

## APPROVERS INFORMATION

PREPARED BY: Alfredo Heredia	Title: Supplier Quality	DATE: 5/14/2021 11:40:41 AM
APPROVED BY: Chung Yeow Lee	Title: Supplier Quality	DATE: 5/20/2021 2:46:44 AM
APPROVED BY: Don Hardenbrook	Title: Quality Manager	DATE: 5/19/2021 4:18:37 PM
APPROVED BY: Juan Alejandro Aridjis	Title: Corporate Procurement Lead	DATE: 5/14/2021 12:10:33 PM
APPROVED BY: Bill Hemrich	Title: Corporate Procurement Lead	DATE: 5/14/2021 12:23:07 PM
APPROVED BY: Alper Tuncer	Title: Corporate Procurement Lead	DATE: 5/14/2021 12:52:29 PM
APPROVED BY: Robert Sui	Title: Corporate Procurement Lead	DATE: 5/19/2021 2:50:38 AM
APPROVED BY: Aline Zeng	Title: Corporate Procurement Lead	DATE: 5/18/2021 10:05:21 PM
APPROVED BY: Kay-Uwe Weber	Title: Corporate Procurement Lead	DATE: 5/25/2021 1:35:12 AM

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## 1. Purpose

- 1.1. This procedure defines a methodology to identify the risk with key suppliers to then determine the strategic and tactical activities with the purpose of mitigating any negative impact to Littelfuse operations through a stable supply chain. Using processes such as Supplier Resourcing, Continuous Improvement Programs, Business Continuity Plan and others, both the Supplier Development and Procurement teams lead the actions to take with the supplier base.

## 2. Scope

- 2.1. This global document is applicable to all Littelfuse approved direct material suppliers, as well as Outsourced and Purchase-For-Resale products

## 3. Responsibilities / Authorities

- 3.1. Supplier Development Engineering is responsible for:

- A. Maintain the supplier risk assessment criteria.
- B. Performing the Supplier Risk Management assessment and score ranking based on Vendor A category, strategic/critical or poor performance suppliers at least once a year. SRM evaluation criteria and scoring are defined in form CHI-SDE45-0001.
- C. Leads and coordinates a meeting with Procurement and Operations Teams to review SRM assessment to agree on suppliers selected and a first overview of the strategy to follow.
- D. Kicks off and coordinates a meeting with the selected suppliers, as necessary, to review the SRM assessment and determine an action plan to follow.
- E. Based on the selected suppliers' performance and strategic actions needed, the Supplier Development Engineer will coordinate the necessary meetings involving core team members (procurement, quality and operations) to review and share the effectiveness of the action plan activities defined to improve the risk score.

- 3.2. Procurement Team is responsible for:

- A. Review vendor A list annually and update list to SDE
- B. Assign 3<sup>rd</sup> party supplier to conduct financial risk assessment and get Financial Score
- C. Providing the necessary inputs for Supplier Ranking Score calculation from commercial/business standpoint, including data for the Shared Business, Financial Score and Product Supply Risk elements.

- D. Providing the inputs for the suppliers who are not in vendor A but need to be included as part of the SRM criteria evaluation list from the commercial/business standpoint (such as new suppliers, suppliers at potential risk, ...).
  - E. Is an active team member and participates in follow up CRS SRM performance review meetings lead coordinated by the SDE or assigned quality engineer
  - F. Develop a risk migration strategy for high risk suppliers when related to a business or commercial situation, and get agreement from SDE and Operation teams
  - G. When required, and as a result of the CRS score analysis, coordinates, validates, leads and executes the activities related to placing a supplier on New Business Hold (NBH). Procurement team is responsible to initiate the process and review it with Littelfuse upper management to seek approval.
  - H. Leads and determines the resourcing plan if supplier fails to take the necessary actions to reduce risk and/or fails to execute an NBH exit strategy.
- 3.3. Operations Team is responsible for:
- A. Providing the necessary inputs for Supplier Ranking Score criteria evaluation from operations standpoint.
  - B. With the support of Supply Chain, provides feedback and inputs about suppliers who are not classified as Vendor A but that need to be included in the list for SRM assessment from the operations standpoint.
  - C. Supports in the validation of the actions taken by the supplier to reduce the risk.

#### 4. Definitions / Terminology

- 4.1. **CIP:** Continuous Improvement Program
- 4.2. **CRS:** Critical Risk Supplier
- 4.3. **Critical Risk Supplier Score List:** It is a risk model calculation tool that uses an algorithm to determine a Supplier Risk Management score level (CHI-SDE45-0001)
- 4.4. **Critical Supplier:** All Vendor A suppliers. A LF supplier of a product or service capable of providing and delivering a product or service that meets Littelfuse requirements and expectations. All Vendor A suppliers may be included in this category.
- 4.5. **Poor Performance Supplier:** A Supplier that has shown a detrimental quality/delivery performance through the time.
- 4.6. **NBH:** New Business Hold

- 4.7. **SDE:** Supplier Development Engineer or function assigned to perform this role (such as a designated Quality Engineer)
- 4.8. **SRM:** Supplier Risk Management
- 4.9. **SQE:** Supplier Quality Engineer
- 4.10. **SQI:** Supplier Quality Incident
- 4.11. **Vendor A:**
  - A. Annual Spending is \$100,000 USD or greater.
  - B. New or emerging supplier to Littelfuse where annual spend may eventually become \$100,000 USD or greater.
  - C. Critical, strategic or preferred supplier to Littelfuse even though the annual spend will not reach \$100,000 USD.

**Note:** In this procedure as well as in the supporting documents, the terms **CRS** (Critical Risk Supplier) and **SRM** (Supplier Risk Management) are used interchangeably with the exact same meaning/interpretation.

## 5. Reference / Supporting Documents

- 5.1. CHI-SDE45-0001 Critical Risk Supplier Score List (Supplier Risk Assessment)
- 5.2. CHI-SDE10-0001 Littelfuse Supplier Quality Manual
- 5.3. CHI-SDE40-0004 Littelfuse CRS Entry Notification Letter Form
- 5.4. CHI-SDE40-0005 Supplier Scorecard Report
- 5.5. CHI-SDE20-0003 Supplier Scorecard System

## 6. Procedure / Process

- 6.1. In this risk model calculation, suppliers selected are evaluated in three main categories:
  - A. Business Continuity (Shared Business, Financial Score, Product Supply Risk, and Natural Disaster Risk)
  - B. Performance Measurement (Scorecard performance and Responsiveness)
  - C. Capability Assessment (Quality Management System competence/certification)
- 6.2. Littelfuse Operations team recommendation to add suppliers to the SRM process is based on the following criteria.
  - 6.2.1. When escalated by Operations, suppliers can be entered into the SRM assessment analysis when there is impact such as: associated costs as a

result of poor quality performance, a high impact incident due to quality or delivery events, unable to comply with Business Continuity Plan and/or other critical situations experienced in Operations.

6.2.2. For escalated suppliers, SDE confirms if supplier is already in scorecard system or needs to be added as necessary.

6.2.3. Supplier performance data provided by Operations, Supply Chain, Procurement and SQE/SDE Teams, including the supplier's financial score, may be considered also to determine if any supplier shall enter to the SRM analysis criteria and determine if an action plan must be taken against the selected supplier.

6.3. The purpose of CHI-SDE45-0001 score calculation worksheet is to provide a risk level based on the different elements evaluated. Critical elements such as Financial Risk and Supplier Performance may be highlighted to determine the necessary action to follow with the selected suppliers. The final objective is to reduce the risk level after a detailed evaluation that is started by the SDE to then develop a solid risk mitigation strategy and action plan along with Procurement, Supply Chain, SQE as well as other key functional areas.

6.3.1. The list of Critical and Vendor A suppliers is prepared by SDE and reviewed with Procurement team for each Business Unit

6.3.2. Financial Risk is based on a 3<sup>rd</sup> party report (such as Bvd or DnB). Data is compiled by the Procurement team

6.3.3. At least once per year, SDE leads the calculation of the Total Score for each supplier based on the data for each element. For the responsiveness elements, it is important to capture the inputs from other areas that interact with suppliers such as Supply Chain and SQE.

6.3.4. The SRM calculation worksheet includes a threshold or baseline that is used to prioritize action on suppliers with high risk scores. This baseline is a reference and can be adjusted by the SDE based on the performance of suppliers for the respective Business Unit and from a risk management perspective

6.3.5. Along with Procurement, SDE develops and documents a strategy and action plan to reduce the risk after analyzing the results from each element and the particular situation with the suppliers. The progress and completion of the action plan may be defined as a metric and presented to operations and other key functional areas

6.3.6. For those suppliers identified with a High or Major risks for the elements of "Shared Business", "Financial Score", and/or "Product Supply Risk", the Procurement team is responsible to lead the activities with the objective to

mitigate or reduce the identified risk such as initiating the necessary actions to select and qualify a 2<sup>nd</sup> source and escalate to operations, as applicable.

6.3.6.1. For suppliers with a high risk under “Shared Business”, it is recommended for the Procurement team to analyze the business situation with the supplier and determine the necessary strategic measures to have a controlled risk (like having a robust contract with the supplier).

6.3.7. Supplier Risk Management is considered a Continuous Improvement Activity, meaning that the expectation is to reduce the risk level of the supplier base in a sustained manner

#### 6.4. Proactive Containment.

For suppliers that exceed threshold SRM criteria, the SDE will determine if a Proactive Containment (also known as: “Firewall”, GP-12, controlled shipping, material certification process, ...) is applicable and if so, will follow up with selected suppliers.

6.4.1. Through the Littelfuse CRS Entry Notification Form (Ref. CHI-SDE40-0004), the SDE will communicate with the selected suppliers and request a Proactive Containment Plan.

6.4.2. When a Proactive Containment Plan is requested, the supplier is expected to implement 100% product inspections to contain specific failure modes or defects. Such defects may include: Failure modes identified in the PFMEA, historical data on internal and external defects (SQI's, Caweb, NC notifications, ...), and potential high-impact customer issues.

6.4.3. Containment actions to be implemented must be verified and approved by the responsible Littelfuse SDE.

6.4.4. The supplier is required to absorb all costs related to these containment actions and provide the inspection status report results to LF as frequent as necessary.

6.4.5. Parts, material and containers are to be marked/identified, as agreed with LF, to keep proper traceability of certification level.

#### 6.5. Proactive Containment Exit Criteria Requirements:

6.5.1. Preventive and corrective actions implemented with their effectiveness verified/validated to Littelfuse expectations.

6.5.2. Zero defects reported and/or customer returns for a minimum period of 30 consecutive days or 5 consecutive lots (whichever is greater).

- 6.5.3. Improvement plan and timing implementation was achieved and verified by the Littelfuse SDE. If necessary, an on-site audit verification will be conducted.
- 6.5.4. Exit approval is granted by the SDE organization in writing.
- 6.5.5. Failure to meet these requirements may cause the request of additional actions such as: a third-party containment, Six Sigma projects and/or other additional activities as necessary. Supplier is expected to cover the expenses associated as a result of these additional tasks.
- 6.6. Supplier Continuous Improvement Program.
- 6.6.1. Supplier is expected to assign a Continuous Improvement Program cross-functional team for Littelfuse products to improve the overall expected performance. The CIP must coordinate and document a detailed plan which includes objectives, specific actions and responsible owners and target dates.
- 6.6.2. Littelfuse SDE will initiate, lead and coordinate the CIP kick off meeting with the assigned Supplier CIP team through the end of the program. The CIP supplier selection criteria include:
- 6.6.2.1. Suppliers already identified above the SRM threshold criteria.
- 6.6.2.2. Suppliers not in the SRM but as requested by the Operations Team.
- 6.6.3. Depending on the risk associated with the specific supplier assessment, either from a Business, Performance and/or Quality Management System perspective, the Supplier Development team can use other tools and strategies in order to eliminate or mitigate the risks identified, such as: Built In / Zero Defects guidelines, on-site assessment, development of a Business Continuity plan with the supplier, Lean Six Sigma initiatives among others. A strategic review performed by the SDE may also result on “No Immediate Action Needed” if based on prioritization and/or uniqueness of the case with the supplier it is determined as such.
- 6.7. New Business Hold.
- 6.7.1. Failure to comply with effectively implementing a Proactive Containment, a Continuous Improvement Program, and/or other actions as necessary to reduce the risks, Littelfuse reserves the right to place the supplier on NBH. In this period, the supplier will not be eligible to quote any new programs. An action plan will need to be developed by the supplier and approved by Littelfuse to determine exit NBH status.

- 6.7.2. Supplier NBH notification and coordination of activities related to this process will be managed by the Littelfuse Procurement Team.
- 6.7.3. SDE will support the verification of actions taken by the supplier to exit from the NBH status. An on-site supplier audit may be necessary. In addition, the CRS list score assessment properly reflects a reduced risk score after a reevaluation.

## 6.8. Develop alternative source

- 6.8.1. In reference to 6.3 above, SDE and Procurement functions may determine that the necessary course of action is to find an alternative source/supplier. For example, if the SRM score matrix and communication with affected supplier identifies a situation where there is very high Financial Risk, overall lack of cooperation and responsiveness from supplier, sole source with a poor business continuity plan, refusal to meet Littelfuse requirements, among others. A Supplier Selection and Qualification process is then initiated following the Littelfuse global procedures and practices. Procurement will lead the process working with SDE, quality, engineering and operation teams for the selection of the right alternative supplier, define a qualification plan, and determine new supplier ramp up, among other key activities, to ensure a smooth business transition.
- 6.8.2. For the selection and qualification process of an alternative source, the procurement organization needs to take into consideration the timing of this process along with the supply and demand of the components/materials affected and coordinate the action plan with operations and supply chain. Escalation to upper management may be needed when there is imminent risk and to take the necessary actions to mitigate the situation (such as building a safety stock).

## 7. Records / Attachment

- 7.1. CHI-SDE45-0001 Critical Risk Supplier Assessment Tool Form
- 7.2. CHI-SDE40-0004 Littelfuse CRS Entry Notification Letter Form



## APPENDIX I. Guideline for supplier management

### MANAGING SUPPLIERS IDENTIFIED WITH HIGH RISK - GUIDELINE

SITUATION	SHORT TERM ACTION	MID TERM ACTION	LONG TERM ACTION	REMARKS
Cooperative Supplier	Improvement plan developed by SDE/PUR	Not needed	Not needed	
Supplier not Cooperative Supplier is not capable	SDE escalates situation. Determine if 2nd source selection is needed along with PUR PUR evaluates if situation is related to business/commercial/cost concerns	Initiate countermeasure actions within LF: 1) Increased inspections by LF IQC/Production 2) Push PUR to stop any payment or get credits from supplier (scrap, sorting fees, ...)	Identify supplier to keep from quoting or granting future business (NBH)	Follow 2nd source Selection and Qualification process Analyze situation with incumbent supplier and summarize Lessons Learned (SDE/PUR)
Supplier not Cooperative Sole / Single Source	Involve PUR to request interaction with supplier: Confirm if supplier will cooperate or it is not interested in doing business with LF	Initiate countermeasure actions within LF: 1) Increased inspections by LF IQC/Production 2) Optional: NPD/QE tolerance or quality requirement revision 3) Optional: Obtain DPPM acceptance level between supplier and LF	Study why we phased in the supplier previously and summarize Lesson Learn	Follow 2nd source Selection and Qualification process Analyze situation with incumbent supplier and summarize Lessons Learned (SDE/PUR) Evaluate with NPD/Quality if design requirements are tighter than industry standards. Collect inputs for future reference

## 8. Changes / Document History

Revision	Originator	Changes / Description	Date
A	Sam Peng	Initial Release	May 20, 2015
B	Alfredo Heredia	Revised main content and wording. CS1 and CS2 are used as supplier management tool	Dec, 2016
C	Alfredo Heredia	Revised and simplified wording for LF requirements. Removed Flow Diagrams to reduce complexity.	June, 2020
D	Alfredo Heredia	Added Clarification to item 6.1.1. Added elements 6.3 and 6.9. Changed to revision 'D' to match Littelfuse Global Document Management System	Sep, 2020
E	Alfredo Heredia	Rename procedure: Supplier Risk Management. Revised elements for risk assessment. Clarification on roles and responsibilities. Removed "Confidential" from footer	May 2021