establishes its annual (at a minimum) quality objectives and related performance targets (internal and external).

Refer:

1	Business Plan Objectives (Organizational and Department wise)	KPI
2	Quarterly Review Records	-
3	Minutes of Management Review Meetings	ISF-QA-008

6.3 Planning of changes

When the organization determines the need for changes to the quality management system, the changes are carried out in a planned and systematic manner.
The organization considers:

a) the purpose of the changes and their potential consequences;

b) the integrity of the quality management system;

c) the availability of resources;

d) the allocation or reallocation of responsibilities and authorities.

Refer: Procedure for Process Control (ISP-MS-002)

CROSS REFERENCES

S. No.	DESCRIPTION	REFERENCE
4	Procedure for Training	ISP-AD-001
5	Procedure for Process Control	ISP-MS-002
6	Procedure for Consultation & Communication	ISP-MN-005
7	Contingency Plan & Review	ISF-FC-030
8	Risk Analysis	ISP-QA-019
9	Risk Analysis register	QM Annex.IX
10	Risk & Opportunity	QM Annex. VIII
11	Procedure for Corrective and Preventive Actions	ISP-MS-001
12	Business Plan Objectives (Organizational and Department wise)	KPI
13	Quarterly Review Records	-
14	Minutes of Management Review Meetings	ISF-QA-008
15	Process Change Justification Sheet	ISF-PE-010

PURPOSE:
To provide the resources required to perform the work and verification activities including

- Implementation and maintenance of the Quality Management System activities.
- Human Resources,
- Infrastructure like buildings, workspace and associated utilities, process equipment and services such as transport / communication.

SCOPE:
The Scope of the system covers Human Resources, Environment for the operations of processes and Infrastructure.

RESPONSIBILITY:
All concerned process owners are responsible to ensure that the system laid down herein is implemented.

7 SUPPORT

7.1 Resources

7.1.1 General

The organization determines and provides the resources needed for the establishment, implementation, maintenance and continual improvement of the quality management system.

The organization considers:

a) capabilities of, and constraints on, existing internal resources;

b) what needs to be obtained from external providers.

S. No.	DESCRIPTION	REFERENCE
1	Procedure for Tooling Management (for details of tools available)	ISP-PE-004
2	Procedure for Purchasing (for suppliers providing external parts / services)	ISP-PU-001
3	Procedure for Incoming Quality	ISP-QA-007
4	Procedure for Maintenance (for list of machines and utilities)	ISP-MN-001
5	Procedure for Control of Monitoring & Measuring Equipment (see details of list of equipment in organization)	ISP-QA-010
6	Rule Inventory Norms	ISD-FC-012

7.1.2 People

The organization determines and provides the persons necessary for the effective implementation of its quality management system and for the operation and control of its processes.

Refer:

S. No.	DESCRIPTION	REFERENCE
1	Procedure for Training (for details of competence and man-power requirements)	ISP-AD-001
2	Procedure for Roles	ISP-QA-011
3	Procedure for Roles and Responsibilities	ISD-XX-012 XX Refer deptt. code
4	Manpower Monitoring and Improvement	ISD-MS-004
5	Organization Chart	-

7.1.3 Infrastructure

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

Infrastructure includes:

a) building and associated utilities;
b) equipment including hardware and software;
c) transportation resources;
d) information and communication technology.

Refer:

S. No.	DESCRIPTION	REFERENCE
1	Procedure for Tooling Management (for details of tools available)	ISP-PE-004
2	Procedure for Maintenance (for list of machines and utilities)	ISP-MN-001
3	Procedure for Control of Monitoring & Measuring Equipment (see details of list of equipment in organization)	ISP-QA-010
4	New Machine Planning, Ordering and Commissioning	ISD-PE-004
5	Master List of Suppliers	-
6	Master List of Measuring Equipment	Software Generated

7.1.3.1 Plant, Facility and Equipment Planning

The organization uses a multidisciplinary approach including risk identification and risk mitigation method for developing and improving plant, facility and equipment plans. In designing plant layouts, the organization:

a) optimizes material flow, material handling, and value- added use of floor space including control of nonconforming product, and

b) facilitates synchronous material flow, as applicable and
c) Implements cyber protection of equipment & systems supporting manufacturing.

Methods are developed and implemented to evaluate manufacturing feasibility for new product or new operations. Manufacturing feasibility assessments include capacity planning. These methods are also applicable for evaluating proposed changes to existing operations.

The organization maintains process effectiveness, including periodic re-evaluation relative to risk, to incorporate any changes made during process approval, control plan maintenance (see Section 8.5.1.1), and verification of job set-ups (see section 8.5.1.3)

Assessment of manufacturing feasibility and evaluation of capacity planning are inputs to management reviews (see Section 9.3)

Where possible, application of lean manufacturing principles is applied. These requirements also apply to on-site supplier activities, if it ever becomes applicable.

Refer:

S. No.	DESCRIPTION	REFERENCE
1	Floor Plan Layout – Plant wide and Shop Wise	-
2	New Machine Planning, ordering and commissioning	ISD-PE-004
3	Procedure for Purchasing (for suppliers providing external parts / services)	ISP-PU-001
4	Procedure for Incoming Quality	ISP-QA-007
5	Team Feasibility Commitment	ISF-PE-006
6	Minutes of Management Reviews	ISF-QA-008
7	Capacity Planning Rules	ISD-PE-007
8	Procedure for New Product development	ISP-PE-002
9	Initial Part Control Rule(IPP)	ISD-QA-043

7.1.4 Environment for the operation of processes

The organization determines, provides and maintains the environment necessary for the operation of its processes and to achieve conformity of products and services.

Note A suitable environment combines human and physical factors, such as:

a) social (e.g. non-discriminatory, calm, non-confrontational);

b) psychological (e.g. stress-reducing, burnout prevention, emotionally protective);

c) physical (e.g. temperature, heat, humidity, light, airflow, hygiene, noise).

For this purpose:
-Temperature and humidity requirements in Lab are monitored and maintained

- In other sections, rust prevention is ensured through leakage control and moisture prevention.

7.1.4.1 Environment for the operation of processes – supplemental

The organization maintains its premises in a state of order, cleanliness, and repair that is consistent with the product and manufacturing process needs

Refer:
5-S Checklists
Rule for 5-S (ISD-MS-006)

MAP-ID already certified for ISO 14001 & OHSAS 18001.

7.1.5 Monitoring and Measuring Resources

7.1.5.1 General

The organization determines and provides the resources needed to ensure valid and reliable results when monitoring or measuring is used to verify the conformity of products and services to requirements.

The organization ensures that the resources provided:

a) Are suitable for the specific type of monitoring and measurement activities being undertaken.

b) Are maintained to ensure their continuing fitness for their purpose.

The organization retains appropriate documented information as evidence of fitness for purpose of the monitoring and measurement resources.

Refer:

S. No.	DESCRIPTION	REFERENCE
1	Procedure for Control of Monitoring and Measuring Devices	ISP-QA-010
2	Calibration certificates	-

7.1.5.1.1 Measurement System Analysis

Statistical studies are conducted to analyze the variation present in the results of each type of inspection, measurement and test equipment system identified in control plan. The analytical methods and acceptance criteria used conform to those in reference manuals on measurement system analysis. Other analytical methods and acceptance criteria may be used if approved by the customer.

Records of customer acceptance of alternative methods, if applicable, are retained along with result from alternative measurement system analysis.

Refer:

1. MSA Plan(ISF-QA-033)
2. MSA Studies
3. Work Instruction for MSA ISW-QA-003
4. Procedure for Statistical Techniques (ISP-QA-006)

7.1.5.2 Measurement traceability

When measurement traceability is a requirement, or is considered by the organization to be an essential part of providing confidence in the validity of measurement results, measuring equipment are:

a) verified or calibrated, or both, at specified intervals, or prior to use, against measurement standards traceable to international or national measurement standards; when no such standards exist, the basis used for calibration or verification is retained as documented information;

b) identified in order to determine their status;

c) safeguarded from adjustments, damage or deterioration that would invalidate the calibration status and subsequent measurement results.

The organization determines if the validity of previous measurement results has been adversely affected when measuring equipment is found to be unfit for its intended purpose and takes appropriate action as necessary.

Refer:

S. No.	DESCRIPTION	REFERENCE
1	Procedure for Control of Monitoring and Measuring Devices	ISP-QA-010

7.1.5.2.1 Calibration / Verification Records

The organization has a documented process for managing calibration / verification records. Records of the calibration / verification activity for all gauges and measuring and test equipment needed to provide evidence of conformity to internal requirements, legislative and regulatory requirements, and customer defined requirements are retained.

The organization ensures that calibration / verification activities and records include the following details:

a) revisions following engineering changes that impact measurement systems;

b) any out of specification readings as received for calibration / verification;

c) an assessment of the risk of intended use of product caused by the out of specification condition;

d) when a piece of inspection measurement and test equipment is found to be out of calibration or defective during its planned verification or calibration or during its use, documented information on the validity of previous measurement results obtained with this piece of inspection measurement and test equipment is retained, including the associated standards last calibration date and next due date on calibration report;

e) notification to customer if suspect product or material has been shipped;

f) Statement of conformity to specification after calibration / verification;

g) verification that the software version used for product and process is as specified;

h) records of calibration and maintenance activities for all gauging;

i) production related software verification used for product and process control including software installed on employee-owned equipment, customer owned equipment, or on-site supplier - owned equipment, if and when becomes applicable

MAP-ID ensures all calibration certificates meet gauge acceptance requirements. For external certificates, reported results are verified manually against established criteria. For in-house calibration GCS software is pre-filled with acceptance norms.

Verification of calibrated devices is done against masters or calibrated devices by production and/or quality personnel as per process sheet/instruction
Refer:

S. No.	DESCRIPTION	REFERENCE
1	Procedure for Control of Monitoring and Measuring Devices	ISP-QA-010

7.1.5.3 Laboratory requirements
7.1.5.3.1 Internal laboratory

Organization's internal laboratory facility has a defined scope that includes its capability to perform the required inspection, test or calibration services. This laboratory scope is included in the quality management system documentation. The laboratory specifies and implements, as a minimum, technical requirements for:

a) adequacy of the laboratory procedures,

b) competency of the laboratory personnel,

c) testing of the product,

d) capability to perform these services correctly, traceable to the relevant process standard, when no national or international standard(s) is available, the organization defines and implements a methodology to verify measurement system capability;
e) customer requirements, if any,
f) review of related records.

Refer:

S. No.	DESCRIPTION	REFERENCE
1	Standard Room Manual	ISD-QA-008
2	Metallurgical Lab Manual	ISD-QA-009

7.1.5.3.2 External laboratory

External/commercial/independent laboratory facilities used for inspection, test or calibration services by the organization have a defined laboratory scope that includes the capability to perform the required inspection, test or calibration, and either:

-the laboratory is accredited to ISO /IEC 17025 or its national equivalent (e.g. CNAS-CL01 in China) by an accreditation body (Signatory) of the ILAC MRA (International Laboratory Accreditation Forum Mutual Recognition Arrangement– www.ilac.org) and include relevant inspection, test, or calibration service in the scope of accreditation (certificate); the certificate of calibration or test report includes the mark of a national accreditation body; or

- where an accredited laboratory is not available (e.g., for specialist or integrated equipment, or for parameters with no international traceable standard reference), the organization is responsible to ensure that there is evidence that the laboratory has been evaluated and meets the requirements of Section 7.1.5.3.1 of IATF 16949.

Calibration services may be performed by the equipment manufacturer when a qualified laboratory is not available for a given piece of equipment. In such cases, the organization ensures that the requirements listed in Section 7.1.5.3.1 have been met.

Use of calibration services, other than by qualified (or customer accepted) laboratories, to be subject to government regulatory confirmation.

Refer:

S. No.	DESCRIPTION	REFERENCE
1	Standard Room Manual	ISD-QA-008
2	Metallurgical Lab Manual	ISD-QA-009

7.1.6 Organizational knowledge

The organization determines the knowledge necessary for the operation of its processes and to achieve conformity of products and services. This knowledge is maintained and made available to the extent necessary.

When addressing changing needs and trends, the organization considers its current knowledge and determines how to acquire or access any necessary additional knowledge and required updates.

Note 1 Organizational knowledge is knowledge specific to the organization; it is gained by experience. It is information that is used and shared to achieve the organization's objectives.

Note 2 Organizational knowledge is based on:
a) internal sources (e.g. intellectual property; knowledge gained from experience; lessons learned from failures and successful projects; capturing and sharing undocumented knowledge and experience; the results of improvements in processes, products and services);

b) external sources (e.g. standards; academia; conferences; gathering knowledge from customers or external providers).
Process owner is responsible for maintain & update organizational knowledge.
Refer:

1. Induction training material
2. Training Module
3. Past Trouble data base
4. Continual Improvement Projects
5. Kaizen summary
6. Master List of IS and International Standards
7. K-2 Rule booklet
8. Global claim list and their countermeasure on intranet
9. Global countermeasure details
10. Training manuals
11. Policies and rule books
12. Machine & equipments manual

7.2 Competence

The organization:

a) determines the necessary competence of people doing work under its control that affects the performance and effectiveness of the quality management system;

b) ensures that these persons are competent on the basis of appropriate education, training, or experience;

c) where applicable, takes actions to acquire the necessary competence, and evaluate the effectiveness of the actions taken;

d) retains appropriate documented information as evidence of competence.

Note Applicable actions can include, for example, the provision of training to, the mentoring of, or the reassignment of currently employed persons; or the hiring or contracting of competent persons.

Refer:

1. Skill Matrix ISF-AD-001
2. Procedure for Training (ISP-AD-001)
3. Training Attendance sheet (ISF-AD-004)
4. Training Questionnaire
5. Training Calendar

7.2.1 Competence-supplemental

The organization has established and maintained a documented process for identifying training needs including awareness and achieving competence for all personnel performing activities affecting conformity to product and process requirements. Personnel performing specific assigned tasks are qualified, as required, with particular attention to the satisfaction of customer requirements

Refer:

1. Skill Matrix ISF-AD-001
2. Training Attendance sheet (ISF-AD-004)
3. Procedure for Training (ISP-AD-001)

7.2.1 Competence- On Job Training (OJT)

The organization provides on the job training (which includes customer requirements training) for personnel in any new or modified responsibilities affecting conformity to quality requirements, internal requirements, regulatory or legislative requirements; this includes contract or agency personnel, if employed. The level of detail required for on-the-job training are commensurate with the level of education the personnel possess and complexity of tasks they are required to perform for their daily work. Personnel whose work can affect quality are informed about the consequences to the customer of nonconformity to quality requirements.

Refer:

1. Skill Matrix ISF-AD-001
2. Training Attendance sheet (ISF-AD-004)

3. Procedure for Training (ISP-AD-001)

7.2.3 Internal auditor competency

The organization has documented process to verify that internal auditors are competent, taking into account any requirements defined by organization and /or customer-specific requirements customer specific requirements. The organization maintains a list of qualified internal auditors.

Quality management system auditors are able to demonstrate the following minimum competencies:
a) Understanding automotive process approach for auditing, & risk based thinking;
b) understanding of applicable customer specific requirements;
c) understanding of applicable ISO 9001 and IATF 16949 requirements related to the scope of the audit;
d) understanding of applicable core tool requirements related to the scope of the audit;
e) understanding how to plan, conduct, report, and close out audit findings.

At a minimum, manufacturing process auditors demonstrate technical understanding of relevant manufacturing processes to be audited, including process risk analysis (such as PFMEA) and control plan.
At a minimum , Product auditors demonstrate competence in understanding product requirements and use of relevant measuring and test equipment to verify product conformity.

Maintenance of and improvement in internal auditor competence is demonstrated through:

1. Executing a minimum no. of audits per year, as defined by organization; and
2. Maintaining knowledge of relevant requirements based on internal changes (e.g. process technology, product technology) and external changes (e.g. ISO 9001, IATF 16949, core tools and customer specific requirements.

Refer:

1. List of Internal Auditors (ISD-QA-001)
2. Auditor training certificates
3. Procedure for Internal Audit(ISP-QA-003)
4. Criteria for Internal Auditor QM Annexure X

7.2.4 Second Party Auditor Competency

The organization can demonstrate the competence of auditors undertaking second party audit.
Second party auditors meet customer specific requirements for auditor qualification and demonstrate the minimum following core competencies, including understanding of :
a) the automotive process approach to auditing, including risk based thinking;
b) applicable customer and organization specific requirements;
c) applicable ISO 9001 and IATF 16949 requirements related to scope of audit;
d) applicable manufacturing processes to be audited, including PFMEA and control plan;
e) applicable core tool requirements related to scope of audit;
f) how to plan, conduct, prepare audit reports and close out audit report.

Refer:

1. List of Internal Auditors (ISD-QA-001)
2. Auditor training certificates
3. Procedure for Incoming Product Quality/Supplier Audit(ISP-QA-007)
4. Criteria for Second Party Auditor(QM Annex.XVII)

7.3 Awareness

The organization ensures that relevant persons doing work under the organization's control are aware of:

a) The quality policy;
b) Relevant quality objectives;
c) Their contribution to the effectiveness of the quality management system, including the benefits of improved performance;
d) The implications of not conforming with the quality management system requirements.

Refer:

1. Skill Matrix ISF-AD-001
2. Training Attendance sheet(ISF-AD-004)
3. Training Questionnaire

7.3.1 Awareness - Supplemental

The organization maintains documented information that all employees are aware of their impact on product quality and the importance of their activities in achieving, maintaining, and improving quality, including customer requirements and the risk involved for customer with non- conforming product.

Refer:

1. Skill Matrix ISF-AD-001
2. Training Attendance sheet (ISF-AD-004)
3. Training Questionnaire

7.3.2 Employee Motivation and Empowerment

The organization maintains a documented process to motivate employees to achieve quality objectives, to make continual improvements, and to create an environment to promote innovation. The process includes the promotion of quality and technological awareness throughout the whole organization.

Refer:

1. Rule - Employee Motivation (ISD-QA-038)
2. Procedure for Training(ISP-AD-001)
3. Reward & Recognition Guidelines MAP-ID/HR/12/08-09/POL NO 30
4. Performance Appraisal Guidelines MAP-ID/HR/11/08-09/POL NO 28

7.4 Communication

MAP-ID established process for both internal and external communications. It provides organization to provide and obtain information relevant to its QMS.

Division Heads ensure appropriate communication processes through internal meetings, reviews, mails, circulars, notice boards etc. Within the Organization and that communication takes place regarding the effectiveness of Quality Management System.

Management Representative-QMS ensures

- Internal communication of Quality information among the various levels & functions of the organization as well as contractors and other visitors to the workplace.
- Receiving, documenting and responding to relevant communication from external interested parties

The organization determines the internal and external communications relevant to the quality management system, including:

a) on what it will communicate;
b) when to communicate;
c) with whom to communicate;
d) how to communicate;
e) who communicates.

Refer:

1. Organization Chat and Responsibility (ISD-XX-12) Where XX define deptt. Code
2. MRM Minutes
3. Internal Circulars and Office Memo
4. Display Boards
5. Employee Feedback survey
6. Vendor meet & MAP-ID portal for supplier.
7. MQCD audit
8. Business plan
9. Musashi Global issue
10. IPC & internal -external communication as per EHS.
11. Customer Portal for score card & customer requirement.

7.5 Documented information

7.5.1 General

MAP-ID has defined quality policy, quality objectives, Quality/EHS manual, procedures as per requirement and for identified processes, work instructions, Process plans, formats for each processes are developed and maintained.

LEVEL 1	=	QUALITY/EHS SYSTEM MANUAL
LEVEL 2	=	FUNCTION SYSTEM PROCEDURES
LEVEL 3	=	WORK INSTRUCTIONS, CONTROL PLANS / FMEA
LEVEL 4	=	FORMATS & RECORDS

The organization's quality management system includes:
a) documented information required by IATF 16949-2016;

b) documented information determined by the organization as necessary for the effectiveness of the quality management system.

NOTE The extent of documented information for a quality management system is decided by:

— the size of organization and its type of activities, processes, products and services;

— the complexity of processes and their interactions;

— the competence of persons.

Refer:

1. Latest version of Documents (Manual, Quality Plans, W.I., Formats etc. _maintained on MAP-ID intranet.
2. Procedure for Document & Data Control (ISP-QA-001)
3. Procedure for Control of Records (ISP-QA-002)

7.5.1.1 Quality Management system documentation

The organization's quality management system is documented and includes this quality manual. This quality manual has:

a) the scope of the quality management system, including details of and justification for any exclusions

b) the documented procedures established for the quality management system, or reference to them,

c) the organization processes and their sequence and interaction (inputs and outputs), including type and extent of control of any outsourced processes;

d) a document (for example, a table, a list, or a matrix) indicating where within organization's quality management system their customer specific requirements are addressed.

Refer:

Latest version of Documents (Manual, Quality Plans, W.I, Formats etc. _maintained on MAP-ID intranet.

7.5.2 Creating and updating

MAP-ID created and updated documented information with proper identification and description.
When creating and updating documented information, the organization ensures appropriate:

a) identification and description (e.g. a title, date, reference number);

b) format (e.g. language, version) and media (e.g. paper, electronic);

c) review and approval for suitability and adequacy.

Refer:

1. Latest version of Documents (Manual, Quality Plans, W.I, Formats etc. _maintained on MAP-ID intranet.
2. Procedure for Document & Data Control (ISP-QA-001)
3. Procedure for Control of Records (ISP-QA-002)

7.5.3 Control of documented information

7.5.3.1

The MAP-ID has established, prepared and maintained the system for documentation and Change Control.

In case of any amendment in any part of a section, entire section is revised indicating the latest revision no. The revised version of the section is prepared by M.R, reviewed and approved by Director On approval, controlled copies are distributed to concerned authorities as indicated in the Distribution list.

Whenever revisions are done in QMS Manual, It is the responsibility of the individual copyholders to remove the obsolete section of the QMS Manual, return the same to M.R. and include the revised section in the QMS Manual.

M.R. maintains **obsolete copy** of the master document for reference purpose. If any controlled copy is lost by the copy holder that copy no. is considered obsolete and a new copy no. is given for that holder. The re-issue is done based on the written request from the holder and approved by Management Representative. MR is responsible for the issue of all documents to the concerned authorities in the organization. Whenever, documents are revised, it will be ensured that the integrity of the QMS as per IATF 16949: 2016 is maintained.

Documented information required by the quality management system and ISO 9001:2015 is controlled to ensure:

a) it is available and suitable for use, where and when it is needed;

b) it is adequately protected (e.g. from loss of confidentiality, improper use, or loss of integrity).

7.5.3.2

Quality records are maintained to demonstrate achievement of the required quality and effective operation of the Quality System. Quality records are legible and are stored and maintained in such a way that they are readily retrievable in facilities that provide a suitable environment to minimize deterioration or damage to records. Identification, collection, indexing, access, filing, storage, maintenance, disposition and retrieval of documents and records are controlled through established procedures. This is applicable to records kept in any form such as hard copy or electronic media (soft copy).
Where contractually agreed, quality records are made available to the customer or customer's representative for reference for an agreed period.

External origin documents are controlled through List of external origin documents

Retention period of quality records is established and identified in the list of quality records. Where applicable, retention period is defined based on the customer / regulatory requirements.

For the control of documented information, the organization addresses following activities:

a) distribution, access, retrieval and use;

b) storage and preservation, including preservation of legibility;

c) control of changes;

d) retention and disposition.

Documented information of external origin determined by the organization to be necessary for the planning and operation of the quality management system is identified as appropriate and controlled.
Documented information retained as evidence of conformity is protected from unintended alterations.

Note Access can imply a decision regarding the permission to view the documented information only, or the permission and authority to view and change the documented information.

7.5.3.2.1 Record Retention

The organization has defined, documented and implemented a record retention policy. The control of records are satisfy statutory, regulatory, organizational and customer requirements.

Production part approvals, tooling records (including maintenance and ownership), product and process design records, purchase orders, or contracts and amendments are retained for the length of time that the product is active for production and service requirements, plus one calendar year, unless otherwise specified by the customer or regulatory agency.

Refer:

1. Procedure for Document & Data Control (ISP-QA-001)
2. Procedure for Control of Records (ISP-QA-002)
3. Customer Specific Requirement.
4. List of Record (ISD-QA-002)
5. QM Annex.XIII CSR for Record Retention

7.5.3.2.2 Engineering Specifications

The organization has a documented process describing the review, distribution and implementation of all customer engineering standards/specifications and related revision based on customer schedule, as required.

The organization retains a record of the date on which each change is implemented in production. Implementation includes updated documents. Review is completed within 10 working days of receipt of notification of engineering standard / specification changes. A change in these standards/specifications requires an updated record of customer production part approval when these specifications are referenced on the design record or if they affect documents of production part approval process, such as control plan, risk analysis (such as FMEAs), etc.
Refer:

1. Engineering Change Notes

CONSOLIDATED CROSS REFERENCE:

S. No .	DESCRIPTION	REFERENCE
1	Procedure for New Product Development	ISP-PE-002
2	Procedure for Part Approval Process	ISP-PE-003
3	Procedure for Contract review	ISP-PE-001
4	Procedure for Tooling Management	ISP-PE-004
5	Procedure for Customer Satisfaction	ISP-SA-001
6	Procedure for Purchasing	ISP-PU-001
7	Procedure for Incoming Quality	ISP-QA-007
8	Procedure for Maintenance	ISP-MN-001
9	Procedure for Legal & other requirements	ISP-MN-002
10	Procedure for identification & evaluation of EHS aspects	ISP-MN-004
11	Procedure for Operational Control	ISP-MN-007
12	Procedure for Production Planning and Control	ISP-FC-002

S. No .	DESCRIPTION	REFERENCE
13	Procedure for Process Control	ISP-MS-002
14	Procedure for Identification & Traceability	ISP-HT-002
15	Procedure for Dispatch	ISP-FC-003
16	Procedure for Inventory Management	ISP-FC-004
17	Procedure for Control of Monitoring & Measuring Equipment	ISP-QA-010
18	Procedure for Training	ISP-AD-001
19	Procedure for Statistical Techniques	ISP-QA-006
20	Procedure for Document & Data Control	ISP-QA-001
21	Procedure for Control of Record	ISP-QA-002
22	Preliminary Feasibility & Risk Analysis	ISF-PE-006
23	New Product Development Rule	ISD-PE-014
24	WI for Engineering Document Control	ISW-PE-001
25	Engineering change note	-

PURPOSE:
To do the operation in all process as per planned keeping customers specific requirements as a main criteria and achieve the same through defined set objectives.

SCOPE:
This covers all process throughout the supply chain.

RESPONSIBILITY:

Top Management, all process owners and concerned employees.

8 OPERATION

8.1 Operational planning and control

The organization plans, implements and controls the processes (see 4.4) needed to meet the requirements for the provision of products and services, and to implement the actions determined in Clause 6, by:

a) determining the requirements for the products and services;

b) establishing criteria for:
1) the processes;
2) the acceptance of products and services;

c) determining the resources needed to achieve conformity to the product and service requirements;

d) implementing control of the processes in accordance with the criteria;

e) determining and keeping documented information to the extent necessary:
1) to have confidence that the processes have been carried out as planned;
2) to demonstrate the conformity of products and services to their requirements.

The output of this planning is suitable for the organization's operations.

The organization controls planned changes and review the consequences of unintended changes, taking action to mitigate any adverse effects, as necessary.

The organization ensures that outsourced processes are controlled (see 8.4).

8.1.1 Operational Planning and Control- Supplemental

When planning for product realization, the following topics are included:
a) customer product requirements and technical specifications;
b) logistics requirements;
c) manufacturing feasibility;
d) project planning;
e) acceptance criteria.

8.1.2 Confidentiality

The organization ensures the confidentiality of customer-contracted products and projects under development, including related product information.

Refer:

1. Guidelines for Taking out Confidential Information MAP-ID/FIN/POL.NO.046
2. Code of Conduct MAP-ID/HR/07/06-07/POL. NO.22
3. Guidelines for Handling Of Confidential Documents and Objects MAP-ID/FIN/POL.NO.045
4. Control Plans
5. Business Plan Objectives
6. Inspection Reports
7. Process Flows
8. Test Certificates
9. Procedure for Production Planning Control (ISP-FC-002).
10. Manufacturing Feasibility Reports/New Product Development Rule (ISD-PE-014)

8.2 Requirements for products and services

8.2.1 Customer communication

Communication with customers includes:

a) providing information relating to products and services;

b) handling enquiries, 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.

8.2.1.1 Customer Communication - Supplemental

Written or verbal communication is in the language agreed with customer. The organization has the ability to communicate necessary information, including data in a customer specified computer language and format (e.g. computer added design data, electronic data interchange)

Refer:

1. Procedure for New Product Development (ISP-PE-002)
2. Procedure for Contract Review (ISP-PE-001)
3. Procedure for Customer Satisfaction(ISP-SA-001)
4. Customer Orders and Enquiries
5. Customer score card & customer portal
6. Customer Agreements
7. Customer Complaint Records

8.2.2 Determination of requirements related to products and services

When determining the requirements for the products and services to be offered to customers, the organization 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.

8.2.2.1 Determining the requirements for products and services – Supplemental

These requirements include recycling, environmental impact, and characteristics identified as a result of organization's knowledge of the product and manufacturing processes. It includes all applicable government, safety, and environmental regulation related to acquisition, storage, handling, recycling, elimination or disposal of material.

Refer:

1. Procedure for New Product Development (ISP-PE-002)
2. Procedure for Contract Review (ISP-PE-001)
3. Contract review check sheet (ISF-SA-004)
4. Procedure for Customer Satisfaction(ISP-SA-001)
5. Customer Orders and Enquiries

8.2.3 Review of requirements related to products and services

8.2.3.1 The organization ensures that it has the ability to meet the requirements for products and services to be offered to customers. The organization conducts a review before committing to supply products and services to a 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.

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

The customer's requirements are confirmed by the organization before acceptance, when the customer does not provide a documented statement of their requirements.

MAP-ID reviews the requirements related to the product as defined. This review is conducted prior to commitment to supply products to the customer and it ensures that product requirements are defined clearly. Differences from previous contract or order are resolved and ensure its ability to meet the defined requirements

Refer:

1. Customer Satisfaction Survey(ISP-SA-001)
2. Work Instruction for determining Customer Satisfaction Index (ISW-SA-01)
3. Official Notification for New Order/Order Confirmation(ISF-SA-002)
4. Contract review check sheet (ISF-SA-004).
5. Customer Orders and Enquiries
6. Customer Agreements
7. Order Review Records
8. Customer Feedbacks
9. Customer Complaint Records

8.2.3.1.1 Review of requirements related to the product — Supplemental

The organization retains documented evidences of a customer authorized waiver for the requirements.

Refer:

1. New Product Development Rule (ISD-PE-014)
2. Procedure for Process Control Management(ISP-MS-002)

8.2.3.1.2 Customer-designated special characteristics

The organization demonstrates conformity to customer requirements for designation, approval documentation and control of special characteristics.

Refer:

1. Refer Procedure for New Product Development (ISP-PE-002)
2. Procedure for Product & Process Safety (ISP-PE-005)
3. Customer Drawings
4. PQCS /Control Plans

8.2.3.1.3 Organization manufacturing feasibility

The organization utilizes a multidisciplinary approach to conduct an analysis to determine if it is feasible that the organization's manufacturing processes are capable of consistently producing product that meets all of the engineering and capacity requirements specified by the customer. The organization conducts line's feasibility analysis for any manufacturing or product technology new to the organization and for any changed manufacturing process or product design. Additionally, the organization validates through production runs, benchmarking studies, or other appropriate methods, their ability to make product specification at the required rate.

Refer:

1. Refer Procedure for New Product Development (ISP-PE-002)
2. Preliminary Feasibility & Risk Analysis (ISF-PE-006)

8.2.3.2

MAP-ID shall retain documented information, as applicable, results of the review and any new requirements for the products and services are carried on monthly basis department-wise.

The organization retains documented information, as applicable:

a) on the results of the review;
b) on any new requirements for the products and services.

8.2.4 Changes to requirements for products and services

The organization 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.

Refer:

1. Procedure for New Product Development (ISP-PE-002)
2. Procedure for Contract Review (ISP-PE-001)
3. Contract review check sheet (ISF-SA-004)
4. Procedure for Customer Satisfaction(ISP-SA-001)
5. Customer Orders and Enquiries

8.3 Design and development of products and services

Product Design and Development related provisions of this clause are not applicable because the organization manufactures products as per customer specifications.

8.3.1 General

The organization has established, implemented and maintained a process design and development process that is appropriate to ensure the subsequent provision of products and services.

8.3.1.1 Design and development of products and services - Supplemental

This applies to product and manufacturing process design and development and focuses on error prevention rather than detection. The organization documents the design and development process

8.3.2 Design and development planning

In determining the stages and controls for design and development, the organization shall consider:

a) the nature, duration and complexity of the design and development activities;

b) the required process stages, including applicable design and development reviews;

c) the required design and development verification and validation activities;

d) the responsibilities and authorities involved in the design and development process;

e) the internal and external resource needs for the design and development of products and services;

f) the need to control interfaces between persons involved in the design and development process;

g) the need for involvement of customers and users in the design and development process;

h) the requirements for subsequent provision of products and services;

i) the level of control expected for the design and development process by customers and other relevant interested parties;

j) the documented information needed to demonstrate that design and development requirements have been met.

8.3.2.1 Design and development planning-supplemental

The organization ensures that design and development planning includes all stakeholders within organization and, as appropriate, its supply chain. Areas for using such a multidisciplinary approach include but are not limited to following:
a) process management
b) manufacturing process design activities
c) development and review of manufacturing process risk analysis (FMEAs, process flows, control plans, and standard work instructions).

Refer:

1. Procedure for New Product Development (ISP-PE-002)

8.3.2.2 Product design skill

Currently not applicable for MAP-ID Bawal.

8.3.2.3 Development of product with embedded software

Currently not applicable for MAP-ID Bawal.

8.3.3 Design and development inputs

The organization shall determine the requirements essential for the specific types of products and services to be designed and developed. The organization shall consider:

a) functional and performance requirements;

b) information derived from previous similar design and development activities;

c) statutory and regulatory requirements;

d) standards or codes of practice that the organization has committed to implement;

e) potential consequences of failure due to the nature of the products and services;

Inputs shall be adequate for design and development purposes, complete and unambiguous. Conflicting design and development inputs shall be resolved. The organization shall retain documented information on design and development inputs.

Refer:

1. Procedure for New Product Development (ISP-PE-002)

8.3.3.1 Product design input

Currently not applicable for MAP-ID Bawal.

8.3.3.2 Manufacturing process design input

The organization identifies, documents and reviews the manufacturing process design input requirements including
a) product design output data including special characteristics;
b) targets for productivity, process capability, timing and cost,
c) manufacturing technology alternatives,
d) customer's requirements, if any,
e) experience from previous developments;
f) new materials;
g) product handling and ergonomic requirements; and
h) design for manufacturing and design for assembly.
The manufacturing process design includes the use of error-proofing methods to a degree appropriate to the magnitude of the problems and commensurate with the risks encountered.

Refer:

1. Procedure for New Product Development (ISP-PE-002)
2. Work Instruction for Engineering (ISW-PE-001)
3. Document Control PQCT making Guidelines (ISD-QA-034)

4. Rule Identification of special characteristics (ISD-PE-001)
5. Rule - Setting of OEE, cycle time for New model (ISD-PE-002)
6. Rule -New Machine Planning / Ordering / Commissioning (ISD-PE-0040)
7. Rule- CT Setting information sharing (ISD-PE-005)
8. Rule - New product development (ISD-PE-014)
9. Team Feasibility Commitment (ISF-PE-006)
10. Product Quality Planning Signoff (ISF-PE-007)
11. Dimensional Inspection Report (ISF-QA-017)
12. Material Inspection Report (ISF-QA-018)
13. Inspection Standard issue record (ISF-QA-051)
14. Initial flow control (ISF-QA-065)
15. Trouble History sheet (ISF-QA-061)
16. Special characteristics matrix (ISF-PE-021)
17. Procedure for Risk Analysis(ISP-QA-019)
18. Risk Analysis QM Annex. IX
19. Procedure for Poka-Yoke (ISP-QA-014)

8.3.3.3 Special characteristics

The organization uses a multidisciplinary approach to establish, document and implement its processes to identify special characteristics, including those determined by customer and the risk analysis performed by organization, and includes following :

a) documentation of all special characteristics in the product and/or manufacturing documents (as required), relevant risk analysis (such as Process FMEAs), control plans, and standard work / operator instructions; special characteristics are identified with specific marking and are documented in the manufacturing documents which show the creation of, or the controls required, for these special characteristics;

b) development of control and monitoring strategies for special characteristics of products and production processes,

c) customer specified approvals, when required;

d) compliance with customer specified definitions and symbols or the organization's equivalent symbols or notations, as defined in a symbol conversion table. The symbol conversion table is submitted to customer, if required

Refer:

1. Procedure for New Product Development (ISP-PE-002)
2. Work Instruction for Engineering (ISW-PE-001)
3. Document Control PQCT making Guidelines (ISD-QA-034)
4. Rule Identification of special characteristics (ISD-PE-001)
5. Rule - Setting of OEE, cycle time for New model (ISD-PE-002)
6. Rule -New Machine Planning / Ordering / Commissioning (ISD-PE-0040)
7. Rule- CT Setting information sharing (ISD-PE-005)
8. Rule - New product development (ISD-PE-014)
9. Team Feasibility Commitment (ISF-PE-006)
10. Product Quality Planning Signoff (ISF-PE-007)

11. Dimensional Inspection Report (ISF-QA-017)
12. Material Inspection Report (ISF-QA-018)
13. Inspection Standard issue record (ISF-QA-051)
14. Initial flow control (ISF-QA-065)
15. Trouble History sheet (ISF-QA-061)
16. Special characteristics matrix (ISF-PE-021)
17. Procedure for Risk Analysis(ISP-QA-019)
18. Risk Analysis QM Annex. IX
19. Procedure for Poka-Yoke (ISP-QA-014)

8.3.4 Design and development controls

The organization shall apply controls to the design and development process to ensure that:

a) the results to be achieved are defined;

b) reviews are conducted to evaluate the ability of the results of design and development to meet requirements;

c) verification activities are conducted to ensure that the design and development outputs meet the input requirements;

d) validation activities are conducted to ensure that the resulting products and services meet the requirements for the specified application or intended use;

e) any necessary actions are taken on problems determined during the reviews, or verification and validation activities;

f) documented information of these activities is retained.

8.3.4.1 Monitoring

Measurements at specified stages of design and development of products and processes are defined, analyzed and reported with summary results as an input to management review.

When required by customer, measurements of the product and process development activity are reported to the customer at stages specified, or agreed to, by the customer.

When appropriate these measurements may include quality risks, costs, lead-times, critical paths and other measurements.

8.3.4.2 Design and development validation

Design and development validation are performed in accordance with customer requirements, including any applicable industry and governmental agency-issued regulatory standards. The timing of design and development validation are planned in alignment with customer specified timing, as applicable

Where contractually agreed with customer, this includes evaluation of interaction of the organization's product, within system of final customer's product

8.3.4.3 Prototype program

When required by the customer, the organization uses a prototype program and control plan. The organization uses, wherever possible, the same suppliers, tooling and manufacturing processes as will be used in production.
All performance-testing activities are monitored for timely completion and conformity to requirements.
When services are outsourced, the organization includes the type and extent of control in scope of its quality management system to ensure that outsourced services conform to requirements.

8.3.4.4 Product approval process

The organization has established, implemented and maintained a product and manufacturing process approval process conforming to requirements defined by customers. The organization approves externally provided products and services per ISO9001, Section 8.4.3, prior to submission of their part approval to the customer
The organization obtains documented product approval prior to shipment, if required by customer. Records of such approval are retained.

Refer:

1. Procedure for New Product Development (ISP-PE-002)
2. Work Instruction for Engineering (ISW-PE-001)
3. Document Control PQCT making Guidelines (ISD-QA-034)
4. Rule Identification of special characteristics (ISD-PE-001)
5. Rule - Setting of OEE, cycle time for New model (ISD-PE-002)
6. Rule -New Machine Planning / Ordering / Commissioning (ISD-PE-0040)
7. Rule- CT Setting information sharing (ISD-PE-005)
8. Rule - New product development (ISD-PE-014)
9. Team Feasibility Commitment (ISF-PE-006)
10. Product Quality Planning Signoff (ISF-PE-007)
11. Dimensional Inspection Report (ISF-QA-017)
12. Material Inspection Report (ISF-QA-018)
13. Inspection Standard issue record (ISF-QA-051)
14. Initial flow control (ISF-QA-065)
15. Trouble History sheet (ISF-QA-061)
16. Special characteristics matrix (ISF-PE-021)

17.Procedure for Risk Analysis(ISP-QA-019)
18.Risk Analysis QM Annex. IX
19.Procedure for Poka-Yoke (ISP-QA-014)
20.(ISP-PE-003) Procedure for Part Approval Process

8.3.5 Design and development outputs

The organization shall ensure that design and development outputs:

a) meet the input requirements;

b) are adequate for the subsequent processes for the provision of products and services;

c) include or reference monitoring and measuring requirements, as appropriate, and acceptance criteria;

d) specify the characteristics of the products and services that are essential for their intended purpose and their safe and proper provision.

8.3.5.1 Product Design and development output- supplemental

Currently not applicable

8.3.5.2 Manufacturing process design output

The organization documents the manufacturing process design output in a manner that enables verification against the manufacturing process design inputs. The organization verifies the outputs against manufacturing process design input requirements. The manufacturing process design output includes but is not limited to the following;
a) specification and drawings;
b) special characteristics for product and manufacturing process;
c) identification of process input variables that impact characteristics;
d) tooling and equipment for production and control, including capability studies of equipment and process(es)
e) manufacturing process flow charts / layout, including linkage of product, process, and tooling;
f) capacity analysis;
g) manufacturing process FMEA;
h) maintenance plans and instructions;
i) control plan
j) standard work and work instructions;
k) process approval acceptance criteria;

l) data for quality, reliability, maintainability, and measurability;
m) results of error - proofing identification and verification, as appropriate;
n) method of rapid detection, feedback and correction of product / manufacturing process nonconformities

Refer:

1. Procedure for New Product Development (ISP-PE-002)
2. Work Instruction for Engineering (ISW-PE-001)
3. Document Control PQCT making Guidelines (ISD-QA-034)
4. Rule Identification of special characteristics (ISD-PE-001)
5. Rule - Setting of OEE, cycle time for New model (ISD-PE-002)
6. Rule -New Machine Planning / Ordering / Commissioning (ISD-PE-0040)
7. Rule- CT Setting information sharing (ISD-PE-005)
8. Rule - New product development (ISD-PE-014)
9. Team Feasibility Commitment (ISF-PE-006)
10. Product Quality Planning Signoff (ISF-PE-007)
11. Dimensional Inspection Report (ISF-QA-017)
12. Material Inspection Report (ISF-QA-018)
13. Inspection Standard issue record (ISF-QA-051)
14. Initial flow control (ISF-QA-065)
15. Trouble History sheet (ISF-QA-061)
16. Special characteristics matrix (ISF-PE-021)
17. Procedure for Risk Analysis(ISP-QA-019)
18. Risk Analysis QM Annex. IX
19. Procedure for Poka-Yoke (ISP-QA-014)
20. Procedure for Final Inspection & Testing (ISP-QA-009)
21. Procedure for In-Process Inspection (ISP-QA-008)
22. PQCS/Control Plan/PFMEA

8.3.6 Design and development changes

The organization shall identify, review and control changes made during, or subsequent to, the design and development of products and services, to the extent necessary to ensure that there is no adverse impact on conformity to requirements.

The organization shall retain documented information on:

a) design and development changes;

b) the results of reviews;

c) the authorization of the changes;

d) the actions taken to prevent adverse impacts.

8.3.6.1 Design and development change- Supplemental

The organization evaluates all design changes after initial product approval, including those proposed by the organization or its suppliers, for potential impact on fit, form, function, performance, and / or durability. These changes are validated against customer requirements and approved internally, prior to product implementation

If required by customer, the organization shall obtain documented approval, or a documented waiver, from the customer prior to production implementation

For products with embedded software, the organization shall document the revision level of software and hardware as part of change period.

Refer:

1. Procedure for Process Control (ISP-MS-002)
2. Customer Orders
3. Customer Drawings and Specifications
4. Customer Specific Requirements
5. Customer Agreements
6. Contract Review Records
7. APQP
8. Feasibility Reviews
9. Control Plans(PQCS)
10. FMEA
11. PPAP Records
12. Productivity Targets
13. Tool Life Monitoring
14. Poka-Yoke
15. Skill Matrix(ISF-AD-001)

8.4 Control of externally provided processes, products and services

8.4.1 General

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

The organization determines the controls to be applied to externally provided processes, products and services when:

a) products and services from external providers are intended for incorporation into the organization’s own products and services;

b) products and services are provided directly to the customers by external providers on behalf of the organization;

c) a process, or part of a process, is provided by an external provider as a result of a decision by the organization.

The organization determines and applies criteria for the evaluation, selection, monitoring of performance, and reevaluation of external providers, based on their ability to provide processes or products and services in accordance with requirements. The organization retains documented information of these activities and any necessary actions arising from the evaluations.

8.4.1.1 General – supplemental

The organization includes all products and services that affect customer requirements such as sub-assembly, sequencing, sorting, rework and calibration services in the scope of their definition of externally provided products, processes and services.

Refer:

1. Procedure for Purchase (ISP-PU-001)
2. Procedure for Monitoring Outsource Supplier (ISP-QA-016)
3. Procedure for Incoming Product Quality (ISP-QA-007)
4. List of Outsourced Processes (QM-Annexure)

8.4.1.2 Supplier selection process

The organization documents supplier selection process. The selection process includes:
a) an assessment of selected supplier's risk to product conformity and uninterrupted supply of organization's product to their customers;
b) relevant quality and delivery performance;
c) an evaluation of the supplier 's quality management system;
d) multidisciplinary decision making and;
e) an assessment of software development capabilities, if applicable.

Other supplier selection criteria that may be considered include the following:
- volume of automotive business (absolute and as a percentage of total business);
- financial stability;
- purchased product, material or service complexity;
- required technology (product or process);
- adequacy of available resources (e.g. people, infrastructure);
- design and development capabilities (including project management);
- manufacturing capability;
- change management process;
- business continuity planning (e.g. disaster preparedness, contingency planning);
- logistics process;
- customer service

Refer:

1. Procedure for Purchase (ISP-PU-001)
2. Supplier Manual
3. Supplier selection & Evaluation (ISW -PU-001)

8.4.1.3 Customer approved suppliers

When specified by the customer, the organization purchases products, materials, or services from customer -directed sources.
All requirements of section 8.4 (except the requirement in IATF 16949 section 8.4.1.2) are applicable to the organization's control of customer - directed sources unless specific arrangements are otherwise defined by the contract between the organization and the customer.

8.4.2 Type and extent of control

The organization ensures that externally provided processes, products and services do not adversely affect the organization’s ability to consistently deliver conforming products and services to its customers.

The organization:

a) ensures that externally provided processes remain within the control of its quality management system;

b) defines both the controls that it intends to apply to an external provider and those it intends to apply to the resulting output;

c) takes into consideration:

1) the potential impact of the externally provided processes, products and services on the organization’s ability to consistently meet customer and applicable statutory and regulatory requirements;

2) the effectiveness of the controls applied by the external provider;

d) determines the verification, or other activities, necessary to ensure that the externally provided processes, products and services meet requirements.

8.4.2.1 Type and extent of control- supplemental

The organization has a documented process to identify outsourced processes and to select the types and extent of controls used to verify conformity of externally provided products, processes, and services to internal and external customer requirements. The process includes the criteria and actions to escalate or reduce

the type and extent of controls and development activities based on supplier performance and assessment of product, material or service risk.

Where characteristics or components "pass through" the organization's quality management system without validation or controls, the organization shall ensure that the appropriate controls are in place at the point of manufacture.

Refer:

1. Procedure for Purchase (ISP-PU-001)
2. Procedure for Monitoring Outsource supplier (ISP-QA-016)
3. Procedure for Incoming Product Quality (ISP-QA-007)
4. WI for Supplier Performance rating (ISW-QA–002)

8.4.2.2 Statutory and regulatory requirements

The organization documents its process to ensure that purchased products, processes and services conform to the current applicable statutory and regulatory requirements in the country of receipt, the country of shipment and customer identified country of destination, if provided.
If the customer defines special controls for certain products with statutory and regulatory requirements, the organization shall ensure they are implemented and maintained as defined, including at suppliers

Refer:
Procedure for legal and other requirements (ISD-AD-001)

8.4.2.3 Supplier quality management system development

The organization requires its suppliers of automotive products and services to develop, implement, and improve a quality management system (QMS) with the ultimate objective of eligible organizations becoming certified to this Automotive QMS Standard. Using a risk-based model, the organization shall define a minimum acceptable level of QMS development and a target QMS development level for each supplier.
Unless otherwise authorized by the customer a QMS certified to ISO 9001 is the initial minimum acceptable level of development. Based on current performance and the potential risk to the customer, the objective is to move suppliers through the following QMS development progression:

a) certification to ISO 9001 through third-party audits; unless otherwise specified by the customer, suppliers to the organization shall demonstrate conformity to ISO 9001 by maintaining a third-party certification issued by a certification body bearing the accreditation mark of a recognized IAF MLA (International Accreditation Forum Multilateral Recognition Arrangement) member and where

the accreditation body's main scope includes management system certification to ISO/IEC 17025

b) certification to ISO 9001 with compliance to other customer defined QMS requirements (such as Minimum Automotive Quality Management System Requirements for Sub-Tier Suppliers (MAQMSR) or equivalent) through second party audits;

c) certification to ISO 9001 with compliance to IATF 16949 through second party audits;

d) certification to 16949 through third party audits (valid third-party certification of the supplier to IATF 16949 by an IATF - recognized certification body)

The minimum acceptable level of QMS development may be compliance to ISO 9001 through second-party audits, if authorized by the customer.

Refer:

1. Supplier Quality Manual
2. Plan for Second Party (Supplier Audit)-QAV AUDITS
3. Procedure for Incoming Product Quality (ISP-QA-007)

8.4.2.3.1 Automotive product - related software or automotive products with embedded software

Currently not applicable for MAP-ID Bawal.

8.4.2.4 Supplier monitoring

The organization has documented process and criteria to evaluate supplier performance in order to ensure conformity of externally provided products, processes, and services to internal and external customer requirements
At a minimum the following supplier performance indicator are monitored:
a) delivered product conformity to requirements;
b) customer disruptions at all receiving plant, including yard holds and stop ships;
c) delivery schedule performance
d) number of occurrences of premium freight

If provided by customer, the organization also includes the following, as appropriate, in their supplier performance monitoring:
e) special status customer notifications related to quality or delivery issues;
f) dealer returns, warranty, field actions, and recalls;

Refer: Work Instruction for Supplier performance rating (ISW-QA-002)

8.4.2.4.1 Second - party audits

The organization includes a second-party audit process in their supplier management approach.
a) supplier risk assessment;
b) supplier monitoring;
c) supplier QMS development;
d) product audits;
e) process audits.
Based on risk analysis, including product safety / regulatory requirements, performance of supplier and QMS certification level, at a minimum, the organization shall document the criteria for determining need, type, frequency, and scope of second - party audits.

The organization retains records of the second -party audit reports.

Refer:
1. Procedure for Incoming Product Quality (ISP-QA-007)
2. Supplier System Audit Check Sheet (ISF-QA-048)

8.4.2.5 Supplier development

The organization determines the priority, type, extent and timing of required supplier development actions for its active suppliers. Determination inputs include but are not limited to following:
a) performance issues identified through supplier monitoring (see section 8.4.2.4);
b) second-party audit findings (see 8.4.2.4.1)
c) third-party quality management system certification status;
d) risk analysis.

The organization implements actions necessary to resolve open (unsatisfactory) performance issues and pursue opportunities for continual improvement

Refer:
Supplier Manual as noted in Purchase Procedure (ISP-PU-001)
List of approved suppliers and their scope of activity (ISD-PU-002)

8.4.3 Information for external providers

The organization ensures the adequacy of requirements prior to their communication to the external provider.

The organization communicates to external providers its requirements for:

a) the processes, products and services to be provided;

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 provider's interactions with the organization;

e) control and monitoring of the external provider's performance to be applied by the organization;

f) verification or validation activities that the organization, or its customer, intends to perform at the external provider's premises.

Refer:

1. List of approved suppliers and their scope of activity (ISD-PU-002)
2. Purchase order
3. Drawings/Specification

8.4.3.1 Information for external providers- supplemental

The organization transfers all applicable statutory and regulatory requirements and special product and process characteristics to their suppliers and require the suppliers to cascade all applicable requirements down the supply chain to point of manufacture.

Process owner of Purchase function is responsible for communication of all applicable statutory and regulatory requirements and special product and process characteristics to their suppliers with the Sales & legal function.

Refer:

1. Contract Review Checklist(ISF-SA-004)
2. Master List – Approved Suppliers
3. Purchase Orders / Job Orders
4. Procedure for Purchase(ISP-PU-001)
5. Supplier Evaluation(ISF-PU-004)
6. Supplier Test Certificates
7. Incoming Inspection Reports

8. Drawings and Specifications for Suppliers

8.5 Production and service provision

8.5.1 Control of production and service provision

The organization implements production and service provision under controlled conditions. Controlled conditions include:

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;
   2) the results to be achieved;

b) the availability and use of suitable monitoring and measuring resources;
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;
d) the use of suitable infrastructure and environment for the operation of processes;
e) the appointment of competent persons, including any required qualification;
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;
g) the implementation of actions to prevent human error;
h) the implementation of release, delivery and post-delivery activities.

8.5.1.1 Control plan

The organization develops control plans at the system, subsystem, component and/or material level for relevant manufacturing site and all product supplied, including those for processes producing bulk materials as well as parts. Family control plans are acceptable for bulk material and similar parts using a common manufacturing process.

The organization has a control plan for pre-launch and production that shows linkage and incorporate information from design risk analysis (if provided by customer), process flow diagram, and manufacturing process risk analysis outputs (such as FMEA)

The organization, if required by customer, provides measurement and conformity data collected during execution of either the pre-launch or production control plans. The organization includes in the control plan:

a) control used for the manufacturing process control, including verification of job set-ups;
b) first-off / last-off part validation, as applicable;
c) method for monitoring of control exercised over special characteristics (see Annex A) defined both by customer and organization
d) the customer - required information, if any;
e) specified reaction plan; when nonconforming product is detected, the process becomes statistically unstable or not statistically capable

The organization reviews control plans and update as required, for any of following:

f) if organization determine it has shipped non conforming product to customer;
g) when any change occurs affecting product, manufacturing process, measurement, logistics, supply sources, production volume changes, or risk analysis (FMEA) (see Annex A);
h) after a customer complaint and implementation and associated corrective action, when applicable;
i) at a set frequency based on risk analysis
If required by customer, the organization shall obtain customer approval after review or revision of control plan.

Refer:

1. Procedure for PQCS Preparation (ISP-QA-013)
2. PQCT Preparation Guideline (ISD-QA-034)
3. PQCT Preparation Guideline (ISD-QA-034)
4. Procedure for Process Control (ISP-MS-002)
5. Rule First/Mid/Last & after tool change sample inspection (ISD-QA-028)
6. Control Plans &FMEAs
7. Inspection Reports

8.5.1.2 Standardized work- operator instructions and visual standards

The organization ensures that standardized work documents are:

a) Communicated to and understood by employees who are responsible for performing the work,
b) Legible;
c) Presented in the language(s) understood by personnel responsible to follow them;
d) Accessible for use at the designated work area(s)

The standard work documents also include rules for operator safety.

8.5.1.3 Verification of job set –ups

The organization:
a) verifies Job set-ups when performed, such as an initial run of a job, material changeover or job change that requires a new set-up;
b) maintains documented information for set-ups personnel;
c) uses statistical methods of verification, where applicable;
d) performs first-off / last -off part validation, as applicable, where appropriate, first-off parts should be retained for comparison with last-off parts; where appropriate, last-off parts retained for comparison with first-off parts in subsequent runs;
e) retains records of process and product approval following set-up and first-off / last-off part validations

Refer:

1. Set up change Procedure (ISP-QA-012)
2. Set up approval sheet (ISF-MS-001)
3. Rule First/Mid/Last & after tool change sample inspection (ISD-QA-028)
4. Skill Matrix(ISF-AD-001)
5. Stage Process Sheet/Control Plans(PQCS)

8.5.1.4 Verification after shut down

The organization defines and implements the necessary actions to ensure product compliance with requirements after a planned or unplanned production shutdown period.

Refer:

1. Set up change Procedure (ISP-QA-012)
2. ISF-MS-001 Set up approval sheet
3. Skill Matrix(ISF-AD-001)
4. Stage Process Sheet/Control Plans(PQCS)

8.5.1.5 Total Productive maintenance

The organization has developed, implemented, and maintained a documented total productive maintenance system. At a minimum, the system includes:
a) identification of process equipment necessary to produce conforming product at the required volume;
b) availability of replacement parts for the equipment identified in item a);
c) provision of resource for machine, equipment, and facility maintenance;
d) packaging and preservation of equipment, tooling and gauging;
e) applicable customer -specific requirements;
f) documented maintenance objectives, for example: OEE (Overall equipment effectiveness), MTBF (Mean Time Between Failure), MTTR (Mean Time To repair), and preventive maintenance compliance matrices. Performance to the

maintenance objectives shall form an input into management review (see ISO9001, Section 9.3)
g) regular review of maintenance plan and objectives and a documented action plan to address corrective actions where objectives are not achieved;
h) use of preventive maintenance methods;
i) use of predictive maintenance methods, as applicable;
j) periodic overhaul

In MAP-ID Overhauling of machines are planned phase-wise/year depending on the criticality (Continuous break down) of the machine.

Refer:

1. Procedure for Maintenance (ISP-MN-001)
2. Skill Matrix(ISF-AD-001)
3. Machine Maintenance Plan
4. Machine Downtime Records
5. MTTR-MTBF Reports
6. OEE Reports
7. TPM Check sheet

8.5.1.6 Management of production tooling and manufacturing, test, inspection tooling and equipment

The organization provides resources for tool and gauge design, fabrication, and verification activities for production and service materials and for bulk materials, as applicable.
The organization has established and implemented a system for production tooling management, whether owned by the organization or the customer, including
a) maintenance and repair facilities and personnel;
b) storage and recovery;
c) set-up
d) tool-change programs for perishable tools;
e) tool design modification documentation, including engineering change level of product;
f) tool modification and revision to documentation;
g) tool identification, such as serial or asset number; the status, such as production, repair or disposal; ownership; and location.

The organization shall verify that customer owned tools, manufacturing equipment, and test/ inspection equipment are permanently marked in a visible location so that the ownership and application of each item can be determined
The organization implements a system to monitor these activities if any work is outsourced.

Refer:

1. Procedure for Tooling Management (ISP-PE-004)
2. Set up change Procedure (ISP-QA-012)
3. Set up approval sheet (ISF-MS-001)
4. Tool Life Standard as per Process Sheet
5. Work Instruction for Tool Life Establishment (ISW-PE-002)

8.5.1.7 Production scheduling

The organization ensures that production is scheduled in order to meet customer orders/demands, such as just-in-time (JIT) and is supported by an information system that permits access to production information at key stages of the process and is order driven.

The organization includes relevant planning information during production scheduling, e.g., customer orders, supplier on time delivery performance, capacity, shared loading (multi part station), lead time, inventory level, preventive maintenance, and calibration.

Refer:

1. Procedure for PPC (ISP-FC-002)
2. Procedure for Dispatch (ISP-FC-003)
3. Customer Orders
4. Customer Score Cards and Delivery Rating
5. Preventive Maintenance Schedule

8.5.2 Identification and traceability

The organization uses suitable means to identify outputs when it is necessary to ensure the conformity of products and services.

The organization identifies the status of outputs with respect to monitoring and measurement requirements throughout production and service provision.

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

Organization identifies the product by number other suitable means throughout product realization. Production code, heat number provide traceability reference.

Inspection status of products is identified by colored tags/area. All non-conforming, on-hold material is kept in red marked area / red tagged or identified with labels.

Refer:

Procedure for Identification & Traceability (ISP-HT-002)

8.5.2.1 Identification and traceability-supplemental

The purpose of traceability is to support identification of clear start and stop points for product received by the customer or in the field that may contain quality and/or safety related non-conformities. Therefore, the organization implements identification and traceability processes as described below.

The organization conducts an analysis of internal, customer, and regulatory traceability requirements for all automotive products, including developing and documenting traceability plans, based on the levels of risk or failure severity for employees, customers and consumers. These plans shall define the appropriate traceability systems, processes, and methods by product, process, and manufacturing location that:

a) enable the organization to identify nonconforming and/or suspect product;
b) enable the organization to segregate nonconforming and / or suspect product;
c) ensure that ability to meet the customer and/or regulatory response time requirements;
d) ensure documented information is retained in the format (electronic, hard copy, archive) that enables the organization to meet response time requirements;
e) ensure serialized identification of individual products, if specified by the customer or regulatory standards;
f) ensure identification and traceability requirements are extended to externally provided product with safety/ regulatory characteristics

Refer:

1. Procedure for Identification & Traceability (ISP-HT-002)
2. Identification tags _shop floor for rework and rejection

8.5.3 Property belonging to customers or external providers

The organization exercises care with property belonging to customers or external providers while it is under the organization's control or being used by the organization. The organization identifies, verifies, protects and safeguards customers' or external providers' property provided for use or incorporation into the products and services.

When the property of a customer or external provider is lost, damaged or otherwise found to be unsuitable for use, the organization reports this to the customer or external provider and retains documented information on what has occurred.

Note A customer's or external provider's property can include material, components, tools and equipment, customer premises, intellectual property and personal data.

Refer:
Gate-pass & challan (e.g. for supplier and/or customer gauges, tools etc.)
Any intellectual property received.

8.5.4 Preservation

The organization preserves the outputs during production and service provision, to the extent necessary to ensure conformity to requirements.

Note Preservation can include identification, handling, contamination control, packaging, storage, transmission or transportation, and protection.

8.5.4.1 Preservation-Supplemental

Preservation includes identification, handling, contamination control, packaging, storage, transmission or transportation, and protection.

Preservation applies to materials and components from external and/or internal providers from receipt through processing, including shipment and until delivery to / acceptance by customer.

In order to detect deterioration, the organization assesses at appropriate planned intervals the condition of product in stock, the place / type of storage container, and the storage environment.

The organization uses an inventory management system to optimize inventory turns over time and ensure stock rotation, such as 'First in first out' (FIFO)

The organization ensures that obsolete product is controlled in a manner similar to that of nonconforming product

Organization complies with preservation, packaging, shipping and labeling requirement as provided by customer

Refer:

1. Procedure for Store(ISP-FC-001)
2. Procedure for Inventory Management(ISP-FC-004)
3. Packing Standards
4. Work Instruction for Packing

8.5.5 Post-delivery activities

The organization meets requirements for post-delivery activities associated with the products and services.

In determining the extent of post-delivery activities that are required, the organization considers:

a) Statutory and regulatory requirements;

b) The potential undesired consequences associated with its products and services;

c) The nature, use and intended lifetime of its products and services;

d) Customer requirements;

e) Customer feedback.

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.

Refer:

Procedure for Customer Satisfaction (ISP-SA-001)

Warranty information reviewed in MRM

8.5.5.1 Feedback of information from service

Currently not applicable for MAP-ID

8.5.5.2 Service agreement with customer

Currently not applicable for MAP-ID

8.5.6 Control of changes

The organization reviews and controls changes for production or service provision to the extent necessary to ensure continuing conformity with requirements

The organization retains documented information describing the results of the review of changes, the persons authorizing the change, and any necessary actions arising from the review.

8.5.6 .1 Control of changes-supplemental

The organization has a documented process to control and react to changes that impact product realization. The effect of any change, including those changes caused by organization, the customer, or any supplier, is assessed. The organization:
a) defines verification and validation activities to ensure compliance with customer requirements;
b) validates changes before implementation;
c) documents the evidences of related risk analysis;
d) retains records of verification and validation

Changes, including those made at suppliers, should require a production trial run for verification of changes (such as changes to part design, manufacturing location, or manufacturing process) to validate the impact of any changes on manufacturing process
When required by customer, the organization shall:
a) notify the customer of any planned product realization changes after the most recent product approval;
b)obtain documented approval, prior to implementation of the changes;
c) complete additional verification or identification requirements, such as production trial run and new product validation.

Refer:

Procedure for Process Control (ISP-MS-002)

8.5.6.1.1 Temporary changes of process controls

The organization identifies, documents, and maintains a list of process controls, including inspection, measuring, test, and error - proofing devices. The list of process controls has included the primary process controls and the approved back-up or alternate methods, if back-up or alternate methods exist.
The organization has documented the process that manages the use of alternate control methods. The organization includes in first process, based on risk analysis (such as FMEA), severity, and the internal approvals to be obtained prior to production implementation of the alt5.1.1ernate control method.
Before shipping product that was inspected or tested using alternate method, if required, the organization obtains approval from the customer. The organization maintains and periodically reviews a list of approved alternate process control methods that are referenced in control plan.
Standard work instructions are available for each alternate process control method.
The organization reviews the operation of alternate process control on a daily basis, at a minimum, to verify implementation of standard work with the goal to return to

the standard process as defined by the control plan as soon as possible. Example methods include but are not limited to the following:
a) daily quality focused audits (e.g. layered process audits, as applicable);
b) daily leadership meeting
Restart verification is documented for a defined period based on severity and confirmation that all features of error proofing device or process are effectively reinstated.
The organization implements traceability of all product produced while any alternate process control devices or process are being used (e.g. verification and retention of first piece and last piece from every shift.

Refer:

1. Procedure for Process Control (ISP-MS-002)
2. Procedure for Control of Documents & Data Control (ISP-QA-001)
3. Procedure for Control of Records (ISP-QA-002)

8.6 Release of products and services

The organization 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 customers do not proceed until the planned arrangements have been satisfactorily completed, unless otherwise approved by a relevant authority and, as applicable, by the customer.

The organization 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.

Refer:

1. Procedure for Incoming Product Quality (ISP-QA-007)
2. Procedure for In-process inspection (ISP-QA-008)
3. Procedure for Final Inspection & testing (ISP-QA-009)
4. Control Plans
5. Third Party Test Certificates
6. Customer Feedback / Complaints

8.6.1 Release of products and services-supplemental

The organization ensures that the planned arrangements to verify that the product and service requirements have been met encompass the control and are documented as specified in the control plan.

The organization ensures that the planned arrangements for initial release of products and services encompass product or service approval.

The organization ensures that all product or service approval is accomplished after changes following initial release.

Refer:

1. Procedure for Incoming Product Quality (ISP-QA-007)
2. Procedure for In-process inspection (ISP-QA-008)
3. Procedure for Final Inspection & testing (ISP-QA-009)
4. Control Plans
5. Procedure for Part Approval Process (ISP-PE-003)

8.6.2 Layout inspection and functional testing

A layout inspection and a functional verification to applicable customer engineering material and performance standards is performed for each product as specified in the control plans. Results are available for customer review.

Refer:

1. Procedure for Final Inspection & Testing (ISP-QA-009)
2. Layout Inspection Reports
3. Layout Inspection Plan

8.6.3 Appearance items

Currently not applicable for MAP-ID Bawal.

8.6.4 Verification and acceptance of conformity of externally provided products and services

The organization has a process to ensure the quality of externally provided processes, products, and services utilizing one or more of following methods:
a) receipt and evaluation of statistical data provided by supplier to the organization;
b)receiving inspection and/or testing, such as sampling based on performance;
c) second-party or third party assessments or audits of supplier sites when coupled with records of acceptable delivered product conformance to requirements;
d) part evaluation by a designated laboratory;
e) another method agreed with customer

Refer:

1. Procedure for Incoming Product Quality (ISP-QA-007)
2. Supplier Manual (ISD-PU-003)
3. Procedure for Purchase(ISP-PU-01)
4. Control Plans
5. Incoming Inspection Reports
6. Supplier System Audit Check Sheet (ISF-QA-048)
7. Calibration Reports

8.6.5 Statutory and regulatory conformity

Prior to release of externally provided products into its production flow, the organization confirms and be able to provide evidence that externally provided processes, products, and services confirm to the latest applicable statutory, regulatory, and other requirements in the countries where they are manufactured and in the customer - identified countries of destination, if provided.

Refer:

Contract Review Check List (ISF-SA-004)
Supplier PPAP

8.6.6 Acceptance criteria

Acceptance criteria are defined by the organization and, where appropriate or required, approved by the customer.
For attribute data sampling, the acceptance level is zero defects

Refer:

Stage Wise Process Sheet/PQCS/Work Instruction.

8.7 Control of nonconforming outputs

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

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

The organization deals with nonconforming outputs in one or more of the following ways:

a) Correction;

b) Segregation, containment, return or suspension of provision of products and services;

c) Informing the customer;

d) Obtaining authorization for acceptance under concession.

Conformity to the requirements are verified when nonconforming outputs are corrected.

8.7.2 The organization retains documented information that:

a) Describes the nonconformity;

b) Describes the actions taken;

c) Describes the concessions obtained;

d) Identifies the authority deciding the action in respect of the nonconformity.

Refer:

1. Procedure for Control of Non-conforming Products (ISP-HT-001)
2. Rule - Handling of NG (ISD-QA-014)

8.7.1.1 Customer authorization for concession

The organization obtains a customer concession or deviation permit prior to further processing whenever the product or manufacturing process is different from that which is currently approved.

The organization obtains a customer authorization prior to further processing for "use as is" and for repair (see 8.7.1.5) of non-conforming product. If sub-components are re used in manufacturing process, that sub-component reuse is clearly communicated to the customer in or deviation permit

The organization maintains a record of expiration date or quantity authorized under concession. The organization also ensures compliance with the original or superseding specifications and requirements when the authorization expires. Material shipped under concession is properly identified on each shipping container (this applies equally to purchased product). The organization shall approve any requests from suppliers before submission to customer.

Refer:

1. Product & Process Deviation (ISF-HT-002)
2. Deviation Tracking Sheet ISF-QA- 53
3. Procedure for Process Control (ISP-MS-002)
4. Procedure for Control of Non-conforming Products (ISP-HT-001)

8.7.1.2 Control of Non-conforming product - customer specified process

The organization complies with applicable customer - specified controls for nonconforming product(s)

8.7.1.3 Control of suspect product

The organization ensures that product with unidentified or suspect status is classified and controlled as nonconforming product. The organization ensures that all appropriate manufacturing personnel receive training for containment of suspect and nonconforming product.

Refer:

1. Rule - Sorting/Reworking of Material (ISD-QA-026)
2. Procedure for Sorting(Rework) (ISP-QA-018)

8.7.1.4 Control of reworked product

The organization utilizes risk analysis (such as FMEA) methodology to assess risks in the rework process prior to a decision to rework the product. If required by customer, the organization obtains approval from customer prior to commencing rework of product.

The organization has a documented process for rework confirmation in accordance with control plan or other relevant documented information to verify compliance to original specifications. Instruction for disassembly or rework, including re-inspection and traceability requirements, are accessible to and utilized by the appropriate personnel. The organization retains documented information on the disposition of reworked product including quantity, disposition, disposition date, and applicable traceability information

Refer:

1. Rule - Sorting/Reworking of Material (ISD-QA-026)
2. Procedure for Sorting(Rework) (ISP-QA-018)

8.7.1.5 Control of repaired product

Currently not applicable for MAP-ID

8.7.1.6 Customer notification

The organization immediately notifies the customer(s) in the event that nonconforming product has been shipped. Initial communication follows with detailed documentation of the event.

Refer:

ISP-HT-001 Control of NC product
Manager-Sales communicates with customer in such events

8.7.1.7 Non-conforming product disposition

The organization has a documented process for disposition of nonconforming product not subject to rework or repair. For product not meeting requirements, the organization verifies that the product to be scrapped is rendered unusable prior to disposal. The organization does not divert nonconforming product to service or other use without prior customer approval.

Refer:

1. ISP-HT-001 Control of NC product
2. MRM Minutes

CROSS REFERENCES

SL NO	DESCRIPTION	REFERENCE
1	Procedure for Customer Satisfaction	ISP-SA-001
2	Procedure for Internal Audit	ISP-QA-003
3	Procedure for In-process Inspection	ISP-QA-008
4	Procedure for Process Control	ISP-MS-002
5	Procedure for Final Inspection	ISP-QA-009
6	Procedure for Dispatch	ISP-FC-003
7	Procedure for Control of Non-Conforming Product	ISP-HT-001
8	Procedure for Continuous Improvement	ISP-QA-005
9	Procedure for Corrective and preventive action	ISP-MS-001
10	Procedure for Legal & Other requirements	ISP-MN-002
11	Procedure for Store	ISP-FC-001
12	Procedure for Identification & Traceability	ISP-HT-002
13	Procedure for Incoming Product Quality	ISP-QA-007
14	Procedure for Monitoring Outsource supplier	ISP-QA-016
15	Procedure for Purchase	ISP-PU-001
16	Procedure for New product development	ISP-PE-002
17	Procedure for Maintenance	ISP-MN-001
18	Procedure for disposal of Fixed assets	MAP-ID/FIN/07/15-16 /POL NO
19	Procedure for Contact review	ISP-PE-001
20	Procedure for Part approval process	ISP-PE-003
21	Procedure for Tooling Management	ISP-PE-004

PURPOSE:

To establish measurement, analysis and improvement plan for all the processes and functions defined in Quality management system

SCOPE:

This covers all process and functions as per QMS standard

RESPONSIBILITY:

Top Management, process owners and concern employees

9 PERFORMANCE EVALUATION

9.1 Monitoring, measurement, analysis and evaluation

9.1.1 General

The organization determines:

a) What needs to be monitored and measured?

b) The methods for monitoring, measurement, analysis and evaluation needed to ensure valid results;

c) When the monitoring and measuring shall be performed;

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

The organization evaluates the performance and the effectiveness of the quality management system. The organization retains appropriate documented information as evidence of the results.

Refer:

1. Procedure for Control of Monitoring & Measuring Equipment(ISP-QA-010)
2. MAP-ID Business Plan
3. MRM Minutes

9.1.1.1 Monitoring and Measurement of Manufacturing Processes

The organization performs process studies on all new manufacturing processes to verify process capability and to provide additional input for process control, including those for special characteristics.

NOTE: For some manufacturing processes, it may not be possible to demonstrate product compliance through process capability. For those processes, alternate methods such as batch conformance to specification are used.

The organization maintains manufacturing process capability or performance results as specified by the customer's part approval requirements. The organization verifies that the process flow diagram, PFMEA, and control plan are implemented, including adherence to the following:
a) measurement techniques;
b) sampling plans;
c) acceptance criteria;
d) records of actual measurement values and/or test results for variable data;
reaction plans and escalation process when acceptance criteria are not met.

Significant process events, such as tool change or machine repair, are recorded and retained as documented information.
The organization initiates a reaction plan from the control plan and evaluates impact on compliance to specifications for characteristics that are either not statistically capable or are unstable. These reaction plans include containment of product and 100 % inspection, as appropriate. A corrective action plan is then completed by the organization, indicating specific actions specific timing and assigned responsibilities to assure that the process becomes stable. The plans are reviewed with and approved by the customer when required. The organization maintains records of effective dates of process changes

Refer:

1. Procedure for Process Control(ISP-MS-002)
2. Rule Product Audit (ISD-QA-018)
3. Control of NC product(ISP-HT-001)
4. Daily Change point record Sheet(ISF-QA-037)
5. Procedure for In-process Inspection (ISP-QA-008)
6. Manufacturing Process Audit Plan (ISF-PE-002)
7. Manufacturing Process Audit Reports (ISF-PE-003)
8. Control Plans/PQCS/Process Sheet.
9. FMEAs
10. Procedure for Statistical Techniques (ISP-QA-006)

9.1.1.2 Identification of statistical tools

The organization determines the appropriate use of statistical tools. The organization verifies that appropriate statistical tools are included as part of the advanced product quality planning (or equivalent) process and included in the

design risk analysis (such as DFMEA) (where applicable), the process risk analysis (such as PFMEA) and the control plan.

Refer: Procedure for Statistical Techniques (ISP-QA-006)

9.1.1.3 Application of statistical concepts

Statistical concepts such as variation, control (stability), process capability, and the consequences of over-adjustment, are understood and used by employees involved in the collection, analysis, and management of statistical data.

Refer:

1. Work instruction for Control charts(ISD-QA-004)
2. Work instruction for MSA (ISD-QA-003)
3. X Bar - R Control chart (ISF-QA-039)

9.1.2 Customer satisfaction

The organization monitors customers' perceptions of the degree to which their needs and expectations have been fulfilled. The organization determines the methods for obtaining, monitoring and reviewing this information.

Note Examples of monitoring customer perceptions can include customer surveys, customer feedback on delivered products or services, meetings with customers, market-share analysis, compliments, warranty claims and dealer reports.

Refer:

1. Procedure for Customer satisfaction (ISP-SA-001)
2. Customer satisfaction Survey (ISF-SA-001)
3. Customer Feedbacks
4. Customer Complaint Register
5. Corrective and Preventive Actions
6. MRM Minutes
7. Premium Freight Monitoring Records
8. Customer Score cards

9.1.2.1 Customer Satisfaction-Supplemental

Customer satisfaction is monitored through continual evaluation of internal and external performance indicators to ensure compliance to product and process specifications and other customer requirements.

Performance indicators are based on objective evidence and include but not limited to the following:

a) Delivered part quality performance;
b) Customer disruptions;
c) Field returns, recalls
d) Delivery schedule performance (including incidents of premium freight),
e) Customer notifications related to quality or delivery issues & special status.

The organization monitors the performance of manufacturing processes to demonstrate compliance with customer requirements for product quality and efficiency of the process. The monitoring shall include the review of customer performance data including online customer portals and customer scorecards, where provided.

Refer:

1. Procedure for Customer Satisfaction. (ISP-SA-001)
2. Customer satisfaction Survey (ISF-SA-001)
3. Customer Feedbacks or Scorecards or Ratings
4. Customer Complaint Register
5. Corrective and Preventive Actions
6. MRM Minutes
7. Premium Freight Monitoring Register

9.1.3 Analysis and evaluation

The organization analyses and evaluates appropriate data and information arising from monitoring and measurement.

The results of 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.

7.1.3.1 Prioritization

Trends in quality and operational performance shall be compared with progress toward objectives and lead to action to support prioritization of actions for improving customer satisfaction.

Refer:

1. MRM & KPI & Business Plan Minutes

9.2 Internal audit

9.2.1 The organization conducts internal audits at planned intervals to provide information on whether the quality management system:

a) Conforms to:
   1) the organization's own requirements for its quality management system;
   2) the requirements of this International Standard;

b) Is effectively implemented and maintained.

9.2.2 The organization:

a) Plans, establishes, implements and maintains an audit program including the frequency, methods, responsibilities, planning requirements and reporting, which 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) Retains documented information as evidence of the implementation of the audit program and the audit results.

9.2.2.1 Internal Audit Program

The organization has a documented internal audit process. The process includes the development and implementation of an internal audit program that covers the entire quality management system including quality management system audits, manufacturing process audits, and product audits.

The audit program is prioritized upon risk, internal and external performance trends, and criticality of processes.

The frequency of audit is reviewed and adjusted based on occurrence of process changes, internal and external non-conformities and/or complaints. The effectiveness of audit program is reviewed as a part of management review.

9.2.2.2 Quality Management System Audit

The organization audits all quality management system processes over a three year Audit Cycle as per Internal audit schedule, according to an annual program, using the process approach to verify compliance with IATF 16949:2016. The organization also samples customer specific quality management system requirements for effective implementation.

The complete audit cycle remains three years in length. The quality management system audit frequency for individual processes, audited within the three-year audit cycle, shall be based upon internal and external performance and risk. Organizations shall maintain justification for the assigned audit frequency of their processes. All processes are required to be sampled throughout the three-year audit cycle and audited to all applicable requirements in the IATF 16949 standard, including ISO 9001 base requirements, and any customer-specific requirements.

Refer:

1. Procedure for Internal Audits (ISP-QA-003)
2. Criteria for Internal Auditor
3. Annual Internal Audit Schedule (ISF-QA-001)
4. Internal Audit Plan(ISF-QA-002)
5. Internal Audit Observations (ISF-QA-003)
6. Internal Audit NC Analysis (ISF-QA-004)
7. Competency Records of Auditors(ISF-AD-001)

9.2.2.3 Manufacturing Process Audit

The organization audits all manufacturing processes over each three-year calendar period to determine their effectiveness and efficiency using customer-specific required approaches for process audits. Within each individual audit plan, each manufacturing process is audited on all shifts where it occurs, including the appropriate sampling of shift handover.

The manufacturing process audit includes an audit of effective implementation of process risk analysis (such as PFMEA), control plan, and associated documents.

Refer:

1. Procedure for In-Process Inspection (ISP-QA-008)
2. Manufacturing Process Audit Plan (ISF-PE-002)
3. Manufacturing Process Audit Reports (ISF-PE-003)
4. Competency Records of Auditors (ISF-AD-001)

9.2.2.2 Product Audit

The organization audits products using customer specific required approaches at appropriate stages of production and delivery to verify conformity to all specified requirements. Where not defined by the customer, the organization uses its own approach to be used.

Refer:

1. Procedure for Final Inspection & testing (ISP-QA-009)
2. Competency Records of Auditors (ISF-AD-001)
3. Product Audit Plan
4. Product Audit Reports (ISF-QA-18 & 21)

9.3 Management review

9.3.1 General

Top management reviews organization’s quality management system at planned intervals to ensure its continuing suitability, adequacy, effectiveness and alignment with the strategic direction of the organization.

9.3.1.1 Management Review - Supplemental

Management Review is conducted at least annually. The frequency of management review is increased based on risk to compliance with Customer requirements resulting from internal or external changes impacting the quality management system and performance related issues.

Refer:
Procedure for Management Review Meeting(ISP-QA-004)

9.3.2 Management Review Inputs

The management review are 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) 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) Performance of external providers;

d) Adequacy of resources;

e) Effectiveness of actions taken to address risks and opportunities (see 6.1);

f) Opportunities for improvement.

9.3.2.1 Management Review Inputs - Supplemental

Inputs to management review also include:

a) Cost of poor quality (cost of internal and external nonconformance);

b) Measures of process effectiveness;

c) Measures of process efficiency for product realization processes, as applicable ;

d) Product conformance;

e) Assessment of manufacturing feasibility made for changes to existing operations and for new facilities or new product;

f) Customer satisfaction;

g) Review of performance against maintenance objectives;

h) Warranty performance;

i) Review of customer scorecards;

j) Identification of potential field failure identified through risk analysis (e.g. FMEA)

k) Actual field failures and their impact on safety or the environment

l) summary results of measurements at specified stages during the design & development of products & processes ,as applicable.

9.3.3 Management review outputs

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

a) Opportunities for improvement;

b) Any need for changes to the quality management system;

c) Resource needs.

The organization retains documented information as evidence of the results of management reviews.

9.3.3.1 Management review outputs- supplemental

Top management shall document and implement an action plan when customer performance targets are not met

Refer:

1. Procedure for Management Review Meeting (ISP-QA-004)
2. MRM Agenda(ISF-QA-007)
3. MRM Minutes(ISF-QA-008)
4. Business Plan & KPI

CROSS REFERENCES

SL NO	DESCRIPTION	REFERENCE
1	Procedure for Control of Monitoring & Measuring Equipment's	ISP-QA-010
2	Procedure for Process Control	ISP-MS-002
3	Procedure for Statistical Techniques	ISP-SA-001
4	Procedure for customer satisfaction	ISP-SA-001
5	Procedure for Internal Audits	ISP-QA-003
6	Procedure for In-Process Inspection	ISP-QA-008
7	Procedure for Final Inspection & testing	ISP-QA-009
8	Procedure for Management Review Meeting	ISP-QA-004

PURPOSE:

To establish the process to minimize the nonconformities through continual improvement.

SCOPE:

This covers all process as per QMS standard

RESPONSIBILITY:

Top Management & all process owners

10 IMPROVEMENT

10.1 General

The organization determines and selects opportunities for improvement and implements any necessary actions to meet customer requirements and enhance customer satisfaction. These include:

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.

NOTE Examples of improvement can include correction, corrective action, continual improvement, breakthrough change, innovation and re-organization.

10.2 Nonconformity and corrective action

10.2.1 When nonconformity occurs, including complaints, the organization:

a) Reacts to the nonconformity and, as applicable:

1) Takes action to control and correct it;

2) Deals with the consequences;

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

1) Reviewing and analyzing the nonconformity;

2) Determining the causes of the nonconformity;

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.

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

10.2.2 The organization retains documented information as evidence of:
a) Nature of the nonconformities and any subsequent actions taken;
b) Results of any corrective action.

Refer:

1. Procedure for Corrective & Preventive Action (ISP-MS-001)
2. Procedure for Control of Non-Conforming Products (ISP-HT-001
3. Corrective and Preventive Actions records.
4. MRM Minutes

10.2.3 Problem Solving

The organization has a documented process for problem solving, which prevent recurrence including:

a) Defined approaches for various types and scale of problems (e.g. new product development, current manufacturing issues, field failures, audit findings);

b) Containment, interim actions, and related activities necessary for control of nonconforming outputs

c) Root cause analysis, methodology used, analysis, and results;

d) Implementation of systemic corrective actions, including consideration of the impact on similar processes and products;

e) Verification of the effectiveness of implemented corrective action;

f) Reviewing and where necessary, updating the appropriate documented information (e.g. PFMEA, Control plan).

Where the customer specifies prescribed processes, tools or system for problem solving, the organization uses such processes, tools, or systems unless otherwise approved by customer.

Refer:

1. Procedure for Corrective & Preventive Action (ISP-MS-001)

10.2.4 Error Proofing

The organization has a documented process to determine the use of appropriate error proofing methodologies. Details of the method used are documented in process risk analysis (such as PFMEA) and test frequencies are documented in control plan.

The process includes the testing of error proofing devices for failure or simulated failure. Records are maintained. Challenge parts, when used, are identified, controlled, verified, and calibrated where feasible. Error proofing device failure have a reaction plan.

Refer:

1. Procedure for Corrective & Preventive Action (ISP-MS-001)
2. Procedure for POKA-YOKE (ISP-QA-014)

10.2.5 Warranty Management System

MAP-ID has implemented a warranty management process. The organization included in the process a method for warranty part analysis, including NTF (no trouble found). Where specified by the customer, the organization implement the required warranty management process.

Refer:

1. MRM Agenda & Minutes for warranty claims.
2. Process approach diagram for warranty management(PAD-SA-002)

10.2.6 Customer Complaints and Field Failure Analysis

The organization performs analysis on customer complaints and field failures, including any returned parts, and initiates problem solving and corrective action to prevent recurrence. The organization communicates the results of testing/analysis to the customer and also within the organization.

Refer:

1. Procedure for Corrective & Preventive Action (ISP-MS-001)
2. Procedure for POKA-YOKE (ISP-QA-014)
3. MRM Agenda (ISF-QA-007)
4. MRM Minutes(ISF-QA-008)
5. Rule for Customer Complaint Countermeasure ISD-QA-016
6. Rule - Daily Q Report route and countermeasure ISD-QA-035
7.

10.3 Continual Improvement

The organization continually improves the suitability, adequacy and effectiveness of the quality management system.

The organization considers the results of analysis and evaluation, and the outputs from management review, to determine if there are needs or opportunities that are to be addressed as part of continual improvement.

10.3.1 Continual Improvement - Supplemental

The organization has a documented process for continual improvement. The organization includes in this process the following:

a) Identification of the methodology used, objectives, measurement, effectiveness, and documented information;

b) Manufacturing process improvement action plan with emphasis on the reduction of process variation and waste;

c) Risk analysis (such as FMEA).

Refer:

1. Procedure for Continual Improvement (ISP-QA-005)
2. MRM Minutes(ISF-QA-008)
3. Continual Improvement Projects(MIQC as per Business Plan)

CROSS REFERENCES

S. No.	DESCRIPTION	REFERENCE
1	Procedure for Customer Satisfaction	ISP-SA-001
2	Procedure for Internal Audit	ISP-QA-003
3	Procedure for In-process Inspection	ISP-QA-008
4	Procedure for Process Control	ISP-MS-002
5	Procedure for Final Inspection	ISP-QA-009
6	Procedure for Product Audit	ISP-QA-021
7	Procedure for Corrective & Preventive Action	ISP-MS-001
8	Procedure for Control of Non-conforming Products	ISP-HT-001
9	Procedure for Poka-yoke	ISP-QA-014
10	Procedure for Continual Improvement	ISP-QA-005

11 Statutory and Regulatory Requirements:

No product related statutory & regulatory requirement is applicable. Organization specific requirements are identified & handled as per EHS system. Process owner of EHS system is responsible to review & required update in such requirements.