1.0 PURPOSE / SCOPE:

1.1 The intent of this procedure is to define the method for communicating, resolving, and documenting various types of supplier concerns and the process for evaluating the effectiveness and efficiency of the actions taken, including cost tracking and formal resolution. (Quality, Logistic, Warranty and PPAP)

1.2 This procedure applies to corrective actions in response to supplier non-conformance and customer concerns if affected as well as actions taken to prevent the repeat of non-conformances.

1.3 This procedure applies to all external and internal suppliers of TI Fluid Systems (TIFS) including customer directed suppliers. This is a global procedure and applies to all Divisions of TIFS.

2.0 RESPONSIBILITIES:

2.1 The Process Owner is the Regional Quality Director

2.2 All TIFS personnel initiating supplier concerns are responsible to ensure that it is communicated to the appropriate Manager or designee.

2.3 The TIFS Location Quality Manager / or designee are responsible for monitoring the closure of the corrective action activity according to the requirements of this procedure.

2.4 The Quality Manager / or designee is responsible for managing supplier quality concerns, coordinating corrective actions, timely communication from the supplier/affected personnel and maintenance of records and correspondence logs related to supplier concerns. In the event the supplier concern affects a TIFS Customer; the Quality Manager will be responsible for managing the customer concern.

2.5 The Materials / Logistics Manager / or designee is responsible for managing supplier logistic concerns, coordinating corrective actions, timely communication from the supplier/affected personnel and maintenance of records and correspondence logs related

to supplier concerns. In the event the supplier concern affects a TIFS Customer; the Quality Manager will also be responsible for managing the customer concern.

2.6 The Warranty Manager / or designee is responsible for managing supplier warranty concerns, coordinating corrective actions, timely communication from the supplier/affected personnel and maintenance of records and correspondence logs related to supplier concerns. In the event the supplier concern affects a TIFS Customer; the Quality Manager will also be responsible for managing the customer concern.

2.7 Purchasing and Supplier Development Departments are responsible for managing supplier PPAP concerns, coordinating corrective actions, timely communicating and correspondence from the supplier/affected personnel and maintenance of records and correspondence logs related to supplier concerns.

In the event the supplier concern affects a TIFS Customer, the Quality Manager will also be responsible for managing the customer concern.

2.8 The Plant/General Manager, Purchasing Plant Manager, Logistics Manager, Quality Manager & Plant Supplier Quality are responsible for ensuring appropriate resources and support is provided for effective corrective action resolution, implementation, and verification. Supplier Quality is responsible for creating and managing the successful closure of Quality related concerns. It is not SQA responsibility to manage Logistics concerns. Logistics Managers shall take the lead of these.

Supplier Quality will not be responsible for parts with interim or no PPAP approved. The lead for these parts, until full PPAP approval will be Supplier Development.

2.9 Regional Purchasing, Purchase Lead, Regional Supplier Quality, Regional Quality and Engineering is responsible for supporting the plants when appropriate, including interfacing with the supplier and if required, the customer on high-risk issues and/or in case of escalation of the concern, when Regional members shall be involved.

Purchase Lead is responsible for supporting SupplyOn supplier release in module(s) relevant for business cases.

3.0 DEFINITIONS:

3.1 Acronyms and Abbreviations

Abbreviation	Signification
AIAG	Automotive Industry Action Group
APQP	Advanced Product Quality Planning
CAR	Corrective Action Report by an audit finding (internal or external)
COPQ	Cost of Poor Quality
CSCC	Customer Safety or Critical Concern
DOE	Design of Experiment
FACT	Field Action Concern Team
FMEA	Failure Mode Effects Analysis
GQPS	Global Quality Performance System
SupplyOn	Supply On System
OTD	On time delivery
PPAP	Production Part Approval Process
Ipb	Incidents Per Billion
8D / PPS	8 Dicipline / Practical Problem Solving methodology
AP	Action Priority

3.2 Quality/Warranty Concern ranking criteria

- Corrective Action - action taken to detect and eliminate the cause of non-conformity or other undesirable situation to prevent escape and repeat issues.

- Formal Concern – (Rating CR4) Any SNCR that is formally documented by a TIFS User Plant and where formal corrective action is requested.

- Critical Concern – (Rating CR1/ CR2/ CR3) Some formal concerns are considered critical when an impact on risk related to product safety, liability/reliability, design, environment, customer designated high severity, customer sanction and/or field action/warranty and are classified based on field and TIFS internal impact table below:

- Informal Concern - A potential concern voiced by a TIFS User plant.

Concern Ranking Criteria					
RATING CRITERIA	FIELD (Ref)	CUSTOMER Yard / 0KM (Ref)	TIFS	Supplier	ESCALATION TO / CLOSURE AUTHORISED BY:
CR1	- Thermal event - Vehicle stall while driving (immediate loss of driving function with no warning) - Loss of Braking function during driving (immediate loss of driving with no warning) - Customer advises potential vehicle action or dealer action (written or verbal) - Customer discussing concern with government organisation (example NHTSA) - Customer safety committee is meeting to discuss concern		- Potential vehicle field / dealer action communicated to TIFS	- Component quality / function concern identified. Countermeasure and/or Corrective Action not identified, ongoing production risk.	CSCC Committee
CR2	- Loss of driving function with warning to driver (example MIL warning) - Vehicle stops at idling and doesn't restart - Fuel leak (liquid/vapor/smell) - Brake leak - Incorrect vehicle gage reading (full or empty wrong signal)	- Fuel leak (liquid/vapor/smell) - Brake leak - Customer notice of yard/TSB dealership hold	- Supplier incomplete DV/PV at first saleable vehicle due to planned or delayed schedule, with or without TIFS approval - Supplier control plan test concern - parts suspected in the field	- Component concern - parts suspected in the field	Regional Quality Director, Regional SQA with Plant Manager
CR3	- Vehicle hard to start/cannot start at key-on - Noise complaint - EV/ HEV / PHEV Thermal Management Complaint	- Line stoppage due to quality concern - Vehicle stall during drive off at customer plant - 0-km repeat concern - Thermal Liquid (Glycol) Leak	- Line stop at TIFIS due to quality concern. - Supplier control plan test concern, parts at customer - PVP test concern , parts for customer use	- Component concern - parts on TIFS assemblies and within TIFS customer reach (assembly plant)	Regional Quality Director, Regional SQA with Plant Manager
CR4	- All field concerns not mentioned above	- 0-km claim not mentioned above	- Rejection at receiving inspection - High rejection rate in TIFS plant: Fit / Form / Function - Control plan test concern, parts contained at TIFS - Supplier declaration, parts contained at supplier / TIFS	- Component concern - parts contained at supplier location / TIFS manufacturing site. - Logistic supply chain contained.	TIFS Location Plant Manager/Quality Manager/Plant SQA
Note 1: All concerns must be re-escalated in the event that new / changed information is identified. Example: Original issue was closed, however TIFS has reopened due to new information. Note 2: Divisional Global Quality Director can initiate higher escalation as required to support divisional needs.					

3.3 Delivery Concerns

- Formal: all supplier related issues not in line with the Logistics Agreement or with deviations not upfront approved by TI that disrupt in any way the TI planning or create additional costs at TI, however not having a potential risk to our customers.

- Critical: all supplier related issues not in line with the Logistics Agreement that disrupt in any way the TI planning or create additional costs at TI, and having potential risk of not timely or not sufficiently delivering to the customer (for as far as customer demand is within agreed capacity and lead time)

Concerns can be related to different types of shipments:

- Standard Delivery Concern - a standard delivery concern occurs when the supplier does not have the required quantity at the TIFS facility on the target date it is due. This can be under ship, over ship, late or early shipments.
- Ex-Works Delivery Concern - an ex-works delivery concern occurs when a supplier does not have the required quantity on the dock ready for shipment at their facility on the target date it is due.
- Consignment Delivery Concern - a consignment delivery concern occurs when the supplier fails to maintain the inventory level within the target limits as agreed upon with the TIFS facility. This can be the inventory going below the minimum inventory target or above the maximum inventory target.
- Mislabelling concerns – Delivery concerns related to mixed parts and/or mislabelled goods are **considered** as Quality concerns.

3.4 Warranty Concerns

- Supplier Warranty Concerns - occur when there is evidence a field issue exists after zero kilometers that is determined via product and data analysis to be caused by a supplier to TIFS. These concerns can be either due to a design problem when the supplier is responsible for the design or a manufacturing problem when it is due to a problem related to the supplier manufacturing process.

3.5 PPAP Concerns

- Late PPAP Submission - The supplier has not provided all the required information for approval on the date it is due. This can be all of the PPAP information or sections of the PPAP information required by TIFS.
- Incorrect PPAP Information - occurs when the supplier provides evidence or information in at least one of the PPAP sections that does not meet the requirements for TIFS (Right first time) it can include data errors, missing information and information that shows non-compliance where the supplier does not have a written waiver from TIFS
- Pre-serial/Pre-Launch can be used - if the PPAP is not fully approved

All the nonconformities related to Pre-serial/Pre-Launch and PPAP could be registered through Problem Solver Complaint into SupplyOn.

4.0 PROCEDURE/INSTRUCTIONS:

4.1 Corrective Action

Each TIFS location will implement an effective corrective action process for resolving supplier concerns. This process shall at a minimum follow the steps outlined within the 8D process. The Manager that is responsible for the type of supplier concern being managed shall ensure that:

a. An appropriate champion is identified to lead the corrective action process, the associated team and act as the key contact with the supplier.
b. The Corrective Action Team is supported by the appropriate personnel required to ensure completion of the analysis and verify the effectiveness of supplier corrective actions.
c. The effectiveness of the actions taken within the corrective action process is continually evaluated through regular review meetings. The effectiveness of containment steps, interim actions, root cause analysis, permanent corrective

actions, systemic corrective actions and lessons learned/read across actions will form the basis of this review.

d. The concern is formally closed, with supplier verification and TIFS concurrence and finalized Cost Recoveries on GQPS Cost Calculator Workbook.
e. The Corrective Action documentation is properly archived and recorded. The recommended retention time for Corrective Action / Customer Concern documentation is production + service + 1; unless otherwise specified.

4.2 **Supplier Concern Handling**

Any TIFS employee who initiates a supplier concern should complete the appropriate sections within the SupplyOn System Global / Quality Performance System (GQPS) and immediately distribute by e-mail notification, facsimile or telephone to the supplier and applicable SupplyOn mail delivery notification system, and in special cases: Managers that may be affected by the concern. The Global Supplier Requirements Manual (GSRM) includes requirements for supplier response and TIFS staff must make sure the information is input into the database for accurate tracking. Response time may be used as an input to the supplier performance rating. As written in the Global Supplier Requirements Manual, any supplier concerns initiated should follow this response timeline:

a. **First 4 hours:** Receipt of the concern verified by the supplier.
b. **First 24 hours:** Complete the first three steps of the corrective action report which includes containment of product @ supply base, in transit inbound, in house, in transit outbound, in storage, @ customer) and send to the customer. Follow up with a phone call to verify from the supplier to ensure the TIFS user plant has received all of the information and are satisfied.
c. **Within 14 days:** A root cause analysis and at least a plan for permanent corrective action from the supplier.

Supplier correspondence will be maintained to support the Problem-Solving Document at each facility which contains the date and time that all updates are forwarded to the TIFS user plant. It is recommended that verbal phone calls are made with each key supplier contact at the time updates are forwarded, and also recorded on the Problem-Solving Document.

4.3 **Critical Customer Concern Response**

The Regional Quality Director shall be notified for all critical concerns relating to supplier product under any of the following circumstances:

a. The Customer is significantly upset regarding the concern, or the Customer Plant Manager is personally involved with the issue.
b. Purchasing personnel at a customer will or have been involved.
c. A stop shipment (finished vehicles on hold) or recall will or could occur.
d. A serious inter-company and/or external rejection has occurred i.e. product performance failure – fuel leakage, repeat concern, containment breech with potential for the initiation of controlled shipping, launch issue, or, potential customer sanction rated as CR1 and/or CR2
e. A significant warranty spike is identified.
f. Failure of key performance testing at any TIFS location that could be an indicator of potential failure modes in the field.
g. Critical customer/supplier issues must be properly communicated to senior management within the supplier location and within TIFS. Suppliers are responsible for ensuring the fast, accurate and appropriate flow information. In case of CR1/CR2/CR3 concerns, affected TIFS locations need to submit and maintain up to date "One Pager Concern Management Template CF-8-ALL-4207" as direct communication of these concerns with Senior Management.

4.4 **Rescinding Supplier Concerns**

Upon investigation by the Plant Quality Manager or designee, or receipt of evidence from the supplier as proof the concern is not valid, the Plant Quality Manager or designee should contact the supplier and notify them the concern has been rescinded.

Documentation of the "rescinded" concern should be recorded in the SupplyON database and a notice forwarded from the TIFS user plant to the supplier showing the concern deleted or rescinded.

Afterwards, complaint shall be put as "CANCELLED" status into SupplyOn system by TIFS user plant.

If the concern is not rescinded, then it will be handled as a valid concern and all actions will be entered into the Supplier Concerns Section of the SupplyOn System. All Appropriate internal and supplier personnel will be notified if a concern is rescinded, and the concern database will be updated accordingly.

4.5 **Lessons Learned**

Suppliers and TIFS will apply the lessons learned and best practices to process and products that are similar to eliminate the cause of the non-conformity. The final steps within the Corrective Action Process, combined with verification that the problem does not exist in any other products/processes are intended to:

a. Evaluate the effectiveness of the implemented corrective actions / countermeasures to eliminate repeat issues.
b. Analyze and prevent similar issues occurring on other platforms, and production lines for all supplier and TIFS locations.
c. Communicate and contain potential issues to all TIFS locations globally through Global Quality Alerts when/where possible. Verify suppliers have notified any other plant in their company that could also have this concern.
d. Upgrade Technical Standards. (If applicable; and if the standard does not exist; create a new standard)
e. Verify APQP documents such as the PFMEA and Control Plan have been properly updated regarding the failure mode and AP.

4.6 **Mistake Proofing**

TIFS uses mistake proofing methodology and expects suppliers to do the same.

4.7 **Returned Product Test Analysis**

TIFS expects suppliers to analyze all products returned by TIFS facilities. This analysis will be performed in a timely manner and results reported to TIFS; with records kept on file. The cycle time for analysis is dependent on the determination of root cause, corrective action and effectiveness. Variation to initial defined timing to be communicated and agreed by TIFS location Complaint team.

4.8 **Incidents per Billion (IpB)**

TIFS will use information gathered during the corrective action process to calculate and report supplier quality performance, using Incidents per Billion (IpB) as one of the external key performance indicators. Also as an internal indicator, TIFS uses ppm. Supplier IpB will be calculated as follows:

Supplier IpB = (Incident Quantity / Total Receipts) x 1,000,000,000

Definitions:

a. Incident: The cumulative Quality / Warranty / OTD Logistic issue that impacts TIFS or one of their customers of formal and critical rated, irrespective of complaint quantity within a reporting month.
b. Incident weighting: Based on commodity classification a factor is applied to each incident based on its rating and disruption to TIFS operations.
c. Concern Ranking impact table:

Concern Ranking	Impact Factor
CR 1	4
CR2	3
CR 3	2
CR 4	1

Example:

For a commodity 3 concern with a ranking of 3:

Incident Weighting = Impact Factor x Commodity Class x Concern Qty

6 IpB = 2 x 3 x 1,

or 12 IpB for a repeat concern or higher if the repeat results in a higher CR level.

d. Receipts: The total amount of parts received by a TIFS location from a supplier during the reporting month.
e. IpB will be reported as a monthly and rolling 3 month basis and also as a Year To Date value; which will be key indicators used for reporting supplier performance.

4.9 **Cost Recovery**

All suppliers will be responsible for any costs associated with the concern they caused. TIFS will clearly document all costs associated with the concern and provide the details and the cost information to the supplier. Only actual costs and the costs for administration of these concerns will be included. The administration costs will be the fair cost for TIFS to manage the concern and will vary depending on region and labor costs for the TIFS user location. The TIFS location complaint team feeds the Cost Recovery Process.

a. Supplier Major Cost Recovery – Regional Supplier Quality will SUPPORT all cost claims greater than €50k if required.
b. TIFS location is responsible for ALL cost claims and shall be registered into GQPS Cost Calculator Workbook linked to SupplyOn Complaint.

4.10 **8 Discipline/Practical Problem Solving Methodology**

Supplier response to a concern shall be according to the 8D discipline (see below structure), in which is based the Problem Solver Complaint steps.

a. Supplier team that developed the response
b. Problem description
c. Containment actions taken to prevent use of defective product in all locations.
d. Interim corrective actions taken to protect ongoing supply.
e. Root cause of the issue
f. Corrective actions to be taken
g. Corrective actions verification.
h. Permanent corrective action with implementation timing.
i. A read across to similar processes or components as preventive action with lessons learned documented,

4.11 **Controlled Shipping Process**

Suppliers are expected to implement effective containment and corrective action measures whenever issues occur. Whenever those measures are not effective or in cases where the problem is very serious and requires special controls; Controlled Shipping may be required by TIFS. The level and scope of the controlled shipping will be defined by TIFS.

a. **Controlled Shipping Level 1 – CSL 1**
is a formal containment process; managed by the supplier without third party involvement. The process requires enhanced controls to ensure the product shipped to TIFS does not have any of the issues defined in the scope of the request. The process requires detailed work instructions for the measures implemented and documentation of the effectiveness; often in daily reports where the issue warrants that level of communication. CSL1 requires Management level involvement and verification at the supplier and is not just another level of inspection; but a very formal, audited and disciplined controlled process. It also requires special identification and labeling which will be agreed upon with the TIFS user plant.

b. **Controlled Shipping Level 2 – CSL 2**
is basically the same process as CS1; except a third-party containment company manages and performs the controlled shipping process. The third-party audit company, approved by TIFS will be fully responsible for the development and implementation of the CSl2 activities at the supplier location, at the TIFS user plant or wherever the containment activity is required.

   i. The supplier must develop work instructions for the CSL2 company to use and shall have documented evidence of approval from the quality manager of the TIFS user plant
   ii. The supplier shall have evidence of training to the approved CSL2 work instruction and retain the names / badge number etc. of the CSL2 personnel who conduct and oversee the activity

iii. Each shift / day report of findings shall be signed by the person authorized to oversee the activity from the CSL2 company and countersigned by a supplier representative as proof of receipt.

iv. CSL2 will be implemented when CSL1 activities have not been successful; but TI reserves the right to require CSL2 when the risk or the impact of the concern is such it requires failsafe containment measures. In some cases, third party-controlled shipping may also be implemented when the containment is not at the supplier manufacturing location and the containment activity requires immediate action. Formal written evidence of the effectiveness is also required for CSL2 and will be provided to both TIFS and the supplier of the product under containment.

v. In those cases where the CSL1 or CSL2 activity is required due to issues caused by the supplier; the supplier is responsible for the costs of the containment activity

4.12 Supplier Audits

SQA should perform conduct audits. Audits to be conducted base on the following criteria:

a. **Supplier Escalation Status**
   i. Escalation level 1 – recommended to conduct the exit audit by local SQA/Logistic
   ii. Escalation level 2 – mandatory to conduct the exit audit by chosen SQA/SD
   iii. Escalation level 3 – mandatory to conduct the exit audit by SQA/SD and Purchasing

b. Quality issue linked into customer concern (warranty, 0km)
   i. Audit to be conducted based on chosen template (TIFS SQA audit template or according to CSR)

c. **Other Cases**
   i. New project/ program – according to APQP procedure (SD)
   ii. Process / Product modification – audit recommended to conduct the by local SQA/SD.

iii. Any other Customer Specific Requirements based on the supplier historical performance

iv. Annual schedule when applicable

4.13 Intercompany suppliers/ concerns - are managed as external suppliers / concerns ones except following:

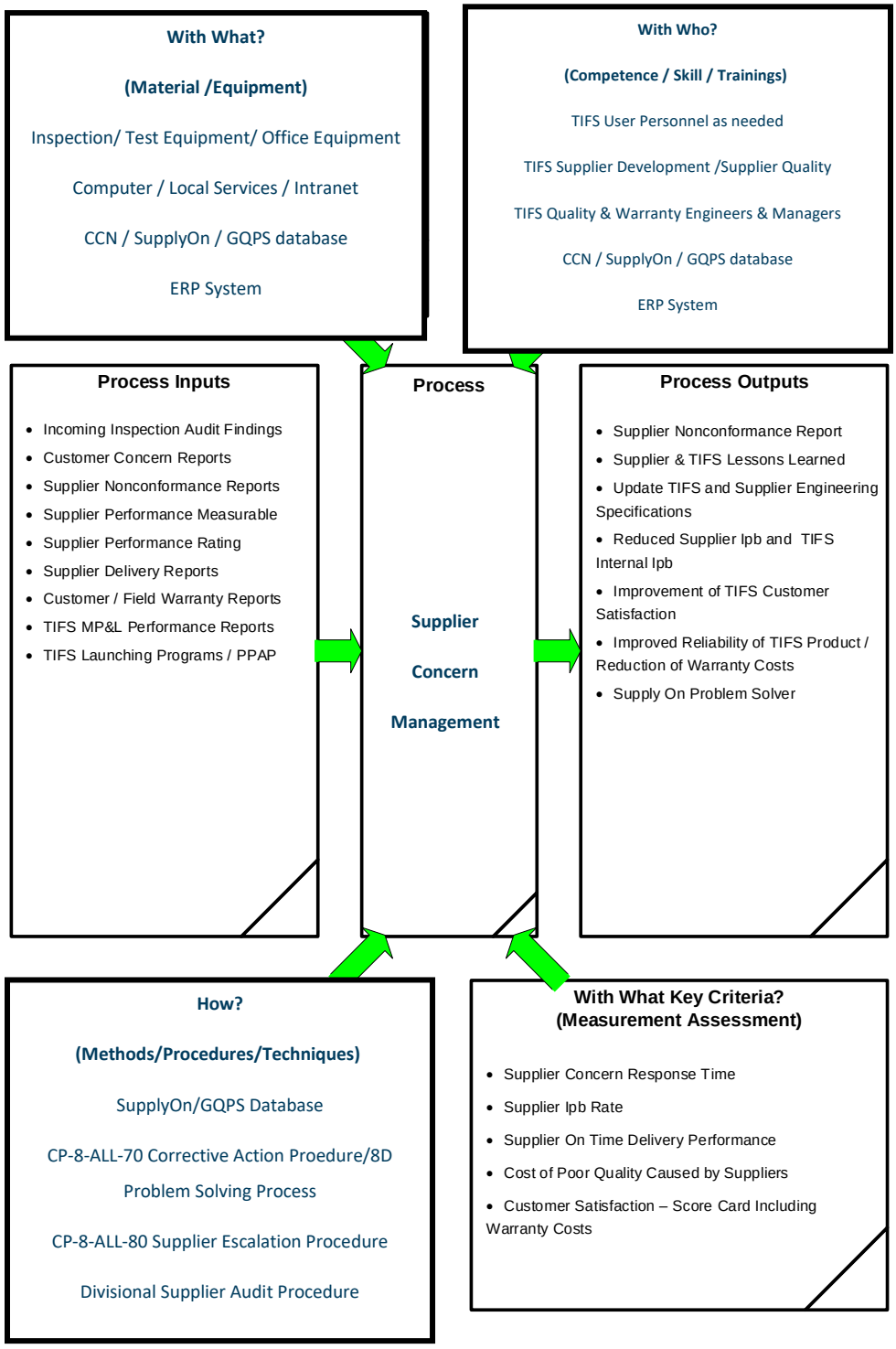
a. Cost recovery – based on mutual agreement between plants and regional Q director (see CF-8-EMEA-0002 and CP-7-EU-22)

b. CSL procedure is not applied, spec product checks to apply based on mutual agreement between plants

c. Supplier audit – not applicable

Note: Special kind of intercompany concerns is “collective scrap”; where customer cumulate/collect NOK parts. In this case 8D is **not needed**, and details to be referred to document CF-8-EMEA-0002.

5.0 TURTLE DIAGRAM:



6.0 REFERENCES / ASSOCIATED DOCUMENTS:

6.1	CP-8-ALL-40	Purchasing and Supplier Management Process
6.2	GP-8-ALL-1	Global Purchasing Policy
6.3	CP-8-ALL-41	Global Supplier Requirements Manual
6.4	CP-8-ALL-80	Supplier Escalation Procedure
6.5	CF-8-ALL-4207	One Pager Concern Management Template
6.6	CF-8-EMEA-0002	Collective Scrap Form
6.7	CP-7-EU-22	Intercompany price definition

7.0 Reason for Change Table

REVISION LETTER	REVISION DATE	DESCRIPTION OF CHANGE	APPROVAL HISTORY
A	16AUG2010	Release of new global procedure into the Corporate Quality System.	J. Phillion
B	20FEB2012	Changed procedure number to match new corporate scheme: From: GQPS-30-12 to CF-30-ALL-21	J. Phillion
C	15OCT2012	Added criteria for Quality, Delivery, Warranty and PPAP concerns	J. Phillion
D	31MAR2016	Review by Purchasing Core team: Modified the approvers	Global Corporate Purchasing Director*
E	7th March 2018	Modified to align with IATF 16949. Change document number from CP-30-ALL-21 to CP-8-ALL-46	Director Corporate Quality Systems
F	9th April 2019	Removed reference to CP-8-ALL-47 Supplier PPAP Procedure	Director Corporate Quality Systems
G	18th May 2021	Updated header with new Logo TI Fluid Systems / TIFS was TI Automotive / TI multiple locations 1.1 Added Logistic 2.5 Added Logistic 3.1 Added definitions: CSCC and 8D / PPS 3.2.3 Added critical concern impact table. 3.5.3 Added 8D Problem Solving Methodology 4.4 Added Supplier Escalation Procedure CP-8-ALL-80 5.8 IpB – Incidents per Billion was PPM 5.12.2.1, 5.12.2.2, 5.12.2.3 Added to Controlled Shipping Level 2 (CS2) 5.14 Turtle Diagram: With Who: Added Supplier Development and Logistic Process Inputs: TIFS MP&L was TI MP&L How: Added CP-8-ALL-80 Supplier Escalation Procedure With What: IpB was PPM Process Outputs: IpB was PPM	Director Corporate Quality Systems
H	26th August 2021	5.8.3 Added Concern Ranking Impact table 5.8.3 In example Impact Factor was Concern Ranking	Director Corporate Quality Systems
I	25th April, 2024	Rebranded to TIFS template format Clause 2.2 Added: Global Quality Performance System (GQPS) / SupplyOn System and, In cases Supplier in concern are not listed within TI Fluid System (Supply On Problem Solver) responsible Purchasing lead to be involved to unlock Supplier in System directly. Clause 2.4 Added: SupplyOn System Clause 4.11 Added: Regional Purchasing is responsible for supporting SupplyOn Supplier release in module relevant for business cases. Clause 5.2.2 and 5.2.3 Added: CR rating clarifications. Clause 5.2.3 added reference to PPS / SNCR Status Card Clause 4.7 PPAP Concerns related to Purchasing and Supplier Development Lead	Global Supplier Quality Director
J	7th April 2024	Corrected revision mistake in header J was Draft I	Global Supplier Quality Director

REVISION LETTER	REVISION DATE	DESCRIPTION OF CHANGE	APPROVAL HISTORY
K	3rd March 2025	Corrected revision according actual TIFS managing procedures. Interco concern process added.	Supplier Quality Director EMEA
L	17th April 2025	4.13 Intercompany suppliers/concerns update	Supplier Quality Director EMEA