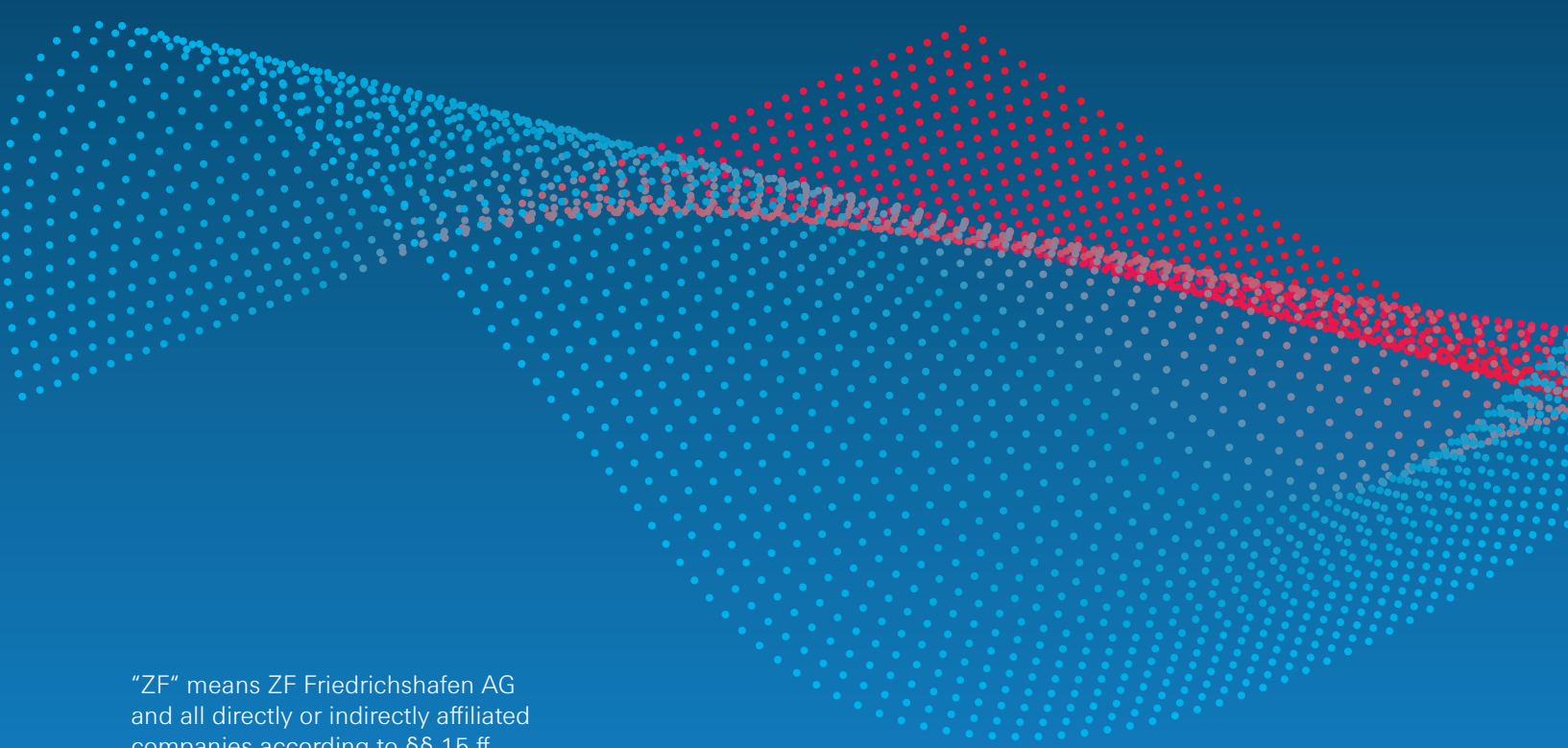




# Global Logistics Directive

Version 2018/4





“ZF” means ZF Friedrichshafen AG and all directly or indirectly affiliated companies according to §§ 15 ff. German Stock Law including but not limited to those companies where ZF Friedrichshafen AG holds a share of at least 50 %. ZF also include ZF TRW entities.

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# List of Abbreviations

**AEO**

Authorized Economic Operator

**ASN**

Advance Shipping Notice

**C-TPAT**

Customs Trade Partnership against Terrorism

**DAP**

Delivered at Place (Incoterms ® 2010)

**DCO**

Delivery call-off procedure

**EDI**

Electronic Data Interchange

**EDIFACT**

Electronic Data Interchange for Administration, Commerce and Transport

**ERP**

Enterprise Resource Planning

**ENS**

Entry Summary Declaration

**FCA**

Free Carrier (Incoterms ® 2010)

**GLD**

Global Logistics Directive

**GMMOG/LE**

Global Materials Management Operations Guideline/Logistic Evaluation

**HTS**

Harmonized Tariff Schedule

**Incoterms**

International Commercial Terms

**IPPC**

International Plant Protection Convention

**ISF**

Importer Security Filing

**ISPM**

International Standards for Phytosanitary Measures

**JIS**

Just in Sequence

**JIT**

Just in Time

**MRP**

Material Requirement Planning

**PPC**

Production, planning and control

**PTA**

Premium Transportation Authorization

**QD83**

Global Supplier Quality Directive of ZF Group

**R&D**

Research and Development

**RDT**

Remote Data Transmission

**RFQ**

Request for Quotation

**Run@Rate**

Capacity measurement of production systems (Performance Test)

**SEC**

Securities and Exchange Commission

**SOLAS**

Safety of Life at Sea

**SupplyOn**

Web based Supplier Portal

**TCO**

Total Costs of Ownership

**TTOP**

Title Transfer Our Premises

**VDA**

Verband der Automobilindustrie

**VMI**

Vendor Managed Inventory

**VIN**

Vendor Information Network

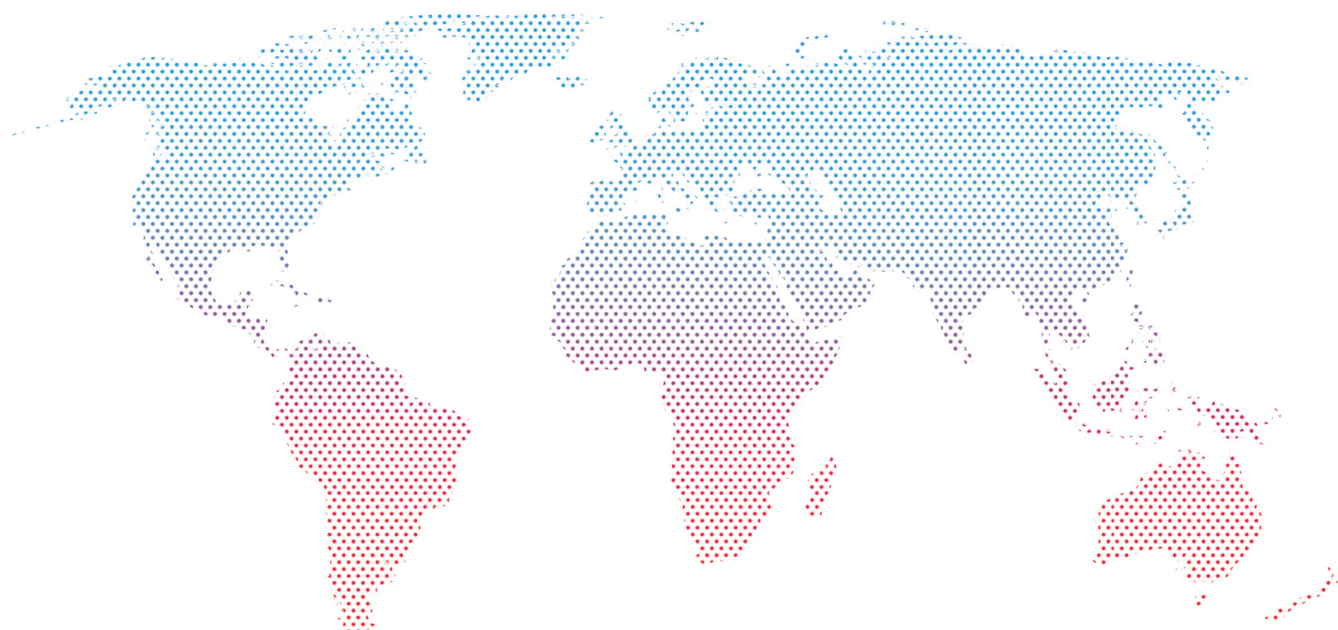
**WebEDI**

Web-Interface for Electronic Data Interchange



# Preface

Motion, Mobility and Safety -  
ZF is shaping the future of the mobility



Over the past decade, ZF has grown considerably in size and gained significantly importance on the global automotive and industrial supplier market. ZF Group's sales and locations have more than tripled since 2006, not only due to the company's strong organic growth, but also by integrating TRW. Today ZF's customer base is global and the markets ZF is operating in are increasingly dynamic.

This requires the ability to respond agile and efficiently to new challenges on the global markets, for ZF as well as for its suppliers.

This new Logistics Directive defines essential logistics requirements of the ZF Group. In individual cases, these requirements can be complemented by specific agreements.

Member of the Board  
Management

A handwritten signature in black ink, appearing to read 'W. Rehm'.

**Wilhelm Rehm**

Head of Corporate of  
Supply Chain  
Management

A handwritten signature in black ink, appearing to read 'H. Linkenheil'.

**Hans-Arno Linkenheil**

# 1. Scope of Application and Contract Structure

The present **Global Logistics Directive (GLD)** is valid for production material and the associated spare parts for all stages of the product life cycle to the locations of ZF Group worldwide. This directive replaces all versions of LR10 and the TRW Global Logistics Manual. The GLD is valid globally and can be further specified using regional and/or site-specific directives.

Additional supplier instructions, guidelines, forms etc. may be appended, including but not limited:

- local and site specific logistics directives
- EDI contract
- Delivery reliability contract
- Logistics agreement
- Consignment contract
- Bonded warehouse contract

The GLD contains ZF's basic logistics specifications. Any exceptions other than in the PO, to any of the terms and/or requirements contained in this Directive must be approved in writing by ZF.

## 2. Securing the international Supply Chain

Supplier acknowledges and agrees to adhere to and to obtain all special or requested trade program or exporter filing requirements (Authorized Exporter Program). Supplier also must adhere to all security procedures required by ZF or any government or customs authorities, including but not limited to any and all Importer Security Filing requirements (e.g. SOLAS) and equivalent programs (ISF, ENS), U.S. Customs-Trade Partnership Against Terrorism (C-TPAT) program, other Authorized Economic Operator (AEO) and equivalent programs and statistical reporting requirements and programs.

Supplier must share with ZF any audit or inspection information related to supply chain security inspection and/or validation at supplier locations immediately after the audit or inspection.

Supplier ensures that goods, which are produced, stored, forwarded, carried by order of ZF or delivered to ZF or which are taken for delivery by ZF:

- are produced, stored, prepared and loaded in secure business premises and secure loading and shipping areas; and
- are protected against unauthorized interference during production, storage, preparation, loading and transport.

Furthermore, supplier ensures that:

- reliable staff is employed for the production, storage, preparation, loading and transport of these goods; and
- business partners, who are acting on behalf of supplier, also need to ensure the supply chain security as mentioned above.

At the request of ZF, supplier will sign a ZF security declaration as a written confirmation that supplier is performing the listed tasks in the above sections.

## 3. Information and Communication

The information flow forms the basis for a working logistics system within the supply chain. Supplier is responsible for a timely and unsolicited transmission of information about deviations from agreements between supplier and ZF (e.g. delivery quantities, delivery dates and packaging).

Supplier is obliged to ensure supply of goods to ZF according to the order and maintain replacement capacity. Supplier will also use supplier paid premium transportation to meet the originally scheduled destination window if necessary. If for any reason supplier is unable to meet the schedules and without affecting any other rights and remedies of ZF, supplier will notify ZF in written notice immediately and proactively once the issue is known.

If required and in contrast to the aforementioned provision, Premium freight to be paid by ZF must have an assigned Premium Transportation Authorization (PTA) number issued by ZF place of destination and appearing on the bill of lading and on the invoice issued by the supplier.

### 3.1 Contacts and accessibility of supplier

Supplier must nominate and communicate the name of a defined responsible contact for logistics issues as well as a suitable back-up contact (name and contact details). Supplier ensures that the contacts have good language skills in the national language of the respective ZF plant where the goods are delivered to or at least good knowledge of the English language.

Supplier makes sure that supplier's contact data in SupplyOn Business Directory are always up to date.

ZF TRW supplier must update (until full migration of ZF TRW into ZF Group) the VIN (Vendor Information Network) system and the QAD supply visualization portal prior to shipping with contact names, email addresses and phone numbers of individuals available 24 hours per day / 7 days per week to perform requirements such as correcting commercial documents, preparing trade program affidavits and certificates of origin, or any other country specific or government agency required documentation. Supplier must also provide authentic Dun and Bradstreet (Duns Code) identification number for each specific manufacturing plant address as well as the primary sales office.

### 3.2 Supplier's Planned Down Time

Supplier must ensure the delivery of goods even during supplier's planned down time. The delivery schedules ordered by ZF have top priority. Therefore, supplier must provide without any extra costs a listing of planned plant down time for holidays, vacations, etc. to ZF, and when requested, develop and implement plans to maintain and safeguard the continuity of supplies.

### 3.3 Electronic data exchange

The global strategy of ZF is the use of electronic communication with its suppliers. Accordingly, the data exchange between the parties shall be carried out electronically to ensure reliable and efficient processing between ZF and supplier. In this context, the technical connection of the supplier systems must be implemented directly by supplier (classic EDI) or indirectly via WebEDI specified by ZF.



Costs incurred by supplier for the technical connection of the supplier systems must be borne by supplier.

Principally supplier shall fulfill the following technical requirements for purposes of an optimal logistical processing between supplier and ZF.

Sending and/or receiving of:

- Delivery schedule, Remote Data Transmissions (RDTs)
- Detailed call-off RDTs
- Delivery note RDTs
- Invoice RDTs
- ASN's
- Self-billing/credit notes (e.g. for consignment)
- Stock movement information (e.g. for consignment)
- Performance Monitor information
- Vendor Managed Inventory (VMI) Monitor

#### WebEDI - SupplyOn

SupplyOn is the strategic portal used by ZF to communicate with supplier. SupplyOn provides applications, that can be used in the following areas: logistics, finance, purchasing, quality and research and development (R&D). The application and use of the WebEDI service of SupplyOn is obligatory for all suppliers that have no capability for classic EDI-communication. Information on SupplyOn is available on the ZF homepage [www.zf.com](http://www.zf.com) including the contact details of the ZF Onboarding Team. Supplier must pay service fee to SupplyOn.

#### VIN

Vendor Information Network (VIN) is a global web-based system with a suite of applications (tools) for shared Supply Base Management. This centralized purchasing information system provides enhanced decision making support and manages the workflow across various processes within purchasing. It also serves as a supplier portal to facilitate seamless communication and the sharing of information between ZF TRW and its' partners ([www.zf.com](http://www.zf.com)/ [www.trw.com](http://www.trw.com)). Until full migration, VIN is still used at ZF TRW.

### 3.4 Delivery Lead Time


Unless otherwise required by ZF, the lead-time must be quoted in weeks in the Request for Quotation (RFQ) response and shall quantify the time from receipt of the order to the date of shipment. Supplier shall be bound to the lead time during the complete serial production time.

Electronic Process	Communication mode	VDA-recommendation	EDIFACT format	SupplyOn
Delivery Schedule Procedure	EDI or SupplyOn	VDA 4984	DELFOR D04A DELFOR D97A	Format description is available on SupplyOn Guidelines
KANBAN	EDI or SupplyOn		DELJIT D97A	
ASN	EDI or SupplyOn	VDA 4987	DESADV D07A	
Self-billing/credit note processing, Invoice	EDI or SupplyOn	VDA 4938	INVOIC D07A	
Stock movement information	EDI or SupplyOn		INVRPT D97A	
Performance Monitor	SupplyOn			
VMI Monitor	SupplyOn			

More Information: [www.zf.com](http://www.zf.com) "EDI Guidelines"

# 4. Capacity Planning and Monitoring

**Supplier Capacity Planning / Commitment**



**Section A: Supplier Information**

Supplier Name: \_\_\_\_\_ ZF Part Number: \_\_\_\_\_ Volume Flexibility (%): \_\_\_\_\_  
 Supplier-ID Code: \_\_\_\_\_ ZF Part Name: \_\_\_\_\_ 1st Year max. Month (pcs): \_\_\_\_\_  
 Supplier Location: \_\_\_\_\_ Part Revision: \_\_\_\_\_ 1st Year Volume (pcs): \_\_\_\_\_  
 Supplier Address: \_\_\_\_\_ Peak Volume (pcs): \_\_\_\_\_  
 Bottleneck Capacity (pcs): \_\_\_\_\_

**Section B: Supplier Working Standards**

Working Hours / Shift (8 or less is standard)	Shift / Day (3 or less is Standard)	Days / Week (5 days is standard)	Weeks / Year (48 weeks/year is standard)	No. of Lines Planned	Total Hours / Year

**Section C: Process Flow/Tooling**

Step No.	Process Description	No. of Machines / Tools per line	Cavities per Tool	Cycle Time (seconds)	Quoted Scrap (%)	Quoted OEE (%)	Check for Bottleneck	Allocation for this project (%)	Total Annual Net Capacity for this project	Tool Life (# of pieces)
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										

Owner of Tools / Equipment: \_\_\_\_\_ Responsible for Replacement: \_\_\_\_\_

**Section D: Additional Considerations**

\_\_\_\_\_

**Supplier Signature**

\_\_\_\_\_  
Supplier's Representative Signature

\_\_\_\_\_  
Print Supplier Representative's Name

\_\_\_\_\_  
Date

The tolerance of the flexibility refers to the annual unit quantity forecast, which is divided by the number of production weeks per year of the respective ZF location.

The flexibility is covered through weekend-shifts, additional capacity and/ or safety stocks

Supplier capacity confirmation will be provided initially with a quote and following on demand and shall reflect the available daily capacity on a part number basis and supplier's operating plan (hrs./day, days/ week).

Supplier shall review orders from ZF in due time. In case supplier has any capacity constraints, supplier shall advise the ZF place of destination and submit a catch-up plan before any delay occurs. In case of shortage, without limitation of any other rights and remedies of ZF, supplier must contact immediately the ZF place of destination providing a robust recovery plan to ensure supply as scheduled. Any extra costs shall require ZF's prior written authorization.

At the request of ZF, supplier must transparently present shift models, capacity utilization ratios and materials on hand. ZF retains the right to audit the capacities on site ("Run@ Rate").

The overall obligation of ZF's suppliers is to secure the delivery of ZF. This requires supplier to make a regular comparison between the delivery schedule requests from ZF and their available short, mid and long range capacities.

The capacity to be reserved is based on an annual unit quantity forecast. In this capacity planning of supplier any possible ramp up curves during the year need to be considered. The frequently issued demand forecasts reflect fluctuations.

In order to cover short-term fluctuations due to ZF demands or supplier production interruptions, supplier is obliged to provide adequate flexibility and a sufficient minimum inventory level.

Supplier ensures flexibility of:

- plus/minus (+/-) 10% within a week
- plus/minus (+/-) 20% within two weeks

# 5. Planning, Scheduling and Controlling

## 5.1 Planned Quantity

Supplier receives Material Requirement Planning (MRP) data from ZF. Such data will include the timing and quantity of goods to be supplied (hereinafter jointly the "MRP data") in accordance with the agreed scheduling procedure. The MRP data only constitute a right of supplier and a corresponding obligation of ZF, if and to the extent this is expressly set forth in the respective scheduling procedure according to section 5.2 and 5.3.

Side agreements requested by supplier regarding minimum order quantities are not accepted.

Call-off procedures:

- Single Orders
- Delivery call-off procedure (DCO)
- On demand delivery:  
Just In Time (JIT), Just in Sequence (JIS)
- KANBAN
- Reorder Point procedure

Stock Management procedure:

- Vendor Managed Inventory (VMI)

Definitions of the scheduling procedures:

### Single Order

Single orders are used for sporadic demands without a target quantity and contain usually only one delivery quantity and time. There are no requirements towards the production synchronicity.

### Delivery call-off procedure

Delivery call-offs usually consist of multiple dispositions characterized by quantities and due dates. These dispositions are updated regularly, serve as a planning forecast and include all supplier-relevant information. The horizon of the transmission could be up to twenty-four months. Changes will be transmitted by an updated call-off, while only the respective most recent delivery call-off is relevant for each product.

### Just In Time (JIT)

Just in time contains a minimum daily transmission with detailed information about quantities and receiving dates. JIT requires accurate forecast information.

### Just In Sequence (JIS)

JIS requires different part numbers to be arranged in a pre-determined order onto a carrier. The delivery is carried out directly to the assembly site at ZF with reference to the sequence of the end product. It also contains a minimum daily transmission including sequence information.

### KANBAN

Supplier receives a forecast in the format of a delivery schedule. The relevant shipment information is a schedule for the short term. The trigger of the request is the consumption of a KANBAN container. Supplier is obliged to fulfill the KANBAN requirements within the defined replenishment time.

### Reorder Point Procedure

If the order point is reached through the removal of parts, an order with a delivery date and a defined quantity is sent to supplier. Supplier is obliged to fulfill this request within the defined replenishment time.

### Vendor Managed Inventory (VMI)

Supplier is responsible for disposition and delivery management within appointed MIN/MAX limits or coordinated inventory ranges of coverage. The control is carried out per the daily communication to supplier about the stock and withdrawal quantities at ZF. ZF can provide supplier delivery schedules as a non-binding demand forecast. The VMI procedure is applied only in combination with consignment or bonded warehouse.

## 5.2 Call-off procedures (applicable to the scheduling procedures Single Order, DCO, Reorder Point procedure, KANBAN, JIT and JIS)

ZF transmits the MRP data to supplier in form of delivery schedules and delivery call-offs (excluding KANBAN) pursuant to the following terms.

Supplier receives delivery schedules with a target quantity, the period of validity and the prices agreed (except for single orders). The timing and target quantity in the delivery schedules is non-binding for ZF and does not constitute a right of supplier to claim for individual orders (delivery call-offs).

Supplier receives delivery call-offs with the current required dates and quantities for each product. If a change of the delivery dates or quantities has occurred as compared to the last delivery call-off, ZF will release an updated delivery call-off. Accordingly, only the respective most recent delivery call-off is relevant for each product.

Delivery quantities which are two weeks or less in the future (as from the respective current date) are binding for ZF. The delivery approval shall only be valid according to the latest delivery call off.

In any case, supplier ensures adequate flexibility and ZF shall be entitled to adjustments of the delivery approval as described under Chapter 4 above.

Supplier shall not send order confirmations for the delivery call-offs. Rather, the delivery call-offs become binding for supplier if supplier does not object within two days after receipt of the respective delivery call-off. An objection is excluded to the extent the change of delivery dates or quantities relates to a period which is two weeks or more in the future and if the increase or reduction of the quantity for the affected product does not exceed 20% (twenty percent).

Zero-Call Off: where the receiving plant has decided to suppress zero demand quantities for forecasted periods, the supplier is obliged to continue supply in line with future schedules since parts have not gone obsolete (might apply for non-periodic demand, e.g. for DCO procedure, JIT, JIS).

## 5.3 Stock Management Procedure (applicable to the scheduling procedure Vendor Managed Inventory)

ZF provides the relevant data on the respective required quantities and stocks of ZF in electronic form as MRP data. This MRP data, which may cover a period of up to twelve months in the future, is regularly updated by ZF and provided to supplier via EDI / Web EDI. Details are set forth in a separate agreement. The current data shall be retrieved and processed by supplier in its sole responsibility on every work day. Only the respective latest MRP data is relevant for the goods.

On the basis of the MRP data provided by ZF, supplier shall in its sole responsibility handle the stock management of the goods available at ZF. The available stock must lie within the agreed stock limits. The stock limits are defined either as stock ranges (sufficient stock quantities for a certain minimum and maximum number of days, respectively, on the basis of the stock quantities defined for this period, respectively), or as absolute numbers (minimum and maximum stock of available Product). The parties will jointly define the stock limits and ranges.

The MRP data becomes binding for supplier to the extent supplier does not object within one day after provision of the relevant MRP data. An objection is excluded to the extent the change of requirements relates to a pe-

period which is one or more days in the future, unless the requirement of the affected product is increased by more than 20% (twenty percent) by the respective change of requirements.

MRP data is binding for ZF to the extent it relates to a period which is one day or less in the future. Any MRP data exceeding this period is for orientation purposes only and does not constitute a purchase obligation of ZF.

Any exceedance of the notified stock limits or stock ranges is deemed an overdelivery.

## 5.4 Manufacturing, material and supply releases

Specific arrangements regarding manufacturing, material and supply releases are specified in the corresponding agreements.

## 5.5 Minimum requirements in supplier's planning system

As a prerequisite of business relationships with ZF, suppliers are obliged to operate an electronic PPC system (ERP system) that fulfills the following requirements:

- System supported processing of ZF data such as delivery schedule, demand/inventory data, etc. in the frequency of the transmission
- IT-based production planning and monitoring
- Plausibility checks of capacities and material availability
- Timely communication of production planning demand to sub-contractors
- Demand monitoring (internal and external sources of supply)
- Availability check of due shipment procedures
- Shipping process incl. delivery notification and ASN

- Timely booking of goods (finished and semi-finished goods)

## 5.6 Purchase Commitment

In exceptional cases, a complete cancellation of the amounts set forth in the respective MRP data may become necessary for ZF, even to the extent that these order quantities are already deemed as bindingly ordered in accordance with the scheduling procedure agreed. Cancellation is effected by setting the amounts set forth in the MRP data to zero. In deviation from other stipulations in the respective scheduling procedure, if any, supplier may not object hereto. As consideration, ZF undertakes the following obligations:

ZF will purchase the quantities of the respective product listed in the MRP data for the period of the binding ordered schedules as from the issue date of the cancellation.

The basis for the aforesaid obligations is the latest MRP data valid before the cancellation, respectively.

ZF will pay Supplier only the following: (i) the order price for all finished goods in the quantities bindingly ordered by ZF that conform to the order for which supplier has not been paid; (ii) Supplier's reasonable actual cost of merchantable and useable work-in-process and the parts and materials transferred to ZF; (iii) Supplier's reasonable actual costs of settling claims regarding its obligations to its subcontractors or sub-suppliers required under the Order, to the extent directly caused by the cancellation of the amounts, but limited to raw materials/components necessarily required in order to manufacture the quantities firmly ordered by ZF and then currently outstanding; (iv) any additional cost agreed between the parties.

Regarding consignment or bonded warehouse please refer to the Consignment Warehouse Agreement or to the Customs Consignment Warehouse Agreement

# 6. Consignment and bonded Warehouse

## 6.1 Consignment

Consignment is binding for all suppliers when required from ZF. The management of consignment will be described and agreed in detail in a consignment agreement.

## 6.2 Bonded warehouse

During completion of deliveries from third party countries it must be considered that all suppliers have to use a bonded warehouse which has been previously approved by ZF. The transaction is specified in a ZF bonded warehouse contract. Please confirm applicability in your respective region.



# 7. Packaging and Labeling of Commodities

The “General Packaging Regulation Logistics, Environmental Protection” of ZF Group Standard ZFN 9004/1 as available on [www.zf.com](http://www.zf.com) must be observed. Site-specific detailed regulations must be applied if requested. ZF reserves the right to change these packaging rules in consultation with supplier.

## 7.1 Packaging regulations

The design of the packaging must be agreed upon with the respective ZF plant in advance of the start of series production/delivery. Supplier is responsible for the delivery quality of the goods.

Supplier must quote using the exact container size, type and standard pack quantity that ZF specifies. Any changes in packaging must be agreed in writing by ZF.

In the event, that the container is not specified by ZF in

- a Request for Quotation (RFQ)
- a supplier packaging instruction form
- Global Supplier Quality Directive (QD83)
- the Purchase Order Terms and Conditions
- an existing agreement
- the Purchase Order
- any other packaging guidelines

the following default packaging guidelines will apply:

Manually handled containers are the rule. The weight of the manually handled standard pack will not exceed any specified ergonomic guidelines that may be provided by the ZF place of destination. Containers will be designed without dunnage/spacers whenever possible.

The packaging system must contain and protect the product from place of origin, through transit, to point of use and must assure ease of handling at the receiving location.

If requested by ZF, all components must be provided in “ready for production” condition, no additional process like washing or sorting shall be needed.

All packaging materials shall be recyclable, reusable or returnable where possible. Supplier ensures that all deliveries are made solely in clean, dry, non-defective and fully-functioning packaging. Supplier will be responsible for removing obsolete labels and sorting for damage.

The packaging must be of sufficient strength to allow full transportation utilization (no special loading or stacking instructions).

When supplier uses wood packaging material, supplier must observe the phytosanitary service and the Regulator-

on of the ISPM 15 (International Standards for Phytosanitary Measures).

Permanent and legible marking and treatment of the packaging must be provided according to IPPC (International Plant Protection Convention) Standard ISPM 15.

Supplier, when requested by ZF, must be able to pack mixed part numbers on a pallet according to type in containers.

Supplier agrees to properly pack and mark goods in accordance with the requirements of ZF in a manner to secure the lowest transportation cost.

## 7.2 Packaging costs

Packaging costs associated with meeting the packaging specifications must be provided as part of supplier's quotation. All quotations must include a separate itemized price for expendable packaging or returnable packaging.

Supplier will make no charge for handling, packaging, storage, transportation (including duties, taxes, fees, etc.), cost of vehicle or other transport expenses unless otherwise approved by ZF in writing.

## 7.3 Packaging labeling

Supplier will label all packages and containers with only current labels/tags. Containers have to be free of old and foreign labels. Transportation routing labels shall not cover shipping labels. The contents of the labels/tags are to be coordinated with the ZF plant and must, if applicable, comply with the regional industrial standard.

The labels shall be affixed so that they are visible and electronically readable without having to rearrange the packaging units.

The attachment of the labels/tags must be carried out on the pouches, clamping plates, card pockets or other devices provided on the container.

# 8. Dispatch and Transportation

All shipments must be made by normal mode per the approved ZF routing instructions (i.e. regular road or sea freight, not special, premium or expedited freight) and on a ZF authorized carrier, unless otherwise specified by ZF.

## 8.1 Delivery Condition

ZF uses the Incoterms® 2010 as the standard basis for the shipment terms.

ZF uses the following delivery terms as its standard:

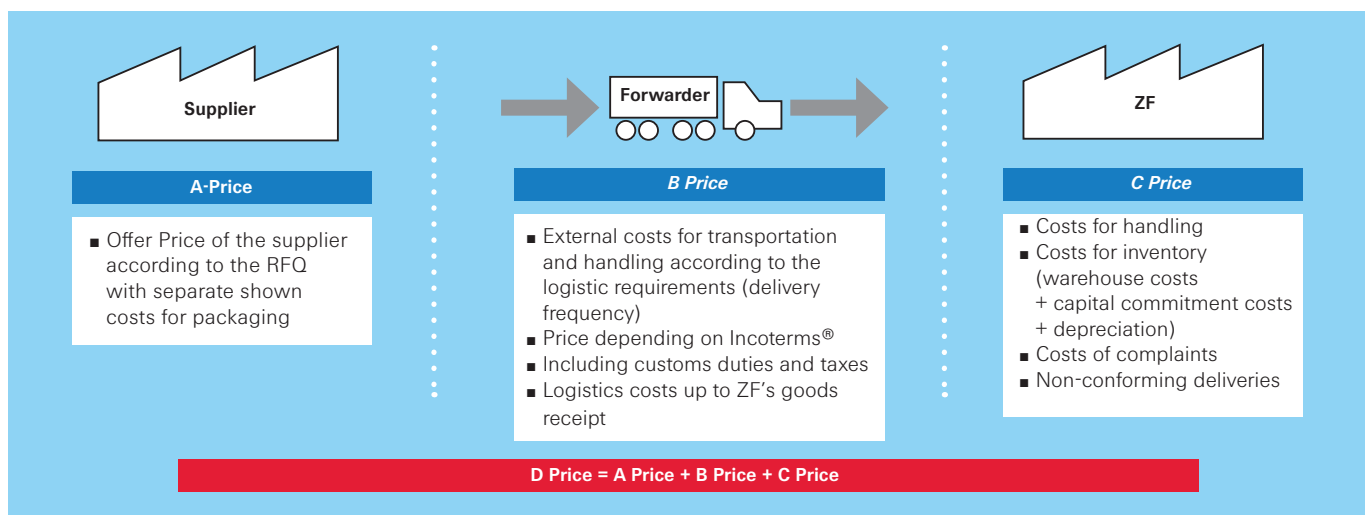
- FCA free carrier (place of departure)
- DAP delivered at place (to named place, delivered duty unpaid)

Furthermore FCA +TTOP is possible.

Specification of FCA + TTOP (Title Transfer Our Premises): For all shipments, domestic and international, title and risk of loss in the goods shall pass to ZF when the goods have been delivered in the condition and to the ultimate consignee address specified in the order, and an authorized representative of ZF has signed supplier's delivery note and / or other transport documents (e.g. CMR-Waybill).

In case of using the INCOTERM FCA, Supplier shall hand over deliveries to ZF solely to the carrier (or other courier service) commissioned by ZF at specific address. Supplier is not permitted to use an intermediate carrier. Exceptions are only permitted in justified cases upon prior written consent of ZF.

In case of using the INCOTERM DAP, all quotations must include a separate itemized price for transportation costs (A Price and B Price).



Concept of the A/B/C price calculation at ZF

In all cases, supplier must provide and/or agree to a specific pick-up address/address of shipment/reception. Generic terms such as "origin", city/state, or port name without further details are not acceptable.

## 8.2 Dispatch Notification, Provision and Loading

The dispatch notification to the carrier, provision and loading of the goods at supplier are undertaken by supplier. Apart from agreed on Incoterms® 2010, the supplier has to ensure load safety for the goods within his area of responsibility.

Supplier must send Advance Shipment Notifications (ASN) electronically (EDI or WebEDI) to ZF at the time of the cargo transfer to the forwarder. Permissible methods of ASN transmission include the use of internet based ZF supplier portals. Facsimile or email ASN's will not be accepted. At the time of pick up, Supplier must allow the authorized carrier's driver to check the standard pack quantities against the scheduled quantities.

## 8.3 Warehousing for Production Parts

ZF will determine on a case-by-case basis, if ZF or supplier will be responsible for providing consolidation operations in origin countries and/or deconsolidation/warehouse operations in destination countries.

## 8.4 Forwarding instructions, transportation documents and notification

Supplier must hand over for each shipment the delivery note document to the forwarder. The regional ZF forwarding instructions as well as any specific forwarding instructions are binding. ZF reserves the right to change these forwarding instructions or to supplement them. The forwarding instructions are available on [www.zf.com](http://www.zf.com).

## 8.5 Supplier Invoicing

Unless otherwise specified by a ZF place of destination, supplier provides ZF for each shipment three copies of a supplier invoice with electronics signatures or electronic scanned copies and showing (as applicable):

1. The Purchase Order number, Order Amendment or release number and supplier's invoice number
2. Supplier's name, address and vendor number (and importer of record/registration number if supplier is responsible for any import clearance)
3. The bill of lading number (if known at time of shipment)
4. The name & address of the party responsible for clearing customs
5. Name, address, telephone number and email address of the ultimate consignee
6. Ship date
7. Detailed description of each Good (including ZF part number; certain goods require detailed descriptions including industry name, grade, quality, marks, numbers and symbols; Supplier is required to include on the invoice information which has a direct bearing on proper classification in the country of import)
8. Quantities, weights & unit of measures of each Good (e.g. liters, gallons, kilograms)
9. Number of cartons/containers in shipment
10. Purchase price in the currency of purchase or value of each Good (in some cases invoice may need to state "Value for Customs Purposes Only" if no underlying sales transaction)
11. Type of currency
12. All charges upon the goods separately itemized by name/category and amount, including freight
13. All rebates, drawbacks, bounties, separately itemized, allowed at export/shipment
14. Country of origin (where manufactured or produced) for each part number
15. Tariff classification number (HTS, Taric, etc.) for each Good in the country of import (for cross-border shipments)
16. Incoterm® plus Specific Delivery Address (determines who pays costs for packaging, forwarding, transportation, broker fees, import duties, value added tax & other fees)
17. Declaration of truth statement
18. Manufacturer's name & address (if different than supplier)
19. Consolidator's name & address (if known at time of shipment)
20. Statement or declaration of any applicable trade program
21. Indication of whether supplier has any applicable Approved Exporter Status
22. In case of premium freight: PTA number

Supplier invoice and all applicable attachments must be in the language and format appropriate for the country of destination and include the above. The marks on each package and identification of the goods on packaging slips, bills of lading and invoices shall be sufficient to enable ZF to easily identify the goods purchased.

For supplier controlled transportation, supplier and/or supplier's carrier are required to provide logistics costs to ZF and/or ZF's custom brokers to enable ZF to separately track piece price and to enable potential freight deductions at the time of import.

## 8.6 Transportation of Hazardous Materials

For goods that contain hazardous and/or restricted materials, supplier must promptly furnish to ZF in whatever form and detail ZF requests

- a list of all potentially hazardous ingredients in the goods,
- the quantity of all such ingredients, and
- information concerning any changes in or additions to such ingredients.

Supplier agrees to furnish to ZF before shipping the goods, sufficient warning and notice in writing (including appropriate labels on the goods, containers and packaging) of any hazardous material that is an ingredient or a part of any of the goods, together with such special handling instructions necessary to advise the involved carriers, ZF, and their respective employees how to exercise that measure of care and precaution that will best prevent bodily injury or property damage in the handling, transportation, processing, use or disposal of the goods, containers and packaging shipped to ZF. Supplier shall comply with all applicable federal, state, local and foreign laws and regulations pertaining to product and warning labels. If goods are shipped by supplier to European destinations, before shipments are made, supplier shall notify ZF of the "Classification of Dangerous Goods" as required by the European Agreement concerning the "International Carriage of Dangerous Goods".

# 9. Imports and Exports

## 9.1 Customs/Foreign trade

ZF is obliged to make reliable statements to its customers in regard to the country of origin as well as to the legally preferential status and the Customs tariff number of the delivered goods.

The designation of the commercial country of origin as well as the Customs tariff number of the goods delivered to ZF is required by supplier.

At the request of ZF, the commercial origin must be verified with applicable certificates of origin. The legal preferential status of goods that were delivered to ZF must be substantiated by the submission of suitable preference documents on timely manner.

The type of preference document due in each case depends on the preferential agreements in effect.

## 9.2 Documentation Requirements

Supplier will promptly notify ZF in writing of the origin of material or components used by supplier in filling an order for goods which are delivered to ZF and, if applicable, any duty and fees included in the purchase price of the goods. Supplier shall furthermore, at its expense and in a timely manner, provide all written documentation and electronic transaction records relating to the goods, tooling and/or equipment being purchased that is reasonably necessary for ZF to complete any customs-related obligations or other governmental agency requirements applicable to ZF, including the rules and regulations of the U.S. Securities and Exchange Commission ("SEC") and other applicable rules, as established or amended from time to time. Such obligations may include, but are not limited to:

- importer/exporter security filings,
- origin marking, labeling or content reporting requirements,
- global trade program certifications,
- local content reporting or through bill of lading requirements,
- the claiming of preferential tariff rates or other duty relief at the time of entry for goods, tooling and equipment eligible under applicable trade preference regimes, and/or
- making all arrangements that are necessary for the goods, tooling or equipment to be covered by any applicable duty deferral, inward processing relief, free trade zone program(s) or intrastate reporting of the country of import.

Further, with respect to the rules and regulations of the SEC, such obligations may include, but are not limited to, certifications relating to:

- the country of origin of any tantalum, tin, tungsten, gold or other minerals that may be designated in the future by the U.S. Secretary of State (collectively referred to as "conflict minerals") that is included in any goods,
- whether any conflict minerals are necessary to the functionality or production of any of the goods,
- whether any conflict minerals included in the goods come from a recycler or scrap supplier,
- the identity of the smelters supplier or its suppliers use to supply the goods,



- Supplier's collection of the foregoing information from its sub-suppliers,
- Supplier's process with respect to providing the foregoing certifications and due diligence efforts, and/or
- supplier's policies with respect to sourcing conflict minerals from The Democratic Republic of the Congo and its adjoining countries (collectively, the "Covered Countries") and/or from smelters validated by an independent third party to not source conflict minerals from mines located in the Covered Countries that are supporting conflict in the region.

Further, if ZF becomes obligated, with respect to any of its products containing the goods, to cease obtaining any of the conflict minerals from mines located in the Covered Countries that are supporting conflict in the region, then supplier will likewise cease obtaining such conflict minerals from such mines with respect to the goods. Supplier will provide trade related documentation (i.e. preferential origin certificates, manufacturer's affidavits, long term supplier declarations, etc.) by the deadlines requested by ZF, and will retain and make available to ZF upon request trade related documentation and other accompanying supporting documentation in accordance with any applicable document retention and audit regulatory requirements. In addition, supplier will include applicable trade related documentation with each shipment.

### 9.3 Duty Drawback

The rights to and benefits of any duty drawback, including rights developed by substitution and rights which may be acquired from supplier's suppliers, export credits and other rights associated with any governmental trade incentive program, to the extent transferable to ZF, are the property of ZF. Supplier, at its expense, will provide all documentation and information and take any necessary steps to drawback any duty, taxes or fees paid to, and to receive export credits from, the government of the country of origin upon exportation of the goods from such country.

### 9.4 Duties, Import Taxes and Brokerage

The responsibility for customs duties, import taxes, brokerage fees, customs clearance costs and other government fees will be determined in accordance with Incoterms® and the shipment and routing instructions stated in the order. If ZF is responsible for customs duties, it will be responsible for normal rates of duty only. Supplier will be responsible for all other duties, including special duties and government fees including, but not limited to, marking, anti-dumping and countervailing duties, to the extent permitted under the law of the country of importation. Supplier will be responsible for any document turnover fees or other ancillary charges to ZF from supplier's freight forwarder.

### 9.5 Import/Export Licenses

Supplier will advise ZF if the importation or exportation of the goods requires an import or export license, or if the goods are subject to any applicable export or re-export controls. Supplier will assist ZF in obtaining any required license where such license, per the terms of the contract or applicable regulatory requirements, is ZF's responsibility to obtain. Supplier will provide to ZF and the appropriate governmental agency the documentation necessary to determine the admissibility and the effect of entry of the goods into the country in which the goods are delivered to ZF. Supplier warrants that the documentation and information regarding the import or export of the goods supplied to ZF is complete, true and correct in every respect, and that all sales covered by an order will be made at not less than fair value under the anti-dumping laws of the countries to which the goods are exported. Supplier is responsible for any incorrect or untimely information provided by supplier, supplier's forwarder or customs broker, or any noncompliance with government or customs regulations by supplier that results in fines, penalties, damages and/or any additional duties for ZF due to supplier's error or untimely provision of documentation or information.

### 9.6 Customs Clearance

All dutiable goods are principally declared by ZF alone or by a representative that is authorized by ZF.

Any supplemental or deviating terms agreed to the subject matter between the parties remain unaffected.

# 10. Supplier Assessment and Development

In order to control the supply service level and in order to be able to take measures regarding the logistical performance of supplier, ZF can measure the delivery reliability of supplier and communicate this to supplier. Supplier and ZF should enter into a target agreement regarding delivery reliability in each year.

In the process of measurements of delivery reliability the following tolerances for the assessments are taken into account for the different scheduling processes:

## 10.1 Measurements of delivery reliability

Scheduling procedure	Quantity Tolerance	Date Tolerance	Measurement frequency
Single Order	+/- 10 %	+/- 1 day	Every goods receipt
Delivery Call-Off	+/- 10 %	+/- 1 day	Every goods receipt
KANBAN	+/- 0 %	Defined replacement time (plant specific) + 0 days (hours)	Every goods receipt
JIT/JIS	+/- 0 %	+/- 0 days	Every goods receipt
VMI	Stock on-hand quantity/Range of coverage within defined limits		<b>Every working day</b>
Delivery Call-Off with Consignment	+/- 10 %	+ 1 day/ - Agreed time window	Every goods receipt

More Information: [www.zf.com](http://www.zf.com) "EDI Guidelines"

Note: This is purely a measurement tolerance and applicable solely for measurement of delivery reliability purposes only. Nothing herein shall release supplier from its obligations to deliver the goods in due time and according to the order. Supplier must ship to the quantities and exact dates given by ZF: no over, under, early or late shipments are allowed.



### Calculation formula:

Delivery Performance in %

=

Number of the correct receipts within the evaluation timeframe

Number of the total receipts within the evaluation timeframe

A goods receipt can be rated only 0% or 100% per item number:

#### **Delivery Performance = 100%**

Time and quantity tolerances have been met

#### **Delivery Performance = 0%**

Time and/or quantity tolerances have not been met

The result of the measurements of delivery reliability will be communicated to supplier via the "SupplyOn Performance Monitor" tool. Supplier takes care that the measurement results are promptly available for the responsible functional area and are analyzed.

If there are undesirable developments in delivery reliability, the supplier must define countermeasures/action plans and to realize them immediately to bring the delivery reliability result back to the target value. Continued levels of poor performance will place supplier at risk for consideration of future businesses.

## 10.2 Supplier assessment

Supplier assessment is conducted regularly at ZF. The assessment in the area of logistics is comprised of the key figure delivery reliability (hard fact) as well as the evaluation of the following criteria (soft facts):

- reliability
- flexibility
- proactive communication
- competency
- reachability
- internal crisis management

## 10.3 Supplier auditing

For a holistic system assessment of supplier and to develop the Supply Chain quality, ZF performs a standardized GMMOG/LE logistics audit if required (Publisher: ODETTE – version used by ZF is to be noted). The standardized format can be obtained through AIAG, VDA or Odette. Suppliers are requested to submit the English audit version. In case supplier has conducted the audit also in a different language or if the wording in another language might lead to different interpretation of the audit questions, the wording of the English version shall apply.

In the first stage, this audit includes a self-assessment by supplier. In the next stage, an on-site assessment at supplier's site is performed if there are implausible circumstances or low logistic performance. For new suppliers a two-stage GMMOG/LE Audit is mandatory.

In case questions have been assessed with N/A, the supplier is requested to get ZF's approval for N/A answers. Suppliers shall use N/A answers sparingly.

ZF reserves the right to execute an audit at supplier's site at any time. Audit documents must be procured by supplier.

New supplier has to submit the audit prior to SOP (start of production) in case the submission period has passed already.

## 10.4 Supplier Academy

For new suppliers the seminar "Discover ZF" is mandatory. In this seminar, suppliers can acquaint themselves with ZF expectations, requirements and guidelines in the areas of purchasing/supplier management, logistics, quality and ZF Production System.

## 10.5 Escalation model

If performance problems are detected at a supplier for a longer period of time repeatedly, the following escalation process occurs.

The escalation levels are used in a similar form with the difficulties within the performance of GMMOG audits or the implementation of GMMOG requirements.

Escalation level 1 <b>EL1</b>	Escalation level 2 <b>EL2</b>	Escalation level 3 <b>EL3</b>
<b>Responsible:</b> <ul style="list-style-type: none"> <li>Plant quality or Plant Logistics</li> </ul> <b>Typical triggers:</b> <ul style="list-style-type: none"> <li>Delivery or quality performance below target &gt;3 month</li> </ul> <b>EXIT criteria:</b> <ul style="list-style-type: none"> <li>EL1 exit criteria are reached</li> </ul>	<b>Responsible:</b> <ul style="list-style-type: none"> <li>Divisional Supplier Management or</li> <li>Divisional Supply Chain Management</li> </ul> <b>Typical triggers:</b> <ul style="list-style-type: none"> <li>In EL1 &gt;6 month</li> <li>EL1 exit criteria not reached</li> </ul> <b>EXIT criteria:</b> <ul style="list-style-type: none"> <li>EL2 exit criteria are reached</li> </ul>	<b>Responsible:</b> <ul style="list-style-type: none"> <li>Commodity Cluster Head</li> </ul> <b>Typical triggers:</b> <ul style="list-style-type: none"> <li>In EL2 &gt;3 month</li> <li>EL2 exit criteria not reached</li> </ul> <b>EXIT criteria:</b> <ul style="list-style-type: none"> <li>Fulfill the requirements of Top Management Meeting</li> <li>EL3 exit criteria are reached</li> </ul>

# 11. Emergency Concept

In order to ensure the continuity of supply of goods, ZF requires each supplier to have a crisis management system which consists of an early warning system and a detailed contingency plan.

If interruptions occur within the process chain at supplier or its sub-suppliers that could jeopardize the deadlines planned by ZF, supplier is required to inform ZF immediately. Furthermore, a competent contact must be named for this emergency situation and must be available at all times.

Supplier must prevent any possible risk of supply shortfalls to ZF along the entire supply chain. Supplier contingency plans must identify risks to its supply of goods to ZF and action plans to mitigate the risk (extra shifts, alternative manufacturing locations, inventory buffering, disaster recovery plans, etc.).

This contingency plan must be communicated to ZF and include the following criteria at minimum:

- Possible causes of supply problems
- Maximum expected delivery failure (quantity)
- Remedial actions and responsibilities
- Quantities and timelines of emergency supplies
- Date/time for resuming normal operation

Supplier must regularly review and update each contingency plan. ZF retains the right to verify the contingency concept with supplier.

ZF's right to claim financial compensation in individual cases remains unaffected by the above regulations.

# 12. Non-conformance and Consequences

In the case of non-conformance with this Logistics Directive, ZF reserves the right to demand compensation from supplier and to place supplier at risk for future businesses, in particular in case of:

- partial, over-, late / early delivery without ZF approval,
- deviations between the actual delivery quantity and the delivery quantity stated in the delivery note,
- missing or incorrect EDI messages,
- missing or late ASN's
- missing or incorrect delivery note
- failure to comply with the agreed packaging,
- incorrect labelling of packages,
- delivery in damaged or dirty containers/packaging,
- delivery of dirty or slightly rusty goods,
- intermingled goods delivered in containers,
- missing customs documents,
- missing certificates or test certificates or initial sample test report, or
- if special measures become necessary within the course of failure to supply on time

## Overdeliveries

If supplier delivers more than the bindingly agreed quantity or if supplier delivers the bindingly agreed quantity early (both cases an "overdelivery"), ZF may refuse acceptance of the delivery. ZF may return the overdelivered

goods to supplier at the expense of supplier. Further, in each case of overdelivery, ZF may demand reimbursement of expenses for each affected position.

## No Partial Deliveries

Partial deliveries are not permitted without approval of the respective ZF plant.. Without approval of ZF, ZF may return the partial delivery to supplier at the expense of supplier. Further, in each case of partial delivery, ZF may demand reimbursement of expenses for each affected position. ZF reserves the right, that Supplier pays any difference in freight costs associated with partial deliveries.

## No Waiver

The unconditional acceptance of late, partial or overdeliveries does not include a waiver of the compensation claims due to ZF because of the late, partial or overdelivery.

## General Regulations

If ZF's and/or it's customer's production is interrupted by the failure of supplier to deliver the goods and/or the failure to provide complete, accurate and timely shipment or customs paperwork per the terms of the contract, all costs that are incurred by ZF and/or its customers will be the sole responsibility of supplier.

Supplier caused premium transportation or transportation costs for material returned due to supplier related issues must be paid by supplier. Premium transportation costs from ZF to ZF's customer caused by supplier must be paid by supplier.

Excess transportation costs incurred as a result of using incorrect carriers will be debited from supplier's account.



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