Nidec
All for dreams

Nidec AMG1 Supplier Manual

⚠Edition 2 –October 1st 2017

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Revision Record and Approvals

Edition Date	Edition Level	Changes
November 1st 2015	1	Nidec common supplier manual is made by combining NCJ, NAMA's quality documents based on NMA's Supplier Manual. This is the first edition. *NCJ (Nidec Asia region plants):* *<SWI-06-84-4 Quality Control Requirement > Edition 4 (Sep 2015),* *<SWI-06-83-4 Purchased Parts Advanced Quality Planning Request> Edition 4 (July 2015),* *NAMA (Nidec North America region plants):* *<NAMA Supplier Manual W741.13X> Edition 6(Nov 2014)* *based on' quality document:* *NMA (Nidec Europe region plants):* *<NMA Supplier Manual HQ-P-7.4-02-F> Edition F (Aug 2015).*
⚠1 October 1st 2017	2	1.**Cover page**: Edition update 2. **Overall**: Change from "ISO/TS 16949" to "IATF 16949" according to the latest IATF 16949:2016. 3. **Page 6**: Change from "In some instance, documents can be written in native language." to "All documents submitted to Nidec must be in English. If the supplier wants to use native language, it must be written with English together." 4. **Page 9**: Change from "70%" to "80%" to correct clerical error 5-1. **Page 10**: Add "&Environment system: ISO14001" to chapter 2.2.2 title 5-2. **Page 10**: Add title "2.2.2.1 Quality System: IATF 16949" 5-3. **Page 10&11**: Moved chapter "2.2.6.2 Environment Protection" to 2.2.2.2 and changed the title from" Environment Protection" to " Environment System: ISO 14001" 6. **Page 10& GLOSSARY**: Change from "International Automotive Oversight Board (IAOB)" to "International Automotive Task Force (IATF)" 7. **Page 11**: Delete "Otherwise, they are not pre-selected." 8. **Page13,14**: Move chapter "International Material Data System" from "2.2.6.3" to "2.2.6.2" 9. **Page15:** Add (SUSE) to phase0, step8; add (I.S check) to phase3, step 6; add (PSW) to phase 3,step 9 10. **Page 23**: Add "Note6: Definition of Catalogue /standard Components" 11. **Page 24,25,27,32,38,40**: Changed note No.accordingly 12. **Page 25**: Add "However, upon Nidec decision, a Supplier providing Nidec with catalogue components may not be subjected to early production containment / Safe launch process." 13. **Page 25**: Correct step No. 14. **Page 26:** Add "(production day, shift, operator, cavity, machine etc.)" 15. **Page 29, 30:** Correct "Submit Timing (phase)"; adjust "No." 16. **Page 32:** Add "together with PFMEA severity occurrence matrix as per APQP file (8.3 Risk matrix of 8 PFMEA Report)" 17-1 **Page 32, 33**: Moved contents related to <FMEA Report> upward. 17-2 **Page 32**: Delete "Besides, If Nidec requires, "changed from "shall" to "must" 17-3 **Page 33**: Change from "QGx2" to "PPAP approval" 17-4 **Page 33:** Change from "the respective management" to "Nidec" 18. **Page 34:** Add "If GRR (R&R) > 10%, a release from Nidec needs to be obtained in order to qualify the measurement system. * "qualify" here only means temporary qualify, supplier need to submit improvement plan." 19. **Page 34**: Change from "4" to "3" and deleted "Critical Dimension Characteristics (CD) relating to the dimensions which are considered critical." and the last row of "Table VI" 20. **Page 36:** Delete the last row of "Table VIII"; add contents about [CD] characteristics. 21. **Page 40,41,42:** Change "A" to "1", "B" to "2", "C" to "3", also related items in "Table X" 22. **Page 42:** Delete "and the Supplier is notified accordingly" 23. **Page 45:** Add "and at all affected Nidec locations worldwide" 24. **Page 45:** Add contents about "Supplier 8D Report Evaluation Sheet" 25. **Page 45:** Change "NMA" to "Nidec"to correct clerical error 26. **Page 46**: Correct clerical error 27. **Page 46,47**: Supplement for "supplier audit" 28. **Page 48**: Add "Nidec reserves the right to access supplier's facilities (and all processes) to perform CQI audit directly." 29. **Page 48**: Add "Die Casting: CQI-27 Casting System Assessment." 30. **Page 48, 49**: Updated IATF16949 clause according to the latest IATF 16949:2016.

		31. **Page 48**: Add "(and all processes)" 32. **Page 51**: Add "Supplier which did not deliver not be considered at the SPR." 33. **Page 51**: Adjustment for "Table XIV" 34. **Page 52**: Change from "VDA 6.3 P7.5" to "IATF16949 10.2.5" according to the latest IATF 16949:2016 and VDA6.3:2016. 35. **Page 52**: Add "C3" 36. **Page 53**: Change "Score >80pts" to "Score ≥80pts"; "Score ≤ 80pts" to " Score <80pts" 37. **Page 54:** Add "(4 months)". 38. **Page 54:** Add "and no improvements have been noticed" 39. **Page 62,63:** Adjust "No.", add some missing items and correct clerical error 40. **Page 64:** Add "VDA Volumes are available from http://vda-qmc.de/";add "Quality Assurance for Supplies :" and "(APP)"; delete "Quality Management in the Automotive Industry –"

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1 INTRODUCTION

1.1 Purpose

The purpose of this Manual is to specify Nidec requirements for Suppliers. These requirements cover Supplier qualification, Supplier monitoring, new Supplier development, new Supplier production, Continuous Improvement and incident management.

1.2 Scope

This Manual applies to all Supplies provided to Nidec. In order to know Nidec Suppliers status definition and what is meant by specific terms and acronyms, the lector can consult the glossary at end of the Manual.

1.3 Responsibility

Suppliers shall understand and commit to meeting all requirements set forth in this Manual. Failure to meet these requirements will result in the loss of existing and/or future businesses with Nidec.

Furthermore Suppliers shall:

- Comply with ⚠2 IATF 16949 requirements,
- Comply with Safety and other Regulatory Requirements, as applicable,
- Used for guidance the Automotive Industry Action Group (AIAG) Publications or VDA Standards,
- Apply automotive core standards as follows:
  - ✓ Advanced Product Quality Planning (APQP) and Control Plan (CP),
  - ✓ Potential Failure Mode and Effects Analysis (FMEA),
  - ✓ Measurement System Analysis (MSA),
  - ✓ Statistical Process Control (SPC),
  - ✓ Production Part Approval Process (PPAP),

Suppliers shall adopt a “Zero Defect” target and commit to:

- 100% on time deliveries,
- Single digit PPM, each non conformity shall be answered with an 8D,
- 8D application and Quick Reactivity (QR),
- Quality tools application (5W2H, Factor Tree Analysis, 5 Whys, Lesson Learned Card …etc.) and,
- Continuous Improvement.

1.4 Language

Nidec official language is English. Therefore, all documents mentioned in this Manual are in English. Nidec requests Suppliers to use English in business communication. ⚠3 All documents submitted to Nidec must be in English. If the supplier wants to use native language, it must be written with English together. However, in case of incident or discrepancies, the English version shall prevail.

2 NEW SUPPLIERS PREREQUISITES

2.1 Selection rules

2.1.1 Quality system

The Supplier quality system shall be based on:

- Comply with IATF 16949 requirements, (*please refer to note*[1])
- A development in line with Nidec Supplier Manual requirements,
- A strong automotive culture,
- The attitude to ensure high quality at all stages in the provision of Supplies and services and,
- A clear and expressed Quality Policy.

The need of an efficient quality system is crucial to:

- Manufacture and deliver high quality Supplies,
- Ensure process stability,
- Guarantee the reliability of all tasks performed,
- Ensure proper communications (especially at Customer / Supplier interface),
- Ensure the continuity of the organisation know-how and,
- Drive Continuous Improvement.

Note 1. For existing suppliers and imposed suppliers by Nidec's customer who aren't IATF 16949 or ISO 14001 certified. They should have a clear working plan to be IATF 16949 and ISO 14001 certified. Nidec will take comprehensive consideration for these existing suppliers, only the APQP experienced suppliers with annual evaluation rank A and no customer complaint received can have the chance by keeping their existing business with Nidec.

2.1.2 Other prerequisite: The new Supplier integration process

Before being awarded business from Nidec, all new Suppliers shall successfully pass the "New Supplier Integration Process" (please refer to chapter 2 New supplier pre-requisites> in this Manual).

The "New Supplier Integration Process" ensures that all new Suppliers are qualified to place business with Nidec.

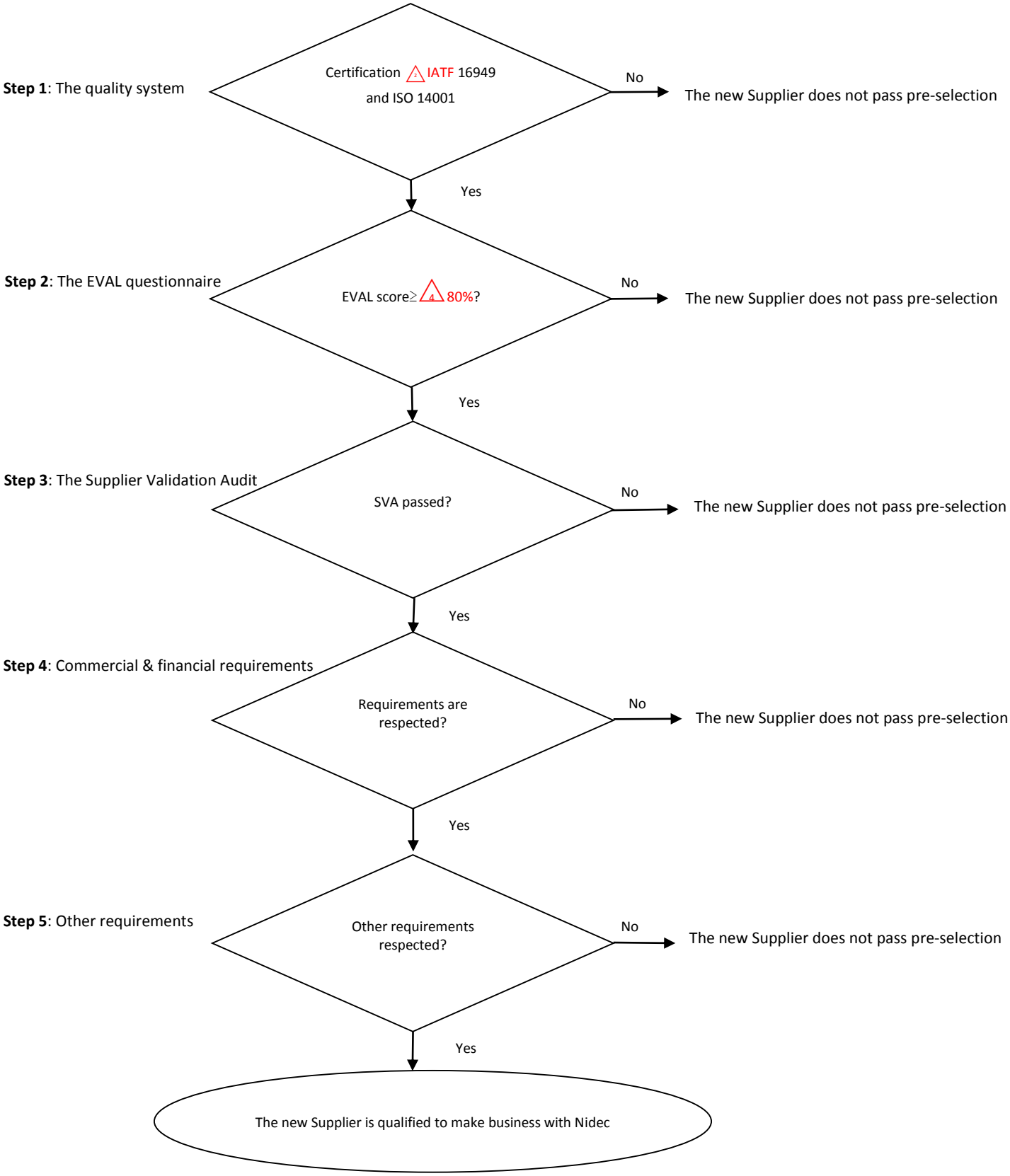
Throughout this process new Suppliers shall:

- Comply either to IATF 16949 or have a clear working plan (within 12 months) to be compliant to IATF 16949,
- Complete with success the EVAL questionnaire,
- Complete with success the Supplier Validation Audit (SVA),
- Meet all commercial and financial requirements and,
- Meet all legal and other specific requirements,
- Be familiar with the Automotive Industry Action Group (AIAG) Publications or VDA Standards,
- Present e-business capabilities.

In addition, regarding today's environmental context, Nidec requires new suppliers to be ISO 14001 certified, or to have planned the certification within 12 months.

2.2 New Supplier integration process

2.2.1 Process flow



2.2.2 Step 1 - The quality system: IATF16949&Environment system: ISO14001

2.2.2.1 Quality System: IATF 16949

As an automotive Supplier, Nidec requires all new Suppliers (including imposed Suppliers by Nidec's customer) to maintain a quality system. This quality system shall not only comply with the IATF 16949 requirements but also with the additional requirements outlined in this Manual which are consistent with Nidec's and Nidec's customers' expectations.

Unless otherwise specified, new Suppliers shall be certified according to IATF 16949. This certification has to be done by an accredited third-party certification body (*please refer to note*[2]).

Any exception to IATF 16949 standard application needs to be formally approved by Nidec Purchasing Director and Nidec Quality Director.

Nevertheless, new Suppliers who are ISO 9001 registered may be awarded the business when:

- They develop their quality system in line with the automotive requirements and,
- They plan an IATF 16949 certification within the next 12 months.

New Suppliers shall inform Nidec of the suspension or the expiration of their certificate(s) of registration within 10 days after the event.

New Suppliers shall systematically issue a copy of their new certificate(s) of registration to all Nidec's sites concerned.

In case of IATF 16949 or ISO 9001 violation, Nidec is entitled to inform the third-party certification body of such violation.

Note 2. New Suppliers should choose an organisation certified by the International Automotive Task Force (IATF) for third party audit and certification to IATF 16949.

2.2.2.2 Environment System: ISO 14001

New Suppliers shall comply with all relevant local, national and international regulations regarding the environment protection.

Nidec top priority is to work toward high environmental performance. In order to do so, Nidec adopts Continuous Improvement for the development of new products and processes as well as the establishment of new practices.

Therefore, Nidec:

- Strives for the sustainable use of raw materials, energy, water and other goods and,
- Fully considers the life cycle of its products.

Because the environmental impact of Nidec's products is the result of Nidec's processes and Suppliers' processes, all new Suppliers should perform activities to reduce damages on the environment. Hence, Nidec expects from all new Suppliers an active involvement in environment.

Consequently, Nidec requires all new Suppliers to be ISO 14001 registered or to have planned the certification within 12 months.

Nidec believes that hereafter techniques and methods are prerequisites to achieve sustainable environmental activities:

- Commitment, writing and communication of environmental performance guidelines,
- Assessment of each environmental impact throughout periodic reviews of the complete manufacturing process (production, maintenance, supplying and disposal) and all Supplies specificities,
- Definition and follow-up of environmental targets for resources safeguarding (raw materials, energy, and water), prevention and reduction of environmental pollution, wastes and rejects management, expendable packaging reduction …etc.,
- Implementation of a contingency plan and,
- The implementation of a recycling programme.

Energy and raw materials shall be managed with efficiency to reduce logistic activities within the supply chain. On request, the supplier shall present recycling and disposal concepts which are appropriate for his products.

2.2.3 Step 2 - The EVAL questionnaire

2.2.3.1 EVAL questionnaire objectives and scores

The EVAL questionnaire has been developed by Nidec to preliminary assess new Suppliers. The EVAL questionnaire is conducted by Nidec purchasing department. The EVAL questionnaire consists of 8 chapters as follows:

1. Management
2. Key data
3. Financial health
4. Development, products & processes
5. Production
6. Quality
7. Logistics
8. Cost management

The final score is the average results of each chapter, see table I below.

EVAL score <70%	The Supplier did not pass the EVAL questionnaire.
70%≤EVAL score <80%	The Supplier passed the EVAL questionnaire. However, the Supplier has 12 months to obtain a score ≥ 80%. Re-evaluation must be performed within this period by Nidec.
EVAL score ≥80%	The Supplier passed the EVAL questionnaire.

Table I

All new Suppliers must receive a positive evaluation to pass the EVAL questionnaire (score≥80%). ⚠7

Nevertheless, new Suppliers fail the EVAL questionnaire when they obtain:

- 1 negative nor more than 1 "to improve" answers for management chapter (qualifying questions) or,
- An average score below 50% for one of the 8 chapters as indicated above,

The EVAL questionnaire is valid until the end of the business relationship with Nidec. However, Nidec can renew the EVAL questionnaire at any time and in particular after a major change.

2.2.3.2 Automotive Industry Action Group standards

New Suppliers shall apply AIAG or VDA requirements. This point is addressed in the EVAL questionnaire in chapter 4 - Development, product & process and chapter 5 - Production.

New Suppliers shall apply automotive core standards as follows:

- Advanced Product Quality Planning (APQP) and Control Plan (CP),
- Potential Failure Modes and Effects Analysis (FMEA),
- Measurement System Analysis (MSA),
- Statistical Process Control (SPC),
- Production Part Approval Process (PPAP),

New Suppliers shall know how to develop a Control Plan (CP) by identifying Special Product and Process Characteristics (SPPC).

2.2.3.3 E-Business Capabilities

E-business requires email, internet access and internet browser technology. This point is addressed in the EVAL questionnaire in the chapter 7 – Logistics.

All new Suppliers shall possess e-business capabilities in order to be permanently connected with Nidec:

- Fast internet connection (>512Ko),
- Web EDI or other internet tool to exchange logistic data,
- Drawing exchange (ex: CATIA native, CATEXP, STEP AP 214, VDAFS 2.0, IGES 5.1, DXF) and,
- Large file exchanges compatibilities (>100Mo).

2.2.4 Step 3 - The Supplier Validation Audit (SVA)

The SVA is covered by VDA 6.3 Potential Analysis Audit. Please refer to Chapter 4.6 <Supplier Audits> for the VDA 6.3 audit judgement standard.

2.2.5 Step 4 - Commercial and financial requirements

2.2.5.1 DUNS Registration

New Suppliers shall register to Dunn & Bradstreet in order to obtain a DUNS Number. This registration is free of charge and has to be done by each site supplying Nidec.

The Dunn & Bradstreet registration is accessible by visiting their website http://www.dnb.com/us/

2.2.5.2 Nidec General Terms and Conditions of Purchase

Unless otherwise agreed in writing, Nidec General Terms and Conditions of Purchase (*please refer to note*[3]) of the buying site shall apply to all purchases made by Nidec whether they are for tools, machines, equipment, parts, raw materials, other materials, or services.

2.2.5.3 Non-Disclosure Agreement (NDA)

The purpose of the NDA is to protect non-public and proprietary information. New Suppliers undertake to sign the NDA (Nidec's template) prior to disclosure of documents and any other information by Nidec.

2.2.5.4 Insurance

Nidec requires new Suppliers and Sub-suppliers to carry liability insurance, including Supply recall liability, with specific minimum amounts of coverage and asks for yearly evidence of such insurance coverage.

The minimum limits of guarantees that Nidec requires from new Suppliers and Sub-suppliers are set up and documented according to their net annual sales to Nidec as indicated in the applicable Insurance Procedure.

This coverage includes recall costs engaged either by Nidec, by a car manufacturer or by government authorities.

Note 3. The relevant commercial and financial requirements and documents defined in this chapter 2.2.5 <Commercial and financial requirements> differ from each Nidec buying site. Please follow the specific procedure from each Nidec buying site

2.2.6 Step 5 - Other requirements

2.2.6.1 Regulatory requirements

New Suppliers shall comply with all applicable laws and regulations. These regulations relate, but are not limited to workers health & safety, environment protection, toxic & hazardous materials, free trade …etc.

New Suppliers shall comply with all regulations applicable in the countries where their Supplies are manufactured and sold.

In particular new Suppliers shall fulfil requirements according to the following regulations and any future amendments:

- European Parliament and Council Regulation (EC) No 1907/2006 and Directive 2006/121/EC on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH),
- Directive 2002/95/EC on the restriction of the use of certain hazardous substances (RoHS) in electrical and electronic equipment ,
- Directive 2000/53/EC on End of Life Vehicles (ELV),
- Directive 2002/96/EC on waste electrical and electronic equipment,
- Non-use of Banned/Declarable Substances listed in GADSL(Refer to: http://www.gadsl.org/),
- Dodd-Frank Section 1502: Conflict minerals (Refer to: http://www.conflictfreesourcing.org/conflict-minerals-reporting-template),

New Suppliers, regardless of their location, shall ensure that all Supplies provided to Nidec's sites comply with the above-mentioned regulations and all other legal requirements, as applicable. This includes responsibility for Sub-suppliers laws and regulations application.

Besides, if Nidec requires, suppliers shall fill in and submit the <Certificate regarding Environment-related Substances> (Nidec template) to Nidec. Any future amendments or customer's requirements can be added into <Certificate regarding Environment-related Substances>. If there is any Nidec customer's specific requirement, supplier shall follow up Nidec customer's requirement and use Nidec customer's template if needed. Nidec can require the supplier to submit the <Certificate regarding Environment-related Substances> at any period during the business with Nidec.

For further information, please visit the official website of the European Union: http://europa.eu/ and the U.S Security and Exchange Commission website http://www.sec.gov/

2.2.6.2 International Material Data System

New Suppliers shall use the International Material Data System (IMDS) to report all information regarding Supplies content provided to Nidec's sites.

It is the responsibility of new Suppliers to cascade IMDS reporting requirements to all their Sub-suppliers.

Furthermore, new Suppliers shall ensure that all Sub-suppliers comply with the same IMDS requirements and shall investigate Sub-suppliers materials, components, processes, raw materials, lubricants, coatings, paint, chemical constituents …etc.

New Suppliers shall submit IMDS data to Nidec upon being awarded a business and prior PPAP submission (IMDS data are part of the PPAP submission and are subject to Nidec approval).

New Suppliers can access the IMDS by visiting their website: http://www.mdsystem.com

3 Nidec PROJECT MANAGEMENT

3.1 Nidec project management process

Nidec project management consists of 5 Phase as follows

3.2 Business attribution

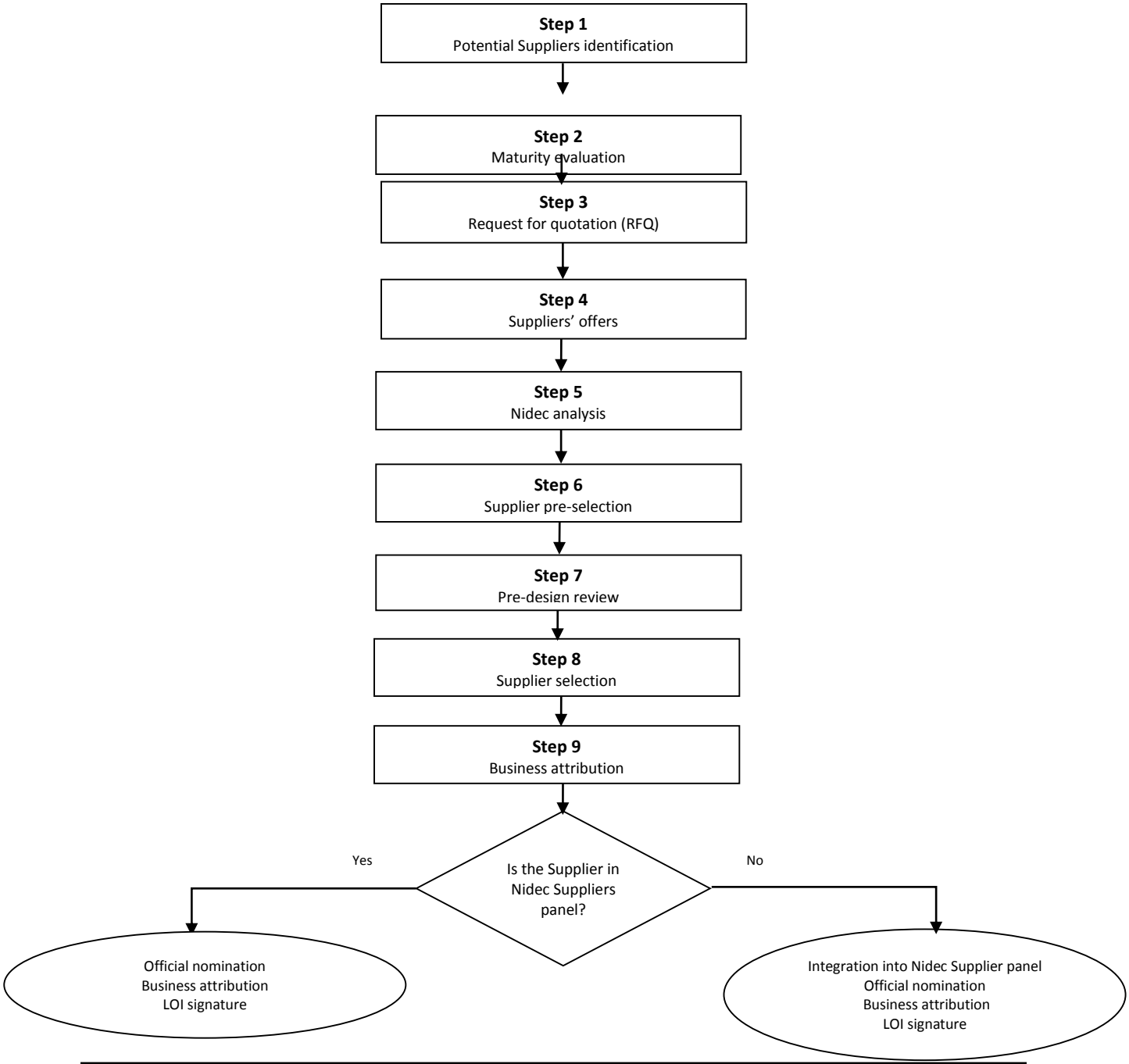
3.2.1 Phase 0: Business attribution (Nidec project phase 1)

During this phase, only the Supplier who best matches Nidec needs and requirements is awarded the business.

This phase starts with the identification of potential Suppliers (new and existing) who can be awarded the business and ends with the official nomination of the Supplier to be awarded the business with signature of the binding LOI.

All new Suppliers shall successfully pass the “new Supplier integration process” (please refer to chapter 2.2 <New Supplier integration process> in this Manual) before proceeding to the “business attribution process”.

3.2.1.1 Business attribution process flow



3.2.1.2 Business attribution process description

Step1: Potential Suppliers identification

Nidec identifies potential Suppliers (new and existing) for placing a business. New Suppliers have to comply with the pre-requisites presented in the chapter 2 <New Supplier Pre-requisites> in this Manual.

Prior to the communication of any documents by Nidec, identified Suppliers shall sign the Non-Disclosure Agreement (Nidec's template).

Step2: Maturity evaluation

Nidec will implement the maturity evaluation of the part according to the part innovation and severity level. Please refer to the chapter 3.7.2 <PPAP submission level & content> for detailed information.

Step3: Request for quotation (RFQ)

Nidec sends a RFQ (*please refer to note*[4]) to each identified Supplier with a documentation package as follows:

- RFQ
- Nidec General Terms and Conditions of Purchase
- Drawings with technical specifications and SPPC
- Liability Insurance for Supplier procedure
- Nidec Supplier Manual
- APQP File
- Nidec Logistic Manual for Suppliers
- Tool Manufacture Loan Agreement
- Long Term Supply Agreement

Note 4. The RFQ Package and other relevant business attribution requirements differ from each Nidec buying site. Please follow the specific procedure from each Nidec buying site.

Step4: Suppliers' offers

Identified Suppliers shall review and understand the RFQ package documentation to make an offer. When responding to the RFQ, identified Suppliers commit to applying the procedures and methodologies included in the documentation package. RFQ package documentation shall be signed when applicable.

Identified Suppliers shall complete and sign the RFQ with a detailed cost breakdown to be sent back in compliance within the deadline set by Nidec. This signature implies the acceptance of Nidec General Terms and Conditions of Purchase.

Step5: Nidec analysis

Nidec analyses the relevance of each identified Suppliers response according to:

- Supply definition & specifications,
- Design study & development needs and,
- QCD objectives commitments.

Requirements are updated for Supplies carried over to another project (please refer to chapter 3.6 <Carry over> in this Manual).

Step6: Supplier pre-selection

Nidec preselects the identified Supplier who best matches Nidec's expectations. At this stage, the preselected Supplier (new or existing) shall meet all Nidec's requirements as described in chapter 2.2 <New supplier integration process> in this Manual.

Step7: Pre-design review

The preselected Supplier shall complete and submit the <Feasibility Study> (Sheet 6 in APQP File) to Nidec. The preselected Supplier and Nidec jointly analyse the design (including design drawing, packaging) to ensure that Nidec SPPC have been identified and understood by the preselected Supplier.

Step8: Supplier selection

Nidec selects the Supplier for the business through filling out and signature the Supplier Selection Sheet (Nidec's template).

Step9: Business attribution

The selected Supplier is officially nominated and awarded the business with the signature of the LOI. A new Supplier who is awarded a Nidec business contract is integrated into Nidec Suppliers panel.

3.3 APQP process (Phase 1 to Phase 4)

3.3.1 Introduction

3.3.1.1 APQP process

After having been awarded a business, the Supplier shall produce an advanced quality plan driven by the ⚠2 IATF 16949 and the APQP process.

The APQP process describes a set of activities performed throughout a schedule to ensure that all Supplies provided meet Nidec's and Nidec's Customers specifications and achieve the expected capacity level. The Supplier is expected to conduct the APQP process and use Nidec's templates. Alternative processes and templates have to be previously validated by Nidec in writing.

For guidance, please consult the APQP and CP Reference Manual published by the AIAG.

3.3.1.2 APQP File

To ensure a flawless APQP process, Nidec has developed the APQP File. This document provides Nidec with a tool to monitor QCD targets.

Either for new or modified Supplies, the Supplier shall submit and sign the APQP File duly completed to Nidec.

The APQP File consists of specific requirements and its completion is followed-up and approved by Nidec.

All related Nidec's templates are to be filled out in English. If Nidec requires, Supplier shall complete all related APQP files and PPAP submission documents both in English and in native language. Any alternative templates shall be previously approved by Nidec in writing.

3.3.2 Phase 1: Supplier design validation (Nidec project phase 2)

This phase starts when the Supplier is awarded a business from Nidec and ends with the contracts and agreements signature. During this phase, the Supply requirements are drawn-up, discussed and validated.

Step1: Kick-off of the APQP File

Nidec kicks-off the APQP File and requests the Supplier to complete <Coversheet> (Sheet 1 from the APQP File), <Information sheet> (Sheet 2 from the APQP File), and <Status and timing chart> (Sheet 3 from the APQP File) if needed.

If there is any information changed in the <Information sheet> (Sheet 2 from the APQP File) during APQP period, the Supplier shall timely inform Nidec and re-submit the updated <Information sheet> to Nidec on request.

To make sure that Nidec is fully informed about the new project during APQP period, the Supplier shall update and submit the <Status and timing chart> (Sheet 3 from the APQP File) regularly on request. And if there is any timing delay or relevant issues occurred, Supplier shall take actions and record them in the <CAR> (Sheet 14 from the APQP File).Supplier shall follow up the implementation of their actions until its closure and approved by Nidec.

Step2: APQP File acceptance

The intent of this step is to ensure that the Supplier:

- Understand the APQP File requirements and,
- Formally accept the APQP File and its related templates.

The Supplier shall sign the coversheet of the APQP File (Sheet 1 from the APQP File).

Besides, the Supplier shall sign the Nidec Supplier Manual with its company name, signed date and signature name of authorized person as well as the company stamp at the last page of this manual. This signature is an evidence of Supplier's agreement on this manual. The Supplier shall send the signed manual back to Nidec and keep a copy in Supplier side.

Step3: Design Review (DR): feasibility study & commitment

Nidec and the Supplier shall conduct a documented Design Review (DR) to address potential design issues. During the DR, Nidec and the Supplier shall review and agree on the SPPC and the measurement methods to be used. The DR shall lead to the commitment and signature of the feasibility study (sheet 6 from the APQP File).

Launch Design Potential Failure Mode and Effects Analysis (DFMEA) if the Supplier designs the product.

And if there is any requirement that supplier cannot meet or relevant issues occurred during the DR, the Supplier shall take actions and record them in the <CAR> (Sheet 14 from the APQP File).Supplier shall follow up the implementation of their actions until its closure and approved by Nidec.

Step4: Target, risk and Quality agreement

Nidec Project Team and the Supplier review the key dates of the project(s) and perform the project(s) risk assessment. The Supplier shall commit to keeping in line with quality agreement requirements and sign the < Targets, risks & Quality Agreement > (Sheet 4 from the APQP File) on request.

Step5: Prototype parts

The Supplier shall reproduce the planned production process as closely as feasible to deliver prototypes to Nidec. The Supplier shall define the prototypes CP which need to be approved by Nidec if Nidec requires before the Supplier makes prototypes. If there is any Nidec customer specific requirement, the Supplier shall follow the Nidec customer's requirement.

Prototypes are made from Nidec authorized drawings and/or other engineering design records. From the prototype purchase order, the Supplier will be informed about the quantity of prototypes to be delivered.

The Supplier shall identify all prototype deliveries accordingly and provide systematically each prototype delivery with an inspection report that must be consistent with the prototypes CP defined. For packaging and labelling requirements please refer to chapter 3.8 <Packaging and labelling specifications/logistic> in this Manual.

The inspection report is to provide evidence of compliance to Nidec specifications, prototypes CP and shall include a material certificate, a metrological/dimensional report and when applicable, an electrical report (Nidec may ask for additional specific certificates and reports). If there is any Nidec customer specific requirement, the Supplier shall follow the Nidec customer's requirement.

Step6: Prototypes validation

Nidec validates the Supplier's prototypes through internal functional validation tests. Nidec verifies the Supplier's understanding of prototypes requirements and all other related requirements such as prototypes CP.

Step7: Design freeze

The design is frozen based on the signed feasibility study (sheet 6 from the APQP File) to be approved by the Nidec.

Before the design frozen, all open issues listed in <CAR> (Sheet 14 from the APQP File) need to be closed. If there is still some open issues remained, the Supplier shall follow up the implementation of their actions until its closure and approved by Nidec.

Step8: Contracts & agreements signature

The Supplier shall sign when adapted the Tooling Manufacture and Loan Agreement (TMLA), the Long Term Supply Agreement (LTA) and any other applicable contracts (*please refer to note*[5]).

Note 5. The relevant business agreements and contracts differ from each Nidec buying site. Please follow the specific procedure from each Nidec purchasing site.

Step9: APQP activities implementation confirmation

The purpose of this step is to confirm the implement of the APQP activities of each phase. At the end of each phase, Nidec SQE will check the implement of APQP activities and inform the Supplier with the open issues. Supplier shall take actions and record them in the <CAR> (Sheet 14 from the APQP File). Supplier shall follow up the implementation of their actions until its closure and approved by Nidec.

3.3.3 Phase 2: Supplier process design and development (Nidec project phase 3)

During this phase, the Supplier shall complete designs for its tooling, assembly lines/cells, process layout and gauging and measurement equipment.

The Supplier shall identify all necessary capital equipment required to manufacture the Supply and collect data to ensure that manufactured Supplies meet Nidec's drawings, specifications and capacity requirements.

During this Phase the Supplier shall:

- Notify of any risk which may affect the Supply integrity and the project plan,
- Implement, when possible, error proofing / Poka-Yoke to target "Zero Defect",
- Identify all changes needed for Supplies and/or process specifications and,
- Launch Process Potential Failure Mode and Effects Analysis (PFMEA), Pre-Launch and production CPs

Step1: Detail process design

The Supplier shall prepare the necessary specifications to launch equipment, tooling, logistic and packaging for the ramp-up and control of the serial production process.

Step2: Gauge/tooling/equipment review

During this step, the Supplier and Nidec shall review the measurement methods and agree on the equipment to be used. In addition, the Supplier shall review the readiness of its tooling, manufacturing equipment and gauges through MSA studies.

Supplier shall complete the <Measurement method> (Nidec PPAP template) and submit it to Nidec on request. All the characteristics (including all dimensions, performances and specification items listed on the drawing as well as in the drawing notes) shall be recorded in the <Measurement method>.

MSA studies are part of PPAP package (please refer to chapter 3.12 <Measurement System Analysis Studies> in this Manual) and shall meet the AIAG requirements. Supplier shall complete the <GR&R> (Nidec PPAP template) for the variable and attributive characteristic gauges and submit it to Nidec on request. Nidec will validate MSA results. Any issues which affect timing, quality or MSA studies shall be reported to Nidec and be recorded in the <CAR> (Sheet 14 in APQP File) to be followed up until closure.

For further information please consult the AIAG Measurement Systems Analysis Reference Manual.

Step3: PFMEA and CP development (please refer to chapter 3.10 and 3.11 in this Manual)

The Supplier shall develop PFMEA to ensure that the process potential failure modes and associated causes and effects have been considered and addressed from the initial process definition stage.

The Supplier shall develop pre-launch and production CPs for product and process to guarantee the stability of the production process and the conformity of the Supply according to Nidec's requirements.

For further information, please refer to the AIAG FMEA manual and the AIAG APQP and CP manual.

Step4: IMDS submission

IMDS data are part of the PPAP submission and are subject to Nidec for approval. All material/material object data is reported after communicated with Nidec related department to ensure these can fulfill customer and legal requirement. If Nidec requires, each Supplier shall have a skilly IMDS coordinator who can deal with the relevant issues about its IMDS and report to Nidec.

These reporting are applied into IMDS "International Material Data System". Nidec will inform its ID No. in the <PPAP submission matrix> (Sheet 15 from the APQP File). If Nidec requires, the Supplier shall re-submit the IMDS.

Step5: Early production containment rules (please refer to chapter 3.4 in this Manual)

Nidec and the Supplier shall agree on the early production containment conditions and exit criteria and sign the <Safe Launch Process Agreement> (Sheet 13.1 in APQP Files).

For measurement and evaluation of the achieved quality, internal and external project/product related quality objectives must be defined. The In-process defect rate (internal) and Delivery defect rate (external) are defined in the <Safe Launch Process Agreement>.

Step6: First off-tool parts

In order to perform this activity, the Supplier shall replicate the planned production process as closely as feasible, identify deliveries accordingly and inform Nidec about measurements methods, materials, dimensions and performances results. Nidec will inform the Supplier about the quantity to be delivered.

During this step, the Supplier shall complete the <Dimensional report> (Nidec PPAP template) and submit it to Nidec on request. Unless otherwise specified by Nidec or Nidec's customer, the sample quantity for full characteristics inspection is normally 5 pieces (N=5).

All the characteristics (including all dimensions, performances and specification items listed on the drawing as well as in the drawing notes) shall be measured and recorded in the <Dimensional report>. The number of full dimensional results in the <Dimensional report> must correlate with the number of items listed in the <Measurement method> and ballooned drawing.

Besides, if Nidec requires, the Supplier shall complete the <Capability Study> (Nidec PPAP template) for first off-tool parts and submit it to Nidec. Unless otherwise specified by Nidec or Nidec's customer, the sample quantity for first off-tool parts capability study is normally 30 pieces (N=30).

The Supplier shall identify all first off-tool deliveries which are measured for full characteristics inspection and capability study accordingly and the number of measurement results in the <Dimensional report> and <Capability study> must correlate with the first off-tool deliveries identified. For packaging and labelling requirements please refer to chapter 3.8 <Packaging and Labelling Specifications/Logistic> in this Manual.

The <Material Report> (Nidec PPAP template) is for the material related result such as material certification, material component report and material performance test result if applicable. The <Test Report> (Nidec PPAP template) is for the testing result such as reliability test or other applicable tests. Nidec may ask for additional specific certificates and reports. If there is any Nidec customer specific requirement, the Supplier shall follow the Nidec customer's requirement.

Step7: Packaging & labelling definition proposal

The Supplier shall define a packaging & labelling in line with Nidec's requirements. The Supplier proposal is to be validated by Nidec. The Supplier shall sign the < Packaging & labelling > (Sheet 9 from the APQP File). For packaging & labelling specifications please refer to chapter 3.8 <Packaging and labelling specifications/logistic> in this Manual. Nidec shall do the appearance inspection of the first delivery to confirm the packaging if needed. As a part of PPAP submission, supplier packaging specifications shall be submitted to Nidec for approval.

Step8: Traceability Management (Refer to Chapter 3.5 <Traceability>)

Traceability must be organized in such a way that clear allocation of delivery data to the production and inspection lots is guaranteed. Suppliers including their sub-suppliers must ensure that they have a functioning system to trace the origin of their products.

As a part of PPAP submission, the Supplier shall submit the traceability management document (Supplier template) on request. This document shall describe the traceability management including Lots number definition and how to trace back at least the raw materials lot numbers, manufacturing data, inspection and test records from Lots number. Please refer to chapter 3.5 <Traceability>.

Step9: Sub-supplier Application

When there are any external processes and/or the production of parts planned to be done by a sub-supplier, the Supplier shall specify it and submit the <Sub-supplier Application> (Sheet 10 from the APQP File) to Nidec for approval on request.

Step10: APQP activities implementation confirmation

The purpose of this step is to confirm the implement of the APQP activities of each phase. At the end of each phase, Nidec SQE will check the implement of APQP activities and inform the Supplier with the open issues. Supplier shall take actions and record them in the <CAR> (Sheet 14 from the APQP File). Supplier shall follow up the implementation of their actions until its closure and approved by Nidec.

3.3.4 Phase 3: Supplier product and process validation (Nidec project phase 3)

This phase starts with the Supplier's internal capacity & capability validation (process debugging run) and ends with the PPAP package approval by Nidec.

During this phase, the Supplier shall complete and submit PPAP package and fill in the APQP File accordingly

- SPPC (updated) <Special Product and Process Characteristics>（Sheet 7 from APQP File）
- Process Audit Report （Sheet 11 from APQP File）
- Capacity study & Run@Rate（Sheet 12 from APQP File）
- Concern & Action Report (CAR) （Sheet 14 from APQP File）

A manufacturing feasibility and/or a capacity study may be required for each engineering change in design or which leads to either a new or modified manufacturing process.

Step1: Internal Supplier capacity and capability validation

The Supplier shall perform an internal validation of its Supply and its production process. This later is to be validated via a capability and a capacity study. Capability and capacity studies are done through a production representative batch.

As parts of PPAP submission, Supplier shall submit the <Capacity study& run@rate> (Sheet 12 from the APQP File) and <Capability study> (Nidec PPAP template) on request. The corresponding result of the <Capability study> shall be recorded in < SPPC> (Sheet 7 from the APQP File) if required.

For specific requirement of process capability study, please refer to the chapter 3.13 <Initial Process Studies> in this manual.

Step2: Nidec validation test

The Supplier shall meet capabilities requirements for SPPC (please refer to chapter 3.13 <Initial process studies> in this Manual) to be validated by Nidec.

The manufacturing process is representative of the serial process. Nidec will define tests requirements and the number of Supplies to be measured is performed by cavity (number to be defined by Nidec).

As part of the PPAP documentation package, the Supplier shall provide Nidec with a duly completed dimensional report, material certificate and material performance test results to demonstrate the compliance to Nidec's specifications. In some instance, Nidec may require a measurement report or other test reports.

Step3: PFMEA and CP approval

The Supplier's PFMEA and production CP are validated by Nidec.

Step4: Sub-suppliers PPAP

The Supplier is responsible for reviewing and approving Sub-suppliers PPAP packages. Nidec can request a copy of these documents.

Step5: Process audit

The Process audit is to ensure that the Supplier:

- Has a stable and valid process flow and,
- Meets quality requirements and specification.

Nidec will perform the Process audit according with VDA 6.3 and communicate results to the Supplier. However, Nidec reserves the right to delegate independent auditors to assess the Supplier process. The Supplier shall act proactively and conduct internal process audits. Results from the last internal audit shall be systematically communicated to Nidec.

Suppliers for catalogue components cannot be audit-exempted unless Nidec approval. However, being audit-exempted does not prevent the Supplier from performing internal process audits. If there is any Nidec customer's specific requirement, the Supplier shall follow up Nidec customer's requirement.

Please refer to chapter 5.3 Cost Recovery in this Manual for detailed information about the corresponding amounts charged back to the Supplier due to failed process audits.

Step6: Run @ Rate audit (Capacity study)

The Supplier Run @ Rate Audit is performed by Nidec to assess the capacity of the Supplier manufacturing process. The standard template to be used is included in the APQP File. As parts of PPAP submission, Supplier shall fill in and submit the <Capacity study& run@rate> ((Sheet 12 from the APQP File)) to Nidec on request.

However, upon Nidec decision, a Supplier providing Nidec with catalogue components ⚠10 (*please refer to note[6]*) such as screws, ball-bearings, washers …etc., can be audit-exempt. Nidec reserves the right to audit these suppliers. If there is any Nidec customer's specific requirement, the Supplier shall follow up Nidec customer's requirement.

Unless otherwise specified by Nidec, the production shall be scheduled to run between 1hour and 8hours with at least the production of 300 consecutive Supplies.

During the Run @ Rate audit, sorting is not authorized. Resulting Initial Samples (IS) are used for validation. Key data from the audits are recorded in the APQP File (proper cycle times, quality expectations and results).

Please refer to chapter 5.3 <Cost Recovery> in this Manual for detailed information about the corresponding amounts charged to the Supplier due to failed Supplier Run @ Rate audits.

⚠10 *Note6: Definition of Catalogue /standard Components as following:*

- *No Nidec requirement on the drawing*
- *Catalogue component circulating at the market.*

Step7: PPAP submission (please refer to chapter 3.7 <Production part approval process> in this Manual)

The Supplier shall submit a PPAP package to Nidec which meet Customers-specific requirements and which comply with PPAP process as described in the AIAG PPAP Manual.

Upon Nidec approval, the number of IS to submit is defined in the IS purchase order (usually 5 pieces). In case of multi-cavity tooling, Nidec defines how many pieces of each cavity have the Supplier to provide.

Step8: Nidec line trial

Prior to approving the Supplier's PPAP, Nidec can perform a trial on its assembly line. The number of Supplies to be used on the assembly line is defined by Nidec (usually 400 pieces).

Supplies to be used for the trial run are from the Supplier's mass production equipment, manpower, and material.

Nidec will validate the trial run and communicate results to the Supplier and Nidec SQE/CE.

The Supplier shall identify packaging accordingly with a special label (for packaging and labelling requirements please refer to chapter 3.8 <Packaging and labelling specifications/logistic> in this Manual).

Step9: PPAP approval

PPAP approval is done through a cross-team analysis and required complete agreement between Nidec Departments.

The validation scope includes, but is not limited to, responsibilities of Nidec Purchasing, Quality, Logistic, Industrial and R&D.

Nidec formally approves IS, PPAP package and all required deliverables by signing the Part Submission Warrant (PSW).

Once PPAP is validated, the Supplier shall initiate and execute early production containment activities according to agreed conditions and criteria <Safe Launch Agreement> (Sheet 13.1 from the APQP File).The specific requirement for early production containment please refers to chapter 3.4 <Early Production Containment / Safe Launch Process> in this Manual.

Step10: APQP activities implementation confirmation

The purpose of this step is to confirm the implement of the APQP activities of each phase. At the end of each phase, Nidec SQE will check the implement of APQP activities and inform the Supplier with the open issues. Supplier shall take actions and record them in the <CAR> (Sheet 14 from the APQP File). Supplier shall follow up the implementation of their actions until its closure and approved by Nidec.

3.3.5 Phase 4: Receiving products management (Nidec project phase 4)

Once the Supplier's PPAP is validated (IS acceptance), all deliveries may be directly sent to production upon Nidec each plant internal procedure (*please refer to note*[7]) ⚠11. However, according to an internal process, some deliveries are subjected to a specific internal control (please refer to chapter 4.3 <Receiving products control process> in this Manual).

Note 7. ⚠11 *The incoming management procedure differs from each Nidec plant. Supplier shall follow each Nidec plant's specific incoming procedure.*

This internal control process targets the compliance of Supplier's controls to CP but can be also done through a physical assessment. In the event of a discrepancy or non-conformity during the control, Nidec opens an incident and initiates an 8D.

Step1: Receiving products control planning

Nidec prepares the internal planning for the Supplier's deliveries to be controlled.

Step2: Weekly report

Upon Nidec request, the Supplier shall communicate weekly reports to measure the Supplier's internal quality performances (sheet 13.2 from the APQP File).

Step3: Safe Launch Process confirmation and closure

After Nidec validation, the APQP File is closed and signed by the Nidec. When necessary, Nidec reserves the right to require the Supplier to perform the APQP activities once again from phase 1 to 4.

The safe launch process will be closed after Nidec signs the <Safe Launch Process Agreement> (Sheet 13.1 from the APQP File). The specific requirement for early production containment please refers to chapter 3.4 <Early Production Containment / Safe Launch Process> in this Manual.

Step4: Open orders released

Nidec's buying site releases open orders (*please refer to note*[8]) 11 which are always governed by the Nidec's General Terms of Purchase.

The Suppliers shall sign the open orders and send them back to Nidec. In the absence of the signed open orders by the Suppliers, the execution of the open orders shall be deemed an express acceptance of Nidec General Terms of Purchase and shall automatically entail Supplier's waiver of its own terms and conditions.

Note 8. The orders and contracts differ from each Nidec buying site. Supplier shall sign the applicable contracts and agreements based on each Nidec buyer procedure.

3.4 Early Production Containment / Safe Launch Process

3.4.1 Early production containment / Safe launch process objectives and rules

Early production containment / Safe launch process is mandatory for all pre-production and production Supplies that require a PPAP submission. 12 However, upon Nidec decision, a Supplier providing Nidec with catalogue components may not be subjected to early production containment / Safe launch process. Once PPAP is validated, the Supplier shall initiate and execute early production containment activities according to agreed conditions and criteria <Safe Launch Agreement> (Sheet 13.1 from the APQP File). The safe launch process management should also be implemented, if needed, when the supplier re-start the production after an intermission more than 6 months.

This process is to check and document the efforts of the Supplier to control its processes during start-up and ramp-up phases and to ensure quick identification, containment and correction of quality issues at the Supplier manufacturing or assembling site rather than at Nidec's Customers sites.

Duration, conditions and exit criteria which are defined in <Safe Launch Agreement> (Sheet 13.1 from the APQP File) have to be agreed by Nidec and the Supplier at Phase 2 step 13 5 early production containment rules.

Unless otherwise specified by Nidec and Nidec customer, the duration of safe launch process is normally 3 months with at least the production of 3,000 consecutive Supplies. The safe launch duration will be extended longer if the production quantity is less than 3,000 or any incident occurs.

During this period, supplier shall implement the safe launch production based on the requirement of the <Safe launch agreement> and no change permitted during this period unless Nidec approves.

The safe launch management duration will be changed upon Nidec customer's specific requirement. If there is any specific Nidec customer's requirement for the safe launch management, the Supplier shall follow Nidec customer's requirement.

3.4.2 Supplier responsibility

3.4.2.1 Pre-launch CP

Early production containment / safe launch process requires a pre-launch CP to be validated by Nidec. The pre-launch CP is a significant enhancement to the production CP that raises the confidence level to ensure that Supplies will meet Nidec's requirements.

The pre-launch CP consists of additional controls, inspection audits, and testing to identify non-conformances during the production process. Nidec requires the Supplier to highlight all additional controls in yellow in its pre-launch CP. It shall take into consideration all known critical conditions of the Supply as well as potential areas of concern identified during PPAP.

According to the manufacturing or assembling process dominant factor (set-up, machinery, fixture, tooling, operator, material/components, preventative maintenance, and climate), additional controls include:

- Off-line, separate and independent checks from the normal production process whenever possible,
- Increased frequency/sample size of receiving, process and/or shipping inspections,
- Sub-supplier containment and/or sub-Supplier audits,
- Addition of inspection/control items,
- Enhanced process controls such as error proofing or,
- Error proofing validation through introduction of known defects.

The pre-launch control plan also serves to validate the production control plan. Therefore, the Supplier shall document early production containment requirements / safe launch process in their production CP to be reviewed and validated by Nidec.

Approval of the Supplier's pre-launch or production CP does not discharge the Supplier responsibility to meet Nidec's expectations, specifications and the applicable laws and regulations.

3.4.2.2 Reinforced control

The scope of the reinforced control includes new validated PPAP and lasts until the production process is stable. The reinforce control is done by the Supplier to protect Nidec lines through a specific control done according the pre-launch CP.

During the agreed period, the Supplier shall measure its internal quality performance and to submit results regularly on Nidec request.

The Supplier shall implement immediate containment and corrective actions when non-conformances are detected. PFMEAs and CPs are updated accordingly if applicable.

3.5 Traceability

The Supplier shall implement an identification system with lot traceability or production data to provide Nidec with a tool to execute efficient lot controls in the event that a contaminated population is identified. On request, Nidec will identify and document unique requirements during the APQP kick-off meeting or other formal communication.

Identification shall at least permit to trace back the Supplier raw materials lot numbers, manufacturing data

14 (production day, shift, operator, cavity, machine etc.), inspection and test records.

For Supplies produced under similar conditions (same raw material lot, same manufacturing line/batch …etc.), the Supplier shall be able to trace back when and to which Nidec's buying site they have been shipped. Nidec may, at any time, in its sole discretion, assess the Supplier's traceability system through the process audit.

3.6 Carry-over

If a Supply is carried-over from one project to another one, the Supplier shall:

- Check the status of the tools and propose a maintenance programme,
- Systematically conduct a Run @ Rate audit and communicate results to Nidec (audit report),
- Present a copy of the previous validated PPAP (*please refer to note*[9]), ⚠11
- Use the Lessons Learned Cards (LLC) from previous incidents,
- Update quality targets,
- Update process FMEA and CP,

Note 9. In some instance, Nidec can require PPAP resubmission

3.7 Production Part Approval Process

3.7.1 General requirements for PPAP submission

The intent of PPAP submission is to ensure that all specification and requirements are understood by the Supplier and to ensure stability and predictability of the Supplier's process to produce compliant Supplies consistently. In some instance, Nidec may ask the Supplier to submit PPAP documentation package in electronic version.

Prior to submitting PPAP documentation package and IS to Nidec, the Supplier shall ensure that all PPAP requirements are met as per the AIAG PPAP Reference Manual. PPAP submission shall be based on the approved production drawings. A copy of these drawings ("ballooned" drawings) shall be included in PPAP package. The Supplier shall also manage Sub-suppliers PPAP including imposed Sub-suppliers for a proper PPAP process control.

The Supplier is responsible for filling-in all applicable PPAP documents with PSW signature and submitting on-time PPAP package and IS. It is strictly forbidden to start shipping Nidec without prior approval with the signed PSW.

However, upon Nidec decision, catalogue components (diodes, resistors …etc.) and production bulk materials (lubricant, detergent, release agent, rust-proofing oil, gas…etc.) may not be subjected to the PPAP submission. However, as a part of PPAP submission, the bulk materials list shall be submitted on request.

When the first PPAP is rejected, the Supplier will be charged for following PPAP validation tests (please refer to chapter 5.3 <Cost recovery> in this Manual for further information).

In addition, Nidec records PPAP rejections as performance failures. The Supplier performance rating is affected and results are communicated to the Supplier.

3.7.1.1 Reasons for a PPAP submission

PPAP submission may be required, but not be limited to any of the situations as follows:

- Initial submissions,
- Changes in process or engineering design (changes in production CP),
- Tooling transfers, replacement or refurbishment,
- Corrections of discrepancies from a previous PPAP submission,
- Changes in a tooling status from inactive to active when the inactive period was longer than 1 year,
- Changes in the Supplier's manufacturing/assembling location,
- Changes in Sub-suppliers (new Sub-suppliers) or,
- Changes in Sub-suppliers process, tooling or engineering design,

Besides, unless otherwise specified by Nidec or Nidec customer, the PPAP submission is mandatory if the Change Management Level is 'A' defined in the table <Nidec Change Management Matrix> (See the List of quoted document at the end of this manual). Please refer to chapter 4.2 <Change Management> for detailed requirement about the change management. Nidec reserves the right to require the supplier's PPAP submission for any other applicable condition.

For further information and suggested method to use, please refer to the AIAG PPAP Reference Manual.

3.7.2 PPAP submission level & content

3.7.2.1 PPAP submission level

PPAP consist in submission of a PSW, IS (usually 5 pieces) and several documents according to the submission level required by Nidec.

The PPAP submission level is determined by [Part Innovation Rank] (Table III) and [Part Severity Rank] (Table IV) according to [PPAP Submission Level] (Table II). Nidec will define the part innovation rank and part severity rank and determine the PPAP submission level. Supplier will be informed with the PPAP submission level in the <Initial Sample Requirements> (Sheet 5 from the APQP File) and PSW.

Innovation / Severity	A	B	C
A	Level 3	Level 3	Level 3
B	Level 3	Level 3	Level 2
C	Level 3	Level 2	Level 1
D	Level 2	Level 1	Level 1

Table II PPAP Submission Level

Rank	Criteria	Request
A	Parts, purchased from a potential/an existing supplier, which use a new technology/method/material	Propose an advance product quality plan, promote a project and monitor progress based on the plan, and report status at an important stage of every step.
B	Parts, purchased from an existing supplier, which use an existing technology Parts or similar products, purchased from a new supplier, which have been sold in the market	Propose an advance product quality plan, promote a project and monitor progress based on the plan, and submit a plan at the beginning of a project.
C	Parts, purchased from an existing supplier, which have been sold in the market	Propose a plan that satisfies Nidec's mass production plan, and promote a project and monitor progress based on the plan.

Table III Part Innovation Rank

Rank	Scope	Detailed description	Severity DFMEA	Example
A	Parts that may cause physical injury-causing defect	Parts that may cause smoke or fire	9-10	Copper wires, PCB ASSY, bearing, plastic material (e.g. insulator molding compound, coating powder).
B	Parts which may cause a defect that causes the customer dissatisfaction	Parts that may cause the motor to lock, or deteriorate its performance by 30% or more	5-8	Shaft, lead bush, magnet, metal materials (e.g. steel, bare metal)
C	Parts that cause a defect that the customer does not feel or feel some dissatisfaction	Parts that may cause the motor's performance to deteriorate up to 20% or so	2-4	Bolt, washer
D	Parts that do not affect the customer	Parts that virtually do not deteriorate the motor's performance	1	Name plate, INSULOCK

Table IV Part Severity Rank

3.7.2.2 PPAP submission content

PPAP consist in submission of a PSW, IS (usually 5 pieces) and several documents according to the submission level required by Nidec. According to the PPAP submission level defined by Nidec, the PPAP submission content is specified on Table V [PPAP submission matrix]. However, Nidec may ask for further documents regardless PPAP level.

Unless formally approved by Nidec, the Supplier shall use the Nidec's PSW template. Any alternative template shall respect the automotive standard and is to be previously approved in writing by Nidec.

As PPAP shall meet requirements from the AIAG PPAP Reference Manual, any alternative PPAP system and templates are to be previously approved in writing by Nidec.

The following chapters will detail submission requirements for packaging specification, flow charts diagram, PFMEA, CP, Measurements System Analysis (MSA) and initial process study (capabilities studies).

Nidec will countermeasure at the IS as a minimum special characteristics (SPPC).

No.	PPAP content	Nidec template	PPAP Submission Level					Submit Timing (Phase)			
			L1	L2	L3	L4	L5	P0	P1	P2	P3
1	Part submission warrant(PSW)	○	S	S	S	S	R	-	-	-	X
2	Design record/"Ballooned" drawings	--	S	S	S	*	R	-	-	-	X
3	Approved change documents(if applicable)	--	R	S	S	*	R	-	-	-	X
4	DFMEA (if applicable)	--	R	R	S	*	R	-	Y	-	X
5	Process layout	--	R	R	S	*	R	-	Y	Z	X
6	Process flow diagram/chart	--	R	R	S	*	R	-	Y	Z	X
7	PFMEA	--	R	R	S	*	R	-	Y	Z	X
8	Control plan	--	R	S	S	*	R	-	Y	Z	X
9	IMDS(Nidec ID No.: _____)	--	S	S	S	*	R	-	Y	-	X
10	Measurement method	○	S	S	S	*	R	-	-	Y	X
11	Dimensional report (Full dimension)	○	S	S	S	*	R	-	-	Y	X
12	Material Report(Material performance test result)	○	R	S	S	*	R	-	-	-	X
13	Material certification	--	S	S	S	*	R	-	-	-	X
14	Capability study (Initial process study)	○	R	S	S	*	R	-	-	Y	X

15	GR&R (Measurement system analysis)	○	R	R	S	*	R	-	-	-	X
16	Capacity study& Run@Rate	○	R	S	S	*	R	-	-	Y	X
17	Packaging specifications	--	S	S	S	*	R	-	-	Y	X
18	Traceability Management (Traceability description)	--	S	S	S	*	R	-	Y	Z	X
19	Appearance approval report(if applicable)	○	S	S	S	*	R	-	-	Y	X
20	Bulk materials list/requirement (if applicable)	--	S	S	S	S	R	-	-	-	X
21	Master sample ((if applicable)	--	R	R	R	*	R	-	-	-	-
22	Qualified laboratory documentation	--	R	S	S	*	R	-	Y	-	X
23	Compliance with the customer's specific requirement(if required)	--	R	R	S	*	R	-	-	-	X
24	Checking Aids	--	R	R	R	*	R	-	-	-	-
25	Additional requirement	Comments/details									
25.1	APQP File	○									
25.2	Sub-supplier PPAP	--									
25.3	Shipping report	--									
25.4	Conflict Minerals	--									
25.5	Contingency Plan	--									
25.6	Calibration test	--									
25.7	Reliability Report	--									
25.8	CQI audit report										
	Other	--									

S: The supplier must submit the documents to Nidec, and keep a copy or a document version of the documents' record.
(The supplier confirms that a FMEA was developed or submits a copy of the FMEA coversheet. The FEMA usually remains with the supplier. Upon request by Nidec, FMEA must be presented at Nidec.)
R: The supplier does not need to submit the documents to Nidec. Please keep a copy or a document version of the documents' record. However, if requested by Nidec, please make the documents available for its use.
*: The supplier does not need to submit the documents to Nidec, but please keep a copy or a document version of the documents' record. However, if requested by Nidec, please submit the documents.
X: The supplier must submit the documents, even if they were not in the previous step and are unchanged (unless agreed otherwise with Nidec).
Y: Documents ranked "A" in "novelty" must be submitted to Nidec, while those ranked "B" must be submitted if so requested by Nidec. Documents ranked "C" do not need to be submitted.
Z: Documents modified since the previous step must be submitted to Nidec unless it agrees otherwise.

Table V PPAP submission matrix 15

3.8 Packaging and labelling specifications / Logistic

3.8.1 General requirements

The Supplier shall respect the requirements specified in Nidec Logistic Manual for Suppliers.

Nidec can define specific logistic protocols with the Supplier if it´s necessary.

The Supplier shall document and meet each Nidec's sites requirements regarding packaging, storage, cleanliness level, and shipping instructions.

The Supplier shall store and retrieve material using the "First In First Out" system (FIFO). Sequences of batches have to be identified on the packaging label by either a date or a batch/lot number.

The Supplier shall respect safety identification criteria according to applicable laws and Nidec's requirements.

The Supplier shall conduct regular internal logistic audits. Nidec may ask for evidence of logistic audits.

3.8.2 Packaging requirements

As part of PPAP submission, the Supplier shall define the packaging specifications to be approved by Nidec. Packaging specification shall be documented and meet each Nidec's sites requirements. Supplier shall fill in and complete <Packaging&labelling> (Sheet 9 from the APQP File) on request.

When the Supplier provides several Nidec's manufacturing sites, on a global scale, the Supplier shall work with each Nidec site and ensure the packaging robustness (packaging shall withstand a sea shipment to ensure on time delivery without damages).

The Supplier shall meet Nidec's specific requirements regarding the use, control and Supply of returnable packaging.

3.8.3 Labelling requirements for serial production

The Supplier shall label all delivery units for serial production in order to prevent mixing.

On each delivery unit packaging, the label shall include:

- Nidec Supply number,
- Engineering level (from the last PPAP),
- Supply designation,
- Supplier's name,
- Supplier number (assigned by Nidec),
- Quantity delivered,
- Delivery unit traceability (number and date) and,
- When applicable, a barcode label or a data matrix applied to each delivery unit whose scopes are to be defined by each Nidec's site.

Each delivery shall be accompanied by a delivery note. The delivery note provides the Supplier with a tool to maintain traceability (Supplier's address, dispatch date, delivery conditions …etc.). Nevertheless, Nidec may at its sole discretion specify additional traceability requirements.

Nidec considers all mislabelling that occurs during serial production as a quality non-conformity which directly impacts the performance rating of the Supplier.

3.8.4 Labelling requirements for prototypes, IS and deliveries submitted to deviation

The Supplier shall label all delivery units submitted to deviation (permanent, temporary or rework operations) according to each Nidec's sites requirements and clearly identify and label each packaging for prototypes, IS, samples and deliveries submitted to a deviation (permanent, temporary or rework operations) to prevent Nidec from any possible mixing (*please refer to note*[10]). △11

To ensure an easy and visible segregation Nidec requires the Supplier to clearly display on each packaging label, the Supply designation and number, the engineering level, the lot traceability (number and date), the quantity delivered and the Supplier's name.

The Supplier shall,

- For prototypes, IS and samples,

  Attach to both sides of each delivery unit yellow brightly coloured papers (20x14cm minimum).

- For delivery units submitted to a permanent deviation,

  Label each delivery unit with a copy of the signed Supplier Change Request for the first 3 deliveries.

- For delivery units submitted to a temporary deviation,

  Label each delivery unit with a copy of a signed deviation authorisation.

- For delivery units submitted to a deviation due to rework operations,

  Label each delivery unit with a copy of a signed deviation authorisation.

Note 10. The packaging and labelling requirements may differ from each Nidec plant. Supplier shall follow and meet Nidec specific requirement form each plant.

Nidec considers all mislabelling that occur during pre-production as a quality non-conformity which directly impacts the rating performance of the Supplier.

3.9 Process flowchart

As part of PPAP submission, the Supplier shall present to Nidec a process flow chart which shall contain:

- A complete process flow starting with the receiving inspection process and ending with the packaging & shipping process,
- Sub-suppliers along with their names and controls done at their locations,
- Machine numbers or unique identifiers which reflect the approved process steps and,
- All operations which include SPPC.

3.10 PFMEA

PFMEA is part of PPAP submission. Unless otherwise specified, the Supplier shall use the AIAG FMEA Reference Manual to create its PFMEA. During the PFMEA, the Supplier shall follow the same flow established within in the process flowchart.

In addition to process and tooling elements, the Supplier shall consider through failure mode analysis all SPPC including those from Nidec's drawings.

The Supplier shall prepare an action plan based on PFMEA highest Risk Priority Numbers (RPN) △16 together with PFMEA severity occurrence matrix as per APQP file (8.3 Risk matrix of 8 PFMEA Report) and document all actions implemented.

△17 Supplier must fill in the <PFMEA Report> （Sheet 8 from the APQP File） and the FMEA risk matrix listed in the <PFMEA Report> must be used for the risk prioritization and for the creation of the sorted list.

- Green I: Target range – no measures necessary, if state of the art technology (Verification whether the product has reached state of the art technology).
- Yellow II: Temporary permissible – permissible for new products up to PPAP approval; if after PPAP approval a further risk reduction cannot be achieved, the remaining risk must be approved by Nidec.
- Red III: Escalation – Risks within the red area need management attention. Further measures for risk reduction are necessary. If a risk reduction cannot be achieved, this information must be escalated to Nidec (approval necessary).

Unless otherwise required by Nidec's customers, requirements included in AIAG FMEA handbook have to be followed.

The Supplier shall systematically review and update the PFMEA after any major incidents which occurred at its line or declared by Nidec's sites.

The Supplier shall consider the importance of following statements in the PFMEA development:

- The PFMEA analysis is to be performed with multi-disciplinary team,
- The RPN is the combination of 3 parameters (severity, occurrence and detection) where severity is to be considered in priority,
- The use of a Pareto chart is highly recommended to present RPN and,
- As a tool for Continuous Improvement the PFMEA is used to reduce the RPN until targeted values.

PFMEA as the top-level document is compatible with lower-level documents such as a control plan and work instructions. All the index and symbols (especially for SPPC) in these documents should be the same. If there is any prescribed SPPC symbols which Nidec's customer require suppliers to be used from PFMEA to relevant lower-level documents, supplier shall follow customer's specific requirement.

3.11 Control Plans

Production CP for product and process is part of PPAP submission. The Supplier shall understand, apply and update the production CP which provides a documented description of the method used to minimize process and Supply variations.

The Supplier shall present the Pre-launch CP used for safe launch process on request. Please refer to Chapter 3.4 <Early Production Containment/ Safe Launch Process> for detailed requirement of the Pre-launch CP.

Besides, on Nidec request, Supplier shall add the management item of annual re-qualification (Annual full characteristics inspection and capability study. Please refer to Chapter 4.8 <Annual Conformity Report>) or any other management item into the CP. Supplier shall present and update their CP, if Nidec or Nidec customer requires.

A production CP is the combination of a process CP and a product CP where:

- Product CP ensures that the Supplies provided to Nidec meet Nidec's requirements, specifications, SPPC, tolerances and other important characteristics for control,
- Process CP ensures the Supplier's processes predictability and stability by consistently operating at the target of performance with only normal variations. It includes, but is not limited to process parameters, process related SPPC, machines, fixture and tools for manufacturing …etc.

Unless otherwise specified, the Supplier shall use the AIAG APQP and CP Reference Manual as the basis to create its CP which shall:

- Properly reflect the process flow diagram and the PFMEA analysis,
- Include SPPC from Nidec's drawings,
- Include audits results,
- List current process & product control and,

- Include results of the actions from the PFMEA analysis.

3.12 Measurement System Analysis (MSA) studies

3.12.1 MSA requirements

MSA studies are done to determine the amount of total variation from the measurement system.

The Supplier shall use the AIAG MSA Reference Manual as the basis to perform MSA studies.

Based on the agreed measurements methods, the Supplier shall perform MSA studies to assess its measurement system. MSA studies have to be done BEFORE capability studies.

The Supplier shall validate the measurement system for the SPPC more restrictive.

It is necessary validate a validated measurement system if this measurement system change.

△18 If 30% ≥ GRR (R&R) > 10%, a release from Nidec needs to be obtained in order to qualify the measurement system.

* "qualify" here only means temporary qualify, supplier need to submit improvement plan.

3.12.2 Measurement System R&R studies

Unless not otherwise agreed within the project development (APQP Phase 2) Measurement System R&R studies have to be done according to suggested methods from the AIAG MSA Reference Manual.

3.13 Initial process study

3.13.1 NIidec's SPPC identification

Nidec NMA and NAMA's SPPC are classified in 3 categories (please consult the glossary for the detailed definitions):

- Safety Regulated Characteristics (SRC) relating to safety, law and regulation compliance.
- Significant Characteristics (SC) relating to supply/product specification compliance.
- Functional Characteristics (FC) relating to process stability.

Nidec NCJ's SPPC are classified in △19 3 categories:

- Safety Regulated Characteristics (SR) relating to law, regulation, safety regulation compliance.
- Safety Characteristics (S) relating to product safety compliance.
- Functional Characteristics (F) relating to process stability. △19

These SPPC are shown on approved Nidec's drawings, according to specific symbols shown in the below table.

Term	NMA&NAMA		Term	NCJ(Nidec Asia)	
	Text symbol	Drawing symbol		Text symbol	Drawing symbol
Safety Regulated Characteristic	SRC		Safety Regulated Characteristic	SR	
Significant Characteristic	SC		Safety Characteristic	S	
Functional Characteristic	FC		Functional Characteristic	F	

△19 **Table VI**

3.13.2 SPPC requirement

According to the ⚠2 IATF 16949 requirements, the Supplier shall identify, and address all identified SPPC. In order to do so, the Supplier shall review Nidec designated SPPC from Nidec's drawing, applicable laws and regulations, internal specifications …etc. and formalise identified SPPC through FMEAs analysis according to criteria defined by Nidec as described in table below.

Term	Text symbol	Drawing symbol	IFMEA/DFMEA*		LFMEA/PFMEA*	
			severity	RPN	severity	RPN
Safety Regulated Characteristic	SRC		9 or 10	>100**	9 or 10	>100
Significant Characteristic	SC					
Functional Characteristic	FC				8	

Table VII

All SPPC, including Nidec's SPPC shall be incorporated into applicable documents including, but not limited to, drawings, specifications, test plans, test reports, FMEAs, CPs, work instructions, relevant inspection instructions, sample reports, checklists, control sheets, process sheets, operation and tool sheets …etc.

Furthermore, the Supplier is also responsible to ensure Sub-suppliers SPPC understanding, identification, incorporation and control within Sub-Supplier organisation.

3.13.3 Process capability & process performance requirements

The use of Statistical Process Control (SPC) and appropriate SPC data is mandatory for managing SPPC if there isn´t a 100% control of it. The Suppliers shall use methods defined in the SPC Reference Manual published by AIAG for determining process capability index (Cpk) and process performance index (Ppk) for unilateral and bilateral tolerances, unless an alternate method is formally approved in writing by Nidec. Nidec, at its sole discretion, may control the Supplier's calculations during the process audit.

Process capability must be established and documented for all identified SPPC. The methods used for these studies and the capability figures must be agreed between Nidec and supplier.

The requirement for capability indices:

- Machine capability index/short-term capability Cm/CmK

The machine capability studies must be planned in such a way that all verifications are available no later than at the time of the PPAP submission If Nidec or Nidec customer requires.

- Process performance index/long-term study of non-stable process (preliminary process) Pp/Ppk

The evaluation of preliminary process capability study shall be presented during APQP Phase 3 Step1 <Internal Supplier capacity and capability validation> at least 100 random samples unless Nidec or Nidec customer specified.

A regular evaluation of the SPC records (if possible auto-mated) must be carried out no later than at the start of series production.

- Process capability index/ long-term study of stable process Cp/Cpk

The long-term process capability study shall be submitted to Nidec during Safe launch Process, once at least 125 random samples (25pcs*5Lot) unless Nidec or Nidec customer specified. Furthermore the results of the process capability study must be submitted upon request.

Besides, Supplier shall implement the capability study based on Nidec or Nidec customer's specific requirements.

Unless otherwise formally agreed by Nidec, the minimum required for process capability level and process performance level regarding SPPC are shown on table VIII. Supplier shall follow the specific capability values

defined on the design drawing. Besides, customer may demand greater capability values for special characteristics.

SPPC (NMA,NAMA)	Symbol	Machine capability index Cmk	Process performance index Ppk	Process capability index Cpk	SPPC (NCJ)	Symbol	Machine capability index Cmk	Process performance index Ppk	Process capability index Cpk
SRC: Safety Regulation	▽SR	/	Ppk ≥2	Cpk ≥1,67	SR:Safety Regulated Characteristic	(SR)	/	---	--
SC：Significant Characteristics	◆	/	Ppk ≥2	Cpk ≥1,67	S:Safety Characteristic	Ⓢ	Cmk ≥1,67	Ppk ≥1,67	Cpk ≥1,67
FC:Functional Characteristics	◇F	/	Ppk ≥1,67	Cpk ≥1,33	F:Functional Characteristic	Ⓕ	Cmk ≥1,33	Ppk ≥1,33	Cpk ≥1,33

△20 Table VIII

△20 Beside the above SPPC, Nidec NCJ side have another special symbol on the drawing, [CD]. It means excluding special characteristics, significant dimension that effect on Nidec assembly process. And the minimum requirement for process capability level and process performance level regarding [CD] dimension is: Ppk ≥1.00 Cpk ≥1.00. However, supplier shall follow the specific capability values defined on the design drawing. Other requirements (identification and SPC, etc.) for [CD] characteristics is the same as SPPC.

If the CSR (Customer Specific Requirements) are higher than the above values, then they must be applied to the Supplier.

As part of PPAP documentation package, the Supplier shall provide Nidec with a capability report which includes all SPPC. Supplier shall fill in and submit the <Capability study> (Nidec PPAP template) and the corresponding results shall be recorded in < SPPC> (Sheet 7 from the APQP File) if Nidec requires.

Any SRC or SC failing to meet the minimum requirement for capability require proper controls (100% control, error proofing, …etc.) and a timeline for implementation to be validated by Nidec.

Any FC failing to meet the minimum requirement for capability requires a statistical process control and a timeline for implementation to be validated by Nidec.

Unless requested by Nidec, the Supplier is not required to calculate and report process capability and performance for other characteristics. However, characteristics considered to be “predictors of process stability” should be considered by the Supplier.

When specified by Nidec, other characteristics failing to meet the minimum requirement for capability also require a containment plan (100% control, error proofing …etc.) and an action plan.

Any control applied on SPPC or other characteristics specified by Nidec shall be shown in the production CP.

4 SERIAL PRODUCTION REQUIREMENTS

4.1 Introduction

Once the Supplier's PPAP is validated, the Supplier can proceed to the serial production phase. During Serial production, the Supplier shall follow specific requirements as described in this chapter.

4.2 Change Management

4.2.1 Introduction

During pre-production and after Start of Production (SOP), the Supplier shall not make changes (permanent, temporary or rework operations) to their processes and design without formal Nidec approval.

Nidec has implemented a corporate-wide change management system designed to ensure the quality and integrity of Nidec's products where the Supplier is expected to take a proactive approach to handle promptly and efficiently any changes to design, components, materials, performance, or processes.

Furthermore, is considered as a process change all items listed in the AIAG PPAP Reference Manual (chapter Customer notification and submission requirements). Nidec requires the Supplier to document and maintain records of all changes and their effective dates.

Nidec lists all possible engineer change contents and ranks them for 3 levels as a Change Management Matrix (See the <Change Management Matrix > in the oddments at the end of this manual).

- Change management level A

The Supplier shall submit the <Supplier Change Request > (Nidec template) to Nidec for approval 90 days before the implementation of the authorized change, and the PPAP submission is mandatory unless otherwise Nidec specified. Besides, Change management level A requires the application to Nidec's customer and customer's approval.

- Change management level B

The Supplier shall submit the <Supplier Change Request > (Nidec template) to Nidec for approval 90 days before the implementation of the authorized change.

- Change management level C

The Supplier shall do the proper self-evaluation with supporting validation and manage the level C changes internally. Process records have to be taken and stored and traceability has to be kept.

After the < Supplier Change Request> (Nidec template) approved by Nidec, Supplier shall submit < Supplier Change Implementation> (Nidec template) with the supporting verification data 60 days before the implementation of the authorized change. The decision whether the change requires a new PPAP submission or not will be recorded by Nidec in <Supplier Change Request> and <Supplier Change Implementation> to inform the Supplier. Refer to the following chapter 4.2.2 <Permanent changes> for detailed requirements.

Change Management Level	Nidec Customer approval	<Supplier Change Request> Supporting verification data	Supplier Self-evaluation
Level A: Nidec Evaluation	○	○	○
Level B: Supplier Evaluation		○	○
Level C: Supplier Self-management			○

Table IX

4.2.2 Permanent changes

4.2.2.1 The Supplier Change Request and supporting validation data

The Supplier shall not make permanent changes to its design and process unless submission of a Supplier Change Request (Nidec's template) to shall be previously approved in writing by Nidec.

To demonstrate a proper change control, the Supplier shall attach to a Supplier Change Request the following documents and submit to Nidec purchasing department:

- Dimensional report,
- Performance test results,
- Process parameters after and before modification,
- APQP documentation package updated accordingly (DFMEA, PFMEA, production CP …etc.) and,
- Detailed timeline (*please refer to note*[11]) ⚠11 and status deliverable (resources and safety stock requirements).

Note 11. The timeline shall include Nidec's and, when required, Nidec's Customers timing for validation.

4.2.2.2 Supplier Change Request approval

Nidec reviews the Supplier Change Request and related supporting validation data. During this review, Nidec may ask the Supplier for further documents such as an implementation schedule, instructions revisions, capability studies from final tooling …etc.

Nidec approves the Change Request by signing the Supplier Change Request. However, Nidec may require an extended period for validation whenever Nidec's Customers agreement is necessary. After the <Supplier Change Request> (Nidec template) approved by Nidec, supplier shall submit <Supplier Change Implementation> (Nidec template).Once the <Supplier Change Request> approved, supplier can implement the authorized change.

4.2.2.3 Change validation

After the approval phase, a change meeting is to be held. The change meeting involves a multi-disciplinary team from Nidec and when required Supplier's representative(s). Nidec decides whether the change requires a new PPAP submission. Nidec will inform the decision in <Supplier Change Request> and <Supplier Change Implementation> to supplier.

In case of PPAP resubmission, the Supplier shall formally agree with Nidec on the PPAP resubmission level and content requirements. The same PPAP validation flow applies.

Nidec approves the Supplier's PPAP resubmission by signing the PSW. It is strictly forbidden to start implementing changes without prior Nidec approval formalized with the signed PSW.

Since the change is validated, the Supplier shall implement a stop-start strategy (sorting, labelling, instructions, training …etc.) and clearly identify all elements related to the new process in comparison with the old process.

4.2.2.4 Delivery

After the PSW signature (PPAP resubmission approval), the Supplier can start providing Nidec.

The Supplier shall follow Nidec logistic requirements and clearly identify shipments (please refer to chapter 3.8 <Packaging and labelling specifications/logistic> in this Manual).

Furthermore, the Supplier shall follow Nidec specific requirements for deliveries submitted to a deviation regarding a permanent change (please refer to chapter 4.3 <Receiving products control process> in this Manual).

4.2.3 Temporary Changes

4.2.3.1 The Supplier Deviation Authorization

The Supplier shall submit a Supplier Deviation Authorization (Nidec's template) to request a deviation for design, components, materials, performance, or processes which temporary deviate from the drawing, specifications, design or CP.

According to Nidec rules, a request for deviation is limited in quantity and/or time (Max. 3 months unless Nidec or Nidec customer specified). It specifies:

- The date of return to normal conditions,
- How the Supplies are identified and,
- How traceability is maintained.

In the event that the Supplier provides several sites, the Supplier shall submit a <Supplier Deviation Authorization> (Nidec's template) independently to each Nidec's concerned site. For cosmetic deviation, supplier shall submit the <Appearance Approval Report > (Nidec's template).

4.2.3.2 Supplier Deviation Authorization

Nidec will review and make the decision if the SDA will be -approved, -approved under conditions or -refused.

4.2.3.3 Delivery

The Supplier shall follow Nidec logistic requirements and clearly identify shipments (please refer to chapter 3.8 <Packaging and labelling specifications/logistic> in this Manual).

Furthermore, the Supplier shall follow Nidec specific requirements for deliveries submitted to a deviation regarding a temporary change (please refer to chapter 4.3 <Receiving products control process> in this Manual).

4.2.4 Rework operations

4.2.4.1 General requirements

No rework allowed, except Nidec approval under SDA.

If rework operations, they are defined as any additional operations performed outside the manufacturing process and not authorised unless formally approved by Nidec.

The Supplier shall submit to Nidec a request for any rework operations to be performed:

- updated process flowchart
- updated production CP
- rework instruction
- samples (if requested)
- Others if required.

The Supplier must understand that the insertion of rework operations within the manufacturing or assembling process may cause production variances. Hence, rework operations have to be limited as much as possible.

The Supplier must provide Nidec with the documented evidences (measurement report, capability study) with each shipment of compliance to Nidec's drawings and specifications.

4.2.4.2 Rework operation approval

All documents issued by the supplier with rework operation have to be validated by Nidec, and approved by SDA.

4.2.4.3 Delivery

The Supplier shall follow Nidec logistic requirements and clearly identify shipments (please refer to chapter 3.8 <Packaging and labelling specifications/logistic> in this Manual).

Furthermore, the Supplier shall follow Nidec specific requirements for deliveries submitted to a deviation regarding a rework operation (please refer to chapter 4.3 <Receiving products control process> in this Manual).

4.2.5 Consequences of an unauthorised change

In the event a Supplier has implemented a non-communicated or unauthorised change (permanent, temporary or rework) and Nidec and/or Nidec's Customers have been negatively impacted, the Supplier will be responsible for compensating Nidec for all associated costs (Please refer to chapter 5.3 <Cost recovery> in this Manual).

Nidec opens an incident, formally notifies the Supplier and reserves the right to:

- Require an immediate containment by a third party provider,
- Change the Supplier's commercial status into New Business on Hold (NBOH),
- Require a third party audit of the affected Supply of the supply chain including all Sub-suppliers involved,

On receipt of notification from Nidec, the Supplier is required to develop an action plan to be validated by Nidec.

4.3 Receiving products control process

4.3.1 Introduction

Nidec targets "Zero Defect" performance and strives for providing high quality products to its Customers. As a key element, Continuous Improvement is the path leading to this target. In that way, Nidec has implemented a "received products control" process (*please refer to note*[12]). ⚠11

Note 12. The incoming management procedure inculuding"received products control" differs from each Nidec plant. Supplier shall follow each Nidec plant's specific incoming procedure.

This process targets incident reduction related to non-conform Supplies from the Supplier, while minimizing incoming inspection, improving and fastening Supplies transfer to production. If the Supplier has several manufacture sites, each site will be submitted independently to the receiving products control process.

All deliveries received by Nidec are classified in 3 groups:

- Group ⚠21 1: Deliveries without open quality issues.
- Group ⚠21 2: Deliveries following a quality incident as well as deliveries submitted to deviation (permanent, temporary or rework operations) and,
- Group ⚠21 3: Deliveries from catalogue orders.

4.3.2 Receiving products control process overview

Deliveries from group ⚠21 1 and ⚠21 3 are directly sent to production. However spot checks are possible at Nidec's sole discretion. Nidec ensures that incoming deliveries from group ⚠21 2 are not used or processed until it has been verified there is no risk for production.

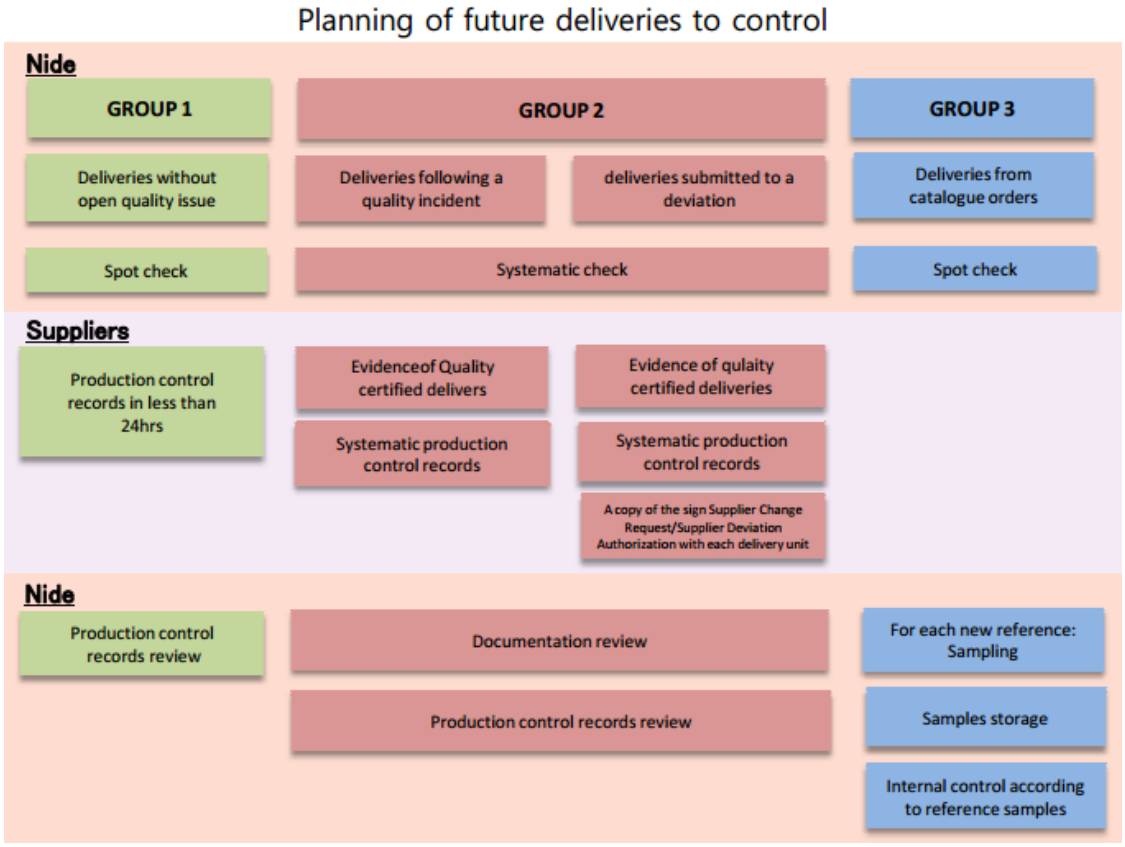


Table X

4.3.3 Group 1: Deliveries without open quality issues

All deliveries belonging to group 1 are directly put in production. Nevertheless, Nidec can at any time decide to perform a spot check to verify deliveries conformity to CP.

In order to do so, upon Nidec request, the Supplier shall provide Nidec with production process control records to prove CP compliance per batch. The Supplier shall deliver these documents in less than 24hr upon Nidec's request.

In case of non-compliance with CP, Nidec opens an incident and initiates an 8D (Please refer to chapter 4.4 <Claim management process> in this Manual).

4.3.4 Group 2: Deliveries following a quality incident

Nidec decides the application perimeter to:

- A full technology family, if a generic process is at fault,
- A concerned reference, if a specific process is at fault,

The Supplier shall:

- Ensure certified deliveries. Nidec will define the methodology to use,
- Systematically provide to Nidec the related production process control records with each delivery unit until notification of the incident closure,

Nidec controls the compliance with the agreed process CP. When Nidec finds out the Supplier did not follow the approved production CP, Nidec opens an incident and initiates an 8D (Please refer to chapter 4.4 <Claim management process> in this Manual).

However, if no event occurs until the closure of the incident, the delivery is moved from group ⚠21 2 to group ⚠21 1 ⚠22.

4.3.5 Group ⚠21 2: Deliveries submitted to a deviation (permanent, temporary or rework operations)

The Supplier is responsible for meeting Nidec's expectation and in respect of the "Zero Defect" target. Nidec refuses any Supplies which do not meet requirements and specifications from the applicable drawings or which come from a non-communicated or unauthorised change.

For each delivery submitted to a permanent deviation the Supplier shall:

- Follow Nidec logistics requirements (please refer to chapter 3.8 <Packaging and labelling specifications/logistic> in this Manual),
- Ensure certified deliveries (Nidec will define the methodology to use) and,
- Systematically provide to Nidec the related production process control records with each delivery unit until Nidec notifies the Supplier of the end of the control.

For each delivery submitted to a temporary deviation the Supplier shall:

- Follow Nidec logistics requirements (please refer to chapter 3.8 <Packaging and labelling specifications/logistic> in this Manual),
- Ensure certified deliveries (Nidec will define the methodology to use),
- Systematically provide to Nidec the related production process control records with each delivery unit until notification of the end of the control and,
- Submit, jointly with the Supplier Deviation Authorization (Nidec´s template), an action plan to return to normal production and the time required to do so.

For each delivery submitted to deviation due to rework operations the Supplier shall:

- Follow Nidec logistics requirements (please refer to chapter 3.8 <Packaging and labelling specifications/logistic> in this Manual),
- Ensure certified deliveries (Nidec will define the methodology) and,
- Systematically provide Nidec with the related production process control records for each delivery unit until notification of the end of the control.

Nidec will control the compliance with the agreed process CP. When Nidec finds out the Supplier did not follow the approved production CP, Nidec opens an incident and initiates an 8D (Please refer to chapter 4.4 <Claim management process> in this Manual).

However, if no event occurs until the end of the period specified for the control, the delivery is moved from group ⚠21 2 to group ⚠21 1 and the Supplier is notified accordingly.

4.3.6 Group ⚠21 3: Deliveries from catalogue components

Deliveries from group ⚠21 3 are components from catalogue such as screws, balls bearing, capacitor…etc.

Upon Nidec decision, each new reference supplied to Nidec can be sampled according to an internal procedure. Nidec will stock the samples in an appropriate area. These samples will be used as reference for future controls.

At any time, Nidec can decide to compare components from catalogue with reference samples. In case of discrepancy, Nidec opens an incident and initiates an 8D (Please refer to chapter 4.4 <Claim management process> in this Manual).

4.4 Claim Management Process

4.4.1 Introduction

Nidec has implemented a claim management process based on the 8D methodology to ensure prompt, fair and efficient management of claims and related services.

This chapter is to provide the Supplier with a quick reference guide to the Nidec claims concepts and the requirements associated with processing claims.

4.4.2 Claims category

4.4.2.1 Quality claims

A quality claim occurs when Nidec or Nidec's Customers detect a discrepancy or a defective Supply.

Nidec defines 4 categories for quality claims as follows:

Quality claim category 1 – C1

Any incidents related to the Supplier detected at Nidec's Customers location.

Quality claim category 2 – C2

Any incidents related to the Supplier detected at Nidec's assembly line.

Quality claim category 3 – C3

Any incidents related to the Supplier detected during Nidec's incoming product control process.

Warranty Return – WR

Any incidents related to the Supplier detected at the end user. The vehicle has been delivered to the end user.

4.4.2.2 Logistics claims

A logistics claim occurs when Nidec records loss, damaged, delayed or incorrect deliveries from the Supplier.

Nidec defines 2 categories for logistics claims as follows:

Logistics claim category 1- L1

Any incidents, related to Supplier's deliveries which impact Nidec's on-time delivery to its Customers.

Logistics claim category 2- L2

Any incidents, related to Supplier's deliveries which impact Nidec's internal production plan.

Nidec also issues L1 or L2 claims for each extraordinary expense (premium freight, sorting activities …etc.), not compensated by the Supplier, to avoid the Supplier's deliveries disrupting its assembly lines.

4.4.2.3 Recurrent incident

Nidec defines a recurrent incident as an incident which occurs on the same Supply family, with the same effect and with the same root causes regardless its category (C1, C2, C3, WR, L1 and L2).

Recurrent incidents are considered by Nidec to rate Suppliers during the Supplier performance measurements (please refer to chapter 5.1 <QCD performance> in this Manual).

4.4.3 Nidec 8D process

4.4.3.1 Generality

The Supplier shall have trained personnel (automotive core tools) with the ability to quickly and permanently resolve quality issues (use of defined, structured process and adequate tools).

The Supplier shall use the 8-Discipline (8D) process as problem solving tool. Nidec only accepts the Supplier 8D report as official format.

8D problem solving tool is a highly effective approach to find root causes, develop the proper actions to eliminate them, and implement permanent corrective actions.

4.4.3.2 The 8D process

When a defective Supply is identified, Nidec opens an incident and issues an 8D report to the Supplier.

24h, 3 days, 10 days is the standard timing requested by Nidec for the 8D tool. Any other timing shall be previously approved in writing by Nidec. Supplier will be informed the claim level defined by Nidec quality department. Specific Nidec customer timing requirement all shall be followed by Supplier.

C1 Customer Claim (Priority)		**C2/C3 Nidec Claim**	
Content	Due date	**Content**	Due date
D1-D4	24hrs	**D1-D3**	24hrs
		D4	3 working days
D5-D6	5 working days	**D5-D6**	10 working days
D7-D8	10 working days (Including customer approval)+ Updating each 5 working days until approval	**D7-D8**	10 working days (Including customer approval)+ Updating each 5 working days until approval

Table XI

D1	Incident notification
Nidec opens and incident and issues an 8D to the Supplier	

D2-D3	Within **24 hours** of the notification date (Nidec claims)

The Supplier undertakes to:

- Contain all defective Supplies which have the same defect from all stocks (finished and semi-finished) and in transportation 23 and at all affected Nidec locations worldwide,
- Upon request, send a team to carry out sorting and inspection operations at Nidec and Nidec's Customers locations,
- Upon request, send a team at Nidec's site to address the issue, even if the responsibility of the Supplier has not been proven yet,
- Replace defective batch (es),
- Label non-defective batch(es) accordingly,

D4-D5-D6	Within **D4 3 working days** + **D5-D6 10 working days** (or any other delay agreed with Nidec in writing) of the notification date (Nidec claims)

The Supplier undertakes to:

- Perform an exhaustive analysis to identify the root cause of the non-conformity with the defined methods,
- Provide Nidec with an action plan to be validated by Nidec prior to any action being implemented.
- Update the production CP accordingly to be validated by Nidec.

D7-D8	Within **10 working days** (or any other delay agreed with Nidec in writing) of the notification date (Nidec claims)

The Supplier undertakes to:

- Check the efficiency of the actions implemented. Results have to be validated by Nidec.
- Update all related documents.
- Implement the actions to similar Supplies and processes (elimination of recurrences).
- Issue a Lesson Learned Card.

24 Supplier 8D Report Evaluation Sheet

8D Evaluation Sheet has to be presented with final version of 8D report. Evaluation sheet is a tool for assessing compliance of 8D content with Nidec requirements. There are with three levels of acceptance:

- 0% - 79% - 8D does not meet minimum requirements and cannot be accepted
- 80% - 89% - 8D meets minimum requirements and can be accepted
- 90% - 100% - 8D evaluated with bonus points and can be accepted

8D Evaluation Sheet has three levels of points:

- Unsatisfactory/Not OK
- Acceptable
- Requirements fulfilled/Bonus

Incidents closure

8D following C1 and C2 incidents will be closed after 25 Nidec validation.

Nidec may perform an 8D audit to assess 8D application for C1 incidents. The standard template (Supplier 8D audit) to be used is provided with the RFQ package.

4.5 Controlled shipment level 1 and 2 (CSL1 and CSL2)

4.5.1 Introduction

Nidec has implemented CSL1 and CSL2 activities to protect Nidec's Customers and assure the quality of its products. Conditions to be placed on controlled shipment are, but not limited to:

- Non-conformances due to Supplier's failures identified at Nidec or Nidec's Customers location,
- Line stoppages due to Supplier's failures at Nidec or Nidec's Customer location or,
- Recurrent incidents, as referred to in chapter 4.4 <Claim management process> in this Manual.

4.5.2 CSL1 activities

During △26 CSL1 activities, the Supplier bears its expenses, further 100% inspection costs with in-house staff in addition to their production CP.

CSL1 activities are performed in a dedicated area and all inspection data are collected. The Supplier shall certify inspected Supplies and provide Nidec's site with the inspection data on a weekly basis. Furthermore, the Supplier shall maintain traceability and label the inspected Supplies as well as the packaging accordingly. Nidec and the Supplier will define jointly CSL1 exit conditions.

4.5.3 CSL2 activities

In the event of CSL1 activities failures, Nidec may request the Supplier to proceed to CSL2 activities. Nevertheless depending of the gravity of the incident, Nidec can decide to directly request △26 CSL2 activities without any obligation to request △26 CSL1 activities.

During △26 CSL2 activities, the Supplier bears its expenses; further 100% inspection with a 3rd party representing Nidec interest specific to the containment activity.

CSL2 activities can be performed either at Supplier's site and/or Nidec's site and / or external site. The designated third party service provider shall systematically inform Nidec of sorting activity outcome. Furthermore, the Supplier shall maintain traceability and label the inspected Supplies as well as the packaging accordingly.

Nidec and the Supplier will define jointly the CSL △26 2 exit conditions, after 3 months without issue, unless otherwise agreed between Nidec and the supplier.

4.6 Supplier Audits

Nidec performs five different audits as follows:

- Supplier Validation Audit: To assess conformity to automotive requirements,
- Supplier Process Audit : To assess process stability, and planned △27 ,performed basically on yearly △27 (the period should be from April to next March) basis,

△27 For supplier whose quality is not stable, the audit frequency may be increased.

Please refer to the following definition for audit objects:

・It is not necessary to perform audit for trading companies, but necessary to production plants of trading company.

・It is not necessary to perform audit for bulk material(lubricant, detergent, release agent, rust-proofing oil, gas…etc.) and catalogue components; but for electrical components , audit is necessary if customer has requirement or quality issue happened. Audit for special process should be performed by personnel who got CQI certified.

・For material, not necessary to perform audit for suppliers of raw material such as ingot, steel plate and resin material, but necessary for supplier of slitted steel plate,bar material.

・If there is any Nidec customer specific requirement, Nidec would follow the customer's requirement.

- Run @ Rate Audit: To assess production capacity and,
- Supplier 8D Audit: To assess action plans application following an 8D (80% minimum reached for validation),
- Supplier Evaluation: To achieve min level

After the supplier received a notification of a future audit, Nidec greatly recommends the Supplier to conduct an internal audit. ⚠27 Supplier self-audit has to be performed upon Nidec request.

When the first audit performed by Nidec fails, Nidec reserves the right to apply financial penalties for each following audit (please refer to chapter 5.3 <Cost recovery>).

Nidec will conduct the Supplier Validation Audit by using the VDA 6.3 Potential Analysis Audit and conduct the Supplier Process Audit by using the VDA 6.3 Process Audit. The judgement standard is as below table. Any other audit form may be requested by customer specific requirement.

Classification		Assessment by questionnaire		
		Yellow	Red	Action
	Fully approved supplier	Max. 7	None	Findings need to be improved
	Conditionally approved	Max. 14	None	Findings need to be improved to achieve Green Level
	Barred supplier	More than 14	1 or more than 1	/

Table XII VDA 6.3 Potential Analysis Judgement

VDA 6.3 Process Audit Judgement		
A	EG%≥90	Quality-capable, findings need to be improved.
B	80≤ EG%＜90	Conditionally quality-capable, findings need to be improved to achieve A.
C	EG%＜80	Not quality-capable, take corrective actions immediately to achieve A, 100% inspection before shipment will be conducted on request.

Table XIII VDA 6.3 Process Audit Judgement

4.7 Sub-supplier Management

4.7.1 Sub-supplier management requirements

The Supplier shall manage all Sub-suppliers including imposed Sub-suppliers. The scope of Sub-supplier management includes APQP requirements and periodic auditing.

The Supplier shall audit and manage Sub-suppliers critical processes. In order to do so, the Supplier shall use the adequate CQI audit format. However, whenever necessary and without any limitation of Supplier's

responsibility, Nidec may audit directly Sub-suppliers critical processes to assure that controls are properly implemented throughout the complete supply chain.

The Supplier shall understand that all Sub-suppliers (for raw materials, sub-components, services …etc.) have a significant impact on the quality of its Supplies. Their influence is so critical that the Supplier shall implement a Sub-supplier management system with a dedicated function to systematically track and report quality and delivery performance.

The Supplier shall be able to demonstrate a proper management of any issue related to Sub-suppliers issues. In order to do so, the Supplier shall document all actions implemented and monitor Sub-suppliers activities.

4.7.2 Special processes assessment: CQI audits

When the Supplier subcontracts special processes, Nidec requires the evidence that related Sub-suppliers are ISO 9001 registered.

Pursuant to the △2 IATF 16949 standard, the Supplier shall perform a self-evaluation of each applicable special process listed below with the associated AIAG Manual and upon request, provide Nidec with audit results △28.

Nidec reserves the right to access supplier's facilities (and all processes) to perform CQI audit directly.

- Heating: CQI-9 for Heat Treat System Assessment,
- Plating: CQI-11 for Plating System Assessment,
- Coating: CQI-12 for Coating System Assessment,
- Welding: CQI-15 for Welding System Assessment,
- Soldering: CQI-17 for Soldering System Assessment,
- Molding: CQI-23 Molding System Assessment.
- △29 Die Casting: CQI-27 Casting System Assessment.

For further information, please visit http://www.aiag.org

http://www.aiag.org

4.8 Annual Conformity Report/Annual Requalification

According to △2 IATF 16949, (clause △30 8.6.2) the Supplier shall complete an annual layout inspection to inspect the layout of each reference and perform functional testing on Supplies. The layout inspection requirements are based on the validated PPAP. The annual conformity report/annual requalification report includes the annual full items (all dimensions, performance and items listed in the drawing and drawing note) inspection, capability study for SPPC and raw material certification.

The Supplier shall keep available to Nidec the results of inspections and issue the annual conformity report. All information related to the features/characteristics addressed during the project shall be recorded and the PFMEA and production CP updated accordingly. Supplier shall add the annual requalification management item into CPs on request.

The Supplier shall provide Nidec with the conformity reports within 48 hours upon Nidec's request.

4.9 Supplier Facility Access and communicated documents

The Supplier shall authorise Nidec and Nidec's Customers to access their facilities △31 (and all processes) and Sub-suppliers' sites to join our supplier's audit. Nidec may request documents such as FMEA, CP, financial reports, action plans …etc.

4.10 Contingency Plan

According to IATF 16949 (clause 6.1.2.3), the Supplier shall establish a contingency plan for any potential catastrophes which may disrupt the flow within Supply chain. The contingency plan is to be communicated to Nidec upon request.

In the event of a major event, the Supplier shall warn Nidec immediately and provide the crisis action plan to safeguard Nidec's supply chain.

4.11 Documents, Samples and Master Samples Retention

The Supplier shall retain documents and samples (according to signed PPAP) during the time the Supplies active plus 15 years minimum. A Supply is active as long as the final product is provided to the final Customer.

For SRC (Safety Regulated Characteristic) products, the supplier must retain documents and samples during the time the Supplies active plus 20 years.

In case of multiple cavity die, mould, or pattern, the Supplier shall retain one sample identified as "master sample" for each position of the cavity die, mould, or pattern.

Master samples are retained during the time the Supply is active plus 15 year minimum. The Supplier shall identify master samples accordingly which shall include the PPAP reference and the approval date.

When a Supply is used on multiple programs, it may require a longer retention period.

4.12 Nidec Property – Tools

As per IATF 16949, all tools, manufacturing testers and equipment belonging to Nidec or to Nidec's Customers are permanently marked to clearly show they are the property of Nidec or Nidec's Customers. These tools, manufacturing testers and equipment are to be used exclusively for Nidec's needs.

The property of Nidec or Nidec's Customers shall be evidenced by the signature of a Tooling Manufacture Loan Agreement.

4.13 Product End of Life

The Supplier commits to providing Nidec with spare parts during 10 years minimum after Original Equipment Manufacturers (OEM) end of production or more if the OEMs request a longer period of time.

It is strictly forbidden to scrap tools and equipment or to deliver spare parts without prior Nidec formal approval.

Unless otherwise agreed in writing, spare parts are sold at the last fixed price during 3 years after the end of the OEM production.

4.14 Continuous Improvement

Continuous Improvement is an IATF 16949 requirement and is essential to successfully compete in today's business environment. The Supplier shall continuously improve in quality, service (including timing and delivery) and cost to benefit Nidec and the Supplier's organisation.

Continuous Improvement is a global approach which covers the complete supply chain and lead to best-in-class Suppliers. Continuous Improvement is to establish, prioritize, monitor and act upon key performance objectives and targets defined according to business plans, QCD targets, Customers' requirements, internal capacity and internal management systems.

For information purpose, key areas for improvements could be:

- Internal quality system,

- Unscheduled machine downtime,
- Machine set-up,
- Dies, moulds changeover times,
- Excessive cycle time,
- Cost competiveness,
- Scrap, rework & repair,
- Proactivity management,
- Non value-added use of floor space,
- Test requirements not justified,
- Long-term commitment,
- Poor quality (quality complaints / quality requirements / specifications not achieved),
- Excessive handling and storage,
- New target values to optimize processes or,
- Sub-suppliers' involvement,

Nidec recommends the Suppliers the use LLC (Lesson Learned card) to initiate their Continuous Improvement process (LLC are included in the Supplier 8D report) and to focus on SPPC.

Nidec considers the Supplier's efforts in developing Continuous Improvement within its organisation and records it through the Supplier performance measurements. However, the Supplier shall understand that all actions implemented to return to sustained performance levels are not improvement actions but corrective actions. Therefore Nidec does not take them into account for the Supplier performance measurement.

Nidec can recommend the Supplier specific improvement areas and may deploy a team when necessary. Nevertheless, Nidec expects from the Supplier to create their own Continuous Improvement program in order to find opportunities within its organisation.

5 SUPPLIERS QUALITY IMPROVEMENT

5.1 QCD performance

5.1.1 Supplier Performance Report

Nidec supports best-in-class Supplier in meeting Nidec and Nidec's Customers' needs. The focus of best-in-class is to have a partner relationship with Suppliers who are the most competitive in QCD.

On a semester basis, Nidec measures the QCD performances and communicate it to the Supplier. The chart below presents the QCD calculator that are used by Nidec to rate its Suppliers.

32 Supplier which did not deliver not be considered at the SPR.

Targets	Indicators	Indicator Details	Score max (100)	Definition
Quality *In case of not paid Quality costs: 0 points for Quality*	Incidents	WR,C1,C2,C3	35	C6M = 0 = 35pts C6M = 1-3 = 30pts C6M = 4-6 = 15pts C6M > 6 = 00pts
	PPM	Parts Per Million	15	C6M = 0 = 15pts 0＜C6M ≤10 = 10pts 10＜C6M ≤50 = 05pts C6M > 50 = 00pts
	8-D Evaluation	%	5	90% = 05pts ＞90%≥80 = 03pts ＜80% = 00pts
	8-D Reactivity	On time or not	5	8D closure on time (24h / 5 days / 20 days) = 05pts Not on time = 00pts
Delivery (logistics) *In case of not paid Logistics costs: 0 points for Logistics*	Special Freights	caused by late deliveries, unrespect of safety stock	25	Deduction of 5 points per logistics perturbation issued by Nidec
Cost (Supplier cooperation) *When the Supplier's status is NBOH, 0 points is attributed for cooperation*	level of Productivity, Negotiation	Achieved or failed	5	Achieved = 05pts Failed = 00pts
	Nidec Specific Requirement	Nidec Supplier Manual	2.5	Signed =2.5pts Not signed =0pts
		Nidec General Terms of purchasing	2.5	Signed =2.5pts Not signed =0pts
	Supplier suggestions, Technical Productivity	Number of suggestions	5	For each suggestion two points up to max. 5

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5.1.2 Performance measurements indicators

5.1.2.1 Quality performances

It is the responsibility of the Supplier to calculate Incidents/PPM and provide related data to Nidec upon request. Incidents/PPM include the quantity of verified non-conform Supplies found in Nidec's production line, during the receiving product control process and during any sorting done by Nidec.

Initial PPM includes total quantity of suspect Supplies returned to Supplier. This quantity will be adjusted later to reflect actual defect quantity.

Incidents/PPM will not include the following:

- Supplies which have not been PPAP approved,
- Prototypes,
- Supplies submitted to a deviation and claimed defects related to it and,
- Supplies sorted upon Supplier's request.

The Supplier shall adopt a "Zero Defect" target and respond to all potential incidents within the time limits prescribed. The supplier shall implement the independent detection and analysis of deviations from quality requirements, with the rapid introduction of corrective actions including evidence of effectiveness are requirements demanded of the quality control circle. Besides, according to ⚠34 IATF16949 10.2.5 requirement, initiation criteria must be agreed with Nidec for the 'NTF (No Trouble Found)' process. The characteristics to be checked and the specification for the checks must be documented and agreed with Nidec. Capable checking equipment and the associated resources must be planned.

In that case, Nidec issues a C1, C2 or ⚠35 C3 claim for each quality incident open (please refer to chapter 4.4 <Claim management process>) and Nidec measures on a semester basis:

- The Supplier Quality Incidents Performance (C6M)
- The Supplier Quality PPM Performance (C6M)
- The Supplier 8-D Reactivity.

5.1.2.2 Delivery performances (logistics)

The Supplier shall ensure 100% on-time delivery. Therefore, Nidec measures the Supplier on-time delivery performance based on the delivery date appearing on the purchase order VS the date of reception.

5.1.2.3 Cost performances (Supplier cooperation)

The Supplier shall commit to a yearly productivity plan and use productivity levers such as production relocation in Leading Competitive Countries (LCC), QCD workshops or Technical Productivity (TP).

Once per quarter, the Supplier shall use the Supplier Suggestion Sheet (Nidec's template) to issue improvement suggestions.

The Supplier shall issue a Supplier Change Request for all identified products productivities requesting a permanent change. The implementation of formally agreed productivity improvement action is cost-shared between Nidec and the Supplier.

5.1.3 Rating system

5.1.3.1 Supplier performance measurement scoreboard

During a semester review, Nidec rates the Supplier. The final score is the total sum of the scores the Supplier obtained in each category (Quality, Cost and Delivery). Based on the results, the Supplier is classified as follows:

Rating	Result	Consequence
A	Score ≥ 80pts	This is the highest rating level possible. All Suppliers start out in this category and remain in this category as long as their performance continues to be maintained at a high level. If the achieved score is below 100 pts we expect corrective actions and continuous improvement.
B	60pts ≤ Score < 80pts	A Supplier Improvement Plan (SIP) is required within 2 weeks after Nidec's notification
C	Score < 60pts	The Supplier can be placed on TWS. A Supplier recovery plan is required within 2 weeks after Nidec's notification. In any case, when the Supplier obtains a score lower than 30pts, the Supplier is instantaneously placed on TWS.

Table XV

5.2 Supplier Management Process

5.2.1 Introduction

Nidec is targeting a high level of Supplier quality performance. In order to do so, Nidec has set up a Supplier management process to ensure the alignment of the Supplier with QCD targets while guarantying the optimum surveillance of its deliveries.

The Supplier management process is a proactive approach whereby the Supplier's "on-dock" deliveries respect the agreed QCD targets.

The Supplier management process consists of 4 steps:

- Supplier Improvement Plan (SIP),
- Top Worst Supplier (TWS),
- NBOH,
- Phase out,

Those steps are part of an escalation process answering to Supplier's quality performance deterioration. However, upon Nidec decision, the Supplier could be directly placed on TWS or NBOH status.

When necessary, Nidec may implement containment actions (CSL1, CSL2) to protect Nidec's and Nidec's Customers' lines (please refer to chapter 4.5 <Controlled shipment level 1 and 2> in this Manual).

5.2.2 Supplier Improvement Plan (SIP)

Conditions for submitting a SIP are based on the Supplier performance measurements (QCD performance - B rating).

The Supplier is required to formulate, implement and sustain improvement actions through the SIP to be considered for upgrade. The SIP is to be submitted within 2 weeks after Nidec's notification and is used to achieve agreed QCD targets and to obtain the A level during the Supplier performance measurements.

Nidec recommends the Supplier to use the fundamentals outlined in the 2 IATF 16949 standard as a platform for organising its SIP. The SIP shall include lessons learned from previous quality issues.

Nidec follows the strict application of the Supplier's SIP actions and will use the SIP a basis to audit the Supplier's processes.

The Supplier may be placed on TWS or NBOH when no improvements have been noticed within the time limits prescribed 37 (4 months).

5.2.3 Top Worst Supplier (TWS)

Conditions for being placed on TWS are based on the Supplier performance measurements (QCD performance - C rating) or degraded performances observed after a SIP submittal.

Nidec decides jointly when the Supplier is to be placed on TWS and will notify the Supplier accordingly.

When the Supplier receives the notification from Nidec, a TWS meeting is to be scheduled. During the TWS meeting, the Supplier shall present the recovery plan which shall include corrective and improvement actions to reach QCD targets and the timeline for implementation. Nidec will audit the Supplier to assess the Supplier processes and check the effectiveness of the implemented actions.

When the Supplier does not send the recovery plan 38 and no improvements have been noticed within the time limits 37 (4 months) prescribed, the Supplier may be placed on NBOH.

5.2.4 NBOH

Conditions for being placed on NBOH are based on the Supplier performance measurements (QCD performance - C rating), degraded performances observed after a SIP submittal or TWS activities, chronic under-performances or by having severe QCD issues.

Nidec sends to the Supplier a NBOH letter which contains the reasons of the decision as well as the exit criteria.

5.2.5 Phase out

When, despite all activities performed during Nidec's Supplier management process including containment activities (CSL1, CSL2) the Supplier still demonstrates systematic and severe under-performances regarding QCD targets, Nidec initiates the Supplier phase out.

This exclusion is done thanks to a disengagement plan, officially communicated to Supplier and compliant with the automotive industry standards.

5.3 Cost Recovery

The Supplier will be charged with corresponding amounts for each one of the situation bellow:

- Quality claims
- Production disruptions or incidents
- Unauthorized or non-communicated changes
- Delivery performance failures
- 8D audits closure
- Shipments of unapproved products
- Sorting and rework operations
- Special freights to Nidec or Nidec's Customers
- PPAP submission rejections,
- Line stoppages
- Supplier audits failure (process, R@R 8D…etc.)
- Rework operations

The above list is not exhaustive, more generally the Supplier will be charged for all additional costs due to failed audits, complementary validations, generated incidents, failed PPAP, disruptions, property damage, economic loss, and any resulting damages, losses, costs and expenses incurred to Nidec and Nidec's Customers regardless of whether the claim or demand arises under tort, contract, strict liability or other legal theories.

Furthermore the Supplier will be charged the costs due to Supplier's defective design or manufacture of Supplies or its negligent acts or omissions in its performance.

Nidec reserves the right to apply penalties according to incidents gravity or incidents reoccurrence.

Nidec performs at its expenses the SVA, the Run @ Rate audit and the Supplier Process Audit. If the first audit fails, following audits will be charged to the Supplier (administrative fee of 200€ plus travel expenses of auditors).

Nidec performs the PPAP counter measures / validations. If the first PPAP presentation fails, each new presentation will be charged 150€ to the Supplier.

All 8D closure audits will be charged to the Supplier (administrative fee of 200€ plus travel expenses of auditors).

Nidec Change Management Matrix

Item	Content	Level			Remark
		A	B	C	
Change of a manufacturing place	1.1 . Addition of new processes (lines)		○		
	1.2 . Addition of new processes (lines) (special characteristics, critical parts: S/F symbol marked in CP)	○			
	2. Addition or relocation of the plant	○			Change of the layout:
	3.1. Change of the layout		○		With impact to products, make a
	3.2 Change of the layout (special characteristics, critical parts: S/F symbol marked in CP)	○			check list for risk validation and
	6. Change of using sub-supplier (except distributors and trade firms)	○			rank them (light, vibration, tilt etc.)
Change of operation methods, facilities, jigs, fixtures	1.1. New establishment or change of operation methods, facilities, jigs, fixtures		○		Change of operation methods
	1.2. New establishment or change of operation methods, facilities, jigs, fixtures(special characteristics, critical parts: S/F symbol marked in CP)	○			e.g.1 Adhesive Change of pressure = facility
	2.1. Remodeling of facilities or jigs, fixtures		○		conditions (Rank B)
	2.2. Remodeling of facilities or jigs, fixtures (special characteristics, critical parts: S/F symbol marked in CP)		○		Put adhesive five tiers from 1 tier= Change of a operation
	3.1. Repair of facilities or jigs, fixtures			○	methods(Rank A)
	3.2. Repair of facilities or jigs, fixtures (special characteristics, critical parts: S/F symbol marked in CP)			○	e.g.2 welding jig (three-dividing jig)
	4.1. manual operation ⇔ automatic		○		strengthen stricter control = Rank B
	4.2. manual operation ⇔ automatic (special characteristics, critical parts: S/F symbol marked in CP)	○			change to ring jigs =Change of operation method (Rank A)
	4.3. Change of handling from manual operation to automatic		○		
Change of mould/ die	1.1. Modification of mould/ die		○		
	1.2. Modification of mould/ die (special characteristics, critical parts: S/F symbol marked in CP)		○		
	2.1. Renewal or expansion of mould/ die		○		
	2.2. Renewal or expansion of mould/ die (special characteristics, critical parts: S/F symbol marked in CP)		○		
	3.1. Repair of mould/ die (including maintenance)			○	
	3.2. Repair of mould/ die (including maintenance) (special characteristics, critical parts: S/F symbol marked in CP)			○	
Change of jigs and/or tools	1.1. Renewal or Modification of jigs and/or tools			○	
	1.2. Renewal or Modification of jigs and/or tools(special characteristics, critical parts: S/F symbol marked in CP)		○		
	2.1. Repair of jigs and/or tools			○	
	2.2. Repair of jigs and/or tools(special characteristics, critical parts: S/F symbol marked in CP)			○	
	3.1. Change of processing, assembly and processing master sample			○	
	3.2. Change of processing, assembly and processing master sample(special characteristics, critical parts: S/F symbol marked in CP)			○	
Change of manufacturing conditions (processing, assembly)	1.1. Change of Work Procedures and Work Instructions			○	
	1.2. Change of Work Procedures and Work Instructions(special characteristics, critical parts: S/F symbol marked in CP)			○	
	2.1. Change of facility conditions (renewal, modification)			○	
	2.2. Change of facility conditions (renewal, modification) (special characteristics, critical parts: S/F symbol marked in CP)		○		
	3. Change of conditions for special process (heat-treatment, welding, surface-treatment, soldering, coating, adhesion, caulking etc.)		○		

Change of inspection method	1.1 Creation or remodeling of inspection jigs and/or instruments			○	1.1~2.2
	1.2.Creation or remodeling of inspection jigs and/or instruments(special characteristics, critical parts: S/F symbol marked in CP)			○	Jigs and instruments have to be calibrated
	2.1. Repair of inspection jigs and/or instruments			○	
	2.2. Repair of inspection jigs and/or instruments(special characteristics, critical parts: S/F symbol marked in CP)			○	
	3.1. Change of measuring devices and measuring criteria		○		3.1~3.8
	3.2. Change of measuring devices and measuring criteria(special characteristics, critical parts: S/F symbol marked in CP)		○		There is no problem with correlation and GR&R. Rank A if agreement is arranged with the customer.
	3.3. Change of measuring devices for shipping inspection			○	
	3.4. Change of measuring devices for shipping inspection(special characteristics, critical parts: S/F symbol marked in CP)			○	
	3.5. Change of measuring criteria		○		
	3.6 Change of measuring criteria(special characteristics, critical parts: S/F symbol marked in CP)		○		
	3.7. Change of measuring criteria for shipping inspection		○		
	3.8. Change of measuring criteria for shipping inspection(special characteristics, critical parts: S/F symbol marked in CP)		○		
	4.1. Change of the number of inspection specimens(the number of sampling)			○	4.1~4.4
	4.2. Change of the number of inspection specimens(the number of sampling) (special characteristics, critical parts: S/F symbol marked in CP)		○		Application to the customer is necessary if agreement is arranged with the customer. (Rank A)
	4.3. Change of the number of inspection specimens of shipping inspection (the number of sampling)		○		
	4.4. Change of the number of inspection specimens of shipping inspection (the number of sampling) (special characteristics, critical parts: S/F symbol marked in CP)		○		
Change of materials	1.1. Change of material manufacturers	○			
	1.2. Change of material manufacturers(special characteristics, critical parts: S/F symbol marked in CP)	○			
	2. Change of materials or suppliers			○	
	3.1 Change of bulk material (lubricant, detergent, release agent, rust-proofing oil, gas)		○		
	3.2. Change of bulk material (lubricant, detergent, release agent, rust-proofing oil, gas) special characteristics, critical parts: S/F symbol marked in CP)	○			In the case description of IMDS etc. is different
	4. Change of material components (proportion)	○			
Others	1. Change of operators of critical process			○	
	2. Change of transportation method, packing method, or packaging (package)			○	
	3. Restart after production interruption for 6 months or more		○		
	4. Change of warehouse	○			It applies to warehouses which has storage function and packaging change function
	5. Change of transportation methods		○		Discuss actions for emergent transportation in another time

GLOSSARY 6

Term & acronyms	Definitions
8D	**Eight Disciplines:** *Nidec official problem solving process tool*
APQP	**Advance Product Quality Planning:** *A structured and detailed planning process developed by the AIAG automotive organization to communicate common product quality planning and control guidelines for the automotive industry Suppliers*
AIAG	**Automotive Industry Action Group:** *North American automotive organization, editing and publishing standards (http://www.aiag.org)*
CP	**Control Plan:** *A tool which lists all Supply and process inspection points required to deliver a defect-free product. A production control plan includes a process CP which is essential for maintaining a process stable over the long run and a product CP to check products conformity to Customer specification including SPPC, tolerances and other characteristics for control related to the supply*
Cpk	**Capability process index:** *The process capability index is a long term capability including process centring. It is a comparison of the inherent variability of a process output to specification limits under statistically stable conditions.*
Cmk	**Capability machine index:** *The machine capability is the ability of a machine tool to produce parts within the tolerance interval. Capability indices are a statistical way of describing how well a product is machined compared to defined target values and tolerances.*
C1	**Quality claim category 1**
C2	**Quality claim category 2**
C3	**Quality claim category 3**
C6M	**Consolidated 6 months**: Incidents over 6 months
CR	**Cost Recovery:** *A process ensuring that the Supplier is charged back the amount incurred to Nidec and Nidec's Customers for any failures regarding audits, PPAP, complementary validations, as well as generated incidents and perturbations*
Continuous Improvement	*The on-going effort to improve processes and system upon key performance objectives and targets* that lead to the achievement of higher levels of QCD performances
CSL1	**Control shipment level 1**
CSL2	**Control shipment level 2**
CQI audit	**Continuous Quality Improvement audit***: An audit dedicated to special processes using special assessment technique from AIAG*
Customer(s):	*Refer to Nidec's own client(s).*
DFMEA	**Design Potential Failure Mode and Effect Analysis:** *The application of the Failure Mode and Effects Analysis (FMEA) method specifically to components/materials/assembly design.*
DV	**Design validation:** *Testing which ensures that a Supply design meets the client requirement.*
DR	**Design review:** *A documented review to address potential design issues.*
DUNS	**Data Universal Numbering System:** *A unique identifier for business.*
EDI	**Electronic Data Interchange:** *A standardized method for transferring data between different computer systems or computer networks.*
ELV	**End of Life Vehicle**: *A European Directive to prevent wastes from end of life vehicles.*
EOL	**End Of Life:** *Mention the end of life of a product.*
EVAL	*A questionnaire used for new Supplier qualification to have business with Nidec.*
FMEA	**Potential Failure Mode and Effects Analysis:** *A tool which aims to identify every possible failure mode of the required function of process / Supply and respective effects. The FMEA is also used to rank and prioritize the possible causes of failures as well as develop and implement preventative actions, with responsible persons assigned to carry out these actions.*
IS	**Initial Sample:** *IS a defined qty. of pieces which are measured to validate if the defined features are OK*

ISO 14001	**International Standard Organization 14001:** *Environmental management systems -Requirements with guidance for use*

Term & acronyms	Definitions
IATF 16949	**Automotive Quality Management System Standard International Automotive Task Force 16949:** *Quality management system, with particular requirements for automotive production and relevant service part organization.*
ISO 9001	**International Standard Organization 9001:** *Quality management systems–Requirements*
IMDS	**International Materials Data System:** *A data system used to collect and report on the materials that make up components and assemblies.*
L1	**Logistics claim category 1**
L2	**Logistics claim category 2**
LCC	**Leading Competitive Countries:** *Identified countries as competitive cost wise.*
LFMEA	**Logistic Failure Mode and Effect Analysis:** *The application of the Failure Mode and Effects Analysis (FMEA) method specifically to logistic process.*
LLC	**Lesson Learned card:** *The knowledge acquired from the experience gained. These lessons come from working with or solving real-world problems. Collecting and disseminating lessons learned helps to eliminate recurrences in future projects.*
LOI	**Letter of Intent:** *A letter from one company to another acknowledging its willingness, ability and commitment to do business.*
FC	**Functional Characteristic:** *A Functional Characteristic is a SPPC for which a reasonably anticipated variation is likely to affect the manufacturing process, either at Supplier and/or Nidec and/or Nidec's Customers location, which results in a reduced quality performance and a decreased Nidec's and/or Nidec's Customers satisfaction.*
FIFO	**First In First Out:** *A management method to organise and manipulate Supply and data according to time and prioritisation.*
FTA	**Factor Tree Analysis:** *A quality tool to identify the causes for occurrence and non-detection of an incident.*
Manual	*The entire document in its current version or any future amendments as the case may be.*
MSA	**Measurement System Analysis:** *A method to identify the components of variation in the measurement.*
NBOH	**New Business On Hold**
NAMA	**Nidec Automotive Motor Americas Corporation**
Nidec/Nidec AMG1	*Nidec automotive motor group 1 including NCJ, NMA and NAMA*
NCJ	**Nidec Corporation Japan:** *It represents Nidec Asia plants including NAMS (Nidec Automobile motor(Zhejiang) Corporation), NCDA(Nidec (Dalian) Limited) and NIND (Nidec India Private Limited)*
NMA	**Nidec Motors & Actuators Group:** *The company covered by the Manual which also includes "NMA" or "NMA buying site" or "NMA's site"*
NDA	**Non-Disclosure Agreement:** *A document signed by NIDEC and the Supplier which purpose is to protect non-public and proprietary information.*
OEM	**Original Equipment Manufacturer:** *Applies to car makers, i.e., BMW, Ford, Daimler, GM, PSA, Renault, Volkswagen …etc.*
Off-tool part	*A Supply produced by serial tooling which may not meet specifications. Off-tool parts are generally used as confirmation for serial tooling.*
PFMEA	**Process Potential Failure Modes Effects Analysis:** *The application of the Failure Mode and Effects Analysis (FMEA) method specifically to processes.*
PPAP	**Production Part Approval Process:** *A process defined for the validation of new materials and subsequent processes. It outlines the methods used for approval of production and service commodities up to PSW in the APQP.*
PPM	**Parts per Million:** *A dimensionless value which represents the Supply of a whole number in units of 1/1000000.*
Ppk	**Process Performance Index***: The process performance index is a short term capability including process centring. It is the comparison of the actual process variation to the specification limits.*

PV	**Product Validation:** *Testing that assures that the manufacturing process produces Supplies that meets the Customers' requirements*.
Term & acronyms	Definitions
PSW	**Part Submission Warrant:** *A procedure according to AIAG, by which the Supplier gives evidence to the Customer that he is able to satisfy the QCD requirements as well as capability and capacity requirements.*
QCD	**Quality Cost Delivery:** *key targets that Suppliers should follow up to be competitive.*
QR	**Quick Reactivity：** *Quick Reactivity is a binding decision to perform the quick reactivity.*
REACH	**Regulation Evaluation and Authorisation of Chemicals:** *A EU regulation which came into force on 1st June 2007 concerning the registration, evaluation, authorisation and restriction of chemicals*
RoHS	**Restriction of Use of Hazardous Substances:** *A EU directive which aims to restrict certain dangerous substances commonly used in electronic and electronic equipment*
RFQ	**Request for Quotation:** *A standard business process*
RPN	**Risk Priority Numbers:** *A measure used when assessing risk (FMEA) to evaluate critical failure modes associated with a product / process.*
R&R	**Repeatability and Reproducibility** studies.
R@R	**Run at Rate:** *An audit to assess Supplier's manufacturing process capacity.*
SAP	A *software package that centralizes the management of all resources*
SDA	**Supplier Deviation Authorization:** *A document issued by the supplier showing deviations according the specifications. SDA must include all actions to recover the specifications. SDA must be approved by Nidec.*
SIP	**Supplier Improvement Plan:** *A quality document issued by the Supplier showing all actions it will undertake and implement to eliminate an incident.*
SVA	**Supplier Validation Audit:** *An audit performed to assess the Supplier's conformity to automotive requirements.*
SPC	**Statistical Process Control:** *Use of control charts to monitor process performance and define priorities on how and when to adjust the process*
SPPC	**Special Product and Process Characteristic:** *A SPPC is a special product characteristic or a special process parameter. NMA classifies SPPC as either Safety Regulatory Characteristics (SRC) or Significant Characteristic (SC) or Functional Characteristics (FC).*
SC	**Significant Characteristic:** *A Significant Characteristic is a SPPC for which a reasonably anticipated variation is likely to significantly affect compliance with Nidec and/or Nidec's Suppliers and/or Nidec's Customers requirements (interface, fit, form, function, performance …etc.).*
SRC	**Safety Regulated Characteristic:** *A Safety Regulatory Characteristic is a SPPC for which a reasonably anticipated variation is likely to significantly affect safety for users and operators and/or compliance with applicable laws and regulations.*
Sub-supplier(s):	*All organisations that provide Nidec direct Suppliers for Nidec's needs. It includes Suppliers for heat treating, plating, coating, welding, soldering, or other finishing services.*
Supplies	*Tools, machines or equipment, parts, raw materials, other materials or services purchased by or furnished.*
Suppliers:	*All entities involved in the production of Supplies purchased by Nidec's buying sites.*
SOP	**Start Of Production**
SQA	**Supplier Quality Assurance** *within Nidec*
TP	**Technical productivity:** *Any optimisation of the Supply that affects the total cost of the item/material purchased (Price decrease, reduction in the quantity of purchased materials …etc.) without any modification of final product functional specifications*
TWS	**Top Worst Supplier:** *A status attributed to the Supplier by Nidec's Commodity Engineer and Commodity Buyers due to its low QCD performances*
WR	**Warranty Return:** *An incident identified at the final Customer (end user).*

5W2H	**5W2H:** *A quality tool which consist in a serial of questions for getting complete information about an incident (Who, What, When, Where, Why, How, How Many)*

Supplier status (Purchasing Definition)

Existing Suppliers	*Existing Suppliers are organisations integrated into Nidec Suppliers panel. Existing Suppliers shall meet the requirements specific to automotive industry as well as those outlined in this Manual, including requirements for new Suppliers. Nidec may, at any time, in its sole discretion, control the respect for the rules incumbent to existing Suppliers set forth in this Manual.* *Suppliers from NIidec Suppliers panel who set up a new location are still considered as existing Suppliers. However, they shall pass again the New Suppliers Integration Process.*
Nidec Suppliers panel	*The lists of all Suppliers who are awarded a Nidec contract business and involved in a project development.*
New	*New Suppliers are either,* • *Organisations which have never done business with Nidec or,* • *Organisations which have not provided Nidec with Supplies during 3 consecutive years.* *New Suppliers are organisations that can be integrated into Nidec Suppliers panel after being awarded a business from the signature of the Letter of Intent (LOI).* Prior being awarded a business, new Suppliers shall pass the New Suppliers Integration Process
Core	*Core Suppliers are organisations which have a privileged relationship with Nidec. There is no restriction to place and develop business insofar as the commodity (core competence) is respected.*
Imposed	*Imposed Suppliers are organisations imposed by the Nidec Customers.*
End of life	*End of Life Suppliers (EOL) are organisations which are going to stop providing Nidec with Supplies after end of life of Nidec current production. End of Life Suppliers are not awarded new business contracts.*
No New Business on Hold	*NBOH Suppliers are organisations on probation. An improvement plan is to be defined and agreed. No new business can be placed without Nidec management decision.*
Phase out / Pending	*Phase out / Pending Suppliers are organisations that will be phased out. The date of business ending is agreed. No new business can be placed.*
OES/AM	*Original Equipment Spare / after Market Suppliers are organisations that provide spare parts and services for vehicles repair.*

List of quoted document 39

Nidec PPAP documents			
No.	PPAP content	Nidec template	Where it mentioned in this manual
1	Part submission warrant(PSW)	○	Chapter 3.7.2 PPAP submission level & content
2	Design record/"Ballooned" drawings	--	Chapter 3.7.1 General requirements for PPAP submission
3	Approved change documents(if applicable)	--	Chapter 4.2.2 Permanent changes
4	DFMEA (if applicable)	--	Chapter 3.3.2 APQP phase 1 Step3: Design Review (DR)
5	Process layout	--	Chapter 3.3.3 APQP phase 2
6	Process flow diagram/chart	--	Chapter 3.9 Process flowchart
7	PFMEA	--	Chapter 3.10 PFMEA
8	Control plan	--	Chapter 3.11 Control plan
9	IMDS(Nidec ID No.: _____)	--	Chapter 3.3.3 APQP phase 2 step 4 IMDS
10	Measurement method	○	Chapter 3.3.3 APQP phase 2 step 2 Gauge/tooling/equipment review
11	Dimensional report (Full dimension)	○	Chapter 3.3.3 APQP phase 2 step 6 First off-tool parts
12	Material Report(Material performance test result)	○	Chapter 3.3.3 APQP phase 2 step 6 First off-tool parts
13	Material certification	--	Chapter 3.3.3 APQP phase 2 step 6 First off-tool parts
14	Capability study (Initial process study)	○	Chapter 3.13 Initial process study
15	GR&R (Measurement system analysis)	○	Chapter 3.3.3 APQP phase 2 step 2 Gauge/tooling/equipment review
16	Capacity stud y& Run@Rate	○	Chapter 3.3.4 APQP phase 3 step 1 Internal Supplier capacity and capability validation
17	Packaging specifications	--	Chapter 3.3.3 APQP phase 2 Step7: Packaging & labelling definition proposal
18	Traceability Management (Traceability description)	--	Chapter 3.3.3 APQP phase 2 Step8: Traceability Management
19	Appearance approval report(if applicable)	○	Chapter 4.2.3.1 The Supplier Deviation Authorization
20	Bulk materials list/requirement (if applicable)	--	Chapter 3.7.1 General requirements for PPAP submission
21	Master sample ((if applicable)	--	Chapter 4.11 Documents, Samples and Master Samples Retention
22	Qualified laboratory documentation	--	Chapter 3.7.2 PPAP submission level & content
23	Compliance with the customer's specific requirement(if required)	--	Chapter 3.7.2 PPAP submission level & content
24	Checking Aids	--	Chapter 3.7.2 PPAP submission level & content
25	Additional requirement		Comments/details
25.1	APQP File	○	Chapter 3.2.1.2 Business attribution process description
25.2	Sub-supplier PPAP	--	Chapter 3.3.4 APQP Phase 3 Step4:Sub-suppliers PPAP
25.3	Shipping report	--	Chapter 3.7.2 PPAP submission level & content
25.4	Conflict Minerals	--	Chapter 2.2.6 Step 5 - Other requirements
25.5	Contingency Plan	--	Chapter 4.10 Contingency Plan
25.6	Calibration test	--	Chapter 3.7.2 PPAP submission level & content
25.7	Reliability Report	--	Chapter 3.3.4 APQP Phase 3 Step2:Nidec validation test
25.8	CQI audit report	--	Chapter 4.7.2 Special processes assessment: CQI audits
	Other		

Nidec APQP File		
Sheet	APQP file Content APQP	Where it mentioned in this manual
0	APQP phase	Chapter 3.1 Nidec project management process
1	Coversheet	Chapter 3.3.2 APQP phase 1 step 1 Kick-off of the APQP File
2	Info Sheet	Chapter 3.3.2 APQP phase 1 step 1 Kick-off of the APQP File

3	Status and timing chart	Chapter 3.3.2 APQP phase 1 step 1 Kick-off of the APQP File
4	Targets, risks & Quality Agreement	Chapter 3.3.2 APQP phase 1 step 4: Targets, risks & Quality Agreement
5	Initial Sample Requirements	Chapter 3.7.2 PPAP submission level & content
6	Feasibility Study	Chapter 3.3.2 APQP phase 1 step 3: Design Review (DR): feasibility study & commitment
7	Special Product And Process Characteristics	Chapter 3.3.4 APQP phase 3 step 1 Internal Supplier capacity and capability validation
8	PFMEA Report	Chapter 3.10 PFEMA
9	Packaging & labelling	Chapter 3.3.3 APQP phase 2 step 7 Packaging & labelling definition proposal
10	Sub-supplier Application	Chapter 3.3.3 APQP phase 2 step 9 Sub-supplier Application
11	Process Audit Report	Chapter 3.3.4 APQP phase 3 step 5 Process audit
12	Capacity stud y& Run@Rate	Chapter 3.3.4 APQP phase 3 step 1 Internal Supplier capacity and capability validation
13.1	Safe launch process agreement	Chapter 3.3.3 APQP phase 2 step 5 Early production containment rules
13.2	Weekly Report	Chapter 3.3.5 APQP phase 4 step 2 Weekly Report
14	Concern & Action Report	Chapter 3.3.2 APQP phase 1 step 1 Kick-off of the APQP File
15	PPAP Submission Matrix	Chapter 3.7.2 PPAP submission level & content

Nidec other documents

No.	Document	Template	Where it mentioned in this manual
1	EVAL	Common	Chapter 2.2.3 Step 2 - The EVAL questionnaire
2	General Terms and Conditions of Purchase	NMA	Chapter 2.2.5 Step 4 - Commercial and financial requirements
3	Non-Disclosure Agreement (NDA)	NMA	Chapter 2.2.5 Step 4 - Commercial and financial requirements
4	Certificate regarding Environment-related substances	Common	Chapter 2.2.6 Step 5 - Other requirement
5	Letter of Intent (LOI)	NMA	Chapter 3.2.1 Phase 0: Business attribution
6	Request for quotation (RFQ)	NMA	Chapter 3.2.1.2 Business attribution process description Step3: Request for quotation (RFQ)
7	Liability Insurance for Supplier procedure	NMA	Chapter 3.2.1.2 Business attribution process description Step3: Request for quotation (RFQ)
8	Tool Manufacture Loan Agreement (TMLA)	NMA	Chapter 3.2.1.2 Business attribution process description Step3: Request for quotation (RFQ)
9	Long Term Supply Agreement	NMA	Chapter 3.2.1.2 Business attribution process description Step3: Request for quotation (RFQ)
10	Supplier Selection Sheet	NMA	Chapter 3.2.1.2 Business attribution process description Step8: Supplier selection
11	Supplier Change Request	Common	Chapter 4.2 Change management
12	Supplier Change Implementation	Common	Chapter 4.2 Change management
13	Supplier Deviation Authorization	Common	Chapter 4.2.3 temporary change
14	Supplier Suggestion Sheet,	NMA	Chapter 5.1.2.3 Cost performances (Supplier cooperation)
15	Run @ Rate Audit	Common	Chapter 3.3.4 APQP phase 3 step 6: Run @ Rate audit (Capacity study)
16	Supplier 8D Audit	Common	Chapter 4.4.3.2 The 8D process
17	Supplier 8D report	Common	Chapter 4.4.3.2 The 8D process

If not already provided please ask your Nidec contact for the above documents.

AIAG core tools Manuals available from http://www.aiag.org

- Advanced Product Quality Planning (APQP) and Control Plan (CP),
- Production Part Approval Process (PPAP),
- Potential Failure Mode and Effects Analysis (FMEA),
- Measurement Systems Analysis (MSA),
- Statistical Process Control (SPC),

VDA Volumes are available from http://vda-qmc.de/

- VDA 1 Documentation and Archiving,
- VDA 2 Quality Assurance for Supplies : Production and Process Approval (PPA),
- VDA 4 Product-and Process-FMEA,
- VDA 5 Capability of Measurement Processes
- VDA 6.3 Process Audit
- VDA 6.5 Product Audit

Other websites:

- http://www.mdsystem.com
- http://www.aiag.org
- http://www.dnb.com/us/
- http://www.gadsl.org
- http://www.conflictfreesourcing.org/conflict-minerals-reporting-template
- http://europa.eu/
- http://www.sec.gov/

Supplier Information

Supplier Name: _____

Location: _____

_____

_____

Approved by Supplier representative name / position*: (with company stamp)*

_____

_____

Approval date:

_____