North American Lighting, Inc.

Supplier

Quality

Assurance

Manual

(SQAM)

Prepared by: Quality Systems Group

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Purpose:

To establish a Supplier Quality Assurance Manual for Purchased Material.

Scope:

This document is to be used by suppliers to NAL as a guideline for the expected quality of products that NAL receives for use in assembly of its exterior lighting products.

Work Instruction:

1.0 Policy

It is the policy of North American Lighting, Inc. to select those suppliers of materials that can meet the requirements of all specifications and contract arrangements; and to expect that suppliers selected will warrant that all products or services furnished are in conformance with active purchase agreements, the provisions of this Supplier Quality Assurance Manual, Standard Supplements and any special instructions stipulated on drawings, specification sheets or other NAL documents. The supplier's level of compliance will be determined by NAL through supplier surveys, process reviews, sales reviews, statistical data monitoring, appropriate receiving inspection, verification of the production process, supplier assessments and through finished product validation.

This Supplier Quality Assurance Manual (SQAM) defines the minimum supplier quality assurance practices that are acceptable to NAL. The intent of this SQAM is to document uniform minimum requirements that lay the foundation upon which a long-term and prosperous customer/supplier relationship may grow and to secure the future activities that will enable us to continually meet the requirements and expectations of our customers in all aspects of business.

Current active agreements established by Purchasing, Engineering and Supplier Quality Engineering are not to be voided or overridden by this document. Any special instructions shown on drawings or specifications are to remain in effect unless official notice of termination is received.

2.0 NAL Purchasing

NAL Purchasing has an objective to procure components and raw materials of superior quality and reliability that exceeds customer expectations on a global basis. All sourcing decisions are confirmed based on Responsiveness, Quality, Cost and Delivery information received during the quoting process. Our focus on partnership with our suppliers is committed to continuous improvement of systems that influence quality of the incoming product. NAL promotes long term relationships with suppliers to create an environment of support with the supply chain.

Prior to sourcing to a potential supplier, our Purchasing Management will invest time and effort to understand business culture and importance of customer support at all levels of a given organization. During the quoting process, NAL Purchasing will require our suppliers to complete and forward quote requests on NAL provided forms. Where applicable, a Cost Breakdown Worksheet would be required from the supplier prior to sourcing. It is critical that all commercially related issues that occur pre-launch or post-launch must be communicated directly with the NAL Buyer prior to finalizing the agreement. Suppliers must have in writing an approval from the Buyer prior to investing capital or time needed to support a specific program. Any issues regarding chargebacks over commercial

issues should also be directed to your buyer in a timely manner. See Supplier Chargeback Table 3 below.

2.1 NAL Supplier Selection

NAL Purchasing will finalize the sourcing decision which may be based on feedback provided from NAL Supplier Quality Engineering, NAL Supplier Preparation & Development, etc. Five important pieces of information that may be used for this decision are:

1. The General Business Assessment
2. Supplier Evaluation Survey, completed and sent to the NAL Buyer.
3. Evaluation of A Rank history.
4. Evidence of compliance to ISO9001 2015, with the preference of compliance to IATF16949.
5. For Electronics Suppliers, a specific audit must be performed using the detailed Electronics Audit Sheet and results with action plan must be reported to NAL Purchasing and Corporate Quality Executive Management.

Note: NAL encourages suppliers to become compliant to IATF16949.

2.2 NAL Current Supplier Management

NAL will evaluate its current supply base using both Purchasing and the data from the Supplier Quality Engineering Department. The Supplier Quality Engineering Department will use the following list of KPI's as a focus of their efforts; especially, where the effectiveness of the countermeasures is in question.
NAL will evaluate, monthly, its current supply base using the NAL Supplier Scorecard. The Quality portion of the NAL Supplier Scorecard is composed of the following six (6) Key Performance Indicators (KPIs) to determine a supplier's performance:

1. Parts Per Million (PPM)
2. SQC Ranking
3. SQCs Issued
4. SQC Timeliness
5. Days on Sort
6. SQAM Compliance

The Purchasing portion of the scorecard is composed of the following eight (8) Key Performance Indicators (KPI's):

1. Labeling Issues
2. (OTD) On Time Delivery
3. RFC Timeliness
4. RFQ Timeliness
5. Capacity
6. Alt Pack
7. Master Labeling
8. Safety Stock.

Each KPI is assigned a numeric value which contributes to the overall score of the supplier, the overall score is used to assign the supplier one of four supplier performance levels, defined in section 2.3 Quality KPI Definitions.

2.3 Quality KPI Definitions

Parts Per Million: This metric is used to accurately measure the amount of scrap material discovered by NAL Manufacturing locations. Parts per million is calculated by dividing the total quantity of the material received from the supplier by the total quantity of rejected material found at NAL. This quantity is reflected in the total number of rejects within the SQC. If additional rejects are discovered at NAL once the supplier manages the sort either at NAL or at their locations, this quantity is not included within the SQC reject quantity. Reject quantities not associated with an SQC will be handled via RMA. This KPI is worth a maximum of 25 points.

SQC Ranking: Each SQC is assigned a rank based on the severity of the defect, SQC ranking criteria is outlined below in section 3.1. This metric accounts for the severity differences between the SQCs by negatively impacting the Supplier Scorecard Score for A-ranks and assigning smaller numeric values to B or C-rank SQCs. This KPI is worth a maximum of 25 points.

SQCs Issued: This metric provides an accounting of every SQC issued to the supplier during the most recent one-month period. This KPI is worth a maximum of 15 points.

SQC Timeliness: Suppliers are expected to respond to SQCs in a timely manner. The SQC response requirements and deadlines are described in section 6.1 of this document. This metric measures the supplier's ability to respond appropriately within the outlined time periods. This KPI is worth a maximum of 10 points.

Days on Sort: This KPI is worth a maximum of 15 points. (Days on sort is considered the number of days prior to receiving the first certified shipments after initial supplier containment is in place)

SQAM Compliance: Each supplier is expected to adhere to the terms and conditions outlined in the NAL Supplier Quality Assurance Manual (SQAM). Any violation of the terms and conditions contained within the SQAM over a 6-month period results in a score of 0. This KPI is worth a maximum of 10 points.

2.4 Supplier Performance Levels

After the supplier has been evaluated, production suppliers will be assigned a Supplier Scorecard Score. This score will use a 6-month rolling calculation and be used to determine which one of four levels, numbered one through four, the supplier's performance meets.

Each level, lower than Level 1, requires the supplier to act to maintain or better their Supplier Scorecard Score. The calculation for each level (L1-L4) combines the total score from Quality and Purchasing. Although the overall score is used to determine the supplier's status with NAL, a supplier can be put on a QIP if the individual Quality or Purchasing score falls below level 2 status.

2.5 Supplier Level Definitions

Level 1 - Green: For six consecutive months the supplier has averaged:

1. a Supplier Scorecard Score between 90 and 100
2. *and* has been issued 0 A-Ranks
3. *and* has had 0 late deliveries that impact NAL production.

Achieving this level means the supplier is in good standing with NAL and is not required to perform any additional actions.

Level 2 - Green: For six consecutive months the supplier has averaged:
1. a Supplier Scorecard Score between 80 and 89
2. *and* has been issued fewer than 2 A-Ranks
3. *and* has an OTD score of >95%

Achieving this level means the supplier is in good standing with NAL but must enter into a self-monitoring process. During the self-monitoring process, the supplier is responsible for independently evaluating their own performance and developing improvement plans to better or maintain their score.

Level 3 - Yellow: For six consecutive months the supplier has averaged:
1. a Supplier Scorecard Score between 60 and 79
2. *or* has been issued > 2 but < 3 A-Ranks
3. *or* has an OTD score of 90-94%

Achieving this level means the supplier is no longer in good standing with NAL and must work with a Quality or Purchasing representative to improve the unsatisfactory score. The supplier will also be required to present their progress, once a month, to Supplier Quality Engineering or Purchasing management. The venue for this presentation is decided at the discretion of Supplier Quality Engineering or Purchasing management.

Level 4 - Red: For six consecutive months the supplier has averaged:
1. a Supplier Scorecard Score below 59
2. *or* has been issued >3 A-Ranks
3. *or* has an OTD score of < 90%.
4. *or* fails to obtain an acceptable score prior to the end of the Level 3 assessment period.

Achieving this level means the supplier is performing at the lowest possible level and must work closely with the Supplier Quality Engineering or Purchasing group to improve their score. The supplier will be required to present their progress, once a month in person, to Supplier Quality Engineering or Purchasing management. The venue for this presentation is decided at the discretion of Supplier Quality Engineering or Purchasing management.

2.6 Supplier Level Restoration Process

As stated above, Level 1 does not require any action from the supplier and Level 2 requires a self-monitoring process independent from any NAL involvement. However, Levels 3 and 4 require the supplier and NAL to work together to remedy the unsatisfactory scores.

When a supplier achieves Level 3 status, NAL Purchasing department will send the supplier a formal written communication providing clear expectations on what the supplier must do to return to Level 1 or Level 2. The supplier will be required to initiate a Quality Improvement Plan (QIP) focusing on KPIs and any other improvement activities requested by the SQE management. Within 10-days of Purchasing's notification the supplier must implement self-corrective actions. The date of the Purchasing notification begins a 6-month assessment period in which the supplier must raise their score to Level 2 or higher.

During the 6-month assessment period the supplier is required to present their progress to Supplier Quality Engineering or Purchasing management monthly. These presentations may be in person or via electronic communication, depending on the recommendations from NAL management. After the supplier has presented their progress, NAL management will provide feedback and decide to either keep the supplier at Level 3 status, escalate

the supplier to Level 4, or remove the supplier to either Level 1 or Level 2.
When a supplier achieves Level 4 status, NAL Purchasing department will send the supplier a formal written communication providing clear expectations on what the supplier must do to return to Level 1, Level 2, or Level 3. Within 10 days of Purchasing's notification the supplier must implement self-corrective actions. The date of the Purchasing notification begins a new 6-month assessment period in which the supplier must raise their score to Level 3 or higher.

During the new 6-month assessment period the supplier is required to present their progress to Supplier Quality Engineering or Purchasing management monthly. These presentations must be in person. After the supplier has presented their progress, NAL management will provide feedback and decide to either keep the supplier at Level 4 status, escalate the supplier to a new business hold, or remove the supplier to either Level 1, Level 2, or Level 3.

If a supplier fails to raise their score by the end of this new 6-month assessment period, then they will be automatically assigned to a new business hold status. The removal from the new business hold status requires the supplier to improve their score to Level 3 status and receive approval from Supplier Quality Engineering and Purchasing management.

3.0 Quality Control Function

3.1 General

Material manufactured for NAL's use in assembly of the final product shall be produced, controlled, inspected, and tested in accordance with the requirements of the SQAM. In addition, the SQAM establishes minimum control practices, procedures and the necessary documentation that may be part of the supplier's quality control system.

The supplier shall provide and maintain a quality control system that will ensure all material submitted to NAL for acceptance conforms to the provisions of the purchase agreements, whether manufactured or processed by the supplier or purchased from its suppliers. The supplier shall perform or have performed all the necessary inspections and tests required to substantiate product conformance to drawings, specifications, and contract requirements. NAL's acceptance criteria are **ZERO** defects for all inspections.

The supplier inspection system shall be documented. Such documents shall be available for review by NAL Purchasing, Engineering and Supplier Quality Engineering representatives prior to the initiation of production and as required throughout the life of the contract.

As a reference to the supply base, NAL classifies defects in a ranking system and defines them in the following manner:

Rank	Category	Examples
A	Any type of functional defect which would cause the end product (Lamp Assembly) to not function properly, or to be in violation of FMVSS or other government regulatory agency requirements. This includes electronic components as well as any component related to the photometrics of the assembly	PCB Open / shorted circuit Wire Harness not properly crimped Bulb pre-damaged LED/PCB Damage Molded/Coated part that will cause photometric failure
B	All other characteristics not specified above which could affect form, fit, or function	Damaged / broken mounting tabs
C	Appearance / cosmetic related discrepancies	Scratches/ Damage

3.2 Purchased Material and Supplier Control

The Supplier shall establish a system of control of purchased materials and subcontracted processes to ensure compliance with all NAL drawings, specifications, requirements of the SQAM, SQAM Supplements and/or requirements of any alternative active purchase agreements.

Acceptable methods of supplier control include:

3.0 incoming inspection and/or tests
4.0 supplier implementation of SPC
5.0 verification by the production process, whereby manufacturing or assembly cannot be completed if a deficiency exists.

NAL recommends using a combination of "supplier implementation of SPC" and "verification by the production process" in conjunction with an extensive advanced product quality planning program (APQP) as outlined in Section 9.0 of this manual.

Suppliers are required to maintain a contingency plan which addresses potential shortages that could affect NAL and the immediate notification of NAL's buyers of that issue.

3.3 In-Process Inspection

The supplier shall establish the necessary in-process inspection procedures to ensure that the material continues to meet all physical, dimensional, and visual requirements, as applicable. All materials produced during machine setups, tool changes and process modifications shall be checked 100% for the characteristics affected by the operation until material conformance and process capability are demonstrated.

3.4 Rework and Salvage

The supplier shall establish the necessary instructions for salvage and reclamation procedures as required for the product type. Critical products will require NAL's approval of the salvage procedure. Special handling or identification after such repair or reprocessing may be required. The necessary re-inspection and/or testing shall be performed on all rework to ensure conformance to specifications prior to shipment of reworked or salvaged product. Questions regarding the criticality of the product or requests for approval of a reprocessing procedure are to be directed to NAL's Supplier Quality Engineering Department.

4.0 Material Control and Quality Identification

4.1 General

The supplier shall establish a documented system for the control of all material. The inspection and test status of all material shall be identified by this system. The documentation shall include a description of the applicable containment areas and product identifying devices. Product removed from the normal process flow shall be segregated and clearly marked as to quality status.

4.2 Non-conforming Material

Non-conforming material shall be clearly identified and isolated in segregated holding areas to prevent its inadvertent return to the normal process flow.

The supplier shall establish written instructions for the proper control, disposition, and traceability of non-conforming materials, including the method of identification.

Under no circumstances shall the supplier ship non-conforming material to NAL. The supplier is responsible for the immediate notification to the using NAL plant, if it is known or suspected that non-conforming materials have been inadvertently shipped.

4.3 Non-conforming Material Found at Supplier

If the supplier suspects' nonconforming material may have shipped to NAL, the supplier must: (a) Contact NAL Receiving Inspection to report suspect shipment – (b) Contain the defect both at their facility and at NAL – (c) Provide NAL with a formal problem-solving report within 10 calendar days.

No SQC will be issued to the supplier and no defects will be added to their PPM so long as no nonconforming material has been assembled at NAL, shipped to NAL's customer, and if all items in #1 above are addressed.

Upon notification NAL Receiving Inspection will confirm no nonconforming material exists in NAL's inventory.

4.4 Special Shipment Identification Tags

1) All purchased components marked with an "orange" Special Shipment Identification Tag "SQL-4-018" must be routed through the Receiving Inspection Department upon arrival at NAL.
2) Purchased product must be marked with Special Shipment Identification Tags in the following instances:
   a) prototype samples (minimum of sample request required for release from Rec. Inspection)
   b) Pre-production samples (minimum of sample request required for release from Rec. Ins.)
   c) SDOC OR SPPAP samples (minimum of provisional SDOC OR SPPAP required for release from Rec. Inspection)
   d) 1st production shipment (minimum of provisional SDOC OR SPPAP required for release from Rec. Inspection)
   e) 2nd production shipment (minimum of provisional SDOC OR SPPAP required for release from Rec. Inspection)
   f) 3rd production shipment (minimum of provisional SDOC OR SPPAP required for release from Rec. Inspection)
   g) Dimensional data samples
   h) Certified stock shipment
   i) Countermeasure stock shipment
   j) Engineering change shipment (minimum of provisional SDOC required for suppliers to ship and to be released from Receiving Inspection.)
   k) Process change (other than countermeasure) shipment.
   l) Part were air shipped to prevent late delivery (for electronics)
3) All Special Shipment parts are subject to sort at the supplier's expense. The determination to sort will be made by the Quality Manager or delegate.
4) Product received at NAL that does not possess the required Special Shipment Identification is subject to the SQC process.
5) All products received that does not meet requirements for the specified shipment or sample are subject to the SQC process.
6) For common parts that ship to multiple NAL Manufacturing locations, at any changepoint, the supplier is

required to orange tab the first 3 certified shipments for each location.

4.5 Lot Control

NAL may require the supplier to provide traceability of materials as to manufacturing, shipping, and processing dates. The need for this type of lot control is based largely on product type and may be required at the discretion of the NAL Supplier Quality Engineering Department. As a rule, all products manufactured in small batch quantities, such as molding compound and periodically produced molded or machined parts, should be lot traceable. In cases such as these, when lot or batch segregation is required for proper control, lot identification procedures shall be documented and implemented, this includes FIFO requirements.

4.6 International Material Data System (IMDS)

Each NAL Supplier shall set up an IMDS account at URL www.mdsystem.com. NAL Suppliers can access the Material Data System by clicking on the linked web address above. The information needed to get started can be found by clicking on "New at IMDS?" from the above URL. Additional information to register your company, help in creating component and/or material IMDS, online user manual, IMDS training, and video tutorials are located in the "IMDS login" screen.

IMDS necessary requirements for acceptable inputting of data into IMDS are shown in "IMDS Recommendations". Please log in and locate these recommendations in the Help Tab, under Recommendations. All material and component IMDS must adhere to the recommendations IMDS001 and IMDS001A. There are also recommendations that may be applicable to a certain component or material, which the supplier's IMDS must adhere to. As stated in recommendation IMDS001 Chapter 4.5, substances listed in the GADSL (Global Automotive Declarable Substance List) must be reported.

IMDS must be submitted to North American Lighting (IMDS ID 5235) 60 days after sourcing.
The approved IMDS ID Number for each material or component shall be provided to NAL as part of the SDOC OR SPPAP package.

5.0 Gauges and Gauge Control

5.1 General

The supplier shall make provisions for the proper maintenance, inspection and control of gauges and testing equipment to ensure continued accuracy. Such devices shall be calibrated at established frequencies against appropriate standards. The supplier shall document the calibration status and the fitness for use of each device. Calibration shall be traceable to the National Institute of Standards and Technology (NIST).
Measurement system or equivalent government body where the supplier's factory is located. Variation shall be determined for all gauges and test equipment utilized in the production process. NAL recommends the Gauge R&R procedure in the Measurement Systems Analysis manual published by AIAG.

5.2 Requirements for Special Gauging and Reflex Instrumentation

The supplier is responsible for the provision of the necessary gauges and testing devices required to ensure material conformance, unless provided by NAL. Those suppliers who mold reflexes for NAL shall be required to have available a certified, calibrated vertical photometer to measure reflex reflection. The reflex verification shall be a requirement in the Supplier Process Control Plan. If the photometer is temporarily out of service for maintenance or

calibration, an immediate written notification shall be given to NAL's Supplier Quality Engineering Department. It is the responsibility of the assigned SQE to notify Receiving Inspection of the temporary "out of service" condition. All product not verified during the downtime shall be required to have the orange NAL Special Shipment Identification Tag on each container identifying the material as potentially non-conforming.

If production type tooling, such as jigs, fixtures, templates, and patterns, are used as a media for quality control, such devices will be subject to the same controls applicable to gauges or test equipment.

5.3 NAL Provided Gauges and Check Fixtures

In the event of a NAL provided gauge or check fixture not operating correctly:

1) Supplier must inform the responsible NAL SQE that repair is needed.
2) Supplier to communicate the failure condition of the gauge/check fixture to NAL. NAL will decide on the next steps and may have the tool returned to NAL for repair.
3) If the gauge/check fixture is not usable, supplier must contact SQE to determine how the parts will be checked until the repair is completed.

6.0 Corrective Action

6.1 Supplier Quality Concern

When the supplier detects non-conforming materials, or materials are returned by NAL for non-conformance, the supplier shall take immediate action to provide containment **(see supplier containment flowchart)** for all related lots concerning the non-conforming characteristic(s). The supplier shall take prompt and positive action to isolate and correct any conditions, which could result in the manufacture or shipment of materials that are non-conforming. Additional inspection for the non-conforming characteristic(s) shall be implemented pending the determination of the effectiveness of the corrective action. When applicable, statistical process control methods should be used to verify corrective action effectiveness and maintained to prevent recurrence (see also NAL SPC Policy, Section 19).

If a supplier receives a "Supplier Quality Concern" (SQC) from NAL, the supplier shall immediately implement containment activities as described above. Immediate corrective action steps should be taken, and those steps (steps 1-3 on a traditional 8D) should be documented and submitted through PLEX within 24 hours from issue of SQC. In addition, the supplier shall submit the complete corrective action through PLEX within 10 business days from issue of SQC. If a final 8D cannot be completed within that timeframe, the supplier shall contact the appropriate NAL SQE and request an extension. In conjunction with the request for extension, the supplier shall submit the updated 8D through PLEX with actions taken to that point and which also includes an action plan with dates and responsibilities for the remaining future actions. If an SQC is issued, supplier corrective action reports shall include, where applicable, a modification of the PFMEA and PCP. All production shipments following the receipt of the SQC, shall be 100% inspected and/or tested for the noted defect(s) until Permanent Countermeasures are implemented. The first three (3) certified shipments shall be labeled as such using the fluorescent orange Special Shipment Identification Tag. All incoming material up to and including the 1st certified shipment will be sorted at NAL at the supplier's expense. If the SQC is designated as an A Rank, all 3 certified shipments will be sorted 100% at supplier's expense. If any non-conforming product for the SQC noted defect is found during this sort, the certified shipments will restart, and the supplier will fill out the orange tags with verbiage to that fact (e.g., "certified for failed containment of SQC#####"). If the certified shipment(s) are found without defect, the sort at NAL will be discontinued. However, the supplier is expected to continue to 100% certify at their facility until the permanent countermeasure has been implemented.

**Note: If a supplier quality issue causes NAL finished goods scrap, the supplier can be charged for that scrap.

If a supplier receives an "A Rank SQC" or is notified by any other means that the supplied purchased part is suspect for a functional defect and in addition to the above-mentioned requirements, the supplier will also be required to complete an "A RANK IMMEDIATE REACTION_SUPPLIER" form and return it to the applicable SQE within 24 hours of origination. This form will be initially completed with basic information by the NAL SQE and then sent via email to the supplier representative for full completion. This form will be added to the supplier history by attaching it to the SQC electronically if one is issued.

6.2 Return Material Authorization

In the event North American Lighting rejects material for the supplier's failure to meet NAL requirements, the supplier will be required to provide an RMA to the NAL plant RI group **within 3 Business Days** of notification or the material will be scrapped, and the supplier will be debited.

7.0 Product & Process Change Control

7.1 Drawing & Specification Control

The supplier's document control system shall ensure that the latest drawings, specifications, and other pertinent information are available at the manufacturing, testing or inspection locations. The system shall provide for the removal of all obsolete drawings and specifications from all points of use. No drawing, specification, PFMEA or Control Plan shall be changed without NAL's written authorization. All blueprints and specifications should be reviewed at a minimum frequency of once per calendar year to ensure that only the latest revision level is in use. *Any discrepancy shall be noted in writing to NAL's Supplier Quality Engineering Department.*

7.2 Process Change Control affecting Form, Fit or Function

The supplier shall establish methods and procedures for controlling changes (4M change control management). In addition, any change to a process that may/will affect the form, fit, function or any combination thereof to a component used in an application at North American Lighting, Inc. will require supplier notification to the NAL SQE prior to implementation. Examples of (not limited to) changes include: material change, location change, supplier change, processing parameters (plastic/rubber) outside the established process, equipment change, die and press set-up for (metal/rubber parts), assembly process or any other situation determined by NAL Supplier Quality Engineering (in writing) 90 days prior to the proposed change as a mode that should be included in the aforementioned list are susceptible to this requirement. The supplier should notify the NAL SQE initially to discuss any planned changes to receive direction / instruction on how to proceed. Unless waived in writing by the Supplier Quality Engineer at North American Lighting, a process change will require revalidation to ensure continued conformance to specifications. Refer to Sample Submission Procedure (Section 15).
Before a Supplier Process Change is initiated, the SQL-4-003 "NAL SUPPLIER PROCESS CHANGE REQUEST (PCR): PLAN AND AUTHORIZATION" form, PLAN STAGE, must be completed and submitted to the assigned Supplier Quality Engineer. The Supplier may not proceed until the Supplier Quality Engineer approves the Supplier's plan.
Upon SDOC OR SPPAP submission, final approval and SDOC OR SPPAP creation the assigned Supplier Quality Engineer will print the approved SDOC or SPPAP from Plex and issue a final copy to the Supplier. Process change requests cannot be submitted during the SOP + 90 initial safe launch period.

8 Documentation Control

8.1 Written Procedure

The supplier shall provide and maintain written procedures covering all aspects of its quality control program.

8.2 Inspection Instructions

All inspections and tests shall be described by clear, complete, and current written instructions. The instructions shall include as a minimum requirement:

1. Method of inspection
2. Tools to be used.
3. Standard for acceptance and rejection
4. Sample size and frequency concerning inspection shall be documented.
5. Any NAL/Customer identified critical points/special characteristics are to be monitored (identified as such on test records). See QLA-3-008 Special Characteristics.
6. All critical points/special characteristics require a 30-piece study showing capability. Points having CPK's between 1.00 to 1.32 will be required to have improvement activities.
7. Suppliers may use their own company designation for critical point/special characteristics on documentation/records.

8.3 Records

The supplier shall maintain adequate records of all inspections and tests that are performed as parts of the quality control function. The records shall contain, as a minimum requirement, the following:

1. Characteristic(s) observed.
2. Frequency of observation
3. Number and type of deficiencies found.
4. Material disposition
5. Identification of the recorder
6. Corrective Action
7. Date of inspection

8.35 Recording Process Parameters and Product Test Records

Supplier employees shall record the actual values of process parameters and product test results (variable or attribute). Simple pass/fail records of inspection are not acceptable for variable measurements.

Note: This is a NAL & OEM Customer requirement

8.4 Record Retention

Suppliers are to use the below Record Retention table (TCS-4-001) to determine the length of time records are to be kept. For materials with open P.O.'s longer than 10 years, no records need to be retained longer than 13 years. Examples: bulbs, molding compound, adhesives, etc.

NAL North American Lighting

Record Retention Matrix

See PBS-2-002 Control of Records for other information.

No.	Identification	Retention Time	Records storage Location	disposition of records	protection
1	**Control Plans**	25 years	Electronic - TCUA	Destroy after retention period	Limited write access
3	**Machine Condition Cards**	20 years	Electronic - Plex/ Hardcopy	Destroy after retention period	Limited write access
4	**nufacturing Process and Quality Verificatio**			BELOW	
a	Machine Condition Checksheets	20 years	Electronic - Plex / Hardcopy - archive room	Destroy after retention period	Limited write access
b	Preventative Maintainance Checksheets	50 years	Electronic - Plex / Hardcopy - archive room	Destroy after retention period	Limited write access
c	Glue Cut Data	50 years	Electronic - Database	Destroy after retention period	Limited write access
d	KOH Test	50 years	Electronic Database / Hardcopy - archive room	Destroy after retention period	Limited write access
e	Thickness Checks	50 years	Electronic Database / Hardcopy - archive room	Destroy after retention period	Limited write access
f	Adhesion Checks	50 years	Electronic Database / Hardcopy - archive room	Destroy after retention period	Limited write access
g	Quality Approval	50 years	Electronic - Plex / Hardcopy - archive room	Destroy after retention period	Limited write access
h	V.P. Test	50 years	Electronic Database / Hardcopy	Destroy after retention period	Limited write access
i	Photometry	50 years	Electronic Database - Photometry Lab	Destroy after retention period	Limited write access
j	Dimensional Data	50 years	Electronic Database (WinSpc/Plex)	Destroy after retention period	Limited write access
k	Weld Integrity Test/Pressure Chamber	50 years	Electronic Database / Hardcopy - archive room	Destroy after retention period	Locked Record Retention Room
l	Glue Weights	50 years	Electronic Database (WinSpc/ Plex)	Destroy after retention period	Limited write access
m	Abnormality Logs	50 years	Electronic - Plex / Hardcopy - archive room	Destroy after retention period	Limited write access
n	ESD checksheet	50 years	Electronic Database	Destroy after retention period	Limited write access
o	Shear Test	50 years	Electronic Database (WinSpc/Plex)	Destroy after retention period	Limited write access
p	Grease Weight	50 years	Electronic Database (WinSpc/Plex)	Destroy after retention period	Limited write access
q	Laser Weld Power	50 years	Electronic Database (WinSpc/Plex)	Destroy after retention period	Limited write access
r	Lens Etch Verification	50 years	Hard Copy - Record Retention Room / Electronic Database	Destroy after retention period	Locked Record Room Limited write access
5	**Customer Complaint Records**	50 years	Electronic - Plex	Destroy after retention period	Limited write access
6	**Internal Audits (not product specific**	20 years	Electronic Database	Destroy after retention period	Limited write access
7	**Inventory Records**	2 years	Hard copy	Destroy after retention period	Limited write access
8	**Tooling Records**	25 years	Hard copy / Electronic MP2 / Plex	Destroy after retention period	Record storage room Limited write access
9	**Calibration Certificates**	25 years	Gage Track Data Base (FL, AL, FH)	Destroy after retention period	Limited write access
10	**Receiving Inspection Records**	25 years	Electronic Database / Plex	Destroy after retention period	Limited write access
11	**Nonconforming Product Records (UM Tags)**	25 years	Electronic Database / Plex	Destroy after retention period	Limited write access
a	FMEA REVIEWS	20 years	Electronic -TCUA	Destroy after retention period	Limited write access
b	INTERNAL TF CAR's	25 Years	Electronic Database - Plex	Destroy after retention period	Limited write access
13	**SafetyTraining Records**	20 years	Electronic in SAP and Plex Paper copies in Employee Training	SAP "active" employees accessible Terminated employees "withdrawn" accessible with clock no. Sign-in sheets kept for one year Safety training sign-in sheets for 3 years	SAP system backed up on regular schedule by IT. Training files stored with employee records.
14	**Training Records**	20 years	Electronic Database / PLEX	NA	Supervisor level and up can view
15	**Training Sign in sheets**	20 years	Electronic Database / PLEX	NA	Only Training can upload and view uploaded sign in sheets
16	**Standard Observation Check Sheet**	20 years	Electronic Database / Hardcopy Employee records	NA	Flora's are PDF files located in private trainers - HR Mgr and GM have access
17	**Training evaluation sheets**	1 year	Electronic Corporate Database / Microsoft portal 365 for	Destroy after retention period	Limited write access
18	**Required Testing**	1 year	Electronic Plex	Destroy after retention period	Limited write access
19	**6S records - NAL's Corp required record**	1Year	Electronic Database	Destroy after retention period	Secured area
20	**Sample Request**	1 year	Hard Copy-Production Control Dept / Plex	Destroy after retention period	Production Control Dept Cabinet
21	**Shelf Life Checksheet**	6 mos	Hard copy	Destroy after retention period	Shipping/Receiving Dept.
22	**Shipping/Receiving***	1 year	Electonic Plex and Hard Copies for Flora	Destroy after retention period	Limited write access
23	**PSW**	50 Years	Electronic TCUA	Destroy after retention period	Limited write access
24	**MSA**	50 Years	Electronic TCUA	Destroy after retention period	Limited write access
25	**Material Analysis**	50 Years	Electronic TCUA	Destroy after retention period	Limited write access
26	**DFMEA/PFMEA**	50 Years	Electronic TCUA	Destroy after retention period	Limited write access
27	**Validation Performance Analysis**	50 Years	Electronic TCUA	Destroy after retention period	Limited write access
28	**Specification Documentation (design records, authorized Engineering Change documents, customer Engineering**	50 Years	Electronic TCUA	Destroy after retention period	Limited write access

***See SHR-3-006 for more Shipping/Receiving form retention information**

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9.0 Advance Product Quality Planning (APQP)/New Part Approval Process

9.1 General

Advanced Product Quality Planning (APQP) refers to all the pre-production activities that help ensure materials being delivered to NAL consistently meet all NAL requirements and expectations. The level of control exercised over each supplier will be consistent with the criticality and the complexity of products supplied, as well as suppliers' demonstrated capability.

9.2 Pre-Qualification of New Suppliers & Registration Requirements for all Suppliers

Potential suppliers of production material, at NAL's discretion may undergo an on-site Quality System Assessment performed by any or all of the following:

1. NAL Purchasing/Supplier Quality Engineering
2. NAL Supplier Preparation & Development Engineering
3. An NAL approved second party OEM.
4. A third-party registrar

Suppliers currently supplying production material to NAL are encouraged to seek third party registration to ISO/IATF 16949; **however, they shall be registered to ISO9001 by a third-party firm** (See Section 13.0 for contact information). If they are not IATF16949 or ISO9001 certified, they must be working on their third-party certification to obtain certification within fourteen months after signed sourcing agreement. It is expected that the initial pre-audit for certification will take place approximately eight months into the certification process. If certification is not achieved within fourteen months of signed sourcing agreement, the supplier is to be put on new business hold and/or the start of the de-sourcing process will begin.
A supplier whose ISO 9001 or IATF 16949 certification has been revoked must recertify within fourteen months from date of revocation. If recertification by an accredited third-party is not achieved within fourteen months of revocation, the supplier is to be put on new business hold and/or the start of the de-sourcing process will begin.
NAL will monitor supplier quality system development on an ongoing basis by performing Process Reviews (see Section 9.10), Impact Activities (see Section 11.0) and Quality System Assessments based on ongoing supplier performance in the areas of quality, cost, delivery, and service.

9.2.1 Minimum Process Requirements (MPR)

Suppliers must review and confirm through a self-assessment that they either currently meet or will work to meet in a negotiated timeframe the NAL Minimum Process Requirements (MPR) according to their specific commodity. The MPR check sheet can be accessed by going into the PLEX supplier portal and under Supplier Documentation open **SQL-4-031.**

Suppliers must access their commodity specific MPR by opening the appropriate tab in the Excel worksheet. Suppliers are expected to submit the completed MPR check sheet self-assessment to their respective NAL SQE prior to the Potential New Supplier Audit or if already qualified as an NAL supplier, prior to attending the Design Review for any sourced program/product.

By agreeing to comply with this NAL SQAM manual, suppliers are also agreeing to comply with the NAL MPR. The MPR is created and intended to be used as a living document and thus will be revised and updated periodically

as necessary. Suppliers will be notified of any revisions via email and the newest revision will be available through the PLEX supplier portal.

9.2.2 NAL Barcode Standard

For NAL products that require a 2D QR code, supplier must adhere to the NAL quality guidelines outlined within ENG-3-137.

9.3 Supplier Performance Measurables

It is the policy of North American Lighting to source products to suppliers who consistently perform at acceptable levels in the areas of Product Quality, On-time Delivery performance, Service, and Total Product Cost.

9.4 Design Review Meeting

A Design Review meeting may be required prior to initiating production tooling. The Design Review meeting is held at the discretion of the Supplier Quality Engineer and NAL Buyer; however, a Design Review meeting will typically be required for all non-standard functional parts.

At this meeting Critical Product Characteristics will be identified. Critical Characteristics may be identified by symbols placed on the product blueprints or in related Engineering Specifications. Unless waived in writing by NAL, all Critical Characteristics require the supplier to submit proof of capability as defined in Section 9.9 and a documented method of ongoing control as defined in Section 9.8.

In addition, all product requirements and specifications will be reviewed to assure that the supplier is capable of meeting all NAL requirements and expectations. In the event a Design Review meeting is not required, the supplier shall complete the Design Review Check Sheet.

9.5 Award Job/Start Tooling

The supplier should start production tooling only after they have reviewed and agreed to all applicable NAL drawing and Engineering specifications and agree to abide by the requirements outlined in the NAL SQAM, SQAM Supplements and the requirements of any alternative active purchase agreement.

9.6 PFMEA

The supplier is required to complete a Potential Failure Mode and Effects Analysis (See Section 17) for all failure modes that might exist in the manufacturing process, as well as any other associated processes that could (if not properly controlled) result in nonconforming product.

9.7 Production Tooling Complete

Production tooling should be completed well in advance of the target SDOC OR SPPAP submission date in order to provide the supplier with sufficient time to complete the Process Control Plan (see Section 9.8) and attain full SDOC OR SPPAP approval (see Section 9.13) prior to shipping to NAL under a Production Purchase Order (see Section

9.14).

9.8 Process Control Plan

A Process Control Plan shall be generated in order to ensure that the manufacturing process controls are sufficient to produce defect-free products for the duration of project life. See Purchased Product Process Control Plan Procedure (Section 14).

9.9 Process Potential Studies

Process Potential Studies shall be performed for all identified Critical Control Points Critical Characteristics (see Section 9.4) in accordance with the guidelines established in the *NAL SPC/MSA AIAG manuals*.

9.10 Process Review Meeting

Upon completion of the Process Control Plan (Section 9.8) a Process Review Meeting should be held. This meeting is held at the discretion of the NAL Buyer and Supplier Quality Engineer based on the complexity of the part and the suppliers' experience and past performance with similar parts.

A Process Review Meeting will typically be held for non-standard functional parts. This meeting may be held at NAL, but, when possible, will be held at the supplier's location. At this meeting, all aspects of the manufacturing processes will be analyzed to determine if the process controls (as outlined in the Process Control Plan) will be capable of producing the desired result of zero defects.

9.10.1 HVPT

After supplier has verified that all systems, equipment, and personnel are ready for the start of production and at least 2 weeks prior to submitting a SDOC OR SPPAP, the supplier is required to conduct a final high-volume production trial (HVPT) to show evidence that they are capable of producing the quantity of parts in the timeframe they quoted to at the quality level required by NAL. The evidence from the trial will be documented on the form provided by the NAL SQE and submitted prior to SDOC OR SPPAP.

For NAL's Electronics suppliers, HVPT trials must be performed and supporting data submitted, for all additional SMT and assembly lines that the supplier may want to use for capacity reasons. Supporting documentation requirements are defined by the responsible Supplier Quality Engineer and must be submitted within the PPAP.

9.11 Production Part Approval Process (SDOC or SPPAP) Submission

Note: The term SDOC or SPPAP will replace the formerly used term ISIR.

Supplier will submit an SDOC or SPPAP to NAL for new production parts at least 90 days prior to SOP of the program. Production samples of all new products shall be submitted to NAL for approval. See *Sample Submission Procedure* (Section 15) for details of when additional SDOC OR SPPAP submissions are required and the correct procedure for submission preparation.

9.12 SDOC OR SPPAP Verification

NAL may verify key characteristics of the SDOC OR SPPAP.

9.13 SDOC or SPPAP Disposition

In conjunction with NAL Engineering, NAL Supplier Quality Engineering will review the supplier submitted SDOC or SPPAP package. At this time, the SDOC or SPPAP will either be Approved, Rejected or Provisionally Approved. The definition of each is defined in the *Sample Submission Procedure* (Section 15). In each case a copy of the Part Submission Warrant (PSW) and its disposition will be sent to the supplier.

9.14 Pre-Production Shipments

For all pre-production shipments from supplier to NAL, the supplier will provide dimensional data, (as agreed upon between NAL and supplier during Design Review), for a minimum of 3 parts for each part number shipped. A hard copy of the data sheet will be included with the shipment and an electronic copy will be sent to the applicable NAL SQE. All pre-production shipments will be labeled as such using the NAL Special Shipment Identification Tag.

9.15 First Production Shipment

A supplier shall attain an Approved or a Provisionally Approved SDOC or SPPAP prior to making a Production Shipment to NAL. Production materials shall be packaged in accordance with the Supplier Packaging Guidelines in Section 16.
A supplier shall submit all required statistical data (as outlined in the NAL approved Process Control Plan, Section 9.8) with each shipment for the first three (3) production shipments. **The first three (3) production shipments shall be labeled as such using the NAL Special Shipment Identification Tag. Failure to do so may result in a rejected shipment.**

10.0 Submission of Ongoing Process Control Data

If NAL requires ongoing process control data, the characteristics and frequency will be clearly defined in writing and sent to the supplier with the Approved SDOC OR SPPAP. If the supplier has any questions or concerns regarding the request for ongoing control data, the appropriate NAL Supplier Quality Engineer should be notified immediately. This data shall be submitted at the assigned frequency, or a complaint will be issued, and subsequent shipments will be subject to rejection. The type of data required (check sheets, control charts, etc.) is also defined on the Process Control Plan (Section 9.8). Required process control data shall be sent with the actual material shipment and the shipment shall be identified using the NAL Special Shipment Identification Tag.

The data submitted shall be legible and clearly explained. As a minimum the data sheets should include:

1. NAL Part Number
2. Date of report
3. Manufacturing period covered by data.
4. Characteristic being monitored.
5. Reactions to all runs, trends, or any other noted process instability.

If a supplier wishes to reduce the frequency of data submission, the Process Control Plan shall be revised and approved by NAL as described in Section 14.

11.0 Impact Activities

11.1 General

NAL will train and support its suppliers to perform "Impacts" on the manufacturing processes to reduce manufacturing:

1. Scrap
2. Inventory
3. Floor Space
4. Cycle Time
5. Labor
6. Costs

NAL will provide initial training regarding the Impact process and will be present for the initial event (typically 5 working days); however, most of the ideas and improvements will be originated by the supplier's Impact Team Members. This is designed to make the process rewarding for all and increase the probability of success.
If improvement is achieved through the NAL Impact Activity, both NAL and NAL Suppliers will benefit from the reduction of manufacturing related costs. NAL expects suppliers to implement the continual improvement/cost reduction techniques taught during the Impact Activity.

11.2 New Suppliers

A new supplier who is awarded business from North American Lighting may be required to conduct an Impact Activity after Start of Production (SOP).

11.3 New Projects

A supplier who is awarded new business from North American Lighting may be required to conduct an Impact Activity after Start of Production (SOP).

11.4 Out-Sourced Projects

A supplier who is awarded an existing production part with the support of North American Lighting production tools and/or equipment may be required to conduct an Impact Activity after receipt of such tooling and/or equipment.

12.0 Returned Materials

The supplier shall review all returned materials to determine the cause of the non-conformance and ensure that timely effective corrective action is implemented.

13.0 Quality System Assessment Reference Materials

Quality System reference publications such as ISO9001, IATF 16949, PPAP, MSA, etc. may be purchased by calling or writing the Automotive Industry Action Group (AIAG) at the address or telephone numbers listed below:

AIAG
Automotive Industry Action Group
26200 Lahser Road
Suite 200
Southfield, MI 48034

Telephone: (248) 358-3570
Order Department: (248) 358-3003
Fax: (248) 358-3250

Email: aiag.org

14.0 Process Control Plan (PCP)

The supplier shall have a PCP for each component that is manufactured and shipped to NAL, which will ultimately be a part of a finished lamp that is to be shipped to the OEM's. Refer to the latest edition of the AIAG Manuals for this format.
The form to be used for new PCPs shall be that stated in the AIAG manual, latest edition, and can be obtained from the address in Section 13.0. Current or established PCPs should be revised to latest AIAG format where appropriate. A Production Control Plan shall be written for all purchased "production" products that appear on the Bill of Materials of any NAL project that is purchased from a supplier.

14.1 Completing the Form

When completing the PCP form the anticipated effectiveness of the chosen process controls shall be in direct correlation with the "Risk Priority Number" (RPN) established on the PFMEA. The PCP shall:

1. Identity of each manufacturing process and the process and/or product control methods to be used.
2. Include the methods utilized to control purchased products and continue to follow the process flow through final inspection.
3. Have all areas of the form completed.
4. Specify that all SPC data to be supplied is to comply with the guidelines established in the "NAL SPC Policy". (see section 19.0)

14.1.1 Safe Launch Control Plan

Suppliers will be required to create/implement a safe launch plan with a zero-defect mentality for a standard duration of 90 days post SOP. The supplier will be required to provide documentation in the form of a safe launch control plan or equivalent to the appropriate SQE prior to 30 days before SOP to receive approval of plan by NAL. Every 30 days after SOP, the supplier will be required to submit safe launch data to their applicable SQE and contact them to discuss. After the 90-day post SOP period has expired, the supplier will then be required to submit a formal request to NAL accompanied with the most recent safe launch data to exit the safe launch activity. The SQE and SQE Supervisor will approve at their discretion. The supplier will remain on safe launch until this request has been formally approved by the NAL SQE Department.

14.2 PCP Review and Approval

The completed "NAL Purchased Part Process Control Plan" shall be reviewed at a NAL process review meeting prior to SDOC OR SPPAP submittal. The PCP shall be submitted as part of the SDOC OR SPPAP package. NAL will give final PCP approval as part of the SDOC OR SPPAP package approval. Once the SDOC OR SPPAP is approved, NAL Supplier Quality Engineering will determine if control items will be monitored on an ongoing basis by NAL's Receiving Inspection Operations. A copy of the approved or rejected PSW – Part Submission Warrant will be returned to the supplier by the NAL Quality Secretary. A copy will also be filed by NAL Receiving Inspection for use in monitoring the incoming product.

14.3 Control Data

When NAL requires the supplier to send process control data, the data type and frequency will be identified on the approved PCP. If the supplier is using a form different than the one in the AIAG manual, NAL will identify the required control data by clearly stating it in a letter which will be attached to the PSW – Part Submission Warrant package when forwarded to the supplier with disposition. Required process control data shall be sent with the actual material shipment, and the shipment shall be identified using the NAL Special Shipment Tag. Required process control data shall be sent to NAL with every shipment for the first three (3) shipments following the Start of Production and every quarter thereafter. Unless otherwise specified, data shall be received by the last day of the following months:

October, January, April, and July.

Data not received by the end of each specified month will be considered late, and the material becomes subject to rejection. If a supplier receives a Supplier Quality Concern (SQC), any relevant process control data shall be sent with every shipment, until the SQC is closed. NAL may require an increase in the frequency of data submission if the process stability or capability becomes questionable.
The data submitted shall be legible and clearly explained. As a minimum the data sheets shall include:

1. NAL Part Number
2. Date of report
3. Manufacturing period covered by the data.
4. Characteristic being monitored.
5. Reactions to all runs, trends, or any other noted process instability.

NAL Receiving Inspection will receive the submitted data, verify that it meets the requirements of the SDOC OR SPPAP and ensure that the supplier has properly reacted to all runs and trends in the data. The existence of trends indicates the process is no longer predictable and action shall be taken to bring the process back into control. All reactions to trends and out-of-control conditions shall be documented by the supplier and records maintained.

14.4 Control Plan Changes

Any modifications to an existing approved PCP shall require the submission of the revised documents and the Part Submission Warrant – PSW to NAL Supplier Quality Engineering for approval.

15.0 Sample Submission Procedure

Sample submission provides the supplier an opportunity to ensure that all purchased materials meet or exceed all NAL requirements prior to receiving production shipments of these materials. The supplier also demonstrates its initial part quality and its ability to maintain ongoing part quality for the life of the project using Process Control Plans and capability studies. All submitted samples shall be manufactured, inspected, and tested in accordance with the requirements set forth in the purchased material contract.

Sample submissions shall be made under the conditions established in Table 1.

TABLE 1

This table contains those instances when a supplier is expected to notify NAL and submit documentation of changes and product samples prior to making a design or process change. The assigned NAL Supplier Quality Engineer is to be consulted in the case of questions/ambiguity of requirements.

NUMBER	NAL REQUIREMENT	NAL CLARIFICATION
1	Use of construction or material than was used in the previously approved part of product.	For example, other construction as documented on a written deviation or included as a note on the design record and not covered by an engineering change. This includes but is not limited to changes in process parameters outside those noted on or referenced by the control plan, and/or changing production from one size/class/rating of production equipment to another.
2	Production from new or modified tools (except perishable tools), dies, molds, patterns, etc., including additional or replacement tooling.	This requirement only applies to tools which due to their unique form or function, can be expected to influence the integrity of the final product. It is not meant to describe standard tool (new or repaired), such as standard measuring devices or drivers (Manual or Power).
3	Production following refurbishment or re-arrangement of existing tooling or equipment.	Refurbishment means the re-construction and/or modification of a tool or machine or to increase the capacity, performance, or change its existing function. This is not meant to be confused with normal maintenance, repair, or replacement of parts, etc., for which no change in performance is expected and post repair verification methods have been established. Re-arrangement is defined as activity, which changes the sequence of product/process flow from that documented in the process flow diagram, (including the addition of a new process). Minor adjustments of production equipment may be required to meet safety requirements such as, installation of protective covers, elimination of potential ESD risks, etc. These changes can be made without NAL approval unless the process flow is changed as a result of this adjustment.
4	Production from tooling and equipment transferred to a different plant location or from an additional plant location.	Production process tooling and/or equipment transferred between buildings or facilities in one or more location.
5	Change of subcontractor for parts, non-equivalent materials, or services (e.g.: heat treating, plating).	Suppliers are responsible for approval and notification to NAL regarding a change of subcontracted material and/or services.
6	Product produced after the tooling has been inactive for volume production for 12 months or more.	For product that has been produced after the tooling has been inactive for 12 months or more. Notification is required when the part has had no active purchase orders, and the existing tooling has been inactive for volume production for 12 months or more. The only exception is when the part has low volume, e.g., Service or specialty vehicles. However, NAL may specify certain SDOC OR SPPAP requirements for service parts.

7	Product and process changes related to components of the production product manufactured internally or manufactured by sub-contractors that impact fit, form, function, performance and/or durability. Additionally, the supplier shall concur with any requests by a sub-contractor before submission to NAL	Any change that affects NAL performance requirements for fit, form, function, performance and/or durability requires notification to NAL. NOTE: The fit, form, function, performance and/or durability is agreed on during contract review.
8	For bulk materials only: New source of raw material with special characteristics from new or existing sub-contractor. Change in product appearance attributes where there is no appearance specification. Revise parameters in the same process (outside PFMEA parameters of the approved product, includes packaging). Change outside of DFMEA (product composition, ingredient levels) of the approved product.	These changes would normally be expected to have an effect on the performance of the product.
9	Change in test/inspection method – new technique (no effect on acceptance criteria).	For change in test method, supplier should have evidence that the new method provides results equivalent to the old method.

15.1 Fabrication of Samples

The samples shall be made from specified material(s), on the regular production tooling, with no operations included which will not be incorporated into regular production processing. All applicable material handling and or application specific tooling must be accepted, in writing, by the sub-component vendor for fitness of use.

The number of parts required for sample approval by the using NAL plant shall be requested by Purchasing or SQE. The number of samples required may vary depending on the nature of the part. Unless otherwise specified, the supplier will submit six (6) samples of each part number requested or a minimum of the one (1) piece per cavity when multi-cavity tooling exceeds six (6) cavities.

15.2 Measurement of Conformance to Specifications

Suppliers are responsible for performing all inspection and test requirements called out on prints. They must also ensure conformance to the components design intent. Example: are conductors must conduct, fasteners must fasten, and seals must seal.

All laboratory requirements, i.e., tensile, salt spray, functional, shall be performed by the supplier or a qualified laboratory and be properly documented as a part of the sample submission.

All assemblies submitted for approval shall have all assembly dimensions shown on the drawing documented. When detail parts are specified on an assembly drawing, each detail part shall be dimensionally, and laboratory checked and documented.

Multiple mold die and cavity parts shall have apart from each mold, die or cavity checked and submitted. All tooling shall be 100% checked.

15.3 Marked Print Procedure

All suppliers of parts to NAL are required to follow this procedure, which simplifies the checking and review of sample submissions and reduces misinterpretation of sample submissions.

All drawings used for sample submissions shall have each dimension, note and specification numbered in an orderly manner. To permit a systematic review, drawings should be numbered from left to right across the drawing, or in a similarly organized method.

The marked print is used in conjunction with the NAL Inspection, Laboratory and Supplemental Sample Report forms. The numbers on the drawing shall correspond with the numbers recorded on the appropriate Sample Report Form.

15.4 Supplier Preparation of Sample Reports

In conjunction with the marked print procedure, NAL SDOC OR SPPAP shall be submitted.

The signature and the title of the responsible officially certifies the correctness of the sample and the report findings.

The results of all inspections and test shall be documented on a fully completed Sample Report. Forms to be used are:

15.4.1 Part Submission Warrant – Dimensional (See Form SQL-4-008)

This form is used to report all dimensional findings on the parts to be submitted. When a gauge, template or fixture is used to check a sample, “OK to Gauge” or “OK to Template” notation is to be reported in the supplier findings column. The supplier is responsible for verifying that the checking device used is to the latest engineering level release, and that the checking device has been verified for accuracy. All cavities of multiple tooling shall be checked and reported. Where applicable, the actual measured samples shall be submitted to NAL with the SDOC OR SPPAP package.

The measurement device (calipers, optical comparator, CMM, etc.) should be identified for each dimension measured. The method of part staging or setup should also be described on the SDOC OR SPPAP Dimensional Form (attached sketches as necessary).
If any dimension is found to not meet drawing requirements, the supplier shall identify this condition by checking the “N/G” (no good) judgment column.

15.4.2 Part Submission Warrant – Material (See Form SQL-4-009)

This form is used to report all material physical, chemical and performance test results. The test results should demonstrate compliance to the appropriate Engineering or Industry Standard (i.e., the physical, chemical, and performance requirements for SAE C1010 Steel).

Any test result found to not meet the NAL drawing or Engineering specifications shall be identified by marking the "N/G" judgement column.

15.4.3 Part Submission Warrant – Performance (See Form SQL-4-010)

This form should be used to report all functional testing required by NAL's Engineering activity or as defined on NAL drawings (i.e., ASTM B117 Corrosion Resistance, Max. /Min. torque requirement, insertion/ removal force, etc.).

Any test result found to not meet NAL drawing or Engineering specifications shall be identified by marking the "N/G" judgment column.

Copies of certification reports from sub-contractors and independent laboratories should be attached as supporting documentation to the information described on the Sample Report; however, all material and performance test data shall be in the format outlined in the laboratory form (i.e. Test Method, followed by Requirement, followed by Actual Test Result 1,2 &3, followed by a Judgment OK/N/G).

15.4.4 Appearance Approval

Any products that may be rejected by the customer based on visual/cosmetic defects (i.e., painted parts, exterior trim parts, etc.) shall be submitted for Appearance Approval. Using the boundary sample tags the supplier shall submit marked boundary samples with the SDOC OR SPPAP. Approved boundary samples shall be retained by the supplier for the life of the project.

15.4.5 Process Potential Studies

As defined in Section 9.9, Process Potential Studies shall be submitted as part of the SDOC OR SPPAP package. Special forms are not required; however, the characteristics being evaluated should be clearly identified on each report.

15.4.6 PSW – Part Submission Warrant (See Form SQL-4-011)

The SDOC OR SPPAP Summary page shall be completed and sent as the first page of the SDOC OR SPPAP package. Plastic Components must include the following in the summary area: Tonnage, Cavitation (Ex 1+1=2 cavity), Part Wt. (Ex .01 (LH)+.012 (RH)+.02 (Sprue)=.042 lb. Shot Wt.) and Shot Cycle Time.

When samples are resubmitted due to corrections made to non-conforming areas, only the corrected area and any other dimensions affected by the correction to the original submission need be checked.

The supplier shall retain all Sample Reports and sample parts (except those submitted to NAL with SDOC OR SPPAP) until the end of the project life, which includes service life.

Note: If the PSW is to be sent by email, NAL requires the person who would normally sign the PSW for declaration of compliance (per AIAG PPAP manual), be the person who sends the email to NAL.

15.5 Shipping SDOC OR SPPAP Samples

The completed SDOC OR SPPAP package shall be sent to the Supplier Quality Engineer using the Special Shipment Identification Tag.

**** FAILURE TO SUBMIT PROPER DOCUMENTATION AS DESCRIBED IN THIS PROCEDURE MAY RESULT IN A REJECTED SDOC OR SPPAP AND (if applicable) A DELAY IN PAYMENT FOR PRODUCTION TOOLING.**

Questions regarding the sample submission procedure should be directed toward the responsible NAL Supplier Quality Engineer or NAL Buyer.

15.6 Sample Status Definition

The supplier will be notified by NAL Purchasing or NAL Supplier Quality Engineering as to the disposition of submitted samples through Plex. The disposition will meet one (1) of the following criteria in section 15.6.1, 15.6.2, 15.6.3.

15.6.1 Approved

The disposition of "Approved" indicates that the supplier has met all NAL requirements and may begin shipment. This shall include all functional testing required by NAL's Product Engineering group.

15.6.2 Rejected

The disposition of "Rejected" indicates that the supplier has failed to meet NAL requirements as specified and cannot begin shipment. Corrected samples shall be submitted and approved prior to any shipment.

15.6.3 Provisional Approval

The disposition of "Provisional Approval" permits the shipping of parts on a limited time or piece basis.

A "Provisional Approval" status is generally issued in the following categories:

- Parts pending additional inspections and/or tests, such as laboratory requirements of other qualifications under assembly conditions. Additional samples are not generally required.
- Parts that do not conform to specifications for some minor characteristic, and although not desirable, may be used without rework and would not affect durability or performance. Corrected samples will be required.

A part covered by a "Provisional Approval" that is not corrected is automatically in a "Rejected" status after the time frame or quantity designated on the Provisional Approval is exceeded. No additional shipments are authorized unless superseded by an approval or an extension of the "Provisional Approval".

16.0 Supplier Packaging and Shipping Guidelines

The packaging guidelines in this section are to inform NAL suppliers of the general packaging and shipping requirements, which are necessary for the North American Lighting Production System. The goal of the North American Lighting Production System is to provide the customer with a quality product at a competitive price.

Just-In-Time Production and Zero Defects at North American Lighting does not allow for defective parts due to poor packaging or shipping methods, nor does it allow for the waste in handling of non-standard packaging materials.

16.1 Package Design

The package shall deliver the part to the point of use, in a production ready and damage-free condition, assuming normal handling in transportation, storage and in-plant movement. Packaging shall conform to all government and transportation rules and regulations. Packaging shall be designed to deliver and present parts in a condition that does not result in part quality degradation. Package design and parts count shall not vary between shipments.

16.1.1 Domestic Components

Sourced Suppliers that are assigned to NAL 'Milk-Run' shipping routes are to utilize NAL provided returnable packaging. Development and approval of the packaging design is the responsibility of NAL Packaging Engineer. However, NAL approval does not waive Supplier liability for understanding and supporting their requirements for Pre-Production Activities. The sourced supplier is responsible for providing expendable packaging materials in support of Pre-Production Activities that exceed the provided Returnable (Trial) Fleet. Final Packaging Specifications (Returnable and Expendable Back-up) will be provided by NAL Packaging Engineering after Trial completion. The production returnable fleet amount will be based on daily (5 days/week) shipments within standard milk run shipping routes, suppliers that require additional must obtain approval from their NAL Buyer and Packaging Engineer. Supplier is required to have the approved expendable packaging in place and available for use 90 days prior to NAL SOP.
Sourced Suppliers that are **NOT** on NAL Milk-Run shipping routes, refer to section (16.1.2) for Supplier packaging responsibility and discuss with NAL Buyer.

16.1.2 Imported Components

Supplier part quotations are to include the use of expendable packaging. Development of the packaging design is the responsibility of sourced supplier. The package shall deliver the part to the point of use, in a production ready and damage-free condition, assuming normal handling in transportation, storage and in-plant movement.
All imported components must utilize paper corrugated shipper cartons with a minimum of double walled material. Shipper cartons must have closure flaps on top and bottom, known as a standard 'Regular Slotted Container', sealed with permanent adhesive tape. Metal staple closures are NOT permitted and present safety and quality issues.

- Components with 'non-class-A' surfaces may utilize standard paper-corrugated expendable dunnage materials.
- Visually critical or 'class A' molded components should specifically use Thermoformed plastic tray style packaging for primary protection.
- Electronic/ESD sensitive items must meet appropriate ESD packaging requirements; Thermoformed trays with part specific cells that protect components from damage and contamination.
- Fasteners/hardware/clips must be placed into a sealed polybag for primary containment, then placed into standard shipper cartons.

- Single or double-connection harness components are to be bundled uniformly. Multi-connection harnesses recommend the use of celled dividers to prevent tangling.
- Die Cast/Stamped metal components require celled dividers, preventing part-to-part contact. Heatsinks with critical surface area must utilize thermoformed trays for part protection and contamination mitigation.

Packaging specifications must be provided to NAL Buyer and Packaging Engineer within 60 days from sourcing agreement for approval prior to 'First' part shipments.

16.2 Package Material

Whenever possible, recyclable material should be used, such as, corrugated paper, reusable containers, etc.

Plastic material shall be labeled with a code in accordance with "The Society of the Plastic Industry" (SPI) guidelines and/or in accordance with local government regulations, which may apply.

All fiberboard containers, trays, caps, and multi-wall tubes shall have a box maker's certificate with bursting strength or ECT visible on the assembled containers.

Thermoformed trays must be produced from insulative or dissipative material. Packaging for ESD sensitive items must meet appropriate ESD packaging requirements and include standard ESD handling symbol.

Formed trays with part specific cells that protect components from damage and contamination. The tray length dimension *cannot exceed* 21.25 inches long. The preferred tray width dimension should not exceed 13.00 inches, however if component size does not fit within the 13.00-inch width then the tray width can increase to 20.4375 inches. Trays must be produced from insulative or dissipative material, a minimum of .03 thick. Trays must be interlocking when stacked to hold components in specific seated position and to prevent tray movement. Apply a shielding or antistatic poly bag over the stacked trays prior to placing into corrugated shipper. Exceptions to this standard must be approved prior to shipping by Supplier Quality Engineering and Packaging Engineering.

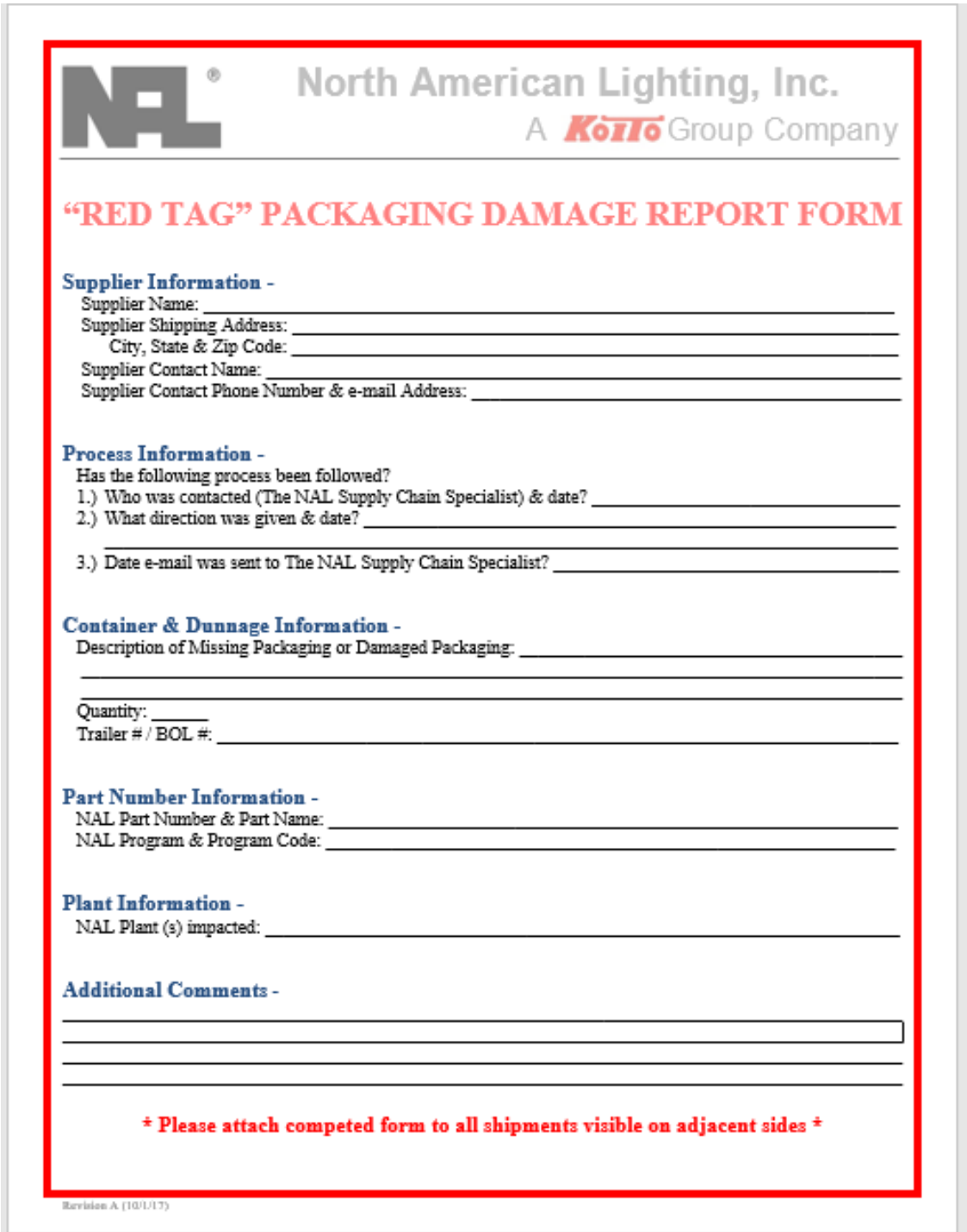
16.3 Missing or Damaged Packaging Procedure

Suppliers utilizing NAL provided packaging (16.1.1) are to complete a visual check of packaging inbound from NAL to confirm that all packaging materials received are complete and without damage, reference the Packaging Approval Form if there is any uncertainty. Suppliers are to notify the NAL Supply Chain Specialist of any missing or damage packaging with specific details;

- What is missing?
- How many?
- Pictures.

The NAL Supply Chain Specialist will provide direction to the Supplier concerning how to proceed with any missing or damaged packaging. Damaged packaging returns to NAL must be identified with 'Red Tags' (see table A.) showing the ship to name and description of the damage.

All repairs to returnable packaging will be completed by NAL or a NAL designated repair source. Suppliers shall not modify or alter any returnable packaging without prior written approval of NAL.
Table A



North American Lighting, Inc.
A Koito Group Company

"RED TAG" PACKAGING DAMAGE REPORT FORM

Supplier Information -

Supplier Name: _____
Supplier Shipping Address: _____
City, State & Zip Code: _____
Supplier Contact Name: _____
Supplier Contact Phone Number & e-mail Address: _____

Process Information -

Has the following process been followed?
1.) Who was contacted (The NAL Supply Chain Specialist) & date? _____
2.) What direction was given & date? _____
_____
3.) Date e-mail was sent to The NAL Supply Chain Specialist? _____

Container & Dunnage Information -

Description of Missing Packaging or Damaged Packaging: _____
_____
_____
Quantity: _____
Trailer # / BOL #: _____

Part Number Information -

NAL Part Number & Part Name: _____
NAL Program & Program Code: _____

Plant Information -

NAL Plant (s) impacted: _____

Additional Comments -

_____
_____
_____
_____

*** Please attach competed form to all shipments visible on adjacent sides ***

Revision A (10/1/13)

16.4 Non-Standard Packaging

If in the case NAL approved standard packaging materials are not available for part shipments, special authorization should be received from your SCS the day prior to shipping product. Supplier must provide a picture of planned packaging deviation with dimensions and quantity per package to be used. The SCS will provide approval via email.

16.4.1 Handling

Containers shall be designed to allow manual handling, including bundles, and shall not exceed 40 pounds (18.16 kg) in weight, even if palletized. Where part size allows, containers should be utilized that will fit the North American Lighting racking system. Maximum dimensions are 24 in. x 15 in. x 11 in. (60.96 cm x 38.10 cm x 27.94 cm). Preferred dimensions are 24 in. x 15 in. x 9 in. (60.96 cm x 38.10 cm x 22.86 cm).

Maximum gross full pallet weight of mechanically handled expendable unit loads shall not exceed 2,000 pounds (908 kg).

Unique packaging requirements dictated by a part (i.e., excessive part oiliness, rust prevention, weight, or fragility) not covered by these specifications are the responsibility of part suppliers and shall be approved by the NAL Manufacturing Engineering.

16.4.2 Pallets and Top Caps

Unless otherwise approved, the standard NAL pallet (45”x48” w/ max height of 50 shall be utilized to help create uniformity in storage and disposal. All pallets are to be made of durable returnable and recyclable materials unless other special packaging specifications are authorized. In addition, all pallets must have an approved top cap. If standard top cap is not available, please contact your SCS. The use of NAL provided materials for other customers or internal use is not acceptable, loss of NAL provided materials due to these uses will result in replacement costs to the supplier.

Palletized loads shall be adequately secured to the pallet. The preferred method of palletizing is plastic banding. However, plastic stretch-wrap may be substituted, if necessary. **Under no circumstances will metal banding be acceptable.**

16.4.3 Economics

NAL strives to receive packaged parts utilizing the most economical method possible, while, at the same time, maintaining part quality. **It is the supplier’s responsibility to maintain the cleanliness of the packaging to ensure that parts arrive at NAL at the acceptable quality level. The cleaning frequency should be determined at SDOC OR SPPAP and is the responsibility of the supplier.**

Economic factors that influence the use of returnable packaging include material, quality, labor, freight, cleaning, disposal, recycling, and tooling costs.

16.4.4 Air Shipments of Electronics

If air shipments are needed to transport electronic devices to NAL, the supplier must ship the boxes on a pallet, to ensure that the parts are not damaged due to improper handling.

16.5 Conclusion

North American Lighting, Inc. is interested in obtaining the most economical packaging, transportation, and handling costs, while ensuring part protection and quality.

17.0 Potential Failure Mode and Effect Analysis (PFMEA)

The supplier shall have a PFMEA for each component that is manufactured and shipped to NAL, which will ultimately be a part of a finished lamp that is to be shipped to the OEM's. Refer to the latest edition of the AIAG Manuals for this format.

18.0 NAL SPC Policy

18.1 Development of Pp and Ppk indices for SDOC OR SPPAP Submissions

Stability shall be indicated prior to the capability indices. The calculation is to be based on criteria established during design review.

Stability for Ppk is defined by NAL as having no out of control points or trends based on a minimum of 25 subgroups of 3 consecutive pieces each: utilizing short run X-R Chart format.

Ppk > 1.67 is required for submission to the customer unless otherwise approved by that customer.

18.2 Development of Cp and Cpk indices for production

The supplier is to utilize control limits developed from the Ppk study for the first 25 subgroups, then recalculate the control limits from actual production data.

Stability shall be indicated prior to the capability index calculation.

Stability for Cpk is defined by NAL as having no out of control points based on a minimum of 25 subgroups of 3 consecutive pieces each.

Calculate Cp and Cpk using this data (25 subgroups of 3 consecutive pieces each, minimum). A Cpk of > 1.33 is required unless otherwise approved by the customer.

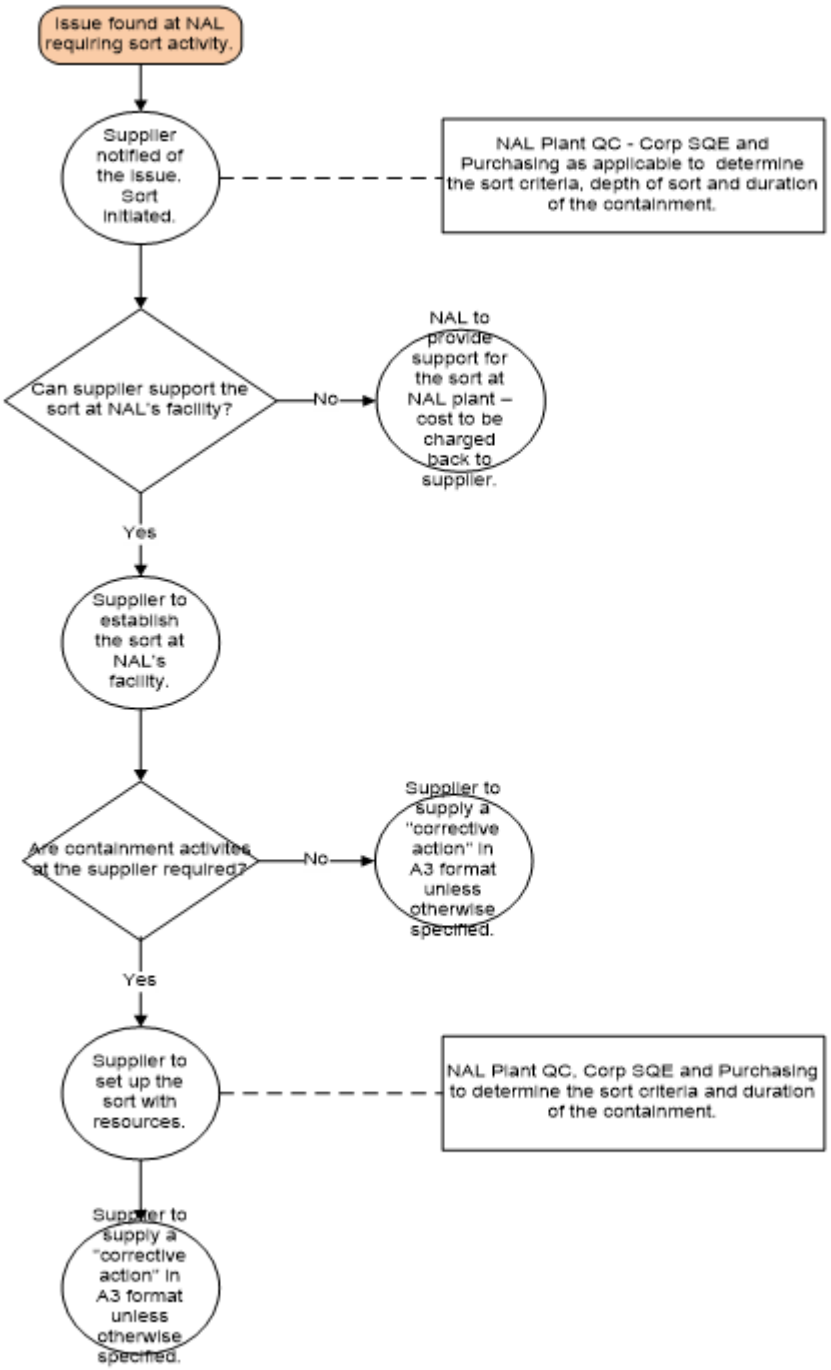
18.3 Ongoing process and product monitoring

Suppliers are to follow the rules established below (Table 2).
NAL defines control of ongoing monitoring as having no points outside of the control limits and no adverse trends.
NAL requires all runs, trends, and out-of-control points to be properly identified and documented.
NAL requires countermeasure action plans for any out-of-control on non-capable processes.
The Cpk and Control Limits are to be recalculated for any of the following reasons: upon significant process change; quarterly or necessity for continuing control.

Note: For additional information regarding standard automotive SPC practices, please, refer to the *Fundamental SPC Reference Manual* published by AIAG.

TABLE 2 NAL SPC POLICY Ongoing Process and Product Monitoring Chart			
	ACTIONS ON THE PROCESS OUTPUT		
POINT	**Cpk History < 1.33**	**Cpk History 1.33 – 1.67**	**Cpk History > 1.67**
IN CONTROL	- Accept production - Action plan required to improve capability	- Accept production	- Accept production
	Cpk History < 1.33	**Cpk History 1.33 – 1.67**	**Cpk History > 1.67**
OUT-OF-CONTROL	- Immediate action plan required to correct special cause - Immediate sample of stock produced since last in-control point (twice as many as subgroup size min.) to determine required action - Action plan to improve capability required	- Immediate action plan required to correct special cause - Immediate sample of stock produced since last in-control point (twice as many as subgroup size min.) to determine required action	- Immediate action plan required to correct special cause
	< 1.33		**> 1.67**
OUT-OF-CONTROL ONE OR MORE OUT OF SPEC.	- Immediate action plan required for special cause - 100% sort all in-house stock for the out of spec. characteristic - Double sample frequency (i.e., current 3 pcs/4 hrs. go to 3 pcs/2 hrs. until control re-established) - NAL to reject shipment if the parts have not been 100% inspected for the out of spec characteristics at the supplier		

Supplier Containment Flowchart



GLOSSARY

CALIBRATION:
The function of determining the accuracy of measuring devices and adjusting such devices to indicate exact conditions as established by standards of known accuracy.

CHARACTERISTIC:
An individual specification on a part or product.

CONTAINER LABEL:
This label is to be used on a returnable container that is meant to be returned to the supplier. This label must include the following information: Return to Supplier XYZ, Part Number and description of part.

CRITICAL CHARACTERISTIC:
A characteristic which, if not within specifications, may affect the performance of vital components and systems, result in major repair expense, or result in a hazard for the individual assembling the product.

CHECKS AND TEST:
The evaluation of conformance of characteristics to prescribed limits and standards.

DEFECT/DEFECTIVE:
Nonconforming parts or products. Any variation from or failure to meet specifications.

FUNCTIONAL TEST:
The evaluation performed on samples to ensure they assemble properly, conform to operational requirements, meet NAL engineering specifications and are adaptable to production usage. NAL will be responsible for final determination of functionality.

HSC:
Half-slotted carton.

INITIAL SAMPLE:
A small quantity of parts made from production tooling and set-up and requiring NAL approval prior to volume shipment.

INSPECTION:
Examination of parts or products to determine conformance to specifications.

INSTRUCTIONS:
Written documents which detail operations and procedures to be performed.

KANBAN:
A small card that is the day control tool for Just-In-Time Production. The KANBAN provides instructions for production and conveyance of product.

LOT INSPECTION:
Lot inspection is the inspection performed on random samples taken from an isolated aggregation of parts, which are

essentially alike, and which were produced from the same production processes. Lot size shall normally represent parts produced during a specific operating period of up to eight hours or a working shift. Production rates shall be a determining factor in establishing lot size, which shall be acceptable to the NAL representative.

MAJOR CHARACTERISTIC:
A characteristic, which if not within specification, is not likely to reduce materially the usability of the item for its intended purpose or is a departure from established specifications or standards having little bearing on the effective assembly performance, function, or customer acceptance of the item.

PROCESS CAPABILITY:
Refers to the normal behavior of a process when operating in a state of statistical control.

PROCESS CAPABILITY STUDY:
Refers to the systematic study of a process by means of statistical control charts to discover whether it is behaving naturally or unnaturally.

PROCESS CONTROL:
The establishment and maintenance of all the circumstances necessary to ensure that any variation in product quality beyond the established limits for the process is attributable to change causes only, and that any such variations resulting in end product nonconformance will be detected and corrected on all products produced prior to shipment of finished materials.

PROCESS CHANGE:
As used in this specification, any change in the processing concept, which could alter the design requirements or durability of the part. This will include new, different, or rehabilitated production machinery or equipment which might cause the characteristic of the part being processed to change in a way that would not be measurable in the normal inspection procedure, the use of Engineering approved alternate materials and new process concepts, including major changes in the sequence of operations.

PURCHASE AGREEMENT:
Contract arrangement between NAL Purchasing Department (Buyer) and Source (Seller) detailing specific conditions or requirements that each party is obligated to meet.

RANDOM SAMPLE:
A sample selected in a manner whereby any given item in the lot has an equal chance to be examined.

RECORDS:
Documented evidence of performance.

SOURCE:
A person, company or organization which signs a purchase agreement or contract to supply materials to NAL.
SPECIFICATIONS:
The limits established which describes the requirements for conformance to all characteristics.

SUBCONTRACTOR:
A person, company, or organization to which a source sublets processing.

IATF 16949/ISO 9001:
All references to these items assume the most current standard.

ACRONYMS

AIAG	Automotive Industry Action Group
APQP	Advanced Product Quality Planning
ASTM	American Society of Testing and Materials
CMM	Coordinate Measuring Machine
EOL	End of Life
ESD	Electrostatic Discharge
HSC	Half-Slotted Carton
IMDS	International Material Data System
N/G	Not Good
OEM	Original Equipment Manufacturer
PCP	Process Control Plan
PFMEA	Process Failure Mode and Effects Analysis
PPAP	Production Part Approval Process
PPM	Parts Per Million
PSW	Product Submission Warrant
RPN	Risk Priority Number
SAE	Society of Automotive Engineers
SOP	Start of Production
SPC	Statistical Process Control
SPI	Society of the Plastics Industry
SQC	Supplier Quality Concern
SQE	Supplier Quality Engineering

Revision History

Revision	Effective Date	Description of Change	Approval Authority
29	5/28/2026	Changes in red to section 5.1 General (Gauge and Gauge Control); added section "5.3 NAL provided Gauges and Check Fixtures"	J. Wright
28	12/03/2025	Changes in red to section "4.4 Special Shipment Identification Tags", item 2.j.	J. Wright
27	08/20/2025	Change to section "8.4 Record Retention" previous table replaced with TCS-4-001; Changes in red to section 7.2 Process Change Control Affecting Form, Fit, or Function; formatting changes – removing document from table, grammatical corrections, added auto table of contents with page number, updated revision history at the end of the document, added links in the document.	J. Wright
26	04/06/2025	Section 9.2-Added verbiage requiring suppliers to recertify to ISO 9001 or IATF 16949 within fourteen months after revoked certification.	J. Wright
25	10/30/2024	Updated section "4.4 Special Shipment Identification Tags" and added section "16.4.4 Air Shipment of Electronics" -- changes are noted in red.	J. Wright
24	7/31/2024	Changed noted in red to section "7.2 Process Change Control Affecting Form, Fit, and Function"	J. Wright
23	8/31/2023	Changes in red to section "9.10.1 HVPT"	J. Wright
22	4/5/2023	Added section 9.2.2 NAL Barcode Standard (changes in red)	J. Wright
21	5/26/2022	Added #6 to section "4.4 Special Shipment Identification Tabs" (changes highlighted in red)	J. Wright
20	2/16/2021	Revisions are in red – "revised Section 6.1 and added content to Section 16 as well as changed references to "ISIR" and "SDOC" to "SDOC or SPPAP".	J. Beem
19	1/25/2021	converting from word document to PDF	J. Beem
18	09/17/2020	Deleted Purchasing Chargebacks Table (to be added to Purchasing Manual). Deleted Sections 16.5 – 16.8 Labeling and Identification, Shipping Documents, Freight Preparation, Transportation Guidelines. Deleted Sections 19.1 – 19.2.5 Injection Molding Manufacturing Methods. Added Section 9.2.1 Minimum Process Requirements	J. Beem
17	09/15/2020	Deleted Purchasing Chargebacks Table (to be added to Purchasing Manual). Deleted Sections 16.5 – 16.8 Labeling and Identification, Shipping Documents, Freight Preparation, Transportation Guidelines. Deleted Sections 19.1 – 19.2.5 Injection Molding Manufacturing Methods. Added Section 9.2.1 Minimum Process Requirements	J. Beem
16	03/11/2020	Changes in red to section 2.4 and 2.5	J. Beem
15	03/09/2020	Changes to section 2.4 & 2.5. Changes in red.	J. Beem
14	01/31/2020	2.4 Explanation of how score is calculated is added. 2.5 Change to info on levels for yellow and red range 2.6 removed "If supplier fails to raiser their score..." 14.1.1 info on safe launch data added	J. Beem
13	10/30/2019	Added 8.35 in red to Directory	J. Beem
12	10/17/2019	Correct typo	J. Beem
11	10/17/2019	Recording process and test records	J. Beem
10	08/01/2019	Changes noted in red to sections 2.3 Quality KPI Definitions and 4.6 International Material Data System (IMDS)	J. Beem
9	06/25/2019	Changes in red to sections 2.3-2.6; Added further definition of the supplier scorecard and how it is calculated/used by SQE	J. Beem
8	05/15/2019	Section 2.0 Purchasing -- Added verbiage to NC007 in Table 3 which is referenced in Section 2.0 (supplier chargebacks); Section 2.2 NAL Current Supplier Management -- added verbiage for calculation of PPM and additional criteria	J. Beem

7	04/03/2019	Add Section 9.14 Pre-production shipments. Change 9.14 to 9.15 Add section 19 Injection Molding Mfg. Methods	J. Beem
6	03/18/2019	corrected Effective date in the Header	J. Beem
5	03/18/2019	Changed TS 16949 to IATF 16949	J. Beem
4	03/11/2019	updated ISO 9000 to ISO 9001	J. Beem
3	02/19/2019	Added Section 16.0.1 Missing or Damaged Packaging Procedure Revised verbiage on 16.2 for ESD Sensitive items Packaging Changed font from Black to Red Corrected grammatical errors. Removed strikethrough verbiage.	J. Beem
2	10/24/2018	Owner changed in Plex from Helen Kennedy to Mindi Milner	J. Beem
1	10/16/2018	Document Added to Plex	J. Beem
	10/16/2018	Revision History Changed to Electronic form in DCS	J. Beem
5/7/2018	5/7/2018	Section 6.1 – Added verbiage requiring updates to PFEMA/CP for SQCs Added Section 6.2 – Returned Material Authorization Section 7.2 – Added verbiage for PCR. Section 14.0 – Added verbiage to PCP. Deleted Section 14.5 for redundancy. Deleted Section 18.0 for redundancy	J. Beem
11/20/17	11/20/17	Section 2.1 – Updated from TS to IATF compliance	R Holliman
8/18/2017	8/18/2017	Section 6.0 – Added “through PLEX” verbiage to Corrective Action	Jerry Beem
4/11/17	4/11/17	Supplier Evaluation and Performance and Management Review records are to be kept 20 yrs. was 10 yrs.	Jerry Beem
3/7/17	3/7/2017	Section 16.3 – added requirements for expendable packaging. Section 2 – Added Table and verbiage on direction for supplier chargebacks	K Young / J Beem / R Holliman
2/7/17	2/7/2017	Section 2.1 – changed word “three” to “five.” Section 3.2 – added word “product”	J. Beem
P	7/27/2016	Added section to 2.1 “Criteria for supplier selection.” Added number of SQCs to section 2.2 Added Part Rank definition to section 3.1. Added timing to HVPT to section 9.10.1. Added timing of SDOC OR SPPAP submissions to section 9.11 Added Section 14.1.1 Safe Launch Control Plan Added ESD packaging requirements to section 16.2. **Note: NAL does not use rev O – skip to P	J. Bayless J. Beem
N	7/1/2016	Added section to 6.0 “Reaction to receipt of SQC”	J. Beem
M	6/1/2016	Added section to 6.0 “A Rank SQC” instruction	J. Beem

L	1/14/16	Changes to the following sections: • 8.4 Record Retention • 9.2 Pre-Qualification of New Suppliers & Registration Requirements for all Suppliers • 13.0 Quality System Assessment Reference Materials • 15.4.6 PSW Part Submission Warrant • 16.0 Supplier Packaging & Shipping Guidelines • 16.1 Package Design • 16.3 Expendable Packaging • 16.3.1 Handling • 16.3.2 Pallets and Top Caps • 16.4.3 Economics • 16.5.1 Contents Identification • 16.5.3 Special Shipment Identification Tags • 16.6 Shipping Documents • Glossary- Added Container Label, TS16949/ISO9001 Sections removed. • 16.4.1.1 NAL Owned Standard Returnable Container • 20.0 Pallet Drawings Sections added. • 9.10.1 HVPT • 16.5.2 Returnable Container Labeling • 16.7 Freight Preparation • 16.8 Transportation Guidelines • 16.8.1 Truck Shipments • 16.8.2 Transportation Requirements • 16.8.3 Small Packaging Requirements	M. McNeely J. Beem N. Stratman
K	4/21/15	7.2 Addition of NAL SUPPLIER PROCESS CHANGE REQUEST: PLAN AND AUTHORIZATION form; Added verbiage to instruct Suppliers of the requirements of the form	J. Beem
J	8/12/14	Special Tagging – Non-conforming at supplier	R. Snyder
I	5/13/14	5.2 Conformance to specifications	R. Snyder
H	7/10/13	Page 10 – inspection requirements for critical points.	J. Koehler
G	4/16/12	Change to record retention time – customer requirements	J. Koehler
F	3/26/10	AIAG B-3 changed to B-10 Labeling	J. Koehler
E	12/18/09	At Management system requirements	B. Griffith
D	9/6/08	Containment Flow Added	B. Griffith
C	8/1/08	PSW electronic submission - signatures	B. Griffith
B	5/7/08	Contingency Plan	B. Griffith
A	6/1/05	Initial Release	B. Griffith