

1.0 PURPOSE / SCOPE:

1.1 The purpose of this procedure is to define the TI **Fluid Systems** process for developing suppliers for registration to IATF 16949. For each type of supplier, it identifies the most significant risks negatively impacting TI **Fluid Systems** and our customers, and prioritizes/defines the scope of development work to mitigate those risks.

1.2 The scope applies to all TI **Fluid Systems** for development of external suppliers of production; **as apply to** and non production parts and services **that impact the Safety, regulatory or performance characteristics.**

2.0 PROCEDURE DESCRIPTION:

For each type of external purchase, Purchasing and/or Quality employees lead a team-based approach that:

- considers the types of supplier risk of negatively impacting TI **Fluid Systems** or customers
- assesses the level of risk through categorizing the types of purchases
- prioritizes highest risk suppliers and selects which tools to implement to mitigate the risk

The Procedure process is summarized in the following descriptions and illustrated in the chart in section 5.5.

2.1 Description of External Supplier Purchase

External purchases include production parts and raw materials, capital equipment/tooling, and non production purchases including parts and services as well as special external providers for sub assembly, sorting/rework, sequencing, calibration, etc.

2.2 Types of Risk

There are many types of risk that may negatively impact TI **Fluid Systems** or customers including:

- Not meeting technical specifications/ quality rejects
- Customer field recalls/ damage to TI's reputation/image

- Parts not arriving to customers on-time, negative impact to customer builds, force majeure
- Cost and supply shortage from supplier insolvencies/bankruptcies

2.3 Risk Assessment/Prioritization

Cross functional teams assess the risk by categorizing purchase types as Low, Medium, or High risk based on likelihood of occurring a variety of risks and impact to TI Fluid Systems or customers. Teams review supplier performance indicators (may include Supplier Scorecards that measure quality, delivery, and responsiveness to issues; PPAP reports; quote reviews; other business reviews; past experience; etc.) and prioritize suppliers for further risk mitigations efforts.

2.4 Tools to Manage Risk

For priority suppliers, cross functional teams (ex. Supplier Development, Supplier Quality, Buyers, Purchasing Managers, Engineers, Operations, Finance) select which tools to implement and apply them to mitigate the risk. Tools may include product, process or system audits, financial or technical reviews, cross functional S/R/F reviews, changes to APQP or PPAP requirements, or other actions.

2.5 Supplier Development Risk Matrix

The following risk matrix summarizes the process.

SUPPLIER DEVELOPMENT RISK MATRIX

Description of TI External Purchase	Types of Risk	Risk Assessment/Prioritization	Tools
Production Parts	Not meeting technical specifications/ quality rejects	Categorization 1. Low/2. Medium/ 3. High risk Scorecard Performance (PPM, SNCRS, delivery, 8D responses)	SBIC, Product, Process, or System Audits
	Field recalls, damage to TI reputation/image	Quality Certifications/IATF compliance	APQP, PPAP Requirements
	Parts not on-time, impacts customer builds	PPAP Performance	PUR & QUAL S/R/F Reviews
	Supplier bankruptcy/insolvency	Early Product Containment	Supplier Financial Reviews
	Risk associated with Engineering Change Requests	Commodity Strategies, Approved Supplier Lists	Technical Reviews
	Risk associated with legislation changes (ex REACH substance restrictions)	Supplier Risk Assessment	Supplier Qualification Process Supplier Sourcing Process
	Supplier force majeure		Commodity Reviews 8Ds, PPS
Capital Equipment/Tooling	Not completed on-time, impacts part & tooling quality/quantity	Categorization 1. Low/2. Medium/3. High risk	Product/Process Audit (parts meet requirements?)
	Risk associated with installation/equipment capability	PPAP Performance	Run @ Rate Audit
	Risk of bankruptcy/insolvency of the manufacturer	Commodity Strategies, Approved Supplier Lists	Capital Purchase Process
	Delays/strikes at ports/document errors (ex overseas deliveries)		8Ds, PPS
NPP - special categories (production sort/rework services, sub assembly, sequencing, calibration, major 3PL Provider, gases...)	Supplier force majeure		
	Not providing NPP part or service per p.o. contract may impact production line or production part quality or delivery. Several types of NPP are generally higher risk and are specifically identified in IATF requirements.	Categorization 1. Low/2. Medium/3. High risk Team review of supplier processes, personnel experience levels, past performance, etc.	Special Reviews/Audits/Interviews
	Risk of bankruptcy/insolvency		NPP Purchase Process
NPP - general categories (Maintenance/Repair/Operation Expenses, Energy, Logistics, Packaging, Office Supplies, IT, Audit Services, etc.)	Supplier force majeure		
	Not providing NPP part or service per p.o. contract may impact production line or production part quality or delivery in special cases	Categorization 1. Low/2. Medium/3. High risk Team review of more significant, higher risk items.	Special Reviews/Audits/Interviews
			NPP Purchase Process 8Ds, PPS

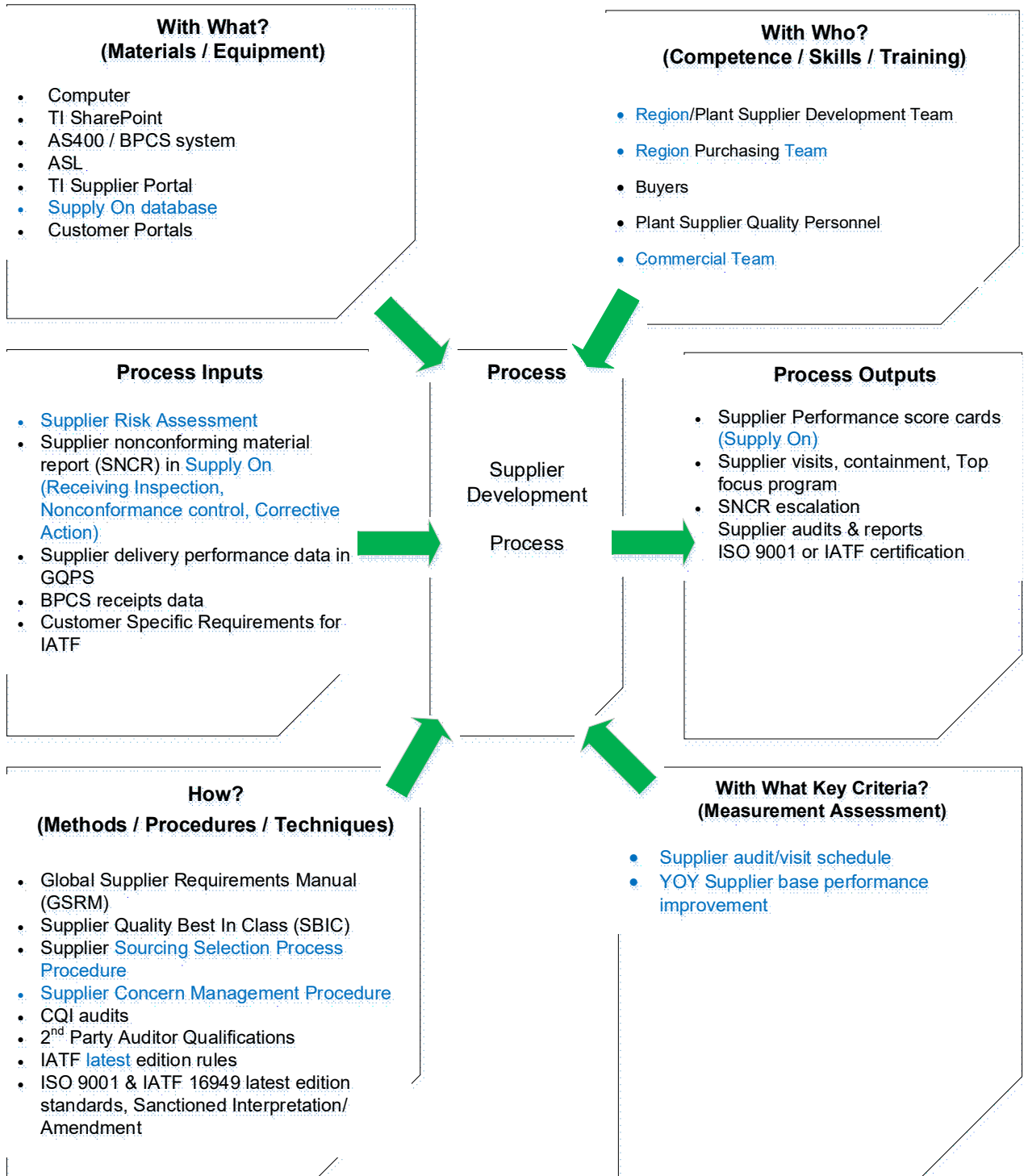
Risk Assessment Key:

1 = Low Risk: Parts with history of no quality or delivery issues, standard parts, other parts / services with no other risks and easily replaceable: no impact to TI Fluid Systems financials / customer satisfaction, [IATF 16949 certification](#).

2 = Medium Risk: Product design, supplier history, components / services made specifically for TIFS (not standard parts, etc); moderate impact to TI Fluid Systems financials / Customer satisfaction, [ISO 9001 certification](#), and [not IATF 16949 certification](#).

3 = High Risk: Safety critical S/R/F, field issues, new supplier, existing supplier of new commodity / technology, geographic risk, financial insolvency, labor strikes, single source & long revalidation; sugbufucabt unoaact ti TI Fluid Systems financials / Customer satisfaction, [No ISO 9001](#), and [no IATF 16949 certification](#)

3.0 PROCESS TURTLE DIAGRAM



4.0 **RESPONSIBILITIES:**

- 2.1 The Process Owner is the [Region Purchasing Director](#).
- 2.2 [The Regional Supplier Development](#) and [Supplier](#) Quality management teams shall execute supplier development in accordance with this procedure.

5.0 **DEFINITIONS:**

Abbreviation	Signification
8D	8 Step Problem Solving Methodology
APQP	Advanced Product Quality Planning
PPM	Supplier quality concern Parts per Million
GQPS	Global Quality Performance System
IATF 16949	International Automotive Task Force, Automotive Quality Management System Standard
KPI	Key Performance Indicator
NPP	Non Production Purchases
PPAP	Production Part Approval Process
PPS	Practical Problem Solving
QOS	Quality Operating System
REACH	European Union regulation for registration, evaluation, authorization, and restriction of chemicals
S/R/F	Safety/Regulatory/Functional Parts
SBIC	Supplier Best In Class Audit
SNCRs	Supplier Non Conformance Rejects

6.0 REFERENCES / ASSOCIATED DOCUMENTS:

- 6.1 [ISO 9001](#) [Quality Management Systems Requirements](#)
- 6.2 [IATF 16949](#) [Automotive Quality Management Standard](#)
- 6.3 [CP-4-ALL-01](#) [Global Quality Systems \(GQS\) Procedure](#)
- 6.4 [GP-5-ALL-1](#) [Global Quality Policy](#)
- 6.5 [CP-8-ALL-40](#) [Purchasing & Supplier Management Process](#)
- 6.6 [CP-8-ALL-41](#) [Global Supplier Requirement Manual](#)
- 6.7 [CP-8-ALL-42](#) [Supplier Sourcing Selection Process Procedure](#)
- 6.8 [CP-8-ALL-46](#) [Supplier Concern Management Procedure](#)
- 6.9 [CP-5-ALL-58](#) [Directed / Mandated Supplier Procedure](#)
- 6.10 [CW-8-ALL-412](#) [Non Production Purchasing Work Instruction](#)
- 6.11 [CW-8-ALL-420](#) [New Supplier Qualification \(NSQ\)](#)

7.0 REASON FOR CHANGE TABLE:

REVISION LETTER	REVISION DATE	DESCRIPTION OF CHANGE	APPROVAL HISTORY
A	7 th March 2018	New Supplier Development Process Procedure to align with IATF 16949.	VP Purchasing
B	16 th May 2019	Section 2.2 modified was - Divisional and regional Purchasing and Quality management teams shall execute the procedure in accordance with the flow diagram provided in this Procedure.	Corporate Quality Systems Director

C	21 th Nov 2024	Section 2.5 risk matrix updated to include ISO9001; IATF 16949 certification; procedure template, turtle diagram, reference section, TI Fluid Systems name updated	
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