Enterprise Quality, Atlanta

SUPPLIER QUALITY MANUAL

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Document Change Sheet

Revision	Date	Description of Change	Change Reason
A	6/10/10	Initial Release	
B	3/11/11	Format change throughout the document: numbering, indentions 6.7 Supplier Responsibility Statement added 6.10 Supplier responsibility statement added for: escapes, non-conformances, zero defect and process monitoring 8.1.1 Supplier responsibility statement added 9.3 Supplier instructions for PPAP start added 9.7.4 PPAP resubmission at Supplier cost statement added 11.7 This applies to NCR tooling / dies or any equipment used for NCR products added. 19.1, 19.2, 19.3, 19.4 modified time, PPM levels 21 2013 PPM goal added 22 Score card criteria font changed	Update Appearance Update Procedure Update Procedure Update Procedure Update Procedure Update Procedure Update Procedure Update Procedure Update Procedure
C	1/21/12	Updates to Sections: Table of Contents, 1, 4, 6.6, 6.6.1, 6.7, 6.8, 6.9, 6.11, 6.15, 6.16, 6.17, 7.2, 8, 8.1.1, 8.1.2.2, 8.2, 9.1, 10.4, 12.1 Page numbers Added sections: 6.6.1.5, 20.8, 20.8.2, 20.8.3, 20.9, 20.10, 20.11, 23.7	Update Procedure Add new requirements
D	9/12/13	Updates to Sections : PPAP, Process capability, CAPA, Supplier Quality assessment and minor changes in other sections Added section : 11 – Parts Quality Verification	 Updated procedure per existing process/practice Added new requirement
E	06/10/15	Updates to Sections: • Redefined section 6.1 Compliance with laws, • Removed section 6.3 restricted material as it is covered in newly added sub section 6.1.2 Material restrictions, • Removed references to IMDS and other references in section 6.2 • Included Supplier qualification and escalation roadmap in section 6, • Added clarification for ISPM-15, • Included ESIC related details in section 8.1 NPI, • Included 9.12 about retaining PPAP samples • Included details of RFC module in EtQ in the section 16, • Refreshed Supplier performance score criteria table in section22 • Refreshed document reference numbers in section 23	Per Latest process

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1 SCOPE

These Quality requirements apply to all Suppliers providing products, parts, modules, assemblies or components ("Parts") to NCR plants or NCR contract manufacturers or, on NCR's behalf, directly to NCR's customers (each, an "NCR Designated Purchaser").

2 PURPOSE

The purpose of this Manual is to define NCR's Quality requirements for Suppliers and to facilitate a deeper understanding of specific management, communication, and reporting expectations. While it is a goal of this Manual to assure NCR and its customers receive the highest Quality parts, suppliers are responsible for the Quality of their parts.

3 ROLES AND RESPONSIBILITIES IN NCR INTEGRATED SUPPLY CHAIN

NCR's Strategic Sourcing and Supplier Quality Excellence Organization ("Integrated Supply Chain") provides strategic direction, organizational alignment, and support for the Quality Management System and continuous improvement. The Supplier Quality Excellence Organization is responsible within NCR for the Quality performance of the Suppliers and provides the required support to ensure the Quality of the Parts provided by the supply chain.

Integrated Supply Chain Senior Management aligns customer-focused strategies, objectives and current-year initiatives with those provided by NCR Executive Management. The goals and plans seek to ensure that customer requirements are met including by taking actions based on customer feedback to improve customer satisfaction. The Integrated Supply Chain Quality directors and managers collaborate to align the Quality goals and objectives, and manage the Quality process through the supply chain. Along with the other staff members, they are the organization's champions for customer advocacy. Their role focuses on the organizational linkage between the various Quality functions. Additional responsibilities include:

- Championing the voice of the customer through evaluation and actions on customer Quality issues or concerns
- Ensuring Quality metrics and applicable Quality system certification are used to drive supply chain management process improvements
- Facilitating the communication of Quality related information within the organization
- Performing audits of the Supplier Quality Management System and Part process qualification as needed
- Providing a knowledge source on Quality
- Promoting awareness of customer requirements throughout the Integrated Supply Chain
- Promoting statistical process controls at suppliers
- Auditing suppliers on a routine basis to assure sustaining Quality

4 SUPPLIER QUALITY EXCELLENCE TEAM

4.1 NCR Supplier Quality Mission Statement:

> *"**To create processes and infrastructure within NCR and our OEM & Repair supply base to ensure all active parts and assemblies that go into our factories and the field are statistically capable, sustainable and verifiable"***

Supplier Quality Excellence creates the overall direction for a consistent Supplier Quality methodology aligning to the Supplier Quality mission statement. Supplier Quality Excellence

drives performance improvement by defining goals and objectives for implementing processes that improve Part and/or Supplier Quality.

Aligning to the Supplier Quality mission statement, the organization is focused on prediction activities for flawless Part launches, preventing Quality issues with Parts, and protecting manufacturing operations and customers from Quality issues that occur at suppliers or within NCR that escape from Supplier's plant.

Supplier Quality Excellence works with each of the Integrated Supply Chain functions and businesses in proactive and reactive activities to deliver Quality in processes and Parts to internal and external customers. The organization works in collaboration with the Strategic Supply organization to ensure the management of Supplier performance define and implement the qualification process, and utilize metrics in the Supplier selection process.

NCR's Supplier Quality Excellence Organization's goal is to drive continuous improvement in the Quality levels of incoming Parts so that minimum incoming Quality inspection is required. Responsibilities of the Supplier Quality Excellence Organization in this regard include:

- Ensuring that Parts meet all functional and performance requirements as defined in NCR specifications, and specifically, the Parts Specification.
- Assessing existing and potential suppliers.
- Leading ESIC DfM reviews through interaction with Supplier, commodity team, MPM and Engineering to identify quality risk levels during NPI parts development stage
- Parts qualification through PPAP
- Assisting suppliers to implement and/or improve the process controls
- Interfacing with manufacturing, development engineering, product development and operation Quality to help isolate and eliminate Quality problems caused by nonconforming Parts in NPI and existing products
- Conduct Parts Quality Verification (PQV) on-site audits at Supplier location and report the results
- Validate corrective & preventive actions at Supplier place for the reported Quality issues and ensure timely closure of the CAPA (previously referred as SCAR)

Strategic Sourcing and Supplier Quality Excellence collaborate to assess and select suppliers in accordance with requirements that include evaluation criteria and supporting records.

4.2 Global Supplier Quality Team structure

- NCR Global Supplier Quality organization includes PPAP team, PQV Team and Supplier Quality Engineering team.

- PPAP team and PQV Scheduling team are located in India region. In each of APAC, India, Americas and Europe regions, there is a team containing a Supplier Quality Manager and a pool of Supplier Quality Engineers who manage the parts Quality of the suppliers in each of these regions.

- Each SQE has been assigned to a group of suppliers in their region. The SQE is responsible for conducting on-site PQV audits at Supplier place, validating the corrective/ preventive actions, coordinating with suppliers for required support during NPI and other support required by NCR related to Supplier parts Quality

5 OTHER INTEGRATED SUPPLY CHAIN ORGANIZATIONS

5.1 Logistics

Logistics manages the methods, systems, and processes to ensure NCR customers receive orders in a timely manner and per customer requirement.

Logistics works closely with the Manufacturing functions to package and ship customer orders upon release from Manufacturing. They also work closely with the businesses to identify both business team requirements and customer requirements to deliver Quality products.

5.2 Strategic Sourcing

The goal of the Strategic Sourcing Organization is to deliver a world-class supply base which is tightly integrated into the supply chain. Strategic Sourcing Commodity Directors manage the supply base to create a sustained competitive advantage for NCR via cost, flexibility, Quality, and technology. Strategic Sourcing works closely with Supplier Quality Excellence to drive Supplier performance.

Strategic Sourcing is responsible for the procurement of Parts. They follow documented guidelines or local documented procedures to ensure that Parts conform to specified purchase requirements.

Strategic Sourcing owns and documents an Approved Supplier List, and it is NCR's practice that an approved Supplier will be the first source considered when new Parts must be purchased. Potential new suppliers of Parts will be evaluated prior to becoming an approved Supplier. NCR Engineering, Strategic Sourcing and the Supplier Quality Excellence Functions cooperate in the procurement process to change the status of suppliers.

6 SUPPLIER QUALITY REQUIREMENTS

6.1 Compliance With Laws and NCR Policy

In connection with providing Parts to NCR, Supplier will, at its expense, and as applicable will cause its agents, employees and subcontractors to comply with all applicable federal, state, local and foreign laws, rules, acts, orders and regulations, including but not limited to laws pertaining to employment and labor, import and export compliance, antitrust, environmental health & safety, material restrictions (i.e., RoHS, REACH), social related matters (i.e., Conflict Minerals) and product take-back.

6.1.1 Conflict Minerals

In addition to applicable laws, all Suppliers of consumables, chemicals and durable products, parts and components shall conform to NCR policy statement(s) regarding the presence of Conflict Minerals. The policy statement(s) shall be made available, in writing, to applicable suppliers. NCR reserves the right to cease doing business with any Supplier who fails to provide accurate and complete data, or provides data that is not consistent with the policy statement.

6.1.2 Materials Disclosure

All Suppliers shall disclose the material content of the product they supply to NCR using the current disclosure system provided by NCR. The disclosure system will be formatted in accordance with IPC 1752, IEC 62474, or equivalent and shall include a list of globally restricted materials with applicable thresholds for such regulations as RoHS, REACH, etc. Suppliers are responsible for the accuracy and completeness of the data content and any updated information. All updated data shall be provided in a timely manner. NCR reserves the right to cease doing business with any Supplier who fails to provide accurate and complete data or provides any product, part or components that may contain restricted materials.

6.2 Quality System Requirements

NCR requires its suppliers to have either of the below

- IS0 9000 series or TS 16949 certification or
- Have a system that is compliant to ISO requirements (but not certified as yet)

It is the Suppliers' responsibility to drive their sub tier suppliers also to adhere to ISO 9001 requirements

Supplier will follow Production Part Approval process (PPAP), Failure Mode and Effects Analysis (FMEA), Control plan, Measurement Systems Analysis (MSA), and Statistical Process Control as part of their Quality management system

6.3 Anti-Static Protection

The Supplier will ensure the Part is free from any Electrostatic Discharge (ESD). This relates to ESD on sensitive circuits during assembly, testing, packing and shipping operations. Media used to store, distribute, and retrieve firmware will be protected from ESD damage to the software that they contain.

6.4 Purchasing Process

6.4.1 Purchasing Information

Required purchasing information is provided by NCR through documentation such as purchase orders, bill of materials, drawings and specifications. The information is reviewed and approved for adequacy prior to being communicated to the Supplier.

6.4.2 Verification of Processes

NCR may audit Supplier processes per Supplier Quality Excellence requirements, local work instruction, or Quality plan. Supplier Quality Excellence seeks to verify that the Supplier's processes will consistently produce qualified Parts.

6.4.3 Verification at Supplier's Premises

Supplier Quality Excellence may perform any required Supplier parts Quality related verification at the Supplier or Supplier's sub tier suppliers premises. Supplier Quality Excellence procedures will define the methods for verification of the Supplier's Quality

Management Systems, release methods, and capabilities to ensure that Parts conform to the Parts Specifications and Quality requirements.

6.5 Identification and Traceability

Finished NCR products bear serial numbers providing traceability once completed units have shipped to the customer. Generally, suppliers are required to have traceability for their Parts, by serial numbers, lot numbers or similar means. .

6.5.1 Part Identification, when applicable

6.5.1.1 The numbering system for all Parts provides for correlation between a Part and its technical documentation and versions.

6.5.1.2 For modules, kits, assemblies and other manufactured components and products, this includes correlation to the original or updated Manufacturing Build Instructions (MBI), prints, engineering product specifications, or other data that may be necessary to repair or re-create the Part.

6.5.1.3 For hardware or software products that must interface to other products, this includes correlation to the compatible hardware or software environment.

6.5.1.4 For firmware or software products, this includes maintaining configuration management records of the code, drivers, objects, libraries, linkers, compilers, or other software development deliverables necessary to re-create the released Part.

6.5.1.5 The Supplier is responsible for maintaining traceability for each Part either by lot or serial number and must be able to trace back for a minimum of 5 years.

6.6 Qualified Parts Requirements

All Parts suppliers will certify their Parts to meet or exceed acceptance criteria established during the Production Part Approval Process (PPAP). This will include all Parts supplied to NCR or supplied as pass through to NCR's customer. If the Quality level falls below the established Quality standard, Parts will be considered nonconforming. Quality standard is as defined by the Part Specification or industry standard if the Part Specification does not state a specific Quality specification. The Supplier will take immediate containment action and re-establish certification.
The Supplier is responsible for Quality of all Parts they deliver to NCR and the Parts they purchase from sub-tier suppliers regardless if these sub-tier suppliers were suggested and/or requested to be used by NCR.

6.7 Part & Material Recertification

The Supplier has the responsibility to ensure that each Part supplied to NCR complies with all Part Specifications. Supplier Quality Excellence may, at its option, require the Supplier to provide periodic verification from the Supplier that Parts then being supplied comply with the Part Specification.

6.8 Process Capability Verification

The Supplier has the responsibility to ensure that production processes are in compliance with all Part specifications provided by the Supplier, the NCR purchase order, the NCR drawings, NCR's performance and or functional specification, and NCR engineering specification and in the event of a conflict between any of the foregoing, the order of precedence shall be the reverse order of this list (i.e., the NCR engineering specification shall have precedence over any of the other specifications) (collectively, the **"Parts Specification**").

In addition, some parts will have features that are designated as critical characteristics. These characteristics would be identified by NCR or an NCR customer and the same will be marked by an Obround in the NCR Engineering drawing or an approved NCR Mark-Up Print (MUP). Unless otherwise waived off in writing by NCR, for all critical dimensions and /or characteristics, a minimum process capability index of 1.67 is required which should be verified through statistical process control (SPC) data and the same data will be made available to NCR when requested

Non-critical dimensions need to meet all the NCR Engineering drawing specification requirements.

6.9 Statistical Process Control

As an ongoing process control, Supplier needs to effectively monitor & control the critical dimensions through Statistical Process Control methodologies wherever applicable (eg.Xbar R Chart, Pre-control chart, Histogram, etc), identify special causes for variation and take necessary actions to eliminate those special cause variations

Supplier needs to calculate the On-going process capability index (Cpk) for the critical dimensions at least once in two months for each critical dimension by collecting the on-going production sample data on daily basis through the control charts. The control charts are to be evident near the relevant process stages at the Supplier's manufacturing location.

Supplier will retain the SPC data and/or control charts for period of at least 2 years either hard or soft copy version

NCR will determine the need for process verification. Processes will be aimed at achieving nominal values unless otherwise directed in writing by the NCR Supplier Quality Manager or designee.

6.10 Zero Defects Acceptance

It is expected that all Parts will have zero defects. Supplier is responsible to assure proper controls are placed in their process to prevent escapes and capture any non-conformance at their facility. Zero defect concepts are applied by eliminating failure modes at the Supplier factory and escapes captured at NCR or field issues from the NCR customers. Zero defects mean no repeat issues and no escapes of defectives to NCR and the field.
Supplier needs to assure that proper process monitoring is performed on tooling wear plus critical process parameters.
Supplier needs to refer to NCR Standard Interpretation document (doc ref# ST 2-07-01) for any unspecified requirements in the NCR engineering drawing. eg. Straightness, flatness, etc., In case of any clarification, Supplier needs to contact NCR through their designated SQE

6.11 Part Sorting

In the event a defective part is discovered at NCR and/or at the NCR customer location or at Supplier's location by NCR representative during PQV on-site audits, it is the Supplier's responsibility to provide a replacement part and/or sort the defective Parts in accordance with direction given by NCR or one of NCR's 3rd party logistics providers within maximum of 48 hours from the time of notification from NCR about the issue. NCR has the right to sort / rework supplied parts at any time to ensure our requirements are not compromised. The Supplier will be responsible for all expenses including, but not limited to, NCR administration fees, hourly rate charges, sorting costs if done by NCR and travel expenses.

6.12 On Time Delivery

100% On-time delivery is NCR's goal for all suppliers. Appropriate planning information and purchase commitments to enable suppliers to meet this expectation are provided by NCR and contained in NCR's purchase orders.

Supplier delivery performance is monitored and is an element of the Supplier performance rating system. Appropriate corrective actions will be taken in the event of failure to meet these delivery requirements.

6.13 Excess Freight Cost

The Supplier will be held responsible for expedited freight cost due to missed Supplier performance. This includes premium freight charges from the Supplier facility to the NCR facility as well as any premium freight charges passed on by our customer.

6.14 Suspect Part

The Supplier must notify Supplier Quality Excellence and Strategic Sourcing immediately of any Part suspected of being defective. The Supplier must also notify to SQE and NCR PPAP team and get required PPAP approval for any process changes or sub-tier Supplier's process changes plus any changes that affect the form, fit or function of a Part.

6.15 Disposition of certain products

If any quantity of a Part is found NOT to comply with part specifications, or in the event any recall, withdrawal, field correction or return by any third-party of any part is determined to have been a result of Supplier's failure to manufacture, test, package, store, label, release or deliver that Part in accordance with the Part Specifications, then NCR or the affected Designated Purchaser may return the Parts to Supplier for replacement or to rework, repair or reprocessing to cause the Part to meet the Part Specification, all at Supplier's expense.

In addition, NCR reserves the right to charge the Supplier for all other expenses resulting from the Part failure in the field or at NCR factory including, without limitation, material, logistics, time/resources used, shipping, screening by NCR or 3rd part and rework done by NCR or 3rd party, and customer cost if any applied on NCR. Note that a CAPA will be raised against the Supplier for any such defects and the Supplier needs to close the CAPA through appropriate corrective actions within the stipulated time period

6.16 Supplier PPM Performance

Supplier PPM performance is based on the number of failures of Supplier parts observed at NCR manufacturing plants. The Supplier PPM performance is reported on monthly basis by the NCR Operations Quality team and the NCR designated SQEs for the specific Supplier will share the same to their assigned suppliers. Suppliers will need to meet and/or exceed the PPM performance targets set by NCR. Supplier PPM performance in one of the metrics aligned to the overall performance rating of the Supplier.

Supplier PPM is calculated by dividing the Total number of defective parts observed by the Total quantity of parts received from the Supplier for the month.

Costs incurred by NCR that are associated to non-conforming parts will be charged back to the Supplier responsible. Eg. Production loss, expedited freight costs, reworks cost, field replacement / repair cost, Administration cost and any other associated cost

6.17 Product Retrofit

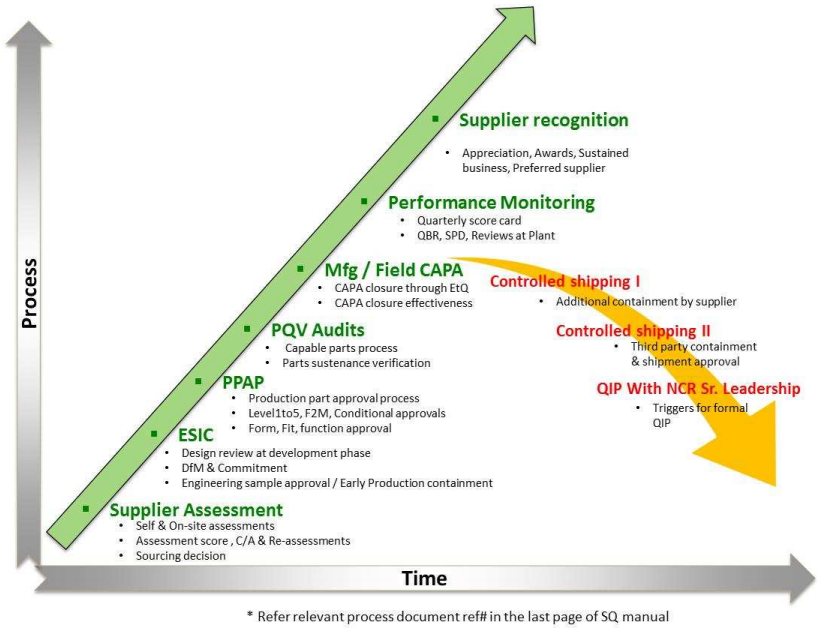
In the event NCR shall be required to initiate a recall, withdrawal or field retrofit of, field alert report or comparable report with respect to, any Product supplied by Supplier pursuant to this Agreement or with respect to the Completed System due to failures in Products, NCR shall notify Supplier and Supplier shall fully cooperate with NCR to implement a resolution to the failure. Supplier shall be responsible for all costs associated with the failed part/product

6.18 Documentation support

Based on the need, on request from NCR, Supplier will provide any necessary documents and/or reports at any point of time. Examples of such documentation but not limited to are UL certification reference documents, ISO certificate copy, China Compulsory certification, statistical process control documents, Work instruction documents, PFMEA, Control plan, MSA, Material test certificates, Salt spray test reports, third part lab reports, etc.,

Suppliers need to back up their records & data on regular basis and provide the required data on NCR's request at any point of time. As part of their Quality management system, suppliers need to retain the Quality related documentation for the specific period.

6.19 NCR Supplier Qualification & Escalation Roadmap



* Refer relevant process document ref# in the last page of SQ manual

- The picture shows the typical roadmap of Supplier qualification and Supplier escalation process

- For any new Supplier, the qualification starts generally with system assessment and upon successful assessment results the Supplier gets opportunity for NCR business.

- Once the Supplier becomes an approved NCR Supplier, based upon the commodity type, the approved Supplier is engaged in relevant opportunities for any new part or current running parts.

- Then the approved Supplier participates in the NCR ESIC process as part of the NPI parts PPAP process during which the Supplier is expected to review and understand NCR design requirements at the early stage of the NPI phase. During this phase the Supplier commits to manufacture the specific part(s) for NCR after thorough review of manufacturability using DFM checklist. Any risks to manufacture the parts per NCR requirements should be assessed during ESIC and mitigation plan established.

- Upon ESIC, Supplier will complete the PPAP per NCR requirements, adhering to required closure timeline. After PPAP the parts will go through AT build and Line trials.

- In order to ensure the part quality sustenance, the PPAP qualified parts will go through Parts quality verification audit (PQV) by NCR SQ team at a pre-defined frequency. After PPAP approval, if the parts pass consecutive two PQV audits in a span of max 12 weeks. If there is no part quality issues reported from NCR through CAPA from PPAP to completion of two PQV audits, then the specific part will be added into Capable Part Program (CPP) list. Having said that if any CPP part in its life cycle contributes to any CAPA due to quality issue(s), it will lose the CPP status and would go through Re-PPAP process.

- Supplier parts quality performance is monitored through Supplier performance scorecard which is reviewed every quarter with the respective Suppliers through commodity team. Every Supplier is expected to meet the minimum performance scoring requirements and also should exhibit continuous improvement in their performance.

- Any Supplier who does not meet NCR performance expectation, will go through Supplier escalation process which involves Controlled shipping level1 & level2, Quality improvement plan discussion with NCR Senior Management and if still the required performance improvement is not seen within a stipulated timeframe, then Supplier would be exited out of NCR business. Please refer further sections 15 for details with respect to Controlled shipping details

7 QUALIFICATION FOR NCR's APPROVED SUPPLIER LIST

The selection and approval process begins by Strategic Sourcing identifying a Supplier for a specific part. Parts will only be purchased from suppliers on the NCR Approved Supplier List (ASL). The ASL will be maintained and updated by the Strategic Sourcing Organization. The following are the tasks for the Supplier selection process:

7.1 Review of performance / alignment

Following an initial review of the potential Supplier's business performance in the market place and the alignment of their Part with NCR Part requirements, Strategic Sourcing contacts Supplier Quality Excellence to request that a Quality System Assessment be conducted at the Supplier site.

7.2 Risk analysis

A risk analysis will be conducted to evaluate the potential Supplier's: financial stability, number of years in business, turnover rate, available capacity, disaster recovery plan, etc.

7.3 Supplier Quality System Assessment

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7.3.1 In order to determine whether the candidate Supplier has the required Quality systems, Technical capabilities, Operational & Process capabilities, Resource management, Customer orientation, Sub tier Supplier controls, Metrics & Continuous improvement, etc., Supplier Quality Excellence team will conduct the Supplier Quality System Assessment at Supplier place for a new Supplier or for the existing Supplier.

7.3.2 For new suppliers, NCR Strategic Sourcing team will provide the Supplier details to SQE team AND will coordinate for the assessment. Strategic Sourcing representative will provide access to the candidate Supplier for the Supplier Quality manual and the NCR Supplier Quality System Self-Assessment forms. Self-Assessment form includes the Supplier Survey Checklist (NCR doc # 497-0469021), Supplier Quality System Assessment (NCR doc # 497-0469022) and Score Sheet (NCR doc # 497-0469026).

7.3.3 Supplier needs to complete the Supplier Quality System Self-Assessment as requested and returned to the originator (typically Supplier Quality team) by the requested date. It is expected that suppliers will utilize a multi-disciplined approach in order to complete the Assessment.

7.3.4 If the results of the above are positive, Supplier Quality Excellence will notify Strategic Supplier and schedule an on-site assessment to evaluate the Supplier's Quality system and processes. If the results are negative, Strategic Supply will be notified that an on-site assessment will not be scheduled.

7.3.5 Note that depending up on complexity nature of the part, potential Quality risks and for any other reasons, NCR may plan Supplier Quality System Assessment for its existing suppliers as well. The procedure is similar to what is followed for new suppliers

7.4 On-Site Assessment

An On-site assessment is performed by Supplier Quality team. Supplier Quality team decides the team and the timing for the assessment. The dates of assessment will be communicated with the Supplier through the relevant Supplier contact person. The duration of On-site assessment will vary depending up on the nature of parts, manufacturing process, size of the organization, etc. Typically it would be a two days assessment. Supplier Quality Excellence and Strategic Supply determines from the Supplier assessment results if the Supplier would be potentially added to the ASL.

7.4.1 The Assessment provides the means to record objective evidence of the Supplier's Quality system and its alignment with NCR's Supplier Quality mission & expectations. If action items are defined, they need to be closed no later than 60 days.

7.4.2 Supplier will afford NCR the opportunity to verify, at the Supplier's premises or the sub tier suppliers that the Parts, Process, and Tooling conform to the specified requirements. This right will also be afforded to NCR customers and regulatory agencies. Such verification will not be used as evidence of effective control of Quality by the Supplier. Verification by the customer will not relieve the Supplier of the responsibility to provide acceptable Parts; nor will it prevent subsequent rejection by NCR.

7.4.3 Upon completion of the on-site assessment, Supplier Quality Excellence notifies Strategic Sourcing of the results of the assessment. Strategic sourcing team decides on awarding business to the candidate Supplier based on the assessment result

7.4.4 The frequency of assessment will be based on the assessment score during the initial assessment and it will be as below.

- Up to 49% : Stabilization system assessment within 6months
- 50% - 59% : Improvement system assessment after 1 year
- 60% - 69 % : Achievement system assessment after 1.5 years
- 70% & above : Renewal system assessment after 3 years

Note that irrespective of the previous assessment score, NCR may conduct the Re-assessment at any point of time based on the Supplier's parts Quality performance which impacts NCR business

8 NEW PRODUCT INTRODUCTION

The New Product (Part) Introduction process at NCR includes several trial events leading up to mass production. Suppliers will work with NCR Engineering, NPI Quality, Supplier Quality Excellence, and the NCR Strategic Sourcing to seek to ensure that all NCR requirements are understood and will be adhered to from the time the NCR business is awarded.

8.1 For New parts, Supplier will engage effectively with the NCR engineering, SQE, MPM and NPI Quality team through ESIC process

8.1.1 ESIC is referred as Early Supplier Involvement & Collaboration. The primary objective of ESIC is that the suppliers clearly and fully understand NCR design specification requirements of the part being developed and commit to manufacture and supply the parts per NCR requirements. During ESIC, Suppliers are involved at early phase of part development, typically during B model build stage, and are expected to review their

manufacturing feasibility to meet all the NCR requirements and mitigate any risks so as to meet NCR design expectations well before the volume build so that the new product launch can be done per planned timeline seamlessly.

8.1.2 Upon receipt of the part design related inputs from MPM, the Supplier shall notify NCR whether ESIC is required or not. If the Supplier gives notice that ESIC not required, this notice means that the Supplier warrants to supply the parts in conformance to the NCR design requirements. For those parts Supplier notifies as requiring ESIC, Supplier will need to complete the NCR ESIC DfM check list (445-9001477) and submit the same to the assigned SQE

8.1.3 Typically the NCR Material program manager (MPM) assigned for the new program kicks off the ESIC meetings with the relevant Suppliers and involves the relevant NCR SQE, commodity and engineering people based on the NPI program requirements

8.1.4 The assigned NCR SQE for the Supplier will lead the ESIC DfM review at the Supplier's facility, involving the Supplier and NCR engineering, and will assess the quality risk levels which will be used by PPAP team as one of the inputs to define the PPAP level

8.1.5 Once the Supplier completes and submits the ESIC DfM for a specific part, the NCR SQE will review the submitted DfM checklist and define the risk level for the particular part. If the Supplier agrees/commits to produce the part per NCR design requirements, NCR SQE will review, sign off and update the status in the EtQ with uploading a copy of the DFM checklist into the EtQ. If the Supplier has raised any concerns on meeting NCR design requirements, the NCR SQE will work with relevant NCR engineering team for the design queries raised by the Supplier and coordinate to close the same through RFC or new drawing with required amendments.

8.1.6 Required details of ESIC phase will be updated in the EtQ by the necessary stakeholders as agreed per internal process

8.2 PPAP is required for all the new parts that are meant for NCR 'C' model build or Acceptance Test (AT) units. PPAP may not be required for prototype parts and / or for B model build samples. However, depending on the NCR's customer requirement for a new product, fast to market PPAP would be used by NCR where necessary during B model stage itself

8.3 Suppliers are required to submit data and sample Parts as requested throughout the new Parts introduction and Parts qualification process. Suppliers are responsible to guarantee that all Parts submitted as trial Parts meet the requirements that have been established by NCR. The Supplier will perform Part qualification testing either in-house or by the use of an outside testing company. The Supplier will forward any pre-production or pre-qualification data or documents to NCR Engineering and the designated New Product Introduction (NPI) group. All qualification data or documents will be submitted through NCR EtQ PPAP Module, a Web based tool to submit PPAP document. After PPAP approval, the approved parts will go through NCR Acceptance test / Line trials. If trial Parts do not meet the expected Product functionality and the reason is observed to be part not meeting NCR Engg spec requirements, then the earlier PPAP approval becomes invalid and PPAP team will trigger PPAP again for the specific part may be at different submission level

8.4 NCR will schedule a process review meeting with the Supplier. At this meeting, the following items will be discussed and reviewed:

- Inspection gages and standards
- MSA plan
- Process capability
- Quality documentation
- Trial event schedules and requirements
- Run@rates

8.5 Supplier will schedule a run@rate to be performed on the actual mass production process if required by NCR. The trial parameters will be established by the Supplier and NCR. The Supplier will demonstrate process capability that meets NCR targets and a run@rate that can meet expected NCR yearly volume.

8.6 NCR will approve the Supplier for mass production after:

- Supplier has closed out all open items for the new/revised model
- Supplier has passed the PPAP and PSO with no pending open issues
- All items on the process action items list have been closed
- Production Warrant (PW) has been approved and signed off by NCR
- In case any of the above points not satisfied, there should be at least an approved PPAP waiver (Conditional approval) available from necessary authority

9 PRODUCTION PART APPROVAL PROCESS (PPAP)

9.1 The purpose of NCR PPAP process is to:

- Provide evidence that all NCR engineering design record and specification requirements are properly understood by the Supplier
- Demonstrate that the Supplier's manufacturing process has the potential to produce Parts that consistently meet NCR's requirements during an actual production run

9.2 Suppliers should follow the format and guidelines identified in the latest revision of NCR's PPAP Playbook (497-0469479) and NCR PPAP User guide (445-9001377) when submitting for PPAP approval to ensure complete compliance and prompt approval. Production quantities should not be shipped prior to NCR without PPAP approval. In case of any queries on NCR PPAP requirements or on playbook, Supplier will need to contact the PPAP team (ppap.ncr@ncr.com) prior to submission of PPAP documents

9.3 Supplier should start the PPAP process early in the RFQ process and have it updated throughout the NCR design phase and ready to submit to NCR as requested prior to NCR production and after manufacturing production begins.

9.4 Unless specifically waived in writing by NCR, all Suppliers' PPAP submissions must include a completed NCR PPAP playbook. Prior to a Supplier submitting a PPAP to NCR, all of their sub-Supplier PPAP's must have been approved by the Supplier and same is included in the Supplier's playbook.

9.5 PPAP submission is required for:

- New Parts

- Engineering change(s)
- Tooling: transfer, replacement, refurbishment, or additional
- Correction of discrepancy
- Tooling inactive > one year
- Change to optional construction or material
- Supplier, Sub-Supplier or material source change
- Change in part processing
- Parts produced at a new or additional location

9.6 PPAP Submission levels & evidences required:

9.6.1 Level 1 – Production Warrant with RoHS and Appearance Report

9.6.2 Level 2 – Production Warrant with limited supporting Documents

9.6.3 Level 3 – Production Warrant with Complete Process Control Documents

9.6.4 Level 4 – Production Warrant and other requirements as defined by NCR

9.6.5 Level 5 – Production Warrant, product samples, and complete supporting data (On-site review will be conducted by NCR at the Supplier's manufacturing location which may include sub tier Supplier also)

9.6.6 F2M (Fast to Market) – Production Warrant, Balloon Drawing, Dimensional Result (5 sample FAI), Material Report, RoHS Report & Simple Control Plan

- For F2M, Supplier needs to submit the above mentioned documents to get interim Approval
- For Full approval - Other Documents identified as "S" per PPAP request level shall be submitted within 90 days from the date of Interim Approval.

9.7 Suppliers should follow the guidelines identified in the "Engg FAI, PPAP & PQV" Levels for Submission and Retention" table of NCR's PPAP Playbook to determine which specific items and/or records must be submitted to NCR for approval

9.8 PPAP Levels define only which documents are to be submitted to NCR and which documents are to be retained at Supplier place. Hence for all the PPAPs, irrespective of PPAP levels as defined above, suppliers should ensure availability of all the required PPAP documents and ensure they are available or provided to NCR on request at any point of time before or after PPAP approval by NCR

9.9 Required Closure Dates (RCD)

9.9.1 NCR PPAP team will send the PPAP requests with RCD. Supplier to ensure the PPAP approval for their parts on or before the required closure date specified by NCR PPAP team. If Supplier has any concerns or queries on the required closure dates given by PPAP team, Supplier needs to contact NCR PPAP team within 7 days from the date of receipt of the request and resolve their queries. To know more about the RCD, refer to the NCR PPAP User guide

9.9.2 For New parts, life cycle parts & resourced parts, NCR PPAP team will send the PPAP request along with PPAP submission level and the Required Closure Date (RCD)

9.9.3 For tooling changes / Sub tier Supplier changes, Supplier should communicate to NCR SQE & NCR PPAP team about the changes by providing relevant details. NCR PPAP team will send the PPAP request to the Supplier for those parts with appropriate PPAP submission level based on the impact of those changes on the NCR part/product

9.9.4 NCR PPAP team reserves the right to redefine the PPAP submission level required

9.10 PPAP Disposition Status

After reviewing the PPAP documents submitted for approval, NCR PPAP team will notify the Supplier of the status of their PPAP submission. Status possibilities include:

9.10.1 Approved – the Part meets all NCR PPAP requirements; Supplier is authorized to ship production quantities of the Part

9.10.2 Interim Approval – permits shipment of the Part on a limited time or piece quantity basis

9.10.3 Rejected – the Part does not meet NCR PPAP requirements based on the production lot from which it was taken and/or accompanying documentation; production quantities of the Part may not be shipped

If the Part is rejected, NCR will determine which requirement of the PPAP process must be repeated by the Supplier.

9.10.4 Conditional Approval – Permits shipment of the part without complete PPAP Approval for limited time/Quantities (Only Production Warrant is required for this)

9.10.5 Any re-submission due to PPAP being not acceptable or conditionally acceptable will be at the cost of the Supplier. Any tooling or process modification to assure PPAP acceptance will be at the cost of the Supplier

9.11 PPAP Waiver (Conditional approval)
Supplier must gain written approval from the appropriate NCR representative(s) when requesting PPAP Waiver due to deviation from any of the PPAP requirements as defined in the NCR PPAP playbook/ PPAP User guide. NCR designated representative will review the case and if the case is valid, then the PPAP waiver will be processed based on certain condition which will be communicated to the Supplier directly or through NCR SQE

9.12 Retaining reference samples from PPAP run

- For any future reference purpose, Supplier should retain atleast 2 sample parts (buy level part) produced from the approved PPAP production run. For parts with size more than 300mm x 300mm, supplier may opt to retain atleast one sample from the PPAP run.
- Samples to be retained for a period of minimum two years from the approval date with reference to the dimensional results submitted in the PPAP document.
- The responsibility to produce additional samples during PPAP run lies with the supplier only
- Supplier should ensure that these samples are properly identified and are preserved well such that they are not disturbed and/or damaged till the retaining period.
- Supplier will need to provide or show these samples to NCR upon request at any point of time within two years from PPAP approval for the purpose of verification or analysis.

10 PART / PROCESS CHANGE REQUEST APPROVAL

10.1 Initial Production Parts Procedure (I.P.P)

The Supplier will submit an Initial Parts Notification to the SQE prior to delivering first article Parts, defined as:

- Prototype Parts
- Nonconformance countermeasure Parts
- Parts that have experienced a design change
- Parts that have experienced a process change such as a tool, jig, or production location change.

In order to distinguish first article Parts from production Parts, Supplier will clearly mark containers of first article Parts with a yellow tag prior to shipment.

10.2 Design Change and Qualified Part

Design changes and qualified Parts will be identified as determined by NCR. This identification should be attached in a clearly visible location to the exterior of the package/container. The identification should be enclosed so it cannot be damaged. Each skid and/or repack must be identified.

10.3 If a Supplier wishes to ship Parts from a new sub-Supplier, make changes in Parts, or modify its production process, the Supplier must notify the PPAP Team and the SQE in writing to determine if a revalidation is required. No changes will be made without written approval from NCR

10.4 The Supplier must notify Strategic Sourcing and Supplier Quality of any intended Part, process or sub-tier Supplier change after the Part has been qualified and approved by NCR PPAP Team or designated NCR function. Those are: changes that will affect form, fit, or function, tool changes, jig changes, material changes, packaging changes, production location changes, sub-tier Supplier changes, removing a process step, or adding a process step. The change cannot be implemented without going through PPAP and, if applicable, NCR's Engineering Change Control process.

10.5 Any Part change that a Supplier has determined does not affect items listed in Section 10.4 must be communicated to NCR SQE and the PPAP Team Supplier Quality within 60 days; however the change may not require any approval

10.6 A process change request or engineering change request by the Supplier would involve a complete review of the change by NCR Strategic Supply, Engineering, Supplier Quality and PPAP Team, as well as a review of the customer and financial impacts of the change. PPAP team will determine if the change requires NCR Engineering approval or not based on the change impact to NCR print and engineering specifications.

10.7 PPAP submission level will be advised by PPAP team. If the change is approved by NCR Engineering and PPAP team, then Strategic Sourcing will be notified and an ECO (Engineering Change Order) will be issued to the Supplier to document the change**.**

10.8 Parts that have any changes to their specifications or process that have not been authorized by an approved ECO or PCN or both may, at the option of NCR, be treated as defective. This

includes changes that had verbal or non-ECO approval for the change from NCR. Additionally, any Supplier that incorporates unapproved changes without an approved ECO is subject to removal from the Approved Supplier List.

11 PARTS QUALITY VERIFICATION PROCESS (PQV)

11.1 Process Definition

The Purpose of Parts Quality Verification is to accomplish several goals including:

- To ensure the parts Quality and the process controls established during PPAP stage are sustained
- To routinely verify that suppliers are producing & supplying consistently, statistically compliant parts and assemblies to NCR plants, repair suppliers and customers.
- Reduce the risk of defective parts entering the manufacturing facilities and impacting product Quality and customer satisfaction.
- Ensuring a continuous supply of defect free parts as part of manufacturing operations

11.2 Types of PQV Audits

PQV Audit will be accomplished by two ways as below:

11.2.1 **Physical Audit**:

- Verifying Parts/Product's capability through on-site audit by a NCR Supplier Quality Engineer (SQE).
- The parts that need on-site audit will be communicated to the Supplier by the NCR designated SQE through EtQ system
- Parts to be picked up randomly from online production and /or from the Supplier's finished goods stock and initiate measurement
- The dimensions that need to be audited will be finalized by the respective NCR SQE based on the criticality of the part and the Supplier will carry out the measurement of those dimensions and report to the NCR SQE. The Supplier can use Process Audit Report to record the measurement values (445-9001408).Option : Data for Critical dimensions can be collected from control charts at the process
- The physical audit includes verification of PFMEA, control plan, MSA, material tests & any other relevant process documents

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11.2.2 Electronic Audit (E-Audit)

- Verifying the Parts/Products capability through E-data submitted by the Supplier through email to PQV team.
- PQV team will send the E-Audit package to the Supplier in order to prepare the E-Audit data.
- E-Audit Package contains the MUP (Marked up Print) drawing where the specific dimensions will be marked based on the criticality of the part, past rejections and SCAR/CAPA failure data.
- Supplier needs to measure those dimensions and submit the E-Audit data as per Plan. The Supplier can use PPAP playbook to record the measurement values.

Option : Data for Critical dimensions can be collected from control charts at the process

- PQV team will verify the submitted E-Audit data and update the results as PASS/FAIL through EtQ system

11.3 PQV Performance

- PQV performance is calculated based on PQV Yield data. PQV Yield is calculated by dividing total no of audits passed by Total no of audits done.
- NCR designated SQE or PQV team will share the PQV yield performance periodically
- For Critical Dimensions, Cpk of minimum 1.67 is required with 30 samples data and for non-Critical dimensions, the parts to meet the drawing spec with 5 samples
- For any non-conformance noticed during PQV audits, it is considered as PQV failure, and SQE / PQV team will raise a CAPA against the Supplier for the specific part number through EtQ system
- Similar to manufacturing CAPA, Supplier needs to close the PQV CAPA also by taking required containment and corrective/preventive actions as necessary within the stipulated time frame.
- The selection of parts for Physical and Electronic Audit is based on risk levels of the parts and the decision is within NCR Scope

11.4 Scope of PQV Audits:

Include:

- Buy level parts (those purchased directly by the manufacturing plants)
- Parent parts
- Child parts (when the parent part does not have any dimensions, but the child part included critical / key dimensions; or when the child part is a buy level-1 part)
- Mechanical parts (metals and plastics) initially and extend to Electronic Parts
- Parts having volume and/or demand greater than 500/year

Exclude:

- Off-the-shelf items - those part numbers beginning with a 0, such as 009-xxxx, or 004-xxxx, etc. (Depends upon the criticality of the part – It can be added into the audit scope)

11.5 Characterization and Evaluation

Parts will be assessed for risk based on the below:

- Complexity (as determined by the PPAP level)
- Past reject from PPM data
- Any SCAR/CAPA history from the plants/fields

Based on the risk, the part will be considered as High, Medium, or Low risk.

- High risk parts:
  - High Risk parts will require an on-site physical audit by an SQE at the Supplier location. The list of parts that require physical audit will be shared to the suppliers by the designated SQE on periodical basis and plan the audits on weekly basis based

on the suppliers production plan. On site audit includes but not limited to dimension, material, process audit per control plan, gage MSA, etc.,

- Medium Risk parts:
  - Medium risk parts will require the Supplier to submit the part capability data through EtQ system called as-E-data. The list of parts that require e-audit will be shared to the suppliers by the PQV team. Suppliers need to commit timeline for the e-data submission and expected to adhere to the committed timeline. NCR may trigger physical audit for medium risk parts based on the need
- Low Risk parts may not require any sustainment actions. But it is discretion of NCR to request for either e-data or physical audit for low risk parts if there exists a need

11.6 Capable Parts Program (CPP)

- The outcome of a PQV audit is to convert a Part/Product in to Capable Part Program (CPP). It means that particular part needs to be continuously verified in the below sequence to prove the part is consistent and statistically compliant part.
- In order for a part to become Capable and get in to CPP list, the part needs to pass PPAP and subsequently two consecutive PQV audits (with 2 to 3 months interval between the two audits) and NO SCAR/CAPA after PPAP approval

11.7 CPP Sequence:

The below is the sequence followed for categorizing a part into capable part list

- **PPAP Pass >>>> 2 Consecutive PQV audits Pass (either Physical Audit or Electronic Audit) without any SCAR/CAPA in between the above sequence**.
- Any failure resulting in SCAR/CAPA related to product functionality at any stage after PPAP approval, it will reset the process sequence to PPAP again and lead to removal of the part from CPC list. This means that the part has to undergo Re-PPAP and then follow two consecutive PQV audits
- Based on the need, parts can be audited in non-sequence at the discretion of NCR to ensure the part's capability at any point of time, but those non-sequence audit parts may not be considered for CPP conversion.

Key Points to note:

1. Capable part = 1 PPAP + 2 PQV audits pass + Zero SCAR
2. Any SCAR/CAPA related to product functionality will reset the part into Re-PPAP
3. Two to three months gap between 1st PQV audit and 2nd PQV Audit AND same manufacturing batch of the parts will not be considered for 2nd Audit.
4. No SCAR/CAPA after CPP conversion.

12 EtQ- RELIANCE WEB BASED QMS AND CAPA MODULE

12.1 EtQ and CAPA definition

- EtQ stands for Excellence through Quality. Reliance is EtQ's web based product
- EtQ's Quality Management (QMS) Software is an integrated compliance and Quality management system
- CAPA (Corrective and Preventive Action) is one of the modules within the EtQ system.
- EtQ CAPA system replaces the previously followed Everest-SCAR system

12.2 CAPA Generation in EtQ CAPA module

As stated in the previous sections, NCR designated representatives will raise the following types of CAPA depending up on the cases

- Manufacturing CAPA – for Quality concern(s) observed in the NCR Mfg plant
- PQV CAPA – for non-conformance(s) observed during PQV audits (Physical or e-audit)
- PPAP CAPA – Any non-conformance(s) observed during PPAP
- Field CAPA – Any Quality concern(s) observed in Supplier parts at NCR' customer place
- Assessment CAPA – Any non-conformance(s) observed during Quality system assessment at Supplier place
- Repair CAPA – Any non-conformance(s) observed in the Supplier parts at the NCR's repair Supplier locations

12.2.1 Login access for the EtQ CAPA system will be provided to the Supplier representative per details given by Supplier. For any new suppliers getting into NCR business, NCR designated SQE will organize to get the appropriate login permission

12.2.2 When a CAPA is raised in the EtQ CAPA System, the Supplier representative will receive a notification through email that a CAPA has been generated against the Supplier for a specific part number. The auto email contains CAPA reference number with hyperlink to the EtQ system

12.2.3 On receipt of the auto email notification, Supplier needs to take appropriate containment action, corrective and preventive action through 8D approach in the EtQ system. Note that for submission of action items, Supplier needs to move the CAPA stage from 'Execute' to 'Verify' in the EtQ system. Without doing so, NCR will not be notified on the actions completed by the Supplier and it means that the CAPA is still pending with Supplier. The same is applicable for all action types. They must each be moved from "Execute" to "Verify" in order for e-mail notification to be sent.

12.2.4 Containment and the temporary corrective actions must be documented and forwarded to the NCR SQE and NCR Manufacturing Quality team within 24 hours of receipt of the CAPA.

12.2.5 The Permanent corrective and preventive actions to be completed within 30 calendar days from the CAPA raised date. Exceptions on response time will be decided by respective SQE and the plant Quality team based on the case. Response timing and effectiveness will be monitored and reviewed by NCR management.

12.2.6 At a minimum, the report will have identified: root cause (both system failure & non-detection), permanent and irreversible corrective actions to be taken, commitment date(s), and the associate(s) responsible for the action. Also tools like 5 Why analysis or fishbone diagram to be used appropriately to identify the root cause(s) for the defects and the same to be included in the CAPA action item using relevant attachment options in the EtQ system.

The completed actions will be required plus drill deep drill wide to ensure all part numbers with similar processes and/or tooling will not see the same failure mode in the future will be required

12.2.7 Once the Supplier moves the CAPA from 'Execute' to 'Verify' stage in the EtQ system, NCR designated SQE will receive a notification to verify the 8D actions submitted by the Supplier

12.2.8 NCR SQE or designee may require on-site verification of permanent corrective actions. Supplier may be required to present corrective actions and evidence of effectiveness to NCR's SQE or other management.

12.2.9 On validation of actions, if the actions implemented are satisfactory, NCR SQE will close the CAPA in the EtQ system. If action(s) are not satisfactory, verifier will move the phase back to "Execute". The SQE will provide comments explaining why the action has been rejected and may also provide guidance as to the additional steps that are required to successfully address the issue.

12.2.10 For any assistance on the EtQ CAPA system, suppliers can contact the EtQ administrator through the NCR assigned SQE

13 CONTROL, MONITORING, & VERIFICATION OF MEASUREMENT / TEST / TOOLING EQUIPMENT

13.1 All equipment provided by NCR to suppliers for measurement, test and tooling activities will be monitored by the Supplier with respect to the latest product engineering change level for which each piece of equipment is used.

13.2 An NCR Tooling Location Record must be submitted to Strategic Sourcing and be maintained for all tools, gauges, assembly and testing equipment owned by NCR.

13.3 The recall, modification, update, verification, return and/or replacement of all such equipment will be monitored by both parties.

13.4 All Suppliers will have a documented system in place for monitoring all changes to NCR supplied measurement and test equipment. The system will include an annual verification procedure which will include confirmation of current revision levels of all equipment supplied by NCR.

13.5 All NCR supplied test, tooling and measurement equipment will be used for NCR applications only. Records will be kept and made available for review by NCR upon request.

13.6 The Supplier is responsible and financially accountable to maintain all NCR supplied measurement, test, and tooling equipment in order to meet NCR's production and Quality requirements. Design intent will be maintained. Routine maintenance includes, but is not limited to, regular cleaning and upkeep, replacement of worn parts (i.e. springs, ejector components, switches, etc.) and parting line and locking surface maintenance.

13.7 The Supplier must notify NCR Supplier Quality immediately of tooling that is not capable of product Quality or capacity. This applies to NCR tooling/dies or any other equipment used for NCR products.

13.8 Tooling is to be maintained in an acceptable condition at the Supplier's facility and no tooling will be scrapped without written approval from NCR Strategic Sourcing.

13.9 Control of Monitoring and Measuring Devices
Integrated Supply Chain determines the monitoring and measurement requirements needed to provide evidence of product conformity to determined requirements. The Metrology lab or Department, Calibration Lab, or other function with defined responsibility for control of monitoring and measuring devices will interface with the Manufacturing, Distribution and Repair Functions to select monitoring and measuring devices that are consistent with the monitoring and measurement requirements. Where necessary to ensure valid results, measuring equipment will:

- Be calibrated or verified at specified intervals, or prior to use, by comparison to standards traceable to international or national standards. Where no such standards exist, the method of calibration, verification or correlation will be recorded.
- Be adjusted or re-adjusted as necessary.
- Be identified to enable the calibration status to be determined,
- Be safeguarded from adjustments that would invalidate the measurement results.
- Be protected from damage and deterioration during handling, maintenance and storage.

13.9.1 In cases where items are found to be out of calibration, the validity of the inspections and tests performed with the equipment will be assessed and recorded. Each item of inspection, measuring and test equipment has a unique identification code. Instruments are labeled, or other records are maintained, to show the date of calibration, calibration status (if applicable) and the date of re-calibration.

13.9.2 Test software criteria will be documented. Test software will be verified before use. Test software versions will be tracked and releases will be controlled.

13.9.3 Specialty items of equipment, hired, leased, or loaned for particular contracts, will be validated to a known calibration state, traceable to National Standards. The department responsible for each contract maintains the records in the contract file. External calibration services will be monitored and maintained. Calibration procedures and associated lists of equipment will exist to define the process of calibration. These procedures and lists will include equipment type, identification mechanism, location, and frequency of checks, environmental conditions for operation/calibration, handling requirements, method for calibration, acceptance criteria and actions to be taken for unsatisfactory results. Each item of measurement equipment will be checked for physical or electrical damage, repaired if appropriate and then calibrated, or scrapped.

13.10 Trained individuals will routinely perform statistical measurement system analysis (MSA) on all critical measurement processes. When measurement systems do not meet requirements, corrective action will be taken. Procedures will document the identification and verification of tools and fixtures. Measurement standards and test equipment will be calibrated, adjusted, and used in a controlled environment based on the standards and equipment manufacturer's recommendations to ensure valid measurement results.

13.11 Suppliers that utilize external Calibration services will ensure that they support the compliance of the above requirements through contractual agreements or documented procedures.

13.12 Inspection, measuring, and test equipment that are inactive or unsuitable for use will be visibly identified and not used. Inspection, measuring, and test equipment that do not require calibration will be identified.

14 RECEIPT OF DEFECTIVE PARTS

14.1 The Supplier or NCR will notify the other upon becoming aware of reason to believe that a nonconforming condition exists with respect to the Supplier's Parts.

14.2 Notice by Supplier will be made by a telephone call and/or e-mail to NCR designated SQE for the Supplier or the NCR Mfg Plant Quality representative or the Supplier Quality Manager of the Supplier's region

14.3 Notice by NCR will be made by the NCR Mfg plant Quality representative or any designated NCR person to the Supplier's representative or to the NCR SQE. NCR designated person will initiate a Corrective and Preventive Action (CAPA) against a nonconformance based on the nonconformance impact and its critical function in NCR product.

14.4 Notification to NCR or the Supplier will be followed by immediate containment, until disposition is completed, of all suspect Parts:

- at the Supplier
- at NCR
- in-transit
- at the Customer

Disposition can include, but is not limited to, replacement with new Parts and/or sorting as agreed.

14.5 The NCR nonconformance report will be accompanied with returned Parts to the Supplier, subject to NCR's requirements to retain some number of such Parts. If a Supplier has given authorization to have Parts scrapped at NCR, the Parts will be scrapped.

14.6 All suspect and/or contained Parts at NCR will be disposed by the plant designated person within 5 calendar days of notification. Written notification to the Supplier of disposition is typically done by, but not limited to, the Material Nonconformance Report.

14.7 The Supplier has 7 working days maximum to submit a Return Material Authorization (RMA) for the defective part from the date of intimation to the Supplier about the defective part. If RMA is not received within this allotted timeframe, the defective part(s) would be scrapped at NCR at Supplier cost.

14.8 Supplier will bear the costs of returning defective Parts. The Supplier Performance Rating will be affected based on number of defective parts.

14.9 If sorting is required by the Supplier at NCR facilities, the Supplier will be contacted by an NCR manufacturing plant QA representative or designated SQE. The Supplier must provide trained employees or contractors for sorting. All such personnel must contact the NCR Mfg Quality or designee prior to entering NCR manufacturing facilities. Safety equipment must be worn at all times in the manufacturing areas. If a Supplier does not have its representative at the specified NCR location, the Supplier shall use an NCR approved third party sorting companies "TRIGO" group (for all countries except North America) and "PIC" group (for North America region) to

carry out the required sorting at the Supplier's cost. The Supplier may contact the NCR SQE where required to get assistance on third party sorting.

14.10 The Supplier has full responsibility for training either their employees or contractors to ensure NCR's Quality requirements are being met. NCR expects the Supplier to supervise the sorting and inspection activities during a sort. The Supplier is responsible for documenting required instructions for sorting and rework as applicable. NCR is not liable for any incorrectly inspected/reworked parts. If the Supplier fails to respond, or if NCR employees or contractors perform sorting activities at NCR or at customer's facility to maintain immediate production requirements, the associated costs will be charged back to the Supplier.

14.11 NCR will not permit a Supplier to perform rework on-site unless approved by the NCR SQE or Mfg plant QE.

15 CONTROLLED SHIPPING

If the Supplier is unsuccessful in eliminating or containing defective Parts at the Supplier's location, NCR assigned Supplier Quality Engineer may determine that controlled shipping is required to control the shipment of defective Parts. The NCR SQE will release a formal letter to the Supplier to trigger the controlled shipping. Upon receipt of the letter, the Supplier will sign and return the acknowledgement page of the letter. Generally, a controlled shipping process gets triggered by any part number that has 2 defects from different lots within 30 days of the first finding. A lot is all units of a Part number that were released at the same time and manufactured using the same tooling, same process, and same design.

15.1 Controlled Shipping Process

15.1.1 Isolate:

A containment of the nonconforming Parts to isolate them from the normal production process. The Supplier is required to establish a separate containment area outside of the production area, so as to totally isolate the nonconforming Parts from the normal production. Parts already shipped to the customer can either be put in a containment area at the customer's site, shipped back to the Supplier at the Supplier's expense, or shipped to an outside warehouse for containment and sorting. Any sorting by NCR to segregate good parts from defective parts will be charged to the Supplier.

The Supplier must apply "CS1" or "CS2" identification (see Section 14.2 below) on or near each shipping label on every container being shipped to NCR. This identification must be completed in advance of the first shipment.

The Supplier will communicate results of sort activities to the NCR SQE in an agreed upon format and frequency.

15.1.2 Insulate:

An inspection of all potential nonconforming Parts to sort for defects. This step includes all parts at the customer's site, in shipment and at the Supplier's site.

15.1.3 Eliminate:

The Supplier performs a root cause analysis and implements irreversible corrective actions on the production process to fully eliminate the production of nonconforming Parts.

15.2 Levels of Controlled Shipping

15.2.1 Level 1 (CS1):

CS1 requires the Supplier to contain the suspect Part and perform a redundant 100% inspection process. This process may be done by the Supplier or an outside third-party inspection company.

The Supplier will have 90 days or 3 consecutive lots to improve and provide evidence that Level1 (CS1) should be lifted with data indicating the root cause is identified and corrective actions and controls are effective. If the 90 days expire without improvement, then the Supplier will move to Level 2 controlled shipping

15.2.2 Level 2 (CS2):

CS2 includes the same process as controlled shipping – Level 1**,** plus add an additional redundant inspection process performed by NCR approved third party Company Trigo / PIC group. The Supplier pays the third party inspection and sorting company. In most cases, the Level 2 inspection will be completed outside of the Supplier's facility if deemed appropriate by NCR. Supplier will have 90 days to improve and provide evidence that Level 2 should be lifted with data indicating the root cause is identified and corrective actions and controls are effective. If 90 days expire without lifting of level 2, then the Supplier will be evaluated for disengagement.

If Level 2 is lifted, the Supplier will return to Level 1 for an additional 30 days to ensure that the issue has been completely resolved.

15.3 Controlled Shipping Considerations:

One or several of the following issues may be considered for implementation of Controlled Shipping:

- Repeat quality concerns (>=2 Mfg CAPA in 6months for same Part number)
- Repeat Quality Incident in two consecutive months with defect qty>=5
- Critical Quality problem at NCR customer location
- Major disruptions to NCR manufacturing line
- Any Part number with PPM >1000 in consecutive 3 months
- Incapable processes
- Inadequate containment and/or resolution of non-conformances via the corrective action process
- PPAP Waiver

Based on considerations above, NCR will choose whether Level 1 or Level 2 is appropriate. Input for this decision may be provided by NCR Mfg plant Quality Manager or Supplier Quality manager.

Note: It is the discretion of NCR, depending on the severity of the defect, to go directly to Controlled Shipping – Level 2

15.4 Exit Criteria of Controlled Shipping

The default exit criteria will be used when other exit criteria are not defined. The default criteria are listed below and must be provided to the NCR SQE when requesting removal from controlled shipping.

15.4.1 Ninety (90) days of data or three consecutive lots from the containment activity, as well as a summary, which verifies that the normal production controls are effective for controlling the discrepancies identified in the controlled shipping activity. The time begins accumulating at the date the containment plan was implemented and submitted for approval.

15.4.2 Documentation must be submitted showing the root cause was identified and verified, and that corrective action was implemented and validated. Examples of appropriate documentation include: a control plan, a PFMEA, Process flow diagram, Operator's work instructions, 5 Why Analysis, Fishbone, etc.,

15.4.3 NCR Supplier Quality Engineer will evaluate if the exit criteria have been met. If the exit criteria have been met, Supplier Quality Excellence will communicate in writing that the Supplier is no longer considered to be in controlled shipping and controlled shipping activities can cease.

15.4.4 Suppliers cannot be removed from controlled shipping status or cease the controlled shipping activities without documentation from NCR that authorizes the removal

16 REQUESTS FOR DEVIATION

16.1 Process deviations are requests to use a different or modified manufacturing method, such as changing a sonic welding process to a heat staking process or adding a top coating process.

16.2 Material deviations are requests to use Parts that do not meet a particular specification or requirement. A common example of material deviation is use of Parts that have not been PPAP approved.

16.3 Every Supplier can request a deviation where appropriate. Supplier requests for deviations must be initiated through EtQ RFC module system and the request will be processed further within NCR by the assigned NCR SQE after evaluation of the request

16.4 Generally a required number of samples must be provided by the Supplier to perform a trial to assure fit and function and other requirements as determined by NCR.

16.5 It is the responsibility of the Supplier to provide all specifics related to the deviated Part number, process, material, number of Parts, specification, etc.

16.6 Accordingly NCR designated SQE will discuss with NCR Engineering representative and based on acceptance from NCR Engineering, SQE will raise the deviation request through NCR Merlin System

16.7 Once the request is logged in the Merlin System, NCR Engineering will review and sign the deviation for approval, where appropriate. Deviations will be for a specified length of time, a specified quantity of material or until a specified date. It is Supplier's responsibility to track the

approval void date / quantity and plan to correct the deviations before void date / quantity. The Supplier should not continue producing or supplying parts with deviation beyond the deviation approved date or quantity unless there is extension approval from NCR for the previous RFC.

16.8 Upon NCR Engineering's approval, the assigned NCR SQE will update the status in the EtQ and the Supplier will get the notification through EtQ. If NCR Engineering does not agree to the requested deviation, then the assigned NCR SQE will reject the request in the EtQ and the Supplier will get the rejection notification from EtQ.

16.9 NCR approval must be obtained for any deviation that requires a process change. This includes deviations affecting the final product fit, form, function, performance, or reliability, as well as chemical changes, Part changes, process step additions or deletions, etc. The approval must be documented on the deviation and tracked.

17 ASSOCIATED BUSINESS CONDITIONS

17.1 NCR expects that its employees and its customer's representatives will have access to Supplier's facilities and records at reasonable times for the purpose of surveys, assessments, inspection of Parts and associated control systems.

17.2 Suppliers will maintain accurate records, which show NCR requirements are being met. Documented procedures will be in place defining responsibilities for records control as outlined within the requirements of ISO 9001/9002: 2008 or TS-16949: 2009.

18 SUPPLIER RATING, DEVELOPMENT AND MONITORING

Supplier's overall Quality performance will be monitored via the Supplier Performance Dashboard, Supplier Score Card and other Quality tools as NCR sees fit. Suppliers will be rated on Quality, delivery, cost and innovation.

As part of Supplier performance monitoring, before 10th of every month, each Supplier will update the NCR Supplier Performance Dashboard (SPD) and send the same via email to NCR SQE for review. Inputs like Supplier PPM, PQV yield, CAPA (SCAR) closure performance, etc., will be shared by the respective SQE to the Supplier. It is Supplier's responsibility to get the relevant inputs from their SQE on time in order to submit the SPD within the above said time period.

NCR Strategic Sourcing team will issue to its major suppliers a quarterly Supplier Score Card Report to assist the Supplier is tracking their ratings.

19 DELIVERY REQUIREMENTS

- Suppliers must establish a system to support 100% On-time delivery to NCR.
- Suppliers must notify their NCR Production Control contact of any delivery problem, prior to the product's required delivery date.
- Shipping method allowable days early = 5, days late = 0
- Any shipment received after the purchase order required date will be counted as a missed delivery**.**

20 DEFINING SUPPLIER DEVELOPMENT CRITERIA

20.1 A Superior Supplier must meet the following:

- Provided cost reduction to NCR > 10.0%
- Non-conformance to NCR PPM that qualifies for a score of 5 in the NCR score card for 4 quarters consecutively
- Deliveries - No delinquency on delivery for 4 quarters
- Achieve a score of 90% or better on the Supplier Assessment
- Achieve a score of 5 or better on the Supplier Score Card Report for 4 consecutive quarters
- Zero field issues in 12 consecutive months

20.2 An Excellent Supplier must meet at least 4 out of 6 of the following:

- Provided cost reduction to NCR > 7.5% up to 10%
- Nonconformance to NCR PPM that qualifies for a score of 4 in the NCR score card for 4 quarters consecutively
- One delinquent or early delivery in a year
- Achieve a score of 80-89% on the Supplier Assessment
- Achieve a score of 4 or better on the Supplier Score Card Report for 12 consecutive months
- Timely and accurate response to Corrective Action Requests and they are closed on time with NCR approval.
- Zero field issues in 12 consecutive months or one minor that did not require any field replacement on current field units

20.3 An Acceptable Supplier is a Supplier who meets the requirements outlined below:

- Provided cost reduction to NCR > 5% up to 7.5%
- Nonconformance to NCR PPM that qualifies for a score of 3 in the NCR score card for 4 quarters
- Delivery performance = 96%-98% with 2-4 weeks lead time
- Achieve a score of 70-79% on the Supplier Assessment
- Achieve a score of 3 or better on the Supplier Score Card Report for 4 consecutive months
- Zero field issues in 12 consecutive months or less than 2 minors that did not require any field replacement on current field units

20.4 A Marginal Supplier exhibits:

- Provided cost reduction to NCR
- Nonconformance to NCR PPM that qualifies for a score of 3 in the NCR score card for 4 quarters
- Delivery performance = 94%-95% with 4-6 weeks lead time
- Achieve a score of 60-69% on the Supplier Assessment
- Zero field issues in 12 consecutive months or less than 4 minors that did not require any field replacement on current field units

20.5 An Unsatisfactory Supplier does not meet any of the above criteria

21 PACKAGING / LABELING

Packaging requirements identified in this section are for the following materials:

- Processed / semi-processed Parts shipped to NCR in either returnable or non-returnable containers for consumption on-site at NCR
- Processed Parts shipped to NCR for repack to NCR customers
- Processed Parts shipped directly from suppliers to NCR customers (pass-through)
- Parts shipped directly to NCR
- Parts shipped to a designated NCR sub-contractor

The following packaging / labeling requirements apply:

21.1 Packaging must be constructed to ensure the satisfactory condition of both container and contents upon arrival at NCR.

21.2 All Suppliers will have a documented system in place for verification of packaging integrity before approval and release for shipment to NCR. Material stored for extended intervals will be inspected or monitored at regular intervals as required by ISO-9001 system.

21.3 Suppliers with whom NCR spends more than $250K on any given part to provide with Packaging designs and shipping test documentation to the appropriate NCR teams

21.4 NCR expects the Supplier to provide guidance on the best way to ship. Only one Part number is to be packaged per container. Shipping multiple Part numbers on the same pallet is permitted, but requires that each box be properly labeled. NCR's goal is to maximize protection for Parts while at the same time minimizing cost.

21.5 All Suppliers providing Parts to NCR which are considered to be "controlled" under D.O.T. (Department of Transportation) regulations will be familiar with and conform to all such regulations for packaging and shipping. S.D.S. (Safety Data Sheets) will accompany all shipments from suppliers. "Controlled" substances will be maintained in accordance with federal, provincial/state and local laws and regulations.

21.6 All containers must be adequately sealed to prevent loss and/or damage.

21.7 Air shipments are frequently subjected to rough handling and should be packaged in reinforced containers to prevent loss or damage.

21.8 Packing slips will accompany each shipment and must be affixed to the container in a clearly marked envelope in a conspicuous location unless approved by NCR.

21.9 Packaging materials shall not be constructed of, or contain hazardous or restricted materials as defined by law, regulation of other legal requirement in the country of origin, country of destination, all transit countries and/or otherwise specified by NCR.

Generally Accepted Packaging

This section establishes a set of generally accepted packaging characteristics intended to reduce the landed cost of materials acquired by NCR. These generally accepted packaging characteristics are strongly preferred by NCR. As such, suppliers are expected to make every reasonable effort to comply with these packaging characteristics.

Pallet sizes

NCR permits suppliers to utilize three of the most common and regionally available pallet sizes recognized under ISO standard 6780

-North American Pallet	48”x40” (1219mm x 1016mm)
-European/Asian Pallet	47.24”x39.37” (1200mm x 1000mm)
-North America/Europe/Asian Pallet	42” x 42” (1067mm x 1067mm)

Any exceptions from the above will have to be reviewed with NCR Strategic Sourcing team and agreed up on.

Pallet Construction

NCR permits only pallets known in the packaging industry as “four ways accessible.”

NCR does not allow pallets known in the packaging industry as “block style”. Pallets sent to NCR facilities must have cross planks on the bottom to make the unitized load captive and to distribute weight over more surface area to allow for better stacking

NCR allows pallets to be made on any material (wood, plastic or metal) as long as the criteria above are met. Wooden pallets must comply with all applicable Phytosanitary measures required by the country of origin and the destination country pursuant ISPM-15.

Unitized loads

Suppliers shall package materials in such a way as to insure that all unitized shipments maintain lengths and widths that do not exceed that of pallets being used.

Given the global nature of NCR’s supply chain it is assumed that many goods will be shipped via ocean container. Therefore, the height of the unitized shipment should not exceed 45 inches so as to allow for double stacking of pallets in standard ocean containers.

Suppliers should use commercially reasonable efforts to consistently have their packaging meet the following unitized packaging practices:

- Passes all shipping test requirements outlined in this document
- Unitized shipments ship via actual weight (not dimensional weight)
- Capable of utilizing FCL or FTL shipments at levels above 75% of the volumetric space

Corrosion Prevention and Protection:

Suppliers providing any materials that may be vulnerable to corrosion shall take measures to insure the prevention of corrosion for term of not less than 120 days from the time of shipping the product.

Due to increased inspection levels of international shipments suppliers are required to abandon use of corrosion prevention methods that employ the use of foil lined vapor barriers as the only measure of defense from corrosion since these barriers are increasingly subjected to outbound and inbound customs inspections.

Suppliers shall utilize corrosion prevention methodologies that do not rely solely upon keeping the parts within a confined and controlled volume. The use of barrier bags is permitted in conjunction with other methods such as VCI or Corrosion Intercept.

21.10 NCR recognizes that it is the nature of some products that makes achieving the provided packaging characteristics impossible. In those circumstances the Supplier may submit an explanation of challenges faced and request an exception. If it is found that the stated goals of NCR cannot be achieved through reasonable efforts then a written exemption letter will be provided to the Supplier by NCR to document the review and approval of the exception.

21.11 Test Lab Selection

- Suppliers should use only those labs that are International Safe Transit Association (I.S.T.A.) accredited. A list of accredited labs can be found at www.ISTA.org
- Test Requirements and applicable documents


Tabel of NCR Test Requirements


ISTA 3A Test Procedure


ISTA 3B Test Procedure

Packaging for any Parts to be shipped by container or required to be palletized requires approval by NCR Packaging Engineering to assure that the above is met and that the boxes, pallet sizes, and other relevant packaging elements are acceptable

21.12 Any exception to these requirements will not be allowed without Strategic Sourcing's approval and packaging engineering approval.

22 SUPPLIER PERFORMANCE SCORE CARD CRITERIA

22.1 NCR Strategic Sourcing team evaluates the Supplier Performance every quarter of the year based on the certain criterion. It includes Supplier PPM performance, Cost reductions, On-time delivery and Weighted Average Lead time. Note that there is weightage scale given for each of the above four category. See below table containing the details of criteria

		Weightage				
	Overall	**Cost Savings**	**Quality (PPM)**	**Weight Avg Lead Time**	**On Time Delivery**	**Hub Inventory Compliance**
	Non-VMI Supplier	30%	40%	15%	15%	-
	VMI Supplier	30%	40%	15%	7.5%	7.50%
Score	**Score Criteria**					
5	Superior	> 10%	<180	< 1 Day	> 99%	95% or above
4	Excellent	7.5% - 10%	181-200	2 - 10 Days	98 - 99%	90 - 94.9%
3	Acceptable	5.0% - 7.5%	201-350	2 - 4 Weeks	96 - 97%	85 - 89.9%
2	Marginal	2.5% - 5.0%	351-750	4 - 6 weeks	94 - 95%	75 - 84.9%
1	Unacceptable	< 2.5%	>750	>= 7 Weeks	< 94%	74% or below

22.2 NCR Strategic Sourcing team will share the Supplier Performance Score Card with the suppliers on quarterly basis. These will be reviewed with the suppliers during the Quarterly Business Review meeting (QBR) which will be scheduled and coordinated by the NCR Strategic Sourcing team. In case of any clarifications regarding the Supplier performance score card, suppliers to contact the designated NCR strategic sourcing representative

23 ASSOCIATED DOCUMENTS

23.1	Supplier Survey Checklist	497-0469021
23.2	Supplier Quality System Assessment	497-0469022
23.3	Supplier Quality System Assessment Score Sheet	497-0469026
23.4	ESIC DfM Checklist	445-9001477
23.5	Global PPAP Process	445-9001376
23.6	Global Life cycle PPAP process	445-9001378
23.7	PPAP Playbook	497-0469479
23.8	PPAP Playbook User Guide	445-9001377
23.9	Global PQV Process	445-9001379
23.10	Conditional Shipping request process	445-9001393
23.11	Supplier Process Audit Report	445-9001408
23.12	8D Problem Solving Worksheet	497-0469020
23.13	5-Why Analysis	497-0469019

If there is a need for any of the forms or documents mentioned in this manual or if there is any clarification needed on the Supplier Quality requirements mentioned in this manual, Supplier can contact NCR through their assigned SQE to get the required support