

# Approval Requirements for COTS equipment supplied to the UK MoD

## Technical Note 52

### Guidance on requirements

#### Introduction

Since the publication of the EMC Directive (2004/108/EC) military equipment doesn't have a blanket exemption and hence CE marking must be considered as part of the general requirements supplying the UK's MoD. This technical note provides some background to the legislative position and what manufacturers should do to ensure they meet with contractual and legislative requirements.

Since the issue is an important one for many companies, TRaC is taking a leading role within the Europe's standardisation body, CENELEC, and preparing a European guidance document referred to as CENELEC Report R210-008. It is envisaged that this document will be available during 2009.

#### Background

The UK's MOD has signed up to most relevant health and safety legislation which now applies equally to military procured products as any other commercial item. The consequence of this for manufacturers is that CE (or e-marking in the case of vehicle related equipment) must be assessed as part of the design cycle.

CE marking is a generic term which signifies that a given product meets the requirements of ALL relevant directives. For example a battery powered laptop computer only needs to meet the EMC directive whilst a mains derived power version needs to comply with both the EMC and the Low Voltage Directive.

This guidance is based around the EMC requirements however it should be remembered that manufacturers should perform an assessment against all relevant directives before the CE can be affixed to the product.

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## Exemptions to the Requirements

There are still however some exemptions to the application of the EMC Directive which are based around the application and use of the product. Only a MOD senior commercial officer or above can authorize an exemption under 'essential interests of national security'. However European case law indicates that exemptions should be construed restrictively and have to be applied in a proportionate manner.

This means in particular that contracting authorities have to evaluate:

Which essential security interest is concerned?

What is the connection between this security interest and the specific procurement decision?

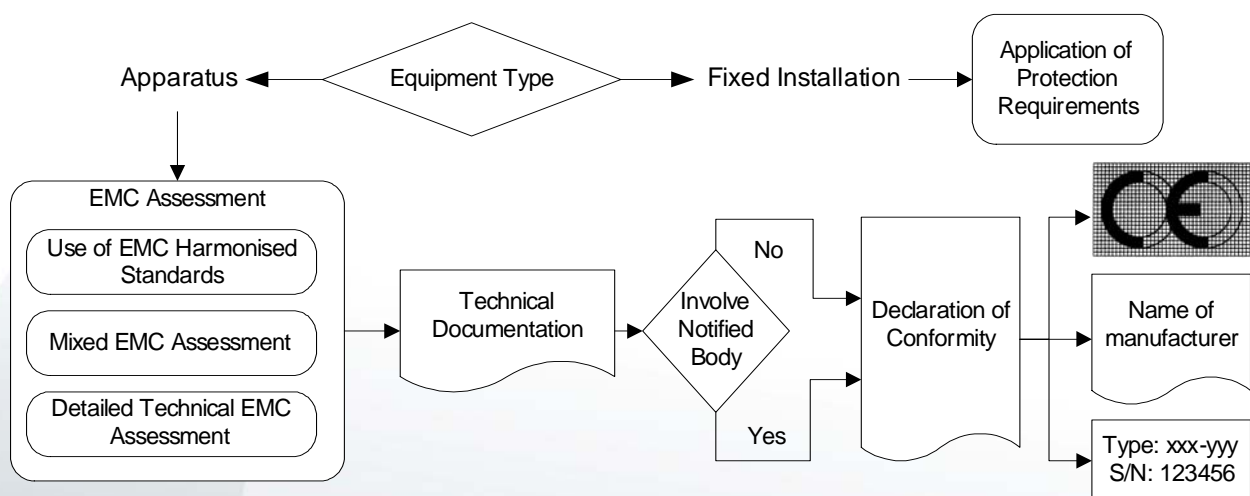
Why is the non-application of the Directive in this specific case necessary for the protection of this essential security interest?

Where an exemption is applied to a particular procurement, the rationale for its use must be kept in a registered file. Keeping proper records is important in the event of a challenge from the European Commission and/or Industry. The European Commission may seek to verify whether the conditions for exempting contracts from the Regulations are being applied correctly by MOD.

In such cases, the MOD will have to provide, at the Commission's request, the rationale for use of an exemption for a specific contract. It is the responsibility of the MOD senior commercial officer and project manager to keep the necessary records since any challenge will ultimately be based on how the exemption was derived.

The EMC Directive is only one of many directives to which the equipment may have to show conformance in order to affix CE marking to apparatus

Below is a flow diagram for the route to compliance.



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The equipment type has been split into two types: apparatus and fixed installation. For apparatus compliance to the EMC Directive is demonstrated by performing an 'EMC Assessment' in order to ensure it meets the protection requirements of the Directive.

Four methods are possible for the EMC assessment:

1. Application of EMC harmonised standards;
2. An EMC assessment where no harmonised standards have been applied and the manufacturer applies his own methodology or uses equivalent Defence Standards.
3. Mixed assessment, combining the two previous methods. For example, one could use the harmonised standards to cover emission phenomena and a detailed technical EMC assessment for immunity aspects.
4. A theoretical assessment.

A Notified Body can be used on a voluntary basis to provide an opinion regarding the suitability of the EMC assessment and review all or parts of the technical documentation. Components and sub-assemblies are considered as apparatus when they are used or integrated into other equipment by the end-user. When the component is so simple by its nature (for example, resistors, capacitors etc) they fall outside the scope of the Directive. Spare parts use the same set of criteria for establishing whether or not they are covered. Suppliers to MOD will need to ensure that if Defence Standards are used as the basis of demonstrating compliance to the EMC Directive that all the phenomena contained with the Directive is covered. A Gap Analysis could be performed on the testing carried out.

## **Fixed Installations**

Fixed installations are a concept that was introduced with 2004/108/EC and was not covered previously. 'Fixed Installation' means a particular combination of several types of apparatus and, where applicable, other devices, which are assembled, installed and intended to be used permanently at a pre-defined location.

Fixed installations do not require 'free movement' within the EU, therefore are not subject to a formal EMC assessment, Declaration of Conformity or CE Marking but have specific requirements to ensure compliance with the essential protection requirements that include; applying good EMC engineering practices to the installation, respecting the information on intended use of its components (sub systems) with a view to meeting the essential protection requirements of the Directive. The good engineering practices shall be documented. A responsible person shall hold such documentation for as long as the fixed installation is in operation.

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## Mobile Installations

Mobile installations are considered as apparatus by the EMC Directive. Since ships, Demountable Rack Offload and Pickup System (DROPS) containers, portable generators and the like are moveable they are considered as apparatus.

In practice there are two options regarding compliance philosophy:

Systems level approach: Assemble the whole mobile installation with EMC Directive compliant apparatus, adopting good EMC engineering practices. Perform an overall assessment of the installation and issue a Declaration of Conformity and apply CE Marking or;

Holistic approach: Ignore individual apparatus approval, adopt good EMC engineering practices and assess the whole mobile installation as one entity and issue a Declaration of Conformity and apply CE Marking.

## Exclusions to the EMC Directive as Defined in the UK Regulations 2006

The following categories of equipment are excluded from the requirements of the EMC Directive:

1. Electromagnetically benign equipment,
2. Aeronautical products parts and appliances in the field of civil aviation coming under the Regulation EC No. 1592/2002, of the European Parliament and of the Council on common rules in the field of civil aviation and establishing a European Aviation Safety Agency
3. Radio Equipment and Telecommunications Terminal Equipment coming under Directive 1995/5/EC, EMC requirements are included in this Directive.
4. The Measuring Instruments Directive 2004/22/EC,
5. Radio amateur equipment used by radio amateurs and not available commercially,
6. Equipment wholly covered by other Directives
7. Apparatus for export outside the EEA which will not be used in EU states,
8. Equipment presented at trade fairs or similar events

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## Documentation

The manufacturer draws up technical documentation (in some Directives called a Technical File), providing evidence of the conformity of the equipment with the essential requirements of the Directive. The purpose of the technical documentation is to enable the conformity of the equipment with the protection requirements (in the case of EMC) to be assessed. It must contain all necessary practical (technical) details, including the following:

An identification of the equipment covered by the technical documentation. This identification should allow unambiguously linking between the technical document and the equipment;

A general description of the equipment. The amount of information required will depend on the complexity of the equipment, simple apparatus may be fully defined in one line whereas more complex fixed installation may need a complete description (a picture may be included);

If European harmonised standards have been applied, then evidence of compliance is required. At a minimum this will be a dated list of the European harmonised standards applied and the results obtained on their application;

If European harmonised standards have not been applied or have been applied only in part then a description of the steps taken to meet the essential requirements – an EMC Assessment described in Annex II of the Directive - must be included. The documentation includes test reports, design calculations made, examinations carried out etc.;

If a manufacturer is using the procedure of Annex III of the EMC Directive, then the Notified Body statement shall be included.

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