

# **Guide to Conformity of Production**

## **UK NSSTA**

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### 0.1 REFERENCES

**2007/46/EC** "... establishing a framework for the approval of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles."

**ISO9001:2000** "Quality management systems – Requirements"

**ISO/TS16949** "Quality management systems – Particular requirements for the application of ISO 9001:2000 for automotive production and relevant service part organisations"

### 0.2 DEFINITIONS

**Manufacturer** - is defined in the RFD but is interpreted to mean the company whose name appears on the approval certificate and who is responsible for ensuring that the approval remains valid. The manufacturer is responsible for CoP and must also ensure that changes in legislation do not render the approval invalid. The Manufacturer need not be the company who assembles the product or any part of it.

**Assembly Plant** - is the company or location at which the product, as approved, is assembled. Components or sub-assemblies bought in from other companies are subject to the manufacturer's own quality assessments and are not considered in the assessment of CoP.

### 0.3 MULTISTAGE BUILD

The Multi-Stage Build (MSB) process is where a base vehicle (normally a chassis or chassis/cab) is produced and approved as an 'incomplete vehicle' and another manufacturer (normally a body builder or converter) subsequently finishes the vehicle so it becomes a 'completed vehicle'. Sometimes 'complete' vehicles will form the base vehicle in a process, for example where a panel van is converted into a minibus. There will always be two or more stages in the MSB process and each of the manufacturers is only responsible for the work done and conformity of production at their particular stage of the build. The flow of information between parties is extremely important in the MSB process. If vehicle converters are to be issued with type approval certificates, they must be able to demonstrate that they have control over conformity of their product. However, maintaining control of the conversion implies control over the base vehicle on which it is based, something the converter rarely, if ever, has. For example, a converter may take a van as its base vehicle, modify parts of it and get approval for seat-belt anchorages. The strength of the anchorages now depends on parts of the base vehicle over which the converter has no direct control and which are not covered by its Certificate of Conformity, if it has one.

In such cases, the manufacturer of the base vehicle must produce a statement to VCA undertaking to cooperate fully with the vehicle converter to ensure that conformity is maintained. The undertaking should confirm that the converter is on the base vehicle manufacturer's list of approved converters and that it will inform the converter of any changes to parts of the vehicle's construction, which will influence the validity of the approval it has been given.

## 1.0 INTRODUCTION TO CONFORMITY OF PRODUCTION (COP)

Prior to issuing any Type Approval Certificate there is a need for Conformity of Production (CoP) to be assessed. Conformity of Production is required to ensure that there are adequate arrangements in place to ensure that subsequent products continue to meet and conform to the

approved type and to monitor that these arrangements continue to be effective during the life of the approval.

There are two main routes for demonstrating COP compliance. The first method is through a recognised quality management system such as the ISO 9001:2000 series or ISO/TS16949. In conjunction with a recognised quality system, specific control plans are also required. (See VCA Guide to Control Plans)

As the requirement for a recognised quality management system is not mandatory the second method for demonstrating CoP compliance is for manufacturer's who do not have a recognised quality system. In these cases a quality manual and detailed control plans are required. The quality manual and control plans should be detailed enough to ensure with a high degree of confidence that compliance with the relevant directive or regulations can be continually met. In conjunction with the quality manual and control plans a site visit may be required to ensure that the procedures supporting the application are in place and are sufficiently robust

## 2.0 ASSESSMENTS

For manufacturers with a recognised quality system (ISO/TS) a copy of the certificate should be submitted to the VCA in conjunction with the specific control plans. The scope and the validity of the certificate will be checked and in conjunction with suitable control plans should be sufficient to enable CoP clearance to be granted.

For manufacturers who do not have a recognised quality system (ISO/TS) a copy of the quality manual or the documentation that the manufacturer uses to ensure product consistency should be submitted along with detailed control plans. The quality documentation should contain but not be limited to the following:

Approved suppliers	how the company selects suppliers to provide quality goods or services and how they ensure they use only those suppliers
Incoming goods	how the company ensures that the goods it receives conform to the required specifications/order
Non-conforming goods	how does the company ensure that any incoming goods or manufactured goods that do not conform to specification are not used in production or distributed to the end user
Staff training	how does the company ensures that it's staff are properly trained and how it records that training
Calibration of equipment	how the company ensures that any equipment used for manufacture or for test are maintained in calibration
Change control	how the company ensures that any changes in design or assembly processes which may affect the validity of the approval is notified to the relevant departments and or the relevant approval authority
Final inspection	how the company ensures that the final product conforms to its specifications has appropriate labelling and instructions for use.

Once the quality documentation and control plan documentation has been assessed and the site visit successfully concluded, CoP clearance will be granted.

### 3.0 CONTROL PLANS

The control plan is a list of actions, process controls and procedures, which ensure that the completed product will conform to the approved type. The control plan will be more than a simple work instruction for assembly of the product; it should detail how conformity to the approved type is ensured rather than simply describe the assembly process. The control plan should take into consideration at least the following:

Control Description	describing what is being checked for
Test Method	is it a visual check, electrical, mechanical?  a visual check may be made against a master. Dimensions may be checked in a rig, a voltmeter may be needed for electrical tests etc
Pass/Fail	what are the criteria against which a sample is deemed to have passed or failed?
Frequency	is every product tested or 1 in 500
Department	those responsible for the check or test
Report	method of recording results
Follow up	responsibility for follow up action

For whole vehicle approval, the control plan arrangements may be limited to verifying the correct build specification in relation to the system and component approvals.

### 3.1 PREPARATION OF PLANS

Preparation of plans, the structure and amount of detail included within the above framework, rests entirely with the manufacturers in relation to their own particular circumstances. For example:

- a. the format of the Control Plan is not defined and may be as the manufacturer chooses to present it.
- b. the content of the Control Plan is not defined except for directive specific clauses.
- c. the checks or test may be carried out by or on behalf of the manufacturers and may include evidence of supplier's controls. Some specific regulation may require that the manufacturer has immediate access to suitable test equipment.
- d. a common control systems used across a range of similar products, sites or subjects (e.g. body, drive train, etc.) will be acceptable on a suitable referenced single plan.

### 3.2 SPECIFIC REGULATIONS OR DIRECTIVE REQUIREMENTS

EC Whole Vehicle Type Approval is generally a mixture of system and component approvals based on either EC Directives or ECE Regulations. Some of these regulations and directives contain specific CoP requirements. These are normally tests that have to be performed at certain frequencies. These specific requirements should be written into the control plan. The manufacturer must undertake to present these results to the Approval Authority on demand or at defined regular intervals.

## **4.0 MONITORING VISITS**

After the issue of approvals, VCA will periodically audit the approved procedure. This may take the form of a process check and/or a monitoring visit. The purpose of these audits is to ensure that the quality system, either a recognised quality management system or the quality manual in conjunction with suitable control plans are still satisfactory and that the manufacturer is continuing to work within the agreed constraints of the documentation provided. The validity of a manufacturer's COP status is normally 3 years.

## **5.0 TRANSITIONAL ARRANGEMENTS**

Provisional conformity clearance *may* be granted to manufacturers who can demonstrate suitable controls during an initial audit but whose processes and controls are not fully documented. This provisional clearance will be granted for a specific period agreed with the manufacturer at the end of the agreed period the manufacturer should be able to supply the correct documentation.

## ANNEX 1 – EXAMPLE OF CONTROL PLAN

Subject	Legislation		CoP Requirements		
	Directive	Regulation	Inspection Type	Frequency	Control
Noise	70/157	51	1	1 per year	IVXX1
			2	1 per month	
Emissions	70/220	83	1	1 per month	IVXX2
			2	1 per month	
			4	100%	
Audible Warning	70/388	28	1	1 per Year	IVXX3
			2	1 per month	
			4	100%	
Seat Strength	74/408	17	2	1 per month	IVXX4
			3	100%	
			4	100%	
			5	100%	
Speedometer	75/443	39	1	1 per year	IVXX5
			2	1 per month	
			4	100%	
<b>Key</b>					
	1	Vehicle Test			
	2	Visual Inspection			
	3	Record on build log			
	4	Function check			
	5	Supplier CoP			

Control Description Sheet – IVXX1 Noise

Type of Inspection	Description	Procedure	Responsibility	Record
1	Drive by noise	IV-1.2.3	Quality	Test Report
2	Exhaust/Air cleaner/ECU ID	IV-1.2.3	Quality	Monthly CoP audit sheet

Control Description Sheet – IVXX4 Seat Strength

Type of Inspection	Description	Procedure	Responsibility	Record
2	ID/Installation	IV-2.3.4	Quality	Monthly CoP audit sheet
3	Seat Function	IV-2.3.5	Production	Build log
3	Seat Anchorage	IV-2.3.5	Production	Build log
5	Seat Test	IV-3.4.5	Supplier	Test Report