



# *Partnership for Sustainable Growth*



# **National Engineering Industries Limited**

## **Supplier Quality Manual**

**5<sup>th</sup> Edition—June 2023**

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## Supplier Quality Manual

### CEO Message:

Dear NEILPartner,

Amidst changes in global economies, technologies, government regulations, relative prices, and market dynamics, the task of strategic analysis and planning in Automotive Supply Chain has become increasingly tense with uncertainty. As a result of this, planners now must prepare for the most fundamental transformation that their industry has ever seen.

The uncertainties have surpassed the conventional issues that automakers faced in past, such as identifying the products that will be popular in years to come, focusing on regions that will generate the strongest growth and investing in technologies that will appeal to customers. Today we are faced with much bigger challenges in terms of future of Industry and its convergence. These challenges include risks due to increasing level of national and international competition, industry transformation, new regulations and consolidation of automotive platforms.

At NEIL our mission is to provide competitive advantages and address above challenges faced from customers by selecting, developing and managing suppliers who can deliver best products in terms of Quality, Delivery, Cost and Features, & are willing to support NEIL in its endeavor of business excellence.

In support of the strategies **"ROBUST SUPPLIERS FOR FLEXIBLE SOLUTIONS"**, our effort is directed towards selecting the best suppliers based on capability and performance. Once selected, our goal is to work with these suppliers to develop a strong, long-term, structured relationship with them.

We expect our suppliers to be committed to a **ZERO-DEFECT APPROACH** and be specially focused on (i) Controls of processes (ii) Adhere statutory and legal requirements and (iii) have a risk contingency plan to demonstrate this commitment through:

- Delivering fully conforming parts or products
- On time delivery
- Adherence to approved processes and requirements
- Pro-active risk management.

Apart from the quality, cost & delivery the sustainability is the core of NEIL business. In view of minimizing the ecological and social impact and building the socially responsible supply chain NEIL has taken up the Sustainable Supply Chain initiative and prepared and added the sustainability guidelines in SQM for supplier partners.

This document cascaded to you is intended to serve as a reference to better understand our requirements and your role in the shared responsibility to deliver the best quality with least risk.

We encourage our suppliers to certify their parts for Direct On Line (DOL). This translates into zero line and warranty rejections. Needless to say this should be achieved at competitive cost.

With your commitment to participate as a Robust & Flexible Supplier, we will succeed in our mission to meet the challenge enveloping our industry through **'Growth Through Partnership'**.

With Best Regards,

**Rohit Saboo**

President & CEO

NEIL, Jaipur



## NEIL Supplier Quality Manual Revision History

Sr. No.	Revision No.	Revision Year
01	Released	2008
02	Second Edition	2012
03	Third Edition	2016
04	Fourth Edition	2019
05	Fifth Edition	2023





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## 1. (a) Abbreviations

NEIL	National Engineering Industries Ltd.
AAR	Appearance Approval Report
APQP	Advanced Product Quality Planning (AIAG Reference Manual)
BOM	Bill of Materials
Cp/Cpk	Capability Index
DFMEA	Design Failure Mode Effects Analysis
NC	Non-Conformity
NPD	New Product Development
PFMEA	Process Failure Mode Effects Analysis
PPAP	Production Part Approval Process
PPM	Parts Per Million
PSW	Part Submission Warrant
RFQ	Request for Quotation
SPC	Statistical Process Control
SDD	Supplier Development Department
SQA	Supplier Quality Assurance
SQM	Supplier Quality Manual
SOB	Share of Business
RCA	Root Cause Analysis

## (b) Definition

Supplier: The companies which either directly supply their own material or processes NEIL supplied material.

New Product (In view of the supplier development perspective) :

- (i) A product is considered a New Product, if the bearing being manufactured is a new model for NEIL.
- (ii) If supplier has to supply a product of different shape from regular supply to NEIL, then it is considered a New Product.
- (iii) If a Supplier does a particular operation for the first time, then also the product supplied by him is considered a New Product.





## 2. NEIL Policies

### A. Quality Policy

NEIL is committed to design, develop, manufacture and supply products to customers as per their requirements and strive to provide customer delight through value added products, continual improvement and employee involvement.

### B. Environment Policy

NEIL, manufacturer of bearings, is committed to demonstrate environmentally friendly product by complying applicable EHS legal & other requirements, prevention of pollution, injury & ill health of our employees in entire value chain with proactive environment, health, and safety strategies through continual improvement & optimizing resource consumption.

### C. Environment, Social & Governance Requirement

Suppliers shall ensure that every manufacturing facility complies with environmental laws, including consent & authorization conditions related to effluent discharges, waste disposal, air emissions and hazardous chemicals & waste storage, handling, treatment and disposal and all requirements to be incorporated in ESG policy.

(1) Suppliers should adopt precautionary principles with life cycle perspective for prevention of pollution and minimizing the adverse impact on the environment, natural resources and the community.

(2) Suppliers should strive to reduce their resource consumption intensity & waste generation intensity at least by 3% on year-on-year basis.

(3) Suppliers should strive to reduce freshwater consumption and increase recycling of treated effluent Water and keep track of it and should focus on zero liquid discharge.

(4) Suppliers are encouraged to implement Rainwater Harvesting. If water is extracted on-site, suppliers shall obtain and maintain the ground water extraction permits statutory authorities as applicable.

(5) Wastewater generated from processes and facilities should be monitored and treated preferably "at source before discharge or disposal. In addition, measures should be implemented to reduce generation of wastewater. Suppliers should effectively maintain and monitor performance of its Effluent Treatment Plants (ETPs).

(6) Supplier should prevent contamination of storm water runoff and illegal discharges and spills from entering water drains.

(7) Air emissions from stationary and non-stationary sources should be monitored and treated as required, prior to discharge. Suppliers should effectively maintain air pollution control systems and regularly monitor the air emissions.

(8) Suppliers should track their energy consumption and Greenhouse Gas (GHG) emissions. Climate Change is one of the key material issues and suppliers are expected to improve energy efficiency and reduce emissions from direct and indirect sources.

Suppliers should implement Energy Conservation (ENCON) initiatives, and strive to improve usage of Renewable Energy (RE) for minimizing the carbon footprint.

Suppliers should regularly monitor noise levels and should take immediate corrective actions if noise pollution limits are exceeding the regulatory norms.

(9) Suppliers should encourage SDG principles of UN & uplift its contribution to society which typically covers

1) Diversity & Inclusion 2) Health & Safety 3) Human Rights 4) Wealth Creations & Employment 5) Employee Engagement



(10) Suppliers should work in time-bound manner to:

- a) Optimize logistics to lower the distance travelled,
- b) Use efficient mode of transport
- c) Optimize packaging to lower the quantum of packaging scrapped at NEIL.
- d) To increase the % content of re-cycled materials in the packaging
- e) Reduse carbon emission percentage by minimum 2% every year

(11) Supplier should have a mechanism to capture concerns and complaints related to environment.

### **Governance of environmental sustainability**

Suppliers should encourage adequacy of decision macking process/business process in line to applicable government, customer rules & regulation with focus on

1) Ethical Behaviour 2) Governing bodies 3) Mesures on bribery & corruption 4) Fair & Timely compensation 5) Anti lobbying

- A) Responsibility of Safety, Health, Environment (SHE) & Sustainability should be with highest level such as at Board / Senior management level of supplier organization.
- B) Supplier should have a policy on Safety, Health and Environment, which should be communicated to all and displayed at prominent location in offices and facilities, Including on his website.
- C) Supplier should have a SHE & sustainability committee chaired by a senior management person that meets at least once a quarter to discuss issue related to Safety, Health, Environment & Sustainability and monitor performance against target.
- D) Supplier should have designated SHE & Sustainability personnel. It can be a full time or an additional responsibility depending on nature/size of the organization. The position/grade of these personnel must also be appropriate to the size, scale, complexity & risk of operation.
- E) Senior management should demonstrate visible commitment through various action like integrating SHE in business planning, allocation of necessary resources etc.





### 3. Introduction of Supplier Quality Manual

#### a. Purpose

- To provide an overview of this manual
- To define the document control methods being followed
- To make Interaction structure of NEIL with the Supplier clear.

#### b. Objectives

- The objective of NEIL SQM is to work with suppliers to achieve and maintain compliance to all requirements and promote the continuous improvement of suppliers.
- With the acceptance of a NEIL purchase order, the supplier agrees to all specification (**Annexure - 12**) requirements within the NEIL SQM.
- This document is a supplement to and doesn't replace or alter conditions covered by purchase agreement.
- Suppliers should maintain the record as per **annexure - 14**.

#### c. Scope

This Manual is applicable to all suppliers providing Direct Material to NEIL and its subsidiaries.

### 4. How to use this document

The target of this document is to synthesize and communicate our suppliers towards the **NEIL** Quality and safety requirements to ensure the quality of supplied parts.

The latest valid version of this Supplier Quality Manual is available on **NEIL** website [www.nbcbearings.com](http://www.nbcbearings.com)

Important: -Suppliers shall retain this SQM readily available at their manufacturing locations all the time. It shall be provided to NEIL representative as and when required. Supplier is solely responsible for retaining latest revision of this manual.

To confirm latest revision of this manual, visit NEIL website time to time.

### 5. Supplier Code of Conduct

NEIL expects the highest standards of ethical conduct in all of our endeavors. Supplier shall always be ethical in every aspect of its business, including relationships, practices, sourcing, and operations: -

#### a. Business Integrity

Supplier shall not engage in corruption, extortion, embezzlement, or bribery to obtain an unfair or improper advantage. A supplier must promptly report to NEIL SD Dept. if it believes that someone working at or for NEIL (whether a NEIL employee) has committed an illegal or dishonest act, or an act that causes, or is substantially likely to cause, harm to people or property or company reputation or suspected violations of this code.



**b. Human Rights**

Supplier shall ensure Freedom of Association and Anti-Discrimination and Fair Treatment to all its employees. Working Hours, Rest Days, Wages and Benefits shall be as per Govt. rules and regulations. Suppliers shall ensure that no underage labor (less than 18 years) has been employed in the production or distribution of their goods or Services.

**c. Working Environment**

Suppliers shall ensure that all workers receive communication and training on emergency planning and safe work practices. In addition, suppliers shall have systems to prevent, detect and respond to potential risks to the safety, health and security of all employees.

**d. Environment Protection**

Supplier shall implement a systematic approach to identify, manage, reduce, and responsibly dispose of or recycle hazardous substance. Supplier shall implement a systematic approach to identify, control, and reduce water, noise and other kind of pollutions produced by its operations.

*Note:- NEIL will assess its suppliers' compliance with this Code, and any violations of this Code may endanger the supplier's business relationship with NEIL, up to and including termination.*

**e. Diversity in business**

Supplier should encourage diversity in business considering manpower & business partners for below categories:-

- Suppliers should provide equal employment opportunity to all employees without regard to race, color, religion, national origin, gender, age, sexual orientation, etc. during the recruitment, promotional, training, etc. process.
- For Women Empowerment, supplier should define & maintain Men v/s Women Ratio in his plant.
- Supplier should encourage to do business with below category Enterprises considering PQCDMS criteria requirement: -

1. Women owned enterprises 2. Disability owned enterprises 3. Minority enterprises – small & medium (Revenue)

**6. NEIL General Requirements**

**6.1 Quality Management System**

Supplier shall have a documented quality system and agree to onsite assessments.

ISO 9001:2015 certification is required, at a minimum, for all NEIL suppliers. However, NEIL may demand for IATF certification from its suppliers if its customers' demands.

In addition, NEIL expects suppliers to work towards the goal of achieving compliance to the latest IATF 16949:2016, AS 9100 and RDSO / AAR approval in case of Railway Bearing Components.

**6.1.1 IATF Requirement**

Supplier shall have documented quality systems as per IATF requirements. As NEIL initiative, NEIL may demand its supplier quality management system up-gradation from ISO: 9001 to IATF 16949:2016.

- All 10 clauses are to be implemented.

Automotive approach, Product Safety, Safety Preparedness, Risk Management, Continual Improvement, Competency etc. are few major points to be focused during transition phase.



## **6.2 Resource Management**

Supplier is expected to optimal utilization of resources in effective and efficient way like manpower, financial, goods, equipment's. Supplier shall establish well defined procedure for resource management. It shall include -

1. Preservation and conservation of natural resources like water, electricity etc.
2. Well trained and qualified personnel.
3. Well defined training procedure including On Job Training.

## **6.3 Material and Process Specifications**

Supplier must produce NEIL products of the specified material and to the process specifications. The understanding shall be based on NEIL approved drawings or standards.

Any deviation from the required specifications is not acceptable otherwise/unless there is no written approval from NEIL.

## **6.4 Commercial Requirements**

At the end of every month, suppliers have to furnish the loan amount statement giving details of balance material in hand. In case of any shortfall in the loan A/C, the material cost and processing cost incurred by NEIL thereon, shall be debited to suppliers and will be recovered from the supplier's account.

## **6.5 Laboratory Requirements**

Internal Laboratory: -

There shall be a defined and systematic Laboratory Scope for the laboratory that includes its capability to perform the required inspection, test or calibration services and they must be traceable up to NABL (National Accreditation Board for Laboratories).

This laboratory scope shall be included in the quality system documentation. Accreditation to ISO/IEC 17025 is recommended for internal laboratories but not mandatory. The laboratory shall specify and implement, as a minimum, technical requirements for -

- Adequacy of the laboratory procedures
- Competency of laboratory personnel
- Testing procedures of products

**External Laboratory:-**

- There shall be a defined and systematic Laboratory Scope for the laboratory that includes its capability to perform the required inspection, test or calibration services.
- The laboratory shall be accredited to ISO/IEC 17025 or NABL (National Accreditation Board for Laboratories).

## **6.6 Statutory, Regulatory and Legal Requirements**

Suppliers must ensure that following requirements, whichever applicable, are being fulfilled at their end -





- Valid consent to operate from State Pollution Control Board.
- Meet all requirements of 'The Factory act – 1948'.
- System for receipt, storage, handling, and disposal of hazardous materials.
- Display of 6'X4' board containing information for hazardous materials at main gate.
- Complying with the requirements of 'Central Motor Vehicle Rules – 1989', pertaining to the transportation of hazardous materials.
- Supplier must abide by the GST rules and regulations and maintain the necessary records as per GST rules. Supplier shall comply the documentation requirement for issue and supply of materials as per GST rule “Job Work Under GST”.
- Job workers are required to return “Goods” within 1 Year from date of Challan and comply with provision of E-way Bill.
- Violation and noncompliance shall be supplier's responsibility and any liability arising thereof shall be to supplier's account.
- Supplier must cover all ESI, EPF etc. as required under law and applicable under statutory conditions of supplies and government law, as may be in force from time to time.
- Procure Mineral from Conflict free sources: Suppliers shall not procure material from any sources which are prohibited as per law of land.
- Fair Competition: supplier shall desist from any unfair or anti – competitive trade practices like Cartel etchant report the same to NEIL in event of any such situation.
- Conflict of interest: Suppliers must avoid any conflict of interest between them and the company or its officials dealing with the suppliers.
- Human Rights: NEIL is committed to respecting Human Rights of all its stake holders and further expects the same from all of its suppliers in true letter and spirit. Suppliers shall not employ Child labor, force labour, or indulge in any form of human trafficking.
- Diversity and inclusion: NEIL encourage diversity and inclusion and also wishes to be associated with the suppliers who adhered to the same and do not discriminate basis race, color, religion, caste, or any other classification prohibited by law.
- Confidential information: Supplier including its representative if any while working with or dealing with NEIL may have access to confidential know how of NEIL, would not share the same or be known to competitors of NEIL or any other person or Corporate. NEIL shall be at liberty to act against supplier as a result of any such breach. Supplier shall ensure that Data to be theft protected.
- Third party representation: the supplier shall not be authorized to use NEIL brand or represent as NEIL associate without prior written permission from NEIL
  - INTELLECTUAL PROPERTY (The supplier shall not infringe NEIL confidential and proprietary information / technology which comes to its knowledge during course of business), Supplier shall also not supply any material to NEIL which violates any other entity Trademark or licenses.

#### **6.6.1 CTO/ CTE Requirements**

Supplier shall ensure the Consent to Established (CTE) & Consent to Operate (CTO) certification from Local Government Authority. NEIL may demand this certificate if its customer demands.



## 6.7 Health and Safety Requirements

Supplier shall adhere to following health and safety requirements:

- Design of manufacturing process shall be such that it has minimum potential risks to employees.
- Use of PPE (Personal Protective Equipment's) like helmets, goggles, safety shoes.
- Ensure availability of Emergency exits, Emergency hooters and Fire extinguishers etc.
- Ensure safe and sound working environment in factory premises.

### 6.7.1 Safety Preparedness (Fire Risk Assessment)

Suppliers shall ensure safety of components, employees, assets & environment in plant through regular self-assessment on all kinds of potential risk detection & prevention. NEIL & NEIL customer has the authority to audit supplier's on safety Preparedness at any time.

## 6.8 Control of Sub-suppliers

Suppliers shall have effective controls and monitoring over their sub-suppliers. Suppliers have the responsibility for managing all Process and Process Approval for their Sub -suppliers.

Also, Supplier has to conduct regular Audits at certain frequency in order to improve & develop their Sub-supplier & to meet the Quality objectives of complete Supply Chain.

Note- Supplier shall share the list of its Sub suppliers for outsourcing operation with NEIL and supplier is bound to do the outsourcing operations from declared sub sources only, If it is found supplier outsourced the operation other then declared source NEIL have the rites to backlist the supplier.

**In any case, Supplier have the full responsibility for Quality Assurance for their Sub-suppliers.**

NEIL and its customers reserve the right to assess sub-supplier's processes directly onsite.

## 6.9 Digital Requirement

NEIL is working towards net zero carbon emission by 2039 and NEI digital initiatives are one of the small steps towards this long journey of becoming net zero carbon emission.

All direct and In-direct suppliers are bound to adhere 100% digital initiatives driven by NEIL (E.g. Online Training, Supplier Portal etc.)

### 6.10 Magnetic Particle Testing (MPI)

Suppliers to inform NEIL Supplier development, SQA & Metallurgy Lab team before starting of MPI testing. NEIL metallurgy team will audit and give approval for start of MPI testing.

Supplier should do MPI testing as per NEIL requirement and material to be identified with MPI tested label.

MPI audit will be conducted as per annexure 17





### 6.11 Control of Special Characteristics

Suppliers shall identify special characteristics specified in NEIL drawing. If not provided in drawing, it is the sole responsibility of supplier to identify these characteristics as per Annexure-1.

These characteristics have to be incorporated in PFD, Control Plan and PFMEA and action plans to be decided for the same.

Suppliers must have to achieve more than 1.33 Cpk in regular supplies, In case of not achieved put Poka-Yoke or 100% Inspection for Special Characteristic.

**Note- Rework of special characteristic parameters is not allowed unless and until NEIL approval & supplier should retain the records of rework.**

### 6.12 Control of Special Processes

Supplier shall establish a documented system to control 'Special Processes' like heat treatment, casting, forging, coatings, welding, painting etc.

Where outsourced processes are used, the supplier must retain full responsibility for ensuring that the work performed meets all special process requirements.

Note- Special process to be approved by NEIL (NEIL customer can visit at supplier location with prior information for approval) and supplier to ensure special process validation with minimum one year of frequency.

### 6.13 Internal Auditing

Supplier shall conduct internal audits at planned intervals to determine effectiveness of Quality Management System. Records of the audits and their observations with actions shall be maintained. Internal audits shall cover Quality Management System Audit, Process Audit and Product Audits. Internal audits shall cover all processes, activities and shifts, Products and shall be scheduled according to an Annual Plan.

### 6.14 Record Retention

Suppliers shall maintain all quality records pertaining to product & process for minimum of fifteen years. These records shall be stored in an environment that doesn't allow document deterioration and are readily accessible upon request by NEIL representative.

It is also expected that the supply chain records pertaining to NEIL products shall be retained in the same manner.

Note- NEIL may demand for document storage as per NEIL Customer requirements.

### 6.15 Change Management

Supplier shall ensure effective system for change management. Once a part is approved, request for changes in sub supplier, location, method, process, 4M (**annexure-13**), delivery method & packaging etc. that may affect fit, form or function of parts shall be recorded and informed to NEIL SID or Logistics or both according to the 4-M Change Notification. NEIL holds the right to hold or reject the material if this process found to be skipped.

Suppliers must also make sure for their own entire supply chain the supplier will need to notify the change and ultimately NEIL SDD will determine if a PPAP (as per Annexure-2) is required.

Changes shall not be implemented prior to the receipt of written approval from NEIL.

**Note-Verbal request will not be accepted.**

In case of any new/revised drawing received from NEIL, Supplier need to submit acknowledgement with existing drawing stock detail to concern purchaser within 3 days. If no response received from suppliers within 3 days. It will be consider as supplier is accepted the change & existing drawing stock is not available at supplier end.





#### **6.16 Material and Process/ Product Deviation**

A Supplier shall not knowingly ship products that deviate from the drawing, specification limits or Design intent without prior written authorization from the NEIL Procurement. If such a condition exists, the Supplier may petition the NEIL Procurement in writing, to allow shipment of the product under a written nonconformance deviation.

The written request shall be submitted through NEIL procurement along with following information –

- Part Number and latest engineering change Note
- Quantity of parts affected
- Specifications involved
- Statistical analysis of the non-confirming characteristic(s), as applicable
- A statement of the requested deviation
- The containment plan to be implemented
- Corrective & Preventive action to be taken along with the timeline for implementation.

If requested by the NEIL procurement, the Supplier must send samples of such nonconforming items to NEIL for evaluation. The cost of shipping, inspection, and testing to determine the potential acceptability of such product will be charged to the Supplier.

If any rejection found in deviated parts at NEIL same will be debited in supplier account.

#### **6.17 Layout Inspection**

Supplier shall submit layout inspection report covering all the dimensions and specifications declared in NEIL drawing -

- While submitting samples (for Measurement Alignment)
- While submitting PPAP lot
- When there is any change in material, machine, method or location (as per NEIL demand)
- As and when required by NEIL or its customers
- Required Once/years for all sizes from suppliers

#### **6.18 Handling, Preservation, Storage and Inventory**

NEIL requires that all material shall be clean and free from any kind of contamination including chips / debris etc. Supplier shall arrange such kind of arrangement that no material is placed on shop floor directly. Supplier shall ensure rust, dust, dirt and damage free preservation and storage of parts.

Supplier shall preserve the material at all stages of process in such a way that material does not affect by atmospheric conditions or any other reasons for deteriorating the quality of the material or product.

Supplier shall ensure the minimum Inventory level based on of NEIL Purchase Department as NEIL is working towards just in time supply system.

#### **6.19 Identification and Traceability**

Product traceability is a NEIL and its customer's requirement. Suppliers shall have to introduce an effective system to incorporate identification and traceability in their system along with a documented procedure. Suppliers must provide unique identification of product batches / lots or individual component / parts as required. The components should be traceable up to the raw material



### 6.20 Counterfeit Part

An unauthorized copy, imitation, substitute, or modified part (e.g., material, part, component), which is knowingly misrepresented as a specified genuine part of an original or authorized manufacturer.

In case of counterfeit parts supplied by supplier.

- A. All material will be scraped at NEIL
- B. Supplier will be whole sole responsible to bear all the expenses in case of material recall.
- C. Supplier will be blacklisted in NEIL.
- D. And all the expenses in case of material recall situation shall be bear by supplier

In the case of found evident, Legal action will be taken on supplier.

#### Prevention of counterfeit parts

- A. Quarantine and reporting of suspect or detected counterfeit parts.
- B. Verification and test methodologies to detect counterfeit parts
- C. Monitoring of counterfeit parts reporting from external sources
- D. Training of appropriate persons in the awareness and prevention of counterfeit parts

### 6.21 Product Safety

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

### 6.22 Appointment of Management Representative

Top management shall appoint a specific member of the organization's management, identified as the management representative, who shall have the responsibility and authority for oversight of the above requirements. The management representative shall have the organizational freedom and unrestricted access to top management to resolve quality management issues.

### 6.23 Configuration Management

The organization shall plan, implement, and control a process for configuration management as appropriate to the organization and its products and services in order to ensure the identification and control of physical and functional attributes throughout the product lifecycle.

This process shall:

- a. control product identity and traceability to requirements, including the implementation of identified changes
- b. ensure that the documented information (e.g., requirements, design, verification, validation and acceptance documentation) is consistent with the actual attributes of the products and services.

### 6.24 Risk Assessment

The organization shall plan, implement, and control a process for managing operational risks to the achievement of applicable requirements, which includes as appropriate to the organization and the products and services



## **7 NEIL Specific Requirements for Supplier Selection, Approval and Monitoring Process**

### **7.1 New Supplier Selection Criteria**

A new supplier interested in NEIL business must pass through following criteria: -

1. ISO 9001:2015 registration
2. Spare capacity or plan to enhance the same
3. Fulfillment of govt. regulation
4. Production & Inspection Facilities

Note:-

In addition to the regular criteria that a new supplier must pass through, NEIL are now also considering the supplier diversity during the supplier selection process. We aim to select our suppliers in a transparent and fair manner by assessing their capability and environmental and social practices. The following categories will also be considered during Supplier selection:

- women business enterprises
- disability-owned business enterprises,
- minority business enterprises – small & medium business (revenue)

### **7.2 Supplier Self Evaluation**

Once a supplier passes above mentioned criteria, it will be provided a 'Self Evaluation Form' (as per Annexure-5) to submit it to NEIL SDD after completely **filling** it with essential supportive documents. Supplier has to fill all the details and sign the document.

Existing suppliers will be provided the Self Evaluation Form at the time of re-approval audit.

### **7.3 Onsite Supplier Assessment Audit**

When a supplier submits SEF along with supportive documents, NEIL SDD, Logistics & Finance department will study the same and decides for Onsite Assessment Audit

, if found suitable.

This Audit will be conducted by NEIL SDD, Logistics and other dept. (If required).

The major focus areas are:

- **Quality**
- **Capacity**
- **Delivery**
- **Compliance** ( Legal , Finance , Environment & Safety etc. )

The assessment will be conducted by a NEIL representative(s) and will verify the existence of a Quality Management System and the disciplines necessary to meet standard and NEIL requirements (as per **Annexure-6** ).

At the same time specific Process Audit and Supplier Risk Assessment (annexure7) also will be done by NEIL audit team. Supplier has to submit the action plan for each No-conformity raised during Audits and close the same within the agreed (between NEIL & Supplier) specified time with appropriate evidences.

If the Supplier falls in "A" or "B" Category in Supplier Assessment, Process Audit and also working at "Low Risk" level , the Supplier will be considered as "Accepted" Supplier.

Once the Supplier is "Accepted", Supplier has to take PPAP (as per Annexure 2) the guidance of





NEIL SDD & Logistics. If the PPAP approval done by NEIL, then only the Supplier will be declared as "Approved Supplier" for next 3 years.

"C" Category Supplier will be Re-audited after Closures of NC points.

"D" Category Supplier will not be entertained again within next 6 months period.

NEIL reserves the right to re-assess current suppliers prior to placement of new business, as a result of a supplier's quality performance, when there is a change in the supplier's facility, a change in ownership, a significant change in the nature of the product previously supplied.

In case of customer approved or recommended suppliers, initial Supplier Approval Process will not be followed, but other Supplier related activities will be done same as per NEIL Supplier Development & Appraisal procedure. In this case information related to Supplier performance will be shared with Customer (as per demand) and final decision will be taken by Customer.

#### **7.4 Contingency Plan & Risk Assessment**

Supplier shall develop a contingency plan for potential catastrophes disrupting deliveries to NEIL, and inform NEIL immediately (on the same day) in the event of an actual disaster.

Contingency plan shall be made available to NEIL (Annexure-7).

Supplier has to assess & make contingency plan on the following Risk –

- Capacity (Spare Capacity, Key Machine & Equipment Failure, Labor Shortage & Labor strike, Utility Interruption etc.)
- Capability
- Legal, Financial & Costing
- Logistics
- Natural Disaster etc.

#### **7.5 Initial Product Control (IPC)**

Supplier shall have an effective system to ensure control over initial supplies of a new development. Supplier shall identify first three lots of supplies with a tag or marking highlighting the parts under IPC.

Lots under IPC shall be submitted with layout inspection report, Process Capability report & Double Sampling Inspection suggested by NEIL SDD.

If the NEIL product Quality requirement (refer layout inspection report, Process Capability report & Double Sampling Inspection) does not meet then number of lots for IPC can be increased.

IPC lot completion criteria:

BB, DRAC, TRB & CRB - Minimum Quantity 5000 / 3 Lots whichever ever later.

RB - Minimum Quantity 2000 / 3 Lots whichever ever later.

LDB - 3 Lots

**Note- All IPC lots to be identified with blue color stamp of IPC till 3 lots.**

#### **Experimental Lot:**

Supplier shall have an effective system to ensure control over supplies of experimental lots. Supplier shall identify experimental lots with blue color stamp till regularization of experimental drawing.



## 7.6 Surveillance Process Audit

Once a supplier qualifies NEIL assessment process and listed in Approved Supplier List, Supplier is liable to annual surveillance audits conducted as per below mentioned categories based on previous financial year Supplier Quality Rating by NEIL SQA team: -

Criteria	Shop Rejection PPM	Supplier Quality Rating	Audit Frequency
CRITERIA 1	Shop Rejection PPM <= 10	A	Audit - Once / 3 Years
CRITERIA 2	11 > Shop Rejection PPM < 100	A	Audit - Once / 2 Years
		B	Audit - Once / Year
		C	Audit - 6 monthly
CRITERIA 3	Shop Rejection PPM > 101	A	Audit - Once / Year
		B	Audit - 6 monthly
		C	Quarterly Audit & Re-PPAP to be done for Supplier

Supplier has to submit the action plan within 15 days of audit for each non-conformity raised, close the all non-conformities within the agreed timeline as per action plan with appropriate evidences.

NEIL & its customer reserves the Right to conduct the Audit with or without prior information to the Supplier at any point of time and it is Supplier's responsibility to co-operate in whole audit with positive manner.

## 7.7 Anti Rust Application

NEIL requires that finish turned , stamped and ground parts shall be 100% oiled in all seasons. HP Rustop-173 or 179 & shall be applied on finish turned parts, HP Rustop-275 or FUCHS Anticorit 03WC-D shall be applied on finish ground & stamped parts and use of greasing on axle box family shall be as per NEIL recommendations. Supplier has to take written approval from NEIL for any change in oil used. Dip oiling methodology to be followed for all kind of oiling processes. Drawing and / or Purchase Order requirements may apply as and when required.

## 7.8 Verification of Purchased Parts

NEIL or its customers reserve the Right to verify the process and product at Supplier's and Sub-supplier's manufacturing facilities directly with or without prior information. Suppliers must allow on-site product or process verification by NEIL or its customers.

## 7.9 Control of NC Parts and Supplier Corrective Action Report

The organization shall have processes and systems in place to prevent shipment of non-conforming products to NEIL facilities. For non-conforming products supplied to NEIL, including those that reached at NEIL's customer, the Supplier must cover all costs to correct the non-conformance.

If product is found to be non-conforming at NEIL as Lot or Line Rejection / Customer / Warranty complaints, the supplier is expected to provide the resources necessary to contain, evaluate, sort and / or scrap the non-conforming product.

In the event of a quality issue related to a supplier's products, the supplier will be required to provide written corrective action report in the SCAR (Annexure-3 ) format within 7 (seven) days.





A Non-Conformance Report in Supplier Corrective Action Report (SCAR) format shall be issued to the supplier when NEIL detects non-conforming product. The supplier's initial response including containment plan, shall be provided to NEIL SQA team within 24 hours (one working day) from the date, the supplier receives notification of the non-conformance.

The SCAR will be sent to supplier through e-mail.

NEIL and the supplier shall determine if the product can be inspected to remove defects from the "lot" that has been contained. It will be determined whether product is sorted on site or returned to the supplier. If it is determined that inspection alone cannot detect the defect, the product will be returned to the supplier or scrapped as agreed.

If the product is needed for urgent production at NEIL, the supplier shall send Inspection team to NEIL for inspection or agree to the use of a third-party inspection with the cost of inspection borne by the supplier.

A written corrective and preventive action in SCAR must be sent to the NEIL SQA team within 7(seven) days.

Supplier shall implement all the action written in SCAR within the specified time at their end and regularly monitor the effectiveness for the same.

NEIL or it's Customers may ask for any special improvement in supplier process (Manufacturing & Measurement) as per Customer specific requirement

**NEIL or its customers reserve the Right to check and verify at Supplier end the implementation and effectiveness of the action taken against any Quality issue raised in past at any point of time with or without prior information & NEIL Customers warranty claims to be born by supplier if issue is related to supplier Quality.**

**System generated auto mail will be delivered to suppliers registered mail ID in case of any rejection posted in SAP at NEIL, Supplier need to respond as per mail received.**

**Context of auto generated mail:**

Dear Sir/Madam,

Attached please find herewith non-conformities observed in your supplies You are requested to carry out Root Cause Analysis & take suitable Corrective Actions.  
Please send the "Corrective Action Report" duly filled within 7 days.  
(Refer Clause No. 7.9 of Supplier Quality Manual)

Requesting for lifting of rejected material from NEI within next 3 days. In case of any delay, warehousing charges will be debited to your Account and NEI will not be responsible for any kind of non-conformity in Supplier's rejection arising during this period. We deserve right to dispose of material without any consent, if delayed more than 15 days.





### 7.10 Controlled Shipping

Controlled shipping is a demand of NEIL SQA team that a supplier put in place a redundant inspection process at the supplying location to 100% sort for a specific and specified non-conformance to isolate NEIL from receipt of non-conforming parts / materials. The redundant inspection must be in addition to the normal process controls. Implementation criteria for controlled shipping -

- Repetitive Issue
- Supplier's current controls are not sufficient to ensure conformance to requirements
- Major disruptions
- Quality concern at OEM and / or in the field

Exit criteria for controlled shipping:

- Three batches or Thirty consecutive days (Whichever is longer) of data (from implementation of corrective action) which verifies that the normal production controls are effective for controlling the discrepancy identified in the controlled shipping activity.

Volume to be determined by NEIL SQA team where suppliers use batch processes.

Supplier to submit the following documents to NEIL SQA team –

- Documentation showing root cause was identified and validated.
- Documentation indicating that corrective action was implemented and validated.
- Copies of all documentation revised as required (Control Plan, PFMEA, operator instructions etc.).
- Documentation indicating that production is as per specifications for three batches or Thirty consecutive days.

NEIL SQA team approval must be given prior to supplier stopping controlled shipping. An audit by NEIL SQA team may be required prior to approval.

### 7.11 Defect Outflow Control (Firewall)

NEIL requirement towards zero defect parts supply to NEIL & its customers, NEIL vendors are requested to strengthen the firewall

Firewall is a short-term activity to establish NEIL satisfaction as a part of manufacturing process. It enables the supplier to detect the defects at the process in shorter time & ensure defect-free supplies to NEIL. Firewall provides input to improve the parts quality by facilitating smaller PDCA cycles in the manufacturing process as well as acts as a measure to monitor real time quality.

Suppliers must deploy the Firewall at sub suppliers also as per requirements.



### 7.12 Supplier Evaluation and Supplier Performance Rating (SPR)

Suppliers will be monitored on monthly basis to assess their performance by evaluating SPR (Supplier Performance Rating) taking Quality and Delivery aspects in to consideration as per below formula -

$$\text{SPR} = (0.75 \times \text{QR}) + (0.25 \times \text{DR})$$

QR (Quality Rating) Weightage - 75%

DR (Delivery Rating) Weightage - 25%

On the basis of above Rating Categorized in "A", "B" & "C" categories. Supplier will get the feedback from NEIL SQA team on time to time for their further improvements in the form of Supplier Rating Score Card (as per Annexure-8).

### 7.13 Direct on Line (DOL) Implementation

NEIL always encourages their Suppliers to get DOL (Direct On Line) Certificate from NEIL. DOL parts will be validated as per NEIL DOL procedure. Once a supplier is chosen by NEIL for DOL program, supplier shall actively participate in program to achieve decided goals and targets (explained to the Supplier in program as per NEIL DOL requirements) for proper understanding.

### 7.14 Low Performing Suppliers

NEIL regularly monitors the performance of its suppliers with the methodology of Supplier Performance Rating formulation. Suppliers continuously poor performing will be considered as Low Performing Suppliers.

Low Performing Suppliers shall have to submit a detailed action plan to improve their performance to NEIL SQA team. Failure to meet or act upon NEIL requirements may result in the loss of existing and/or future NEIL business.

### 7.15 Prevention of Restricted Substances and Materials

Prohibited and restricted materials according to IMDS (International Material Data Sheet) must not be used by the Suppliers. All components and contained substances must be declared in the IMDS system (ID-65588), if required by NEIL or its customers.

Suppliers shall comply with List of Prohibited and Declarable Substances as per Std. No. RMSD00169549 (Annexure-9) for hazardous material usage and disposition.

Note- Above said clause is not applicable for Job work suppliers

#### **List of additional Hazardous material (Prohibited Substance) other than mentioned in NEIL Supplier Quality Manual Edition-5 (Annexure - 9)**

Suppliers shall ensure to take care of listed Hazardous material (Prohibited Substance) not to be used in entire Supply Chain mentioned in NEIL Supplier Quality Manual edition-3 (Annexure - 9). Whenever any revision or amendment will be done in supplier quality manual, e-mail will be sent to all suppliers to check the amendment on NEIL's website i.e. [www.nbcbearings](http://www.nbcbearings).



### 7.16 NEIL Supplied Property

All tools, gauges, patterns, fixtures, machines, test or inspection equipment belonging to NEIL, or their customers, will be permanently marked to clearly show that they are Property of NEIL (ISO/TS 16949 clause 7.5.4.1), or the customer. Supplier is responsible for maintenance of all equipment's paid for or supplied by NEIL.

When equipment not used in production must be kept in a fireproof location and stored separately from production.

Measuring equipment supplied by NEIL must be included in the suppliers own calibration system.

When the agreement and the manufacturing expire, if nothing else agreed, the equipment must be returned to NEIL. The supplier doesn't have the right to scrap equipment without NEIL's permission. If required by NEIL, the equipment shall be available for inspection.

### 7.17 NEIL'S Customer Specific requirement

Any specific requirement of NEIL's customer given for Tier-2 suppliers shall be implemented by suppliers.

## 8 Advanced Product Quality Planning (APQP)

The goal of APQP is to explain and monitor the development process of any product with NEIL & suppliers.

This applies to all suppliers manufacturing NEIL parts/products and has to be submitted to NEIL on demand.

The purpose of APQP timing chart or Product Development Plan (as per Annexure-10) is to provide a schedule of the manufacturing and control activities necessary to assure the quality of parts during PPAP lot production.

Suppliers are required to prepare the timing chart at the time of New Product Development. The schedule should span the time between the issuance of the production drawing and PPAP approval.

### Supplier Responsibility

- The supplier should create, maintain and submit an APQP timing plan (as per Annexure 10) Part Feasibility Report (as per Annexure-11) before start of the part development.
- The timing of the various activities of the timing chart at supplier end must meet NEIL's requirements.
- All the related departments within the supplier must have consensus on the timing plan before submission to NEIL SDD team. In addition, the supplier's top management is responsible for monitoring this plan to achieve milestones as scheduled.
- NEIL SDD team will review and confirm the supplier's activities.  
Request for any adjustments will be negotiated between the supplier and NEIL SDD team.
- The supplier must review the timing plan status periodically and any revision must be intimated to NEIL SDD team. The supplier must re-submit the updated timing plan in consultation with NEIL SDD team.





## 9 Failure Mode Effect Analysis (FMEA) and Control Plan (CP)

### FMEA-

Suppliers with product design responsibility shall develop a Design FMEA in accordance with, NEIL-specified requirements. A single Design FMEA may be applied to a family of similar parts or materials.

Suppliers shall develop a Process FMEA in accordance with, NEIL-specified requirements. A single Process FMEA may be applied to a process manufacturing a family of similar parts or materials.

**Supplier shall follow the latest edition of FMEA (DFMEA & PFMEA) of “AIAG Reference Manual”.**

### Control Plan-

The Supplier shall have a Control Plan that takes into account the output from the FMEA and defines all methods used for process monitoring and control of special product/process characteristics. A single control plan may apply to a group or family of products that are produced by the same process.

**Note :** NEIL may demand part specific FMEA and Control Plan as and when required.

**Supplier shall follow the latest edition of Control Plan of “AIAG Reference Manual”.**

## 10 Statistical Process Control and Measurement System Analysis

Supplier shall identify special characteristics (critical, safety & Regulatory) from NEIL drawing or (as per

**Annexure 1**) and include these characteristics in FMEA and Control Plan by marking in relevant column.

Supplier shall Perform Process Capability studies for all special characteristics and measurement system analysis for all instruments and gauges used in inspection. Suppliers will submit these studies to NEIL on regular basis.

**NEIL expects its suppliers to work with more than 1.67Cpk/Ppk in initial lots (consecutive 3), less than 10% GRR & 100% inspection (As per NEIL or NEIL Customer requirement) for special characteristics.**

**Note :** Supplier have to submit the SPC report for SC/CC parameters defined in the drawing. All defined conditions for SPC must be followed and same report will be verified by NEIL Incoming Inspection team. In case of any gap, NEIL has right to reject the entire lot.

## 11 Production Part Approval Process (PPAP)

A PPAP (Annexure-2) is required for each product or product family intended to be supplied first time to NEIL. PPAPs may also be necessary if there are any changes that affect the product. The supplier will need to notify the change and ultimately NEIL SDD will determine if a PPAP is required. Typical changes include, material, product, equipment (e.g., SPM to CNC or manual to transfer line), facility, supplier or location changes just to name a few.

### Production Test Run (Run at Rate)

NEIL and its Customers reserve the right to witness or attend a full production test run (PPAP batch run). The Production Test Run is conducted to assure the capability and capacity of the specific production line. The scope and extent of the Production Test Run is decided for each specific case.

Level 3 PPAP (as per latest edition of AIAG reference manual) is required for all submissions. PPAPs are to be submitted directly to the NEIL SDD (as per **Annexure-2**)



## 12 Continuous Improvement

The supplier shall promote and implement a continuous improvement philosophy applying proven methodologies and processes. These methods and processes shall be used throughout the supplier organization to continually improve the quality, delivery, cost of products and service of supplier.

Continuous improvements are viewed as an essential aspect of maintaining a competitive position for both the supplier and NEIL. The supplier shall endeavor to provide continuous improvement suggestions to NEIL.

Suppliers need to strengthen the fire wall for zero defect supplies to NEIL.

## 13 Packaging Requirements

### a. Purpose

The Packaging is an important aspect of overall quality of the Product. To achieve this, NEIL has drafted all packaging requirements in this manual.

### b. Scope

This packaging guideline is the contractual basis for delivery of parts to NEIL. It constitutes a supplement to the general conditions of "Purchase Order". This guideline applies to all "Direct Materials" shipped to NEIL including mass production parts.

Note: - For parts with large dimensions or unusual geometries, special packaging must be used (especially for Railway and Large Diameter Bearing components).

### c. Objective

Its aim at developing a rationalized packaging system based on the safe and continuous flow of material from the supplier to the work place, taking all qualitative, environmental and economic aspects into consideration.

The goal of the packaging system is based on the criteria of Flexibility, Lowest Cost, Protection of Goods and Safe Delivery.

### d. Supplier's Responsibilities

The supplier is responsible for the development of a "fit-for-purpose" packaging systems which are in accordance with the requirements of product.

It is the responsibility of suppliers to design and develop packaging to withstand the given transportation mode. NEIL may assist with the design, however, accepts no responsibility for non-performance. Once the packaging method has been approved, the supplier may not change without prior written approval from NEIL.

The supplier is expected to identify and eliminate wasteful packaging practices on an ongoing basis. With reduction or elimination as the first priority, the hierarchy of waste elimination is -

#### **REDUCE**

#### **REUSE**

#### **RECYCLE**

Parts must arrive at NEIL without Damage, Rust / Corrosion, or Contamination.

Packaging standard format as per annexure 18



**e. Packaging Agreement**

Packaging related requirements and discussions shall begin during APQP activities. All requirements shall be finalized prior to PPAP submission.

On the basis of the packaging guideline, the supplier draws up a packaging proposal and forwards it to NEIL. If the supplier already has an existing packaging procedure document, the same can be forwarded.

Current suppliers of current material should continue to supply the material as long as they minimally meet the intent of this document.

**f. Packed Quantity**

Standard packaging quantities shall be based on ergonomic standards. It is the supplier's responsibility to determine the packaged quantities.

Packed Weight: - Weight limit per carton (including contents) for incoming materials to be handled manually must not exceed 20 Kg. Exceptions must be approved by NEIL.

**g. Anti-Corrosive Packaging**

All machined, bright finished or other critical surfaces that are sensitive to corrosion require sufficient corrosion protection. In particular, casting, forging, semi finished parts such as races & rollers, complete finish parts such as cages / retainers, rollers etc. are highly sensitive to corrosion and require special protection.

Use anti-corrosive packaging to protect parts from corrosion, dust, moisture, abrasion or any other damage that is detrimental to the appearance or function of the part.

Where applicable, suppliers are recommended to use VCI materials, such as VCI film or VCI paper. Oil or waxed paper may be used whenever the use of VCI materials is not appropriate.

Before delivery, consignment should be examined to ensure that all parts are properly preserved, wrapped, covered or sealed and packed. Any damaged consignment must be replaced.

Parts that are susceptible to corrosion must be packed in a dry noncorrosive environment for the duration of shipment and storage, for a minimum of 6 months.

**h. Labeling and Identification**

Documentation for each shipment is the responsibility of the supplier and shall be complete and legible. The supplier is to provide all necessary customs and other documents such as Dimensional & Metallurgical Inspection report etc.

Incoming material shall be identified by the supplier with a non-handwritten, identification label. Provision shall be made on the package system for the material identification and its contents.

**i. Supplier Visit: -**

NEIL may ask to visit NEIL or Customer premises for any quality issues/New product/New Technology to understand/to witness/to share action plan.





## 14 NEIL's Supplier Termination Policy

In case supplier underperforms stated guidelines to be followed.

Supplier supplies will be stopped to NEIL, when it is evident that any of the below stated conditions holds true after allowing reasonable time for improvement.

1. Supplier falls in "C" Category for continuously 6 months.
2. Supplier does not take measures in subsequent batches of parts to reduce the non conformity at Receiving / Shop / Customer end as per agreed specific action plan between SID & Supplier.
3. Supplier does not respond timely for segregating the NG parts at NEIL / Transit / Supplier end.
4. Supplier has sub let the Critical & Final operation to other supplier without written consent of NEIL.
  - In case alternate supplier with spare capacity is available,
  - Reduce SOB with existing supplier and give 25% SOB to new supplier in 2nd month if no improvement seen in 1<sup>st</sup> month from existing supplier.
  - Monitor performance of both the suppliers.
  - If existing supplier is improving retain SOB, after monitoring 2<sup>nd</sup> & 3<sup>rd</sup> month's performance.
  - If existing supplier is deteriorating consecutively in 2<sup>nd</sup> & 3<sup>rd</sup> month SOB should be tapered down to Zero in 4 months.
  - For single source poor performing supplier, alternate capable supplier to be developed by SDD & Logistics on fast track before stopping the supplies.

(Time period will depend on criticality of items)

In order to improve the performance, specific training to be provided to the supplier thru SDD, action plan to be taken from the supplier.

## 15 Warehouse Management

All above mentioned applicable requirements are to be implemented by all transporters at their PL & In transit ware house locations.

NEIL team members may visit with or without prior information for the audit and to witness the effectiveness of actions taken against customer complaints raised due to transporters issues.

NEIL may demand to send the transporters representative to handle the customer complaint at customer locations.

## 16 Delivery Requirement & Penalty guidelines

All suppliers to follow the delivery guidelines provided by NEI, Suppliers need to adhere the delivery schedule as per daily requirement through supplier portal in terms of Quantity & Variant of product. In any case if supplier failed to adhere the delivery schedule, Supplier will be penalized as per guidelines mentioned below.

### Penalty Guidelines

Sr. No	Challan/Invoice Qty & Product	Penalty
1	Short Supply	2.5% of Part Price (As per PO) X Short Qty (Single Instance) 5% of Part Price (As per PO) X Short Qty (2 or more Instance)
2	Excess Supply	No payment for excess supplied parts and no return to supplier
3	Wrong part (Mismatch from challan)	No payment for wrong supplied parts and no return to supplier



## Annexure – 1

### 1. CALCULATION OF SUPPLIER PERFORMANCE RATING

#### 1.1 Two factors - Delivery & Quality, are to be taken into account for Supplier performance rating. Respective weightages are as follows: -

Weightage for Delivery (Wd)	20%
Weightage for Cost (Wc)	5%
Weightage for Quality (Wq)	75%

#### 1.2 Evaluation

Each supplier is evaluated in terms of above factors in the following manner:

##### 1.2.1 Delivery Rating (DR) is calculated as:

$$\text{Delivery Performance Rating (DPR)} = \frac{\text{Total quantity received}}{\text{Total quantity scheduled}} \times 100$$

$$\text{Premium Freight Rating (PFR)} = 2\% \text{ per incident}$$

$$\text{DELIVERY RATING (DR)} = \text{DPR} - \text{PFR}$$

\* Delivery rating is calculated based on mutually agreed lead time with supplier.

\* Improvement plan with respect to Delivery Rating (DR) is made & monitored by Respective Logistics.

##### 1.2.2 Cost Rating (CR) is calculated as:

<b>Cost</b>	3% or greater cost reduction	5
	2% - 2.9% cost reduction	4
	1% - 1.9% cost reduction	3
	No cost reduction	2
	Force Price increase	-2

\*Improvement plan with respect to Cost Rating (CR) is made & monitored by Respective Logistics.

##### 1.2.3 Quality Rating (QR) is calculated as:

#### 1) Input Material Quality (QA)

Weightage 55% of QR

$$\text{a) Inspection Rating (QA1)} = \frac{\text{No. of Lot Accepted}}{\text{Total No. of Lot Inspected}} \times 100 \quad (\text{weightage 15\% of QR})$$

$$\text{b) NEI Shop Complaint Rating (QA2)} = \begin{cases} 5, & \text{if shop complaint} = 0 \\ 0, & \text{if shop complaint} > 0 \end{cases} \quad (\text{weightage 05\% of QR})$$



- c) NEI Line Rejection Rating ( QA3 ) = 15 if Line Rejection PPM = 0 PPM ( weightage 15% of QR)  
10 if 1 PPM to 25 PPM  
5 if 26 PPM to 50 PPM  
0 if PPM > 50 PPM

- d) Customer Line Rejection Rating ( QA4 ) = 0 , if any issue reported from Customer ( weightage 20% of QR)  
20 , if no issue reported from Customer

$$\text{Input Material Quality ( QA )} = \text{QA1} + \text{QA2} + \text{QA3} + \text{QA4}$$

## 2) Resolution Response (QB)

Weightage 15% of QR

- a) Timely Response Rating (QB1) = 5 , If no Response issues with Supplier (weightage 5% of QR)  
– Interim action within 24 hrs.  
0 , if Line stoppage because of quality issue  
0 , if poor performance in FTR (NPD)  
0 , if facing issues in documentation / support, from Supplier side
- b) Timely SCAR Submission Rating (QB2) = 5 , if SCAR(8D) response within 7 days (weightage 5% of QR)  
3 , if SCAR(8D) response within 14 days  
0 , if SCAR(8D) response after 14 days
- c) Reoccurrence of issue Rating (QB3 ) = 0 if issue reoccurred within 3 months (weightage 5% of QR)  
5 if issue does not re occurred in 3 months

$$\text{Resolution Response (QB)} = \text{QB1} + \text{QB2} + \text{QB3}$$

## 3) Process Capability (QC)

(Weightage 5% of QR)

- Process capability Rating (QC) = 0 , if Cpk < 1.33  
3 , if  $1.33 \leq \text{Cpk} < 1.67$   
5 , if  $\text{Cpk} \geq 1.67$

## 4) Internal Rejection (QD)

(Weightage 5% of QR)

- Internal Rejection Rating = 5 , if current month Internal rejection PPM < Last 3 month Average Internal Rejection PPM  
OR Internal rejection < 1000 PPM  
3 , if current month internal rejection > Last month Internal Rejection  
0 , if current month rejection > Last 3 month average rejection PPM

## 5) 4M Change notification (QE) - (Weightage 5% of QR)

- 4M Change notification Rating = 0 if 4M change monthly notification is not submitted.  
5 if 4M change monthly notification is submitted with evidence

## 6) Measurement Capability (QF) - (Weightage 5% of QR)

- Measurement Capability Rating = 0 if defined machine as per supplier product category is not available with supplier  
5 if defined machine as per supplier product category is available with supplier

## 7) Supplier Audit Score (QG) - (Weightage 8% of QR)





Supplier audit score rating = Supplier audit score in last year/100\*8

\* For New Supplier - SD approval Audit Score will be used

#### 8) Supplier Involvement through Kaizen (QH) - (Weightage 2% of QR)

Supplier involvement through Kaizen rating = 2 , if 2 kaizen are submitted

1 , if 1 kaizen is submitted

0 , if no kaizen is submitted.

$$\text{QUALITY RATING (QR)} = \text{QA} + \text{QB} + \text{QC} + \text{QD} + \text{QE} + \text{QF} + \text{QG} + \text{QH}$$

#### 1.2.4 Metallurgical Quality Rating (MQR) is calculated as below for the supplier defined in clause 3.5

MQR (Quality Rating) = MQA + MQB + MQC + MQD + MQE + MQF + MQG + MQH				Rating	Weightage
MQA (Input Material Quality)	NQA1	Inspection Rating	= No. of lots accepted / Total no. of lots received *100	25	25
	NQA2	NEI shop complaint rating	"0" Complaint	15	15
			"1" Complaint	12	
			"2" Complaint	10	
			"3" Complaint	5	
			more than 3 Complaint	0	
	NQA3	Line rejection PPM rating	"0~10" PPM of total Qty	10	10
			"11~50" PPM of total Qty	8	
			"51~100" PPM of total Qty	6	
			"101~200" PPM of total Qty	4	
			more than 200 PPM of total Qty	0	
MQB (NEI line stopage )		NEI line stopage rating (as per annexure 2.B)	No NEI line stopage because of Quality issue	10	10
			NEI Line stopage because of Quality issue	0	
MQC (Customer Complaint)		Customer complaint Rating	No customer complaint	10	10
			Customer complaint	0	
MQD(Issue resolution response)	NQD1	SCAR quality and timely submission rating	SCAR (8D) Response within 7 days	5	5
			SCAR (8D) Response within 14 days	3	
			SCAR (8D) Response after 14 days	0	
	NQD2	Reoccurrence of Issues	If issue not reoccurred within 3 months	5	5
			If issue reoccurred within 3 months	0	
MQE (Change Management)		Change management rating (As per annexure 2.D)	4M Change monthly notification submitted with evidence	5	5
			4M Change monthly notification not submitted	0	
MQF(Measurment Capability)		Measurment capability rating (As per annexure 2.F)	Advanced measurment capability	5	5
			Measurment capability minimum bare requirement is there	3	
			Measurment capability minimum bare requirement is not there	0	
MQG (Supplier Audit Score )		Ref previous audit score	= Supplier Audit Score /20	5	5
MQH(Quality issue at supplier end)		Quality issue at supplier end - Rating	If no issue at supplier end	5	5
			If any issue reported at supplier end	0	

a) For the supplier related to forging, casting, turning, roller and ball defined in clause 3.5

b) For the supplier related to raw material (e.g. Bar, tube, wire rod, etc) defined in clause 3.5



MQR (Quality Rating) = MQA + MQB +MQC + MQD + MQE + MQF + MQG				Rating	Weightage
MQA (Input Material Quality)	NQA1	Inspection Rating	= No. of lots accepted / Total no. of lots received *100	25	25
	NQA2	NEI shop complaint rating	"0" Complaint	25	25
			"1" Complaint	15	
			"2" Complaint	5	
			more than 2 Complaint	0	
MQB (NEI line stoppage )	NEI line stoppage rating (as per annexure 2.B)		No NEI line stoppage because of Quality issue	10	10
			NEI Line stoppage because of Quality issue	0	
MQC (Customer Complaint)	Customer complaint Rating		No customer complaint	15	15
			Customer complaint	0	
MQD(Issue resolution response)	NQD1	SCAR quality and timely submission rating	SCAR (8D) Response within 7 days	5	5
			SCAR (8D) Response within 14 days	3	
			SCAR (8D) Response after 14 days	0	
	NQD2	Reoccurrence of issues	If issue not reoccurred within 3 months	5	5
			If issue reoccurred within 3 months	0	
MQE (Change Management)	Change management rating (As per annexure 2.D)		4M Change monthly notification submitted with evidence	5	5
			4M Change monthly notification not submitted	0	
MQF(Measurment Capability)	Measurment capability rating (As per annexure 2.F)		Advanced measurment capability	5	5
			Measurment capability minimum bare requirement is there	3	
			Measurment capability minimum bare requirement is not there	0	
MQG (Supplier Audit Score )	Ref previous audit score		= Supplier Audit Score /20	5	5

Note : Quality rating will be maintained in separate spread sheet at Met. Lab.

## 2. SUPPLIER RATING :-

Supplier Rating is calculated as follows :

$$\text{SUPPLIER RATING (SR)} = (\text{Delivery Rating(DR)} \times \text{Wd}) + (\text{Cost Rating(CR)}) + (\text{Quality Rating(QR)} \times \text{Wq})$$

## 3. CLASSIFICATION OF SUPPLIERS :-

a) On the basis of QR the suppliers are classified as below :

Rating Obtained	Rating
Above 80%	A
61% ~ 80%	B
<61%	C

b) On the basis of above Supplier Rating (SR), the suppliers are classified as below :

Rating Obtained	Rating
Above 80%	A
61% ~ 80%	B
<61%	C

c) On the basis of above Delivery rating (DR), the suppliers are classified as below :

Rating Obtained	Rating
Above 94%	A
85% ~ 94%	B
<85%	C

Note: Supplier rating score card will be shared with supplier till 15<sup>th</sup> of every month.



### **Annexure – 1.A**

- (1) If process capability value submitted for more than one parameter, the least of all will be considered.
- (2) Process Capability of Significant (For NEIL) and/or Major (For Customer) characteristics defined to be submitted with every Lot.
- (3) If process capability of any parameter is demanded by NEIL, the process capability value of the same will be considered.
- (4) If process capability of any particular parameter is not demanded by NEIL, the process capability will be considered as per below table.
- (5) Process capability report to be submitted through mail before 2nd of next month.

<b>Category</b>	<b>Process Capability Parameter</b>
Inner	Bore Size
Outer	OD Size
Cage (Steel , Nylon and Claw type)	Inner diameter
Ball	Ball diameter
Wear Ring	Bore Size
Clamping Plate	OD Size
Inner Thrust Collar	Bore Size
Inner Thrust Collar Distance Piece	Width Size / OD Size
Outer Thrust Collar	OD Size / Bore Size
Thrower Cover	OD Size
Axle Box Housing	Bore Size
Adapter	Bore Size
Bush Nylon	OD Size
End Cover	OD Size
Cap Screws	Length / Major Dia.
Rollers	Length
Hex Head Nut	Width Size / Minor Dia.
Side Frame Key Bolt	Length
Inner Distance Piece	Width Size
Outer distance piece	Width Size
Outer Spacing piece	Width Size
Plain Cover	OD Size
Backing Ring	Bore Size
End Cap	Bore Size
Narrow Jaw Adapter	Bore Size
LABYRINTHRING.X-134-3	OD Size
Thrower	OD Size
Brass Cage	PCD
Steel Cage	Bore Dia.





Seal	OD
Loose Lip	Bore Size
Angle Ring	OD Size
Cone	Bore Size
Pinner	Bore Size
Spacer	Width Size
Side Frame Key (RDSO)	Hole distance from Lug
Cup	OD Size
Locking Plate	Hole Dia.
Lip Inner	Bore Size
Roller	OD Size

#### **Annexure – 1.B**

- (1) 4M change monthly report (QAF/P/QA/011/1041/Rev. 0) will be submitted to NEIL in defined format.
- (2) 4M change monthly report to be submitted through mail before 2nd of next month in duly signed scanned copy.

(3)

#### **Annexure – 1.C**

<b>Measurement Capability</b>	
<b>Category</b>	<b>Critical measurement Equipment</b>
Turned Race (For BB, TRB and RB)	Contracer / Profile Projector
Cage (Steel, Nylon and claw type)	Video measuring machine / DRO / Profile Projector
Ball	Roundness & Roughness measurement equipment,
	Noise testing, electronic comparator
Roller (For TRB & RB)	Contracer / Profile Projector / DRO
Retainer (Brass & Steel) (For TRB & RB)	Contracer / Profile Projector / DRO
Axle Box	CMM
Wear ring	Roughness measurement equipment
Backing Ring, thrower (For RB)	Contracer / Profile Projector
Cap Screw, Thrust collar , distance piece (For RB)	Profile projector

#### **Annexure – 2.D**

##### **Measurement capability rating criteria for the supplier defined in clause 3.5**

<b>Category</b>	<b>Minimum required measurement capabilities</b>	<b>Advanced Measurement Capabilities</b>
Forging (BB, TRB & RB)	Microscope, Hardness Testing Machine, Grain Flow Measurement Capability	Spectrometer
Turning (BB, TRB & RB)	Microscope, Hardness Testing Machine, Grain Flow Measurement Capability	Spectrometer
Casting	Spector Meter, Microscope, Hardness Testing Machine, Sand Testing Facility	NDT Testing
Raw Material (Bar, Tube & Wire Rod)	Spectroscope, Microscope, Hardness Testing Machine, Jominy Equipment, C, S, O, H2 Analyzer, Macro Etching, Tensile Testing	SEM, XRD, Auto UT, Immersion Ultrasonic



## Annexure – 2

### List of PPAP Documents

The requirement associated with the relevant submission level can be found in the following table.

Unless defined otherwise by the customer in the order, the supplier should generally follow Submission Level 3.

Requirement	Submission Level				
	Level 1	Level 2	Level 3	Level 4	Level 5
<b>1</b> Design Record	R	S	S	*	R
For Proprietary Components/Details	R	R	R	*	R
For all Component Details	R	S	S	*	R
<b>2</b> Engineering Change Documents (if any)	R	S	S	*	R
<b>3</b> Customer Engineering Approval (if required)	R	R	S	*	R
<b>4</b> Design FMEA	R	R	S	*	R
<b>5</b> Process Flow Diagrams	R	R	S	*	R
<b>6</b> Process FMEA	R	R	S	*	R
<b>7</b> Control Plan	R	R	S	*	R
<b>8</b> Measurement System Analysis Studies	R	R	S	*	R
<b>9</b> Dimensional Results	R	S	S	*	R
<b>10</b> Material, Performance Tests Results	R	S	S	*	R
<b>11</b> Initial Process Studies	R	R	S	*	R
<b>12</b> Qualified Laboratory Documentation	R	S	S	*	R
<b>13</b> Appearance Approval Report (AAR) (if Applicable)	S	S	S	*	R
<b>14</b> Sample Product	R	S	S	*	R
<b>15</b> Master Sample	R	R	R	*	R
<b>16</b> Checking Aids	R	R	R	*	R
<b>17</b> Records of Compliance With Customer Specific Requirements	R	R	S	*	R
<b>18</b> Part Submission Warrant (PSW)	S	S	S	S	R
Bulk Material Checklist	S	S	S	S	R

**S** = The organization shall submit to the customer and retain a copy of records or documentation items at appropriate locations.


**R** = The organization shall retain at appropriate locations make available to the customer upon request.

**\*** = The organization shall retain at appropriate locations and submit to the customer upon request.

**#** = In Case of Design responsible organization or joint design development, NEIL or It's Customer may ask for Design Validation plan (DVP) & Testing as per DVP.



### Annexure – 3

 <b>Supplier Corrective Action Report (8D)</b> <span style="float: right;">Form no. QAF/M/014/032226/Rev.7</span>					
<b>Basic Information :</b>					
Part No.		Report No.			
Supplier		Org. No. / Rev. No.			
GR No. / GRN Creation Date / Ch. No.		Date of Rejection			
<b>Step 1: Team Members</b>					
Name		Title		Mobile No.	
<b>Step 2 : Description of Non Conformity</b>					
Specification		Observation		Remarks	
<b>Step 3: Short Term Corrective Action (Interim Action)</b>					
Action		Resp.		Date	Remarks
<b>Disposition of Available Material</b>					
Location	Total Qty	Rejected Qty	Finish Date	Resp.	Remarks
NEI's Customer End					
NEI Shop					
NEI Store					
NEI's Supplier End					
<b>Step 4 : Root Cause(s) Analysis :</b>					
Process Sequence : → → → → →					
					↓
<b>Why Why Analysis :</b>					
Stage	Why	Why	Why	Why	Why
Generation					
Detection					
<b>Step 5 : Corrective Action &amp; Standardisation</b>					
Stage	Root Cause	Action	Resp.	Target Date	
Generation					
Detection					
<b>Specific Document Updated :</b>					
Document	Tick mark	Revision date	Remarks (specify document if tick mark on others)		
PFMEA	<input type="checkbox"/>				
Control plan	<input type="checkbox"/>				
PFD	<input type="checkbox"/>				
Work Instruction	<input type="checkbox"/>				
Others (Maintenance check sheet, Setting approval etc.)	<input type="checkbox"/>				
<b>Step 6 : Corrective Actions Implementation and Effects Confirmation</b>					
<b>Monitoring for 3 lots</b>					
Lot	Batch/Ch. No.	Qty.	Date	Remarks	
1					
2					
3					
<b>Step 7 : Horizontal Deployment</b>					
Description		Resp.	Target Date	Remarks	
<b>Step 8: Closing Remarks and Lessons</b>					
Submitted by :				Submission Date :	





## Annexure – 4

Form no. QAF/I/QA/104/933/rev.0

<b>Supplier Name &amp; Logo</b>		<b>Layout Inspection Report – Supplier</b>															
Part No.		Part Name		Drg. No / Rev. No.				Date of Inspection									
										Tick one of the three-->		Sample	PPAP lot	Regular lot			
S. No.	Characteristics	Measuring Method / Equipment	Drg. Dimension	Min	Max	Observation										Disposition Status	
						1		2		3		4		5			
						Supplier	NEIL	Supplier	NEIL	Supplier	NEIL	Supplier	NEIL	Supplier	NEIL	Supplier	NEIL
1																	
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
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15																	
16																	
17																	
18																	
19																	
20																	
21																	
22																	
23																	
24																	
25																	
Supplier Prepared By						Supplier Verified By								NEIL Approved By			

Note : 1. Submit Layout Inspection report along with Dwg. Having ballooning for all characteristics coming in S.No.  
2. Pls submit these samples with repot duly No. aligned on component to NEIL.



### Annexure – 5

Form no. QAF/Q/000/041602/REV. 3

## **NATIONAL ENGINEERING INDUSTRIES LIMITED**

Khatipura Road, JAIPUR-302 006 (Rajasthan)

Phones: (0141) 2223221, FAX: (0141) 2222259 / 2221926

### **SELF EVALUATION FORM FOR SUPPLIERS**

**"Confidential"**

o Self Evaluation Form for Suppliers for the approval of \_\_\_\_\_

1. NAME OF THE SUPPLIER :

2. ADDRESS :

WORKS :

OFFICE :

FAX:	FAX:
EMAIL:	EMAIL:
MOBILE :	MOBILE:

3. MSME-UNIT (Yes/No) : \_\_\_\_\_ REG. NO. \_\_\_\_\_ DT. \_\_\_\_\_  
(If Yes, give Reg. No.& Date)

4. MEMBERSHIP :-

a) Sales Tax No. & Dt : \_\_\_\_\_

b) Directorate of Ind.: \_\_\_\_\_

Reg. No. & Date : \_\_\_\_\_

5. NATIONAL/INTERNATIONAL

CERTIFICATION :

(Give details with validation period)

6. NAME(S) OF PROPRIETOR/

PARTNERS/DIRECTORS: \_\_\_\_\_

Business Ownership status:-

Men :- Yes/No

Women Yes/No

Disabled :- Yes /No

7. ANY ONE OF ABOVE IS :

RELATED TO OUR EMPLO-: \_\_\_\_\_

YES. (If Yes, please give details)

8. CONTACT PERSON(S) :

WORKS

OFFICE

(Name) : \_\_\_\_\_

(Designation) : \_\_\_\_\_

9. \* MAJOR CUSTOMERS :

10. \* PRODUCT(S) :



11. CAPITAL WORTH : FIXED RS. \_\_\_\_\_ WORKING RS. \_\_\_\_\_  
(As on previous Financial year)
12. TURNOVER AS ON PREVIOUS FINANCIAL YEAR (Rs.in Lacs p.a.) : BY SALES RS. \_\_\_\_\_  
JOB WORK RS. \_\_\_\_\_  
\* (Provide Balance sheet, Profit & Loss A/c of last 2 Financial years)
13. PRODUCTION CAPACITY: UTILIZED \_\_\_\_\_ SPARE \_\_\_\_\_
14. AUTHORISED : \_\_\_\_\_  
DEALER/DISTRIBUTOR: \_\_\_\_\_  
OF ANY FIRM.(If Yes, give details)
15. DEALING WITH N.E.I. : \_\_\_\_\_  
DIRECTLY/ THROUGH AGENT/ DEALER.
16. \*GIVE DETAILS OF YOUR : \_\_\_\_\_  
(DEALERS/DISTRIBUTORS) : \_\_\_\_\_  
NEAREST TO N.E.I. : \_\_\_\_\_
17. NO.OF EMPLOYEES : COMM.STAFF: \_\_\_\_\_ TECH.STAFF: \_\_\_\_\_ WORKMEN
18. \*TECHNICAL BACKGROUND : \_\_\_\_\_  
OF PEOPLE IN CHARGE OF: \_\_\_\_\_  
MFG.& QUALITY (Qlfn.& Experience)
19. DETAILS OF COLLABORATION (If any)/SOURCE : \_\_\_\_\_  
OF TECHNICAL KNOW-HOW : \_\_\_\_\_
20. \*MACHINERY, INSPECTION : \_\_\_\_\_  
AND MEASURING INSTRUMENTS: (Make & model, : \_\_\_\_\_  
quantity, year of purchase & any special accessories etc.)
21. Details of applicable Safety and Environmental regulation restricted, toxic, hazardous materials followed or not.
22. INTRODUCED BY : \_\_\_\_\_  
UNDERTAKING  
We hereby undertake to intimate immediately N.E.I. Ltd., any changes in the constitution of our Company as and when the change is effected.

Date : \_\_\_\_\_

Signature  
(Name & Designation)

\* Attach additional sheets wherever required.

Note: Strike out whichever is not applicable.





**FOR OFFICE (NEIL) USE ONLY**

1. Criterion for Supplier Assessment :

a) QMS Certification - \_\_\_\_\_  
\_\_\_\_\_

b) Financial Status - \_\_\_\_\_  
\_\_\_\_\_

c) Spare Capacity - \_\_\_\_\_  
\_\_\_\_\_

d) Technical Collaboration - \_\_\_\_\_  
\_\_\_\_\_

e) Other if any- \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. On the basis of above criterion the Supplier is Approved / Not Approved for  
Assessment Audit for - \_\_\_\_\_

3. Sender of Self Evaluation Form from NEIL to Supplier : \_\_\_\_\_

Date :

D.H.(S.D.dept.)



HE AD		S.N.	AUDIT POINTS	SCORE			AUDIT OBSERVATION
				0	1	2	
<b>Supplier Executive Summary :</b> Turnover ( Previous Financial Year) Total land area Total built-up area Total no. of m/c's (including type) Type of products manufactured Type of Facilities(Turning, Forging, Haading, Grinding, Stamping, Heat treatment, Casting, Plastic parts etc.) No. of mfg. locations Domestic/Export							
				Total No. of employees(Male+Female)		Male-	Female-
				Total no. of Staff			
				Total no. of workmen			
				No. of Technical staff			
				Production capacity (Tons)			
				Production capacity (Nos.)			
				Working hours & shifts			
				Self Evaluation Form submitted to NEI			
0 - Unsatisfactory      1 - Need Improvement      2 - Good(System & Adherence)							
<b>Organization Structure</b> Does Supplier have the structured organization set-up? Is there any Organization chart with role & responsibility? Does supplier have defined responsibilities for New Product development, Sales, Logistics, Production, Maintenance, HR, Accounts, Quality?							
Q		1					
Co		2	Does supplier ensure no discrimination based on Gender, Colour, Caste, Creed, Religion, Place & any other aspects				
<b>Capacity Estimation</b> Is the growth trend of the company positive in last 3-4 Yrs? Is there any future expansion plan to increase turnover?							
C		3					
C		4	What is the range of products that Supplier can manufacture? Is there range flexibility?				
C		5	Is there any spare capacity available presently?				
C		6	Is there enough space for material storage(RM and Finished)? Does Supplier have any methodology for future expansion as per demand and expansion?				
C		7	Does the Supplier have the basic facilities for manufacturing & measurement the products? Does the Supplier have adopted latest technology machines for manufacturing & measurement the products? Does supplier using efficient production planning tool (e.g. Excel, ERP, SAP etc.)?				
C		8	Is supplier capable to use digital platforms for interaction with Customers like- - Delivery schedules & dispatch planning - Supplier portal for documentation upload( Improvement action implementation & NC closure, PPAP, APQP etc.)				
<b>Finance / Cost / Logistics</b> Does the Supplier have the audited accounts for previous 2 years?							
Co		9					
D		10	Does the Supplier analyse reasons for delivery failures, if any, and take necessary actions to ensure supply reliability to customers? KPI Monitoring Process(e.g. Customer provided score cards, Sustainable procurement related KPI's) Does supplier monitor customer score card and take suitable actions for improvement in rating?				
D		11	Is the organization in Industrial area for easy transportation? Does transportation facilities (intra plant transfer) available?				
D		12	Is the labour Permanent or Contract basis?				
D		13	Does the organization have contingency plan to avoid Production & Delivery failure? Is there a regular review of contingency plan? Does the Organization maintains minimum Inventory level for Raw & Finished material?				
D		14	Is there any procedure for Material Reconciliation or Inventory? How it is being done in Shop, Sub Suppliers?				
Co		15	Does the Supplier take proactive approach for Cost reduction? Does the Supplier have Kaizen/QC story/Six sigma/any similar approach for Cost Saving in different areas?				
Co		16	Is the Supplier capable to estimate the Product & Process costing?				
Co		17	Is there adequate communication system, for communicating with customers, sub suppliers? Does Supplier have self domain address?				
Co		18	Does the Supplier monitor the Cost Saving & give reward to concerned employ to motivate them?				
<b>Quality Management system &amp; certifications</b> Does the Supplier have any Quality system certification, e.g. ISO9001, IATF16949 etc.? Its expiry date?							
Q		19					
Q		20	Does the Supplier follow the APQP Process during New Product Development? Is there defined roles and responsibility in APQP matrix? Is there escalation process up to Top Management in case of delay?				
Q		21	Does supplier follow Initial Product Control? - Traceability - Stringent Controls - Start and Completion of IPC				
Q		22	Does the Supplier have defined procedures of Internal audit? Are person qualified for Internal Audit as per certification?				
Q		23	Does Supplier have procedure for MRM? Does Supplier MRM at regular interval? How these discussions are recorded and how these points are closed raised in MRM?				
Co		24	Is supplier following safety and environment norms as per ISO14001, ISO 45001? Does supplier have certificate from recognised agency also? Its expiry date?				



<b>E Control of input material from Sub Supplier</b>				
Q	25	Does the Supplier have the List of approved sub supplier ? - Procedure for Supplier Approval - Regular monitoring of sub supplier performance - Sub Supplier end delivery and quality issue analysis		
Q	26	Does any Receiving Inspection system exist & adhered ? Is it sample inspection or 100% inspection ? Is there Receiving Inspection Control Plans ? & Does record the Inspection results ?		
Q	27	Is there separate identified Receiving Inspection area with important work instructions (e.g. visual standards , special characteristics controls etc.) displayed ?		
<b>F Education &amp; Training</b>				
Q	28	Is there any well defined procedure for education and training of employees ?		
Q	29	Is there any System to prepare Skill Matrix of all employees and review it at regular intervals ?		
Q	30	Is there any training calendar for the financial year & training material for the required operator including Environmental, Social & Governance related factors (Ex-Sustainability, Human Rights & Ethical behaviour) ? Is there separate training and induction plan for new joiners ? Is there education and training area available?		
<b>G Process &amp; Product Control during manufacturing</b>				
Q	31	Does the Supplier has the Process Flow chart & control plan for each component ?		
Q	32	Is there a PFMEA procedure involving CFT ? Is there a regular review of PFMEA and RPN reduction plan ?		
Q	33	Is there a list of all Work Instructions available in the organization & displayed at appropriate locations ?		
Q	34	Does the Supplier control the process through regular Process Capability Studies (SPC) & maintain the records for future references ?		
Q	35	Is the plant layout as per the process flow chart , with minimum material movement ?		
Q	36	Is there the System exists to conduct Process & Product Audits ? Are processing conditions verified in process audit ? Is there a system for non conformance closure ?		
Q	37	Does the Supplier implemented Process quality check sheets, Setting approval check sheets and First & Last pieces inspection system ? Does the operator fill them regularly ? And maintain the records ?		
Q	38	Is there a procedure for similar part handling starting from planning to production? Adherence against the same.		
Q	39	Does the Supplier use Run chart on the machines to find out the size band within which the product is being manufactured & maintain the machine on mean ?		
Q	40	Is there any System for material handling & preservation from Raw material receipt or lifting from NEI to finish material storage (through the company) and delivered to NEI including packaging ? Is height of stacking defined ?		
Q	41	Does the Supplier have special focus & regular verification/ validation system on special processes like MPI, Grade sorting, Auto checking, Heat Treatment and any type of coating etc.		
Q	42	Does the Supplier has the effective System to manage changes(planned/unplanned/abnormalities) in supply chain? Does Supplier maintain records inhouse & inform to NEI(if required) ?		
<b>H Document and Drawing control &amp; Display</b>				
Q	43	Is there defined a procedure to update latest drawings received from NEI / Customer & maintain revision history of all documents i.e. ECN change monitoring procedure ?		
Q	44	Does Supplier have a master list of document, formats and records ? Is there defined retention period for all quality records as per Customer requirement ?		
Q	45	Does the Supplier display Work Instructions , Drawings , processing conditions , control plans , one-point lessons , Special characteristics etc. at appropriate locations.?		
<b>I Tool Management</b>				
Q	46	Is there a list of critical tools & spares & maintain inventory of critical tools & spares ?		
Q	47	Does the Supplier has the System of drawing & identification of all Tooling's & Job wise Tooling Chart system ?		
Q	48	Does the Supplier use standard tools ? & established tool life and change tools accordingly ? Are the records maintained for tool change ?		
Q	49	Does the Supplier have a proper Tool Inspection & rectification System with records?		
Q	50	Is the tool storage area properly protected from environmental conditions with racks & cabinets etc. ?		
<b>J Identification system</b>				
Q	51	Are there well defined areas duly identified , for Raw Material storage, Receiving Inspection , Pre-dispatch Inspection , Rejection , OK & in-process material storage etc ? Does plant layout covers all these areas ? Is plant layout displayed in shop floor ?		
Q	52	Are there identified bins for Scrap & rework , on each machine ? Are the identification labels being used , to avoid mixing ?		
Q	53	Does the Supplier is well aware of maintaining Traceability System through the Supply chain in scope. - Traceability to be maintained batch / heat wise. - Material to be identified by Tag or Route Cards.		
Q	54	Does the Supplier have the fool proof System to follow FIFO System ?		





	<b>K</b>	<b>Control of non-conforming product</b>			
Q	55	Does the Supplier uses locked boxes for Scrap ? Is responsibility defined for finalizing the rejections ? What is the frequency of finalizing rejections and their disposal ?			
Q	56	Does supplier have rework procedure along with defined frequency of rework, responsibility and traceability ? Adherence against the same.			
Q	57	Does the Supplier analyse rejections (Internal/External) with 8D methodology ? Verify for Root cause analysis, Horizontal deployment and Standardization.			
Q	58	Does the Supplier maintain rejection (Internal/External) trends & display them on shop floor for awareness purpose ? Is action plan available for reduction of rejection trends ?			
	<b>L</b>	<b>Control of gauges &amp; measuring equipment's</b>			
Q	59	Has the Supplier defined calibration & MSA frequency for each gauge & measuring instrument & adhered with the defined frequency ? In case of inhouse calibration, verify procedure along frequency, responsibility and controlled environments, records of calibration, NABL certificate.			
Q	60	Does supplier verifies condition of gauges and master ? Is the storage for gauges and master enclosed ?			
Q	61	Are the calibration due date marked on gauges & masters ?			
	<b>M</b>	<b>Control of Dispatch system</b>			
Q	62	Does the Supplier has the dispatch audit & inspection system like Quality, Quantity, Identification tag or label etc. verification?			
Q	63	Is there proper area, oiling & packing system exist before dispatch ? Are packing norms with customer approved ? Is Oiling process adequate for rust prevention?			
	<b>N</b>	<b>Maintenance of machines</b>			
Q	64	Does the Supplier have a procedure for maintenance of machines & System to carry out Maintenance along with responsibility and defined frequency?			
Q	65	Is there any preventive maintenance schedule of machines , and adhere to it ? Does the Supplier use check sheets for preventive maintenance , and maintain records ?			
Q	66	Does supplier have a list of Poka-Yoke and is there a verification of Poka-Yoke at set frequency ?			
Q	67	Does supplier have a daily maintenance/autonomous maintenance based on CLIR(Cleaning, Lubrication, Inspection, Retightening) concept ? Is there a system for check on check(Supervisor verification) along with judgement criteria?			
Q	68	Is there a System to track unscheduled break downs with root cause analysis and actions accordingly?			
	<b>O</b>	<b>Working environment (EHS) &amp; 5 'S' Activities</b>			
Q	69	Is the illumination level at all inspection & working areas sufficient , as per standards ?			
Q	70	Does supplier have a system of 5S conditions verification ? Is there a defined check sheet ? Zone wise leader identified ?			
Co	71	Is there any unsafe condition in the company , if yes then safety measures are taken on satisfactory level ?			
	<b>P</b>	<b>Compliance &amp; Ethics</b>			
Co	72	Is there child labour policy, POSH policy, Anti bribery policy, Whistle blower policy, diversity policy, code of conduct defined in the company ?			
Co	73	Does supplier comply as per ESI/PF rules ? Are wages and benefits as per Govt. Rules ?			
Co	74	Is supplier doing any of the Corporate Social responsibility(CSR) like tree plantation, solar panel usage, rain water harvesting, education, healthcare ?			
Co	75	Is Supplier conducting workers voice survey with in their Supply chain considering-Wages equality, fare compensation, Basic facilities etc.			
	<b>Q</b>	<b>Environment sustainability &amp; Governance Requirements</b>			
Co	76	Does Supplier Have system for Storage & disposal of Effluent discharges, Waste Disposal & Hazardous chemicals.			
Co	77	Does supplier have system to monitor Water Usages & control the water wastage :- a. Is Rain Water Harvesting system available b. Is Reduction in Fresh Water Consumption & Treatment facilities available for waste water recycling			
Co	78	Does Supplier have system to track energy consumption & Reduce Green House Gas (GHG) Emission. a. Does Supplier take initiatives for use of Green Energy & Facilities implementation b. Energy Conservation (ENCON) initiatives, and strive to improve usage of Renewable Energy (RE) for minimizing the carbon footprint			



R	Substance of Concern (SOC) Management System				
Co 79	Does the supplier have a system to check SOC as per GADSL, REACH and ELV - ROHS - 2 for hazardous substance ?				
Co 80	Does the supplier had latest revision substance of concern (SOC) list as per GADSL ?				
Co 81	Does the supplier has declaration from their suppliers for ROHS-2 for hazardous substance ?				
CO 82	Is there any hazardous material coming during the process, if yes then disposition of the same is on satisfactory level ?				
Total no. of points in each category =					
Net Audit Score =					
* Score related to Quality ( Q )					
* Score related to Capacity ( C )					
* Score related to Delivery ( D )					
* Score related to Compliance ( Co )					
( Legal , Finance ,Cost , Environment & Safety etc. )					

Total Net Score =

1	Supplier is :	Not Accepted	<input type="checkbox"/>	Accepted	<input type="checkbox"/>	ite :
2	PPAP Approval :					
	PO No. of PPAP Lot	PPAP Lot Qty.	Date of Lot receipt & Insp.	RI Status	Assembly status	Approval status & Date

**STANDARD REMARKS :-**  
1. Top Management commitment :  
2. Technical Capability :

**GENERAL REMARKS :-**

**DH - Logistics**

**DH - SD Dept.**

Supplier Categorization Standard:-

Audit Rating	Category	Description of Category
81% & Above	A	Supplier is approved
71% to 80%	B	Supplier is approved , but has to implement improvement points to achieve 'A' Category
61 to 70%	C	Not approved - Has to be re-audited , after implementation of improvement points
50% & Below	D	Not approved

\* Supplier has to achieve minimum (71%) score in individual heads for approval.

\* Auditor has to Score 0, 1 or 2 in Score columns per defined above & put Observation against each Audit Point in Audit Observation column.

\* MMOG/LE related requirements addressed in point no. 3 , 4 , 5 , 6 , 8 , 9 , 11.

\* ESG,GHG & Ecovadis requirements addressed in point no-2,24,30,72,73,74,75,76,77,78,Rev-10 & these check point's are preferable for supplier selection for Customers who demands ESG,GHG & Ecovadis compliances for T-2 supplier.



## Annexure – 7

Supplier Risk Management					Form No. QAF/II/QA/184/877/Rev.1
Supplier Name :					Date-
S.No.	Type of Risk	Risk Impact	Contingency Plan Verified	Risk level	
A	Capacity	High			
1	Spare Capacity				
2	Key Machine & Equipment Failure				
3	Labour Shortage & Labour strike				
4	Utility Interruptions				
B	Capability		High		
C	Legal , Financial & Costing	High			
D	Logistics	High			
E	Natural Disaster	High			
F	Counterfeit Part	High			

**Conclusion :** After verifying mitigation plans against all the identified Risks it is concluded that the Supplier is working at " \_\_\_\_\_ " Risk level.

**Analysis done by :**





## Annexure – 8

Form no. QAF/P/QA/011/1614/Rev.1														
		<b>National Engineering Industries Limited</b>												
<b>Supplier Score Card - Division</b>														
Supplier Name :				Quality Rating (100%)				Delivery Rating (100%)				Overall Rating (100%)		
Supplier Code :														
Supply items :														
Month :														
NEI Contact Persons							Supplier Contact Persons							
Name		Mail ID		Phone No.			Name		Mail ID		Phone No.			
QA - Input Material Quality (wt-55%)				QB - Resolution Response (wt-15%)				QC+QD+QE+QF+QG+QH - Supplier's Information (wt-30%)						
Inspection Rating QA1 (wt-15)	Shop Complaint Rating QA2 (wt-5)	Shop Rejection Rating QA3 (wt-15)	Customer Line Rejection Rating QA4 (wt-20)	Quality Response Rating QB1 (wt-5)	Timely SCAR Submission Rating QB2 (wt-5)	Reoccurrence of Issues Rating QB3 (wt-5)	Process Capability Rating QC (wt-5)	Internal Rejection Rating QD (wt-5)	4M change notification Rating QE (wt-5)	Measurement Capability Rating QF (wt-5)	Supplier Audit Score Rating QG (wt-8)	Supplier Involvement through Kaizen Rating QH (wt-2)		
QA - Input Material Quality (wt-55%)														
	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.		
Inspection Rating (QA1)														
NEI Shop Complaint (in No.)														
NEI Line Rejection Trend (in PPM)														
Customer Complaint (in No.)														
QB - Resolution Response (wt-15%)														
	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.		
Timely Response rating														
Timely SCAR Submission rating														
Reoccurrence of Issues rating														
QC+QD+QE+QF+QG+QH - Supplier's Information (wt-30%)														
	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.		
Process Capability (QC) - (Cpk)														
Internal rejection (PPM) (QD)														
4M Change Notification (QE) - (Y/N)														
Measurement Capability (QF) - (Y/N)														
Supplier Audit Score Rating (QG)														
Supplier involvement through Kaizen Rating (QH)														
Month	Avg.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	
Quality Rating (QR)														
Delivery Rating (DR)														
Cost Rating (CR)														
Overall Rating (OR)														
<b>Quality Rating (in %)</b>				<b>Delivery Rating (in %)</b>				<b>Overall Rating (in %)</b>						
<b>A</b> > 80 %				<b>B</b> ≥ 61 ~ ≤ 80 %				<b>C</b> < 61 %						
<b>Overall Quality Rating in Yr (in %)</b>										<b>0</b>				



## Annexure – 9

### **Standard For Prohibited And Declarable Substances Std. No. RMSD00169549**

**1) PURPOSE:**

To set forth the restrictions on distribution of hazardous (prohibited and declarable) substances.

**2) SCOPE:** The standard deals with substances or materials which must not be used, which must be declared subjected to requirements according to

- Legal requirements
- Customer requirements
- Internal NEIL requirements.

**3) DEVIATION AND REJECTION :**

Any deviation from this specification must be approved by NEIL Chief Metallurgist and Quality Head.

Non conformance to this specification or to any authorized deviation shall be cause of rejection.

**4) DEFINITIONS :**

**Substances :** Chemical elements or Chemical compounds as they occur naturally or as they produced , including the auxiliary agents which are added in order to stabilize the compounds and impurities which are caused by manufacturing.

**Preparations :** Mixtures and solutions which consists of two or more substances.

**Articles :** Items which gets its specific and final shape and properties as per design during production which satisfies its function for the intended purpose to a greater degree than chemical composition.

**Production Materials:** Material (substances/articles/preparations) which remain in NEIL products or which will remain NEIL products.

**Operating and auxiliary materials:** Substances and preparations which are necessary for the production process but do not remain in NEIL products. e.g. coolants, lubricants incl. additives, anti corrosion agents.

**5) List of Prohibited Substances :**

Substance/ substance group	CAS No.	Affected application	Limit value (wt.%)	Ex- cem- tions	Legal regulations
<b>Electrical and electronic equipment and components; metal, glass and ceramic parts</b>					
Lead	7439-92-1	Electrical and electronic equipment	0.1	yes	EU RoHS CH Chem RRV App.
Cadmium Cadmium compounds	7440-43-9	Electrical and electronic equipment	0.01	yes	EU RoHS CH Chem RRV App.
		Metal surface coating	n.d.	yes	EU REACH App. XVII CH Chem RRV App. 2.9, 2.16(2) DK Statutory Order
		Zinc layers	0.025		CH Chem RRV App.
Mercury Mercury compounds	7439-97-6	Electrical and electronic equipment	0.1	yes	EU RoHS
		All applications	n.d.	yes	CH Chem RRV App. 1.7 NL Decree 9 September 1998



Hexavalent chromium (Cr <sup>VI</sup> )		Electrical and electronic equipment	0.1	yes	EU CH	RoHS Chem RRV App.
Polybrominated biphenyls (PBBs) Polybrominated diphenyl- ethers		Electrical and electronic equipment	0.1	yes	EU CH	RoHS Chem RRV App. 1.9
Octabromodiphenylether (OBDE) Pentabromodiphenyl - ether (PeBDE)	32536-52-0 32534-81-9	All applications	0.1		EU	REACH
<b>Batteries and accumulators</b>						
Lead	7439-92-1	Fixed batteries <sup>6)</sup>	0.1	yes	CH	Chem RRV App. 2.15
Cadmium	7440-43-9	Portable batteries and accumulators	0.002	yes	EU	2006/66/EC
		Zinc-carbon batteries Fixed batteries <sup>6)</sup>	0.015 0.015	yes	CH	Chem RRV App. 2.15
Mercury	7439-97-6	Batteries and accumulators	0.0005	yes	EU	2006/66/EC
		Fixed batteries <sup>6)</sup>	0.000 5		CH	Chem RRV App. 2.15
		Button cells and batteries composed of button cells	2		EU CH	2006/66/EC Chem RRV App. 2.15
		Alkali-manganese batteries	0.000 5	yes	CH	Chem RRV App. 2.15
		Zinc-carbon batteries	0.000 5		CH	Chem RRV App. 2.15
Substance/ substance group	CAS No.	Affected application	Limit value (wt.%) <sup>1)</sup>	Ex- cem- tions	Legal regulations <sup>2)</sup>	
Plastics and rubber parts, wire insulation, coats of lacquer						





Polybrominated biphenyls (PBBs) Polybrominated diphenyl-ethers (PBDEs)		Electrical and electronic equipment	0.1	yes	EU CH	RoHS Chem RRV App. 1.9
Octabromodiphenylether (OBDE) Pentabromodiphenyl-ether (PeBDE)	32536-52-0 32534-81-9	All applications	0.1		EU	REACH App. XVII
Short-chain chlorinated paraffins (C <sub>10</sub> -C <sub>13</sub> )		Sealing compounds Plastics and rubber	1.0		CH	Chem RRV App. 1.2
Lead and lead com-Pounds		Paints and varnishings	0.01	yes	CH	Chem RRV App. 2.8
Cadmium and cadmium Compounds		Pigments in plastics Stabilized vinyl chloride polymers and copolymers (e.g.PVC)	0.01 0.01	yes yes	EU CH DK	REACH App. XVII Chem RRV App. 2.9, Statutory Order No. limit values 0.0075%
		Paints and varnishings	0.01	yes	CH	Chem RRV App. 2.8
Insulating materials						
Asbestos	1332-21-4 see below	All applications	0.1 (total)	yes	EU	REACH App. XVII
			n.d.	yes	CH	Chem RRV App. 1.6
Man-made vitreous (silicate) fibres with random orientation with oxide of sodium, potassium, calcium, magnesium and barium content >18 % by mass		Articles for heat and noise reduction in building construction including technical insulation and for ventilation systems	0.1 (total)	yes	DE	Chem VerbotsV
Other materials (e.g. wood)						
Arsenic compounds		Wood	n.d.	yes	EU	REACH App. XVII
Formaldehyd	50-00-0	Holzwerkstoffe	0,1 ml/m <sup>3</sup> (spezielles Prüfverf.)	ja	DE AT SE	Chem Verbo tsV BGBl. Nr.
Creosote	8001-58-9	Wood and wooden materials	n.d.	yes	EU	REACH App. XVII
Pentachlorophenol (PCP) Pentachlorophenol, sodium salt Other PCP salts and compounds	87-86-5 131-52-2	All applications	0.000 5 (total)	yes	EU	REACH App. XVII
Coolants, insulating gases and liquids, fire extinguishing agents						
CFCs and halons	see below	All applications	n.d.		EU US CH	1005/2009 CAA (42 USC 7671 et seq.) Chem RRV App. 1.4,
HCFCs		Use in cooling and air-conditioning devices	n.d.	yes	EU	1005/2009
FCs		Fire protection systems and fire extinguishers	n.d.		EU	Regulation No. 842/2006
FCs HFCs		Non-confined direct-evaporation systems containing refrigerants	n.d.		EU	Regulation No. 842/2006
		Cooling and air conditioning equipment	n.d.	yes	AT	BGBl. Nr. 447/2002



FCs HFCs Sulfur hexafluoride (SF <sub>6</sub> )	2551-62-4	One component foams	n.d.	yes	EU Regulation No. 842/2006
Substance/ substance group	CAS No.	Affected application	Limit value (wt.%) <sup>1)</sup>	Ex- cem- tions	Legal regulations <sup>2)</sup>
HFCs		Cooling plants, heat pumps, air conditioning plants (comfort cooling) and dehumidifiers with charges 10 kg	n.d.		DK Statutory Order no. 552 of 2 July 2002
HCFCs (C <sub>1</sub> to C <sub>3</sub> ) HBrFCs (C <sub>1</sub> to C <sub>3</sub> ) Methyl bromide	74-83-9	All applications	n.d.	yes	CH Chem RRV App. 1.4, 2.3, 2.9-12
Sulfur hexafluoride (SF <sub>6</sub> )	2551-62-4	Insulating and quenching gas in electrotechnical systems and appliances up to 1 kV (over 1kV obligation to report)	n.d.		AT BGBl. Nr. 447/2002
		Low voltage plants (1kV)	n.d.		DK Statutory Order no. 552 of 2
		All applications (over 1 kg obligation to report in cases of exceptions)	n.d.	yes	CH Chem RRV App. 1.5
Polychlorinated biphenyls (PCBs)	1336-36 - 3	All applications	0.005 (total)	yes	EU REACH App. XVII
Polychlorinated terphenyls (PCTs)	61788-33-8		n.d.		CH ChemRRV App. 1.1, 2.14
Monomethyltetrachlorodiphenylmethane (Ugilec 141)	76253-60-6				
Monomethyldichlorodiphenylmethane (Ugilec 121 or 21)					
Monomethyldibromodiphenylmethane (DBBT)	99688-47-8				
Polychlorinated biphenyls (PCBs)	1336-36-3	Not totally enclosed	0.05	yes	US TSCA (15 USC 2605) + 40 CFR 761
Halogenated biphenyls, terphenyls, naphthalenes		All applications	n.d.		CH Chem RRV App. 1.1
Halogenated aromatic compounds		Capacitors and transformers	0,05/0,005 (mono-/polyhalogenated)		CH Chem RRV App. 2.14
Perfluorooctane sulfonic acid and its metal salts, halides, amides, and other derivatives including polymers (PFOS)		All applications	0.1	yes	EU REACH App. XVII
<b>Packaging</b>					
Heavy metals (lead, cadmium, hexavalent chromium, mercury)		Packaging and packaging components	0.01 (total)		EU 94/62/EC CH Chem RRV App. 2.16(4)
<b>Cleaning agents</b>					



Aliphatic CHCs	s. u. <sup>3)</sup>	All applications	0.1 (total)	yes	EU CH	REACH App.XVII Chem RRV App. 1.3
1,1,1-Trichloroethane Tetrachloromethane	71-55-6 56-23-5	All applications	n.d.		CH	Chem RRV App. 1.4

#### Notes

1) "n.d." means that no limit value is defined by the legislation.

2) Country codes according to ISO 3166

Chem Verbots V	German chemicals prohibition ordinance (Chemikalienverbotsverordnung)
CAA	Clean Air Act
KIFS	Swedish National Chemicals Inspectorate's Regulations (Kemikalieinspektionens föreskrifter)
REACH	Regulation 1907/2006 of the European Parliament and the Council concerning the Registration, Evaluation, Authorization and Restriction of Chemicals
RoHS	Directive of the European Parliament and the Council on the restriction of the use of certain hazardous substances in electrical and electronic equipment (Directive 2002/95/EC)
SFS	Swedish Code of Statutes (Svensk författningssamling)
Chem RRV	Swiss ordinance on reduction of chemical risks (Chemikalien-Risikoreduktions-Verordnung)
TSCA	Toxic Substances Control Act

#### 6) List of Declarable substances :

Code	Substance/substance group	CAS No.	Typical applications	Limit value (% w/w)	Reference of the limit value
<b>Electrical and electronic components; metal, glass and ceramic parts</b>					
100	Arsenic Arsenic compounds	7440-38-2	Lead and copper alloys, metal adhesives, soft solders, glasses, semiconductors	0.1	Application
200	Beryllium Beryllium compounds	7440-41-7	Contact and spring materials, copper alloys, high-temperature materials, ceramics, glasses	0.1	Application
300	Lead Lead compounds	7439-92-1	Solders, hybrid circuits, ceramics, glasses	0.1	Homogeneous Material
400	Cadmium Cadmium compounds	7440-43-9	Contact coatings, hard and soft solders, glasses	0.01	Homogeneous Material
500	Chromium (VI) compounds		Anti-corrosion coatings	0.1	Homogeneous Material
600	Mercury Mercury compounds	7439-97-6	Discharge lamps, relays, Switches	0.1	Homogeneous Material
700	Polybrominated biphenyls (PBBs)		Flame-protected plastics in components and printed circuit Boards	0.1	Homogeneous material





800	Polybrominated diphenylethers (PBDEs), in particular -Pentabromodiphenylether (PentaBDE) -Octabromodiphenylether (OctaBDE) -Decabromodiphenylether (DecaBDE)	32534-81-9 32536-52-0 1163-19-5	Flame-protected plastics in components and printed circuit boards	0.1	Homogeneous material
900	Radioactive substances		Measuring devices, dischargers	Intentionally added	Application
<b>Plastics and rubber parts, wire insulation, coats of lacquer</b>					
700	Polybrominated biphenyls (PBBs)		Flame-protected plastics	0	Homogeneous Material
800	Polybrominated diphenylethers (PBDEs), in particular -Pentabromodiphenylether (PentaBDE) -Octabromodiphenylether (OctaBDE) -Decabromodiphenylether (DecaBDE)	32534-81-9 32536-52-0 1163-19-5	Flame-protected plastics		Homogeneous material
1000	Hexabromocyclododecane (HBCCD), including all major diastereoisomers: -Alpha-HBCCD -Beta-HBCCD -Gamma-HBCCD	25637-99-4 3194-55-6 (134237-50-6) (134237-51-7) (134237-52-8)	Flame-protected plastics	0.1	Article
1100	Other brominated flame retardants than PBBs, PBDEs and HBCCD		Flame-protected plastics	0.1	Application
1200	Antimony trioxide	1309-64-4	Flame-protected plastics containing brominated flame retardants, laser-writable Plastics	0.1	Application
<b>Code</b>	<b>Substance/substance group</b>	<b>CAS No.</b>	<b>Typical applications</b>	<b>Limit value (% w/w)</b>	<b>Reference of the limit value</b>
1300	Dibutyl phthalate (DBP)	84-74-2	Plasticized plastics, particularly PVC	0.1	Article
1400	Diisobutyl phthalate (DIBP)	84-69-5	Plasticized plastics, particularly PVC	0.1	Article
1500	Bis (2-ethylhexyl) phthalate (diethylhexylphthalate, DEHP)	117-81-7	Plasticized plastics, particularly PVC	0.1	Article
1600	Benzyl butyl phthalate (BBP)	85-68-7	Plasticized plastics, particularly PVC	0.1	Article
1610	1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters [di(heptyl, nonyl, undecyl) phthalate, DHNUP]	68515-42-4	Plasticized plastics, particularly PVC	0.1	Article



1620	1,2-Benzenedicarboxylic acid, di-C6-8-branched alkylesters, C7-rich (diisooheptyl phthalate, DIHP)	71888-89-6	Plasticized plastics, particularly PVC	0.1	Article
1650	Bis(2- methoxyethyl) phthalate	117-82-8	Plasticized plastics, particularly PVC	0.1	Article
1700	Short-chain chlorinated paraffins (C <sub>10</sub> -C <sub>13</sub> ) Other chlorinated paraffins		Plasticized and flame- protected plastics, rubber and sealing compounds	0.1	Article
1800	Tris (2-chloroethyl) phosphate (TCEP)	115-96-8	Plasticized and flame- protected plastics, flame-protected paints and varnishes	0.1	Article
1900	Polycyclic aromatic hydrocarbons (PAHs, creosote)		Plasticized or dyed plastics, rubber-like materials	0.02	Application
<b>Dyed or stabilized plastics, coats of lacquer, enamels and related materials</b>					
2000	Lead chromate	7758-97-6	Pigmented paints and varnishes, anti-corrosion coatings	0.1	Article
2100	Lead chromate molybdate sulfate red (C.I. Pigment Red 104)	12656-85-8	Pigmented plastics and paints	0.1	Article
2200	Lead sulfochromate yellow (C.I. Pigment Yellow 34)	1344-37-2	Pigmented plastics and paints	0.1	Article
300	Other Lead compounds		Pigmented plastics and other materials, stabilized plastics (in particular PVC)	0.1	Homogeneous material
400	Cadmium compounds		Pigmented plastics and other materials, stabilized plastics (in particular PVC)	0.01	Homogeneous material
500	Chromium (VI) compounds		Pigmented plastics and other Materials	0.1	Homogeneous Material
2300	Azo colourants and azo dyes which can form carcinogenic aromatic amines		Dyed plastics, textiles and leather articles	0.1	Application
2350	Bis (tributyltin) oxide	56-35-9	Antifouling paints for ships and cooling towers	0.1	Article
<b>Insulating materials</b>					
2400	Asbestos	1332-21-4	Insulating materials in buildings, industrial systems and appliances	0.1	Application
<b>Code</b>	<b>Substance/substance group</b>	<b>CAS No.</b>	<b>Typical applications</b>	<b>Limit value (% w/w)</b>	<b>Reference of the limit value</b>
2500	Man-made vitreous (silicate) fibres with random orientation with oxides of sodium, potassium, calcium, magnesium and barium content > 18 % by mass		Insulating materials in buildings, industrial systems and appliances	0.1	Application



2600	Aluminosilicate, refractory ceramic fibres		High-temperature insulating materials in buildings, industrial systems and appliances	0.1	Article
2700	Zirconia aluminosilicate, refractory ceramic fibres		High-temperature insulating materials in buildings, industrial systems and appliances	0.1	Article
<b>Other materials (e.g. wood)</b>					
2750	Acrylamide	79-06-1	Grouting	0.1	Application
100	Arsenic compounds		Biocide-treated wood	0.1	Application
2800	Formaldehyde	50-00-0	Wooden materials	0.1 ml/m <sup>3</sup>	Application
2900	Pentachlorophenol (PCP) Pentachlorophenol, sodium salt Other PCP salts and compounds	87-86-5 131-52-2	Fungicide-treated wood, textiles and leather articles	0.0005	Application
2350	Bis (tributyltin) oxide	56-35-9	Fungicide-treated wood, textiles and leather articles	0.1	Article
2950	Bis (2-methoxyethyl) ether	111-96-6	Electrolytes in lithium batteries, solvent in printing inks and Sealants	0.1	Article
2960	1,2-Dimethoxyethane (ethylene glycol dimethyl ether, EGDME)	110-71-4	Electrolytes in lithium batteries, solvent in printing inks and sealants	0.1	Article
2970	1,2-Bis (2-methoxyethoxy) ethane (TEGDME, triglyme)	112-49-2	Electrolytes in lithium batteries, solvent in printing inks and sealants	0.1	Article
<b>Coolants, insulating gases and liquids, fire extinguishing agents</b>					
3000	CFCs and halons		Aerosols, coolants, fire extinguishing agents, insulating foams	1.0	Application
3100	HCFCs		Coolants	1.0	Application
3200	FCs		Coolants, fire extinguishing Agents	1.0	Application
3300	HFCs		Coolants, insulating foams	1.0	Application
3400	HBr FCs (C <sub>1</sub> bis C <sub>3</sub> )		Fire extinguishing agents	1.0	Application
3500	Sulfur hexafluoride (SF <sub>6</sub> )	2551-62-4	Insulating and quenching gas in electrotechnical systems, appliances and components	0.1	Application
3600	Polychlorinated biphenyls (PCBs) Polychlorinated terphenyls (PCTs) Polychlorinated naphthalenes (PCNs)		Insulating agents in transformers, hydraulic fluids, heat transmission fluids	0.005	Application
3700	Perfluorooctane sulfonic acid and its metal salts, halides, amides, and other derivatives including polymers (perfluorooctane sulfonates, PFOS)		Fire-fighting foams	0.1	Application





Code	Substance/substance group	CAS No.	Typical applications	Limit value (% w/w)	Reference of the limit value
<b>Packaging</b>					
3800	Cobalt (II) chloride	7646-79-9	Blue silica gel in desiccant bags (package insert)	0.1	Article
3900	Boric acid	10043-35-3 11113-50-1	Flame retardant in wood, paper, cotton and other plant- derived materials	0.1	Article
3950	Diboron trioxide	1303-86-2	Flame retardant in wood, paper, cotton and other plant- derived materials	0.1	Article
4000	Disodium tetraborate, anhydrous	1330-43-4	Flame retardant in wood, paper, cotton and other plant- derived materials	0.1	Article
4100	Tetraboron disodium heptaoxide, hydrate	12267-73-1	Flame retardant in wood, paper, cotton and other plant- derived materials	0.1	Article
4200	Lead, cadmium, hexavalent chromium,mercury		Packaging and packaging components	0.01 (total)	Application

#### Explanatory notes: Reference of the limit value:

- Application" means that the limit value of the substance refers to the material or part where this substance is contained to achieve an intended functionality, as exemplarily given by the typical applications.
- Article "means that the limit value refers to the supplied article (device, component or product part) as a whole.
- Homogeneous material "is defined as material that cannot be mechanically disjointed into different materials. The term "homogeneous" means "of uniform composition throughout". Examples of homogeneous materials are individual types of plastics, ceramics, glass, metals, alloys, resins and coatings.

#### Reference Standards :

- **REACH :** Regulation 1907/2006 of the European Parliament and the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals
- **RoHS :** Directive of the European Parliament and the Council on the restriction of the use of certain hazardous substances in electrical and electronic equipment (Directive 2002/95/EC)

**Note- Other than above listed substances required by NEIL customers, NEIL will provide the data from sources.**



## Annexure – 10

Form no. QAF/P/QA/011/857/Rev. 0

Product Development Plan (Supplier APQP)																	
Part Name:			Part No.:		Category:			Project Kick Off Date:									
Customer Name: NEIL, Jaipur			Team NEIL:				Team Supplier:										
Supplier Name:			Window Person:				Window Person:										
			Contact No.				Contact No.										
			Email- Id:				Email-Id:										
Sr. No.	Activity	Responsibility	Target Date	Completion Date	Status	Weekly Monitoring										Remarks	
						W-1	W-2	W-3	W-4	W-5	W-6	W-7	W-8	W-9	W-10	W-11	
1	Receiving NEIL Drawings & RFQ				Plan												
					Actual												
2	Feasibility Review				Plan												
					Actual												
3	Quotation Submission to NEIL				Plan												
					Actual												
4	Spec Review Meeting With NEIL				Plan												
					Actual												
6	Order Confirmation by NEIL				Plan												
					Actual												
7	Tools Drg. Preparation				Plan												
					Actual												
8	Tools development				Plan												
					Actual												
9	Development of inspection facilities and gauges				Plan												
					Actual												
10	Preparation of PFD & PFMEA				Plan												
					Actual												
11	Preparation of Control Plan				Plan												
					Actual												
12	Sample Submission to NEIL				Plan												
					Actual												
13	Sample approval & clearance by NEIL				Plan												
					Actual												
14	Process Validation/ PPAP Audit by NEIL				Plan												
					Actual												
15	PPAP Lot Submission to NEIL				Plan												
					Actual												
16	NEIL Approval and PSW sign off				Plan												
					Actual												
17	NEIL feed back and continuous improvement				Plan												
					Actual												

Prepared By:-	Approved By:-	Approved By NEIL :-
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## Annexure – 11

Form no. QAF/P/QA/011/878/Rev. 0

Part Feasibility Report			
CUSTOMER NAME :		DATE :	
SUPPLIER NAME :		PART NAME / No. :	
<b>"Feasibility Considerations</b> Our product planning team has considered the following question, not intended to be all-inclusive in performing feasibility evaluation. The drawings and / or specification provided have been used as a basis for analyzing the ability to meet all specified requirements. All "No" answers are supported with attached comments identifying our concerns and/ or proposed changes to enable us to meet the specified requirements."			
S.No.	Yes	No	Consideration
1	<input type="checkbox"/>	<input type="checkbox"/>	Is product adequately defined (application requirements, etc.) to enable feasibility evaluation?
2	<input type="checkbox"/>	<input type="checkbox"/>	Can Engineering Performance Specifications be met as written?
3	<input type="checkbox"/>	<input type="checkbox"/>	Can product be manufactured to tolerances specified on drawing?
4	<input type="checkbox"/>	<input type="checkbox"/>	Is measurement system acceptable? e.g. Gauge R&R < 10%
5	<input type="checkbox"/>	<input type="checkbox"/>	Is there adequate capacity to produce product?
6	<input type="checkbox"/>	<input type="checkbox"/>	Is there Raw Material availability to produce product?
7	<input type="checkbox"/>	<input type="checkbox"/>	Does the design allow the use of efficient material handling techniques?
8	<input type="checkbox"/>	<input type="checkbox"/>	Can the product be manufactured without incurring any unusual: <ul style="list-style-type: none"><li>• Costs for capital equipment?</li><li>• Costs for tooling?</li><li>• Alternative manufacturing methods?</li></ul>
9	<input type="checkbox"/>	<input type="checkbox"/>	Is statistical process control required on product?
10	<input type="checkbox"/>	<input type="checkbox"/>	Is statistical process control presently used on similar product?
11	<input type="checkbox"/>	<input type="checkbox"/>	Are the processes in control and stable?
12	<input type="checkbox"/>	<input type="checkbox"/>	Are Cpk's > 1.67
13	<input type="checkbox"/>	<input type="checkbox"/>	Is there additional product equipments required?
14	<input type="checkbox"/>	<input type="checkbox"/>	Skill man power required?
15	<input type="checkbox"/>	<input type="checkbox"/>	Is there availability of adequate measurement gauges & instruments?
16	<input type="checkbox"/>	<input type="checkbox"/>	Other Issue
<b>Remarks (if any) :</b>			
<b>Conclusion:</b>			
<input type="checkbox"/>	Feasible	Product can be produced as specified with no revision	
<input type="checkbox"/>	Feasible	Change recommended	
<input type="checkbox"/>	Not Feasible	Design revision to produce product within the specified requirements.	
<b>Sign-Off</b>			
Team Member /Title/Date Management		Team Member /Title/Date Quality	
Team Member /Title/Date Production		Team Member /Title/Date Purchase & Store	
Team Member /Title/Date Maintenance		Team Member /Title/Date Tool Room	





## Annexure – 12

### NATIONAL ENGINEERING INDUSTRIES LTD. JAIPUR



## Specification Review Meeting with Supplier

Form no. QAF/P/QA/011/1358/Rev. 1

NATIONAL ENGINEERING INDUSTRIES LTD.					
SPECIFICATION REVIEW MEETING					
Part Name	Vendor Name / Vendor Code	Supplier Rep.		NEI Rep.	
		Name	Sign.	Name	Sign.
Part No.	Model				
ITEMS TO BE DISCUSSED WITH VENDOR		DETAILS OF THE DISCUSSION			
<b>1. Technical &amp; Design Requirements</b>					
a) Drawing requirements & reference standard details.					
1) Drawing No. 2) Reference Standard No.					
b) Safety , functional & critical requirements w.r.t. part application.					
c) Regulatory requirements.					
d) Performace Testing to be done by vendor /outside agency.					
e) Specification of Raw Material.					
f) Past quality issues , complaints and development problems in similar parts.					
g) Appearance related requirements i.e coating & paint specifications , Stampin					
h) Traceability requirements.					
i) CSR If any					
<b>2. Process Requirements.</b>					
a) Special process requirements i.e plating , Heat Treatment ,					
b) Process capability requirements.					
c) Poka yoke requirements & Schedule for implementation (if Applicable)					
<b>3. Inspection Related requirements.</b>					
a) Inspection gauge & master availability.					
b) Inspection method, frequency , PFD, control plan , FMEA & their co-relation.					
<b>4. Documentation Requirements</b>					
a) Vendor drawing (Including deviation list from NEI drawing to be submitted by the vendors) & prototype requirements.					
b) Various Inspection & test report to be submitted .					
<b>5. Packaging &amp; Transportation requirements</b>					
<b>DETAILS</b>					



## Annexure – 13

### 4M Change

National Engineering Industries Limited											
Supplier's 4M Change Notification Monthly Report											
Supplier Code		Supplier Name		Month		Document to be submitted to NEI		Required document submitted (Yes/ No)			
SN	Change Modification on Yes/ No	Reason of change	Change Implementation on date (date on which change was done)	Change details	Internal recording document at supplier end	Not Required	PPAP	PDI	MSA	Other	Remark
1	M			Extra shift working	Attendance record	N	-	-	-	-	Information required
2	A			Change of Quality representative	-	N	-	-	-	Mail ID, Contact no.	
3	N			Accident of operator	Accident register	N	-	-	-	-	
4	M			Different Specification / Grade / Supplier (in case raw material is not supplied by NEI)	-	Y	PPAP (PSW + Material (physical + chemical) test result + TC)	-	-	To be mentioned in PSW + Material (physical + chemical) test result + TC	
5	A			Route change (in case raw material is supplied by NEI) (Forging to tube or vice versa) or Different Raw material supplier (in case raw material is supplied by NEI)	-	Y	PPAP (PSW + Material (physical + chemical) test result + TC)	-	-	To be mentioned in PSW + Material (physical + chemical) test result + TC	
6	E			Any temporary change in process or process flow - Unplanned change	Re setting approval of added or removed process and double sampling in hourly inspection sheet	N	-	-	-	-	Information required
7	M			Measurement method change like disc checking to contrafer, Profile projector to VMM (video measuring machine), Manual to Automatic Checking	-	Y	Control Plan	-	-	MMS (Measuring method standard) to be reviewed	
8	H			Existing Approved Packaging system change	-	Y	-	-	-	Change details & Approval of Packaging Standard	
9	O			Inspection frequency change (sampling plan or change in time)	-	Y	Control Plan	-	-	Revised control plan and revised check sheet with training record for new change	
10	M			Permanent change in process or process flow	For example : SPM to CNC, Double to Single Stroke Header, Manual to Auto/Combi Forging, Rolling to Profile Forging, Single to Multi	Y	PPAP	Double sampling in PDI for next three lots	-	-	
11	A			Addition or removal of poka yoke	Double sampling in hourly inspection for the parameter of which poka yoke was removed. In case of addition the sampling would remain same. Poka Yoke list updation with monitoring.	Y	Control Plan	-	-	Revised control plan and revised check sheet with training record for new change	
12	C			Change in manufacturing location or addition of new manufacturing location	-	Y	PPAP	Double sampling in PDI for next three lots	-	To be mentioned in PSW	

**Note :** a) In case of no change write "NO" in Change Modification column  
b) In case of any change write "YES" in Change Modification column, then fill reason of change, proposed change date and document submission data.

<b>NOTE</b>	
Signature	Plant Head / CEO / MD
Name	
Date	
Designation	

(1) For point no. 6, 7, 8, 9 & 11 information to be given on same day through mail to SQA team.  
(2) For point no. 4, 5, 10 & 12 information to be given to SD & SQA and approval to be taken by SD & Met Lab. team through PPAP approval / submitting relevant documents.  
(3) In case where NEI Approval is required Supplier need to intimate to NEI at least two weeks before.  
(4) For monthly notification to NEI by supplier duly signed & scanned pdf copy through e-mail.  
(5) No verbal / mail communication will be accepted without properly filled 4M Change.  
(6) If any change made without Prior Approval from NEI, NEI has right to debit all relevant costs (i.e. rejection/segregation of all stage material)



## Annexure-14- Quality Agreement

QAF/P/QA/011/1362/Rev. 1



### QUALITY AGREEMENT



Division

Supplier Code

Supplier Name

Supplier Address

With reference to continuous improvement at NEIL's supplier end, this agreement is valid from **DD - MMM - YYYY to DD - MMM - YYYY**

On the basis of the year FY **YYYY - YYYY** the average rejection PPM of the supplier at NEI Ltd. is (As per below table).

Month	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Avg
PPM													

It has been mutually agreed by supplier & NEIL that supplier is committed to sustain the rejection PPM in the year of **YYYY - YYYY**

To sustain the rejection PPM, Supplier's efforts with proactive approach and NEIL SQA team support will be appreciated.

This agreement will be revised on **DD - MMM - YYYY**

**NEIL Representative**

**Supplier Representative**

HOD - SQA

Director / Proprietor/QA Manager

Date : **DD - MMM - YYYY**





## **ANNEXURE -15**

### **Debit Policy**

*For the monitoring of total cost involved in resolving supplier issues below table will be considered for calculation of Debit Amount.*

<b>Cost Type</b>		<b>Description</b>
Defective Parts (Brg/ Comp) Scrap Cost	-	Cost to be calculated by adding all Segregated and Reported Scrap Qty Cost (Brg and Components Level)
Manpower Cost	Segregation Cost	Total Manpower Cost who involved in Segregation of Pipeline material
	Analysis Cost	Additional Cost including defect part analysis, CFT meetings, Defect simulation at Supplier End, Studies , Resolution and validation
Consequential Cost	Tooling Damage Cost	If NEI Machine Tooling damaged due to defect; Cost will be provided by LPE
	Productivity Loss	If NEI Production Loss due to Defect; Cost will be provided by LPE
	Liability Cost	If Customer charged any Liability Cost on NEI where issue related to Supplier; Cost Will be provided by CSC
	Transportation Cost	If defective Material to be recalled from Customer or any other Plants/ Warehouse
Rework / Extra Processing Cost		If Rework / Extra Processing done by NEI
Travelling Cost		For Travelling to Other Plant / Warehouse or Customer

**Note- NEIL will decide the debit amount as per above mentioned head applicability.**



## Annexure-16

### PFMEA Ranking Table

PFMEA SEVERITY RANKING CRITERIA (As per FMEA Fourth Edition)				
EFFECT	Criteria : Severity of Effect on Product (Customer Effect)	Rank	EFFECT	Criteria : Severity of Effect on Process (Manufacturing / Assy Effect)
<b>Failure to meet safety &amp; / or regulatory requirements.</b>	Potential Failure mode affects safe vehicle operation & / or involves	10	<b>Failure to Meet Safety and /or Regulatory requirements.</b>	May endanger operator (machine or assembly) without warning.
	Potential Failure mode affects safe vehicle operation & / or involves noncompliance with government regulation with warning.	9		May endanger operator (machine or assembly) with warning.
<b>Loss or Degradation of Primary Function</b>	Loss of primary function (vehicle inoperable, does not effect safe vehicle operation)	8	<b>Major Disruption</b>	100% of product may have to be scrapped. Line shutdown or stop ship.
	Degradation of primary function (vehicle operable, but at reduced level of performance).	7	<b>Significant Disruption</b>	A portion of the production run may have to be scrapped. Deviation from primary process including decreased line speed or added manpower.
<b>Loss or Degradation of Secondary Function</b>	Loss of secondary function (vehicle operable, but comfort/convenience function inoperable).	6	<b>Moderate Disruption</b>	100% of production run may have to be reworked off line and accepted.
	Degradation of secondary function (vehicle operable, but comfort / convenience function at reduce level of function).	5		A portion of the production run may have to be reworked off line and accepted.
<b>Annoyance</b>	Appearance or Audible noise, vehicle operable, item does not conform and noticed by most customer (>75%)	4	<b>Moderate Disruption</b>	100% of production run may have to be reworked in station before it is processed.
	Appearance or audible noise, vehicle operable, item does not conform and noticed by many customer (50%)	3		A portion of the production run may be reworked in station before it is processed.
	Appearance or audible noise, vehicle operable, item does not conform and noticed by discriminating customer (<25%)	2	<b>minor Disruption</b>	Slight inconvenience to process, operation, or operator.
<b>No Effect</b>	No discernible effect.	1	<b>No Effect</b>	No discernible effect.

OCCURANCE RATING CHART (As per FEMA Fourth Edition)			
Probability	Likely Failure Rates* (Rejection %)	Range (%)	Ranking
<b>Very High</b>	≥ 100 per thousand ≥ 1 in 10	≥ 10 %	10
	50 per thousand 1 in 20	5 to 9.9 %	9
<b>High</b>	20 per thousand 1 in 50	2 to 4.99 %	8
	10 per thousand 1 in 100	1 to 1.9 %	7
<b>Moderate</b>	2 per thousand 1 in 500	0.2 to 0.9 %	6
	0.5 per thousand 1 in 2000	0.05 to 0.19 %	5
	0.1 per thousand 1 in 10000	0.01 to 0.049 %	4
<b>Low</b>	0.01 per thousand 1 in 100,000	0.001 to 0.009 %	3
	≤ 0.001 per thousand 1 in 1,000,000	0.0001 to 0.0009 %	2
<b>Very Low</b>	Failure is eliminated through preventive control	-	1



Opportunity for Detection	DETECTION RATING CHART		
	Criteria Likelihood Of Detection by Process Control	Rank	Likelihood of Detection
No detection opportunity	No current process control; Cannot detect or is not analyzed.	10	Almost Impossible
Not likely to detect at any stage	Failure mode and/or error (Cause) is not easily detected (e.g., random audits).	9	Very Remote
Problem Detection Post Processing	Failure mode detection post-processing by operator through visual/tactile/audible/means.	8	Remote
Problem Detection at Source	Failure mode detection in-station by operator through visual/tactile/audible means or post-processing through use of attribute gauging (go/no-go, manual torque check/clicker wrench, etc.).	7	Very Low
Problem Detection Post Processing	Failure mode detection in-station by operator through use of variable gauging or in-station by operator through use of attribute gauging (go/no-go, manual torque check/clicker wrench, etc.).	6	Low
Problem Detection at Source	Failure mode or error (cause) detection in-station by operator through use of variable gauging or in-station by automated controls in-station that will detect discrepant part and notify operator (light, buzzer, etc.). Gauging performed on setup and first-piece check (for setup cause only).	5	Moderate
Problem Detection Post Processing	Failure mode detection post-processing by automated controls that will detect discrepant part and lock part to prevent further processing.	4	Moderately High
Problem Detection at Source	Failure mode detection in-station by automated controls that will detect discrepant part and automatically lock part in-station to prevent further processing.	3	High
Error Detection and/or Problem Prevention	Error (Cause) detection in-station by automated controls that will detect error and prevent discrepant part from being made.	2	Very High
Detection not applicable; Error Prevention	Error (cause) prevention as a result of fixture design, machine design or part design. Discrepant part cannot be made because item has been error-proofed by process/product design.	1	Almost Certain





## Annexure 17

Form no. QAF/HM/119/1337/Rev. 02									
<b>MPI INSPECTION - PROCESS AUDIT CHECK SHEET</b>									
The Supplier is to be assessed for :									
SUPPLIER NAME :							AUDIT DATE :		
ADDRESS:									
AUDITEES		DESIGNATION		EMAIL ID		AUDITOR			
<b>Supplier Executive Summary :</b>									
1. Type of products inspected				2. MPI Supervisor Name					
3. Total no. of machine				4. Total inspection capacity (Nos. / Month)					
5. Working hours & shifts for MPI				6. Total no of Inspector & workman					
<b>MPI machine details :</b>									
Sr No.	Make	Model No / Year	Inspection agency (Third Party / Inhouse)	Calibration Date / Agency	Powder Make / Grade	Carrier liquid media	Ampere Rating (Max.)	KAT Value (Max.)	
<b>MPI Supervisor / Inspector details :</b>									
Sr No.	Name	ASNT Level	Certificate Sr No	Certification Agency	Certification Date	Certification Due Date			
<b>MPI Calibration Instruments details :</b>									
Sr No.	Name	Make/ Model No / Year	Certificate Sr No	Certification Agency	Certification Date	Certification Due Date			
1									
2									
0 - Unsatisfactory (No System)     1 - Needs Improvement (System but not Adhere)     2 - Good (System & Adherence)     NA - Not applicable									
HEAD	S.N.	AUDIT POINTS		SCORE				AUDIT OBSERVATION	
				0	1	2	NA		
	<b>A</b>	<b>Technical Requirements</b>	<b>Specification</b>						
C	1	Concentration of Magnetic powder	0.10 to 0.40 ml for fluorescent particles (pear-shaped 100 ml centrifuge tube)						
C	2	Magnetization	Circular / Longitudinal / Combination Mode						
C	3	UV Light / Black light Intensity	UV light intensity should be 1000 µw/cm2 at 16 inch height thru UV meter & Black light should be max 20 lux. Thru lux meter.						
C	4	ASTM Test piece / Pie Gauge verification	All 8 directions crack line must be visible in combination mode of magnetization						
C	5	Magnetic Field Intensity	38 Gauss minimum thru hall effect probe (Circular / Longitudinal) or 3KA/M						
C	6	Ketos Ring	As per ASTM E1444 -05 - Minimum 3 holes indication shall be visible for 1400 Amps capacity.						
C	7	Bath change frequency	Every 15 days ( as per continuous usage of machine ) or Contaminants level in centrifuge exceeds 30 % of the volume of magnetic particles, or if the liquid in centrifuge is noticeably fluorescent, the bath						
C	8	Black light cleaning	Beginning of every shift (Visual)						
C	9	Washing of parts	Parts shall be clean and dust free						
C	10	Surface wetness of parts	100% (Visual)						
C	11	Demagnetization	± 3 Gauss max. ( as an when applicable )						
C	12	Oiling of parts	Rust preventive oil shall be applied to avoid rust						
	<b>B</b>	<b>Process &amp; Product Control during Inspection</b>							
Q	13	MPI Process Personnel must be qualified to ASNT level 1 certification, should carry out calibrations and perform test procedures under the supervision of a certified ASNT Level II.							



## Annexure 17

Q	14	Does the Supplier maintain and follow part specific <b>current and KAT</b> reading standard document ?					
Q	15	Does the Supplier have the Process Flow chart & control plan for the MPI inspection process ?					
Q	16	Is there any daily machine check sheet for operators , indicating the points which he has to check on machine, before starting the machine and maintain records ?					
Q	17	Does the Supplier has the effective System to manage any type of changes in process / machine / location etc., thru 4M change and inform to NEI ?					
Q	18	What is the per shift inspection capacity for the specific (NEI) job?					
<b>C Document control &amp; Display</b>							
Q	19	Is there any recording mechanism for MPI inspection data with respect to day wise / shift wise / defect type / defect location etc. available ?					
Q	20	Is there defined retention period for all quality records as per NEI requirement which is minimum 5 years ?					
Q	21	Is there work instructions, control plans, quality display etc. available and displayed at appropriate locations?					
<b>D Identification system</b>							
Q	22	Does the Supplier is well aware of maintaining Traceability System throughout the Supply chain in scope. - Traceability to be maintained batch / heat wise. - Material to be identified by Tag or Route Cards. - Separate area to be defined for work in progress parts before MPI. - Separate area to be defined MPI checked ok parts. - Separate area to be defined MPI checked NG parts.					
<b>E Control of non-conforming parts</b>							
Q	23	Does Supplier have defined responsibilities for taking actions against quality problems at customer end ?					
Q	24	Does the Supplier uses locked boxes for Scrap ? Is responsibility defined for finalizing the rejections ? What is the frequency of finalizing rejections and their disposal ?					
Q	25	Does the Supplier analyze (or report to NEI) rejections (Internal/External) for root causes, and implement actions to eliminate rejection permanently ?					
Q	26	Does the Supplier maintain rejection (Internal/External) trends & display them on shop floor for awareness purpose ?					
<b>F Control of measuring equipments</b>							
Q	27	Has the Supplier defined calibration frequency for each instrument used for calibration of machine, ammeter, KAT meter etc. & adhered with the defined frequency ?					
Q	28	Are the calibration due date marked on measuring instruments ?					
<b>G Control of Dispatch system</b>							
Q	29	Does the Supplier has system like Quantity and Identification tag or label etc. for MPI checked material before dispatch ?					
<b>h Maintenance of machines</b>							
Q	30	Does the Supplier have a system to carry out the Preventive Maintenance as per the schedule and adhere to it ?					
Q	31	Does the Supplier use check sheets for preventive maintenance, and maintain records ?					
<b>I 5 'S' Activities</b>							
Q	32	Do the operators clean their machines before starting ?					
Q	33	Does the operators/supervisors ensure that all material is kept at its desired place , with proper identification , at the end of shift , and no piece is lying in machine bed ?					
<b>Total no. of points in each category =</b>							
<b>Net Audit Score &amp; Grade =</b>							
* Score related to Quality ( Q )							
* Score related to technical Capability ( C )							

Total Net Score =

1	Supplier is :	Not Accepted - <input type="checkbox"/>	Accepted - <input type="checkbox"/>
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GENERAL REMARKS :-
--------------------

Supplier Representative		NEI REPRESENTATIVE	
Supplier Categorization Standard:-			
Audit Rating	Category	Description of Category	
81% & Above	A	Supplier is approved	
71% to 80%	B	Supplier is approved , but has to implement improvement points to achieve 'A' Category	
61 to 70%	C	Not approved - Has to be re-audited , after implementation of improvement points	
60% & Below	D	Not approved	

\* Supplier has to achieve minimum (75%) score in individual heads for approval.  
\* Auditor has to Score 0, 1 or 2 in Score columns per defined above & put Observation against each Audit Point in Audit Observation column.



# PACKAGING SIGN OFF SHEET

(New Product Development)

[ 66 ]



## ACKNOWLEDGEMENT

### **To be returned by Supplier via email or by post to NEIL SDD:**

We hereby confirm that we have received and understood the NEIL "Supplier Quality Manual– 5th Edition."

We understand that this manual defines the overall requirements which NEIL expect from its Suppliers.

We agree to strive to meet these requirements, in all our facilities working and our product.

We understand that it is our responsibility to ensure that only the latest revision of this Manual is used by periodically checking the NEIL website for revisions and updates.

We understand that it is our responsibility to deploy this Manual in the current and future facilities working and NEIL products.

The latest revision can be obtained from the NEIL website:[www.nbcbearings.com](http://www.nbcbearings.com)

Supplier Name:

Date & Signature:

(Signature & Name of Supplier with Stamp)

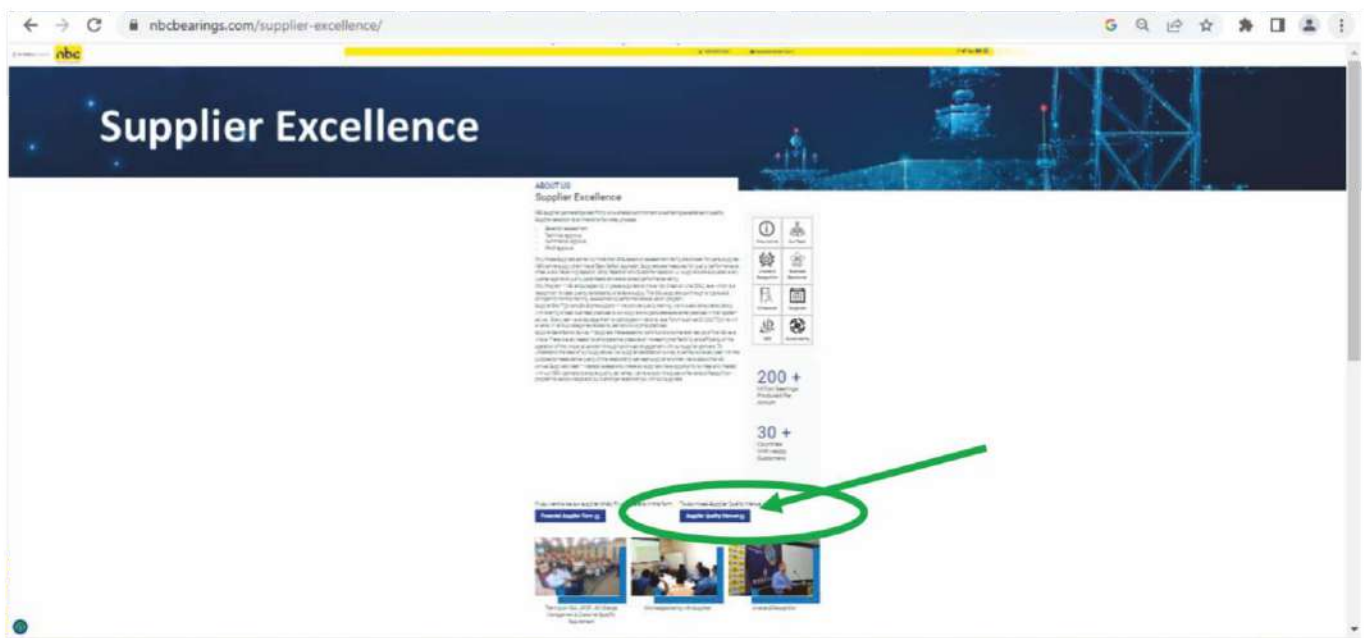
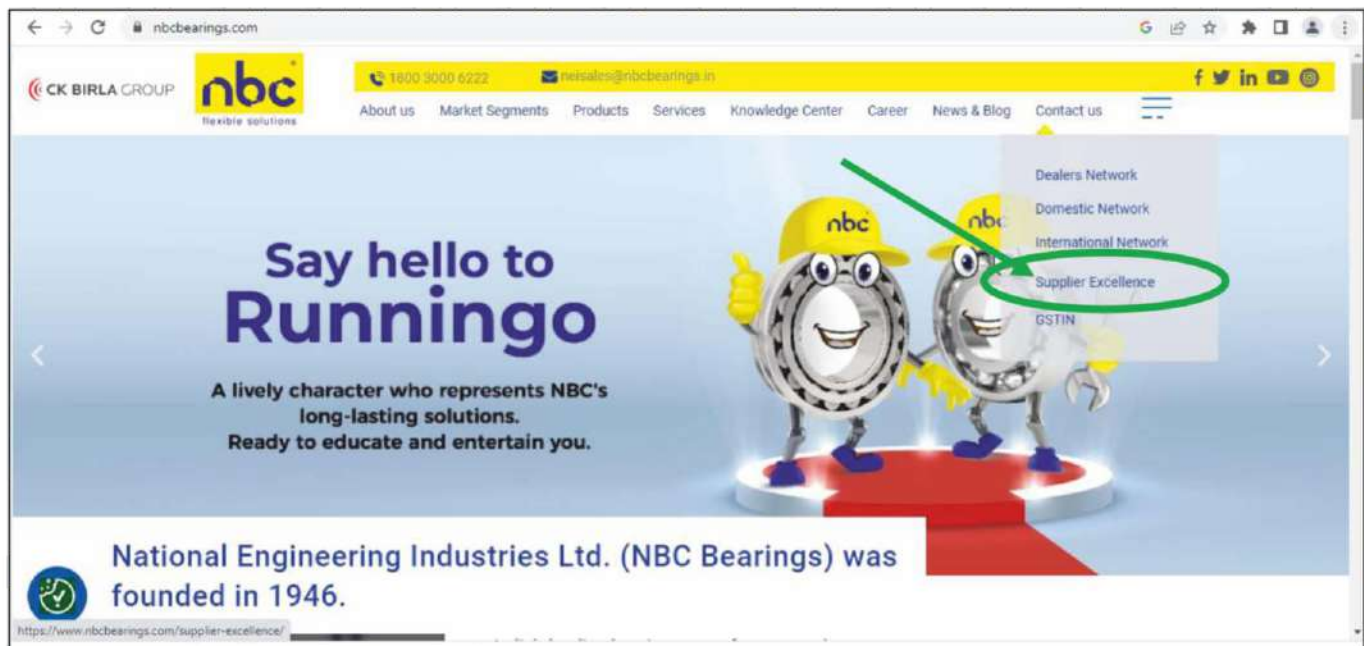
**NEIL Supplier Quality Manual also available on NEI Website: -**

<https://www.nbcbearings.com/supplier-excellence-> Use this link to direct reach





## How To Reach:-





## Notes



## Notes

## The NBC Bearings: Product, Technology & Services

NBC provides a wide range of bearings and associated service solutions to diverse industries such as Industrial, Automotive, Railways, and Aerospace. As a company that has been established for over 75 years, NBC Bearings has an international presence with offices and R&D centers across the globe. For us, engineering goes beyond manufacturing; it is the fusion of Product, Technology, and Services that make us different and the most preferred choice of our customers worldwide.








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